

SAFETY DATA SHEET



InterPlay Adenoviral TAP System, Part Number 240213

Section 1. Identification

Product identifier	: InterPlay Adenoviral TAP System, Part Number 240213	
Part No. (Chemical Kit)	: 240213	
Part No.	: <input checked="" type="checkbox"/> -Mercaptoethanol	240107-53
	pNTAP Shuttle vector-A	240214-51
	pNTAP Shuttle vector-B	240214-52
	pNTAP Shuttle vector-C	240214-53
	Adenoviral pTAP Shuttle-CAT Vector	240217-51
	pShuttle-CMV-lacZ Control Vector	240008-51
	AD-293 Cell Line >1 x 10e6 Viable Cells	240085-41
	BJ5183-AD-1 electroporation competent cells	200157-41
	Transformation Control	200157-42
	XL10-Gold Ultracompetent cells	200315-41
	XL10-Gold 2-Mercaptoethanol	200314-43
	pUC 18 DNA Control Plasmid	200231-42
	Lysis Buffer	240107-51
	0.5 M EDTA	240107-52
	Streptavidin Resin	240105-51
	Streptavidin Binding Buffer	240107-54
	Streptavidin Elution Buffer	240107-56
	Streptavidin Supernatant Supplement	240107-57
	MS-Grade Calmodulin Resin	240106-51
	Calmodulin Binding Buffer	240107-58
	Calmodulin Elution Buffer	240107-59

Relevant identified uses of the substance or mixture and uses advised against

Analytical reagent.

<input checked="" type="checkbox"/> -Mercaptoethanol	0.75 ml
pNTAP Shuttle vector-A	0.02 ml
pNTAP Shuttle vector-B	0.02 ml
pNTAP Shuttle vector-C	0.02 ml
Adenoviral pTAP Shuttle-CAT Vector	0.02 ml
pShuttle-CMV-lacZ Control Vector	0.01 ml
AD-293 Cell Line >1 x 10e6 Viable Cells	1 ml
BJ5183-AD-1 electroporation competent cells	0.5 ml
Transformation Control	0.1 ng/µl 10 µl
XL10-Gold Ultracompetent cells	0.5 ml
XL10-Gold 2-Mercaptoethanol	0.05 ml
pUC 18 DNA Control Plasmid	0.1 ng/µl 10 µl
Lysis Buffer	50 ml
0.5 M EDTA	0.2 ml
Streptavidin Resin	1.25 ml
Streptavidin Binding Buffer	25 ml
Streptavidin Elution Buffer	5 ml
Streptavidin Supernatant Supplement	0.1 ml
MS-Grade Calmodulin Resin	0.625 ml
Calmodulin Binding Buffer	40 ml
Calmodulin Elution Buffer	2.5 ml

Supplier/Manufacturer : Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
1800 802 402

Section 1. Identification

Emergency telephone number (with hours of operation) : CHEMTREC®: (61)-290372994

Section 2. Hazard(s) identification

Classification of the substance or mixture

β-Mercaptoethanol

H227	FLAMMABLE LIQUIDS - Category 4
H301	ACUTE TOXICITY (oral) - Category 3
H310	ACUTE TOXICITY (dermal) - Category 2
H330	ACUTE TOXICITY (inhalation) - Category 2
H315	SKIN CORROSION/IRRITATION - Category 2
H318	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
H317	SKIN SENSITIZATION - Category 1
H335	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
H411	LONG-TERM AQUATIC HAZARD - Category 2

XL10-Gold

2-Mercaptoethanol

H318	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
H317	SKIN SENSITIZATION - Category 1
H412	LONG-TERM AQUATIC HAZARD - Category 3

0.5 M EDTA

H319	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
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Streptavidin Resin

H226	FLAMMABLE LIQUIDS - Category 3
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MS-Grade Calmodulin Resin

H226	FLAMMABLE LIQUIDS - Category 3	
	β-Mercaptoethanol	Not applicable.
	pNTAP Shuttle vector-A	Not applicable.
	pNTAP Shuttle vector-B	Not applicable.
	pNTAP Shuttle vector-C	Not applicable.
	Adenoviral pTAP Shuttle-CAT Vector	Not applicable.
	pShuttle-CMV-lacZ Control Vector	Not applicable.
	AD-293 Cell Line >1 x 10e6 Viable Cells	Not applicable.
	BJ5183-AD-1 electroporation competent cells	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 2.3%
	Transformation Control	Not applicable.
	XL10-Gold Ultracompetent cells	Not applicable.
	XL10-Gold	Not applicable.
	2-Mercaptoethanol	Not applicable.
	pUC 18 DNA Control Plasmid	Not applicable.
	Lysis Buffer	Not applicable.
	0.5 M EDTA	Not applicable.
	Streptavidin Resin	Not applicable.
	Streptavidin Binding Buffer	Not applicable.
	Streptavidin Elution Buffer	Not applicable.
	Streptavidin Supernatant	Not applicable.
	Supplement	Not applicable.
	MS-Grade Calmodulin Resin	Not applicable.
	Calmodulin Binding Buffer	Not applicable.
	Calmodulin Elution Buffer	Not applicable.

Section 2. Hazard(s) identification

GHS label elements

Hazard pictograms



Signal word

:	☑-Mercaptoethanol	DANGER
	pNTAP Shuttle vector-A	No signal word.
	pNTAP Shuttle vector-B	No signal word.
	pNTAP Shuttle vector-C	No signal word.
	Adenoviral pTAP Shuttle-CAT Vector	No signal word.
	pShuttle-CMV-lacZ Control Vector	No signal word.
	AD-293 Cell Line >1 x 10e6 Viable Cells	No signal word.
	BJ5183-AD-1 electroporation competent cells	No signal word.
	Transformation Control	No signal word.
	XL10-Gold Ultracompetent cells	No signal word.
	XL10-Gold	DANGER
	2-Mercaptoethanol	DANGER
	pUC 18 DNA Control Plasmid	No signal word.
	Lysis Buffer	No signal word.
	0.5 M EDTA	WARNING
	Streptavidin Resin	WARNING
	Streptavidin Binding Buffer	No signal word.
	Streptavidin Elution Buffer	No signal word.
	Streptavidin Supernatant Supplement	No signal word.
	MS-Grade Calmodulin Resin	WARNING
	Calmodulin Binding Buffer	No signal word.
	Calmodulin Elution Buffer	No signal word.

Hazard statements

:	☑-Mercaptoethanol	H227 - Combustible liquid. H310 + H330 - Fatal in contact with skin or if inhaled. H301 - Toxic if swallowed. H318 - Causes serious eye damage. H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H335 - May cause respiratory irritation. H411 - Toxic to aquatic life with long lasting effects.
	pNTAP Shuttle vector-A	No known significant effects or critical hazards.
	pNTAP Shuttle vector-B	No known significant effects or critical hazards.
	pNTAP Shuttle vector-C	No known significant effects or critical hazards.
	Adenoviral pTAP Shuttle-CAT Vector	No known significant effects or critical hazards.
	pShuttle-CMV-lacZ Control Vector	No known significant effects or critical hazards.
	AD-293 Cell Line >1 x 10e6 Viable Cells	No known significant effects or critical hazards.
	BJ5183-AD-1 electroporation competent cells	No known significant effects or critical hazards.
	Transformation Control	No known significant effects or critical hazards.
	XL10-Gold Ultracompetent cells	No known significant effects or critical hazards.
	XL10-Gold	H318 - Causes serious eye damage.
	2-Mercaptoethanol	H317 - May cause an allergic skin reaction. H412 - Harmful to aquatic life with long lasting effects.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.

Section 2. Hazard(s) identification


Lysis Buffer	No known significant effects or critical hazards.
0.5 M EDTA	H319 - Causes serious eye irritation.
Streptavidin Resin	H226 - Flammable liquid and vapour.
Streptavidin Binding Buffer	No known significant effects or critical hazards.
Streptavidin Elution Buffer	No known significant effects or critical hazards.
Streptavidin Supernatant Supplement	No known significant effects or critical hazards.
MS-Grade Calmodulin Resin	H226 - Flammable liquid and vapour.
Calmodulin Binding Buffer	No known significant effects or critical hazards.
Calmodulin Elution Buffer	No known significant effects or critical hazards.

Precautionary statements

Prevention

β-Mercaptoethanol	<p>P280 - Wear protective gloves. Wear eye or face protection.</p> <p>P284 - Wear respiratory protection.</p> <p>P210 - Keep away from flames and hot surfaces. - No smoking.</p> <p>P271 - Use only outdoors or in a well-ventilated area.</p> <p>P273 - Avoid release to the environment.</p> <p>P262 - Do not get in eyes, on skin, or on clothing.</p> <p>P260 - Do not breathe vapour.</p> <p>P270 - Do not eat, drink or smoke when using this product.</p> <p>P264 - Wash hands thoroughly after handling.</p> <p>P272 - Contaminated work clothing should not be allowed out of the workplace.</p>
pNTAP Shuttle vector-A	Not applicable.
pNTAP Shuttle vector-B	Not applicable.
pNTAP Shuttle vector-C	Not applicable.
Adenoviral pTAP Shuttle-CAT Vector	Not applicable.
pShuttle-CMV-lacZ Control Vector	Not applicable.
AD-293 Cell Line >1 x 10e6 Viable Cells	Not applicable.
BJ5183-AD-1 electroporation competent cells	Not applicable.
Transformation Control	Not applicable.
XL10-Gold Ultracompetent cells	Not applicable.
XL10-Gold 2-Mercaptoethanol	<p>P280 - Wear protective gloves. Wear eye or face protection.</p> <p>P273 - Avoid release to the environment.</p> <p>P261 - Avoid breathing vapour.</p> <p>P272 - Contaminated work clothing should not be allowed out of the workplace.</p>
pUC 18 DNA Control Plasmid	Not applicable.
Lysis Buffer	Not applicable.
0.5 M EDTA	<p>P280 - Wear eye or face protection.</p> <p>P264 - Wash hands thoroughly after handling.</p>
Streptavidin Resin	<p>P280 - Wear protective gloves. Wear eye or face protection.</p> <p>P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</p> <p>P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.</p> <p>P242 - Use only non-sparking tools.</p> <p>P243 - Take precautionary measures against static discharge.</p> <p>P233 - Keep container tightly closed.</p>
Streptavidin Binding Buffer	Not applicable.
Streptavidin Elution Buffer	Not applicable.
Streptavidin Supernatant	Not applicable.

Section 2. Hazard(s) identification

Response	<p>Supplement MS-Grade Calmodulin Resin</p> <p>Calmodulin Binding Buffer Calmodulin Elution Buffer</p> <p>:  Mercaptoethanol</p> <p>pNTAP Shuttle vector-A pNTAP Shuttle vector-B pNTAP Shuttle vector-C Adenoviral pTAP Shuttle-CAT Vector pShuttle-CMV-lacZ Control Vector AD-293 Cell Line >1 x 10e6 Viable Cells BJ5183-AD-1 electroporation competent cells Transformation Control XL10-Gold Ultracompetent cells XL10-Gold 2-Mercaptoethanol</p> <p>pUC 18 DNA Control Plasmid Lysis Buffer 0.5 M EDTA</p>	<p>P280 - Wear protective gloves. Wear eye or face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. P242 - Use only non-sparking tools. P243 - Take precautionary measures against static discharge. P233 - Keep container tightly closed.</p> <p>Not applicable. Not applicable.</p> <p>P391 - Collect spillage. P304 + P340 + P310 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician. P301 + P310 + P330 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. P302 + P361 + P350 + P310 + P362-2 + P363 - IF ON SKIN: Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. Immediately call a POISON CENTER or physician. Take off contaminated clothing. Wash contaminated clothing before reuse. P333 + P313 - If skin irritation or rash occurs: Get medical attention. P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.</p> <p>Not applicable. Not applicable. Not applicable. Not applicable.</p> <p>Not applicable. Not applicable.</p> <p>Not applicable. Not applicable.</p> <p>P302 + P352 + P363 - IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. P333 + P313 - If skin irritation or rash occurs: Get medical attention. P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.</p> <p>Not applicable. Not applicable.</p> <p>P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact</p>
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Section 2. Hazard(s) identification

lenses, if present and easy to do. Continue rinsing.
 P337 + P313 - If eye irritation persists: Get medical attention.
 P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
 Not applicable.
 Not applicable.
 Not applicable.

Streptavidin Resin

Streptavidin Binding Buffer
 Streptavidin Elution Buffer
 Streptavidin Supernatant Supplement

MS-Grade Calmodulin Resin

Calmodulin Binding Buffer
 Calmodulin Elution Buffer

Storage

: Mercaptoethanol

pNTAP Shuttle vector-A
 pNTAP Shuttle vector-B
 pNTAP Shuttle vector-C
 Adenoviral pTAP Shuttle-CAT Vector

pShuttle-CMV-lacZ Control Vector

AD-293 Cell Line >1 x 10e6 Viable Cells

BJ5183-AD-1

electroporation competent cells

Transformation Control

XL10-Gold Ultracompetent cells

XL10-Gold

2-Mercaptoethanol

pUC 18 DNA Control Plasmid

Lysis Buffer

0.5 M EDTA

Streptavidin Resin

Streptavidin Binding Buffer
 Streptavidin Elution Buffer
 Streptavidin Supernatant Supplement

MS-Grade Calmodulin Resin

Calmodulin Binding Buffer
 Calmodulin Elution Buffer

Disposal

: Mercaptoethanol

pNTAP Shuttle vector-A
 pNTAP Shuttle vector-B
 pNTAP Shuttle vector-C
 Adenoviral pTAP Shuttle-CAT Vector

pShuttle-CMV-lacZ Control Vector

AD-293 Cell Line >1 x 10e6 Viable Cells

BJ5183-AD-1

electroporation competent cells

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

Not applicable.
 Not applicable.

P405 - Store locked up.
 P403 - Store in a well-ventilated place.
 P235 - Keep cool.

Not applicable.
 Not applicable.
 Not applicable.
 Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

P403 - Store in a well-ventilated place.
 P235 - Keep cool.

