

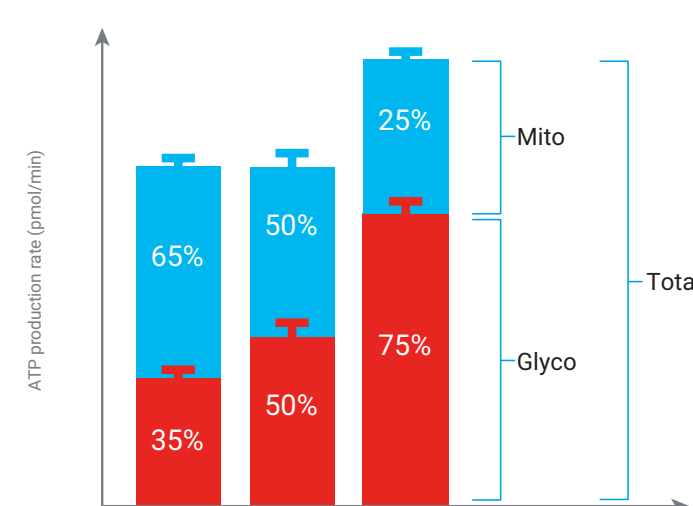
Get the Most from Your Agilent Seahorse XF Analyzer

How does energy metabolism impact cell behavior? Are your cells built to meet energy challenges? Agilent Seahorse XF assay kits—designed to work with your Agilent Seahorse XF analyzer—help you to answer these questions and more.

Follow the journey below to reveal the bioenergetic phenotype and the mechanisms that drive the behavior of your cell models.



General cell metabolism



XF Real-Time ATP Rate Assay kit

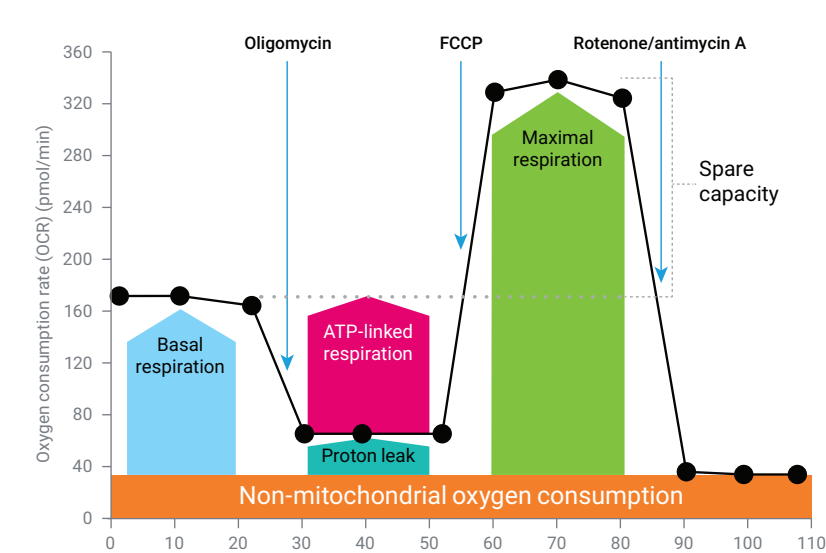
(p/n 103592-100 and 103591-100)

This is a quantitative method that measures the production rates of adenosine triphosphate (ATP) from mitochondrial respiration and glycolysis simultaneously in live cells. It can be used to:

- Assess metabolic phenotype changes during cell activation, proliferation, and differentiation.
- Identify pathway liabilities.
- Screen for compound effect on cellular ATP production.



Aerobic



XF Cell Mito Stress Test kit

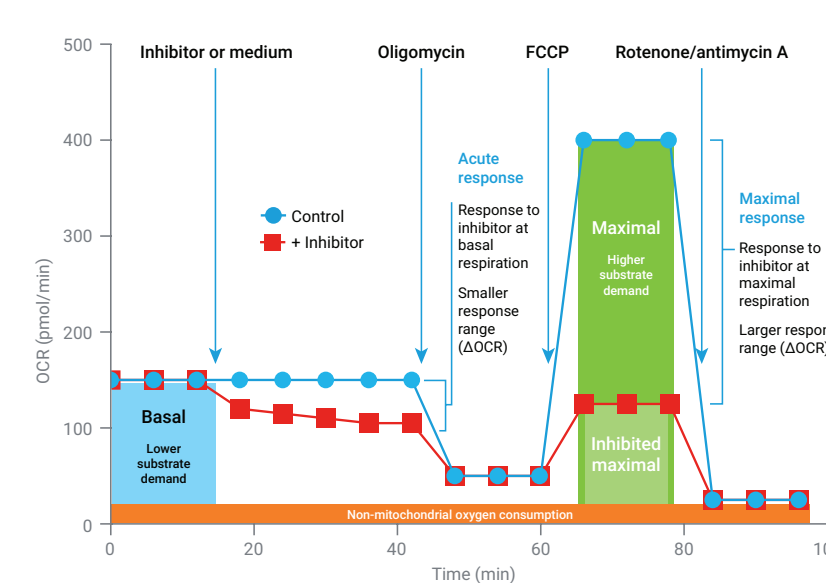
(p/n 103015-100 and 103010-100)

