AGILENT SEAHORSE XF
PALMITATE-BSA FAO SUBSTRATE

A Substrate for Measuring Long Chain Fatty Acid Oxidation (FAO) in the Agilent Seahorse XF Analyzer

Measure Fatty Acid Oxidation (FAO) in Cells, in Minutes

Agilent Seahorse XF Palmitate-BSA FAO Substrate is a preconjugated, quality-controlled, fatty acid substrate that simplifies the process for obtaining functional data to characterize the metabolic phenotype of your cells. This bioavailable, conjugated fatty acid substrate frees you from the tedious, time-consuming, and variable conjugation process.

Agilent Seahorse XF Palmitate-BSA FAO Substrate

Using the Seahorse XF Palmitate-BSA FAO Substrate, researchers can now determine precisely how a drug of interest, treatment, or genetic modification, changes the ability of a cell to oxidize fatty acids. Many cells store triglycerides and other energy stores that can affect the rates of respiration when fatty acids are added to the experimental media. The Seahorse XF Palmitate-BSA FAO Substrate can be used with the Agilent Seahorse XF Cell Mito Stress Test to quantify oxidation of both endogenous and exogenously provided long chain fatty acids.

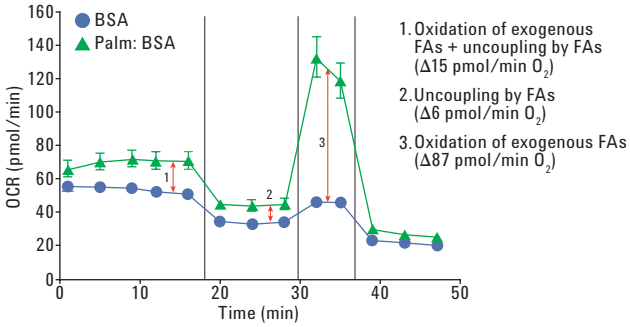

Figure 1. Integration of the Agilent Seahorse XF Palmitate-BSA FAO Substrate with the Agilent Seahorse XF Cell Mito Stress Test. Distinguish uncoupling from actual fatty acid oxidation. The oligomycin injection provides information regarding mild uncoupling by free fatty acids. Increases in maximal respiration beyond the BSA control indicate utilization of exogenous FFAs.

Agilent Seahorse XF Palmitate-BSA FAO Substrate

- Ready-to-use solution for consistent results in every assay. Free fatty acid concentration (FFA) listed with each lot
- Reliable, functional information without radioactivity
- Improved workflow and integration with the Agilent Seahorse XF Cell Mito Stress Test

For more information, visit: www.agilent.com

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Determination of Exogenous Fatty Acid Utilization in the Agilent Seahorse XF Analyzer

In Figure 2 and Figure 3, the utilization of exogenous fatty acids is dependent upon placing energetic stress (via FCCP) on the cells. This experiment illustrates that under conditions of substrate limitation, and the combined use of the Seahorse XF Palmitate-BSA FAO Substrate, etomoxir (Eto) and the Seahorse XF Cell Mito Stress Test, one can determine the proportion of respiration that is supported by exogenous fatty acids.

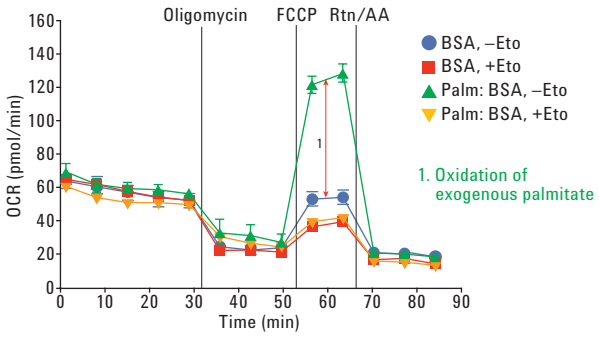

Figure 2. A kinetic graph illustrating the use of the Agilent Seahorse XF Palmitate-BSA Substrate, followed by the Agilent Seahorse XF Cell Mito Stress Test. The red arrow indicates exogenous fatty acid utilization.

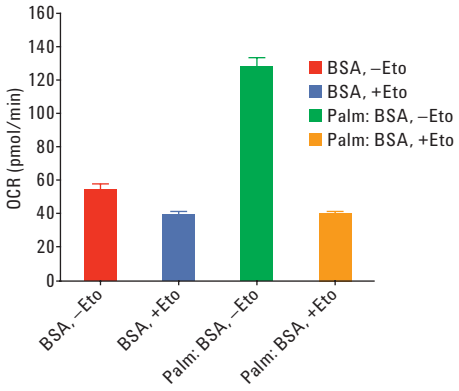

Figure 3. Bar chart highlighting the differences in maximal respiration among groups. The data is taken from rate measurement "10" in Figure 2.

Product Information

Component	Description
Product	Agilent Seahorse XF Palmitate-BSA FAO Substrate
Part number	102720-100
Kit contents	Agilent Seahorse XF Palmitate-BSA: 1 mM solution (3 × 2 mL vials) Agilent Seahorse XF BSA Control: 0.17 mM solution (3 × 2 mL vials)
Shipping conditions	Ships at ambient temperature, packed in insulated storage box
Storage requirements	Store at –20 °C

Note: One vial of XF Palmitate-BSA or XF BSA control contains enough material for one Agilent Seahorse XF96/XF24 Microplate.

For more information, visit:
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