Not applicable.

Not applicable.

Not applicable.

P403 - Store in a well-ventilated place.
 P235 - Keep cool.

Not applicable.

Not applicable.

P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Not applicable.

Section 2. Hazard(s) identification

	Transformation Control	Not applicable.
	XL10-Gold Ultracompetent cells	Not applicable.
	XL10-Gold	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	2-Mercaptoethanol	
	pUC 18 DNA Control Plasmid	Not applicable.
	Lysis Buffer	Not applicable.
	0.5 M EDTA	Not applicable.
	Streptavidin Resin	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	Streptavidin Binding Buffer	Not applicable.
	Streptavidin Elution Buffer	Not applicable.
	Streptavidin Supernatant Supplement	Not applicable.
	MS-Grade Calmodulin Resin	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	Calmodulin Binding Buffer	Not applicable.
	Calmodulin Elution Buffer	Not applicable.
Supplemental label elements	: <input checked="" type="checkbox"/> 2-Mercaptoethanol	Not applicable.
	pNTAP Shuttle vector-A	Not applicable.
	pNTAP Shuttle vector-B	Not applicable.
	pNTAP Shuttle vector-C	Not applicable.
	Adenoviral pTAP Shuttle-CAT Vector	Not applicable.
	pShuttle-CMV-lacZ Control Vector	Not applicable.
	AD-293 Cell Line >1 x 10e6 Viable Cells	Not applicable.
	BJ5183-AD-1 electroporation competent cells	Not applicable.
	Transformation Control	Not applicable.
	XL10-Gold Ultracompetent cells	Not applicable.
	XL10-Gold	Not applicable.
	2-Mercaptoethanol	
	pUC 18 DNA Control Plasmid	Not applicable.
	Lysis Buffer	Not applicable.
	0.5 M EDTA	Not applicable.
	Streptavidin Resin	Not applicable.
Streptavidin Binding Buffer	Not applicable.	
Streptavidin Elution Buffer	Not applicable.	
Streptavidin Supernatant Supplement	Not applicable.	
MS-Grade Calmodulin Resin	Not applicable.	
Calmodulin Binding Buffer	Not applicable.	
Calmodulin Elution Buffer	Not applicable.	
Other hazards which do not result in classification	: <input checked="" type="checkbox"/> 2-Mercaptoethanol	None known.
	pNTAP Shuttle vector-A	None known.
	pNTAP Shuttle vector-B	None known.
	pNTAP Shuttle vector-C	None known.
	Adenoviral pTAP Shuttle-CAT Vector	None known.
	pShuttle-CMV-lacZ Control Vector	None known.
	AD-293 Cell Line >1 x 10e6 Viable Cells	None known.
	BJ5183-AD-1 electroporation competent	None known.

Section 2. Hazard(s) identification

cells	
Transformation Control	None known.
XL10-Gold Ultracompetent	None known.
cells	
XL10-Gold	None known.
2-Mercaptoethanol	
pUC 18 DNA Control Plasmid	None known.
Lysis Buffer	None known.
0.5 M EDTA	None known.
Streptavidin Resin	None known.
Streptavidin Binding Buffer	None known.
Streptavidin Elution Buffer	None known.
Streptavidin Supernatant	None known.
Supplement	
MS-Grade Calmodulin Resin	None known.
Calmodulin Binding Buffer	None known.
Calmodulin Elution Buffer	None known.

Section 3. Composition and ingredient information

Substance/mixture	:	<input checked="" type="checkbox"/> -Mercaptoethanol	Substance
		pNTAP Shuttle vector-A	Mixture
		pNTAP Shuttle vector-B	Mixture
		pNTAP Shuttle vector-C	Mixture
		Adenoviral pTAP Shuttle-CAT Vector	Mixture
		pShuttle-CMV-lacZ Control Vector	Mixture
		AD-293 Cell Line >1 x 10e6 Viable Cells	Mixture
		BJ5183-AD-1	Mixture
		electroporation competent cells	
		Transformation Control	Mixture
		XL10-Gold Ultracompetent	Mixture
		cells	
		XL10-Gold	Mixture
		2-Mercaptoethanol	
		pUC 18 DNA Control Plasmid	Mixture
		Lysis Buffer	Mixture
		0.5 M EDTA	Mixture
		Streptavidin Resin	Mixture
		Streptavidin Binding Buffer	Mixture
		Streptavidin Elution Buffer	Mixture
		Streptavidin Supernatant	Mixture
		Supplement	
		MS-Grade Calmodulin Resin	Mixture
		Calmodulin Binding Buffer	Mixture
		Calmodulin Elution Buffer	Mixture

CAS number/other identifiers

Ingredient name	% (w/w)	CAS number
<input checked="" type="checkbox"/> -Mercaptoethanol 2-Mercaptoethanol	100	60-24-2
BJ5183-AD-1 electroporation competent cells Glycerol	≤10	56-81-5
XL10-Gold Ultracompetent cells Glycerol	≥10 - ≤30	56-81-5
Sucrose	≤10	57-50-1

Section 3. Composition and ingredient information

XL10-Gold 2-Mercaptoethanol 2-Mercaptoethanol	≤5	60-24-2
0.5 M EDTA Edetic acid	≥10 - ≤30	60-00-4
Streptavidin Resin Ethanol	≥10 - ≤30	64-17-5
MS-Grade Calmodulin Resin Ethanol	≥10 - ≤30	64-17-5

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	: 2-Mercaptoethanol	Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
	pNTAP Shuttle vector-A	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	pNTAP Shuttle vector-B	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	pNTAP Shuttle vector-C	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	Adenoviral pTAP Shuttle-CAT Vector	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	pShuttle-CMV-lacZ Control Vector	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	AD-293 Cell Line >1 x 10e6 Viable Cells	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	BJ5183-AD-1 electroporation competent cells	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	Transformation Control	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	XL10-Gold Ultracompetent cells	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Section 4. First aid measures

XL10-Gold 2-Mercaptoethanol	Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
pUC 18 DNA Control Plasmid	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Lysis Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
0.5 M EDTA	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
Streptavidin Resin	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
Streptavidin Binding Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Streptavidin Elution Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Streptavidin Supernatant Supplement	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
MS-Grade Calmodulin Resin	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
Calmodulin Binding Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Calmodulin Elution Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation

: 2-Mercaptoethanol	Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
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Section 4. First aid measures

pNTAP Shuttle vector-A	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
pNTAP Shuttle vector-B	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
pNTAP Shuttle vector-C	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Adenoviral pTAP Shuttle-CAT Vector	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
pShuttle-CMV-lacZ Control Vector	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
AD-293 Cell Line >1 x 10e6 Viable Cells	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
BJ5183-AD-1 electroporation competent cells	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Transformation Control	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
XL10-Gold Ultracompetent cells	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
XL10-Gold 2-Mercaptoethanol	Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
pUC 18 DNA Control Plasmid	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Lysis Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
0.5 M EDTA	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Streptavidin Resin	Remove victim to fresh air and keep at rest in a

Section 4. First aid measures

position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Streptavidin Binding Buffer

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Streptavidin Elution Buffer

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Streptavidin Supernatant Supplement

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

MS-Grade Calmodulin Resin

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Calmodulin Binding Buffer

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Calmodulin Elution Buffer

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact

:  Mercaptoethanol

Get medical attention immediately. Call a poison center or physician. Gently wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

pNTAP Shuttle vector-A

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

pNTAP Shuttle vector-B

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

pNTAP Shuttle vector-C

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Adenoviral pTAP Shuttle-CAT Vector

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

pShuttle-CMV-lacZ Control Vector

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.


AD-293 Cell Line >1 x 10e6 Viable Cells

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get

Section 4. First aid measures

BJ5183-AD-1 electroporation competent cells Transformation Control	medical attention if symptoms occur. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
XL10-Gold Ultracompetent cells	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
XL10-Gold 2-Mercaptoethanol	Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
pUC 18 DNA Control Plasmid	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Lysis Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
0.5 M EDTA	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Streptavidin Resin	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Streptavidin Binding Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Streptavidin Elution Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Streptavidin Supernatant Supplement	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
MS-Grade Calmodulin Resin	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Calmodulin Binding Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Calmodulin Elution Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion

:  -Mercaptoethanol	Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be
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Section 4. First aid measures

	kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
pNTAP Shuttle vector-A	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
pNTAP Shuttle vector-B	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
pNTAP Shuttle vector-C	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Adenoviral pTAP Shuttle-CAT Vector	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
pShuttle-CMV-lacZ Control Vector	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
AD-293 Cell Line >1 x 10e6 Viable Cells	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
BJ5183-AD-1 electroporation competent cells	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Transformation Control	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

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XL10-Gold Ultracompetent cells	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
XL10-Gold 2-Mercaptoethanol	Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
pUC 18 DNA Control Plasmid	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Lysis Buffer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
0.5 M EDTA	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Streptavidin Resin	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit

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	does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Streptavidin Binding Buffer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Streptavidin Elution Buffer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Streptavidin Supernatant Supplement	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
MS-Grade Calmodulin Resin	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Calmodulin Binding Buffer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Calmodulin Elution Buffer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Section 4. First aid measures

Eye contact

: <input checked="" type="checkbox"/> -Mercaptoethanol	Causes serious eye damage.
pNTAP Shuttle vector-A	No known significant effects or critical hazards.
pNTAP Shuttle vector-B	No known significant effects or critical hazards.
pNTAP Shuttle vector-C	No known significant effects or critical hazards.
Adenoviral pTAP Shuttle-CAT Vector	No known significant effects or critical hazards.
pShuttle-CMV-lacZ Control Vector	No known significant effects or critical hazards.
AD-293 Cell Line >1 x 10e6 Viable Cells	No known significant effects or critical hazards.
BJ5183-AD-1 electroporation competent cells	No known significant effects or critical hazards.
Transformation Control	No known significant effects or critical hazards.
XL10-Gold Ultracompetent cells	No known significant effects or critical hazards.
XL10-Gold	Causes serious eye damage.
2-Mercaptoethanol	
pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Lysis Buffer	No known significant effects or critical hazards.
0.5 M EDTA	Causes serious eye irritation.
Streptavidin Resin	No known significant effects or critical hazards.
Streptavidin Binding Buffer	No known significant effects or critical hazards.
Streptavidin Elution Buffer	No known significant effects or critical hazards.
Streptavidin Supernatant Supplement	No known significant effects or critical hazards.
MS-Grade Calmodulin Resin	No known significant effects or critical hazards.
Calmodulin Binding Buffer	No known significant effects or critical hazards.
Calmodulin Elution Buffer	No known significant effects or critical hazards.

Inhalation



: <input checked="" type="checkbox"/> -Mercaptoethanol	Fatal if inhaled. May cause respiratory irritation.
pNTAP Shuttle vector-A	No known significant effects or critical hazards.
pNTAP Shuttle vector-B	No known significant effects or critical hazards.
pNTAP Shuttle vector-C	No known significant effects or critical hazards.
Adenoviral pTAP Shuttle-CAT Vector	No known significant effects or critical hazards.
pShuttle-CMV-lacZ Control Vector	No known significant effects or critical hazards.
AD-293 Cell Line >1 x 10e6 Viable Cells	No known significant effects or critical hazards.
BJ5183-AD-1 electroporation competent cells	No known significant effects or critical hazards.
Transformation Control	No known significant effects or critical hazards.
XL10-Gold Ultracompetent cells	No known significant effects or critical hazards.
XL10-Gold	No known significant effects or critical hazards.
2-Mercaptoethanol	
pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Lysis Buffer	No known significant effects or critical hazards.
0.5 M EDTA	No known significant effects or critical hazards.
Streptavidin Resin	No known significant effects or critical hazards.
Streptavidin Binding Buffer	No known significant effects or critical hazards.
Streptavidin Elution Buffer	No known significant effects or critical hazards.
Streptavidin Supernatant Supplement	No known significant effects or critical hazards.
MS-Grade Calmodulin Resin	No known significant effects or critical hazards.
Calmodulin Binding Buffer	No known significant effects or critical hazards.
Calmodulin Elution Buffer	No known significant effects or critical hazards.

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Skin contact	: <input checked="" type="checkbox"/> -Mercaptoethanol	Fatal in contact with skin. Causes skin irritation. May cause an allergic skin reaction.
	pNTAP Shuttle vector-A	No known significant effects or critical hazards.
	pNTAP Shuttle vector-B	No known significant effects or critical hazards.
	pNTAP Shuttle vector-C	No known significant effects or critical hazards.
	Adenoviral pTAP Shuttle-CAT Vector	No known significant effects or critical hazards.
	pShuttle-CMV-lacZ Control Vector	No known significant effects or critical hazards.
	AD-293 Cell Line >1 x 10e6 Viable Cells	No known significant effects or critical hazards.
	BJ5183-AD-1 electroporation competent cells	No known significant effects or critical hazards.
	Transformation Control	No known significant effects or critical hazards.
	XL10-Gold Ultracompetent cells	No known significant effects or critical hazards.
	XL10-Gold 2-Mercaptoethanol	May cause an allergic skin reaction.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
	Lysis Buffer	No known significant effects or critical hazards.
	0.5 M EDTA	No known significant effects or critical hazards.
	Streptavidin Resin	No known significant effects or critical hazards.
	Streptavidin Binding Buffer	No known significant effects or critical hazards.
	Streptavidin Elution Buffer	No known significant effects or critical hazards.
	Streptavidin Supernatant Supplement	No known significant effects or critical hazards.
	MS-Grade Calmodulin Resin	No known significant effects or critical hazards.
	Calmodulin Binding Buffer	No known significant effects or critical hazards.
	Calmodulin Elution Buffer	No known significant effects or critical hazards.
Ingestion	: <input checked="" type="checkbox"/> -Mercaptoethanol	Toxic if swallowed.
	pNTAP Shuttle vector-A	No known significant effects or critical hazards.
	pNTAP Shuttle vector-B	No known significant effects or critical hazards.
	pNTAP Shuttle vector-C	No known significant effects or critical hazards.
	Adenoviral pTAP Shuttle-CAT Vector	No known significant effects or critical hazards.
	pShuttle-CMV-lacZ Control Vector	No known significant effects or critical hazards.
	AD-293 Cell Line >1 x 10e6 Viable Cells	No known significant effects or critical hazards.
	BJ5183-AD-1 electroporation competent cells	No known significant effects or critical hazards.
	Transformation Control	No known significant effects or critical hazards.
	XL10-Gold Ultracompetent cells	No known significant effects or critical hazards.
	XL10-Gold 2-Mercaptoethanol	No known significant effects or critical hazards.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
	Lysis Buffer	No known significant effects or critical hazards.
	0.5 M EDTA	No known significant effects or critical hazards.
	Streptavidin Resin	No known significant effects or critical hazards.
	Streptavidin Binding Buffer	No known significant effects or critical hazards.
	Streptavidin Elution Buffer	No known significant effects or critical hazards.
	Streptavidin Supernatant Supplement	No known significant effects or critical hazards.
	MS-Grade Calmodulin Resin	No known significant effects or critical hazards.
	Calmodulin Binding Buffer	No known significant effects or critical hazards.
	Calmodulin Elution Buffer	No known significant effects or critical hazards.