Use this widely recognized test to gain a comprehensive understanding of mitochondrial (dys)function.

- Report on multiple parameters—including basal and ATP-linked respiration, maximal and spare respiratory capacity, and proton leak.
- Investigate functional differences between cell types and the impact of genetic or pharmaceutical interventions.



Broad assessment of cellular function/phenotype

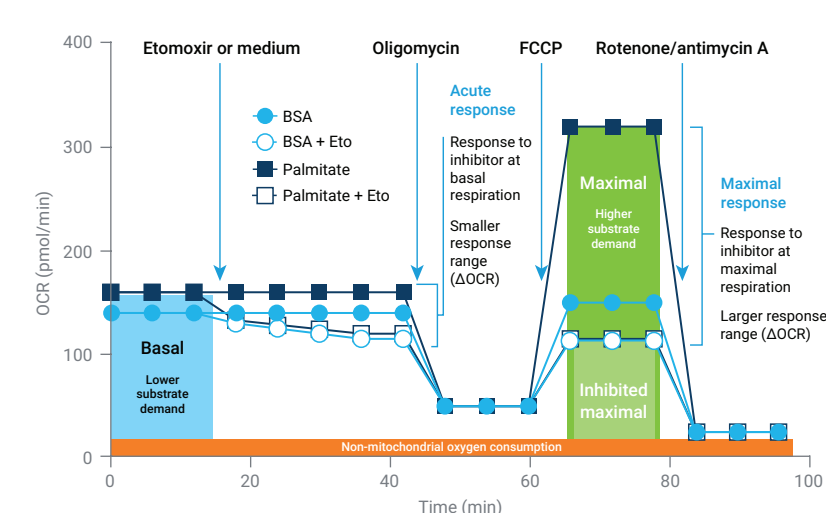


XF Substrate Oxidation Stress Test kits

(p/n 103672-100, 103673-100, and 103674-100)

With these optimized kits, you can dive deeper to study the impact of three primary substrates on mitochondrial and cellular function.

- Explore which substrates are relevant or required for a specific cellular function and/or phenotype.
- Discover how cell phenotype can be controlled via manipulation of substrate oxidation activities.
- Obtain rich multiparametric information not available from conventional endpoint substrate uptake assays.

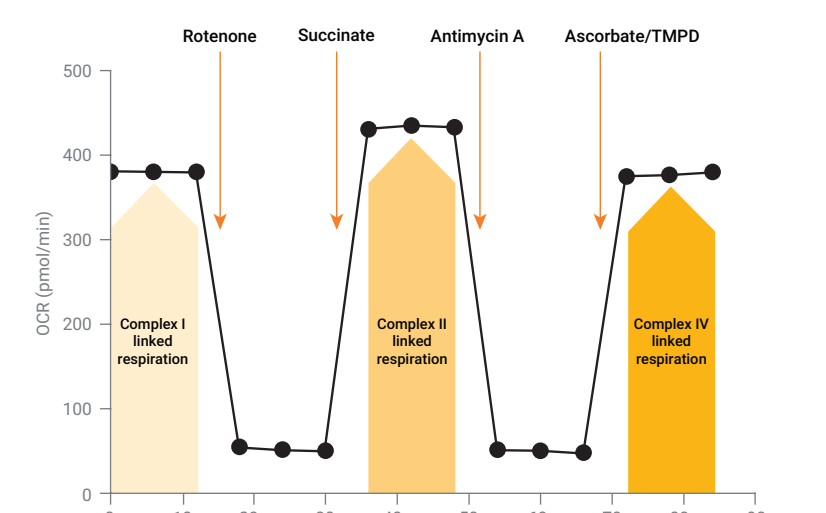


XF Palmitate Oxidation Stress Test kit

(p/n 103693-100)

Apply this kit when investigating how interventions affect the long-chain fatty acid oxidation (FAO) process.

