

Creating Custom CGH Microarrays in Agilent SureDesign

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Today's Agenda

Introduction to **SureDesign** and eArray

- **SureDesign** Product Roadmap
- Getting Started with **SureDesign** and eArray

Custom CGH Microarray Design Concepts

SureDesign CGH Standard Wizard

- Demonstration

SureDesign CGH Advanced Wizard

Getting Help and Support

SureDesign and eArray Enable Agilent Customers

To customize any Agilent Genomics application...



...for more than 75 species!



SureDesign and eArray Users Can...

Create Custom Microarrays, SureSelect, and HaloPlex Libraries

- Choose from over 75 species
- Search and add Agilent current catalog content to custom designs

Share Custom Designs with Colleagues

- Work in collaboration with colleagues
- Share custom designs with the entire research community

Order Custom Designs from Agilent

- Request quotations
- Order from the Agilent Genomics Store

SureDesign and eArray Roadmap



eArray

Gene Expression

miRNA

SureSelect RNA Target
Enrichment

SureSelect DNA Capture
Arrays



SureDesign



NEW!
CGH / CGH + SNP



NEW! ChIP and
DNA Methylation



SureSelect DNA
Target Enrichment



HaloPlex Target
Enrichment System

Getting Started with SureDesign and eArray

Register in either **SureDesign** or eArray

- Access to both systems

Same Username and Password



<https://earray.chem.agilent.com/suredesign/index.htm>

<https://earray.chem.agilent.com/earray/>

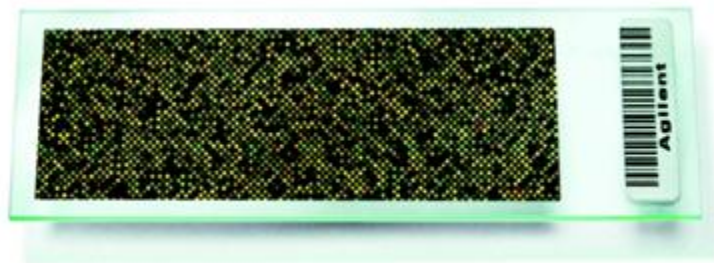
Agilent Custom CGH Array Design Concepts

Create Agilent custom CGH microarrays in **SureDesign**

Any Agilent microarray format

- Custom SurePrint G3 Microarrays
 - 1 x 1M, 2 x 400K, 4 x 180K, 8 x 60K features
- Custom SurePrint High-Density Microarrays
 - 1 x 244K, 2 x 105K, 4 x 44K, 8 x 15K features

Choose from existing HD Probe databases for Human and other species



Minimum custom order is only
ONE slide!

The SureDesign CGH HD Probe Database

Over 28 million pre-designed, validated Human HD Probes

- Similar content for Rat, Mouse and 8 other species

Coverage regions

- exon, intron, intergenic, telomeric, CNV, pseudoautosomal, and segmented duplication regions

HD Probes optimized for copy number measurement

- Empirical validation via model systems

HD Probe Scores based on:

- Homology, structure, base composition, sequence complexity
- Entire HD probe database average ~ 0.76
- Catalog CGH array probe average > 0.90

(Probe Score range 0 to 1, 1 is best)

Gathering Content for Custom CGH Microarrays

Search SureDesign for HD Probes

- Recommended when available
- Choose from existing HD probes in the SureDesign database
- Add Agilent catalog probes to custom designs

Design New Probes

- Recommended for species with no HD probe database
- Create probes with SureDesign's built-in CGH probe tiling pipeline

Upload External Probe Sequences

- Already have oligo sequences? Great!
- Just upload the sequences to eArray for use in the design

