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## Choose Your Luminex® Assay Format

R&D Systems offers Luminex Assays in two formats. Our Luminex Assays are optimized to simultaneously analyze a wide variety and large number of analytes, while our Luminex High Performance Assays are validated in smaller analyte panels and deliver near single analyte ELISA performance. Use the side-by-side comparison table below to determine which Luminex Assay format is right for you.

Feature		Luminex Assay	Luminex High Performance Assay
Species Available	Human	✓	✓
	Mouse	✓	
	Rat	✓	
Sample Volume Required	µL Sample	≤ 50	≤ 100
Multiplex Analyte Capacity	Polystyrene	100 User-Selected	User-Selected from Panel
	Magnetic	50 User-Selected	User-Selected from Panel
Bead Type	Polystyrene	✓	✓
	Magnetic	✓	✓
Validated Sample Types	Serum	✓	✓
	Plasma	✓	✓
	Cell Culture Supernates	✓	See Datasheet**
	Milk		See Datasheet**
	Saliva		See Datasheet**
	Urine		See Datasheet**
Run Time	Hours	3-3.5	2.5-5
Kit Preparation	Pre-mixed	✓	✓
	End-user Mixed		✓
Assay Validation	Mean Sensitivity	< the low standard*	≤ 3/4 the low standard
	Intra-assay Precision	< 20%	< 15%
	Inter-assay Precision	< 25%	< 17%
	Recovery (Individual Samples)	N/A	70-130%
	Assay Linearity	Dose-Dependent Decrease in Values	1:2-1:8
	Linearity (Individual Samples)	Dose-Dependent Decrease in Values	70-130%
Analytes Available	Human	>340	>100
	Mouse	110	0
	Rat	17	0

# Luminex® Panels by Research Topic/Disease State

## Adipokine/Obesity

<ul style="list-style-type: none"> <li>• 4-1BB/CD137</li> <li>• Adiponectin</li> <li>• AgRP/ART</li> <li>• <b>Angiopoietin-1</b></li> <li>• Angiopoietin-2</li> <li>• Angiopoietin-like 3</li> <li>• Angiopoietin-like 4</li> <li>• Angiopoietin-like 6</li> <li>• BAFF/BlyS</li> <li>• <b>BMP-4</b></li> <li>• Cathepsin D</li> <li>• <b>Cathepsin S</b></li> <li>• CCL2/MCP-1</li> <li>• CCL5/RANTES</li> </ul>	<ul style="list-style-type: none"> <li>• Chemerin</li> <li>• Factor D/Adipsin</li> <li>• CRP</li> <li>• CXCL8/IL-8</li> <li>• DPPIV/CD26</li> <li>• Endocan/ESM-1</li> <li>• EN-RAGE/S100A12</li> <li>• Fetuin A/AHSG</li> <li>• FGF acidic</li> <li>• FGF basic</li> <li>• FGF-21</li> <li>• FGF-23</li> <li>• Galectin-3</li> <li>• Glucagon</li> </ul>	<ul style="list-style-type: none"> <li>• Growth Hormone</li> <li>• HGF</li> <li>• ICAM-1</li> <li>• IGFBP-1</li> <li>• IGFBP-2</li> <li>• IGFBP-3</li> <li>• IGFBP-4</li> <li>• IGFBP-6</li> <li>• IGFBP-rp1/IGFBP-7</li> <li>• IL-1β</li> <li>• IL-6</li> <li>• IL-10</li> <li>• IL-11</li> <li>• IL-33</li> </ul>	<ul style="list-style-type: none"> <li>• Insulin</li> <li>• Insulin C-Peptide</li> <li>• Leptin</li> <li>• LIF</li> <li>• Lipocalin-2/NGAL</li> <li>• M-CSF</li> <li>• MIF</li> <li>• MMP-8</li> <li>• MPO</li> <li>• Oncostatin M</li> <li>• PBEF/Visfatin</li> <li>• Pentraxin 2/SAP</li> <li>• Pentraxin 3/TSG-14</li> <li>• Prolactin</li> </ul>	<ul style="list-style-type: none"> <li>• PCSK9</li> <li>• Protein S/PROS1</li> <li>• RAGE</li> <li>• RBP4</li> <li>• Resistin</li> <li>• Serpin A12/Vaspin</li> <li>• Serpin E1/PAI-1</li> <li>• <b>SP-D</b></li> <li>• TIMP-1</li> <li>• TNF-α</li> <li>• VEGF-A</li> <li>• Vitamin D Binding Protein</li> </ul>
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## Angiogenesis

<ul style="list-style-type: none"> <li>• Adiponectin</li> <li>• Amphiregulin</li> <li>• <b>Angiogenin</b></li> <li>• <b>Angiopoietin-1</b></li> <li>• Angiopoietin-2</li> <li>• Angiopoietin-like 3</li> <li>• Angiopoietin-like 4</li> <li>• Angiopoietin-like 6</li> <li>• BMP-9</li> <li>• CCL2/MCP-1</li> <li>• CCL3/MIP-1α</li> <li>• CD31/PECAM-1</li> <li>• CD117/c-kit/SCF R</li> <li>• Chitinase-3</li> <li>• CX3CL1/Fractalkine</li> </ul>	<ul style="list-style-type: none"> <li>• CXCL4/PF4</li> <li>• CXCL8/IL-8</li> <li>• CXCL10/IP-10</li> <li>• CXCL12/SDF-1α</li> <li>• CXCL16</li> <li>• DPPIV/CD26</li> <li>• EGF</li> <li>• Endoglin</li> <li>• <b>Endostatin</b></li> <li>• Endothelin-1</li> <li>• ErbB2/Her2</li> <li>• ErbB3/Her3</li> <li>• E-Selectin</li> <li>• FGF acidic</li> <li>• FGF basic</li> </ul>	<ul style="list-style-type: none"> <li>• Follistatin</li> <li>• G-CSF</li> <li>• GDNF</li> <li>• GM-CSF</li> <li>• HB-EGF</li> <li>• HGF</li> <li>• HGF R/c-MET</li> <li>• IGFBP-1</li> <li>• IGFBP-2</li> <li>• IGFBP-3</li> <li>• IL-1α</li> <li>• IL-1β</li> <li>• IL-6 Rα</li> <li>• IL-10</li> <li>• Leptin</li> </ul>	<ul style="list-style-type: none"> <li>• Leptin R</li> <li>• MIP-1δ</li> <li>• MMP-3</li> <li>• MMP-8</li> <li>• MMP-9</li> <li>• Neuropilin-1</li> <li>• <b>NRG1β1/HRG1β1</b></li> <li>• Osteopontin</li> <li>• PDGF-AA</li> <li>• PDGF-BB</li> <li>• Pentraxin 3/TSG-14</li> <li>• PIGF</li> <li>• Prolactin</li> <li>• Serpin E1/PAI-1</li> <li>• Serpin F1/PEDF</li> </ul>	<ul style="list-style-type: none"> <li>• Tenascin C</li> <li>• Thrombospondin-2</li> <li>• Tie-2</li> <li>• TIMP-1</li> <li>• uPA/Urokinase</li> <li>• uPAR</li> <li>• VEGF-A</li> <li>• VEGF-C</li> <li>• VEGF-D</li> <li>• VEGF R1/Fit-1</li> <li>• VEGF R2/KDR</li> <li>• VEGF R3</li> </ul>
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## Bone Proteins

<ul style="list-style-type: none"> <li>• <b>Aggrecan</b></li> <li>• AgRP/ART</li> <li>• BMP-2</li> <li>• <b>BMP-4</b></li> <li>• BMP-7</li> </ul>	<ul style="list-style-type: none"> <li>• <b>BMP-9</b></li> <li>• BMP-10</li> <li>• Dkk-1</li> <li>• FGF-23</li> <li>• IL-1β</li> </ul>	<ul style="list-style-type: none"> <li>• IL-6</li> <li>• Insulin</li> <li>• Leptin</li> <li>• Osteopontin</li> <li>• Osteoprotegerin</li> </ul>	<ul style="list-style-type: none"> <li>• SOST</li> <li>• TNFα</li> <li>• TRANCE/RANK L</li> </ul>
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## Cardiovascular Disease

<ul style="list-style-type: none"> <li>• ADAMTS13</li> <li>• Adiponectin</li> <li>• <b>Angiogenin</b></li> <li>• <b>Angiopoietin-1</b></li> <li>• Angiopoietin-2</li> <li>• Angiopoietin-like 3</li> <li>• Angiopoietin-like 4</li> <li>• ApoA1</li> <li>• <b>BMP-2</b></li> <li>• BMP-10</li> <li>• Cardiac Myoglobin</li> <li>• Cardiac Troponin I/cTNI</li> <li>• CCL2/MCP-1</li> <li>• CCL5/RANTES</li> <li>• CD31/PECAM-1</li> <li>• CD40</li> <li>• CD40 Ligand</li> </ul>	<ul style="list-style-type: none"> <li>• Factor D/Adipsin</li> <li>• CRP</li> <li>• CX3CL1/Fractalkine</li> <li>• CXCL1/GROα</li> <li>• CXCL4/PF4</li> <li>• CXCL6/GCP-2</li> <li>• CXCL8/IL-8</li> <li>• CXCL10/IP-10</li> <li>• D-dimer</li> <li>• EGF</li> <li>• Endocan/ESM-1</li> <li>• Endoglin</li> <li>• <b>Endostatin</b></li> <li>• Endothelin-1</li> <li>• E-Selectin</li> <li>• FABP3/H-FABP</li> <li>• FABP4/A-FABP</li> </ul>	<ul style="list-style-type: none"> <li>• Fetuin A/AHSG</li> <li>• FGF basic</li> <li>• Follistatin</li> <li>• GDF-15</li> <li>• ICAM-1</li> <li>• IFN-γ</li> <li>• IL-1β</li> <li>• IL-1 ra</li> <li>• IL-2</li> <li>• IL-4</li> <li>• IL-6</li> <li>• IL-10</li> <li>• IL-33</li> <li>• Leptin</li> <li>• LIGHT</li> <li>• Lipocalin-2/NGAL</li> <li>• L-Selectin</li> </ul>	<ul style="list-style-type: none"> <li>• MMP-9</li> <li>• MPO</li> <li>• Oncostatin M</li> <li>• Osteoprotegerin</li> <li>• PDGF-BB</li> <li>• Pentraxin 3/TSG-14</li> <li>• <b>PLA2G7/PAF-AH/Lp-PLA2</b></li> <li>• PIGF</li> <li>• PCSK9</li> <li>• P-Selectin</li> <li>• RAGE</li> <li>• Renin</li> <li>• SCF</li> <li>• Serpin E1/PAI-1</li> <li>• Serum Amyloid A1</li> <li>• ST2</li> <li>• <b>TFPI</b></li> </ul>	<ul style="list-style-type: none"> <li>• Tie-1</li> <li>• Tie-2</li> <li>• TIM-1/KIM-1</li> <li>• TIMP-1</li> <li>• TNF-α</li> <li>• TNF RI</li> <li>• TNF RII</li> <li>• Tpo</li> <li>• uPA</li> <li>• uPAR</li> <li>• VCAM-1</li> <li>• VEGF-A</li> <li>• VEGF-C</li> <li>• VEGF-D</li> <li>• VEGF R1/Fit-1</li> <li>• VEGF R2/KDR</li> <li>• vWF-A2</li> </ul>
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## CD8+ T cell

<ul style="list-style-type: none"> <li>• 4-1BB/CD137</li> <li>• CCL3/MIP-1α</li> <li>• CCL4/MIP-1β</li> <li>• Fas</li> </ul>	<ul style="list-style-type: none"> <li>• Fas Ligand</li> <li>• GM-CSF</li> <li>• Granzyme A</li> <li>• Granzyme B</li> </ul>	<ul style="list-style-type: none"> <li>• IFN-γ</li> <li>• IL-2</li> <li>• IL-4</li> <li>• IL-5</li> </ul>	<ul style="list-style-type: none"> <li>• IL-6</li> <li>• IL-10</li> <li>• IL-13</li> <li>• TNF-α</li> </ul>
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## Chemokines

