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### Ordering Information

MSD Customer Service  
 Phone: 1-240-314-2795  
 Fax: 1-301-990-2776  
 Email: [CustomerService@mesoscale.com](mailto:CustomerService@mesoscale.com)

### Scientific Support

Phone: 1-240-314-2798  
 Email: [ScientificSupport@mesoscale.com](mailto:ScientificSupport@mesoscale.com)

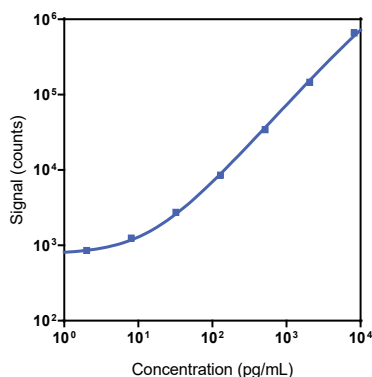
### Company Address

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

Product Options	Catalog Number	Description
Multiplex	K151ACM, K251ACM	U-PLEX Metabolic Group 1 (human)
	K1515WK-1/-2/-4	U-PLEX Human FGF-21 Assay with SECTOR™ plates
	K1515WK-21/-22/-24	U-PLEX Human FGF-21 Assay with QuickPlex® plates
Singleplex	K2515WK-2/-4	U-PLEX Human FGF-21 Assay with 384-well plates
	B215W-2/-3	U-PLEX Human FGF-21 Antibody Set
Antibody Set	B215W-2/-3	U-PLEX Human FGF-21 Antibody Set
Protocol	U-PLEX Product Inserts are available at <a href="http://www.mesoscale.com">www.mesoscale.com</a>	

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 FGF-21 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)
FGF-21	2.8	2.0-3.0

The Calibrator curve was fitted with a 4-parameter logistic model with a 1/Y<sup>2</sup> 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	4,180	2.5	8.7
Mid	846	3.6	105
Low	202	4.3	12.1

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.

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

# MSD® U-PLEX Human FGF-21

## Tested Samples

Sample Type	Serum (N=12)	EDTA Plasma (N=12)	P800 Plasma (N=8)
Median (pg/mL)	137	113	124
Range (pg/mL)	ND-268	35-470	24-443
% Detected	92	100	100

Normal serum, EDTA plasma, and P800 plasma samples were diluted 4-fold prior to the assay. ND = non-detectable (<LLOD)

## 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	100	90-108	2	104	96-113	2	84	78-89	2	101	97-104
8	105	100-114	8	98	93-102	8	116	113-119	8	102	97-105
16	108	98-125	16	98	90-104	16	127	119-132	16	107	96-115

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.

% Recovery = (measured concentration / expected concentration) x 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	91	79-100	97	89-102	76	71-80	98	90-103
Mid	90	78-100	97	88-102	79	74-86	95	89-99
Low	92	82-99	99	95-103	81	77-86	97	90-102

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.

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

## Specificity

To assess specificity, the FGF-21 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- $\alpha$ , I-309, IFN- $\alpha$ 2a, IFN- $\beta$ , IFN- $\gamma$ , IL-1 $\alpha$ , IL-1 $\beta$ , IL-1RA, IL-2, IL-2R $\alpha$ , 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- $\lambda$ 1, IL-31, IL-33, Insulin, IP-10, I-TAC, Leptin, LH, MCP-1, MCP-2, MCP-4, M-CSF, MDC, MIF, MIP-1 $\alpha$ , MIP-1 $\beta$ , MIP-5, PIGF, PP, Proinsulin, PYY (3-36), SDF-1 $\alpha$ , TNF- $\alpha$ , TNF- $\beta$ , TPO, TRAIL, TSLP, VEGF-A, YKL-40, and  $\beta$ -NGF). Nonspecific binding was less than 2.0%.

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

## Diluent Compatibility

The data included in this document were collected with Assay Diluent 13 (supplemented with 1,000 KIU/mL Aprotinin [provided] and 100  $\mu$ 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:** FGF-21 is included in Calibrator 13. The human FGF-21 Calibrator is a full-length recombinant protein expressed in *E. coli*.

**Antibodies:** The U-PLEX Human FGF-21 Assay uses a goat monoclonal antibody for capture and a goat 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.

