

U-PLEX[®] NHP MIP-1 α Assay



www.mesoscale.com[®]

Ordering Information

MSD[®] Customer Service
Phone: 1-301-947-2085
Fax: 1-301-990-2776
Email: CustomerService@mesoscale.com

Scientific Support

Phone: 1-301-947-2025
Email: ScientificSupport@mesoscale.com

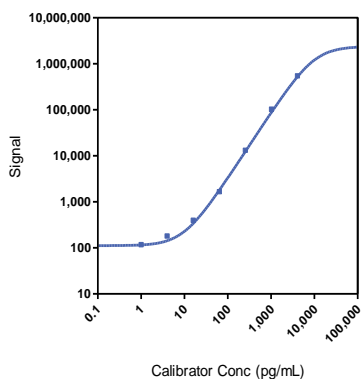
Company Address

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

	Available as part of U-PLEX Biomarker Group 1 (NHP) multiplex combination: K15068L-1/-2/-4
Product Options	Individual assay: K156UJK-1/-2/-4; Antibody Set: B26UJ-2/B26UJ-3 For more ordering options, please visit www.mesoscale.com
Instrument Compatibility	SECTOR [®] Imager 2400, SECTOR Imager 6000, MESO [®] SECTOR S 600, MESO QuickPlex [®] SQ 120
Sample Type	NHP (Cynomolgus monkey and Rhesus monkey) serum, EDTA plasma, and cell culture supernatants
Assay Protocol	Refer to the U-PLEX Biomarker Group 1 (NHP) product insert 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 NHP MIP-1 α Assay tested on U-PLEX plates run as a multiplex. The data were generated during the development of the assay and do not represent the product specifications. Under your experimental conditions and with your specific multiplex, the assay may perform differently than the representative data shown. U-PLEX assays are available in multiplex format with other compatible assays. The same assay can also be used to detect a single analyte on MSD GOLD[™] Small Spot Streptavidin plates.

Representative Calibration Curve and Sensitivity



Assay	Median LLOD (pg/mL)	LLOD Range (pg/mL)
MIP-1α	7.7	4.9-11

The calibration curves used to calculate analyte concentrations were established by fitting the signals from the Calibrators using a 4-parameter logistic (or sigmoidal dose-response) model with a $1/Y^2$ weighting. Analyte concentrations were determined from the electrochemiluminescence signals by back-fitting to the calibration curve. The limit of detection (LLOD) is a calculated concentration corresponding to the signal 2.5 standard deviations above the background (zero Calibrator).

Precision

	Control	Average Conc. (pg/mL)	Average Intra-run Conc. %CV	Inter-run Conc. %CV
MIP-1α	High	1,602	2.4	7.8
	Mid	148	2.7	8.9
	Low	18	7.4	13.1

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

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.

MSD® U-PLEX Assays

Spike Recovery

	Spike Level	Serum		Plasma		Cell Culture Media	
		Average % Recovery	% Recovery Range	Average % Recovery	% Recovery Range	Average % Recovery	% Recovery Range
Cynomolgus Monkey	High	138	125-148	170	145-189	138	126-155
	Mid	119	107-134	147	139-154	149	135-169
	Low	105	97-119	138	119-157	130	112-145
Rhesus Monkey	High	152	147-160	158	128-172	138	126-155
	Mid	130	125-134	132	108-147	149	135-169
	Low	115	107-122	119	99-136	130	112-145

Normal serum, EDTA plasma, and cell culture media were spiked with Calibrators at 3 levels. Undiluted samples were tested to determine the expected concentration of the analyte. Samples may require additional dilution with assay diluent to reduce matrix effects.

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

Tested Samples

	Sample Type	Serum	Plasma	Spiked Serum	Spiked Plasma
Cynomolgus Monkey	Median (pg/mL)	68	11	2,379	2,736
	Range (pg/mL)	32-127	ND-22	ND-46,758	ND-94,264
	% Detected	100	90	80	80
Rhesus Monkey	Median (pg/mL)	52	17	1,115	967
	Range (pg/mL)	29-93	8.7-19	ND-9,437	ND-5,272
	% Detected	100	100	60	60

ND = non-detectable (< LLOD)

Normal serum and EDTA plasma samples were tested without dilution prior to the assay. Spiked serum and spiked plasma represent samples that were spiked with Calibrator and/or cell culture supernatants derived from cells (PBMCs and THP-1) stimulated with different compounds in vitro.

Dilution Linearity

	Serum			Plasma			Cell Culture Media		
	Fold Dilution	Average % Recovery	% Recovery Range	Fold Dilution	Average % Recovery	% Recovery Range	Fold Dilution	Average % Recovery	% Recovery Range
Cynomolgus Monkey	2	80	79-81	2	80	76-82	2	83	78-87
	4	73	72-76	4	72	71-73	4	72	68-78
	8	72	69-77	8	72	70-73	8	68	65-71
Rhesus Monkey	2	86	83-91	2	78	72-88	2	83	78-87
	4	81	76-86	4	72	66-83	4	72	68-78
	8	77	72-82	8	69	63-82	8	68	65-71

Normal serum, EDTA plasma, and cell culture media were spiked with recombinant Calibrator and tested at different dilutions. Undiluted samples were tested to determine the expected concentration of the analyte. Samples may require additional dilution with assay diluent to reduce matrix effects.

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

MSD U-PLEX Assays

Specificity

To assess specificity, MIP-1 α Antibody Set was tested individually against a larger panel of recombinant nhp analytes for nonspecific binding (CTACK, ENA-78, Eotaxin, Eotaxin-3, Fractalkine, G-CSF, GM-CSF, IFN- α 2a, IFN- γ , IL-1 α , IL-1 β , IL-2, IL-4, IL-5, IL-6, IL-7, IL-8, IL-10, IL-12/IL-23p40, IL-12p70, IL-13, IL-15, IL-16, IL-17A, IL-18, IP-10, I-TAC, MCP-1, MCP-4, MDC, MIP-1 α , MIP-1 β , MIP-3 α , MIP-3 β , SDF-1 α , TARC, TNF- α , TNF- β , TPO, and VEGF-A). Nonspecific binding was less than 0.5%.

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

Diluent Compatibility

The data included in this document has been collected using Diluents 3 and 43. 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: NHP MIP-1 α is included in Calibrator 2 blend. The full-length recombinant protein expressed in *E. coli* is used.

Antibodies: The U-PLEX NHP MIP-1 α Assay uses mouse monoclonal antibody for capture and mouse monoclonal antibody for detection.

Assay generation: B

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

MESO SCALE DISCOVERY, MESO SCALE DIAGNOSTICS, MSD, MSD GOLD, DISCOVERY WORKBENCH, MULTI-ARRAY, MULTI-SPOT, QUICKPLEX, SECTOR, SECTOR PR, SECTOR HTS, SULFO-TAG, U-PLEX, S-PLEX, V PLEX, STREPTAVIDIN GOLD, MESO, www.mesoscale.com, SMALL SPOT (design), 96 WELL 1, 4, 7, & 10-SPOT (designs), 384 WELL 1 & 4-SPOT (designs), MSD (design), U-PLEX (design), S-PLEX (design), V-PLEX (design), and SPOT THE DIFFERENCE are trademarks and/or service marks of Meso Scale Diagnostics, LLC.

©2015 Meso Scale Diagnostics, LLC. All rights reserved.

