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## Ordering Information

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## Scientific Support

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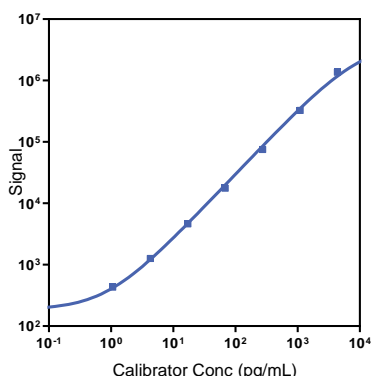
## Company Address

MESO SCALE DISCOVERY®  
A division of  
Meso Scale Diagnostics, LLC.  
1601 Research Boulevard  
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Product Options	Catalog Number	Description
<b>Multiplex</b>	K15068M, K25068M	U-PLEX Biomarker Group 1 (NHP)
<b>Singleplex</b>	K156UUK-1/-2/-4	U-PLEX NHP TNF- $\beta$ Assay with SECTOR™ plates
	K156UUK-21/-22/-24	U-PLEX NHP TNF- $\beta$ Assay with QuickPlex® plates
	K256UUK-2/-4	U-PLEX NHP TNF- $\beta$ Assay with 384-well plates
<b>Antibody Set</b>	B21UU-2/-3	U-PLEX Human TNF- $\beta$ Antibody Set
<b>Assay Protocol</b>	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 TNF- $\beta$  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)
TNF- $\beta$	0.19	0.10-0.35

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
TNF- $\beta$	High	1,840	4.0	5.3
	Mid	184	3.8	8.5
	Low	20.0	3.5	11.0

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 NHP TNF-β

## 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	63.1	50-77	77.2	70-82	135	127-142
	Mid	61.7	47-74	75.7	68-80	128	121-134
	Low	62.4	48-73	73.1	65-78	114	107-121
Rhesus Monkey	High	57	38-98	45	38-55	135	127-142
	Mid	59	37-101	44	36-49	128	121-134
	Low	63	40-105	45	31-55	114	107-121

Normal serum, EDTA plasma, and cell culture media were spiked with Calibrator at 3 levels. Spiked samples were tested without dilution 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)	ND	ND	22.7
	Range (pg/mL)	ND-0.22	ND-0.22	16.2-36.1
	% Detected	20	10	100
Rhesus Monkey	Median (pg/mL)	ND	ND	25
	Range (pg/mL)	ND-0.40	ND-0.20	16.4-46.0
	% Detected	10	10	100

Normal serum, EDTA plasma, and cell culture media were tested without dilution prior to the assay. ND = not detectable (<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	133	122-143	2	110	105-114	2	91	88-96
	4	154	129-173	4	114	108-122	4	82	78-87
	8	165	132-196	8	113	104-124	8	74	67-83
Rhesus Monkey	2	138	102-156	2	145	134-151	2	91	88-96
	4	167	103-208	4	178	151-201	4	82	78-87
	8	185	103-239	8	198	164-235	8	74	67-83

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 TNF- $\beta$

## Specificity

To assess specificity, the TNF- $\beta$  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-17A/F, 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:** TNF- $\beta$  is included in Calibrator 3. The full-length recombinant protein is expressed in *E. coli*.

**Antibodies:** The U-PLEX NHP TNF- $\beta$  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 than the representative data shown.