<ul style="list-style-type: none"><li>• CCL1/I-309</li><li>• CCL2/MCP-1</li><li>• CCL3/MIP-1<math>\alpha</math></li><li>• CCL4/MIP-1<math>\beta</math></li><li>• CCL5/RANTES</li><li>• CCL7/MCP-3</li><li>• CCL8/MCP-2</li><li>• CCL11/Eotaxin</li><li>• CCL13/MCP-4</li></ul>	<ul style="list-style-type: none"><li>• CCL14/HCC-1/HCC-3</li><li>• CCL17/TARC</li><li>• CCL18/PARC</li><li>• CCL19/MIP-3<math>\beta</math></li><li>• CCL20/MIP-3<math>\alpha</math></li><li>• CCL21/6CKine</li><li>• CCL22/MDC</li><li>• CCL24/Eotaxin-2/MPIF-2</li><li>• CCL25/TECK</li></ul>	<ul style="list-style-type: none"><li>• CCL26/Eotaxin-3</li><li>• CCL27/CTACK</li><li>• CCL28</li><li>• Chemerin</li><li>• CX3CL1/Fractalkine</li><li>• CXCL1/GRO<math>\alpha</math></li><li>• CXCL2/Gro<math>\beta</math></li><li>• CXCL4/PF4</li><li>• CXCL5/ENA-78</li></ul>	<ul style="list-style-type: none"><li>• CXCL6/GCP-2</li><li>• CXCL7/NAP-2</li><li>• CXCL8/IL-8</li><li>• CXCL9/MIG</li><li>• CXCL10/IP-10</li><li>• CXCL11/I-TAC</li><li>• CXCL12/SDF-1<math>\alpha</math></li><li>• CXCL13/BLC/BCA-1</li><li>• CXCL14/BRAK</li></ul>	<ul style="list-style-type: none"><li>• CXCL16</li><li>• IL-16</li><li>• Midkine</li><li>• MIF</li><li>• XCL1/Lymphotactin</li></ul>
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## Complement

<ul style="list-style-type: none"><li>• Factor D/Adipsin</li><li>• Factor XIV/Protein C</li><li>• C5/C5a</li></ul>	<ul style="list-style-type: none"><li>• C9</li><li>• MBL</li><li>• Properdin</li></ul>
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## Inflammation

<ul style="list-style-type: none"><li>• <b>Aggrecan</b></li><li>• APRIL</li><li>• <math>\beta</math>-NGF</li><li>• BAFF/BLyS</li><li>• <b>BCMA</b></li><li>• C1qTNF9</li><li>• C2</li><li>• C3a</li><li>• CCL5/RANTES</li><li>• CCL19/MIP-3<math>\beta</math></li></ul>	<ul style="list-style-type: none"><li>• CD30</li><li>• CD163</li><li>• Chitinase 3-like 1/YKL-40</li><li>• CXCL8/IL-8</li><li>• CXCL13/BLC/BCA-1</li><li>• Galectin-3</li><li>• gp130</li><li>• IFN-<math>\beta</math></li><li>• IFN-<math>\gamma</math></li><li>• IL-2</li></ul>	<ul style="list-style-type: none"><li>• IL-6</li><li>• IL-6 R<math>\alpha</math></li><li>• IL-10</li><li>• IL-11</li><li>• IL-12/23 p40</li><li>• IL-12 p70</li><li>• IL-16</li><li>• IL-19</li><li>• IL-22</li><li>• IL-27</li></ul>	<ul style="list-style-type: none"><li>• IL-28A/IFN-<math>\lambda</math>2</li><li>• IL-34</li><li>• LIGHT</li><li>• MMP-1</li><li>• MMP-2</li><li>• MMP-3</li><li>• Osteoactivin</li><li>• Osteopontin</li><li>• Osteoprotegrin</li><li>• Pentraxin 3/TSG-14</li></ul>	<ul style="list-style-type: none"><li>• S100A9</li><li>• Thrombomodulin</li><li>• TNF-<math>\alpha</math></li><li>• TNF RI</li><li>• TNF RII</li><li>• TSLPo</li><li>• TWEAK</li></ul>
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## Kidney Biomarker

<ul style="list-style-type: none"><li>• ADAMTS13</li><li>• Adiponectin</li><li>• <math>\alpha</math>1-Microglobulin</li><li>• <math>\beta</math>2-Microglobulin</li><li>• Calbindin D</li><li>• CCL2/MCP-1</li><li>• Collagen IV <math>\alpha</math>1</li><li>• CXCL1/GRO<math>\alpha</math></li></ul>	<ul style="list-style-type: none"><li>• CXCL10/IP-10</li><li>• CXCL16</li><li>• Cystatin C</li><li>• DPPIV/CD26</li><li>• EGF</li><li>• FABP1/L-FABP</li><li>• Fetuin A/AHSG</li><li>• IL-1 ra</li></ul>	<ul style="list-style-type: none"><li>• IL-6</li><li>• IL-10</li><li>• IL-18</li><li>• Kallikrein 3/PSA</li><li>• Lipocalin-2/NGAL</li><li>• MMP-9</li><li>• Nephryn</li><li>• Osteopontin</li></ul>	<ul style="list-style-type: none"><li>• RAGE</li><li>• RBP4</li><li>• Renin</li><li>• Resistin</li><li>• SCF</li><li>• TFF3</li><li>• TIM-1/KIM-1</li><li>• TIMP-1</li></ul>	<ul style="list-style-type: none"><li>• TNF<math>\alpha</math></li><li>• TNF RI</li><li>• TWEAK</li><li>• uPAR</li><li>• Uromodulin</li><li>• VCAM-1</li><li>• VEGF-A</li></ul>
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## Liver Proteins

<ul style="list-style-type: none"><li>• <math>\alpha</math>Fetoprotein</li><li>• Angiopoietin-like 3</li><li>• Angiopoietin-like 4</li></ul>	<ul style="list-style-type: none"><li>• Angiopoietin-like 6</li><li>• ApoA1</li><li>• BMP-9</li></ul>	<ul style="list-style-type: none"><li>• FABP1/L-FABP</li><li>• FGF-21</li><li>• FGF-23</li></ul>	<ul style="list-style-type: none"><li>• HGF</li></ul>
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## Myokines

<ul style="list-style-type: none"><li>• BDNF</li><li>• CX3CL1/Fractalkine</li><li>• Epo</li></ul>	<ul style="list-style-type: none"><li>• FABP3/H-FABP</li><li>• Follistatin-like 1</li><li>• IL-6</li></ul>	<ul style="list-style-type: none"><li>• IL-15</li><li>• LIF</li><li>• Oncostatin M</li></ul>	<ul style="list-style-type: none"><li>• SPARC</li></ul>
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## Neurodegenerative Disorders

<ul style="list-style-type: none"><li>• ApoA1</li><li>• <b>APP</b></li><li>• <math>\beta</math>-NGF</li><li>• BDNF</li></ul>	<ul style="list-style-type: none"><li>• Calbindin D</li><li>• Cathepsin D</li><li>• CCL5/RANTES</li><li>• CCL18/PARC</li></ul>	<ul style="list-style-type: none"><li>• CRP</li><li>• GDNF</li><li>• ICAM-1</li><li>• MPO</li></ul>	<ul style="list-style-type: none"><li>• NCAM-1</li><li>• PDGF-AA</li><li>• PDGF-BB</li><li>• RAGE</li></ul>	<ul style="list-style-type: none"><li>• S100B</li><li>• Serpin E1/PAI-1</li><li>• Serpin F1/PEDF</li><li>• VCAM-1</li></ul>
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## Neurological Disorders

<ul style="list-style-type: none"><li>• Contactin-1</li></ul>	<ul style="list-style-type: none"><li>• Fetuin A/AHSG</li></ul>	<ul style="list-style-type: none"><li>• Kallikrein 6/Neurosin</li></ul>	<ul style="list-style-type: none"><li>• Osteopontin</li></ul>
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## Neurological Panel

<ul style="list-style-type: none"><li>• BMP-9</li><li>• Enolase 2/NSE</li></ul>	<ul style="list-style-type: none"><li>• GFAP</li><li>• Park5/UCH-L1</li></ul>	<ul style="list-style-type: none"><li>• Park7/DJ-1</li><li>• Synuclein-<math>\alpha</math></li></ul>
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**Analyte** available exclusively from R&D Systems

## Oncology

<ul style="list-style-type: none"><li>4-1BB/CD137</li><li>αFetoprotein</li><li>ALDH1A1</li><li>Amphiregulin</li><li>Angiopoietin-1</li><li>Angiopoietin-2</li><li>Angiopoietin-like 4</li><li>ApoA1</li><li>APRIL</li><li>B7-H1/PD-L1</li><li>β2-Microglobulin</li><li>BAFF/BlyS</li><li>BCMA</li><li>CA125/MUC16</li><li>CA15-3</li><li>Carbonic Anhydrase IX/CA9</li><li>Cathepsin D</li><li>Cathepsin S</li><li>CCL2/MCP-1</li><li>CCL3/MIP-1α</li><li>CCL5/RANTES</li><li>CCL7/MCP-3</li><li>CCL8/MCP-2</li><li>CCL18/PARC</li><li>CCL20/MIP-3α</li><li>CD31/PECAM-1</li></ul>	<ul style="list-style-type: none"><li>CD40 Ligand</li><li>CD44</li><li>CD117/c-kit/SCF R</li><li>CEACAM-1/CD66a</li><li>CEA/CEACAM-5</li><li>Chitinase 3-like 1/YKL-40</li><li>CXCL8/IL-8</li><li>CXCL9/MIG</li><li>CXCL16</li><li>Dkk-1</li><li>DPPIV/CD26</li><li>EGF</li><li>Endoglin</li><li>Enolase 2/NSE</li><li>EpCAM/TROP1</li><li>ENPP-2/Autotaxin</li><li>ErbB2/Her2</li><li>ErbB3/Her3</li><li>E-Selectin</li><li>Fas</li><li>Fas Ligand</li><li>Ferritin</li><li>Fetuin A/AHSG</li><li>FGF basic</li><li>Fibroblast Activation Protein</li><li>Follistatin</li></ul>	<ul style="list-style-type: none"><li>Galectin-3</li><li>Galectin-3BP</li><li>G-CSF</li><li>GDF-15</li><li>GFAP</li><li>GM-CSF</li><li>HB-EGF</li><li>HE4/WFDC-2</li><li>HGF</li><li>HGF R/c-MET</li><li>ICAM-1</li><li>IGFBP-1</li><li>IGFBP-2</li><li>IGFBP-3</li><li>IGFBP-4</li><li>IGFBP-6</li><li>IL-2</li><li>IL-2 Rα/CD25</li><li>IL-6</li><li>IL-6 Rα</li><li>IL-17E/IL-25</li><li>IL-18</li><li>Kallikrein 3/PSA</li><li>Kallikrein 5</li><li>Kallikrein 6/Neurosin</li><li>Leptin</li></ul>	<ul style="list-style-type: none"><li>Lipocalin-2/NGAL</li><li>Lumican</li><li>MCAM/CD146</li><li>M-CSF</li><li>Mesothelin</li><li>MIA</li><li>Midkine</li><li>MIF</li><li>MMP-1</li><li>MMP-2</li><li>MMP-3</li><li>MMP-8</li><li>MMP-9</li><li>MMP-10</li><li>MMP-13</li><li>MPO</li><li>MSP/MST1</li><li>Nectin-4</li><li>Osteopontin</li><li>Osteoprotegerin</li><li>PBEF/Visfatin</li><li>PDGF-AA</li><li>PDGF-BB</li><li>Periostin/OSF-2</li><li>PIGF</li><li>Progranulin</li></ul>	<ul style="list-style-type: none"><li>Prolactin</li><li>SCF</li><li>Serpin C1/Antithrombin-III</li><li>Serpin E1/PAI-1</li><li>Serum Amyloid A1</li><li>SHBG</li><li>SPARC</li><li>Tenascin C</li><li>TGFα</li><li>Thrombomodulin</li><li>Thymidine Kinase 1/TK1</li><li>Tie-2</li><li>TIMP-1</li><li>TIMP-4</li><li>TNFα</li><li>TRAIL</li><li>TWEAK</li><li>uPA/Urokinase</li><li>VCAM-1</li><li>VEGF-A</li><li>VEGF-C</li><li>VEGF-D</li><li>VEGF R1/Fit-1</li><li>VEGF R2/KDR</li><li>Vitamin D Binding Protein</li></ul>
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## Proteases

<ul style="list-style-type: none"><li>ADAMTS13</li><li>Cathepsin D</li><li>Cathepsin S</li><li>Kallikrein 3/PSA</li></ul>	<ul style="list-style-type: none"><li>Kallikrein 5</li><li>Kallikrein 6/Neurosin</li><li>MMP-1</li><li>MMP-2</li></ul>	<ul style="list-style-type: none"><li>MMP-3</li><li>MMP-7</li><li>MMP-8</li><li>MMP-9</li></ul>	<ul style="list-style-type: none"><li>MMP-10</li><li>MMP-12</li><li>MMP-13</li><li>Proprotein Convertase 9</li></ul>	<ul style="list-style-type: none"><li>Proteinase 3</li><li>uPA</li></ul>
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## Protease Inhibitors

