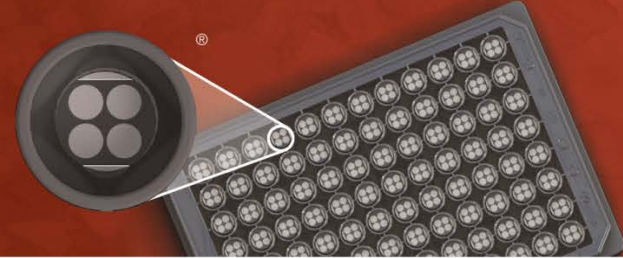
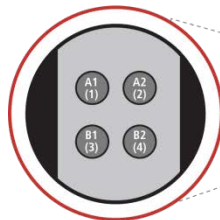


MSD[®] Human MIP-3 β Kit

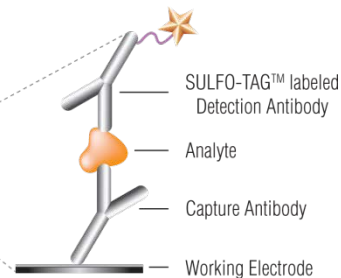
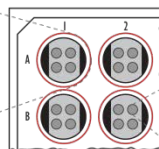
For quantitative determination in human serum and plasma



1. MIP-3 β
2. BSA blocked
3. BSA blocked
4. BSA blocked



MSD MULTI-SPOT[®]
96-Well 4-Spot Plate



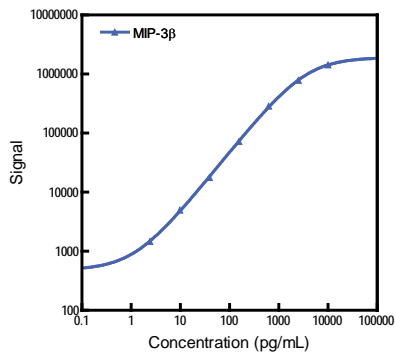
Macrophage inflammatory protein 3 beta (MIP-3 β) (CCL19) is a homeostatic C-C chemokine associated with CCR7, of which CCL21 is also a ligand, expressed and secreted in abundance by stromal cells of the lymph nodes.^{1,2} Its function is central to chemotactic migration of dendritic cells to the lymph nodes, orientation within the nodes, and activation of T cells once there.^{1,3}

MIP-3 β 's chemotactic effect on lymphocytes induces a proinflammatory response in organs and areas of non-lymphoid origin that results in de novo formation of lymphoid tissue. This suggests a role in inflammatory disorders that include rheumatoid arthritis,⁴ inflammatory bowel disease,⁵ and atherosclerosis,² evidenced by increased expression and elevated levels of MIP-3 β , its receptor CCR7, and related chemokine, CCL21.¹⁻⁵ Moreover, MIP-3 β is thought to play a role in HIV infection, with MIP-3 β serum levels positively correlated with HIV progression.^{6,7} The proposed mechanism of action creates a detrimental pathogenic feedback loop wherein HIV infection increases the presence of MIP-3 β and CCL21, leading to inappropriate inflammation that further promotes HIV replication in activated T cells.^{6,7} This phenomenon is observed independent of highly active anti-retroviral therapy.⁷

The assay is available on 96-well, 4-spot plates. Representative data from the assay is presented below.

Assay Sensitivity

The following standard curve illustrates the dynamic range of the Human MIP-3 β assay.



MIP-3 β	
Average LLOD (pg/mL)	0.090

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

Specificity

To assess specificity of the MIP-3 β assay, the kit was tested with the following recombinant human proteins: fractalkine, 35 000 pg/mL; I-TAC, 1500 pg/mL; MCP-2, 250 pg/mL; MIP-4, 100 pg/mL; and MIP-5, 1200 pg/mL. Less than 0.1% non-specific binding was observed with each protein.

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

Catalog Numbers

Human MIP-3 β Kit	
Kit Size	Catalog #
1 plate	K1510WD-1
5 plates	K1510WD-2
25 plates	K1510WD-4

Ordering Information

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

Company Address

MESO SCALE DISCOVERY[®]
A division of
Meso Scale Diagnostics, LLC.
1601 Research Boulevard
Rockville, MD 20850 USA
www.mesoscale.com[®]

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

MSD Cytokine Assays

MSD Advantage

- **Multiplexing:** Multiple analytes can be measured in one well using typical sample volumes of 25 μ L or less without compromising speed or performance
- **Large dynamic range:** Linear range of up to five logs enables the measurement of native levels of biomarkers in normal and diseased samples without multiple dilutions
- **Minimal background:** The stimulation mechanism (electricity) is decoupled from the response (light signal), minimizing matrix interference
- **Simple protocols:** Only labels bound near the electrode surface are excited, enabling assays with fewer washes
- **Flexibility:** Labels are stable, non-radioactive, and conveniently conjugated to biological molecules
- **High sensitivity and precision:** Multiple rounds of label excitation and emission enhance light levels and improve sensitivity

For a complete list of products, please visit our website at www.mesoscale.com.

References

1. Haessler U, et al. Dendritic cell chemotaxis in 3D under defined chemokine gradients reveals differential response to ligands CCL21 and CCL19. *Proc Natl Acad Sci U S A*. 2011 Apr 5;108(14):5614-9.
2. Damas JK, et al. Enhanced expression of the homeostatic chemokines CCL19 and CCL21 in clinical and experimental atherosclerosis: possible pathogenic roles in plaque destabilization. *Arterioscler Thromb Vasc Biol*. 2007 Mar;27(3):614-20.
3. Muthuswamy R, et al. PGE2 transiently enhances DC expression of CCR7 but inhibits the ability of DCs to produce CCL19 and attract naïve T cells. *Blood*. 2010 Sep 2;116(9):1454-9.
4. Pickens, SR, et al. Characterization of CCL19 and CCL21 in rheumatoid arthritis. *Arthritis Rheum*. 2011 Apr;63(4):914-22.
5. Middel P, et al. Increased number of mature dendritic cells in Crohn's disease: evidence for a chemokine-mediated retention mechanism. *Gut*. 2006 Feb;55(2):220-7.
6. Damas JK, et al. Enhanced levels of the CCR7 ligands CCL19 and CCL21 in HIV infection: correlation with viral load, disease progression and response to highly active antiretroviral therapy. *AIDS*. 2009 Jan 2;23(1):135-8.
7. Damas JK, et al. Homeostatic chemokines CCL19 and CCL21 promote inflammation in human immunodeficiency virus-infected patients with ongoing viral replication. *Clin Exp Immunol*. 2009 Sep;157(3):400-7.

MESO SCALE DISCOVERY, MESO SCALE DIAGNOSTICS, DISCOVERY WORKBENCH, MULTI-ARRAY, MULTI-SPOT, QUICKPLEX, SECTOR PR, SECTOR, SECTOR HTS, SULFO-TAG, www.mesoscale.com, SMALL SPOT (design), 96 WELL 1, 4, 7, & 10-SPOT (designs), 384 WELL 1 & 4-SPOT (designs), MSD, MSD (design), and SPOT THE DIFFERENCE are trademarks and/or service marks of Meso Scale Diagnostics, LLC.

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

