



[www.mesoscale.com](http://www.mesoscale.com)

## Ordering Information

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

## Scientific Support

Phone: 1-301-947-2025  
Email: [ScientificSupport@mesoscale.com](mailto:ScientificSupport@mesoscale.com)

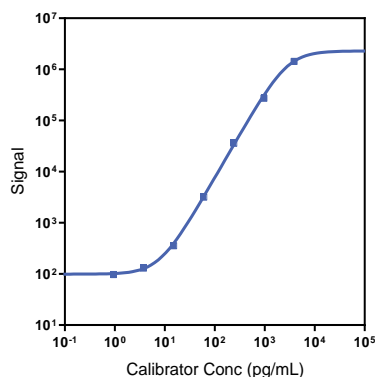
## Company Address

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

Product Options	Catalog Number	Description
Multiplex	K15068M, K25068M	U-PLEX Biomarker Group 1 (NHP)
	K156UHK-1/-2/-4	U-PLEX NHP MCP-4 Assay with SECTOR™ plates
Singleplex	K156UHK-21/-22/-24	U-PLEX NHP MCP-4 Assay with QuickPlex® plates
	K256UHK-2/-4	U-PLEX NHP MCP-4 Assay with 384-well plates
Antibody Set	B21UH-2/-3	U-PLEX Human MCP-4 Antibody Set
Assay 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 NHP MCP-4 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 in 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)
MCP-4	3.71	2.49-5.55

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

## Precision

	Control	Average Conc. (pg/mL)	Average Intra-run Conc. %CV	Inter-run Conc. %CV
MCP-4	High	701	3.4	7.1
	Mid	80.6	3.3	9.9
	Low	N/A	N/A	N/A

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. NA = not applicable due to 0% detected

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

# MSD® U-PLEX NHP MCP-4

## Spike Recovery

	Spike Level	Serum (N=5)		Plasma (N=5)		Cell Culture Media (N=5)	
		Average % Recovery	% Recovery Range	Average % Recovery	% Recovery Range	Average % Recovery	% Recovery Range
Cynomolgus Monkey	High	82.5	73-88	72.2	53-85	79	75-87
	Mid	78.3	69-89	72.3	56-85	82	72-97
	Low	74	68-81	73.7	58-82	74	61-87
Rhesus Monkey	High	89.9	75-99	88.7	63-99	79	75-87
	Mid	86.8	69-97	87.8	56-99	82	72-97
	Low	81	63-92	84.2	49-103	74	61-87

Normal serum, EDTA plasma, and cell culture media were spiked with Calibrator at 3 levels. Undiluted samples were tested 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

## Tested Samples

	Sample Type	Serum (N=10)	Plasma (N=10)	Spiked Serum (N=5)
Cynomolgus Monkey	Median (pg/mL)	15.9	5.1	9.53
	Range (pg/mL)	4.10-51.9	ND-10.2	ND-9.86
	% Detected	100	80	80
Rhesus Monkey	Median (pg/mL)	12.9	6.65	18.4
	Range (pg/mL)	5.80-53.3	ND-67.6	ND-18.4
	% Detected	100	80	20

Normal serum and plasma samples were tested without dilution prior to the assay. ND = not detected (<LLOD)

## Dilution Linearity

	Serum (N=5)			Plasma (N=5)			Cell Culture Media (N=5)		
	Fold Dilution	Average % Recovery	% Recovery Range	Fold Dilution	Average % Recovery	% Recovery Range	Fold Dilution	Average % Recovery	% Recovery Range
Cynomolgus Monkey	2	117	112-122	2	142	138-154	2	129	124-131
	4	127	118-133	4	159	148-183	4	139	133-142
	8	125	115-134	8	163	148-191	8	133	128-136
Rhesus Monkey	2	121	117-127	2	113	103-121	2	129	124-131
	4	129	123-140	4	122	108-154	4	139	133-142
	8	125	112-150	8	118	105-153	8	133	128-136

Normal serum, EDTA plasma, and cell culture media were spiked with Calibrator and tested at different dilutions. Undiluted samples were tested 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

# MSD U-PLEX NHP MCP-4

## Specificity

To assess specificity, the MCP-4 Antibody Set was tested individually against a larger panel of recombinant human analytes for nonspecific binding (CTACK, Eotaxin, Eotaxin-2, Eotaxin-3, ENA-78, FLT3L, Fractalkine, G-CSF, GM-CSF, GRO- $\alpha$ , I-309, IFN- $\alpha$ 2a, IFN- $\gamma$ , IL-1 $\alpha$ , IL-1 $\beta$ , IL-1RA, IL-2, 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-17AF, IL-17B, IL-17C, IL-17D, IL-17F, IL-18, IL-22, IL-23, IP-10, I-TAC, MCP-1, MCP-2, MCP-3, MCP-4, M-CSF, MDC, MIF, MIP-1 $\alpha$ , MIP-1 $\beta$ , MIP-3 $\alpha$ , MIP-3 $\beta$ , MIP-5, SDF-1 $\alpha$ , TARC, TNF- $\alpha$ , TNF- $\beta$ , TPO, TRAIL, VEGF-A, and YKL-40). Nonspecific binding was less than 0.5%.

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

## Diluent Compatibility

Diluents 57 and 3 are provided with this assay. 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:** MCP-4 is included in Calibrator 2. The full-length recombinant protein is expressed in *E. coli*.

**Antibodies:** The U-PLEX NHP MCP-4 Assay uses a mouse monoclonal antibody for capture and a 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.