- Kit provides ready-to-use reagents, including the XF palmitate-BSA FAO substrate, etomoxir, oligomycin, FCCP, rotenone/antimycin A, and L-carnitine.
- Eliminate tedious, time-consuming, and variable conjugation.
- Use as a complementary and/or follow-up assay to the XF long-chain fatty acid oxidation stress test.

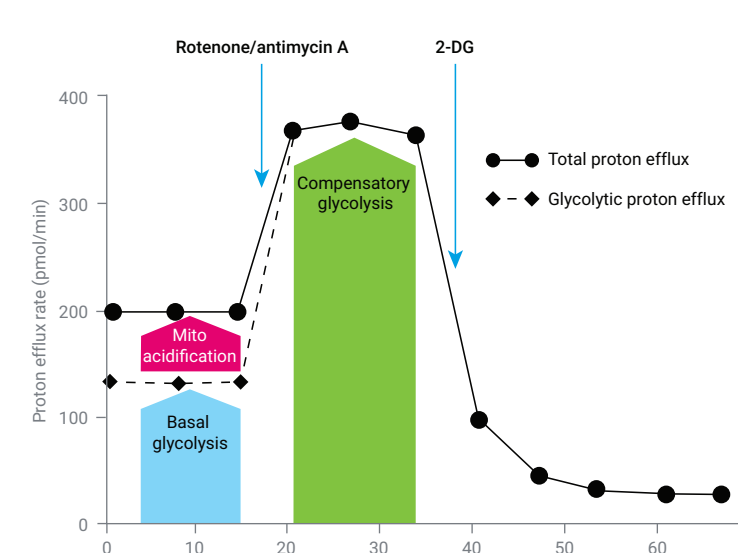


XF Plasma Membrane Permeabilizer

(p/n 102504-100)

Our proprietary reagent permeabilizes intact cells in culture, so you can perform isolated mitochondria-type assays without isolating mitochondria.

- Selectively target the cellular plasma membrane while leaving the mitochondrial membrane intact.
- Enable the characterization of key components in mitochondrial function—including transporters, enzymes, and electron transport chain complexes.