<ul style="list-style-type: none"><li>Cystatin C</li><li>EMMPRIN</li><li>HE4/WFDC-2</li></ul>	<ul style="list-style-type: none"><li>Lipocalin-2/NGAL</li><li>Serpin A12/Vaspin</li><li>Serpin E1/PAI-1</li></ul>	<ul style="list-style-type: none"><li>Serpin F1/PEDF</li><li>TFPI</li><li>TIMP-1</li></ul>
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## Sepsis

<ul style="list-style-type: none"><li>CCL3/MIP-1α</li><li>CCL4/MIP-1β</li><li>CXCL8/IL-8</li><li>FGF-13 1B</li></ul>	<ul style="list-style-type: none"><li>Granzyme B</li><li>IL-1α</li><li>Lactoferrin</li><li>Lipocalin-2/NGAL</li></ul>	<ul style="list-style-type: none"><li>MMP-8</li><li>Procalcitonin</li><li>Proteinase 3/PRTN3</li><li>Resistin</li></ul>
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## Soluble Receptors

<ul style="list-style-type: none"><li>4-1BB/CD137</li><li>AgRP/ART</li><li>Amphiregulin</li><li>APP</li><li>B7-H1/PD-L1</li><li>CD117/c-kit/SCF R</li><li>CD14</li><li>CD23/Fcγ RII</li><li>CD27</li><li>CD31/PECAM-1</li><li>CD40 Ligand</li></ul>	<ul style="list-style-type: none"><li>CD44</li><li>CEACAM-1/CD66a</li><li>CX3CL1/Fractalkine</li><li>CXCL8/IL-8</li><li>DR3</li><li>EMMPRIN</li><li>Endoglin</li><li>EN-RAGE/S100A12</li><li>EphA2</li><li>Fas</li><li>Galectin-1</li></ul>	<ul style="list-style-type: none"><li>Galectin-3</li><li>Galectin-3BP</li><li>Galectin-9</li><li>GITR</li><li>gp130</li><li>HB-EGF</li><li>HGF R/c-MET</li><li>ICAM-1</li><li>IFN-γ R1</li><li>IL-1 RI</li><li>IL-1 RII</li></ul>	<ul style="list-style-type: none"><li>IL-4 Rα</li><li>Lipocalin-2/NGAL</li><li>L-Selectin</li><li>MAdCAM-1</li><li>MCAM/CD146</li><li>MMP-2</li><li>N-Cadherin</li><li>NCAM-1</li><li>Osteopontin</li><li>P-Selectin</li><li>RAGE</li></ul>	<ul style="list-style-type: none"><li>ST2</li><li>TIMP-1</li><li>TNF RII</li><li>TRAIL R2/DR5</li><li>TRAIL R3</li><li>uPAR</li><li>VCAM-1</li><li>VEGF R3</li></ul>
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## Soluble Receptors, Hematopoietic

<ul style="list-style-type: none"><li>CD30</li><li>CD40</li><li>CD163</li><li>Chitinase 3-like 1/YKL-40</li></ul>	<ul style="list-style-type: none"><li>CRP</li><li>CXCL16</li><li>DPPIV/CD26</li><li>IL-2 Rα/CD25</li></ul>	<ul style="list-style-type: none"><li>IL-6 Rα</li><li>L-Selectin</li><li>MMP-9</li><li>MPO</li></ul>	<ul style="list-style-type: none"><li>Resistin</li><li>TNF RI</li><li>TRANCE/RANK L</li><li>TREM-1</li></ul>
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## Soluble Receptors, non-Hematopoietic

<ul style="list-style-type: none"><li>Cathepsin D</li><li>CD40</li><li>CEA/CEACAM-5</li><li>EpCAM/TROP1</li></ul>	<ul style="list-style-type: none"><li>ErbB2/Her2</li><li>ErbB3/Her3</li><li>ESAM</li><li>E-Selectin</li></ul>	<ul style="list-style-type: none"><li>MCAM/CD146</li><li>Nectin-4</li><li>Periostin/OSF-2</li><li>Syndecan-1/CD138</li></ul>	<ul style="list-style-type: none"><li>Syndecan-4</li><li>Thrombospondin-2</li><li>VAP-1</li><li>VEGF R1/Fit-1</li></ul>	<ul style="list-style-type: none"><li>VEGF R2/KDR</li></ul>
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## Th17

<ul style="list-style-type: none"><li>CCL20/MIP-3α</li><li>CD40 Ligand</li><li>GM-CSF</li><li>IFN-γ</li><li>IL-1β</li><li>IL-2</li></ul>	<ul style="list-style-type: none"><li>IL-3</li><li>IL-4</li><li>IL-5</li><li>IL-6</li><li>IL-9</li><li>IL-10</li></ul>	<ul style="list-style-type: none"><li>IL-12 p70</li><li>IL-13</li><li>IL-15</li><li>IL-16</li><li>IL-17A</li><li>IL-17A/F Heterodimer</li></ul>	<ul style="list-style-type: none"><li>IL-17E/IL-25</li><li>IL-17F</li><li>IL-21</li><li>IL-22</li><li>IL-23</li><li>IL-27</li></ul>	<ul style="list-style-type: none"><li>IL-28A/IFN-λ2</li><li>IL-31</li><li>IL-33</li><li>LTα/TNFβ</li><li>TNFα</li></ul>
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# Luminex® Assays

Luminex Assays offer our widest selection of analytes for bead-based multianalyte profiling using cell culture supernatants, serum, or plasma samples. Luminex Assays are ideal for researchers needing to evaluate multiple analytes for trends in protein expression in disease states or following treatment. They are also valuable for examining combinations of analytes not available in defined panels. Luminex Assays allow the simultaneous profiling of up to 100 biomarkers when using polystyrene microparticles or 50 biomarkers when using magnetic microparticles. The analytes for this user-defined multiplex assay are available from a rapidly expanding menu and are supplied as pre-mixed kits. Some analytes in the listing below are only available in the magnetic format. Check out website for up-to-date listings.

## Human Analytes for Luminex Assays

Analyte	Entrez Gene ID	Sensitivity (Mean Minimum Detectable Dose; pg/mL)	Standard Curve Range (pg/mL)*	Starting Sample Dilution		
				Cell Culture Supernate	Serum	Heparin/ EDTA Plasma
4-1BB/CD137	8744	2.8	35.8-8,710	1:2	1:2	1:2
ADAMTS13	11093	1270	18,646-4,530,860	1:2	1:2	1:2
Adiponectin/Acrp30	9370	148	1,722-418,470	1:2	1:200	1:200
Aggrecan	176	249	273-66,430	1:2	1:2	1:2
α-Fetoprotein	174	205	1,224-297,360	1:2	1:2	1:2
AgRP/ART	181	0.183	5.97-1,450	1:2	1:2	1:2
ALDH1A1	216	7.10	118-28,560	1:2	1:50	1:50
α1-Microglobulin	259	29,563	147,826-35,921,600	1:2	1:2	1:2
Angiogenin	283	3.17	23.2-5,640	1:2	1:200	1:200
Angiopoietin-1	284	9.43	133-32,360	1:2	1:50	1:2
Angiopoietin-2	285	17.1	258-62,630	1:2	1:2	1:2
Angiopoietin-like 3	27329	23.0	139-33,710	1:2	1:2	1:2
Angiopoietin-like 4	51129	86.0	1,803-438,180	1:2	1:2	1:2
Angiopoietin-like 6	83854	12	296-71,930	1:2	1:2	1:2
ApoA1	335	1502	21,432-5,207,920	1:2	1:4,000	1:4,000
APP	351	268	5,559-1,350,800	1:2	1:2	1:2
APRIL	8741	7.95	202-49,200	1:2	1:2	1:2
B7-H1/PD-L1	29126	56.5	162-39,320	1:2	1:2	1:2
β2-Microglobulin	567	17.2	287-69,760	1:2	1:4,000	1:4,000
BAFF/BlyS	10673	1.01	17.4-4,240	1:2	1:2	1:2
BCMA	608	1.24	178-43,190	1:2	1:2	1:2
BDNF	627	0.320	10.9-2,650	1:2	1:2	1:2
BMP-2	650	3.6	24.5-5,950	1:2	1:2	1:2
BMP-4	652	5.0	47.9-11,640	1:2	1:2	1:2
BMP-7	655	8.56	104-25,220	1:2	1:2	1:2
BMP-9	2658	0.6	4.90-1,190	1:2	1:2	1:2
BMP-10	27302	1.60	13.4-3,250	1:2	1:2	1:2
β-NGF	4803	0.259	3.95-960	1:2	1:2	1:2
C1qTNF9	338872	0.751	11.6-2810	1:2	1:2	1:2
C2	717	70.8	2571-624,690	1:2	1:200	1:200
C3a	718	17.9	970-235,670	1:2	1:200	1:200
CA125/MUC16	94025	2.69	24.3-5,900	1:2	1:2	1:2
CA15-3	4582	0.051 units/mL	0.177-43.0 units/mL	1:2	1:50	1:50
Calbindin D	795	12.3	30.5-7,400	1:2	1:2	1:2
Carbonic Anhydrase IX/CA9	768	2.11	9.71-2,360	1:2	1:2	1:2
Cardiac Myoglobin	4151	1.26	17.1-4,160	1:2	1:50	1:50
Cathepsin S, Total	1520	9.65	126-30,710	1:2	1:2	1:2
CCL1/I-309	6346	0.119	4.57-1,110	1:2	1:2	1:2
CCL2/MCP-1	6347	9.9	98.0-7,940	1:2	1:2	1:2
CCL3/MIP-1α	6348	16.2	181-14,700	1:2	1:2	1:2
CCL4/MIP-1β	6351	5.8	261-21,150	1:2	1:2	1:2
CCL5/RANTES	6352	1.8	21.3-5,250	1:2	1:50	1:50
CCL7/MCP-3	6354	3.15	40.0-9,730	1:2	1:2	1:2
CCL8/MCP-2	6355	1.82	17.7-4,300	1:2	1:2	1:2

\*A standard curve must be generated each time an assay is run utilizing values from the Certificate of Analysis provided with each Luminex Assay. Analyte available exclusively from R&D Systems.

## Human Analytes for Luminex Assays

Analyte	Entrez Gene ID	Sensitivity (Mean Minimum Detectable Dose; pg/mL)	Standard Curve Range (pg/mL)*	Starting Sample Dilution		
				Cell Culture Supernate	Serum	Heparin/ EDTA Plasma
CCL11/Eotaxin	6356	14.6	121-29,310	1:2	1:2	1:2
CCL13/MCP-4	6357	0.420	7.04-1,710	1:2	1:2	1:2
CCL14/HCC-1/HCC-3	6358	31.8	259-62,870	1:2	1:50	1:50
CCL15/MIP-1 $\delta$	6359	134	869-211,080	1:2	1:2	1:2
CCL17/TARC	6361	6.47	90.5-22,000	1:2	1:2	1:2
CCL18/PARC	6362	0.326	12.7-3,080	1:2	1:50	1:50
CCL19/MIP-3 $\beta$	6363	0.765	14.4-3,490	1:2	1:2	1:2
CCL20/MIP-3 $\alpha$	6364	3.39	10.3-2,500	1:2	1:2	1:2
CCL21/6Ckine	6366	9.06	35.4-8,600	1:2	1:2	1:2
CCL22/MDC	6367	8.45	59.0-14,340	1:2	1:2	1:2
CCL24/Eotaxin-2/MPIF-2	6369	1.34	10.8-2,630	1:2	1:2	1:2
CCL25/TECK	6370	1.22	50.7-12,320	1:2	1:2	1:2
CCL26/Eotaxin-3	10344	1.58	25.6-6,230	1:2	1:2	1:2
CCL27/CTACK	10850	0.421	8.52-2,070	1:2	1:2	1:2
CCL28	56477	3.76	287-69,670	1:2	1:2	1:2
CD14	929	39.6	210-51,030	1:2	1:200	1:200
CD23/Fc $\epsilon$ RI	2208	16.5	190-46,180	1:2	1:2	1:2
CD27	939	4.84	171-41,460	1:2	1:2	1:2
CD30	943	0.130	2.84-690	1:2	1:2	1:2
CD31/PECAM-1	5175	71.6	818-198,730	1:2	1:2	1:2
CD40	958	2.11	21.4-5,200	1:2	1:2	1:2
CD40 Ligand	959	34.7	939-228,280	1:2	1:2	1:2
CD44	960	42.6	110-26,700	1:2	1:2	1:2
CD163	9332	530	4,258-1,034,700	1:2	1:2	1:2
CEACAM-1/CD66a	634	158	2,007-487,620	1:2	1:2	1:2
CEA/CEACAM-5	1048	12.9	168-40,850	1:2	1:2	1:2
Chemerin	5919	69.0	441-107,240	1:2	1:2	1:2
Chitinase 3-like 1/YKL-40	1116	3.3	371-90,070	1:2	1:2	1:2
Factor D/Adipsin	1675	232	931-226,330	1:2	1:50	1:50
Factor XIV/Protein C	5624	23.1	289-70,200	1:2	1:50	1:50
Collagen I $\alpha$ 1/COL1A1	1277	0.58	13.0-3,170	1:2	1:50	1:50
Collagen IV $\alpha$ 1	1282	10.2	117-28,400	1:2	1:2	1:2
Contactin-1	1272	3.58	230-55,890	1:2	1:2	1:2
C5/C5a	727	0.210	5.80-1,410	1:2	1:2	1:2
C9	735	2097	26,071-6,335,280	1:2	1:50	1:50
CRP	1401	11.6	145-35,210	1:2	1:200	1:200
Cripto-1	6997	14.3	37.5-9,120	1:2	1:2	1:2
CX3CL1/Fractalkine	6376	64.8	1,340-325,580	1:2	1:2	1:2
CXCL1/GRO $\alpha$	2919	5.3	103-8,310	1:2	1:2	1:2
CXCL2/Gro $\beta$	2920	7.86	34.8-8,450	1:2	1:2	1:2
CXCL4/PF4	5196	21.1	377-91,600	1:2	1:200	1:200
CXCL5/ENA-78	6374	8.2	65.7-15,960	1:2	1:2	1:2
CXCL6/GCP-2	6372	3.02	28.8-6,990	1:2	1:2	1:2
CXCL7/NAP-2	5473	55.1	738-179,280	1:2	1:200	1:200
CXCL8/IL-8	3576	1.8	8.19-1,990	1:2	1:2	1:2
CXCL9/MIG	4283	18.4	396-96,200	1:2	1:2	1:2
CXCL10/IP-10	3627	1.18	2.59-630	1:2	1:2	1:2
CXCL11/I-TAC	6373	7.8	29.3-7,130	1:2	1:2	1:2
CXCL12/SDF-1 $\alpha$	6387	17.0	110-26,680	1:2	1:2	1:2
CXCL13/BLC/BCA-1	10563	11.5	17.6-4,280	1:2	1:2	1:2
CXCL14/BRAK	9547	26.0	97.1-23,600	1:2	1:2	1:2
CXCL16	58191	0.386	10.9-2,660	1:2	1:2	1:2
Cystatin C	1471	103	710-172,580	1:2	1:50	1:50