Over-exposure signs/symptoms

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Eye contact	:	 -Mercaptoethanol	Adverse symptoms may include the following:	
			pain	
			watering	
			redness	
			pNTAP Shuttle vector-A	No specific data.
			pNTAP Shuttle vector-B	No specific data.
			pNTAP Shuttle vector-C	No specific data.
			Adenoviral pTAP Shuttle-CAT Vector	No specific data.
			pShuttle-CMV-lacZ Control Vector	No specific data.
			AD-293 Cell Line >1 x 10e6 Viable Cells	No specific data.
			BJ5183-AD-1 electroporation competent cells	No specific data.
			Transformation Control	No specific data.
			XL10-Gold Ultracompetent cells	No specific data.
			XL10-Gold 2-Mercaptoethanol	Adverse symptoms may include the following:
				pain
				watering
				redness
			pUC 18 DNA Control Plasmid	No specific data.
			Lysis Buffer	No specific data.
			0.5 M EDTA	Adverse symptoms may include the following:
	pain or irritation			
	watering			
	redness			
Streptavidin Resin	No specific data.			
Streptavidin Binding Buffer	No specific data.			
Streptavidin Elution Buffer	No specific data.			
Streptavidin Supernatant Supplement	No specific data.			
MS-Grade Calmodulin Resin	No specific data.			
Calmodulin Binding Buffer	No specific data.			
Calmodulin Elution Buffer	No specific data.			
Inhalation	:	 -Mercaptoethanol	Adverse symptoms may include the following:	
			respiratory tract irritation	
			coughing	
			pNTAP Shuttle vector-A	No specific data.
			pNTAP Shuttle vector-B	No specific data.
			pNTAP Shuttle vector-C	No specific data.
			Adenoviral pTAP Shuttle-CAT Vector	No specific data.
			pShuttle-CMV-lacZ Control Vector	No specific data.
			AD-293 Cell Line >1 x 10e6 Viable Cells	No specific data.
			BJ5183-AD-1 electroporation competent cells	No specific data.
			Transformation Control	No specific data.
			XL10-Gold Ultracompetent cells	No specific data.
			XL10-Gold 2-Mercaptoethanol	No specific data.
			pUC 18 DNA Control Plasmid	No specific data.
			Lysis Buffer	No specific data.
			0.5 M EDTA	No specific data.
			Streptavidin Resin	No specific data.
			Streptavidin Binding Buffer	No specific data.

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	Streptavidin Elution Buffer	No specific data.
	Streptavidin Supernatant Supplement	No specific data.
	MS-Grade Calmodulin Resin	No specific data.
	Calmodulin Binding Buffer	No specific data.
	Calmodulin Elution Buffer	No specific data.
Skin contact	: <input checked="" type="checkbox"/> 2-Mercaptoethanol	Adverse symptoms may include the following: pain or irritation redness blistering may occur
	pNTAP Shuttle vector-A	No specific data.
	pNTAP Shuttle vector-B	No specific data.
	pNTAP Shuttle vector-C	No specific data.
	Adenoviral pTAP Shuttle-CAT Vector	No specific data.
	pShuttle-CMV-lacZ Control Vector	No specific data.
	AD-293 Cell Line >1 x 10 ⁶ Viable Cells	No specific data.
	BJ5183-AD-1 electroporation competent cells	No specific data.
	Transformation Control	No specific data.
	XL10-Gold Ultracompetent cells	No specific data.
	XL10-Gold 2-Mercaptoethanol	Adverse symptoms may include the following: pain or irritation redness blistering may occur
	pUC 18 DNA Control Plasmid	No specific data.
	Lysis Buffer	No specific data.
	0.5 M EDTA	No specific data.
	Streptavidin Resin	No specific data.
	Streptavidin Binding Buffer	No specific data.
	Streptavidin Elution Buffer	No specific data.
	Streptavidin Supernatant Supplement	No specific data.
	MS-Grade Calmodulin Resin	No specific data.
	Calmodulin Binding Buffer	No specific data.
	Calmodulin Elution Buffer	No specific data.
Ingestion	: <input checked="" type="checkbox"/> 2-Mercaptoethanol	Adverse symptoms may include the following: stomach pains
	pNTAP Shuttle vector-A	No specific data.
	pNTAP Shuttle vector-B	No specific data.
	pNTAP Shuttle vector-C	No specific data.
	Adenoviral pTAP Shuttle-CAT Vector	No specific data.
	pShuttle-CMV-lacZ Control Vector	No specific data.
	AD-293 Cell Line >1 x 10 ⁶ Viable Cells	No specific data.
	BJ5183-AD-1 electroporation competent cells	No specific data.
	Transformation Control	No specific data.
	XL10-Gold Ultracompetent cells	No specific data.
	XL10-Gold 2-Mercaptoethanol	Adverse symptoms may include the following: stomach pains
	pUC 18 DNA Control Plasmid	No specific data.

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Lysis Buffer	No specific data.
0.5 M EDTA	No specific data.
Streptavidin Resin	No specific data.
Streptavidin Binding Buffer	No specific data.
Streptavidin Elution Buffer	No specific data.
Streptavidin Supernatant Supplement	No specific data.
MS-Grade Calmodulin Resin	No specific data.
Calmodulin Binding Buffer	No specific data.
Calmodulin Elution Buffer	No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	:	β-Mercaptoethanol	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		pNTAP Shuttle vector-A	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		pNTAP Shuttle vector-B	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		pNTAP Shuttle vector-C	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Adenoviral pTAP Shuttle-CAT Vector	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		pShuttle-CMV-lacZ Control Vector	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		AD-293 Cell Line >1 x 10e6 Viable Cells	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		BJ5183-AD-1 electroporation competent cells	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Transformation Control	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		XL10-Gold Ultracompetent cells	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		XL10-Gold 2-Mercaptoethanol	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		pUC 18 DNA Control Plasmid	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Lysis Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		0.5 M EDTA	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
		Streptavidin Resin	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Streptavidin Binding Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Streptavidin Elution Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

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BJ5183-AD-1 electroporation competent cells	No action shall be taken involving any personal risk or without suitable training.
Transformation Control	No action shall be taken involving any personal risk or without suitable training.
XL10-Gold Ultracompetent cells	No action shall be taken involving any personal risk or without suitable training.
XL10-Gold 2-Mercaptoethanol	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
pUC 18 DNA Control Plasmid	No action shall be taken involving any personal risk or without suitable training.
Lysis Buffer	No action shall be taken involving any personal risk or without suitable training.
0.5 M EDTA	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
Streptavidin Resin	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
Streptavidin Binding Buffer	No action shall be taken involving any personal risk or without suitable training.
Streptavidin Elution Buffer	No action shall be taken involving any personal risk or without suitable training.
Streptavidin Supernatant Supplement	No action shall be taken involving any personal risk or without suitable training.
MS-Grade Calmodulin Resin	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
Calmodulin Binding Buffer	No action shall be taken involving any personal risk or without suitable training.
Calmodulin Elution Buffer	No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media	: <input checked="" type="checkbox"/> 2-Mercaptoethanol	Use dry chemical, CO ₂ , water spray (fog) or foam.
	pNTAP Shuttle vector-A	Use an extinguishing agent suitable for the surrounding fire.
	pNTAP Shuttle vector-B	Use an extinguishing agent suitable for the surrounding fire.
	pNTAP Shuttle vector-C	Use an extinguishing agent suitable for the surrounding fire.
	Adenoviral pTAP Shuttle-CAT Vector	Use an extinguishing agent suitable for the surrounding fire.
	pShuttle-CMV-lacZ Control Vector	Use an extinguishing agent suitable for the surrounding fire.
	AD-293 Cell Line >1 x 10e6 Viable Cells	Use an extinguishing agent suitable for the surrounding fire.
	BJ5183-AD-1 electroporation competent cells	Use an extinguishing agent suitable for the surrounding fire.

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		with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
	pNTAP Shuttle vector-A	In a fire or if heated, a pressure increase will occur and the container may burst.
	pNTAP Shuttle vector-B	In a fire or if heated, a pressure increase will occur and the container may burst.
	pNTAP Shuttle vector-C	In a fire or if heated, a pressure increase will occur and the container may burst.
	Adenoviral pTAP Shuttle-CAT Vector	In a fire or if heated, a pressure increase will occur and the container may burst.
	pShuttle-CMV-lacZ Control Vector	In a fire or if heated, a pressure increase will occur and the container may burst.
	AD-293 Cell Line >1 x 10e6 Viable Cells	In a fire or if heated, a pressure increase will occur and the container may burst.
	BJ5183-AD-1 electroporation competent cells	In a fire or if heated, a pressure increase will occur and the container may burst.
	Transformation Control	In a fire or if heated, a pressure increase will occur and the container may burst.
	XL10-Gold Ultracompetent cells	In a fire or if heated, a pressure increase will occur and the container may burst.
	XL10-Gold	In a fire or if heated, a pressure increase will occur and the container may burst.
	2-Mercaptoethanol	In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
	pUC 18 DNA Control Plasmid	In a fire or if heated, a pressure increase will occur and the container may burst.
	Lysis Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	0.5 M EDTA	In a fire or if heated, a pressure increase will occur and the container may burst.
	Streptavidin Resin	Flammable liquid and vapour. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
	Streptavidin Binding Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	Streptavidin Elution Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	Streptavidin Supernatant Supplement	In a fire or if heated, a pressure increase will occur and the container may burst.
	MS-Grade Calmodulin Resin	Flammable liquid and vapour. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
	Calmodulin Binding Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	Calmodulin Elution Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	:  -Mercaptoethanol	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides
	pNTAP Shuttle vector-A	No specific data.
	pNTAP Shuttle vector-B	No specific data.
	pNTAP Shuttle vector-C	No specific data.
	Adenoviral pTAP Shuttle-CAT Vector	No specific data.
	pShuttle-CMV-lacZ Control	No specific data.

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Vector AD-293 Cell Line >1 x 10 ⁶ Viable Cells	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides
BJ5183-AD-1 electroporation competent cells	Decomposition products may include the following materials: carbon dioxide carbon monoxide
Transformation Control XL10-Gold Ultracompetent cells	No specific data. Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides halogenated compounds metal oxide/oxides
XL10-Gold 2-Mercaptoethanol	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides halogenated compounds metal oxide/oxides
pUC 18 DNA Control Plasmid Lysis Buffer 0.5 M EDTA	No specific data. No specific data. Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides
Streptavidin Resin	Decomposition products may include the following materials: carbon dioxide carbon monoxide
Streptavidin Binding Buffer Streptavidin Elution Buffer Streptavidin Supernatant Supplement	No specific data. No specific data. Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
MS-Grade Calmodulin Resin	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
Calmodulin Binding Buffer Calmodulin Elution Buffer	No specific data. No specific data.
Special protective actions for fire-fighters	β -Mercaptoethanol
	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
	pNTAP Shuttle vector-A
	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or

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pNTAP Shuttle vector-B	without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
pNTAP Shuttle vector-C	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Adenoviral pTAP Shuttle-CAT Vector	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
pShuttle-CMV-lacZ Control Vector	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
AD-293 Cell Line >1 x 10e6 Viable Cells	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
BJ5183-AD-1 electroporation competent cells	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Transformation Control	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
XL10-Gold Ultracompetent cells	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
XL10-Gold 2-Mercaptoethanol	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
pUC 18 DNA Control Plasmid	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Lysis Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
0.5 M EDTA	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Streptavidin Resin	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Streptavidin Binding Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Streptavidin Elution Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Streptavidin Supernatant	Promptly isolate the scene by removing all persons

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	Supplement	from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	MS-Grade Calmodulin Resin	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
	Calmodulin Binding Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Calmodulin Elution Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	:  -Mercaptoethanol	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	pNTAP Shuttle vector-A	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	pNTAP Shuttle vector-B	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	pNTAP Shuttle vector-C	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Adenoviral pTAP Shuttle-CAT Vector	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	pShuttle-CMV-lacZ Control Vector	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	AD-293 Cell Line >1 x 10e6 Viable Cells	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	BJ5183-AD-1 electroporation competent cells	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Transformation Control	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	XL10-Gold Ultracompetent cells	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	XL10-Gold 2-Mercaptoethanol	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	pUC 18 DNA Control Plasmid	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus

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	(SCBA) with a full face-piece operated in positive pressure mode.
Lysis Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
0.5 M EDTA	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Streptavidin Resin	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Streptavidin Binding Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Streptavidin Elution Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Streptavidin Supernatant Supplement	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
MS-Grade Calmodulin Resin	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Calmodulin Binding Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Calmodulin Elution Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Hazchem code	:
	☒-Mercaptoethanol 2X
pNTAP Shuttle vector-A	Not available.
pNTAP Shuttle vector-B	Not available.
pNTAP Shuttle vector-C	Not available.
Adenoviral pTAP Shuttle-CAT Vector	Not available.
pShuttle-CMV-lacZ Control Vector	Not available.
AD-293 Cell Line >1 x 10e6 Viable Cells	Not available.
BJ5183-AD-1 electroporation competent cells	Not available.
Transformation Control	Not available.
XL10-Gold Ultracompetent cells	Not available.
XL10-Gold 2-Mercaptoethanol	Not available.
pUC 18 DNA Control Plasmid	Not available.
Lysis Buffer	Not available.
0.5 M EDTA	Not available.
Streptavidin Resin	•2Y
Streptavidin Binding Buffer	Not available.
Streptavidin Elution Buffer	Not available.
Streptavidin Supernatant	Not available.

