

Sole Source Letter – Agilent Seahorse XF HS Mini Extracellular Flux Analyzer

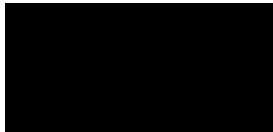
Dear Researcher,

Thank you for your interest in the Agilent Seahorse XF (Extracellular Flux) Analyzers. Agilent Seahorse XF metabolic analyzers and stress test kits make cellular bioenergetic studies simple, efficient and user-friendly. Agilent Seahorse XF metabolic analyzers are the only commercially available instruments for scientific research that simultaneously measures the two major energy producing pathways of the cells—mitochondrial respiration and glycolysis-- in living cells, in real time, in a microplate. Researchers are utilizing Agilent Seahorse XF technology for faster, better, and more accurate measurements of cellular metabolism.

With offices worldwide, Agilent Seahorse XF customers include scientists at academic institutions, pharmaceutical and biotech organizations. Agilent Seahorse XF technology users have published over 2500 peer-reviewed articles in top journal using the XF technology platform, demonstrating that Agilent Seahorse XF technology has set the standard in the rapidly growing field of cell metabolism.

The following page is a list of unique technical features not found in any other instruments qualifying either The Agilent Seahorse XF HS Mini Analyzer for a sole source purchase.

Sincerely,



David A. Ferrick, PhD

Senior Director of Marketing- Seahorse XF Products



Unique Features of Agilent Seahorse XF Technology

Agilent Seahorse XF Technology

- Simultaneously measures oxygen consumption rate (OCR) and extracellular acidification rate (ECAR) of living cells.
- Convenient, easy-to-use Seahorse XF test kits and Seahorse XF reagents simplify the study of cellular metabolism by providing pre-calibrated, pre-tested reagents for measuring metabolic phenotype, mitochondrial respiration, glycolysis, and fatty acid oxidation.
- Uses disposable cell culture microplates.
- Non-invasive measurement requires no addition of dyes, labels or reporters.
- Cells/microplate remain viable following an Agilent Seahorse XF assay and may be used for another assay.
- Measurements may be repeated to measure kinetic responses over several hours.
- Typically requires only 5×10^3 to 5×10^5 cells per well with high-sensitivity mini plate.
- No cleaning is required. All parts that contact cells, media or compounds are disposable.
- Up to four test compounds may be added automatically to each well during the assay. Measurements may be performed before and after each compound is added.
- Measurement technology is covered by patent # 7,276,351.
- Seahorse XF HS Mini has partnumber: S7852A

Agilent Seahorse XF HS Mini Analyzer

- Compact bench-top instrument 43.0cm W x 30.3cm D x 56.8cm H.
- Designed for pairwise comparisons, patient-derived, or other precious samples.
- Temperature controlled measurement chamber is maintained at $37^\circ\text{C} \pm 0.5^\circ\text{C}$.
- Data display shows OCR and ECAR data simultaneously.
- Improved system performance, network-ability and security with 64-bit Windows 10
- New Seahorse analytics software Mac & PC enabled

Agilent Seahorse XF Assay Kits and Reagents

- Standardized reagents, kits, and protocols are designed for use with either the Agilent Seahorse XF HS Mini Analyzer.
- Convenient, quality-controlled kits provide standardized metabolic measurements in an easy-to-use format.

Agilent Seahorse XF Assay Cartridges and Microplates

- Only Agilent Seahorse XF HS and XFp assay cartridges are compatible with Agilent Seahorse XF HS Mini instruments, and must be used during a Seahorse XF assay.
- Agilent Seahorse XFp and HS Miniplates are tissue culture treated for optimal cell growth.
- Each assay cartridge is auto-calibrated. Data are reported in calibrated rates of pmol/min or mpH/min.

Enclosure

- The precision-molded enclosures on the Agilent Seahorse XF HS mini Analyzers have specialty coatings and gaskets to shield the electronics and samples from ambient light, as well as block radiated and emitted electromagnetic interference.

Excitation and Emission

- Optical sensors do not consume oxygen during the measurement and are not in contact with the cells.
- Optical sensors are not affected by compound or intracellular dye fluorescence.
- Oxygen sensor peak absorption = 530 nm (green).
- Oxygen peak emission = 650 nm (red).
- pH sensor peak absorption = 470 nm (blue).
- pH sensor peak emission = 530 nm (green).
- Light Emitting Diodes (LEDs) are used as the monochromatic excitation source.
- LEDs are operated at very low excitation energy densities to prevent detectable levels of photobleaching.
- Narrow band pass filters control spectral adherence.
- Rates are reported every 5-8 minutes.
- Compound injection ports are available.
- Injection volume is 25µL for an Agilent Seahorse XF HS Analyzer.
- Compound injection is pneumatically controlled.

Data Quality

- Because Agilent Seahorse XF assays are non-invasive, multiple measurements may be made to reduce data bias due to biological variability. Measurement-to-measurement within the same well demonstrates a coefficient of variation of 5% approximately equivalent to the instruments' background noise.
 - Total variability between wells from all sources (instrument background plus biological variability due to cells) for the average trained user is <20%.