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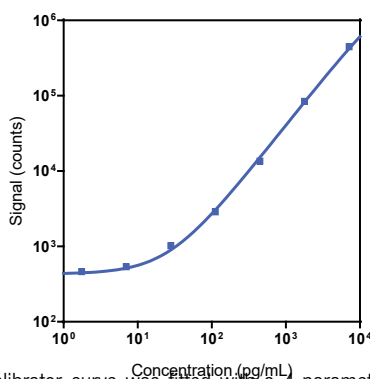
Company Address

MESO SCALE DISCOVERY®
 A division of
 Meso Scale Diagnostics, LLC.
 1601 Research Boulevard
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Product Options	Catalog Number	Description
Multiplex	K151ACM, K251ACM	U-PLEX Metabolic Group 1 (human)
	K1516KK-1/-2/-4	U-PLEX Human Ghrelin (active) Assay with SECTOR™ plates
Singleplex	K1516KK-21	U-PLEX Human Ghrelin (active) Assay with QuickPlex® APT plates
	K2516KK-2/-4	U-PLEX Human Ghrelin (active) Assay with 384-well plates
Antibody Set	B216K-2/-3	U-PLEX Human Ghrelin (active) Antibody Set
Protocol	U-PLEX Product Inserts are available at www.mesoscale.com	

flexibility for detection of biomarkers in a wide variety of sample types. This datasheet provides the representative performance of the U-PLEX Human Ghrelin (active) Assay tested on U-PLEX 96-well SECTOR 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)
Ghrelin (active)	13	12-29

The Calibrator curve was fitted with a 4-parameter logistic model with a 1/Y² weighting. The lower limit of detection (LLOD) is a calculated concentration corresponding to 2.5X the standard deviations above the background (zero Calibrator).

Precision

Control	Average Conc. (pg/mL)	Average Intra-run Conc. (%CV)	Inter-run Conc. (%CV)
High	5,200	3.0	12.5
Mid	1,980	2.6	13.7
Low	773	3.6	17.2

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.

Note: It is recommended that HALT protease inhibitor Cocktail, EDTA-Free (Thermo Fisher Scientific, cat. No. 87785) be included in this assay according to the manufacturers instructions. The effect of HALT has not been tested with all Immuno-Oncology Group 1 assays.

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

The U-PLEX® platform was designed to provide ultimate

MSD® U-PLEX Human Ghrelin (active)

Tested Samples

Sample Type	Serum (N=12)	EDTA Plasma (N=12)	P800 Plasma (N=8)
Median (pg/mL)	NA	11	23
Range (pg/mL)	NA	ND-11	8.2-36
% Detected	0	8	100

Normal serum, EDTA plasma, and P800 plasma samples were diluted 4-fold prior to the assay. ND = non-detectable (<LLOD); NA = not applicable due to 0% detected

Dilution Linearity

Serum			EDTA Plasma			P800 Plasma			Cell Culture Media		
Fold Dilution	Average % Recovery	% Recovery Range	Fold Dilution	Average % Recovery	% Recovery Range	Fold Dilution	Average % Recovery	% Recovery Range	Fold Dilution	Average % Recovery	% Recovery Range
2	113	105-121	2	109	106-113	2	111	108-112	2	111	85-129
8	95	90-101	8	97	95-98	8	96	95-98	8	96	86-109
16	98	84-109	16	99	97-100	16	101	98-105	16	103	84-121

Normal human serum, EDTA plasma, P800 plasma, and cell culture media were spiked with Calibrator and tested at different dilutions. Percent recovery at each dilution level was normalized to the dilution-adjusted, 4-fold concentration. Samples may benefit from additional dilution with assay diluent to reduce matrix effects.

$$\% \text{ Recovery} = (\text{measured concentration} / \text{expected concentration}) \times 100$$

Spike Recovery

Spike Level	Serum		EDTA Plasma		P800 Plasma		Cell Culture Media	
	Average % Recovery	% Recovery Range	Average % Recovery	% Recovery Range	Average % Recovery	% Recovery Range	Average % Recovery	% Recovery Range
High	96	89-105	98	90-102	104	97-109	101	76-117
Mid	98	90-103	101	97-105	106	101-115	104	80-124
Low	101	91-108	100	92-107	108	104-118	103	79-121

Normal serum, EDTA plasma, P800 plasma, and cell culture media were spiked with Calibrator at 3 levels. Spiked samples were diluted 4-fold to determine the expected concentration of the analyte. Samples may benefit from additional dilution with assay diluent to reduce matrix effects.

$$\% \text{ Recovery} = (\text{measured concentration} / \text{expected concentration}) \times 100$$

Specificity

To assess specificity, the Ghrelin (active) Antibody Set was tested individually against a larger panel of analytes for nonspecific binding (BAFF, BDNF, C-Peptide, CTACK, Desghrelin, ENA-78, Eotaxin, Eotaxin-2, Eotaxin-3, EPO, FGF-21, FGF-23, FLT3L, Fractalkine, FSH, G-CSF, Ghrelin (Ser3-octanoylated), GIP (1-42), GIP (3-42), GLP-1 (7-36), GLP-1 (9-36), GM-CSF, GRO- α , I-309, IFN- α 2a, IFN- β , IFN- γ , IL-1 α , IL-1 β , IL-1RA, IL-2, IL-2R α , 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- λ 1, IL-31, IL-33, Insulin, IP-10, I-TAC, Leptin, LH, MCP-1, MCP-2, MCP-4, M-CSF, MDC, MIF, MIP-1 α , MIP-1 β , MIP-5, PIGF, PP, Proinsulin, PYY (3-36), SDF-1 α , TNF- α , TNF- β , TPO, TRAIL, TSLP, VEGF-A, YKL-40, and β -NGF). Nonspecific binding was less than 2.0%.

$$\% \text{ Nonspecificity} = (\text{nonspecific signal} / \text{specific signal}) \times 100$$

Desghrelin (Calibrator for Ghrelin [total]) cross-reacts (5%) with the Ghrelin (active) assay. We do not recommend multiplexing the Ghrelin (total) and Ghrelin (active) assays on the same plate.

Diluent Compatibility

The data included in this document were collected with Assay Diluent 13 (supplemented with 1,000 KIU/mL Aprotinin [provided] and 100 μ M diprotin A [not provided]) and Antibody Diluent 11. MSD offers a range of assay and antibody diluents for separate purchase. Depending on your assay needs, other diluents may be tested. Diprotin A should be purchased separately.

Assay Components

Calibrator: Ghrelin (active) is included in Ghrelin (active) Calibrator. The human Ghrelin (active) Calibrator is a synthetic peptide.

Antibodies: The U-PLEX Human Ghrelin (active) Assay uses a mouse monoclonal antibody for capture and a rabbit polyclonal 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.