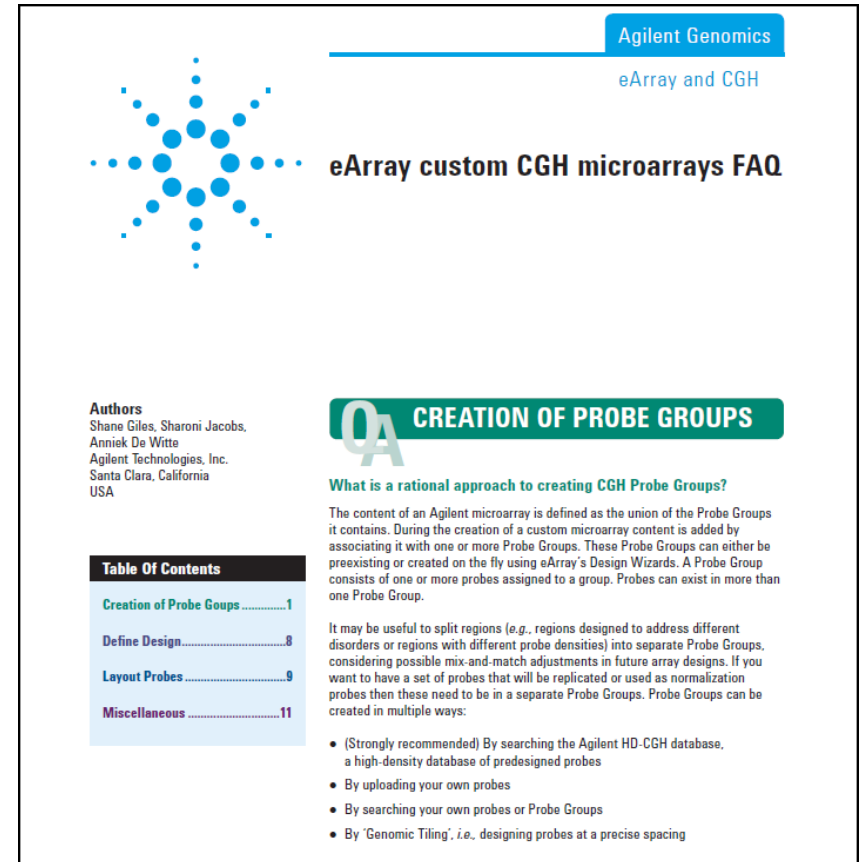
SureDesign Custom CGH Microarrays FAQ

Available on the Genomics Custom CGH page

Discusses design considerations

- Advantages of HD probe search
 - versus probe upload or Genomic Tiling
- CGH probe score
- Optimal probe density
- Probe replication
- Control and normalization probes

Publication Number 5990-5520EN



Agilent Genomics
eArray and CGH

eArray custom CGH microarrays FAQ

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QA CREATION OF PROBE GROUPS

What is a rational approach to creating CGH Probe Groups?

The content of an Agilent microarray is defined as the union of the Probe Groups it contains. During the creation of a custom microarray content is added by associating it with one or more Probe Groups. These Probe Groups can either be preexisting or created on the fly using eArray's Design Wizards. A Probe Group consists of one or more probes assigned to a group. Probes can exist in more than one Probe Group.

It may be useful to split regions (e.g., regions designed to address different disorders or regions with different probe densities) into separate Probe Groups, considering possible mix-and-match adjustments in future array designs. If you want to have a set of probes that will be replicated or used as normalization probes then these need to be in a separate Probe Groups. Probe Groups can be created in multiple ways:

- (Strongly recommended) By searching the Agilent HD-CGH database, a high-density database of predesigned probes
- By uploading your own probes
- By searching your own probes or Probe Groups
- By 'Genomic Tiling', i.e., designing probes at a precise spacing

http://www.chem.agilent.com/Library/brochures/5990-5520en_lo.pdf

CGH Standard Design Wizard in SureDesign

Meets the needs of many users and design scenarios

- Human (CGH, CGH + SNP)
- Rat, Mouse (CGH)