\*A standard curve must be generated each time an assay is run utilizing values from the Certificate of Analysis provided with each Luminex Assay. Analyte available exclusively from R&D Systems.

## Human Analytes for Luminex Assays

Analyte	Entrez Gene ID	Sensitivity (Mean Minimum Detectable Dose; pg/mL)	Standard Curve Range (pg/mL)*	Starting Sample Dilution		
				Cell Culture Supernate	Serum	Heparin/ EDTA Plasma
DcR3	8771	55.9	1,031-250,580	1:2	1:2	1:2
Dkk-1	22943	50.9	219-53,310	1:2	1:2	1:2
DPPIV/CD26	1803	78.7	200-48,580	1:2	1:50	1:50
DR3/TNFRSF25	8718	58.6	866-210,370	1:2	1:2	1:2
EGF	1950	8.9	18.1-4,410	1:2	1:2	1:2
EMMPRIN	682	7.6	87.2-21,180	1:2	1:2	1:2
Endocan/ESM-1	11082	1.08	11.7-2,850	1:2	1:2	1:2
Endoglin	2022	68.0	364-88,410	1:2	1:2	1:2
Endostatin	80781	27.3	153-37,200	1:2	1:2	1:2
Endothelin-1	1906	1.31	11.4-2,780	1:2	1:2	1:2
Enolase 2/Neuron-specific Enolase	2026	140	388-94,250	1:2	1:2	1:2
ENPP-2/Autotaxin	5168	99.3	2,651-644,300	1:2	1:2	1:2
EN-RAGE/S100A12	6283	1.77	28.4-6,900	1:2	1:50	1:50
EpCAM/TROP1	4072	2.22	48.6-11,820	1:2	1:2	1:2
EphA2	1969	176	218-52,980	1:2	1:2	1:2
ErbB2/Her2	2064	36.6	144-34,900	1:2	1:2	1:2
ErbB3/Her3	2065	9.42	290-70,410	1:2	1:2	1:2
ESAM	90952	7.67	45.3-11,000	1:2	1:2	1:2
E-Selectin	6401	18.8	427-103,880	1:2	1:2	1:2
FABP4/A-FABP	2167	95.7	631-153,350	1:2	1:2	1:2
Fas	355	3.23	146-35,440	1:2	1:2	1:2
Fas Ligand	356	1.23	17.8-4,330	1:2	1:2	1:2
Ferritin	2495	1.29	25.8-6,270	1:2	1:50	1:50
Fetuin A/AHSG	197	241	5,903-1,434,500	1:2	1:4000	1:4000
FGF acidic	2246	4.88	16.2-3,930	1:2	1:2	1:2
FGF basic	2247	6.5	1.89-460	1:2	1:2	1:2
FGF-13 1B	2258	20.6	216-52,540	1:2	1:2	1:2
FGF-21	26291	27.0	623-151,330	1:2	1:2	1:2
FGF-23	8074	10.2	12.1-2,940	1:2	1:2	1:2
Fibroblast activation protein	2191	0.667	22.6-5,480	1:2	1:50	1:50
Fibronectin	2335	171	3,761-914,030	1:2	1:4000	1:4000
FLRG	10272	52.0	962-233,660	1:2	1:2	1:2
Flt-3 Ligand	2323	1.50	17.5-4,260	1:2	1:2	1:2
Follistatin	10468	133	2,675-650,000	1:2	1:2	1:2
Follistatin-like 1	11167	281	1,207-293,190	1:2	1:2	1:2
Galectin-1	3956	632	1,822-442,650	1:2	1:2	1:2
Galectin-3	3958	1.68	18.4-4,470	1:2	1:50	1:50
Galectin-3BP/MAC-2BP	3959	194	830-201,700	1:2	1:50	1:50
Galectin-9	3965	29.0	79.8-19,400	1:2	1:2	1:2
Gas6	2621	3.58	109-26,560	1:2	1:50	1:50
G-CSF	1440	4.1	33.7-8,200	1:2	1:2	1:2
GDF-15	9518	1.2	34.0-8,270	1:2	1:2	1:2
GDNF	2668	0.582	4.4-1,070	1:2	1:2	1:2
GFAP	2670	7.34	65.3-15,860	1:2	1:2	1:2
GitR	8784	11.1	152-37,010	1:2	1:2	1:2
Glucagon	2641	11.7	42.8-10,400	1:2	1:2	1:2
GM-CSF	1437	4.1	29.9-7,260	1:2	1:2	1:2
gp130	3572	11.2	225-54,630	1:2	1:2	1:2
Granzyme A	3001	2.18	27.4-6,650	1:2	1:2	1:2
Granzyme B	3002	1.42	22.2-5,400	1:2	1:2	1:2
Growth Hormone	2688	12.2	76.1-18,500	1:2	1:2	1:2
HB-EGF	1839	0.4	11.2-2,710	1:2	1:2	1:2
HE4/WFDC-2	10406	10.8	198-48,000	1:2	1:2	1:2

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## Human Analytes for Luminex Assays

Analyte	Entrez Gene ID	Sensitivity (Mean Minimum Detectable Dose; pg/mL)	Standard Curve Range (pg/mL)*	Starting Sample Dilution		
				Cell Culture Supernate	Serum	Heparin/ EDTA Plasma
HGF	3082	1.0	40.9-9,940	1:2	1:2	1:2
HGF R/c-MET	4233	2.48	165-40,120	1:2	1:50	1:50
HMW Adiponectin	9370	438	4,050-984,140	1:2	1:50	1:50
HTRA2/Omi	27429	0.955	55.8-13,550	1:2	1:2	1:2
ICAM-1	3383	87.9	7,357-1,787,790	1:2	1:2	1:2
IFN-β	3456	0.476	14.1-3,430	1:2	1:2	1:2
IFN-γ	3458	0.4	299-24,200	1:2	1:2	1:2
IFN-γ R1	3459	0.110	4.12-1,000	1:2	1:2	1:2
IGFBP-1	3484	42.6	163-39,690	1:2	1:2	1:2
IGFBP-2	3485	116	764-185,720	1:2	1:50	1:50
IGFBP-3	3486	248	2,825-686,400	1:2	1:2	1:2
IGFBP-4	3487	16.2	184-44,670	1:2	1:2	1:2
IGFBP-6	3489	2.38	38.3-9,308	1:2	1:200	1:200
IGFBP-rp1/IGFBP-7	3490	118	385-93,600	1:2	1:2	1:2
IL-1α	3552	0.9	7.86-1,910	1:2	1:2	1:2
IL-1β	3553	0.8	17.8-4,320	1:2	1:2	1:2
IL-1 ra/IL-1F3	3557	18.0	39.0-9,480	1:2	1:2	1:2
IL-1 RI	3554	4.49	90.2-21,930	1:2	1:2	1:2
IL-1 RII	7850	18.0	262-63,580	1:2	1:2	1:2
IL-2	3558	1.8	32.3-7,840	1:2	1:2	1:2
IL-2 Rα/CD25	3559	1.30	21.4-5,190	1:2	1:2	1:2
IL-3	3562	11.6	80.7-19,600	1:2	1:2	1:2
IL-4	3565	9.3	18.3-4,440	1:2	1:2	1:2
IL-4 Rα	3566	0.29	2.42-589	1:2	1:2	1:2
IL-5	3567	0.5	17.6-4,270	1:2	1:2	1:2
IL-6	3569	1.7	14.1-3,420	1:2	1:2	1:2
IL-6 Rα	3570	0.580	82.9-20,140	1:2	1:2	1:2
IL-7	3574	0.410	5.88-1,430	1:2	1:2	1:2
IL-10	3586	1.6	13.7-3,340	1:2	1:2	1:2
IL-11	3589	24.7	516-125,410	1:2	1:2	1:2
IL-12/23 p40	3593	35.2	383-93,100	1:2	1:2	1:2
IL-12 p70	3592	20.2	278-67,590	1:2	1:2	1:2
IL-13	3596	32.4	373-90,600	1:2	1:2	1:2
IL-15	3600	1.01	7.70-1,870	1:2	1:2	1:2
IL-16	3603	1.35	40.6-9,870	1:2	1:2	1:2
IL-17A	3605	1.8	21.5-5,220	1:2	1:2	1:2
IL-17C	27189	1.57	45.6-11,080	1:2	1:2	1:2
IL-17E/IL-25	64806	27.7	313-76,130	1:2	1:2	1:2
IL-18	3606	1.93	58.6-14,250	1:2	1:2	1:2
IL-18 BPa	10068	1.9	93.3-22,660	1:2	1:2	1:2
IL-19	29949	64.3	257-62,360	1:2	1:2	1:2
IL-21	59067	0.869	29.4-7,140	1:2	1:2	1:2
IL-22	50616	11.7	16.7-4,050	1:2	1:2	1:2
IL-23	51561	11.4	221-53,800	1:2	1:2	1:2
IL-27	246778	122	433-105,300	1:2	1:2	1:2
IL-28A/IFN-λ2	282616	8.6	245-59,480	1:2	1:2	1:2
IL-28B/IFN-λ3	282617	8.35	209-50,900	1:2	1:2	1:2
IL-31	386653	9.72	49.9-12,120	1:2	1:2	1:2
IL-33	90865	1.8	46.7-11,360	1:2	1:2	1:2
IL-34	146433	18.7	88.8-21,580	1:2	1:2	1:2
IL-36β/IL-1F8	27177	0.903	4.53-1,100	1:2	1:2	1:2
Inhibin, Total	2310, 2312	21.7	50.3-12,220	1:2	1:2	1:2
Insulin	3630	9.91	31.7-7,700	1:2	1:2	1:2

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## Human Analytes for Luminex Assays

