

# Agilent Seahorse XF Substrate Oxidation Stress Test Kits

Rapid assays for measuring substrate oxidation in live cells



## Agilent Seahorse XF Substrate Oxidation Stress Tests

- Reveal cells' dependency on mitochondrial substrates: LCFAs, glucose/pyruvate, and/or glutamine
- Understand which substrates are relevant or required for specific cellular function and/or phenotype
- Easy-to-run assays with integrated data processing tool for post-assay analysis
- Optimized single-use reagents for simplified workflow and reduced assay complexity

## An innovative approach to assessing mitochondrial metabolism via substrate oxidation

Agilent Seahorse offers a powerful suite of new assays for measuring cellular substrate oxidation by assessing changes in oxygen consumption rate (OCR) using live cells. These rapid and nondisruptive methods enable the investigation of how cells oxidize three primary mitochondrial substrates: long-chain fatty acids (LCFAs), glucose/ pyruvate, and/or glutamine; revealing pathway specific information. The assays provide intuitive, functional parameters that are built on the well-recognized Seahorse XF Cell Mito Stress Test, and are ideally suited for the assessment of cellular substrate demand, both under basal conditions and in response to elevated substrate demand. With standardized assay protocols, validated reagents, and the cloud-based Seahorse Analytics, you can get started and obtain organized and presentable results quickly.

## Dive deeper to uncover what fuels cellular fate, function, and fitness

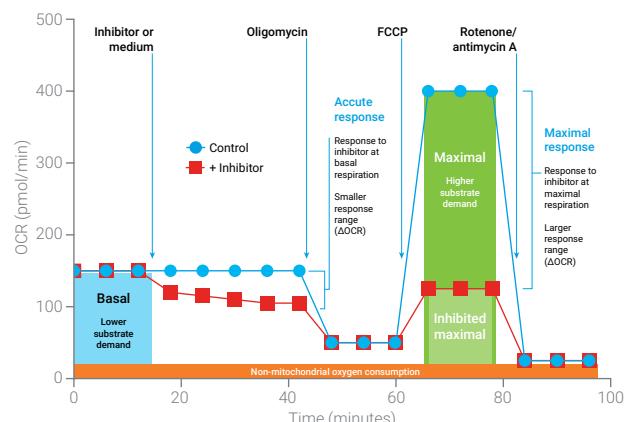
LCFAs, glucose/pyruvate, and glutamine are three primary substrates that fuel mitochondrial metabolism. Researchers in many areas (e.g., cancer, immunology, stem cell biology) have demonstrated how oxidization of these substrates has a profound impact on cell fate, function and fitness. Many of the findings not only provide new biological insights, but also reveal novel approaches to intervention and developing successful therapies. The Seahorse Substrate Oxidation Stress Test Kits enable rapid assessment of substrate oxidation in live cells, facilitating investigation of how cells alter or shift oxidation of specific substrates to perform key cellular functions of activation, proliferation and differentiation, survival in microenvironments, as well as responses to genetic or pharmaceutical interventions.

Learn more:

[www.agilent.com/chem/discoverXF](http://www.agilent.com/chem/discoverXF)

## Product information

- Each kit contains three single-use reagent pouches. Each pouch contains one (1) vial of the following reagents: substrate pathway inhibitor (e.g., etomoxir or UK5099 or BPTES), oligomycin, FCCP, and rotenone/antimycin A mixture. Each pouch contains sufficient materials for one full XF96 or XF24 assay plate.
- Seahorse XF DMEM or RPMI Medium, pH 7.4 and Seahorse XF Substrates (glucose, pyruvate, and glutamine) are recommended for optimal results. Ordering information is provided in the table below.
- The Seahorse XF Substrate Oxidation Stress Tests are compatible with XF/XFe96 and XF/XFe24 Analyzers.



Seahorse XF Substrate Oxidation Stress Test profile showing the respiration parameters critical for substrate demand.

## Ordering information

| Catalog Number          | Description  |
|-------------------------|--|
| 103672-100              | Seahorse XF Long Chain Fatty Acid Oxidation Stress Test Kit* |
| 103673-100              | Seahorse XF Glucose/Pyruvate Oxidation Stress Test Kit       |
| 103674-100              | Seahorse XF Glutamine Oxidation Stress Test Kit              |
| <b>Related products</b> |  |
| 103575-100              | Seahorse XF DMEM Medium, pH 7.4, 500 mL**                    |
| 103576-100              | Seahorse XF RPMI Medium, pH 7.4, 500 mL**                    |
| 103577-100              | Seahorse XF 1.0 M Glucose Solution, 50 mL                    |
| 103578-100              | Seahorse XF 100 mM Pyruvate Solution, 50 mL                  |
| 103579-100              | Seahorse XF 200 mM Glutamine Solution, 50 mL                 |

\* This kit is also used in the Seahorse XF Palmitate Oxidation Stress Test (Catalog # 103693-100). Visit the Agilent Cell Analysis website or contact technical support at [cellanalysis.support@agilent.com](mailto:cellanalysis.support@agilent.com) for more information.

\*\* These media can also be purchased together with the supplements/substrates listed in this table as bundled products (Catalog Numbers 103680-100 and 103681-100).

Learn More

[www.agilent.com/chem/discoverXF](http://www.agilent.com/chem/discoverXF)

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Worldwide Technical Support

[cellanalysis.support@agilent.com](mailto:cellanalysis.support@agilent.com)

USA and Canada

**1-800-227-9770; select option 3 then 8**

**For Research Use Only. Not for use in diagnostic procedures.**

This information is subject to change without notice.