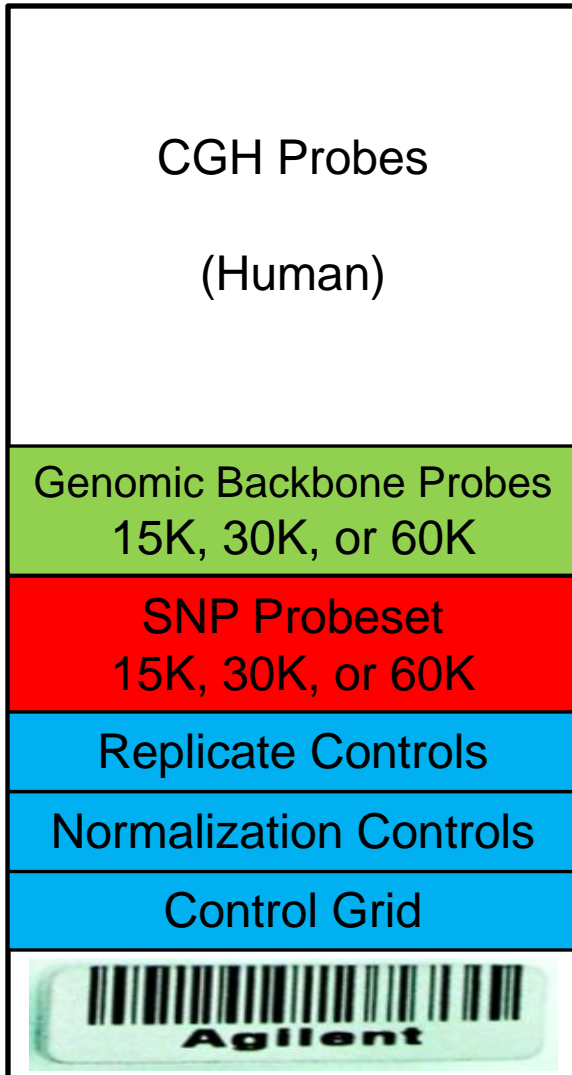
Simple, linear workflow

- Single probegroup
- HD probe search, whole gene only

Many design parameters are:

- hidden
- set to Agilent-recommended defaults

Standard Wizard – CGH + SNP Design Concepts



Biological Probes – from HD probe search

- Whole gene only
- Probe density is automatically determined to fill the array
 - Minimum average probe spacing is 150bp
 - If needed, software increases probe replication and decreases total probe count

Required if SNP probeset is included
Same allocation as SNP probeset

Optional

Required – for array QC metrics

Required – for dye normalization

Required – for spot-finding by extraction software

CGH Standard Design Wizard in SureDesign

SureDesign Help - Define Target

CGH **Define Targets**

Define Design ✔

Define Targets

Review Targets

Select Probes

Finalize

Design Complete

CGH Array Design

Name: 131009_CGH_Std
Species: H. sapiens
Format: 4 x 180 K

Target Regions

Regions | Size: NA | NA

Probes

CGH | Backbone: NA | NA
Probe Spacing: NA
CGH Replicates: NA
Norm. | Rep.: 2924 | 5000
Ctrl. Probes: 6539
% Filled: ~ 8.0%

[UCSC View](#) [Download](#)

*** Targets:**

Enter gene IDs, gene symbols, or accessions.
SureDesign will map these targets to genomic locations
using the parameters below, then select probes from the
defined probe source that match the locations.
SMAD4
NM_005359
ENST00000342988
CCDS11950
4089

Enter UCSC browser or BED coordinates
chr18:48573407-48573675
chr18 48573406 48573675

Enter coordinates with identifiers
chr18:48575655-48575704 MyGene1
chr18 48577713 48577795 MyGene2 # exon 1
chr18 48578994 48579032 MyGene2 # exon 2

Enter coordinates with identifiers

[Upload](#)

Example

[Clear](#)

*** Databases**

RefSeq
 Ensembl
 CCDS
 Gencode
 VEGA
 CytoBand

*** Parameters**

Replicate Count : 1

Genome-Wide Backbone : Fill

Include Flanking Regions (5' and 3') : 0

Allow Synonyms

[Cancel](#) [Back](#) [Next](#)

Demonstration – CGH Standard Design Wizard

Overview of the **SureDesign** Home Page

Find Designs Tab

- Finding CGH designs, probegroups, and collaborations migrated from eArray

Create Designs Tab

- CGH Standard Design Wizard

CGH Advanced Design Wizard in SureDesign

For advanced users with specialized design scenarios

- Human (CGH, CGH + SNP)
- Rat, Mouse (CGH)
- Many additional species

Powerful - many design parameters are

- Exposed to the user
- Can be modified by the user

Iterative workflow

- Create multiple probegroups via multiple methods
 - HD probe search, SNPs, probes from existing designs, upload probe sequences, genomic tiling
 - Target whole genes, exons, or intragenic regions
- Add the probegroups to the custom microarray