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Supplement	
MS-Grade Calmodulin Resin	•2Y
Calmodulin Binding Buffer	Not available.
Calmodulin Elution Buffer	Not available.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

:  Mercaptoethanol

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

pNTAP Shuttle vector-A

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

pNTAP Shuttle vector-B

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

pNTAP Shuttle vector-C

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

Adenoviral pTAP Shuttle-CAT Vector

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

pShuttle-CMV-lacZ Control Vector

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

AD-293 Cell Line >1 x 10e6 Viable Cells

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

BJ5183-AD-1 electroporation competent cells

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.


Transformation Control

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk

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	through spilt material. Put on appropriate personal protective equipment.
XL10-Gold Ultracompetent cells	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
XL10-Gold 2-Mercaptoethanol	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
pUC 18 DNA Control Plasmid	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Lysis Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
0.5 M EDTA	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
Streptavidin Resin	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
Streptavidin Binding Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Streptavidin Elution Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Streptavidin Supernatant Supplement	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal

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	protective equipment.
MS-Grade Calmodulin Resin	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
Calmodulin Binding Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Calmodulin Elution Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
For emergency responders :  -Mercaptoethanol	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
pNTAP Shuttle vector-A	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
pNTAP Shuttle vector-B	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
pNTAP Shuttle vector-C	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Adenoviral pTAP Shuttle-CAT Vector	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
pShuttle-CMV-lacZ Control Vector	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
AD-293 Cell Line >1 x 10e6 Viable Cells	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
BJ5183-AD-1 electroporation competent cells	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Transformation Control	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
XL10-Gold Ultracompetent cells	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

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XL10-Gold 2-Mercaptoethanol	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
pUC 18 DNA Control Plasmid	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Lysis Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
0.5 M EDTA	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Streptavidin Resin	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Streptavidin Binding Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Streptavidin Elution Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Streptavidin Supernatant Supplement	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
MS-Grade Calmodulin Resin	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Calmodulin Binding Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Calmodulin Elution Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions :  -Mercaptoethanol	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.
pNTAP Shuttle vector-A	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
pNTAP Shuttle vector-B	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
pNTAP Shuttle vector-C	Avoid dispersal of spilt material and runoff and

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	contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Adenoviral pTAP Shuttle-CAT Vector	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
pShuttle-CMV-lacZ Control Vector	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
AD-293 Cell Line >1 x 10e6 Viable Cells	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
BJ5183-AD-1 electroporation competent cells	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Transformation Control	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
XL10-Gold Ultracompetent cells	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
XL10-Gold 2-Mercaptoethanol	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.
pUC 18 DNA Control Plasmid	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Lysis Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
0.5 M EDTA	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Streptavidin Resin	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Streptavidin Binding Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has

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Streptavidin Elution Buffer	caused environmental pollution (sewers, waterways, soil or air). Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Streptavidin Supernatant Supplement	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
MS-Grade Calmodulin Resin	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Calmodulin Binding Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Calmodulin Elution Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Methods for cleaning up : -Mercaptoethanol

pNTAP Shuttle vector-A	Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
pNTAP Shuttle vector-B	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
pNTAP Shuttle vector-C	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Adenoviral pTAP Shuttle-CAT Vector	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
pShuttle-CMV-lacZ Control Vector	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an

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	inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
AD-293 Cell Line >1 x 10e6 Viable Cells	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
BJ5183-AD-1 electroporation competent cells	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Transformation Control	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
XL10-Gold Ultracompetent cells	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
XL10-Gold 2-Mercaptoethanol	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
pUC 18 DNA Control Plasmid	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Lysis Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
0.5 M EDTA	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Streptavidin Resin	Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Streptavidin Binding Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

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Streptavidin Elution Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Streptavidin Supernatant Supplement	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
MS-Grade Calmodulin Resin	Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Calmodulin Binding Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Calmodulin Elution Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage


Precautions for safe handling

Protective measures	:  -Mercaptoethanol	Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not reuse container.
pNTAP Shuttle vector-A		Put on appropriate personal protective equipment (see Section 8).
pNTAP Shuttle vector-B		Put on appropriate personal protective equipment (see Section 8).
pNTAP Shuttle vector-C		Put on appropriate personal protective equipment (see Section 8).
Adenoviral pTAP Shuttle-CAT Vector		Put on appropriate personal protective equipment (see Section 8).
pShuttle-CMV-lacZ Control Vector		Put on appropriate personal protective equipment (see Section 8).
AD-293 Cell Line >1 x 10e6		Put on appropriate personal protective equipment

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Viable Cells	(see Section 8).
BJ5183-AD-1 electroporation competent cells	Put on appropriate personal protective equipment (see Section 8).
Transformation Control	Put on appropriate personal protective equipment (see Section 8).
XL10-Gold Ultracompetent cells	Put on appropriate personal protective equipment (see Section 8).
XL10-Gold 2-Mercaptoethanol	Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
pUC 18 DNA Control Plasmid	Put on appropriate personal protective equipment (see Section 8).
Lysis Buffer	Put on appropriate personal protective equipment (see Section 8).
0.5 M EDTA	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Streptavidin Resin	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion- proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
Streptavidin Binding Buffer	Put on appropriate personal protective equipment (see Section 8).
Streptavidin Elution Buffer	Put on appropriate personal protective equipment (see Section 8).
Streptavidin Supernatant Supplement	Put on appropriate personal protective equipment (see Section 8).
MS-Grade Calmodulin Resin	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a

Section 7. Handling and storage

		compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
	Calmodulin Binding Buffer	Put on appropriate personal protective equipment (see Section 8).
	Calmodulin Elution Buffer	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	:  -Mercaptoethanol	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	pNTAP Shuttle vector-A	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	pNTAP Shuttle vector-B	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	pNTAP Shuttle vector-C	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	Adenoviral pTAP Shuttle-CAT Vector	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	pShuttle-CMV-lacZ Control Vector	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	AD-293 Cell Line >1 x 10e6 Viable Cells	Potentially biohazardous material. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	BJ5183-AD-1	Potentially biohazardous material. Eating, drinking

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electroporation competent cells	and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Transformation Control	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
XL10-Gold Ultracompetent cells	Potentially biohazardous material. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
XL10-Gold 2-Mercaptoethanol	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
pUC 18 DNA Control Plasmid	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Lysis Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
0.5 M EDTA	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Streptavidin Resin	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Streptavidin Binding Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for

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Streptavidin Elution Buffer	additional information on hygiene measures. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Streptavidin Supernatant Supplement	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
MS-Grade Calmodulin Resin	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Calmodulin Binding Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Calmodulin Elution Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : -Mercaptoethanol

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

pNTAP Shuttle vector-A

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

pNTAP Shuttle vector-B

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and

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	drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
pNTAP Shuttle vector-C	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
Adenoviral pTAP Shuttle-CAT Vector	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
pShuttle-CMV-lacZ Control Vector	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
AD-293 Cell Line >1 x 10e6 Viable Cells	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
BJ5183-AD-1 electroporation competent cells	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
Transformation Control	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to

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	prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
XL10-Gold Ultracompetent cells	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
XL10-Gold 2-Mercaptoethanol	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
pUC 18 DNA Control Plasmid	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
Lysis Buffer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
0.5 M EDTA	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
Streptavidin Resin	Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled

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Streptavidin Binding Buffer	containers. Use appropriate containment to avoid environmental contamination. Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
Streptavidin Elution Buffer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
Streptavidin Supernatant Supplement	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
MS-Grade Calmodulin Resin	Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
Calmodulin Binding Buffer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
Calmodulin Elution Buffer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid

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environmental contamination.

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

<u>Ingredient name</u>	<u>Exposure limits</u>
BJ5183-AD-1 electroporation competent cells Glycerol	Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m ³ 8 hours.
XL10-Gold Ultracompetent cells Glycerol	Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m ³ 8 hours.
Sucrose	Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m ³ 8 hours.
Streptavidin Resin Ethanol	Safe Work Australia (Australia, 1/2014). TWA: 1880 mg/m ³ 8 hours. TWA: 1000 ppm 8 hours.
MS-Grade Calmodulin Resin Ethanol	Safe Work Australia (Australia, 1/2014). TWA: 1880 mg/m ³ 8 hours. TWA: 1000 ppm 8 hours.

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

: Handle as biohazard material (Biosafety level 1). Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Section 8. Exposure controls and personal protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

- Physical state** :
- | | | |
|-------------------------------------|---|---------|
| <input checked="" type="checkbox"/> | Mercaptoethanol | Liquid. |
| | pNTAP Shuttle vector-A | Liquid. |
| | pNTAP Shuttle vector-B | Liquid. |
| | pNTAP Shuttle vector-C | Liquid. |
| | Adenoviral pTAP Shuttle-CAT Vector | Liquid. |
| | pShuttle-CMV-lacZ Control Vector | Liquid. |
| | AD-293 Cell Line >1 x 10e6 Viable Cells | Liquid. |
| | BJ5183-AD-1 electroporation competent cells | Liquid. |
| | Transformation Control | Liquid. |
| | XL10-Gold Ultracompetent cells | Liquid. |
| | XL10-Gold | Liquid. |
| | 2-Mercaptoethanol | Liquid. |
| | pUC 18 DNA Control Plasmid | Liquid. |
| | Lysis Buffer | Liquid. |
| | 0.5 M EDTA | Liquid. |
| | Streptavidin Resin | Liquid. |
| | Streptavidin Binding Buffer | Liquid. |
| | Streptavidin Elution Buffer | Liquid. |
| | Streptavidin Supernatant Supplement | Liquid. |
| | MS-Grade Calmodulin Resin | Liquid. |
| | Calmodulin Binding Buffer | Liquid. |
| | Calmodulin Elution Buffer | Liquid. |
- Colour** :
- | | | |
|-------------------------------------|------------------------------------|----------------|
| <input checked="" type="checkbox"/> | Mercaptoethanol | Colourless. |
| | pNTAP Shuttle vector-A | Not available. |
| | pNTAP Shuttle vector-B | Not available. |
| | pNTAP Shuttle vector-C | Not available. |
| | Adenoviral pTAP Shuttle-CAT Vector | Not available. |
| | pShuttle-CMV-lacZ Control Vector | Not available. |
| | AD-293 Cell Line >1 x 10e6 | Not available. |

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	Viable Cells	
	BJ5183-AD-1	Not available.
	electroporation competent cells	
	Transformation Control	Not available.
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold	Not available.
	2-Mercaptoethanol	
	pUC 18 DNA Control Plasmid	Not available.
	Lysis Buffer	Not available.
	0.5 M EDTA	Not available.
	Streptavidin Resin	Not available.
	Streptavidin Binding Buffer	Not available.
	Streptavidin Elution Buffer	Not available.
	Streptavidin Supernatant	Not available.
	Supplement	
	MS-Grade Calmodulin Resin	Not available.
	Calmodulin Binding Buffer	Not available.
	Calmodulin Elution Buffer	Not available.
Odour	2-Mercaptoethanol	Characteristic.
	pNTAP Shuttle vector-A	Not available.
	pNTAP Shuttle vector-B	Not available.
	pNTAP Shuttle vector-C	Not available.
	Adenoviral pTAP Shuttle-CAT Vector	Not available.
	pShuttle-CMV-lacZ Control Vector	Not available.
	AD-293 Cell Line >1 x 10 ⁶	Not available.
	Viable Cells	
	BJ5183-AD-1	Not available.
	electroporation competent cells	
	Transformation Control	Not available.
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold	Not available.
	2-Mercaptoethanol	
	pUC 18 DNA Control Plasmid	Not available.
	Lysis Buffer	Not available.
	0.5 M EDTA	Not available.
	Streptavidin Resin	Not available.
	Streptavidin Binding Buffer	Not available.
	Streptavidin Elution Buffer	Not available.
	Streptavidin Supernatant	Not available.
	Supplement	
	MS-Grade Calmodulin Resin	Not available.
	Calmodulin Binding Buffer	Not available.
	Calmodulin Elution Buffer	Not available.
Odour threshold	2-Mercaptoethanol	Not available.
	pNTAP Shuttle vector-A	Not available.
	pNTAP Shuttle vector-B	Not available.
	pNTAP Shuttle vector-C	Not available.
	Adenoviral pTAP Shuttle-CAT Vector	Not available.
	pShuttle-CMV-lacZ Control Vector	Not available.
	AD-293 Cell Line >1 x 10 ⁶	Not available.
	Viable Cells	
	BJ5183-AD-1	Not available.
	electroporation competent cells	

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	Transformation Control	Not available.
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold	Not available.
	2-Mercaptoethanol	
	pUC 18 DNA Control Plasmid	Not available.
	Lysis Buffer	Not available.
	0.5 M EDTA	Not available.
	Streptavidin Resin	Not available.
	Streptavidin Binding Buffer	Not available.
	Streptavidin Elution Buffer	Not available.
	Streptavidin Supernatant Supplement	Not available.
	MS-Grade Calmodulin Resin	Not available.
	Calmodulin Binding Buffer	Not available.
	Calmodulin Elution Buffer	Not available.
pH	<input checked="" type="checkbox"/> 2-Mercaptoethanol	Not available.
	pNTAP Shuttle vector-A	7.5
	pNTAP Shuttle vector-B	7.5
	pNTAP Shuttle vector-C	7.5
	Adenoviral pTAP Shuttle-CAT Vector	7.5
	pShuttle-CMV-lacZ Control Vector	7.5
	AD-293 Cell Line >1 x 10e6 Viable Cells	7.5
	BJ5183-AD-1 electroporation competent cells	Not available.
	Transformation Control	7.5
	XL10-Gold Ultracompetent cells	6.4
	XL10-Gold	Not available.
	2-Mercaptoethanol	
	pUC 18 DNA Control Plasmid	7.5
	Lysis Buffer	8
	0.5 M EDTA	8
	Streptavidin Resin	7.5
	Streptavidin Binding Buffer	8
	Streptavidin Elution Buffer	8
	Streptavidin Supernatant Supplement	Not available.
	MS-Grade Calmodulin Resin	7.5
	Calmodulin Binding Buffer	8
	Calmodulin Elution Buffer	8
Melting point	<input checked="" type="checkbox"/> 2-Mercaptoethanol	<-100°C (<-148°F)
	pNTAP Shuttle vector-A	0°C (32°F)
	pNTAP Shuttle vector-B	0°C (32°F)
	pNTAP Shuttle vector-C	0°C (32°F)
	Adenoviral pTAP Shuttle-CAT Vector	0°C (32°F)
	pShuttle-CMV-lacZ Control Vector	0°C (32°F)
	AD-293 Cell Line >1 x 10e6 Viable Cells	Not available.
	BJ5183-AD-1 electroporation competent cells	Not available.
	Transformation Control	0°C (32°F)
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold	Not available.