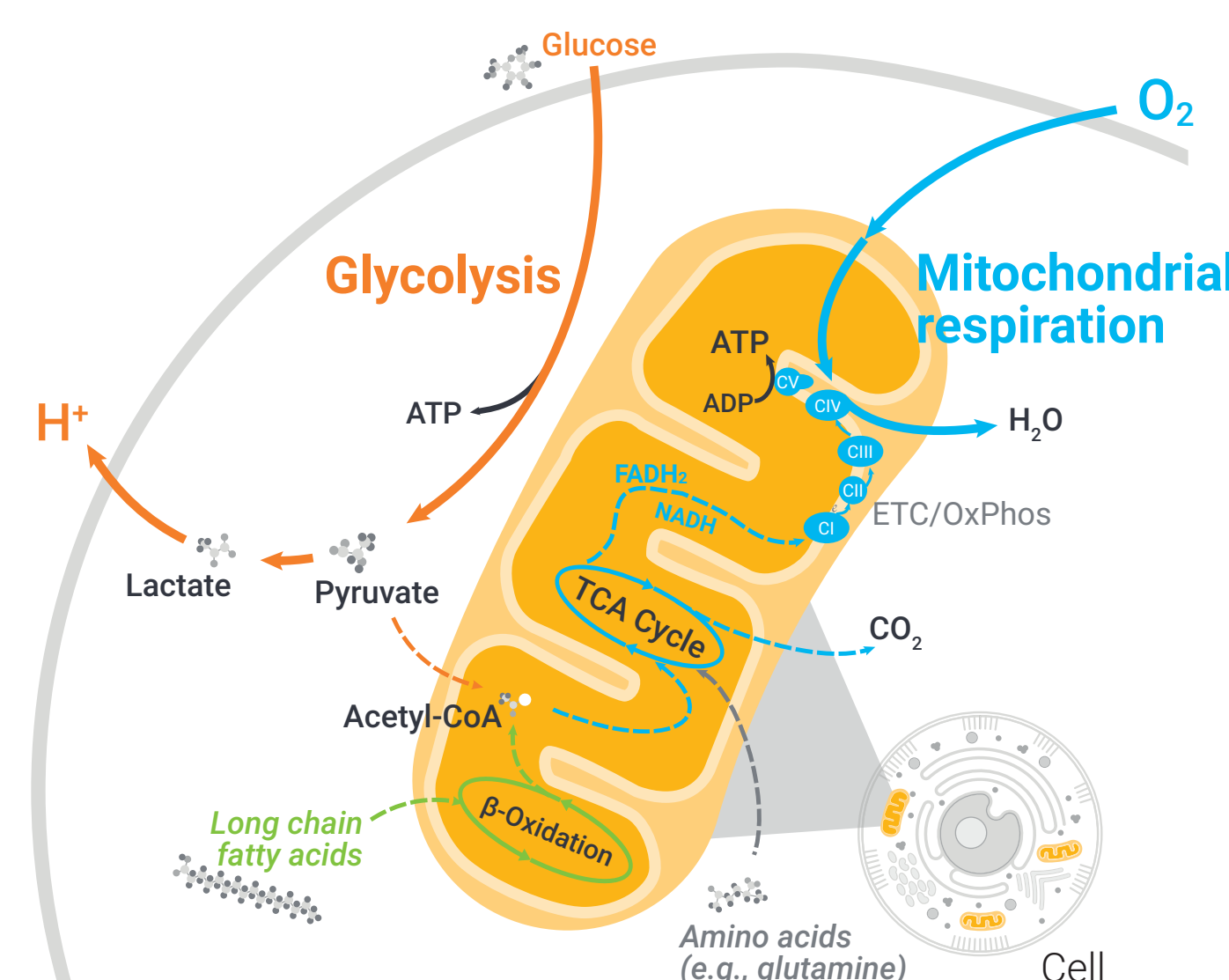


XF Glycolytic Rate Assay kit

(p/n 103344-100 and 103346-100)

Accurately measure glycolysis in live cells by quantifying proton efflux rate (PER) specific to glycolysis.

- Detect transient and rapid metabolic switches (such as the Warburg effect) in minutes.
- Measure the effects of metabolic modulators on glycolytic rates within a single assay well.
- Report on multiple key parameters: basal and compensatory glycolysis.

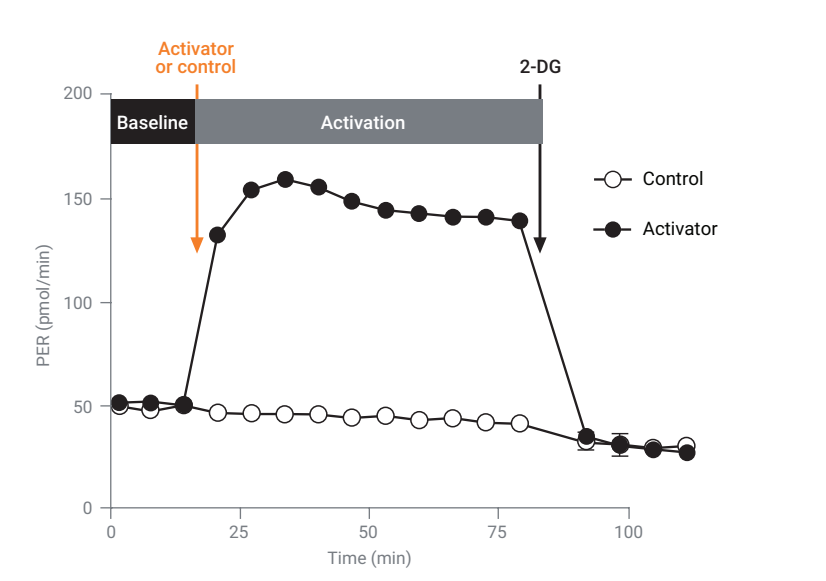


Discover the drivers of cell fate, function, and fitness

Some of the decade's most significant breakthroughs have hinged upon understanding how energy metabolism influences cellular processes. Live-cell, functional metabolic data is impacting research and discovery in areas like immunology, cancer, toxicology, and the study of metabolic disorders, such as obesity and diabetes.

