U-PLEX®

Mouse Glucagon

Product Options	Catalog Number	Description
Multiplex	K152ACM, K252ACM	U-PLEX Metabolic Group 1 (mouse) Assay
Singleplex	K1525YK-1/-2/-4	U-PLEX Mouse Glucagon Assay with SECTOR™ plates
	K1525YK-21	U-PLEX Mouse Glucagon Assay with QuickPlex® APT plates
	K225Y5K-2/-4	U-PLEX Mouse Glucagon Assay with 384-well plates
Antibody Set	B215Y-2/-3	U-PLEX Glucagon Antibody Set
Protocol	U-PLEX Product Inserts are available at 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 Mouse Glucagon 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
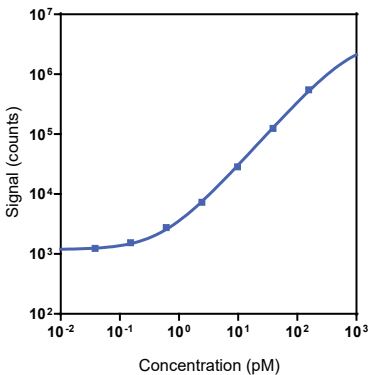
Assay	Median LLOD (pM)	LLOD Range (pM)
Glucagon	0.13	0.12-0.21

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 2.5X the standard deviation above the background (zero Calibrator).

Precision

Control	Average Conc. (pM)	Average Intra-run Conc. (%CV)	Inter-run Conc. (%CV)
High	56	4.5	11.9
Mid	12	4.0	13.4
Low	2.5	11.5	17.1

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.

Spot the Difference®

MSD® U-PLEX Mouse Glucagon

Tested Samples

Sample Type	Serum (N=10)	EDTA Plasma (N=10)	P800 Plasma (N=9)
Median (pM)	12.4	9.35	30.8
Range (pM)	7.81–23.4	7.23–17.2	26.5–41.7
% Detected	100	100	100

Normal serum, EDTA plasma, and P800 plasma samples were diluted 4-fold prior to the assay.

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	103	94–111	2	106	103–109	2	109	105–116	2	113	108–116
8	101	99–104	8	99	96–101	8	96	91–99	8	89	58–98
16	105	102–111	16	100	94–106	16	95	86–103	16	97	92–102

Normal mouse 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

	Serum		EDTA Plasma		P800 Plasma		Cell Culture Media	
Spike Level	Average % Recovery	% Recovery Range	Average % Recovery	% Recovery Range	Average % Recovery	% Recovery Range	Average % Recovery	% Recovery Range
High	81	75–84	101	97–106	94	91–100	102	98–106
Mid	83	79–89	101	98–104	97	94–100	100	97–103
Low	86	81–93	100	97–104	100	95–103	103	98–107

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 Glucagon Antibody Set was tested individually against a larger panel of analytes for nonspecific binding (BAFF, BDNF, BCA-1/BLC, CD40, C-Peptide, Desghrelin, Eotaxin, EPO, FGF-21, Ghrelin (octanoylSer3), GLP-1 (7-36), GLP-1 (9-36), Glucagon, GM-CSF, IFN-α, IFN-β, IFN-γ, IL-1β, IL-2, IL-4, IL-5, IL-6, IL-9, IL-10, IL-12/IL-23p40, IL-12p70, IL-13, IL-15, IL-16, IL-17A, IL-17C, IL-17E/IL-25, IL-17F, IL-17A/F, IL-21, IL-22, IL-23, IL-27p28/IL-30, IL-31, IL-33, IP-10, Insulin, KC/GRO, Leptin, MCP-1, MCP-5, MDC, MIP-1α, MIP-1β, MIP-2, MIP-3α, MMP-9 (total), PYY (3-36), RANTES, TARC, TNF-α, VEGF-A). Nonspecific binding was less than 0.5%.

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

Diluent Compatibility

The data included in this document were collected with Assay Diluent 13 (supplemented with 1,000 KIU/mL Aprotinin [provided] and 100 μM 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: Glucagon is included in Calibrator 19. The Glucagon Calibrator is a full length recombinant protein expressed in *E. coli*.
Antibodies: The U-PLEX Mouse Glucagon 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.