Section 9. Physical and chemical properties

	2-Mercaptoethanol	
	pUC 18 DNA Control Plasmid	0°C (32°F)
	Lysis Buffer	0°C (32°F)
	0.5 M EDTA	Not available.
	Streptavidin Resin	Not available.
	Streptavidin Binding Buffer	0°C (32°F)
	Streptavidin Elution Buffer	0°C (32°F)
	Streptavidin Supernatant Supplement	0°C (32°F)
	MS-Grade Calmodulin Resin	Not available.
	Calmodulin Binding Buffer	0°C (32°F)
	Calmodulin Elution Buffer	0°C (32°F)
Boiling point	: 2-Mercaptoethanol	155.8°C (312.4°F)
	pNTAP Shuttle vector-A	100°C (212°F)
	pNTAP Shuttle vector-B	100°C (212°F)
	pNTAP Shuttle vector-C	100°C (212°F)
	Adenoviral pTAP Shuttle-CAT Vector	100°C (212°F)
	pShuttle-CMV-lacZ Control Vector	100°C (212°F)
	AD-293 Cell Line >1 x 10e6 Viable Cells	Not available.
	BJ5183-AD-1 electroporation competent cells	Not available.
	Transformation Control	100°C (212°F)
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold	Not available.
	2-Mercaptoethanol	
	pUC 18 DNA Control Plasmid	100°C (212°F)
	Lysis Buffer	100°C (212°F)
	0.5 M EDTA	Not available.
	Streptavidin Resin	Not available.
	Streptavidin Binding Buffer	100°C (212°F)
	Streptavidin Elution Buffer	100°C (212°F)
	Streptavidin Supernatant Supplement	100°C (212°F)
	MS-Grade Calmodulin Resin	Not available.
	Calmodulin Binding Buffer	100°C (212°F)
	Calmodulin Elution Buffer	100°C (212°F)
Flash point	: 2-Mercaptoethanol	Closed cup: 74°C (165.2°F) Open cup: 74°C (165.2°F)
	pNTAP Shuttle vector-A	Not available.
	pNTAP Shuttle vector-B	Not available.
	pNTAP Shuttle vector-C	Not available.
	Adenoviral pTAP Shuttle-CAT Vector	Not available.
	pShuttle-CMV-lacZ Control Vector	Not available.
	AD-293 Cell Line >1 x 10e6 Viable Cells	Not available.
	BJ5183-AD-1 electroporation competent cells	Not available.
	Transformation Control	Not available.
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold	Not available.
	2-Mercaptoethanol	
	pUC 18 DNA Control Plasmid	Not available.
	Lysis Buffer	Not available.

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	0.5 M EDTA	Not available.
	Streptavidin Resin	Closed cup: 37.8 to 61°C (100 to 141.8°F)
	Streptavidin Binding Buffer	Not available.
	Streptavidin Elution Buffer	Not available.
	Streptavidin Supernatant Supplement	Not available.
	MS-Grade Calmodulin Resin	Closed cup: 37.8 to 61°C (100 to 141.8°F)
	Calmodulin Binding Buffer	Not available.
	Calmodulin Elution Buffer	Not available.
Evaporation rate	: <input checked="" type="checkbox"/> Mercaptoethanol	Not available.
	pNTAP Shuttle vector-A	Not available.
	pNTAP Shuttle vector-B	Not available.
	pNTAP Shuttle vector-C	Not available.
	Adenoviral pTAP Shuttle-CAT Vector	Not available.
	pShuttle-CMV-lacZ Control Vector	Not available.
	AD-293 Cell Line >1 x 10e6 Viable Cells	Not available.
	BJ5183-AD-1 electroporation competent cells	Not available.
	Transformation Control	Not available.
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold 2-Mercaptoethanol	Not available.
	pUC 18 DNA Control Plasmid Lysis Buffer	Not available.
	0.5 M EDTA	Not available.
	Streptavidin Resin	Not available.
	Streptavidin Binding Buffer	Not available.
	Streptavidin Elution Buffer	Not available.
	Streptavidin Supernatant Supplement	Not available.
	MS-Grade Calmodulin Resin	Not available.
	Calmodulin Binding Buffer	Not available.
	Calmodulin Elution Buffer	Not available.
Flammability (solid, gas)	: <input checked="" type="checkbox"/> Mercaptoethanol	Not applicable.
	pNTAP Shuttle vector-A	Not applicable.
	pNTAP Shuttle vector-B	Not applicable.
	pNTAP Shuttle vector-C	Not applicable.
	Adenoviral pTAP Shuttle-CAT Vector	Not applicable.
	pShuttle-CMV-lacZ Control Vector	Not applicable.
	AD-293 Cell Line >1 x 10e6 Viable Cells	Not applicable.
	BJ5183-AD-1 electroporation competent cells	Not applicable.
	Transformation Control	Not applicable.
	XL10-Gold Ultracompetent cells	Not applicable.
	XL10-Gold 2-Mercaptoethanol	Not applicable.
	pUC 18 DNA Control Plasmid Lysis Buffer	Not applicable.
	0.5 M EDTA	Not applicable.
	Streptavidin Resin	Not applicable.
	Streptavidin Binding Buffer	Not applicable.
	Streptavidin Elution Buffer	Not applicable.

Section 9. Physical and chemical properties

	Streptavidin Supernatant Supplement	Not applicable.
	MS-Grade Calmodulin Resin	Not applicable.
	Calmodulin Binding Buffer	Not applicable.
	Calmodulin Elution Buffer	Not applicable.
Lower and upper explosive (flammable) limits	: <input checked="" type="checkbox"/> 2-Mercaptoethanol	Lower: 2.3% Upper: 18%
	pNTAP Shuttle vector-A	Not available.
	pNTAP Shuttle vector-B	Not available.
	pNTAP Shuttle vector-C	Not available.
	Adenoviral pTAP Shuttle-CAT Vector	Not available.
	pShuttle-CMV-lacZ Control Vector	Not available.
	AD-293 Cell Line >1 x 10 ⁶ Viable Cells	Not available.
	BJ5183-AD-1 electroporation competent cells	Not available.
	Transformation Control	Not available.
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold 2-Mercaptoethanol	Not available.
	pUC 18 DNA Control Plasmid	Not available.
	Lysis Buffer	Not available.
	0.5 M EDTA	Not available.
	Streptavidin Resin	Not available.
	Streptavidin Binding Buffer	Not available.
	Streptavidin Elution Buffer	Not available.
	Streptavidin Supernatant Supplement	Not available.
	MS-Grade Calmodulin Resin	Not available.
	Calmodulin Binding Buffer	Not available.
	Calmodulin Elution Buffer	Not available.
Vapour pressure	: <input checked="" type="checkbox"/> 2-Mercaptoethanol	0.13 kPa (0.98 mm Hg) [room temperature]
	pNTAP Shuttle vector-A	Not available.
	pNTAP Shuttle vector-B	Not available.
	pNTAP Shuttle vector-C	Not available.
	Adenoviral pTAP Shuttle-CAT Vector	Not available.
	pShuttle-CMV-lacZ Control Vector	Not available.
	AD-293 Cell Line >1 x 10 ⁶ Viable Cells	Not available.
	BJ5183-AD-1 electroporation competent cells	Not available.
	Transformation Control	Not available.
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold 2-Mercaptoethanol	Not available.
	pUC 18 DNA Control Plasmid	Not available.
	Lysis Buffer	Not available.
	0.5 M EDTA	Not available.
	Streptavidin Resin	Not available.
	Streptavidin Binding Buffer	Not available.
	Streptavidin Elution Buffer	Not available.
	Streptavidin Supernatant Supplement	Not available.
	MS-Grade Calmodulin Resin	Not available.

Section 9. Physical and chemical properties

	Calmodulin Binding Buffer	Not available.
	Calmodulin Elution Buffer	Not available.
Vapour density	: <input checked="" type="checkbox"/> 2-Mercaptoethanol	2.7 [Air = 1]
	pNTAP Shuttle vector-A	Not available.
	pNTAP Shuttle vector-B	Not available.
	pNTAP Shuttle vector-C	Not available.
	Adenoviral pTAP Shuttle-CAT Vector	Not available.
	pShuttle-CMV-lacZ Control Vector	Not available.
	AD-293 Cell Line >1 x 10e6 Viable Cells	Not available.
	BJ5183-AD-1 electroporation competent cells	Not available.
	Transformation Control	Not available.
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold 2-Mercaptoethanol	Not available.
	pUC 18 DNA Control Plasmid	Not available.
	Lysis Buffer	Not available.
	0.5 M EDTA	Not available.
	Streptavidin Resin	Not available.
	Streptavidin Binding Buffer	Not available.
	Streptavidin Elution Buffer	Not available.
	Streptavidin Supernatant Supplement	Not available.
	MS-Grade Calmodulin Resin	Not available.
	Calmodulin Binding Buffer	Not available.
	Calmodulin Elution Buffer	Not available.
Relative density	: <input checked="" type="checkbox"/> 2-Mercaptoethanol	1.1
	pNTAP Shuttle vector-A	Not available.
	pNTAP Shuttle vector-B	Not available.
	pNTAP Shuttle vector-C	Not available.
	Adenoviral pTAP Shuttle-CAT Vector	Not available.
	pShuttle-CMV-lacZ Control Vector	Not available.
	AD-293 Cell Line >1 x 10e6 Viable Cells	Not available.
	BJ5183-AD-1 electroporation competent cells	Not available.
	Transformation Control	Not available.
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold 2-Mercaptoethanol	Not available.
	pUC 18 DNA Control Plasmid	Not available.
	Lysis Buffer	Not available.
	0.5 M EDTA	Not available.
	Streptavidin Resin	Not available.
	Streptavidin Binding Buffer	Not available.
	Streptavidin Elution Buffer	Not available.
	Streptavidin Supernatant Supplement	Not available.
	MS-Grade Calmodulin Resin	Not available.
	Calmodulin Binding Buffer	Not available.
	Calmodulin Elution Buffer	Not available.

Section 9. Physical and chemical properties

Solubility	:	β-Mercaptoethanol	Easily soluble in the following materials: cold water and hot water.
		pNTAP Shuttle vector-A	Easily soluble in the following materials: cold water and hot water.
		pNTAP Shuttle vector-B	Easily soluble in the following materials: cold water and hot water.
		pNTAP Shuttle vector-C	Easily soluble in the following materials: cold water and hot water.
		Adenoviral pTAP Shuttle-CAT Vector	Easily soluble in the following materials: cold water and hot water.
		pShuttle-CMV-lacZ Control Vector	Easily soluble in the following materials: cold water and hot water.
		AD-293 Cell Line >1 x 10e6 Viable Cells	Easily soluble in the following materials: cold water and hot water.
		BJ5183-AD-1 electroporation competent cells	Soluble in the following materials: cold water and hot water.
		Transformation Control	Easily soluble in the following materials: cold water and hot water.
		XL10-Gold Ultracompetent cells	Soluble in the following materials: cold water and hot water.
		XL10-Gold 2-Mercaptoethanol	Easily soluble in the following materials: cold water and hot water.
		pUC 18 DNA Control Plasmid	Easily soluble in the following materials: cold water and hot water.
		Lysis Buffer	Easily soluble in the following materials: cold water and hot water.
		0.5 M EDTA	Soluble in the following materials: cold water and hot water.
		Streptavidin Resin	Soluble in the following materials: cold water and hot water.
		Streptavidin Binding Buffer	Easily soluble in the following materials: cold water and hot water.
		Streptavidin Elution Buffer	Easily soluble in the following materials: cold water and hot water.
		Streptavidin Supernatant Supplement	Easily soluble in the following materials: cold water and hot water.
		MS-Grade Calmodulin Resin	Soluble in the following materials: cold water and hot water.
		Calmodulin Binding Buffer	Easily soluble in the following materials: cold water and hot water.
	Calmodulin Elution Buffer	Easily soluble in the following materials: cold water and hot water.	
Partition coefficient: n-octanol/water	:	β-Mercaptoethanol	-0.056
		pNTAP Shuttle vector-A	Not available.
		pNTAP Shuttle vector-B	Not available.
		pNTAP Shuttle vector-C	Not available.
		Adenoviral pTAP Shuttle-CAT Vector	Not available.
		pShuttle-CMV-lacZ Control Vector	Not available.
		AD-293 Cell Line >1 x 10e6 Viable Cells	Not available.
		BJ5183-AD-1 electroporation competent cells	Not available.
		Transformation Control	Not available.
		XL10-Gold Ultracompetent cells	Not available.
		XL10-Gold 2-Mercaptoethanol	Not available.
		pUC 18 DNA Control Plasmid	Not available.
		Lysis Buffer	Not available.

