U-PLEX®

Human G-CSF

Product Options	Catalog Number	Description
Multiplex	K15067M, K25067M K151AEM, K251AEM K151ACM, K251ACM	U-PLEX Biomarker Group 1 (hu) U-PLEX Immuno-Oncology Group 1 (hu) U-PLEX Metabolic Group 1 (hu)
Singleplex	K151VGK-1/-2/-4	U-PLEX Human G-CSF Assay with SECTOR™ plates
	K151VGK-21/-22/-24	U-PLEX Human G-CSF Assay with QuickPlex® plates
	K251VGK-2/-4	U-PLEX Human G-CSF Assay with 384-well plates
Antibody Set	B21VG-2/-3	U-PLEX Human G-CSF Antibody Set
Protocol	U-PLEX Product Inserts are available at http://www.mesoscale.com	

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 G-CSF Assay tested on U-PLEX 96-well plates run as a multiplex. The data do not represent the product specifications. Under your experimental conditions, the assay may perform differently from the representative data. U-PLEX assays are offered in either singleplex or multiplex; both are available on 96- or 384-well plates. See a U-PLEX product insert for instrument compatibility.

Representative Calibration Curve and Sensitivity
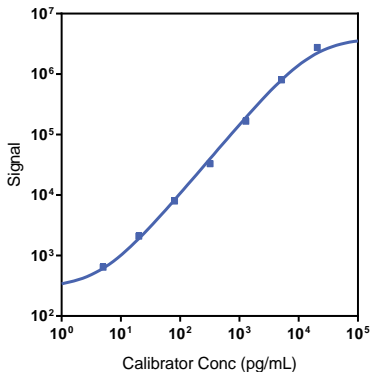
Assay	Median LLOD (pg/mL)	LLOD Range (pg/mL)
G-CSF	1.6	0.80-3.8

The Calibrator curve was fitted with a 4-parameter logistic model with a $1/Y^2$ weighting. The lower limit of detection (LLOD) is a calculated concentration corresponding to 2.5 standard deviations above the background (zero Calibrator).

Precision

Control	Average Conc. (pg/mL)	Average Intra-run Conc. (%CV)	Inter-run Conc. (%CV)
High	9,990	3.8	7.9
Mid	937	3.3	9.2
Low	99	3.5	12.4

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.

Spot the Difference®

MSD® U-PLEX Human G-CSF

Tested Samples

Sample Type	Serum (N=10)	Plasma (N=10)	Spiked Plasma (N=5)	Spiked Serum (N=5)
Median (pg/mL)	13	7.8	63	40
Range (pg/mL)	3.3-49	3.5-14	26-117	25-99
% Detected	100	100	100	100

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

Dilution Linearity

Serum			EDTA Plasma		
Fold Dilution	Average % Recovery	% Recovery Range	Fold Dilution	Average % Recovery	% Recovery Range
2	136	124-149	2	136	123-147
4	178	155-199	4	172	145-197
8	218	184-249	8	191	149-225

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

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

Spike Recovery

Spike Level	Serum		EDTA Plasma	
	Average % Recovery	% Recovery Range	Average % Recovery	% Recovery Range
High	35	31-38	40	36-46
Mid	35	30-37	35	32-37
Low	36	32-39	38	36-40

Normal serum and plasma were spiked with Calibrator at 3 levels. Undiluted samples were tested to determine the expected concentration of the analyte. Samples may benefit from additional dilution with assay diluent to reduce matrix effects.

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

Specificity

To assess specificity, the G-CSF Antibody Set was tested individually against a larger panel of analytes for nonspecific binding (APRIL/TNFSF13, BAFF, BAFF-R/TNFRSF13C, BCMA/TNFRSF17, BDNF, C-Peptide, CD20, CD27, CD28, CD40L (soluble), CD276/B7-H3, CTACK, CTLA-4, Desghrelin, ENA-78, Eotaxin, Eotaxin-2, Eotaxin-3, EPO, E-Selectin, FGF (basic), FGF-21, FGF-23, FLT3L, Fractalkine, FSH, Galectin-9, G-CSF, GITRL/TNFSF18, GITR/TNFRSF18, Ghrelin (Ser3-octanoylated), gp130 (soluble), GIP (1–42), GIP (3–42), GLP-1 (7–36), GLP-1 (9–36), Glucagon, GM-CSF, Granzyme A, Granzyme B, GRO-α, HAVCR2/TIM-3, HVEM/TNFRSF14, ICOS, ICOS-L/B7-H2, 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-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, Insulin, IP-10, LAG3, Leptin, LH, LIGHT/TNFSF14, MCP-1, MCP-2, MCP-4, M-CSF, MDC, MIF, MIG, MIP-1α, MIP-1β, MIP-5, MMP-1, MMP-2, MMP-7, MMP-9 (total), Nectin-4, OX40/TNFRSF4, PD1, PD-L1, PD-L2, Pentraxin 3, Perforin, PIGF, PP, Proinsulin, proMMP-9, P-Selectin, PYY (3–36), RAGE (soluble), RANKL/TNFSF11, RANTES, S100A12, SDF-1α, Tie-2, TIGIT, TLR1, TNF-α, TNF-β, TNF-RI, TNF-RII, TPO, TRAIL, TSLP, VEGF-A, VEGF-D, VEGFR-1/Flt-1, YKL-40, and β-NGF). Nonspecific binding was less than 2.0%.

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

Diluent Compatibility

Diluents 57 and 3 are provided with this assay. 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: G-CSF is included in Calibrator 3. The G-CSF Calibrator is a full-length recombinant protein expressed in *E. coli.*
Antibodies: The U-PLEX Human G-CSF Assay uses a mouse monoclonal antibody for capture and a mouse monoclonal antibody for detection.
Assay generation: A

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