CGH Advanced Design Wizard in SureDesign

SureDesign Help - Add/Review Content

CGH (Advanced) **Add/Review Content**

Define Design ✓

- Add/Review Content**
 - Select HD probes
 - Select probes from SNP
 - Select Existing Probes
 - Upload probes
 - Tile Genes or Regions
- Finalize

CGH Array Design

Name: 131004_CGHSNP_ADV
Species: H. sapiens
Format: 4 x 180 K

Probes

- # CGH Probes: NA
- # SNP Probes: 119218
- # Ctrl. Probes: 8121
- # Norm. Probes: 2924
- # Rep. Probes: 5000
- % Filled: 74.78%

UCSC View Download

Select Content Addition Method

- Select Probes from Agilent High Definition Database
- Select probes from SNP
- Select probes from an existing Design or Probegroup

Select all probes

- Upload probes
- Design new probes by tiling genes or regions

- Or -

- Finalize this design

Probegroup Summary

Name	# Targets
131004_CGHSNP_ADV	
Human_CGH_1k_A	
Human_CGH_3k_A	

Close Design Wizard Back Next

Select Probes from SNP

SureDesign Help - Select probes from SNP

CGH (Advanced) > Select probes from SNP > **Define Targets**

Define Design
Add/Review Content
Select HD probes
Select probes from SNP
Select Existing Probes
Upload probes
Tile Genes or Regions
Finalize

CGH Array Design
Name: 131025_CGHSNP_Adv
Species: H. sapiens
Format: 4 x 180 K

Probes
CGH Probes: 100
SNP Probes: NA
Ctrl. Probes: 8121
Norm. Probes: 2924
Rep. Probes: 5000
% Filled: 8.93%

UCSC View Download

SNP Probes: Genomic_SNP_60k
ProbeGroup Name: 131025_CGHSNP_Adv_SNP

Chromosomes

<input type="checkbox"/> chr1	<input type="checkbox"/> chr15
<input type="checkbox"/> chr2	<input type="checkbox"/> chr16
<input type="checkbox"/> chr3	<input type="checkbox"/> chr17
<input type="checkbox"/> chr4	<input type="checkbox"/> chr18
<input type="checkbox"/> chr5	<input type="checkbox"/> chr19
<input type="checkbox"/> chr6	<input type="checkbox"/> chr20
<input type="checkbox"/> chr7	<input type="checkbox"/> chr21
<input type="checkbox"/> chr8	<input type="checkbox"/> chr22
<input type="checkbox"/> chr9	
<input type="checkbox"/> chr10	<input type="checkbox"/> chrX
<input type="checkbox"/> chr11	<input type="checkbox"/> chrY
<input type="checkbox"/> chr12	
<input type="checkbox"/> chr13	
<input type="checkbox"/> chr14	

Deselect All Select All

Cancel Back **Begin Probe Selection**

Select Probes from an Existing Design

SureDesign Help - Select Probe Source

CGH (Advanced) Select Existing Probes Select Probe Source

Define Design ✓

Add/Review Content ✓

Select HD probes

Select probes from SNP

▶ Select Existing Probes

Upload probes

Tile Genes or Regions

Finalize

CGH Array Design

Name: 131025_CGHSNP_Adv

Species: H. sapiens

Format: 4 x 180 K

Probes

CGH Probes: 100

SNP Probes: NA

Ctrl. Probes: 8121

Norm. Probes: 2924

Rep. Probes: 5000

% Filled: 8.93%

Design
 Probegroup

* Workspace: * Folder:

Probe Source

Select	Design ID	Name	Species	Category	Format	Creation Date	Created By
<input type="checkbox"/>	042477	Agilent-042477	H. sapiens	CGH	8 x 60 K	31-Jul-2012	Agilent Technolog
<input type="checkbox"/>	042249	Agilent-042249	H. sapiens	CGH	4 x 180 K	24-Jul-2012	Agilent Technolog
<input type="checkbox"/>	042300	Agilent-042300	H. sapiens	CGH+SNP	4 x 180 K	23-Jul-2012	Agilent Technolog
<input type="checkbox"/>	036465	V7.6 prenatal	H. sapiens	CGH+SNP	4 x 180 K	10-Sep-2011	Agilent Technolog
<input type="checkbox"/>	031750	ISCA CGH 105K v2	H. sapiens	CGH	2 X 105K	15-Dec-2010	Agilent Technolog
<input type="checkbox"/>	031748	ISCA CGH 180K v2	H. sapiens	CGH	4 x 180 K	15-Dec-2010	Agilent Technolog
<input type="checkbox"/>	031747	ISCA CGH 44K v2	H. sapiens	CGH	4 x 180 K	15-Dec-2010	Agilent Technolog
<input type="checkbox"/>	031746	ISCA CGH 60K v2	H. sapiens	CGH	4 x 180 K	15-Dec-2010	Agilent Technolog
<input type="checkbox"/>	030587	CCMC CGH plus SN	H. sapiens	CGH	4 x 180 K	15-Dec-2010	Agilent Technolog
<input checked="" type="checkbox"/>	029830	SurePrint G3 Humi	H. sapiens	CGH+SNP	4 x 180 K	26-Aug-2010	Agilent Technolog
<input type="checkbox"/>	028081	SurePrint G3 Humi	H. sapiens	CGH	4 x 180 K	26-Aug-2010	Agilent Technolog
<input type="checkbox"/>	027065	SurePrint G3 Rat C	R. norvegicus	CGH	4 x 180 K	25-Jan-2010	Agilent Technolog
<input type="checkbox"/>	027414	SurePrint G3 Mou	M. musculus	CGH	4 x 180 K	23-Feb-2010	Agilent Technolog
<input type="checkbox"/>	027411	SurePrint G3 Mou	M. musculus	CGH	4 x 180 K	23-Feb-2010	Agilent Technolog
<input type="checkbox"/>	027064	SurePrint G3 Rat C	R. norvegicus	CGH	4 x 180 K	25-Jan-2010	Agilent Technolog
<input type="checkbox"/>	025843	SurePrint G3 Rice	O. sativa	CGH	4 x 180 K	21-Oct-2009	Agilent Technolog
<input type="checkbox"/>	025522	SurePrint G3 Cani	C. familiaris	CGH	4 x 180 K	23-Sep-2009	Agilent Technolog
<input type="checkbox"/>	025242	SurePrint G3 Bov	B. taurus	CGH	4 x 180 K	30-Aug-2009	Agilent Technolog