Section 9. Physical and chemical properties

	0.5 M EDTA	Not available.
	Streptavidin Resin	Not available.
	Streptavidin Binding Buffer	Not available.
	Streptavidin Elution Buffer	Not available.
	Streptavidin Supernatant Supplement	Not available.
	MS-Grade Calmodulin Resin	Not available.
	Calmodulin Binding Buffer	Not available.
	Calmodulin Elution Buffer	Not available.
Auto-ignition temperature	<input checked="" type="checkbox"/> -Mercaptoethanol	295°C (563°F)
	pNTAP Shuttle vector-A	Not available.
	pNTAP Shuttle vector-B	Not available.
	pNTAP Shuttle vector-C	Not available.
	Adenoviral pTAP Shuttle-CAT Vector	Not available.
	pShuttle-CMV-lacZ Control Vector	Not available.
	AD-293 Cell Line >1 x 10e6 Viable Cells	Not available.
	BJ5183-AD-1 electroporation competent cells	Not available.
	Transformation Control	Not available.
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold 2-Mercaptoethanol	Not available.
	pUC 18 DNA Control Plasmid Lysis Buffer	Not available.
	0.5 M EDTA	Not available.
	Streptavidin Resin	Not available.
	Streptavidin Binding Buffer	Not available.
	Streptavidin Elution Buffer	Not available.
	Streptavidin Supernatant Supplement	Not available.
	MS-Grade Calmodulin Resin	Not available.
	Calmodulin Binding Buffer	Not available.
	Calmodulin Elution Buffer	Not available.
Decomposition temperature	<input checked="" type="checkbox"/> -Mercaptoethanol	Not available.
	pNTAP Shuttle vector-A	Not available.
	pNTAP Shuttle vector-B	Not available.
	pNTAP Shuttle vector-C	Not available.
	Adenoviral pTAP Shuttle-CAT Vector	Not available.
	pShuttle-CMV-lacZ Control Vector	Not available.
	AD-293 Cell Line >1 x 10e6 Viable Cells	Not available.
	BJ5183-AD-1 electroporation competent cells	Not available.
	Transformation Control	Not available.
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold 2-Mercaptoethanol	Not available.
	pUC 18 DNA Control Plasmid Lysis Buffer	Not available.
	0.5 M EDTA	Not available.
	Streptavidin Resin	Not available.
	Streptavidin Binding Buffer	Not available.
	Streptavidin Elution Buffer	Not available.

Section 9. Physical and chemical properties

	Streptavidin Supernatant Supplement	Not available.
	MS-Grade Calmodulin Resin	Not available.
	Calmodulin Binding Buffer	Not available.
	Calmodulin Elution Buffer	Not available.
Viscosity	: <input checked="" type="checkbox"/> -Mercaptoethanol	Dynamic (room temperature): 3.43 mPa·s (3.43 cP)
	pNTAP Shuttle vector-A	Not available.
	pNTAP Shuttle vector-B	Not available.
	pNTAP Shuttle vector-C	Not available.
	Adenoviral pTAP Shuttle-CAT Vector	Not available.
	pShuttle-CMV-lacZ Control Vector	Not available.
	AD-293 Cell Line >1 x 10e6 Viable Cells	Not available.
	BJ5183-AD-1 electroporation competent cells	Not available.
	Transformation Control	Not available.
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold 2-Mercaptoethanol	Not available.
	pUC 18 DNA Control Plasmid	Not available.
	Lysis Buffer	Not available.
	0.5 M EDTA	Not available.
	Streptavidin Resin	Not available.
	Streptavidin Binding Buffer	Not available.
	Streptavidin Elution Buffer	Not available.
	Streptavidin Supernatant Supplement	Not available.
	MS-Grade Calmodulin Resin	Not available.
	Calmodulin Binding Buffer	Not available.
	Calmodulin Elution Buffer	Not available.

Section 10. Stability and reactivity

Reactivity	: <input checked="" type="checkbox"/> -Mercaptoethanol	No specific test data related to reactivity available for this product or its ingredients.
	pNTAP Shuttle vector-A	No specific test data related to reactivity available for this product or its ingredients.
	pNTAP Shuttle vector-B	No specific test data related to reactivity available for this product or its ingredients.
	pNTAP Shuttle vector-C	No specific test data related to reactivity available for this product or its ingredients.
	Adenoviral pTAP Shuttle-CAT Vector	No specific test data related to reactivity available for this product or its ingredients.
	pShuttle-CMV-lacZ Control Vector	No specific test data related to reactivity available for this product or its ingredients.
	AD-293 Cell Line >1 x 10e6 Viable Cells	No specific test data related to reactivity available for this product or its ingredients.
	BJ5183-AD-1 electroporation competent cells	No specific test data related to reactivity available for this product or its ingredients.
	Transformation Control	No specific test data related to reactivity available for this product or its ingredients.
	XL10-Gold Ultracompetent cells	No specific test data related to reactivity available for this product or its ingredients.
	XL10-Gold 2-Mercaptoethanol	No specific test data related to reactivity available for this product or its ingredients.
	pUC 18 DNA Control Plasmid	No specific test data related to reactivity available for this product or its ingredients.
	Lysis Buffer	No specific test data related to reactivity available for

Section 10. Stability and reactivity

0.5 M EDTA	this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients.
Streptavidin Resin	No specific test data related to reactivity available for this product or its ingredients.
Streptavidin Binding Buffer	No specific test data related to reactivity available for this product or its ingredients.
Streptavidin Elution Buffer	No specific test data related to reactivity available for this product or its ingredients.
Streptavidin Supernatant Supplement	No specific test data related to reactivity available for this product or its ingredients.
MS-Grade Calmodulin Resin	No specific test data related to reactivity available for this product or its ingredients.
Calmodulin Binding Buffer	No specific test data related to reactivity available for this product or its ingredients.
Calmodulin Elution Buffer	No specific test data related to reactivity available for this product or its ingredients.

Chemical stability

β-Mercaptoethanol	The product is stable.
pNTAP Shuttle vector-A	The product is stable.
pNTAP Shuttle vector-B	The product is stable.
pNTAP Shuttle vector-C	The product is stable.
Adenoviral pTAP Shuttle-CAT Vector	The product is stable.
pShuttle-CMV-lacZ Control Vector	The product is stable.
AD-293 Cell Line >1 x 10 ⁶ Viable Cells	The product is stable.
BJ5183-AD-1 electroporation competent cells	The product is stable.
Transformation Control	The product is stable.
XL10-Gold Ultracompetent cells	The product is stable.
XL10-Gold	The product is stable.
2-Mercaptoethanol	The product is stable.
pUC 18 DNA Control Plasmid	The product is stable.
Lysis Buffer	The product is stable.
0.5 M EDTA	The product is stable.
Streptavidin Resin	The product is stable.
Streptavidin Binding Buffer	The product is stable.
Streptavidin Elution Buffer	The product is stable.
Streptavidin Supernatant Supplement	The product is stable.
MS-Grade Calmodulin Resin	The product is stable.
Calmodulin Binding Buffer	The product is stable.
Calmodulin Elution Buffer	The product is stable.

Possibility of hazardous reactions

β-Mercaptoethanol	Under normal conditions of storage and use, hazardous reactions will not occur.
pNTAP Shuttle vector-A	Under normal conditions of storage and use, hazardous reactions will not occur.
pNTAP Shuttle vector-B	Under normal conditions of storage and use, hazardous reactions will not occur.
pNTAP Shuttle vector-C	Under normal conditions of storage and use, hazardous reactions will not occur.
Adenoviral pTAP Shuttle-CAT Vector	Under normal conditions of storage and use, hazardous reactions will not occur.
pShuttle-CMV-lacZ Control Vector	Under normal conditions of storage and use, hazardous reactions will not occur.
AD-293 Cell Line >1 x 10 ⁶ Viable Cells	Under normal conditions of storage and use, hazardous reactions will not occur.
BJ5183-AD-1	Under normal conditions of storage and use,

Section 10. Stability and reactivity

electroporation competent cells	hazardous reactions will not occur.
Transformation Control	Under normal conditions of storage and use, hazardous reactions will not occur.
XL10-Gold Ultracompetent cells	Under normal conditions of storage and use, hazardous reactions will not occur.
XL10-Gold	Under normal conditions of storage and use, hazardous reactions will not occur.
2-Mercaptoethanol	Under normal conditions of storage and use, hazardous reactions will not occur.
pUC 18 DNA Control Plasmid	Under normal conditions of storage and use, hazardous reactions will not occur.
Lysis Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
0.5 M EDTA	Under normal conditions of storage and use, hazardous reactions will not occur.
Streptavidin Resin	Under normal conditions of storage and use, hazardous reactions will not occur.
Streptavidin Binding Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
Streptavidin Elution Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
Streptavidin Supernatant Supplement	Under normal conditions of storage and use, hazardous reactions will not occur.
MS-Grade Calmodulin Resin	Under normal conditions of storage and use, hazardous reactions will not occur.
Calmodulin Binding Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
Calmodulin Elution Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid

2-Mercaptoethanol	Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapour to accumulate in low or confined areas.
pNTAP Shuttle vector-A	No specific data.
pNTAP Shuttle vector-B	No specific data.
pNTAP Shuttle vector-C	No specific data.
Adenoviral pTAP Shuttle-CAT Vector	No specific data.
pShuttle-CMV-lacZ Control Vector	No specific data.
AD-293 Cell Line >1 x 10 ⁶ Viable Cells	No specific data.
BJ5183-AD-1	No specific data.
electroporation competent cells	
Transformation Control	No specific data.
XL10-Gold Ultracompetent cells	No specific data.
XL10-Gold	No specific data.
2-Mercaptoethanol	
pUC 18 DNA Control Plasmid	No specific data.
Lysis Buffer	No specific data.
0.5 M EDTA	No specific data.
Streptavidin Resin	Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Streptavidin Binding Buffer	No specific data.
Streptavidin Elution Buffer	No specific data.
Streptavidin Supernatant Supplement	No specific data.
MS-Grade Calmodulin Resin	Avoid all possible sources of ignition (spark or flame).

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	Calmodulin Binding Buffer	Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
	Calmodulin Elution Buffer	No specific data.
		No specific data.
Incompatible materials	: <input checked="" type="checkbox"/> -Mercaptoethanol	Reactive or incompatible with the following materials: oxidizing materials
	pNTAP Shuttle vector-A	May react or be incompatible with oxidising materials.
	pNTAP Shuttle vector-B	May react or be incompatible with oxidising materials.
	pNTAP Shuttle vector-C	May react or be incompatible with oxidising materials.
	Adenoviral pTAP Shuttle-CAT Vector	May react or be incompatible with oxidising materials.
	pShuttle-CMV-lacZ Control Vector	May react or be incompatible with oxidising materials.
	AD-293 Cell Line >1 x 10e6 Viable Cells	May react or be incompatible with oxidising materials.
	BJ5183-AD-1 electroporation competent cells	May react or be incompatible with oxidising materials.
	Transformation Control	May react or be incompatible with oxidising materials.
	XL10-Gold Ultracompetent cells	May react or be incompatible with oxidising materials.
	XL10-Gold	May react or be incompatible with oxidising materials.
	2-Mercaptoethanol	May react or be incompatible with oxidising materials.
	pUC 18 DNA Control Plasmid	May react or be incompatible with oxidising materials.
	Lysis Buffer	May react or be incompatible with oxidising materials.
	0.5 M EDTA	May react or be incompatible with oxidising materials.
	Streptavidin Resin	Reactive or incompatible with the following materials: oxidizing materials
	Streptavidin Binding Buffer	May react or be incompatible with oxidising materials.
	Streptavidin Elution Buffer	May react or be incompatible with oxidising materials.
	Streptavidin Supernatant Supplement	May react or be incompatible with oxidising materials.
	MS-Grade Calmodulin Resin	Reactive or incompatible with the following materials: oxidizing materials
	Calmodulin Binding Buffer	May react or be incompatible with oxidising materials.
	Calmodulin Elution Buffer	May react or be incompatible with oxidising materials.
Hazardous decomposition products	: <input checked="" type="checkbox"/> -Mercaptoethanol	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	pNTAP Shuttle vector-A	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	pNTAP Shuttle vector-B	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	pNTAP Shuttle vector-C	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Adenoviral pTAP Shuttle-CAT Vector	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	pShuttle-CMV-lacZ Control Vector	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	AD-293 Cell Line >1 x 10e6 Viable Cells	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	BJ5183-AD-1 electroporation competent cells	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Transformation Control	Under normal conditions of storage and use,

Section 10. Stability and reactivity

	hazardous decomposition products should not be produced.
XL10-Gold Ultracompetent cells	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
XL10-Gold 2-Mercaptoethanol	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
pUC 18 DNA Control Plasmid	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Lysis Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
0.5 M EDTA	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Streptavidin Resin	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Streptavidin Binding Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Streptavidin Elution Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Streptavidin Supernatant Supplement	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
MS-Grade Calmodulin Resin	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Calmodulin Binding Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Calmodulin Elution Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

[Information on toxicological effects](#)

[Acute toxicity](#)

Product/ingredient name	Result	Species	Dose	Exposure
β-Mercaptoethanol 2-Mercaptoethanol	LD50 Dermal LD50 Oral	Rabbit Rat	200 mg/kg 244 mg/kg	- -
BJ5183-AD-1 electroporation competent cells Glycerol	LD50 Oral	Rat	12600 mg/kg	-
XL10-Gold Ultracompetent cells Glycerol Sucrose	LD50 Oral LD50 Oral	Rat Rat	12600 mg/kg 29700 mg/kg	- -
XL10-Gold 2-Mercaptoethanol 2-Mercaptoethanol	LD50 Dermal LD50 Oral	Rabbit Rat	200 mg/kg 244 mg/kg	- -

