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## Ordering Information

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## Scientific Support

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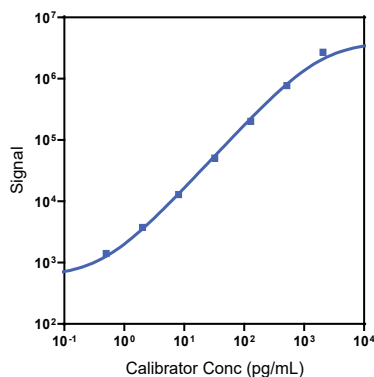
## Company Address

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)
Singleplex	K156TWK-1/-2/-4	U-PLEX NHP IL-4 Assay with SECTOR™ plates
	K156TWK-21/-22/-24	U-PLEX NHP IL-4 Assay with QuickPlex Ultra™ plates
	K256TWK-2/-4	U-PLEX NHP IL-4 Assay with 384-well plates
Antibody Set	B26TW-2/-3	U-PLEX NHP IL-4 Antibody Set
Assay Protocol	U-PLEX Product Inserts are available at <a href="http://www.mesoscale.com">www.mesoscale.com</a>	

The MESO SCALE DISCOVERY® 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 IL-4 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 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)
IL-4	0.06	0.03-0.11

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 deviations above the background (zero Calibrator).

## Precision

	Control	Average Conc. (pg/mL)	Average Intra-run Conc. %CV	Inter-run Conc. %CV
IL-4	High	772	4.1	9.5
	Mid	85	5.8	14.0
	Low	8.7	5.9	16.4

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.

## 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	90	76-100	83	76-91	99	88-107
	Mid	103	98-104	90	87-95	97	88-109
	Low	108	100-112	91	87-95	102	97-109
Rhesus Monkey	High	72	60-87	92	80-103	—	—
	Mid	78	51-88	93	86-99	—	—
	Low	91	61-122	97	87-109	—	—

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. Dash (—) = not available

$$\% \text{ Recovery} = (\text{measured concentration} / \text{expected concentration}) \times 100$$

## Tested Samples

	Sample Type	Serum (N=8)	Plasma (N=8)	Cell Culture Media (N=8)
Cynomolgus Monkey	Median (pg/mL)	NA	NA	53
	Range (pg/mL)	NA	NA	ND-488
	% Detected	0	0	63
Rhesus Monkey	Median (pg/mL)	NA	NA	7.0
	Range (pg/mL)	NA	NA	ND-211
	% Detected	0	0	63

Normal serum and plasma samples were diluted 2-fold prior to the assay. ND = not detectable (<LLOD); NA = not applicable due to 0% detected

## Dilution Linearity

	Serum (N=4)			Plasma (N=4)			Cell Culture Media (N=4)		
	Fold Dilution	Average % Recovery	% Recovery Range	Fold Dilution	Average % Recovery	% Recovery Range	Fold Dilution	Average % Recovery	% Recovery Range
Cynomolgus Monkey	2	105	88-120	2	102	88-121	2	113	103-123
	4	126	120-132	4	125	118-132	4	128	110-170
	8	132	119-142	8	128	120-134	8	138	115-181
Rhesus Monkey	2	123	111-147	2	112	101-122	2	—	—
	4	139	122-172	4	114	100-129	4	—	—
	8	146	127-192	8	123	113-137	8	—	—

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. dash = not available

$$\% \text{ Recovery} = (\text{measured concentration} / \text{expected concentration}) \times 100$$

# MSD U-PLEX NHP IL-4

## Specificity

To assess specificity, the IL-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%.

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

## 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:** IL-4 is included in Calibrator 1. The full-length recombinant protein is expressed in *E. coli*.

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

**Assay generation:** A

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