Analyte	Entrez Gene ID	Sensitivity (Mean Minimum Detectable Dose; pg/mL)	Standard Curve Range (pg/mL)*	Starting Sample Dilution		
				Cell Culture Supernate	Serum	Heparin/ EDTA Plasma
Insulin C-Peptide	3630	2.83	41.6-10,120	1:2	1:2	1:2
<b>ITIH4</b>	3700	141	1,069-259,700	1:2	1:200	1:200
Kallikrein 3/PSA	354	8.30	61.5-14,940	1:2	1:2	1:2
<b>Kallikrein 5</b>	25818	81.5	367-89,280	1:2	1:2	1:2
Kallikrein 6/Neurosin	5653	5.45	277-67,240	1:2	1:2	1:2
Lactoferrin	4057	201	573-139,190	1:2	1:50	1:50
<b>LBP</b>	3929	839	7,470-1,815,240	1:2	1:200	1:200
Leptin	3952	10.2	504-122,550	1:2	1:2	1:2
Leptin R	3953	283	4,182-1,016,310	1:2	1:2	1:2
LIF	3976	9.31	68.1-16,550	1:2	1:2	1:2
LIGHT	8740	0.691	11.4-2,770	1:2	1:2	1:2
Lipocalin-2/NGAL	3934	29.2	140-33,920	1:2	1:50	1:50
<b>LRG1</b>	116844	13.7	231-56,170	1:2	1:200	1:200
L-Selectin	6402	106	1,771-430,420	1:2	1:2	1:2
<b>Lumican</b>	4060	497	9,458-2,298,400	1:2	1:50	1:50
Lymphotoxin- $\alpha$ /TNF- $\beta$	4049	1.52	8.97-2,180	1:2	1:2	1:2
M-CSF	1435	33.3	491-119,300	1:2	1:2	1:2
<b>MAdCAM-1</b>	8174	51.3	1,074-260,896	1:2	1:2	1:2
MBL	4153	1.78	44.2-10,730	1:2	1:4,000	1:4,000
<b>MCAM/CD146</b>	4162	3.50	215-52,240	1:2	1:2	1:2
Mesothelin	10232	22.9	802-194,860	1:2	1:2	1:2
<b>MFG-E8</b>	4240	29.4	392-95,200	1:2	1:2	1:2
MIA	8190	53.3	211-51,220	1:2	1:2	1:2
<b>MICA</b>	100507436	5.35	74.5-18,100	1:2	1:2	1:2
<b>MICB</b>	4277	35.8	148-36,000	1:2	1:2	1:2
Midkine	4192	6.64	45.1-10,950	1:2	1:2	1:2
MIF	4282	38.8	229-55,600	1:2	1:2	1:2
MMP-1	4312	2.7	32.0-7,780	1:2	1:2	1:2
MMP-2	4313	108	296-71,930	1:2	1:50	1:50
MMP-3	4314	5.3	41.5-10,080	1:2	1:2	1:2
MMP-7	4316	23.2	602-146,280	1:2	1:2	1:2
MMP-8	4317	34.2	223-54,130	1:2	1:2	1:2
MMP-9	4318	13.6	181-44,070	1:2	1:50	1:50
MMP-10	4319	1.3	53.7-13,050	1:2	1:2	1:2
MMP-12	4321	7.1	33.9-8,230	1:2	1:2	1:2
MMP-13	4322	19.0	126-30,580	1:2	1:2	1:2
MPO	4353	20.4	142-34,500	1:2	1:50	1:50
<b>MSP/MST1</b>	4485	26.9	103-25,000	1:2	1:200	1:200
<b>NAGLU</b>	4669	7.68	398-96,700	1:2	1:2	1:2
<b>N-Cadherin</b>	1000	55.1	1,015-246,650	1:2	1:50	1:50
NCAM-1	4684	412	872-212,000	1:2	1:2	1:2
<b>Nectin-4</b>	81607	17.2	81.5-19,810	1:2	1:2	1:2
<b>Nephrin</b>	4868	22.2	633-153,930	1:2	1:2	1:2
<b>NRG1-<math>\beta</math>1/HRG1-<math>\beta</math>1</b>	3084	4.63	37.9-9,200	1:2	1:2	1:2
<b>NT-4</b>	4909	1.30	9.05-2,200	1:2	1:2	1:2
<b>NT-Pro-ANP</b>	4878	66.2	239-58,110	1:2	1:2	1:2
<b>Neuropilin-1</b>	8829	5.31	86.2-20,950	1:2	1:50	1:50
Oncostatin M	5008	44.3	378-91,950	1:2	1:2	1:2
Osteoactivin	10457	31.4	880-213,800	1:2	1:2	1:2
Osteopontin	6696	413	3,403-826,910	1:2	1:2	1:2
Osteoprotegerin	4982	3.62	81.4-19,770	1:2	1:2	1:2
Park5/UCH-L1	7345	60.7	2,982-241,550	1:2	1:2	1:2
<b>Park7/DJ-1</b>	11315	49.1	279-67,880	1:2	1:2	1:2

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## Human Analytes for Luminex Assays

Analyte	Entrez Gene ID	Sensitivity (Mean Minimum Detectable Dose; pg/mL)	Standard Curve Range (pg/mL)*	Starting Sample Dilution		
				Cell Culture Supernate	Serum	Heparin/ EDTA Plasma
PBEF/Visfatin	10135	2.243	9.926-2.411.900	1:2	1:2	1:2
PDGF-AA	5154	0.747	4.61-1.120	1:2	1:50	1:2
PDGF-AB	5154/5155	3.28	35.4-8.605	1:2	1:2	1:2
PDGF-BB	5155	0.200	14.9-3.630	1:2	1:50	1:50
PDGF-CC	56034	2.49	74.2-18.020	1:2	1:2	1:2
PDGF-DD	80310	0.200	19.3-4.690	1:2	1:2	1:2
Pentraxin 2/SAP		1.66	75.8-18.410	1:2	1:40,000	1:40,000
Pentraxin 3/TSG-14	5806	39.5	347-84,300	1:2	1:2	1:2
Periostin/OSF-2	10631	80.9	1.084-263,500	1:2	1:2	1:2
PLA2G7/PAF-AH/Lp-PLA2	7941	326	3.647-886,100	1:2	1:2	1:2
PIGF	5228	3.9	11.9-2.890	1:2	1:2	1:2
PP14/Glycodelin	5047	318	874-212,310	1:2	1:2	1:2
Procalcitonin	796	0.967	12.8-3,120	1:2	1:2	1:2
Progranulin	2896	174	1.023-248,600	1:2	1:2	1:2
Prolactin	5617	224	1.111-270,000	1:2	1:2	1:2
Properdin	5199	148.3	2.330-566,160	1:2	1:200	1:200
Proprotein Convertase 9/PCSK9	255738	246	900-218,610	1:2	1:2	1:2
Protein S/PROS1	5627	8.15	128-31,030	1:2	1:4,000	1:4,000
Proteinase 3/PRTN3	5657	1.41	7.41-1,800	1:2	1:50	1:50
P-Selectin	6403	9.0	210-51,060	1:2	1:2	1:2
RAGE	177	7.23	216-52,380	1:2	1:2	1:2
RBP4	5950	231	554-134,740	1:2	1:4,000	1:4,000
Reg3A	5068	3.71	253-61,550	1:2	1:2	1:2
Relaxin-2	6019	6.72	84.4-20,520	1:2	1:2	1:2
Renin	5972	21.1	189-45,900	1:2	1:2	1:2
Resistin	56729	3.04	40.7-9,890	1:2	1:2	1:2
ROBO4	54538	1.50	92.4-22,450	1:2	1:2	1:2
S100A8	6279	15.3	85.2-20,700	1:2	1:2	1:2
S100A9	6280	6.39	26.9-6,530	1:2	1:2	1:2
S100B	6285	4.34	93.4-22,700	1:2	1:2	1:2
SCF	4254	1.36	51.4-12,500	1:2	1:2	1:2
SCF R/CD117/c-kit	3815	93.5	755-183,370	1:2	1:2	1:2
SCGF/CLEC11a	6320	12.6	369-89,680	1:2	1:2	1:2
Serpin A7/TBG	6906	28.4	885-215,160	1:2	1:200	1:200
Serpin A10/ZPI	51156	20.8	955-232,088	1:2	1:200	1:200
Serpin A12/Vaspin	145264	2.85	54.1-13,150	1:2	1:2	1:2
Serpin B3/SCCA1	6317	17.6	81-19,690	1:2	1:2	1:2
Serpin C1/Antithrombin-III	462	207	3,080-748,500	1:2	1:200	1:200
Serpin E1/PAI-1	5054	0.670	20.1-4,890	1:2	1:200	1:200
Serpin F1/PEDF	5176	3.66	143-34,793	1:2	1:4,000	1:4,000
Serum Amyloid A1	6288	53.9	302-73,360	1:2	1:200	1:200
SHBG	6462	705	9,090-2,208,870	1:2	1:50	1:50
SLPI	6590	31.4	732-177,950	1:2	1:2	1:2
SPARC	6678	97.9	3,415-829,920	1:2	1:50	1:50
SP-D	6441	21.3	254-61,600	1:2	1:2	1:2
ST2/IL-1 R4	9173	29.9	580-140,860	1:2	1:2	1:2
Syndecan-1/CD138	6382	15.6	173-42,110	1:2	1:2	1:2
Syndecan-4	6385	1.69	56.2-13,660	1:2	1:2	1:2
Synuclein-α	6622	5.16	29.6-7,200	1:2	1:2	1:2
TAC1	23495	0.590	13.3-3,240	1:2	1:2	1:2
Tau	4137	4.49	108-26,150	1:2	1:2	1:2
Tenascin C	3371	6.58	37.9-9,210	1:2	1:2	1:2
TFF3	7033	0.819	18.9-4,600	1:2	1:2	1:2

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## Human Analytes for Luminex Assays

Analyte	Entrez Gene ID	Sensitivity (Mean Minimum Detectable Dose; pg/mL)	Standard Curve Range (pg/mL)*	Starting Sample Dilution		
				Cell Culture Supernate	Serum	Heparin/ EDTA Plasma
TFPI	7035	33.1	339-82,300	1:2	1:2	1:2
TfR	7037	67.5	561-136,400	1:2	1:200	1:200
TGF- $\alpha$	7039	0.820	22.0-5,350	1:2	1:2	1:2
Thrombomodulin	7056	7.06	82.5-20,050	1:2	1:2	1:2
Thrombospondin-2	7058	30.7	349-84,860	1:2	1:2	1:2
Thymidine Kinase 1/TK1	7083	6.64	48.2-11,710	1:2	1:2	1:2
Tie-1	7075	224	4,547-1,104,890	1:2	1:2	1:2
Tie-2	7010	16.0	431-104,790	1:2	1:2	1:2
TIM-1/KIM-1/HAVCR	26762	17.3	83.0-20,160	1:2	1:2	1:2
TIMP-1	7076	3.42	73.2-17,790	1:2	1:50	1:50
TNF- $\alpha$	7124	1.2	14.9-3,620	1:2	1:2	1:2
TNF RI	7132	41.0	221-53,820	1:2	1:2	1:2
TNF RII	7133	0.450	5.72-1,390	1:2	1:2	1:2
Tpo	7066	24.8	494-119,940	1:2	1:2	1:2
TRAIL/TNSF10	8743	9.65	29.1-7,060	1:2	1:2	1:2
TRAIL R2/DR5	8795	2.15	19.5-4,740	1:2	1:2	1:2
TRAIL R3/TNFRSF10C	8794	1.72	398-96,780	1:2	1:2	1:2
TRANCE/RANK L/TNFSF11	8600	4.68	43.3-10,510	1:2	1:2	1:2
TREM-1	54210	10.7	131-31,780	1:2	1:2	1:2
TSLP	85480	0.432	2.92-710	1:2	1:2	1:2
ULBP-1	80329	6.41	98.8-24,000	1:2	1:2	1:2
ULBP-2/5/6	80328, 353091, 154064	62.3	119-29,000	1:2	1:2	1:2
ULBP-3	79465	8.42	169-41,000	1:2	1:2	1:2
ULBP-4/RAET1E	135250	26.0	146-35,400	1:2	1:2	1:2
uPA/Urokinase	5328	23.5	133-32,200	1:2	1:2	1:2
uPAR	5329	43.2	424-103,000	1:2	1:2	1:2
Uromodulin	7369	36.6	777-188,770	1:2	1:50	1:50
Uteroglobin	7356	3.98	30.5-7,400	1:2	1:50	1:50
VAP-1	8639	5.37	73.5-17,850	1:2	1:50	1:50
VCAM-1	7412	238	7,696-1,870,100	1:2	1:2	1:2
VEGF-A	7422	2.1	13.2-3,210	1:2	1:2	1:2
VEGF-C	7424	5.46	57.6-14,000	1:2	1:2	1:2
VEGF-D	2277	11.1	67.5-16,400	1:2	1:2	1:2
VEGF R1/Flt-1	2321	5.68	72.1-17,530	1:2	1:2	1:2
VEGF R2/KDR	3791	7.40	154-37,400	1:2	1:2	1:2
VEGF R3	2324	2.71	96.4-23,420	1:2	1:2	1:2
Vitamin D Binding Protein	2638	227	7,348-1,785,490	1:2	1:50	1:50
vWF-A2	7450	11.9	45.7-11,100	1:2	1:2	1:2
XCL1/Lymphotactin	6375	53.0	90.5-7,330	1:2	1:2	1:2

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## Mouse Analytes for Luminex Assays