Section 11. Toxicological information

0.5 M EDTA Edetic acid	LD50 Oral	Rat	4000 mg/kg	-
Streptavidin Resin Ethanol	LC50 Inhalation Vapour LD50 Oral	Rat Rat	124700 mg/m ³ 7 g/kg	4 hours -
MS-Grade Calmodulin Resin Ethanol	LC50 Inhalation Vapour LD50 Oral	Rat Rat	124700 mg/m ³ 7 g/kg	4 hours -

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
β-Mercaptoethanol 2-Mercaptoethanol	Eyes - Severe irritant	Rabbit	-	2 milligrams	-
BJ5183-AD-1 electroporation competent cells Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
XL10-Gold Ultracompetent cells Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
XL10-Gold 2-Mercaptoethanol 2-Mercaptoethanol	Eyes - Severe irritant	Rabbit	-	2 milligrams	-
Streptavidin Resin Ethanol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	0.06666667 minutes 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	100 microliters	-
	Skin - Mild irritant	Rabbit	-	400 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
MS-Grade Calmodulin Resin Ethanol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	0.06666667 minutes 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	100 microliters	-
	Skin - Mild irritant	Rabbit	-	400 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-

Section 11. Toxicological information

milligrams

Conclusion/Summary**Skin** : 240105-51: Prolonged or repeated contact may dry skin and cause irritation.**Sensitisation**

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
β-Mercaptoethanol 2-Mercaptoethanol	Category 3	Not applicable.	Respiratory tract irritation
XL10-Gold 2-Mercaptoethanol 2-Mercaptoethanol	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure	β-Mercaptoethanol pNTAP Shuttle vector-A pNTAP Shuttle vector-B pNTAP Shuttle vector-C Adenoviral pTAP Shuttle-CAT Vector pShuttle-CMV-lacZ Control Vector AD-293 Cell Line >1 x 10e6 Viable Cells BJ5183-AD-1 electroporation competent cells Transformation Control XL10-Gold Ultracompetent cells XL10-Gold 2-Mercaptoethanol pUC 18 DNA Control Plasmid Lysis Buffer 0.5 M EDTA Streptavidin Resin Streptavidin Binding Buffer Streptavidin Elution Buffer Streptavidin Supernatant	Routes of entry anticipated: Oral, Dermal, Inhalation. Not available. Not available. Not available. Not available. Not available. Routes of entry anticipated: Oral, Dermal, Inhalation. Not available. Not available. Routes of entry anticipated: Oral, Dermal, Inhalation. Routes of entry anticipated: Oral, Dermal, Inhalation. Not available. Not available. Routes of entry anticipated: Oral, Dermal, Inhalation. Routes of entry anticipated: Oral, Dermal, Inhalation. Not available. Not available. Routes of entry anticipated: Oral, Dermal, Inhalation. Routes of entry anticipated: Oral, Dermal, Inhalation. Not available. Not available. Routes of entry anticipated: Oral, Dermal, Inhalation.
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Supplement	Routes of entry anticipated: Oral, Dermal, Inhalation.
MS-Grade Calmodulin Resin	Not available.
Calmodulin Binding Buffer	Not available.
Calmodulin Elution Buffer	Not available.

Potential acute health effects

Eye contact

β-Mercaptoethanol	Causes serious eye damage.
pNTAP Shuttle vector-A	No known significant effects or critical hazards.
pNTAP Shuttle vector-B	No known significant effects or critical hazards.
pNTAP Shuttle vector-C	No known significant effects or critical hazards.
Adenoviral pTAP Shuttle-CAT Vector	No known significant effects or critical hazards.
pShuttle-CMV-lacZ Control Vector	No known significant effects or critical hazards.
AD-293 Cell Line >1 x 10 ⁶ Viable Cells	No known significant effects or critical hazards.
BJ5183-AD-1 electroporation competent cells	No known significant effects or critical hazards.
Transformation Control	No known significant effects or critical hazards.
XL10-Gold Ultracompetent cells	No known significant effects or critical hazards.
XL10-Gold 2-Mercaptoethanol	Causes serious eye damage.
pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Lysis Buffer	No known significant effects or critical hazards.
0.5 M EDTA	Causes serious eye irritation.
Streptavidin Resin	No known significant effects or critical hazards.
Streptavidin Binding Buffer	No known significant effects or critical hazards.
Streptavidin Elution Buffer	No known significant effects or critical hazards.
Streptavidin Supernatant	No known significant effects or critical hazards.
Supplement	
MS-Grade Calmodulin Resin	No known significant effects or critical hazards.
Calmodulin Binding Buffer	No known significant effects or critical hazards.
Calmodulin Elution Buffer	No known significant effects or critical hazards.

Inhalation

β-Mercaptoethanol	Fatal if inhaled. May cause respiratory irritation.
pNTAP Shuttle vector-A	No known significant effects or critical hazards.
pNTAP Shuttle vector-B	No known significant effects or critical hazards.
pNTAP Shuttle vector-C	No known significant effects or critical hazards.
Adenoviral pTAP Shuttle-CAT Vector	No known significant effects or critical hazards.
pShuttle-CMV-lacZ Control Vector	No known significant effects or critical hazards.
AD-293 Cell Line >1 x 10 ⁶ Viable Cells	No known significant effects or critical hazards.
BJ5183-AD-1 electroporation competent cells	No known significant effects or critical hazards.
Transformation Control	No known significant effects or critical hazards.
XL10-Gold Ultracompetent cells	No known significant effects or critical hazards.
XL10-Gold 2-Mercaptoethanol	No known significant effects or critical hazards.
pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Lysis Buffer	No known significant effects or critical hazards.
0.5 M EDTA	No known significant effects or critical hazards.
Streptavidin Resin	No known significant effects or critical hazards.
Streptavidin Binding Buffer	No known significant effects or critical hazards.
Streptavidin Elution Buffer	No known significant effects or critical hazards.
Streptavidin Supernatant	No known significant effects or critical hazards.
Supplement	
MS-Grade Calmodulin Resin	No known significant effects or critical hazards.
Calmodulin Binding Buffer	No known significant effects or critical hazards.

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Skin contact	Calmodulin Elution Buffer	No known significant effects or critical hazards.	
	: <input checked="" type="checkbox"/> -Mercaptoethanol	Fatal in contact with skin. Causes skin irritation. May cause an allergic skin reaction.	
	pNTAP Shuttle vector-A	No known significant effects or critical hazards.	
	pNTAP Shuttle vector-B	No known significant effects or critical hazards.	
	pNTAP Shuttle vector-C	No known significant effects or critical hazards.	
	Adenoviral pTAP Shuttle-CAT Vector	No known significant effects or critical hazards.	
	pShuttle-CMV-lacZ Control Vector	No known significant effects or critical hazards.	
	AD-293 Cell Line >1 x 10e6 Viable Cells	No known significant effects or critical hazards.	
	BJ5183-AD-1 electroporation competent cells	No known significant effects or critical hazards.	
	Transformation Control	No known significant effects or critical hazards.	
	XL10-Gold Ultracompetent cells	No known significant effects or critical hazards.	
	XL10-Gold 2-Mercaptoethanol	May cause an allergic skin reaction.	
	pUC 18 DNA Control Plasmid Lysis Buffer	No known significant effects or critical hazards.	
	0.5 M EDTA	No known significant effects or critical hazards.	
	Streptavidin Resin	No known significant effects or critical hazards.	
	Streptavidin Binding Buffer	No known significant effects or critical hazards.	
	Streptavidin Elution Buffer	No known significant effects or critical hazards.	
	Streptavidin Supernatant Supplement	No known significant effects or critical hazards.	
	Ingestion	MS-Grade Calmodulin Resin	No known significant effects or critical hazards.
		Calmodulin Binding Buffer	No known significant effects or critical hazards.
Calmodulin Elution Buffer		No known significant effects or critical hazards.	
: <input checked="" type="checkbox"/> -Mercaptoethanol		Toxic if swallowed.	
pNTAP Shuttle vector-A		No known significant effects or critical hazards.	
pNTAP Shuttle vector-B		No known significant effects or critical hazards.	
pNTAP Shuttle vector-C		No known significant effects or critical hazards.	
Adenoviral pTAP Shuttle-CAT Vector		No known significant effects or critical hazards.	
pShuttle-CMV-lacZ Control Vector		No known significant effects or critical hazards.	
AD-293 Cell Line >1 x 10e6 Viable Cells		No known significant effects or critical hazards.	
BJ5183-AD-1 electroporation competent cells		No known significant effects or critical hazards.	
Transformation Control		No known significant effects or critical hazards.	
XL10-Gold Ultracompetent cells		No known significant effects or critical hazards.	
XL10-Gold 2-Mercaptoethanol		No known significant effects or critical hazards.	
pUC 18 DNA Control Plasmid Lysis Buffer		No known significant effects or critical hazards.	
0.5 M EDTA		No known significant effects or critical hazards.	
Streptavidin Resin		No known significant effects or critical hazards.	
Streptavidin Binding Buffer		No known significant effects or critical hazards.	
Streptavidin Elution Buffer		No known significant effects or critical hazards.	
Streptavidin Supernatant Supplement		No known significant effects or critical hazards.	
MS-Grade Calmodulin Resin	No known significant effects or critical hazards.		
Calmodulin Binding Buffer	No known significant effects or critical hazards.		
Calmodulin Elution Buffer	No known significant effects or critical hazards.		

Symptoms related to the physical, chemical and toxicological characteristics

Section 11. Toxicological information

Eye contact	: 2-Mercaptoethanol	Adverse symptoms may include the following: pain watering redness
	pNTAP Shuttle vector-A	No specific data.
	pNTAP Shuttle vector-B	No specific data.
	pNTAP Shuttle vector-C	No specific data.
	Adenoviral pTAP Shuttle-CAT Vector	No specific data.
	pShuttle-CMV-lacZ Control Vector	No specific data.
	AD-293 Cell Line >1 x 10e6 Viable Cells	No specific data.
	BJ5183-AD-1 electroporation competent cells	No specific data.
	Transformation Control	No specific data.
	XL10-Gold Ultracompetent cells	No specific data.
	XL10-Gold 2-Mercaptoethanol	Adverse symptoms may include the following: pain watering redness
	pUC 18 DNA Control Plasmid	No specific data.
	Lysis Buffer	No specific data.
	0.5 M EDTA	Adverse symptoms may include the following: pain or irritation watering redness
	Streptavidin Resin	No specific data.
	Streptavidin Binding Buffer	No specific data.
	Streptavidin Elution Buffer	No specific data.
	Streptavidin Supernatant Supplement	No specific data.
	MS-Grade Calmodulin Resin	No specific data.
	Calmodulin Binding Buffer	No specific data.
	Calmodulin Elution Buffer	No specific data.
Inhalation	: 2-Mercaptoethanol	Adverse symptoms may include the following: respiratory tract irritation coughing
	pNTAP Shuttle vector-A	No specific data.
	pNTAP Shuttle vector-B	No specific data.
	pNTAP Shuttle vector-C	No specific data.
	Adenoviral pTAP Shuttle-CAT Vector	No specific data.
	pShuttle-CMV-lacZ Control Vector	No specific data.
	AD-293 Cell Line >1 x 10e6 Viable Cells	No specific data.
	BJ5183-AD-1 electroporation competent cells	No specific data.
	Transformation Control	No specific data.
	XL10-Gold Ultracompetent cells	No specific data.
	XL10-Gold 2-Mercaptoethanol	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.
	Lysis Buffer	No specific data.
	0.5 M EDTA	No specific data.
	Streptavidin Resin	No specific data.
	Streptavidin Binding Buffer	No specific data.

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	Streptavidin Elution Buffer	No specific data.
	Streptavidin Supernatant Supplement	No specific data.
	MS-Grade Calmodulin Resin	No specific data.
	Calmodulin Binding Buffer	No specific data.
	Calmodulin Elution Buffer	No specific data.
Skin contact	: β -Mercaptoethanol	Adverse symptoms may include the following: pain or irritation redness blistering may occur
	pNTAP Shuttle vector-A	No specific data.
	pNTAP Shuttle vector-B	No specific data.
	pNTAP Shuttle vector-C	No specific data.
	Adenoviral pTAP Shuttle-CAT Vector	No specific data.
	pShuttle-CMV-lacZ Control Vector	No specific data.
	AD-293 Cell Line >1 x 10e6 Viable Cells	No specific data.
	BJ5183-AD-1 electroporation competent cells	No specific data.
	Transformation Control	No specific data.
	XL10-Gold Ultracompetent cells	No specific data.
	XL10-Gold 2-Mercaptoethanol	Adverse symptoms may include the following: pain or irritation redness blistering may occur
	pUC 18 DNA Control Plasmid	No specific data.
	Lysis Buffer	No specific data.
	0.5 M EDTA	No specific data.
	Streptavidin Resin	No specific data.
	Streptavidin Binding Buffer	No specific data.
	Streptavidin Elution Buffer	No specific data.
	Streptavidin Supernatant Supplement	No specific data.
	MS-Grade Calmodulin Resin	No specific data.
	Calmodulin Binding Buffer	No specific data.
	Calmodulin Elution Buffer	No specific data.
Ingestion	: β -Mercaptoethanol	Adverse symptoms may include the following: stomach pains
	pNTAP Shuttle vector-A	No specific data.
	pNTAP Shuttle vector-B	No specific data.
	pNTAP Shuttle vector-C	No specific data.
	Adenoviral pTAP Shuttle-CAT Vector	No specific data.
	pShuttle-CMV-lacZ Control Vector	No specific data.
	AD-293 Cell Line >1 x 10e6 Viable Cells	No specific data.
	BJ5183-AD-1 electroporation competent cells	No specific data.
	Transformation Control	No specific data.
	XL10-Gold Ultracompetent cells	No specific data.
	XL10-Gold 2-Mercaptoethanol	Adverse symptoms may include the following: stomach pains
	pUC 18 DNA Control Plasmid	No specific data.
	Lysis Buffer	No specific data.

