

U-PLEX[®] Human TGF- β 1 Assay



www.mesoscale.com[®]

Ordering Information

MSD[®] Customer Service
Phone: 1-301-947-2085
Fax: 1-301-990-2776
Email: CustomerService@mesoscale.com

Scientific Support

Phone: 1-301-947-2025
Email: ScientificSupport@mesoscale.com

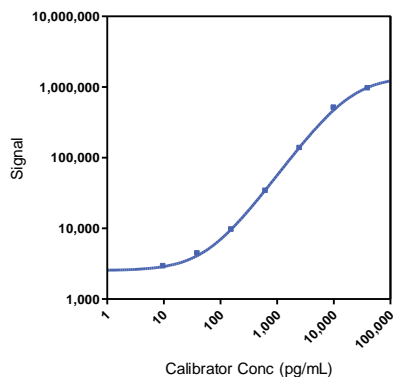
Company Address

MESO SCALE DISCOVERY[®]
A division of
Meso Scale Diagnostics, LLC.
1601 Research Boulevard
Rockville, MD 20850-3173 USA

Product Options	Available as part of U-PLEX Biomarker Group 1 (hu) multiplex combination: K15067L-1/-2/-4
	Individual assay: K151XWK-1/-2/-4; Antibody Set: B20XW-2/B20XW-3
	For more ordering options, please visit www.mesoscale.com
Instrument Compatibility	SECTOR [®] Imager 2400, SECTOR Imager 6000, MESO [®] SECTOR S 600, MESO QuickPlex [®] SQ 120
Sample Type	Human serum, EDTA plasma, and cell culture supernatants
Assay Protocol	Refer to the U-PLEX Biomarker Group 1 (Human) product insert available at www.mesoscale.com/U-PLEX-documents

The U-PLEX platform was designed to provide ultimate flexibility for detection of biomarkers in a wide variety of sample types. This datasheet provides the representative performance of the U-PLEX Human TGF- β 1 Assay tested on U-PLEX plates run as a multiplex. The data were generated during the development of the assay and do not represent the product specifications. Under your experimental conditions and with your specific multiplex, the assay may perform differently than the representative data shown. U-PLEX assays are available in multiplex format with other compatible assays. The same assay can also be used to detect a single analyte on MSD GOLD[™] Small Spot Streptavidin plates.

Representative Calibration Curve and Sensitivity



Assay	Median LLOD (pg/mL)	LLOD Range (pg/mL)
TGF- β 1	9.1	5.0-10

The calibration curves used to calculate analyte concentrations were established by fitting the signals from the Calibrators using a 4-parameter logistic (or sigmoidal dose-response) model with a $1/Y^2$ weighting. Analyte concentrations were determined from the electrochemiluminescence signals by back-fitting to the calibration curve. The lower limit of detection (LLOD) is a calculated concentration corresponding to the signal 2.5 standard deviations above the background (zero Calibrator).

Precision

	Control	Average Conc. (pg/mL)	Average Intra-run Conc. %CV	Inter-run Conc. %CV
TGF- β 1	High	1,567	4.7	11.1
	Mid	388	5.5	11.6
	Low	104	5.7	16.8

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

Controls were made by spiking Calibrator into assay diluent at 3 levels within the quantitative range of the assay. Average intra-run concentration %CV is the average %CV of the control replicates within an individual run. Inter-run concentration %CV is the variability of controls across multiple runs.

MSD® U-PLEX Assays

Spike Recovery

	Spike Level	Serum		Plasma		Cell Culture Media	
		Average % Recovery	% Recovery Range	Average % Recovery	% Recovery Range	Average % Recovery	% Recovery Range
TGF-β1	High	72	61-86	57	51-67	70	61-86
	Mid	70	64-81	58	48-68	69	63-81
	Low	67	59-78	53	47-65	66	59-78

Normal human serum, EDTA plasma, and cell culture media were spiked with Calibrator at 3 levels. Undiluted samples were tested to determine the expected concentration of the analyte. Samples may require additional dilution with assay diluent to reduce matrix effects.

% Recovery = (measured concentration / expected concentration) x 100

Tested Samples

Sample Type	Serum	Plasma	Stimulated Cell Models
Median (pg/mL)	1,160	2,125	908
Range (pg/mL)	426-10,729	864-5,112	726-1,110
% Detected	100	100	0

Samples were prepared using an acidification step. Less than 2% of TGF-β1 was detected in samples not treated with acid.

Normal serum and EDTA plasma samples were tested without dilution prior to the assay.

Dilution Linearity

	Serum			Plasma			Cell Culture Media		
	Fold Dilution	Average % Recovery	% Recovery Range	Fold Dilution	Average % Recovery	% Recovery Range	Fold Dilution	Average % Recovery	% Recovery Range
TGF-β1	2	136	125-157	2	123	105-143	2	114	105-125
	4	148	131-169	4	134	108-152	4	114	104-125
	8	155	142-171	8	139	106-154	8	118	106-139

Normal human serum, EDTA plasma, and cell culture media were spiked with recombinant Calibrator and tested at different dilutions. Undiluted samples were tested to determine the expected concentration of the analyte. Samples may require additional dilution with assay diluent to reduce matrix effects.

% Recovery = (measured concentration / expected concentration) x 100

Specificity

To assess specificity, the TGF-β1 Antibody Set was tested individually against a larger panel of recombinant human analytes for nonspecific binding (CTACK, ENA-78, Eotaxin, Eotaxin-2, Eotaxin-3, EPO, FLT3L, Fractalkine, G-CSF, GM-CSF, GRO-α, I-309, IFN-α2a, IFN-β, IFN-γ, IL-1α, IL-1β, IL-1RA, IL-2, IL-2Rα, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8, IL-9, IL-10, IL-12/IL-23p40, IL-12p70, IL-13, IL-15, IL-16, IL-17A, IL-17A/F, IL-17B, IL-17C, IL-17D, IL-17E/IL-25, IL-17F, IL-18, IL-21, IL-22, IL-23, IL-27, IL-29/IFN-λ1, IL-31, IL-33, IP-10, I-TAC, MCP-1, MCP-2, MCP-3, MCP-4, M-CSF, MDC, MIF, MIP-1α, MIP-1β, MIP-3α, MIP-3β, MIP-5, SDF-1α, TARC, TGF-β1, TGF-β2, TGF-β3, TNF-α, TNF-β, TPO, TRAIL, TSLP, VEGF-A, and YKL-40). Nonspecific binding was less than 0.5%.

% Nonspecificity = (nonspecific signal / specific signal) x 100

Diluent Compatibility

The data included in this document has been collected using Diluents 3 and 43. MSD offers a range of assay and antibody diluents for separate purchase. Depending on your assay needs, other diluents may be tested.

Assay Components

Calibrator: Human TGF-β1 is included in Calibrator 11 blend. The full-length recombinant human protein expressed in *E. coli* is used.

Antibodies: The U-PLEX Human TGF-β1 Assay uses mouse monoclonal antibody for capture and chicken polyclonal antibody for detection.

Assay generation: A

Note: This datasheet contains representative assay performance data. In custom multiplex formats, the assay may perform differently than the representative data shown.

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