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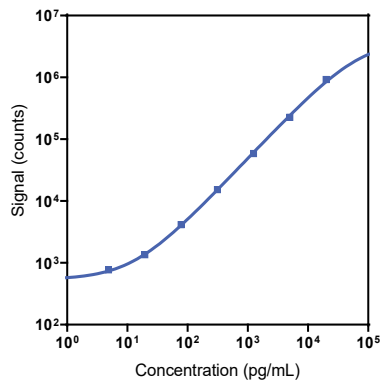
Company Address

MESO SCALE DISCOVERY®
 A division of
 Meso Scale Diagnostics, LLC.
 1601 Research Boulevard
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Product Options	Catalog Number	Description
Multiplex	K151AEM, K251AEM	U-PLEX Immuno-Oncology Group 1 (human)
Singleplex	K151AHGK-1/-2/-4	U-PLEX Human Perforin Assay with SECTOR™ plates
	K151AHGK-21	U-PLEX Human Perforin Assay with QuickPlex® APT plates
	K251AHGK-2/-4	U-PLEX Human Perforin Assay with 384-well plates
Antibody Set	B21AHG-2/-3	U-PLEX Human Perforin Antibody Set
Protocol	U-PLEX Product Inserts are available at www.mesoscale.com .	

The U-PLEX® platform was designed to provide ultimate flexibility for the detection of biomarkers in a wide variety of sample types. This datasheet provides the representative performance of the U-PLEX Human Perforin Assay tested on U-PLEX 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)
Perforin	1.92	1.23–2.99

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	2,140	2.6	3.9
Mid	626	2.5	6.2
Low	161	2.4	9.4

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.

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

MSD® U-PLEX Human Perforin

Tested Samples

Sample Type	Serum (N = 9)	EDTA Plasma (N = 9)	Citrate Plasma (N = 9)	Normal Lysate (N = 5)	Tumor Lysate (N = 5)
Median (pg/mL)	6,760	8,640	6,220	46	449
Range (pg/mL)	3,060–18,400	4,410–15,200	2,900–13,100	ND–46	ND–1,930
% Detected	100	100	100	20	80

Normal serum and plasma samples were diluted 4-fold prior to the assay. Lysates were tested at a protein concentration of 0.5 mg/mL. ND = non-detectable (<LLOD).

Dilution Linearity

Serum			EDTA Plasma		
Fold Dilution	Average % Recovery	% Recovery Range	Fold Dilution	Average % Recovery	% Recovery Range
2	80	69–85	2	80	73–85
8	117	112–143	8	117	108–142
16	140	124–194	16	123	108–170

Samples were spiked with calibrator and serially diluted. Percent recovery at each dilution 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	
	Average % Recovery	% Recovery Range	Average % Recovery	% Recovery Range
High	81	57–88	81	63–99
Mid	88	69–94	92	74–113
Low	93	77–98	92	76–105

Samples were spiked with calibrator at three levels within the range of the assay. Percent recovery was calculated as % Recovery = (measured concentration / (spike + endogenous concentrations)) X 100.

Specificity

The Perforin Antibody Set was tested for nonspecific binding against all of the analytes in the Immuno-Oncology Group 1 and the majority of analytes in Biomarker Group 1. Any cross-reactivity greater than 2.0% is noted below. The U-PLEX Assay Designer shows all of the compatible assays.

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

Diluent Compatibility

Diluents 58 and 3 are provided when this is ordered in singleplex and multiplex assays.

Assay Components

Calibrator: Perforin is included in Calibrator 28. The human Perforin Calibrator is a full-length recombinant protein expressed in a human cell line.

Antibodies: The U-PLEX Human Perforin 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.