Analyte	Entrez Gene ID	Sensitivity (Mean Minimum Detectable Dose; pg/mL)	Standard Curve Range (pg/mL)*	Recommended Starting Dilution		
				Cell Culture Supernates/Lysates	Serum	EDTA and Heparin Plasma
Adiponectin	11450	7.55	29.9-7,260	1:2	1:4,000	1:4,000
Angiotensin-2	11601	1.88	638-155,080	1:2	1:2	1:2
BAFF/BlyS/TNFSF13B	24099	11.1	84.3-20,490	1:2	1:2	1:2
<b>β-NGF</b>	18049	1.06	12.3-3,000	1:2	1:2	1:2
C1q R1/CD93	17064	5.33	162-39,480	1:2	1:2	1:2
CCL2/JE/MCP-1	20296	134	415-100,770	1:2	1:2	1:2
CCL3/MIP-1α	20302	0.452	10.9-2,640	1:2	1:2	1:2
CCL4/MIP-1β	20303	77.4	856-69,360	1:2	1:2	1:2
CCL5/RANTES	20304	19.1	110-26,770	1:2	1:2	1:2
<b>CCL7/MARC</b>	20306	1.69	7.86-1,910	1:2	1:2	1:2
<b>CCL8/MCP-2</b>	20307	0.283	8.15-1,980	1:2	1:200	1:200
CCL11/Eotaxin	20292	1.46	18.6-4,530	1:2	1:2	1:2
CCL12/MCP-5	20293	0.613	8.23-2,000	1:2	1:2	1:2
CCL19/MIP-3β	6363	2.28	9.88-2,400	1:2	1:2	1:2
CCL20/MIP-3α	20297	39.5	215-52,270	1:2	1:2	1:2
<b>CCL21/6Ckine</b>	18829	0.056	2.51-610	1:2	1:50	1:50
CCL22/MDC	20299	0.965	28.4-6,910	1:2	1:2	1:2
<b>Chitinase 3-like 1/ YKL40</b>	1116	18.2	77-18,700	1:2	1:50	1:50
C-Reactive Protein	12944	13.3	240-58,350	1:2	1:200	1:200
CXCL1/KC	14825	32.9	72.3-17,570	1:2	1:2	1:2
CXCL2/MIP-2	20310	1.97	5.80-1,410	1:2	1:2	1:2
CXCL10/IP-10/CRG-2	15945	6.85	153-37,170	1:2	1:2	1:2
CXCL12/SDF-1α	20315	19.1	581-141,140	1:2	1:2	1:2
CXCL13/BLC/BCA-1	10563	19.3	187-45,530	1:2	1:2	1:2
<b>CXCL16</b>	58191	1.47	9.01-2,190	1:2	1:2	1:2
Cystatin C	13010	2.61	60.8-14,780	1:2	1:200	1:200
Dkk-1	13380	31.8	365-88,720	1:2	1:2	1:2
<b>DPPiV/CD26</b>	1803	135.0	394-95,790	1:2	1:2	1:2
Endoglin	13805	6.15	124-30,150	1:2	1:2	1:2
<b>EGF</b>	1950	0.089	0.53-130	1:2	1:2	1:2
<b>EGF R</b>	13649	25.4	683-165,910	1:2	1:200	1:200
<b>EMMPRIN/CD147</b>	12215	10.5	136-32,990	1:2	1:2	1:2
<b>Epo</b>	13856	25.3	98.2-23,870	1:2	1:2	1:2
Factor D/Adipsin	11537	323	4,730-1,149,300	1:2	1:200	1:200
<b>FABP4/A-FABP</b>	11770	4.42	34.1-8,290	1:2	1:50	1:50
<b>Fas</b>	14102	2.26	64.2-15,600	1:2	1:2	1:2
<b>Fas Ligand</b>	356	2.34	32.7-7,940	1:2	1:2	1:2
FGF-basic	14173	41.3	157-12,700	1:2	1:2	1:2
FGF-21	56636	0.914	74.4-18,080	1:2	1:2	1:2
G-CSF	12985	0.774	48.6-11,820	1:2	1:2	1:2
<b>Galectin-3</b>	3958	0.255	3.34-812	1:2	1:200	1:200
<b>GDF-15</b>	23886	0.630	14.7-3,570	1:2	1:2	1:2
Glucagon	14526	58.5	136-32,940	1:2	1:2	1:2
GM-CSF	12981	1.64	20.5-4,980	1:2	1:2	1:2
Granzyme B	14939	0.858	20.0-4,850	1:2	1:2	1:2
<b>Haptoglobin</b>	3240	118	2,131-517,720	1:2	1:4,000	1:4,000
HGF	15234	3.33	39.6-9,620	1:2	1:2	1:2
ICAM-1	15894	52.7	627-152,270	1:2	1:2	1:2
IFN-γ	15978	1.85	19.8-4,820	1:2	1:2	1:2
IGFBP-1	3484	0.218	1.85-450	1:2	1:200	1:200
<b>IGF-I</b>	16000	3.46	36.5-8,870	1:2	1:50	1:50
IGFBP-3	16009	3.06	53.1-12,900	1:2	1:4000	1:4000

\*A standard curve must be generated each time an assay is run utilizing values from the Certificate of Analysis provided with each Luminex Assay. **Analyte** available exclusively from R&D Systems.

## Mouse Analytes for Luminex Assays

Analyte	Entrez Gene ID	Sensitivity (Mean Minimum Detectable Dose; pg/mL)	Standard Curve Range (pg/mL)*	Recommended Starting Dilution		
				Cell Culture Supernates/Lysates	Serum	EDTA and Heparin Plasma
IL-1 $\alpha$	16175	8.17	62.7-15,240	1:2	1:2	1:2
IL-1 $\beta$	16176	41.8	301-73,170	1:2	1:2	1:2
IL-2	16183	0.481	10.9-2,640	1:2	1:2	1:2
IL-3	3562	0.200	2.63-640	1:2	1:2	1:2
IL-4	16189	53.0	86.7-21,070	1:2	1:2	1:2
IL-5	16191	0.237	10.7-2,600	1:2	1:2	1:2
IL-6	16193	2.30	56.3-13,670	1:2	1:2	1:2
IL-6 R $\alpha$	16194	26.8	431-104,770	1:2	1:2	1:2
IL-7	16196	35.4	267-64,770	1:2	1:2	1:2
IL-10	16153	8.20	36.6-8,650	1:2	1:2	1:2
IL-12 p70	16159	12.8	31.9-15,040	1:2	1:2	1:2
IL-13	16163	6.46	13.69-3,327	1:2	1:2	1:2
IL-16	3603	0.547	14.2-3,460	1:2	1:2	1:2
IL-17A	16171	7.08	140-33,910	1:2	1:2	1:2
IL-17E/IL-25	140806	9.35	147-35,790	1:2	1:2	1:2
IL-23 p19	83430	47.7	173-42,140	1:2	1:2	1:2
IL-27	246779	1.88	45.2-10,990	1:2	1:2	1:2
IL-33	77125	57.1	172-41,790	1:2	1:2	1:2
LDL R	16835	411	1,227-298,080	1:2	1:2	1:2
Leptin	16846	12.6	85.4-20,750	1:2	1:2	1:2
Lipocalin-2/NGAL	16819	66.1	434-105,420	1:2	1:50	1:50
LIX	20311	2.02	63.3-15,370	1:2	1:2	1:2
M-CSF	12977	0.404	10.1-2,460	1:2	1:2	1:2
MMP-2	4313	48.8	214-51,970	1:2	1:200	1:200
MMP-3	17392	0.320	15.3-3,720	1:2	1:200	1:200
MMP-8	17394	231	4,657-1,131,617	1:2	1:2	1:2
MMP-9	17395	47.1	173-42,050	1:2	1:50	1:50
MMP-12	17381	0.410	20.9-5,090	1:2	1:2	1:2
Nephrin	4868	154,000	680-165,220	1:2	1:2	1:2
Oncostatin M (OSM)	18413	4.75	72.3-17,580	1:2	1:2	1:2
Osteopontin	20750	2.37	40.3-9,790	1:2	1:50	1:50
Osteoprotegerin	4982	6.32	48.9-11,890	1:2	1:2	1:2
Pancreatic Polypeptide/PP	19064	23.3	252-61,160	1:2	1:2	1:2
Periostin/OSF-2	50706	201	1,370-332,890	1:2	1:200	1:200
PDGF-AA	18590	0.889	4.16-1,010	1:2	1:200	1:200
PDGF-AB	5154/5155	0.725	8.20-1,993	1:2	1:2	1:2
PDGF-BB	18591	1.49	29.4-7,150	1:2	1:50	1:50
PIGF-2	18654	1.70	9.37-2,270	1:2	1:2	1:2
Podocalyxin	27205	3.96	115-28,000	1:2	1:2	1:2
Prolactin	5617	2.67	64-15,550	1:2	1:2	1:2
Proprotein Convertase 9/PCSK9	100102	289	424-102,850	1:2	1:2	1:2
P-Selectin	20344	2.60	138-33,580	1:2	1:2	1:2
RAGE	11596	18.0	54.3-13,200	1:2	1:2	1:2
Renin	19701	13.2	129-31,300	1:2	1:2	1:2
Resistin	57264	0.737	10.4-2,520	1:2	1:50	1:50
S100A8	20201	61.3	278-67,490	1:2	1:2	1:2
S100A9	20202	3.55	110-26,720	1:2	1:2	1:2
Serpin E1/PAI-1	5054	5.71	30.2-7,340	1:2	1:50	1:2
SOST	74499	22.70	16.3-3,950	1:2	1:2	1:2
SP-D	20390	10.7	234-56,760	1:2	1:2	1:2
Syndecan-1/CD138	20969	288	1,066-259,100	1:2	1:2	1:2
Thrombospondin-4	21828	17.5	256-62,290	1:2	1:200	1:200
TIM-1/KIM-1/HAVCR	171283	13.1	257-62,380	1:2	1:2	1:2

\*A standard curve must be generated each time an assay is run utilizing values from the Certificate of Analysis provided with each Luminex Assay. Analyte available exclusively from R&D Systems.

## Mouse Analytes for Luminex Assays

Analyte	Entrez Gene ID	Sensitivity (Mean Minimum Detectable Dose; pg/mL)	Standard Curve Range (pg/mL)*	Recommended Starting Dilution		
				Cell Culture Supernates/Lysates	Serum	EDTA and Heparin Plasma
TIMP-1	7076	12.4	59.1-14,350	1:2	1:2	1:2
TIMP-4	7079	14.4	123-29,850	1:2	1:2	1:2
TNF- $\alpha$	21926	1.47	3.37-820	1:2	1:2	1:2
TNF RI	21937	0.076	5.43-1,320	1:2	1:50	1:50
TNF RII	21938	2.08	46.7-11,340	1:2	1:2	1:2
TRANCE/RANK L	21943	7.51	59.1-14,370	1:2	1:2	1:2
TWEAK	21944	0.184	2.88-700	1:2	1:2	1:2
uPAR	18793	70.9	1,080-262,520	1:2	1:2	1:2
VEGF	22339	3.96	15.5-3,760	1:2	1:2	1:2
VEGF R2/KDR	16542	27.5	267-64,810	1:2	1:2	1:2

\*A standard curve must be generated each time an assay is run utilizing values from the Certificate of Analysis provided with each Luminex Assay. Analyte available exclusively from R&D Systems.

## Rat Analytes for Luminex Assays

Analyte	Entrez Gene ID	Sensitivity (Mean Minimum Detectable Dose; pg/mL)	Standard Curve Range (pg/mL)*	Starting Sample Dilution		
				Cell Culture Supernate	Serum	Heparin/EDTA Plasma
CXCL3/CINC-2 $\alpha$ / $\beta$	114105	3.10	49.1-11,940	1:2	1:2	1:2
CXCL2/CINC-3	171551	10.4	170-41,240	1:2	1:2	1:2
GM-CSF	116630	7.91	82.6-20,070	1:2	1:2	1:2
ICAM-1	25464	7.52	137-33,270	1:2	1:2	1:2
IFN- $\gamma$	25712	70.5	460-111,870	1:2	1:2	1:2
IL-10	25325	18.6	59.2-14,380	1:2	1:2	1:2
IL-13	116553	6.08	173-41,920	1:2	1:2	1:2
IL-18	29197	8.89	11.4-2,780	1:2	1:2	1:2
IL-1 $\alpha$	24493	13.0	296-71,990	1:2	1:2	1:2
IL-1 $\beta$	24494	26.7	145-35,170	1:2	1:2	1:2
IL-2	116562	45.9	569-138,330	1:2	1:2	1:2
IL-4	287287	5.41	29.6-7,200	1:2	1:2	1:2
IL-6	24498	56.0	1,759-427,350	1:2	1:2	1:2
L-Selectin	29259	33.6	438-106,530	1:2	1:2	1:2
TIMP-1	116510	5.38	319-77,620	1:2	1:2	1:2
TNF- $\alpha$	24835	22.1	515-125,080	1:2	1:2	1:2
VEGF	83785	4.28	54.9-13,330	1:2	1:2	1:2

\*A standard curve must be generated each time an assay is run utilizing values from the Certificate of Analysis provided with each Luminex Assay.