Targeted approach to metabolic mechanisms

Immuno-metabolism

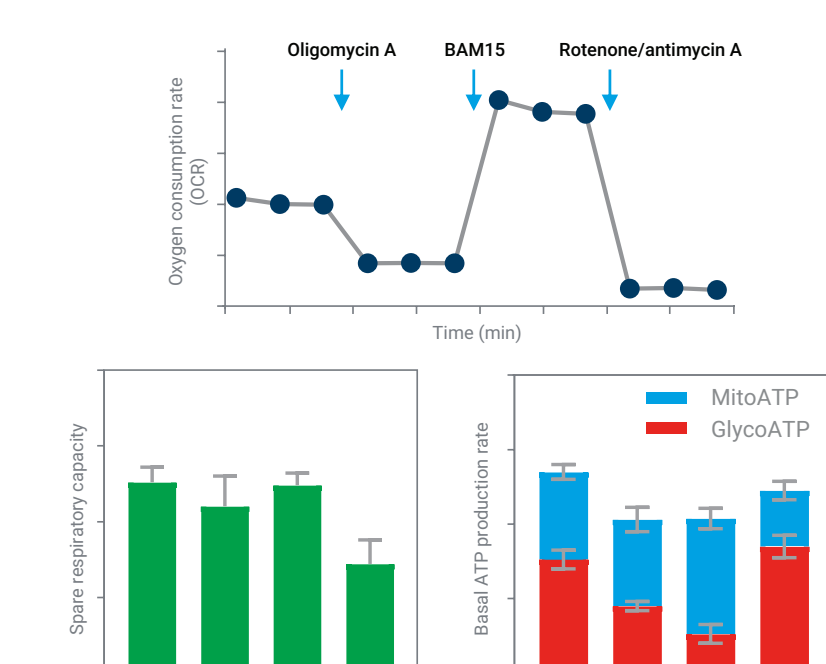


XF Hu T Cell Activation Assay kit

(p/n 103759-100 and 103766-100)

This assay detects human (Hu) T cell activation in minutes by monitoring proton efflux rates (PER) linked to glycolysis-dependent energy production.

- Obtain an early window to investigate cellular and signaling requirements associated with T cell activation.
- Continuously monitor T cell activation and modulation through a kinetic readout.
- Test immediate effect of compounds/modulators by dosing cells during assay through the built-in injection ports.



XF T Cell Metabolic Profiling kit

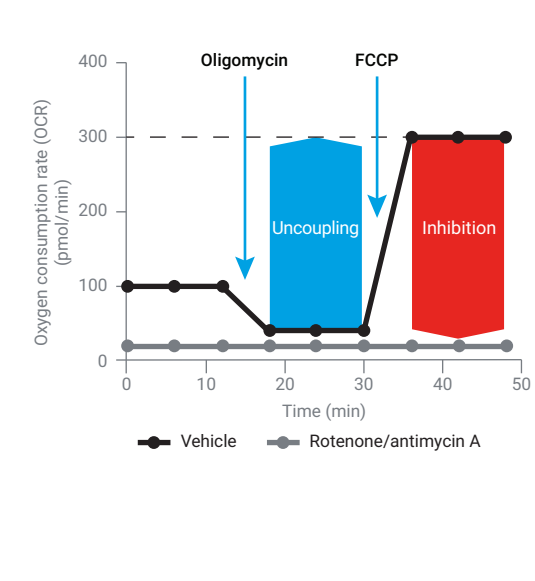
(p/n 103771-100 and 103772-100)

Use this kit to generate robust bioenergetic parameters linked to critical attributes for antitumor potency, T cell persistence and T cell metabolic fitness.

- Suitable for evaluation of different construct designs, engineering strategies, starting material selection, or metabolic conditioning during the cell expansion process.
- Applicable for use in assessing the capacity of T cells to maintain metabolic fitness in metabolically restrictive conditions (e.g., tumor microenvironments).
- Improved reagents minimize optimization of uncouplers for different T cell populations.



Mitochondrial toxicity



XF Mito Tox Assay kit

(p/n 103595-100)

This kit is a part of the XF mito tox solution that integrates the Agilent Seahorse XF Pro analyzer, a streamlined workflow, and enhanced software tools, enabling you to easily identify drug-induced mitochondrial toxicity.

- A direct functional assay to provide high sensitivity and specificity.
- Simplified assay design and parameters to quickly identify the type and magnitude for mitochondrial toxicity.
- Enhanced software tools to deliver an end-to-end solution that reduces your time to conclusion.



Move beyond analyzing what your cells are with Agilent Seahorse XF technology to gain deeper insights into the critical functions that drive cellular processes.

www.agilent.com/chem/discoverXF

Need more in-depth XF assay training? Contact technical support. cellanalysis.support@agilent.com

Learn more about running XF assays. Visit our learning center.