Design ID 029830

Name SurePrint G3 Human CGHplusSNP Microarray 4X180K

Application CGH **Category** CGH+SNP

Format 4 x 180 K

Created By Agilent Technologies

Status Complete

Species H. sapiens **Creation Date** 26-Aug-2010

Description ISCA plus CGH+SNP 180K Microarray

Upload Probe Sequences

ProbeID	Sequence	Coordinates	Accessions	GeneSymbol	Description
MDH_1001	AAAAGTGTAAAAATTTTGATGGTTATTCTGACCCATTTTGAAGATCGAAATTTGGGCA	chr7:122161291-122161350	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1002	GACTTCGCCTTTCAAGACTTCTGTCACTGGTCTGACTTCTGTG	chr7:122212618-122212677	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1003	ATCACCAACAGAAACGCATCTTCTAACAGCATTTTCTTGCATTTTGGTTCTCATATTTT	chr7:122336596-122336654	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1004	ACATCATGGCCTCATTTAAACTCTTTTCACTTAGAATTTAGTAACGCAAACTCTGGAC	chr7:122149057-122149116	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1005	TTGTCTGTTTACCATCTCTGGTTATGTGAACCTCTTAAAAAAATGAACACTGCCTTAC	chr7:122018840-122018899	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1006	TGCAACTTACACATGTTTATGTATGGCCACCTCTTCTTTAGTCCCTCAGATTTTAAACCC	chr7:121972855-121972914	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1007	AAGTTTAAAGTCAAATCTGAGCATGATTTCCCATACTACAGATAATCTCTAGTGTGGA	chr7:122296470-122296529	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1008	AAACATAACACCTTAAGGCCTAATCGTTTCTGTAACAAGTATAACCCCATGGAAATTCATG	chr7:122525902-122525949	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1009	CCAGACTTTTCAACAATAATGATAAACAAAGACACACGATTAATTCAGAATACCACCCA	chr7:122205605-122205664	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1010	AAACAAAAGAACATATTCAGCAACTTTTCTAACCAACACCTAAAAACCTTGGAAGGGCC	chr7:122387439-122387498	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1011	AATATCCACTGTCTTCTCTGTATTTCAAATAAACCCATGAGATTAACACAACGCTCTCTC	chr7:122484338-122484397	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1012	TTTTCCCTACAACCATAAGAAGAGTGAATATATGAGGTATCTGTAATCTAGAAGAGCCTG	chr7:122067579-122067638	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1013	CATTTCTGGTCGGGAAATCTATTTTCAACACATCCAGCCAGGAAATTCATCTACAAAT	chr7:122355241-122355300	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1014	CCAAAACAAGCAAACCAACAATAAAAAACAATAACAGTGCACGGGAAGAAATGTGAAAA	chr7:122166775-122166834	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1015	AAAATTGTCGCCATGAGTTATTAGTTAGGCGAGCAGTTAATCATTTCTACCATTTGTC	chr7:122254806-122254865	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1016	AACAGCCCCAGCACTGATCCACAGCCCGCTCTCGGAGCCTCAG	chr7:122088528-122088587	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1017	AGACTTGCATCTGTTTTTAAATCATTTTAAAACTCTAGATTTAACTGACCTCCGCA	chr7:122376775-122376834	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1018	GCAAAAAGATCACTCATAGACCCTTAACACTAAATCCTCTTAAACAAGATAAGTGCAATGGG	chr7:122231011-122231070	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1019	ATTCCAAAAGTGTAAAAAGAAAACCATACCAGGGAGTAACAAGAATGAACGCATGACATT	chr7:122291571-122291630	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1020	CTGGTCTTCTGACTTTTCTTCCCTGAAGTGTAAACAAGTATGAAGTATCACAGAGAAC	chr7:122443329-122443388	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1021	CTCGCAGATTATCCAAAACCAAAATAAACTTTCAATTAGAGATCATATTTGGCAAAA	chr7:122420282-122420341	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1022	TTTCCAGATTTATCTTCCACCTGTATTACTTGTCTTTTTAAATTTCCCAAAACCATAGC	chr7:122145872-122145931	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1023	CCATCCACAGTTTTTATATTCCAAGATACAGTCTCACTTATAGCATAACTTCCAACA	chr7:122312265-122312324	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1024	ACAGTATATCTCAACAATGGTTAATAGTTTTCTGTGCTGCTATATCTAAATAATGGGTGA	chr7:122009128-122009187	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1025	AATGCATCCCTTTCTTTATCCCATGCATAGGTAACATTACCATAGTCATGTTCTA	chr7:122360779-122360838	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1026	GTGCTGAGATATAAGATGAAACACAAATCCACAGTATACTTGAAGGAGCCTTTTACG	chr7:122006276-122006335	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1027	CTGAGGTATAGACTATGGATAAGGTGGAACACATCTCATATCTCACAGTATTAAGCCCG	chr7:122438161-122438220	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1028	GGGATGTTGCTTTTATGTCATAATATTTGAGATGAGGAGAAACTGTTAATCATTTAATC	chr7:122522790-122522849	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1029	ACGTCAAAGCATCTAGATCAAGTCCCAATTAACAGGTATTAAATCACAAGACTCTAAA	chr7:122382067-122382126	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1030	AAAAAAGCACATAGTTTTTCCAGCCATCAAAAATCAACATAATCCAGAGAAGGCTTC	chr7:122371535-122371594	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1031	AAAGGACAGGTATCATAAAGGAGTCAAGAGTGAAGTGCATATGCAGAATAGGAAGTG	chr7:122030553-122030612	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1032	AATCAATCCAGATACTCCGATTTTGTAGTAAATGCTATTACATCTCAATGGCCGATCAA	chr7:122415705-122415764	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1033	GGAAGGAAAAATGGACACTTTTTACACAAAAAATCTTACTTAGCCATCCACATGACT	chr7:122178791-122178850	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1034	ACCTCCAATGGAATGATAGTCAATACATCAGTAGTCAATCATTGAACCAAGTTTCTCTTA	chr7:122366668-122366727	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2
MDH_1035	GTTATTTCTGAACCCCAAGGAAAAATAATAAAGGGGAGACATGATTGCAAGGAAGCAT	chr7:122135046-122135105	ref NM_001009571	CADPS2	Homo sapiens Ca++-dependent secretion activator 2

