

# Agilent Seahorse XF Hu T Cell Activation Assay Kit

A rapid kinetic assay for early detection of T cell activation

## A novel approach to detect and modulate human T cell activation

The Agilent Seahorse XF Hu T Cell Activation Assay detects human (Hu) T cell activation response within several minutes of stimulation by using Seahorse XF Analyzers. This is accomplished via measuring proton efflux rates (PER) associated with glycolytic pathway-dependent energy production. This assay is built on the principle that T cell activation is accompanied by a rapid switch in cellular energy production and intermediate demand to support effective proliferation, size expansion, and differentiation. It is supported by recent advances in the field of immunology that recognize cellular metabolism as a primary driver and regulator of immune cell function and lineage commitment.

Agilent and STEMCELL Technologies have partnered to deliver an optimal solution for interrogating T cell activation on the Seahorse XF platform. The solution includes the Agilent-validated **ImmunoCult human CD3/CD28 T Cell Activator** and 2-deoxy-D-glucose. Together with standardized protocols, ready-to-use XF PDL fluxpaks, and cloud-based Agilent Seahorse Analytics software, the Agilent solution can provide a robust measure of T cell activation with new perspectives.

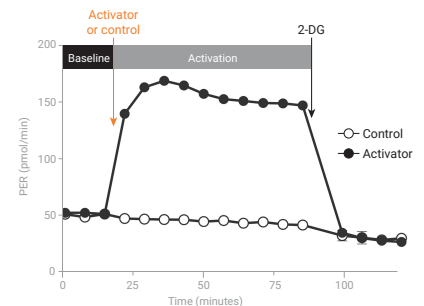
## Provide an early window to observe and modulate T cell activation in real time

Conventional methods that measure T cell activation largely rely on cell surface markers and/or cytokine production and can be laborious or require hours to days to obtain results. The XF Hu T Cell Activation Assay allows for detection of T cell activation shortly after stimulation (within minutes), opening an early window to study Hu T cell activation, and has been used to investigate the early cellular and signaling requirements that establish activation of an effector response. The XF Hu T Cell Activation Assay also provides continuous monitoring of activation signal, enabling testing of T cell activation modulators in real time.

## Quantify T cell activation with dedicated Seahorse Analytics

Seahorse Analytics is a web-based software platform that provides a simple, streamlined data analysis workflow for analyzing the XF Hu T Cell Activation Assay results. Using this tool, XF Hu T Cell Activation signals can be readily quantified and transformed into organized, shareable summary reports.

Seahorse XF Hu T Cell Activation Assay Profile



## Agilent Seahorse XF Hu T Cell Activation Assay Kit

- Provide a novel approach to study early cellular and signaling requirements associated with T cell activation
- Track real-time modulation of T cell activation
- Deliver robust results with standardized protocols and optimized reagents

## Product information

- Each Seahorse XF Hu T Cell Activation Assay Kit contains one vial (2 mL) of ImmunoCult Human CD3/CD28 T Cell Activator solution and two vials of XF 2-Deoxy-D-Glucose, which provides sufficient materials for 200 tests, equivalent to two full plate assays in 96-well format.
- The ImmunoCult Human CD3/CD28 T Cell Activator (STEMCELL Technologies) is a soluble tetrameric conjugate. It is easy-to-use and compatible with the specially-designed injection ports on Seahorse XF cartridges, reducing assay preparation time and improving assay reliability.
- The XF Hu T Cell Activation Assay 96-Well Pack is a bundled product that contains one XF Hu T Cell Activation Assay Kit, two XFe96 FluxPak with PDL cell culture microplates, and 100 mL calibrant. This bundled product is intended for use with XFe96/XF96 Analyzers.
- The Seahorse XF Hu T Cell Activation Kit can be used with XF HS Mini, XFp, and XFe/XF96 analyzers together with the proper XF PDL-coated cell culture plates for these analyzers.
- Seahorse XF RPMI Medium, pH 7.4 and Seahorse XF supplements (glucose, pyruvate, and glutamine) are recommended for optimal results. Ordering information is provided in the following table.

## Ordering information

Part Number	Product Description	Compatible Analyzer
103759-100	Seahorse XF Hu T Cell Activation Assay Kit*, 200 tests	XFe/XF96, XF HS Mini and XFp Analyzers
103766-100	Seahorse XF Hu T Cell Activation Assay 96-Well Pack, 200 tests (contains 1 × Seahorse XF Hu T Cell Activation Assay Kit, 2 × XFe96 FluxPaks with PDL Microplates, 1 × 100 mL Calibrant)	XFe96/XF96 Analyzers
Related Products		
103576-100	Seahorse XF RPMI Medium, pH 7.4, 500 mL**	All Analyzers
103577-100	Seahorse XF 1.0 M Glucose Solution, 50 mL	All Analyzers
103578-100	Seahorse XF 100 mM Pyruvate Solution, 50 mL	All Analyzers
103579-100	Seahorse XF 200 mM Glutamine Solution, 50 mL	All Analyzers
103729-100	Seahorse XFe96 FluxPak Mini (PDL Plates), 6 assays	XFe96/XF96 Analyzers
103730-100	Seahorse XFe96 PDL Cell Culture Plates, 6 assays	XFe96/XF96 Analyzers
103721-100	Seahorse XFp FluxPak (PDL Plates)	XF HS Mini, XFp Analyzers
103722-100	Seahorse XFp PDL Cell Culture Miniplates	XF HS Mini, XFp Analyzers

\* This product does not include any FluxPaks necessary for performing T cell activation assay. Relevant XF FluxPaks can be purchased separately.

\*\* This medium can also be purchased together with the supplements/substrates listed in this table as bundled products (part number 103681-100).

Learn more

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

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