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0.5 M EDTA	No specific data.
Streptavidin Resin	No specific data.
Streptavidin Binding Buffer	No specific data.
Streptavidin Elution Buffer	No specific data.
Streptavidin Supernatant Supplement	No specific data.
MS-Grade Calmodulin Resin	No specific data.
Calmodulin Binding Buffer	No specific data.
Calmodulin Elution Buffer	No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General

<input checked="" type="checkbox"/> -Mercaptoethanol	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
pNTAP Shuttle vector-A	No known significant effects or critical hazards.
pNTAP Shuttle vector-B	No known significant effects or critical hazards.
pNTAP Shuttle vector-C	No known significant effects or critical hazards.
Adenoviral pTAP Shuttle-CAT Vector	No known significant effects or critical hazards.
pShuttle-CMV-lacZ Control Vector	No known significant effects or critical hazards.
AD-293 Cell Line >1 x 10e6 Viable Cells	No known significant effects or critical hazards.
BJ5183-AD-1 electroporation competent cells	No known significant effects or critical hazards.
Transformation Control	No known significant effects or critical hazards.
XL10-Gold Ultracompetent cells	No known significant effects or critical hazards.
XL10-Gold 2-Mercaptoethanol	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Lysis Buffer	No known significant effects or critical hazards.
0.5 M EDTA	No known significant effects or critical hazards.
Streptavidin Resin	No known significant effects or critical hazards.
Streptavidin Binding Buffer	No known significant effects or critical hazards.
Streptavidin Elution Buffer	No known significant effects or critical hazards.
Streptavidin Supernatant Supplement	No known significant effects or critical hazards.
MS-Grade Calmodulin Resin	No known significant effects or critical hazards.
Calmodulin Binding Buffer	No known significant effects or critical hazards.
Calmodulin Elution Buffer	No known significant effects or critical hazards.

Carcinogenicity

<input checked="" type="checkbox"/> -Mercaptoethanol	No known significant effects or critical hazards.
pNTAP Shuttle vector-A	No known significant effects or critical hazards.
pNTAP Shuttle vector-B	No known significant effects or critical hazards.
pNTAP Shuttle vector-C	No known significant effects or critical hazards.
Adenoviral pTAP Shuttle-CAT Vector	No known significant effects or critical hazards.
pShuttle-CMV-lacZ Control Vector	No known significant effects or critical hazards.

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	AD-293 Cell Line >1 x 10 ⁶ Viable Cells	No known significant effects or critical hazards.
	BJ5183-AD-1 electroporation competent cells	No known significant effects or critical hazards.
	Transformation Control	No known significant effects or critical hazards.
	XL10-Gold Ultracompetent cells	No known significant effects or critical hazards.
	XL10-Gold	No known significant effects or critical hazards.
	2-Mercaptoethanol	No known significant effects or critical hazards.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
	Lysis Buffer	No known significant effects or critical hazards.
	0.5 M EDTA	No known significant effects or critical hazards.
	Streptavidin Resin	No known significant effects or critical hazards.
	Streptavidin Binding Buffer	No known significant effects or critical hazards.
	Streptavidin Elution Buffer	No known significant effects or critical hazards.
	Streptavidin Supernatant Supplement	No known significant effects or critical hazards.
	MS-Grade Calmodulin Resin	No known significant effects or critical hazards.
	Calmodulin Binding Buffer	No known significant effects or critical hazards.
	Calmodulin Elution Buffer	No known significant effects or critical hazards.
Mutagenicity	: <input checked="" type="checkbox"/> 2-Mercaptoethanol	No known significant effects or critical hazards.
	pNTAP Shuttle vector-A	No known significant effects or critical hazards.
	pNTAP Shuttle vector-B	No known significant effects or critical hazards.
	pNTAP Shuttle vector-C	No known significant effects or critical hazards.
	Adenoviral pTAP Shuttle-CAT Vector	No known significant effects or critical hazards.
	pShuttle-CMV-lacZ Control Vector	No known significant effects or critical hazards.
	AD-293 Cell Line >1 x 10 ⁶ Viable Cells	No known significant effects or critical hazards.
	BJ5183-AD-1 electroporation competent cells	No known significant effects or critical hazards.
	Transformation Control	No known significant effects or critical hazards.
	XL10-Gold Ultracompetent cells	No known significant effects or critical hazards.
	XL10-Gold	No known significant effects or critical hazards.
	2-Mercaptoethanol	No known significant effects or critical hazards.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
	Lysis Buffer	No known significant effects or critical hazards.
	0.5 M EDTA	No known significant effects or critical hazards.
	Streptavidin Resin	No known significant effects or critical hazards.
	Streptavidin Binding Buffer	No known significant effects or critical hazards.
	Streptavidin Elution Buffer	No known significant effects or critical hazards.
	Streptavidin Supernatant Supplement	No known significant effects or critical hazards.
	MS-Grade Calmodulin Resin	No known significant effects or critical hazards.
	Calmodulin Binding Buffer	No known significant effects or critical hazards.
	Calmodulin Elution Buffer	No known significant effects or critical hazards.
Teratogenicity	: <input checked="" type="checkbox"/> 2-Mercaptoethanol	No known significant effects or critical hazards.
	pNTAP Shuttle vector-A	No known significant effects or critical hazards.
	pNTAP Shuttle vector-B	No known significant effects or critical hazards.
	pNTAP Shuttle vector-C	No known significant effects or critical hazards.
	Adenoviral pTAP Shuttle-CAT Vector	No known significant effects or critical hazards.
	pShuttle-CMV-lacZ Control Vector	No known significant effects or critical hazards.
	AD-293 Cell Line >1 x 10 ⁶ Viable Cells	No known significant effects or critical hazards.
	BJ5183-AD-1 electroporation competent cells	No known significant effects or critical hazards.

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	Transformation Control	No known significant effects or critical hazards.
	XL10-Gold Ultracompetent cells	No known significant effects or critical hazards.
	XL10-Gold	No known significant effects or critical hazards.
	2-Mercaptoethanol	
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
	Lysis Buffer	No known significant effects or critical hazards.
	0.5 M EDTA	No known significant effects or critical hazards.
	Streptavidin Resin	No known significant effects or critical hazards.
	Streptavidin Binding Buffer	No known significant effects or critical hazards.
	Streptavidin Elution Buffer	No known significant effects or critical hazards.
	Streptavidin Supernatant Supplement	No known significant effects or critical hazards.
	MS-Grade Calmodulin Resin	No known significant effects or critical hazards.
	Calmodulin Binding Buffer	No known significant effects or critical hazards.
	Calmodulin Elution Buffer	No known significant effects or critical hazards.
Developmental effects	: <input checked="" type="checkbox"/> 2-Mercaptoethanol	No known significant effects or critical hazards.
	pNTAP Shuttle vector-A	No known significant effects or critical hazards.
	pNTAP Shuttle vector-B	No known significant effects or critical hazards.
	pNTAP Shuttle vector-C	No known significant effects or critical hazards.
	Adenoviral pTAP Shuttle-CAT Vector	No known significant effects or critical hazards.
	pShuttle-CMV-lacZ Control Vector	No known significant effects or critical hazards.
	AD-293 Cell Line >1 x 10 ⁶ Viable Cells	No known significant effects or critical hazards.
	BJ5183-AD-1 electroporation competent cells	No known significant effects or critical hazards.
	Transformation Control	No known significant effects or critical hazards.
	XL10-Gold Ultracompetent cells	No known significant effects or critical hazards.
	XL10-Gold	No known significant effects or critical hazards.
	2-Mercaptoethanol	
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
	Lysis Buffer	No known significant effects or critical hazards.
	0.5 M EDTA	No known significant effects or critical hazards.
	Streptavidin Resin	No known significant effects or critical hazards.
	Streptavidin Binding Buffer	No known significant effects or critical hazards.
	Streptavidin Elution Buffer	No known significant effects or critical hazards.
	Streptavidin Supernatant Supplement	No known significant effects or critical hazards.
	MS-Grade Calmodulin Resin	No known significant effects or critical hazards.
	Calmodulin Binding Buffer	No known significant effects or critical hazards.
	Calmodulin Elution Buffer	No known significant effects or critical hazards.
Fertility effects	: <input checked="" type="checkbox"/> 2-Mercaptoethanol	No known significant effects or critical hazards.
	pNTAP Shuttle vector-A	No known significant effects or critical hazards.
	pNTAP Shuttle vector-B	No known significant effects or critical hazards.
	pNTAP Shuttle vector-C	No known significant effects or critical hazards.
	Adenoviral pTAP Shuttle-CAT Vector	No known significant effects or critical hazards.
	pShuttle-CMV-lacZ Control Vector	No known significant effects or critical hazards.
	AD-293 Cell Line >1 x 10 ⁶ Viable Cells	No known significant effects or critical hazards.
	BJ5183-AD-1 electroporation competent cells	No known significant effects or critical hazards.
	Transformation Control	No known significant effects or critical hazards.
	XL10-Gold Ultracompetent cells	No known significant effects or critical hazards.
	XL10-Gold	No known significant effects or critical hazards.
	2-Mercaptoethanol	

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pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Lysis Buffer	No known significant effects or critical hazards.
0.5 M EDTA	No known significant effects or critical hazards.
Streptavidin Resin	No known significant effects or critical hazards.
Streptavidin Binding Buffer	No known significant effects or critical hazards.
Streptavidin Elution Buffer	No known significant effects or critical hazards.
Streptavidin Supernatant Supplement	No known significant effects or critical hazards.
MS-Grade Calmodulin Resin	No known significant effects or critical hazards.
Calmodulin Binding Buffer	No known significant effects or critical hazards.
Calmodulin Elution Buffer	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
XL10-Gold 2-Mercaptoethanol	
Oral	5545.5 mg/kg
Dermal	4545.5 mg/kg
Inhalation (vapours)	45.45 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
BJ5183-AD-1 electroporation competent cells			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
XL10-Gold Ultracompetent cells			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
0.5 M EDTA			
Edetic acid	Acute EC50 113000 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 59.8 mg/l Fresh water	Fish - Pimephales promelas	96 hours
Streptavidin Resin			
Ethanol	Acute EC50 17.921 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute EC50 2000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 25500 µg/l Marine water	Crustaceans - Artemia franciscana - Larvae	48 hours
	Acute LC50 42000 µg/l Fresh water	Fish - Oncorhynchus mykiss	4 days
	Chronic NOEC 4.995 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.375 ul/L Fresh water	Fish - Gambusia holbrooki - Larvae	12 weeks
MS-Grade Calmodulin Resin			
Ethanol	Acute EC50 17.921 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute EC50 2000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 25500 µg/l Marine water	Crustaceans - Artemia franciscana - Larvae	48 hours
	Acute LC50 42000 µg/l Fresh water	Fish - Oncorhynchus mykiss	4 days
	Chronic NOEC 4.995 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.375 ul/L Fresh water	Fish - Gambusia holbrooki - Larvae	12 weeks

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Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
0.5 M EDTA Edetic acid	-	-	Not readily
Streptavidin Resin Ethanol	-	-	Readily
MS-Grade Calmodulin Resin Ethanol	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
β-Mercaptoethanol 2-Mercaptoethanol	-0.056	-	low
BJ5183-AD-1 electroporation competent cells Glycerol	-1.76	-	low
XL10-Gold Ultracompetent cells Glycerol Sucrose	-1.76 -3.7	- -	low low
XL10-Gold 2-Mercaptoethanol 2-Mercaptoethanol	-0.056	-	low
0.5 M EDTA Edetic acid	-3.86	1.8	low
Streptavidin Resin Ethanol	-0.35	-	low
MS-Grade Calmodulin Resin Ethanol	-0.35	-	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations





Disposal methods : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and

Section 13. Disposal considerations

its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

Additional information : **Special provisions**
251, 340

	ADG	IMDG	IATA
UN number	UN3316	UN3316	UN3316
UN proper shipping name	CHEMICAL KIT	CHEMICAL KIT	Chemical kit
Transport hazard class(es)	9 	9  	9 
Packing group	II	II	II
Environmental hazards	No.	Yes.	No.
Additional information	Hazchem code 2Z Special provisions 251, 340	<input checked="" type="checkbox"/> The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. Emergency schedules (EmS) F-A, S-P Special provisions 251, 340	The environmentally hazardous substance mark may appear if required by other transportation regulations. Passenger and Cargo Aircraft Quantity limitation: 10 kg Packaging instructions: 960 Cargo Aircraft Only Quantity limitation: 10 kg Packaging instructions: 960 Limited Quantities - Passenger Aircraft Quantity limitation: 1 kg Packaging instructions: Y960 Special provisions A44, A163 Remarks Excepted Quantity

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of Marpol and the IBC Code : Not available.

Section 15. Regulatory information

Standard Uniform Schedule of Medicine and Poisons

6, 5

Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

Australia inventory (AICS) : Not determined.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Canada	: Not determined.
China	: Not determined.
Europe	: All components are listed or exempted.
Japan	: Japan inventory (ENCS) : Not determined. Japan inventory (ISHL) : Not determined.
Malaysia	: Not determined.
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: Not determined.
Turkey	: Not determined.
United States	: Not determined.

Section 16. Any other relevant information

History

Date of issue/Date of revision : 31/05/2016

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Version : 6

Key to abbreviations : ADG = Australian Dangerous Goods
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
NOHSC = National Occupational Health and Safety Commission
SUSMP = Standard Uniform Schedule of Medicine and Poisons
UN = United Nations

Section 16. Any other relevant information

Procedure used to derive the classification

Classification	Justification
β-Mercaptoethanol Flam. Liq. 4, H227 Acute Tox. 3, H301 Acute Tox. 2, H310 Acute Tox. 2, H330 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Chronic 2, H411	On basis of test data On basis of test data On basis of test data On basis of test data Expert judgment Expert judgment Expert judgment Expert judgment Expert judgment
XL10-Gold 2-Mercaptoethanol Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412	Calculation method Calculation method Calculation method
0.5 M EDTA Eye Irrit. 2A, H319	Calculation method
Streptavidin Resin Flam. Liq. 3, H226	On basis of test data
MS-Grade Calmodulin Resin Flam. Liq. 3, H226	On basis of test data

References : Not available.

✔ Indicates information that has changed from previously issued version.

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