

MSD[®] Human IL-18 Kit

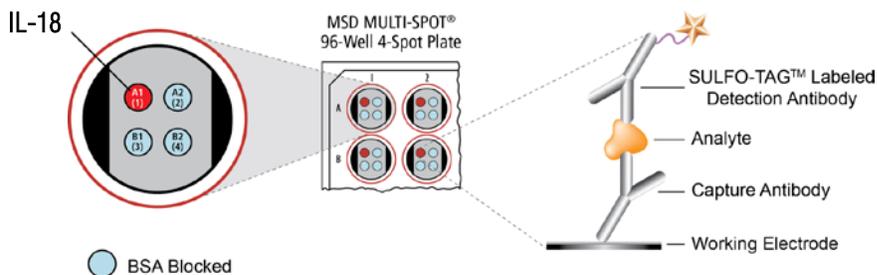
For quantitative determination in human serum, plasma, and tissue culture supernatants



Alzheimer's Disease
BioProcess
Cardiac
Cell Signaling
Clinical Immunology
Cytokines
Growth Factors
Hypoxia
Immunogenicity
Inflammation
Metabolic
Oncology
Toxicology
Vascular

Catalog Numbers

Human IL-18 Kit	
Kit size	
1 plate	K151MCD-1
5 plates	K151MCD-2
25 plates	K151MCD-4



Interleukin-18 (IL-18) is an 18 kDa cytokine and a co-stimulatory factor that is produced in Kupffer cells, activated macrophages, keratinocytes, and intestinal epithelial cells.¹ One of the main functions of IL-18 is to promote the production of IFN- γ from T and NK cells, particularly in the presence of IL-12p70. IL-18 also promotes the secretion of other proinflammatory cytokines like TNF- α , IL-1 β , and GM-CSF that enhance the migration and activation of neutrophils during microbial infections.² IL-18 enhances cytotoxic activity and proliferation of CD8+ T and NK cells and has been shown to stimulate the production of IL-13 and other Th2 cytokines.^{2,3} Dysregulation of IL-18 may therefore contribute to inflammatory-associated disorders, unchecked infections, autoimmune diseases such as rheumatoid arthritis, acute and chronic kidney injury, cancer, and pathogenic conditions related to metabolic syndrome.^{2,3}

The MSD Human IL-18 assay is available on 96-well 4-spot plates. This datasheet outlines the performance of the assay.

Assay Sensitivity

LLOD (pg/mL)	IL-18
	0.71

The lower limit of detection (LLOD) is a calculated concentration based on a signal 2.5 standard deviations above the background (zero calibrator blank).

Ordering information

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

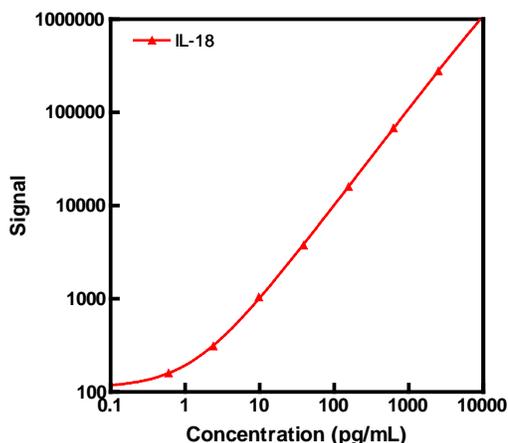
Company Address

MESO SCALE DISCOVERY[®]
division of
Meso Scale Diagnostics, LLC.
9238 Gaither Road
Gaithersburg, MD 20877 USA

www.mesoscale.com[®]

Typical Standard Curve

The following standard curve is an example of the wide dynamic range of the Human IL-18 assay.



Conc. (pg/mL)	IL-18	
	Average Signal	%CV
0	121	18.0
0.6	160	7.0
2.4	310	4.0
9.8	1045	7.0
39	3760	14.0
156	15 938	2.0
625	68 104	12.0
2500	278 480	4.0

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



MSD Cytokine Assays

Dilution Linearity

To assess linearity, human serum, EDTA plasma, and heparin plasma were diluted 4-fold, 8-fold, and 16-fold with Diluent 10. The measured concentrations were corrected for dilution factor to determine the actual IL-18 levels in the sample. The dilution adjusted calculated concentration of each dilution point was compared to the calculated recovery of the previous dilution. Human serum recovery ranged from 97 to 112% with an average recovery of 107%. Human EDTA plasma recovery ranged from 100 to 124% with an average recovery of 111%, and human heparin plasma recovery ranged from 102 to 155% with an average recovery of 119%.

Spike Recovery

Human serum, EDTA plasma, and heparin plasma were spiked with human IL-18 calibrator at multiple levels throughout the range of the assay. The samples were then diluted 2-fold and tested for recovery. Calibrator recovery from human serum ranged from 87 to 112% with an average recovery of 97%. Calibrator recovery from human EDTA plasma ranged from 81 to 108% with an average recovery of 93%, and calibrator recovery from human heparin plasma ranged from 60 to 107% with an average recovery of 81%.

Samples

Normal human serum (n=13), EDTA plasma (n=10), and heparin plasma (n=4) samples from commercial sources were evaluated for human IL-18. The samples were diluted 2-fold and the measured concentrations were corrected for dilution factor to determine the actual IL-18 levels in the sample. The analyte was quantifiable in all 13 serum samples with a median measurement of 136 pg/mL. The human IL-18 levels in these serum samples ranged from 71 to 207 pg/mL. Human IL-18 was quantifiable in all 10 EDTA plasma samples with median level measured at 410 pg/mL (range from 155 to 1370 pg/mL). Human IL-18 was also quantifiable in all heparin plasma samples with a median level of 139 pg/mL (range from 109 to 191 pg/mL).

References

1. Arend WP, et al. IL-1, IL-18, and IL-33 families of cytokines. *Immunol Rev.* 2008 Jun;223:20-38.
2. Sahoo M, et al. Role of the inflammasome, IL-1 β , and IL-18 in bacterial infections. *ScientificWorldJournal.* 2011;11:2037-50.
3. Dinarello CA. Interleukin-18 and the pathogenesis of inflammatory diseases. *Semin Nephrol.* 2007 Jan;27(1):98-114.

MESO SCALE DISCOVERY, MESO SCALE DIAGNOSTICS, WWW.MESOSCALE.COM, MSD, MSD (DESIGN), DISCOVERY WORKBENCH, QUICKPLEX, MULTI-ARRAY, MULTI-SPOT, SULFO-TAG, STREPTAVIDIN GOLD, SECTOR, SECTOR HTS, SECTOR PR, 4-SPOT (DESIGN) and SPOT THE DIFFERENCE are trademarks and/or service marks of Meso Scale Diagnostics, LLC.

© 2012 Meso Scale Diagnostics, LLC. All rights reserved.

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