Design New Probes by Tiling

SureDesign Help - Tile Genes or Regions

CGH (Advanced) > Tile Genes or Regions > **Define Targets**

Define Design ✓
Add/Review Content ✓
Select HD probes
Select probes from SNP
Select Existing Probes
Upload probes

▶ Tile Genes or Regions

Finalize

CGH Array Design
Name: 131025_CGHSNP_Adv
Species: H. sapiens
Format: 4 x 180 K

Probes
CGH Probes: 110255
SNP Probes: 119256
Ctrl. Probes: 8121
Norm. Probes: 2924
Rep. Probes: 8000
% Filled: 137.41%

UCSC View Download

*** Targets:**
CADM2
Upload
Example
Clear

*** Databases**
 RefSeq
 Ensembl
 CCDS
 Gencode
 VEGA
 CytoBand

Include Flanking Regions (5' and 3') : 0
 Allow Synonyms

Cancel Back Next

Design New Probes by Tiling

SureDesign Help - Tile Genes or Regions

CGH (Advanced) > Tile Genes or Regions > **Review Targets**

Define Design ✓
Add/Review Content ✓
 Select HD probes
 Select probes from SNP
 Select Existing Probes
 Upload probes
▶ Tile Genes or Regions
Finalize

CGH Array Design
Name: 131025_CGHSNP_Adv
Species: H. sapiens
Format: 4 x 180 K

Probes
CGH Probes: 110255
SNP Probes: 119256
Ctrl. Probes: 8121
Norm. Probes: 2924
Rep. Probes: 8000
% Filled: 137.41%

[UCSC View](#) [Download](#)

Target Summary

- 1 identifiers entered.
- 1 identifiers found.
- 0 identifiers not found.

Target Details [View targets in UCSC](#)

Target ID	# Regions	Base Pairs	Position
CADM2	1	1115448	chr3:85008132-86123579

[Cancel](#) [Back](#) [Next](#)

Design New Probes by Tiling

SureDesign Help - Tile Genes or Regions

CGH (Advanced) > Tile Genes or Regions > **Define Parameters**

Define Design ✓

Add/Review Content ✓

- Select HD probes
- Select probes from SNP
- Select Existing Probes
- Upload probes
- ▶ Tile Genes or Regions**

Finalize

CGH Array Design

Name: 131025_CGHSNP_Adv
Species: H. sapiens
Format: 4 x 180 K

Probes

# CGH Probes:	110255
# SNP Probes:	119256
# Ctrl. Probes:	8121
# Norm. Probes:	2924
# Rep. Probes:	8000
% Filled:	137.41%

[UCSC View](#) [Download](#)

* Probegroup Name:

Selection Parameters

* Probe Length:

* Selection: Average Probe Spacing (bp)
 Number of Probes per Region
 Total Number of Probes

Avoid Standard Masked Regions:

Avoid Restriction Sites:

Allow Probes to be Trimmed:

Preferred probe Tm: °C

[Reset](#)

[Cancel](#) [Back](#) [Begin Probe Selection](#)

Questions

SureDesign and eArray Help and Support

Agilent Informatics Software Support

- Hours of Operation
 - 8:30 PM to 5:30 PM Pacific Time
 - Sunday - Friday

- Email

informatics_support@agilent.com

- Phone (North America)
800-227-9770 x 3 x 5 x 3