# Luminex® High Performance Assays

Luminex High Performance Assays are our most accurate and precise bead-based multianalyte profiling kits. High Performance Assays are designed for researchers quantitating a defined set of analytes and needing the highest multiplex assay performance for select analytes with regard to recovery, linearity, and lot-to-lot reproducibility. In-house testing indicates that analyte concentrations determined with our Luminex High Performance Assays correlate closely with those obtained with our Quantikine® ELISAs. High Performance Assays are fully validated for each sample type listed. The assays rely on diluents optimized for each panel, providing maximum performance for measuring the specific analytes in that panel. Analyte-specific reagents are available either as a complete panel or as a smaller subset from any panel. The kits can be used to measure target analytes in their validated sample types, which can include cell culture supernatants, serum, plasma, urine, saliva, and milk.

## Human Magnetic XL Cytokine Discovery Panel

Product	Sample Type	Sensitivity	Range	Catalog #	Size
B7-H1/PD-L1	S P C	6.28 pg/mL	75.1-54,740 pg/mL	LUXLM156	1 Kit
CCL3/MIP-1 $\alpha$	S P C	1.58 pg/mL	13.9-3,380 pg/mL	LUXLM270	1 Kit
CCL4/MIP-1 $\beta$	S P C	18.4 pg/mL	91.1-66,420 pg/mL	LUXLM271	1 Kit
CCL11/Eotaxin	S P C	1.81 pg/mL	32.3-23,580 pg/mL	LUXLM320	1 Kit
CCL19/MIP-3 $\beta$	S P C	0.6 pg/mL	4.3-3,100 pg/mL	LUXLM361	1 Kit
CCL20/MIP-3 $\alpha$	S P C	1.05 pg/mL	1.9-1,360 pg/mL	LUXLM360	1 Kit
CCL22/MDC	S P C	3.53 pg/mL	18.2-13,260 pg/mL	LUXLM336	1 Kit
CD40 Ligand	S P C	110.16 pg/mL	536.2-390,860 pg/mL	LUXLM617	1 Kit
CX3CL1/Fractalkine	S P C	16.3 pg/mL	167.8-122,360 pg/mL	LUXLM362	1 Kit
CXCL1/GRO $\alpha$	S P C	25.2 pg/mL	21.6-15,780 pg/mL	LUXLM275	1 Kit
CXCL2/GRO $\beta$	S P C	0.827 pg/mL	10.6-7,740 pg/mL	LUXLM276	1 Kit
CXCL8/IL-8	S P C	0.36 pg/mL	1.6-1,170 pg/mL	LUXLM208	1 Kit
CXCL10/IP-10	S P C	0.16 pg/mL	2.4-1,770 pg/mL	LUXLM266	1 Kit
EGF	S P C	1.21 pg/mL	7.6-5,560 pg/mL	LUXLM236	1 Kit
FGF-basic	S P C	4.95 pg/mL	11.3-8,210 pg/mL	LUXLM233	1 Kit
Flt-3 ligand	S P C	3.09 pg/mL	24.1-17,590 pg/mL	LUXLM308	1 Kit
G-CSF	S P C	0.62 pg/mL	8.4-6,160 pg/mL	LUXLM214	1 Kit
GM-CSF	S P C	1.56 pg/mL	17.3-12,640 pg/mL	LUXLM215	1 Kit
Granzyme B	S P C	1.04 pg/mL	4.5-3,270 pg/mL	LUXLM2906	1 Kit
IFN- $\alpha$	S P C	0.29 pg/mL	9.8-7,180 pg/mL	LUXLM9345	1 Kit
IFN- $\beta$	S P C	0.31 pg/mL	3.6-2,620 pg/mL	LUXLM814	1 Kit
IFN- $\gamma$	S P C	1.37 pg/mL	6.1-4,450 pg/mL	LUXLM285	1 Kit
IL-10	S P C	2.93 pg/mL	26.5-19,330 pg/mL	LUXLM217	1 Kit
IL-12 p70	S P C	2.39 pg/mL	19.0-13,880 pg/mL	LUXLM219	1 Kit
IL-13	S P C	3.39 pg/mL	31.9-23,255 pg/mL	LUXLM213	1 Kit
IL-15	S P C	0.26 pg/mL	1.8-1,290 pg/mL	LUXLM247	1 Kit
IL-17A	S P C	1.09 pg/mL	11.1-8,120 pg/mL	LUXLM317	1 Kit
IL-17E/IL-25	S P C	1.95 pg/mL	17.2-12,570 pg/mL	LUXLM1258	1 Kit
IL-1 $\alpha$	S P C	0.41 pg/mL	5.1-3,730 pg/mL	LUXLM200	1 Kit
IL-1 $\beta$	S P C	0.25 pg/mL	3.1-2,250 pg/mL	LUXLM201	1 Kit
IL-1ra	S P C	5.98 pg/mL	8.3-6,050 pg/mL	LUXLM280	1 Kit
IL-2	S P C	0.25 pg/mL	3.1-2,260 pg/mL	LUXLM202	1 Kit
IL-3	S P C	2.63 pg/mL	16.8-12,270 pg/mL	LUXLM203	1 Kit
IL-4	S P C	0.07 pg/mL	1.1-810 pg/mL	LUXLM204	1 Kit
IL-5	S P C	0.31 pg/mL	6.9-5,060 pg/mL	LUXLM205	1 Kit
IL-6	S P C	0.38 pg/mL	9.0-6,590 pg/mL	LUXLM206	1 Kit
IL-7	S P C	0.18 pg/mL	3.3-2,440 pg/mL	LUXLM207	1 Kit
IL-33	S P C	1.92 pg/mL	18.1-13,160 pg/mL	LUXLM3625	1 Kit
PDGF-AA	S P C	0.86 pg/mL	6.6-4,810 pg/mL	LUXLM221	1 Kit
PDGF-AB/BB	S P C	0.23 pg/mL	18.2-13,290 pg/mL	LUXLM9454	1 Kit

*continued >>>*

Sample Type Key: S Serum P Plasma C Cell Culture Supernatants U Urine V Saliva M Milk

Human Magnetic XL Cytokine Discovery Panel *continued*

Product	Sample Type	Sensitivity	Range	Catalog #	Size
RANTES	S P C	40.7 pg/mL	296.6–216,190 pg/mL	LUXLM278	1 Kit
TGF- $\alpha$	S P C	0.93 pg/mL	8.8–6,400 pg/mL	LUXLM239	1 Kit
TNF- $\alpha$	S P C	0.62 pg/mL	11.4–8,320 pg/mL	LUXLM210	1 Kit
TRAIL	S P C	2.32 pg/mL	25.4–18,540 pg/mL	LUXLM375	1 Kit
VEGF	S P C	1.17 pg/mL	7–4,820 pg/mL	LUXLM293	1 Kit
Pre-mixed Kit	N/A	N/A	N/A	FCSTM18	1 Kit
Base kit, Biomarker Panel A	N/A	N/A	N/A	LUXLM000	1 Kit

## Human Angiogenesis Magnetic Panel A

Product	Sample Types	Sensitivity	Range	Catalog #	Size
Angiogenin	S P C U M	2.7 pg/mL	2.5–10,200 pg/mL	LANM265	1 Kit
Angiopoietin-1	S P C U M	51.1 pg/mL	33–135,000 pg/mL	LANM923	1 Kit
Endostatin	S P C U M	31.9 pg/mL	22–90,000 pg/mL	LANM1098	1 Kit
FGF acidic	S P C U M	6.7 pg/mL	5–20,600 pg/mL	LANM232	1 Kit
FGF basic	S P C	4.91 pg/mL	24–5,750 pg/mL	LUHM233	1 Kit
PDGF-AA	S P C U M	1 pg/mL	1.8–7,400 pg/mL	LANM221	1 Kit
PDGF-BB	S P C U M	2 pg/mL	5.1–20,700 pg/mL	LANM220	1 Kit
PIGF	S P C U M	1 pg/mL	2.4–9,800 pg/mL	LANM264	1 Kit
Thrombospondin-2	S P C U M	6.71 pg/mL	51–209,000 pg/mL	LANM1635	1 Kit
VEGF	S P C	1.84 pg/mL	4–2,850 pg/mL	LUHM293	1 Kit
VEGF-D	S P C U M	19.1 pg/mL	18–75,000 pg/mL	LANM622	1 Kit
Base Kit, Human Angiogenesis Magnetic Panel A	N/A	N/A	N/A	LANM000	1 Kit
Pre-mixed Kit	N/A	N/A	N/A	FCSTM02	1 Kit

## Human Magnetic Biomarker Panel A

Product	Sample Type	Sensitivity	Range	Catalog #	Size
BAFF/BLyS/TNFSF13B	S P C	0.269 pg/mL	3.5–2,530 pg/mL	LBAM124	1 Kit
MIP-3 $\alpha$ /CCL20	S P C	0.0072 pg/mL	2.6–1,890 pg/mL	LBAM360	1 Kit
CD14	S P C	6.02 pg/mL	194–141,300 pg/mL	LBAM383	1 Kit
IL-2R/CD25	S P C	0.234 pg/mL	10.5–7,650 pg/mL	LBAM223	1 Kit
CD27/TNFRSF7	S P C	2.17 pg/mL	20.4–14,900 pg/mL	LBAM382	1 Kit
BLC/BCA-1/CXCL13	S P C	0.378 pg/mL	2.9–2,120 pg/mL	LBAM801	1 Kit
gp130	S P C	3.67 pg/mL	123–89,440 pg/mL	LBAM228	1 Kit
IL-6 R $\alpha$	S P C	0.276 pg/mL	16.6–12100 pg/mL	LBAM227	1 Kit
TNF RII/TNFRSF1B	S P	0.110 pg/mL	1.19–870 pg/mL	LUCAM726	1 Kit
Pre-mixed Kit	N/A	N/A	N/A	FCSTM13	1 Kit
Base kit, Biomarker Panel A	N/A	N/A	N/A	LBAM000	1 Kit

Sample Type Key: S Serum P Plasma C Cell Culture Supernatants U Urine V Saliva M Milk

Analyte available exclusively from R&D Systems.

## Human Magnetic Cardiac Panel A

Product	Sample Types	Sensitivity	Range	Catalog #	Size
CD40 Ligand	S P	7.58 pg/mL	52.4–38,200 pg/mL	LUBM201	1 Kit
GDF-15	S P	0.3 pg/mL	12.3–4,500 pg/mL	LUCAM975	1 Kit
Pappalysin-1/PAPP-A	S P	79 pg/mL	741–539,900 pg/mL	LUCAM2487	1 Kit
PCSK9	S P	32 pg/mL	121–88,450 pg/mL	LUCAM3888	1 Kit
ST2/IL-33R	S P	6 pg/mL	73.7–53,400 pg/mL	LUCAM523	1 Kit
TNF RII/TNFRSF1B	S P	0.2 pg/mL	6.58–4,800 pg/mL	LUCAM726	1 Kit
Base kit, Cardiac Panel A	N/A	N/A	N/A	LUCAM000	1 Kit
Pre-mixed Kit	N/A	N/A	N/A	FCSTM11	1 Kit

## Human Magnetic Cardiac Panel B

Product	Sample Type	Sensitivity	Range	Catalog #	Size
Pre-mixed Kit	N/A	N/A	N/A	FCSTM12	1 Kit
Base kit, Cardiac Panel B	N/A	N/A	N/A	LUCBM000	1 Kit
C-Reactive Protein/CRP	S P	8.87 pg/mL	198–144,000 pg/mL	LUCBM1707	1 Kit
Cystatin C	S P	20.1 pg/mL	469–342,000 pg/mL	LUCBM1196	1 Kit
Myeloperoxidase/MPO	S P	26.4 pg/mL	178–130,000 pg/mL	LUCBM3174	1 Kit
P-Selectin/CD62P	S P	3.35 pg/mL	67.4–49,100 pg/mL	LUCBM137	1 Kit
Serpin E1/PAI-1	S P	0.235 pg/mL	9.96–7,260 pg/mL	LUCBM1786	1 Kit
TIMP-1	S P	1.79 pg/mL	18.0–12,760 pg/mL	LUCBM970	1 Kit

