

U-PLEX[®] NHP CTACK Assay



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Ordering Information

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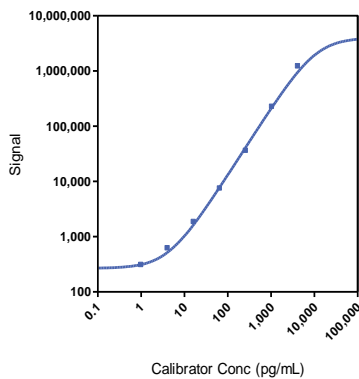
Company Address

MESO SCALE DISCOVERY[®]
A division of
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1601 Research Boulevard
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	Available as part of U-PLEX Biomarker Group 1 (NHP) multiplex combination: K15068L-1/-2/-4
Product Options	Individual assay: K156VDK-1/-2/-4; Antibody Set: B26VD-2/B26VD-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 CTACK 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)
CTACK	1.8	1.0-2.3

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
CTACK	High	1,706	5.5	9.3
	Mid	185	3.9	10.5
	Low	18	6.4	14.7

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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.

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Spike Recovery

	Spike Level	Serum		Plasma		Cell Culture Media	
		Average % Recovery	% Recovery Range	Average % Recovery	% Recovery Range	Average % Recovery	% Recovery Range
Cynomolgus Monkey	High	81	73-87	90	84-99	112	92-125
	Mid	95	91-100	96	89-101	113	89-129
	Low	105	99-111	99	98-99	116	95-128
Rhesus Monkey	High	95	89-100	95	86-108	112	92-125
	Mid	100	97-102	100	95-103	113	89-129
	Low	99	97-102	100	98-101	116	95-128

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)	1,713	2,349	1,500	1,458
	Range (pg/mL)	ND-3,046	ND-3,631	1,441-1,567	1,430-1,500
	% Detected	90	90	100	100
Rhesus Monkey	Median (pg/mL)	1,594	1,375	1,502	1,233
	Range (pg/mL)	709-2,177	735-2,713	1,213-1,547	1,078-1,350
	% Detected	100	100	100	100

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	100	95-105	2	99	95-101	2	105	98-120
	4	100	92-106	4	96	91-103	4	97	88-114
	8	103	91-113	8	97	93-103	8	101	86-117
Rhesus Monkey	2	103	99-105	2	116	102-131	2	105	98-120
	4	102	100-105	4	121	98-146	4	97	88-114
	8	102	96-106	8	129	97-166	8	101	86-117

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

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Specificity

To assess specificity, CTACK 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 CTACK is included in Calibrator 4 blend. The full-length recombinant protein expressed in *E. coli* is used.

Antibodies: The U-PLEX NHP CTACK Assay uses mouse monoclonal antibody for capture and goat polyclonal 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.

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