## Human Cytokine Panel A

Product	Sample Types	Sensitivity	Range	Catalog #	Size
CCL2/JE/MCP-1	S P C	0.47 pg/mL	3.3–2,400 pg/mL	LUH279	1 Kit
CCL3/MIP-1 $\alpha$	S P C	1.45 pg/mL	16–12,000 pg/mL	LUH270	1 Kit
CCL4/MIP-1 $\beta$	S P C	0.72 pg/mL	5.76–4,200 pg/mL	LUH271	1 Kit
CCL5/RANTES	S P C	1.91 pg/mL	2–1,700 pg/mL	LUH278	1 Kit
CXCL5/ENA-78	S P C	4.14 pg/mL	6–4,000 pg/mL	LUH254	1 Kit
CXCL8/IL-8	S P C	1.97 pg/mL	3–2,500 pg/mL	LUH208	1 Kit
FGF basic	S P C U M	4.91 pg/mL	9–2,200 pg/mL	LUH233	1 Kit
G-CSF	S P C	1.48 pg/mL	3–2,400 pg/mL	LUH214	1 Kit
GM-CSF	S P C	1.98 pg/mL	7–1,800 pg/mL	LUH215C	1 Kit
IFN- $\gamma$	S P C	1.27 pg/mL	3–1,900 pg/mL	LUH285	1 Kit
IL-1 $\alpha$ /IL-1F1	S P C	0.36 pg/mL	3.5–2,600 pg/mL	LUH200B	1 Kit
IL-1 $\beta$ /IL-1F2	S P C	0.57 pg/mL	3–1,920 pg/mL	LUH201	1 Kit
IL-1ra/IL-1F3	S P C	10.91 pg/mL	16.9–4,100 pg/mL	LUH280	1 Kit
IL-2	S P C	2.23 pg/mL	3–2,320 pg/mL	LUH202	1 Kit
IL-4	S P C	4.46 pg/mL	9–2,200 pg/mL	LUH204	1 Kit
IL-5	S P C	0.71 pg/mL	2–1,300 pg/mL	LUH205	1 Kit
IL-6	S P C	1.11 pg/mL	3–2,400 pg/mL	LUH206	1 Kit
IL-10	S P C	0.3 pg/mL	3–2,320 pg/mL	LUH217	1 Kit
IL-17/IL-17A	S P C	1.1 pg/mL	3–2,100 pg/mL	LUH317	1 Kit
Thrombopoietin/Tpo	S P C	9.94 pg/mL	14–10,000 pg/mL	LUH288	1 Kit
TNF- $\alpha$	S P C	1.5 pg/mL	5.3–3,900 pg/mL	LUH210	1 Kit
VEGF	S P C U M	1.84 pg/mL	3–2,400 pg/mL	LUH293	1 Kit
Base Kit, Human Cytokine Panel A	N/A	N/A	N/A	LUH000	1 Kit
Pre-mixed Kit	N/A	N/A	N/A	FCST03	1 Kit

Sample Type Key: S Serum P Plasma C Cell Culture Supernatants U Urine V Saliva M Milk

## Human Cytokine Magnetic Panel A

Product	Sample Types	Sensitivity	Range	Catalog #	Size
CCL2/JE/MCP-1	S P C	0.47 pg/mL	3–2,100 pg/mL	LUHM279	1 Kit
CCL3/MIP-1 $\alpha$	S P C	28.3 pg/mL	68–16,500 pg/mL	LUHM270	1 Kit
CCL4/MIP-1 $\beta$	S P C	0.72 pg/mL	9–6,200 pg/mL	LUHM271	1 Kit
CCL5/RANTES	S P C	1.91 pg/mL	3–2,400 pg/mL	LUHM278	1 Kit
CXCL5/ENA-78	S P C	4.14 pg/mL	9–6,900 pg/mL	LUHM254	1 Kit
CXCL8/IL-8	S P C	1.97 pg/mL	4–2,950 pg/mL	LUHM208	1 Kit
FGF basic	S P C	4.91 pg/mL	24–5,750 pg/mL	LUHM233	1 Kit
G-CSF	S P C	1.48 pg/mL	6–4,500 pg/mL	LUHM214	1 Kit
GM-CSF	S P C	1.98 pg/mL	12–2,850 pg/mL	LUHM215	1 Kit
IFN- $\gamma$	S P C	1.27 pg/mL	4–3,250 pg/mL	LUHM285	1 Kit
IL-1 $\alpha$ /IL-1F1	S P C	0.36 pg/mL	3–1,850 pg/mL	LUHM200	1 Kit
IL-1 $\beta$ /IL-1F2	S P C	0.57 pg/mL	3–2,400 pg/mL	LUHM201	1 Kit
IL-1ra/IL-1F3	S P C	10.91 pg/mL	23–5,500 pg/mL	LUHM280	1 Kit
IL-2	S P C	2.23 pg/mL	3–2,300 pg/mL	LUHM202	1 Kit
IL-4	S P C	4.46 pg/mL	15–3,750 pg/mL	LUHM204	1 Kit
IL-5	S P C	0.71 pg/mL	2–1,380 pg/mL	LUHM205	1 Kit
IL-6	S P C	1.11 pg/mL	7–4,950 pg/mL	LUHM206	1 Kit
IL-10	S P C	0.03 pg/mL	4–3,200 pg/mL	LUHM217	1 Kit
IL-17/IL-17A	S P C	1.1 pg/mL	3–2,550 pg/mL	LUHM317	1 Kit
Thrombopoietin/Tpo	S P C	9.94 pg/mL	23–16,600 pg/mL	LUHM288	1 Kit
TNF- $\alpha$	S P C	1.5 pg/mL	6–4,500 pg/mL	LUHM210	1 Kit
VEGF	S P C	1.84 pg/mL	4–2,850 pg/mL	LUHM293	1 Kit
Base Kit, Human Cytokine Magnetic Panel A	N/A	N/A	N/A	LUHM000	1 Kit
Pre-mixed Kit	N/A	N/A	N/A	FCSTM03	1 Kit

## Human Magnetic Cytokine Panel B

Product	Sample Types	Sensitivity	Range	Catalog #	Size
CCL11/Eotaxin	S P C	2.6 pg/mL	16.0–11,700 pg/mL	LUBM320	1 Kit
CD40 Ligand	S P C	7.58 pg/mL	115–83,600 pg/mL	LUBM201	1 Kit
CXCL10/IP-10	P C	0.06 pg/mL	3.18–2,320 pg/mL	LUBM266	1 Kit
CXCL11/I-TAC	S P C	2.1 pg/mL	17.0–12,400 pg/mL	LUBM672	1 Kit
EGF	S P C	0.57 pg/mL	4.05–2,950 pg/mL	LUBM236	1 Kit
HGF	S P C	2.1 pg/mL	33.2–24,200 pg/mL	LUBM294	1 Kit
IL-12 p70	S P C	2.76 pg/mL	50.1–36,500 pg/mL	LUBM219	1 Kit
IL-13	S P C	6.0 pg/mL	42.0–30,600 pg/mL	LUBM213	1 Kit
Leptin	S P C	7.69 pg/mL	88.1–64,200 pg/mL	LUBM398	1 Kit
Base kit, Biomarker Panel A	N/A	N/A	N/A	LUBM000	1 Kit
Pre-mixed Kit	N/A	N/A	N/A	FCSTM04	1 Kit

Sample Type Key: S Serum P Plasma C Cell Culture Supernatants U Urine V Saliva M Milk



## Human Cytokine Panel B

Product	Sample Types	Sensitivity	Range	Catalog #	Size
CCL11/Eotaxin	S P C	8.2 pg/mL	16–12,000 pg/mL	LUB320	1 Kit
CD40 Ligand/TNFSF5	S P C	23.4 pg/mL	98–71,600 pg/mL	LUB201	1 Kit
CXCL10/IP-10/CRG-2	P C	0.1 pg/mL	3.7–2,600 pg/mL	LUB266	1 Kit
CXCL11/I-TAC	S P C	22.5 pg/mL	23–17,000 pg/mL	LUB672	1 Kit
EGF	S P C	1.58 pg/mL	4–2,700 pg/mL	LUB236	1 Kit
HGF	S P C	4.1 pg/mL	32–23,000 pg/mL	LUB294	1 Kit
IL-12 p70	S P C	14.9 pg/mL	47–34,000 pg/mL	LUB219	1 Kit
IL-13	S P C	15.6 pg/mL	38–28,000 pg/mL	LUB213	1 Kit
Leptin/OB	S P C	20.2 pg/mL	81–59,000 pg/mL	LUB398	1 Kit
Base Kit, Human Cytokine Panel B			N/A	LUB000	1 Kit
Pre-mixed Kit			N/A	FCST04	1 Kit

## Human High Sensitivity Cytokine Panel A

Product	Sample Types	Sensitivity	Range	Catalog #	Size
CXCL8/IL-8 High Sensitivity	S P	0.07 pg/mL	0.78–3,200 pg/mL	LHSC208	1 Kit
GM-CSF High Sensitivity	S P	0.13 pg/mL	0.38–1,575 pg/mL	LHSC215	1 Kit
IFN- $\gamma$ High Sensitivity	S P	0.08 pg/mL	0.33–1,350 pg/mL	LHSC285B	1 Kit
IL-1 $\beta$ /IL-1F2 High Sensitivity	S P	0.18 pg/mL	0.37–1,500 pg/mL	LHSC201	1 Kit
IL-2 High Sensitivity	S P	0.28 pg/mL	0.6–2,450 pg/mL	LHSC202	1 Kit
IL-4 High Sensitivity	S P	2.54 pg/mL	6.84–7,000 pg/mL	LHSC204	1 Kit
IL-5 High Sensitivity	S P	0.12 pg/mL	0.39–1,600 pg/mL	LHSC205	1 Kit
IL-6 High Sensitivity	S P	0.31 pg/mL	0.99–4,050 pg/mL	LHSC206	1 Kit
IL-10 High Sensitivity	S P	0.24 pg/mL	0.51–2,100 pg/mL	LHSC217	1 Kit
IL-12 p70 High Sensitivity	S P	2.96 pg/mL	5.98–24,500 pg/mL	LHSC219	1 Kit
TNF- $\alpha$ High Sensitivity	S P	0.54 pg/mL	0.82–3,350 pg/mL	LHSC210	1 Kit
VEGF High Sensitivity	S P	1.35 pg/mL	1.95–2,000 pg/mL	LHSC293	1 Kit
Base Kit, Human High Sensitivity Cytokine	N/A	N/A	N/A	LHSC000	1 Kit
Pre-mixed Kit	N/A	N/A	N/A	FCST09	1 Kit

## Human High Sensitivity Cytokine Magnetic Panel A

Product	Sample Types	Sensitivity	Range	Catalog #	Size
CXCL8/IL-8 High Sensitivity	S P	0.07 pg/mL	0.78–3,200 pg/mL	LHSCM208	1 Kit
GM-CSF High Sensitivity	S P	0.13 pg/mL	0.39–1,600 pg/mL	LHSCM215	1 Kit
IFN- $\gamma$ High Sensitivity	S P	0.08 pg/mL	0.29–1,200 pg/mL	LHSCM285B	1 Kit
IL-1 $\beta$ /IL-1F2 High Sensitivity	S P	0.18 pg/mL	0.29–1,200 pg/mL	LHSCM201	1 Kit
IL-2 High Sensitivity	S P	0.28 pg/mL	0.61–2,500 pg/mL	LHSCM202	1 Kit
IL-4 High Sensitivity	S P	2.54 pg/mL	7–7,200 pg/mL	LHSCM204	1 Kit
IL-5 High Sensitivity	S P	0.12 pg/mL	0.34–1,400 pg/mL	LHSCM205	1 Kit
IL-6 High Sensitivity	S P	0.31 pg/mL	0.95–3,900 pg/mL	LHSCM206	1 Kit
IL-10 High Sensitivity	S P	0.24 pg/mL	0.46–1,900 pg/mL	LHSCM217	1 Kit
IL-12 p70 High Sensitivity	S P	2.96 pg/mL	6.9–28,300 pg/mL	LHSCM219	1 Kit
TNF- $\alpha$ High Sensitivity	S P	0.54 pg/mL	0.76–3,100 pg/mL	LHSCM210	1 Kit
VEGF High Sensitivity	S P	1.35 pg/mL	2.2–2,300 pg/mL	LHSCM293	1 Kit
Base Kit, Human High Sensitivity Cytokine Magnetic Panel A	N/A	N/A	N/A	LHSCM000	1 Kit
Pre-mixed Kit	N/A	N/A	N/A	FCSTM09	1 Kit

Sample Type Key: S Serum P Plasma C Cell Culture Supernatants U Urine V Saliva M Milk

## Human High Sensitivity Cytokine Magnetic Panel B

Product	Sample Types	Sensitivity	Range	Catalog #	Size
GM-CSF	S P	0.13 pg/mL	0.39–1,600 pg/mL	LHSCM215	1 Kit
IFN- $\gamma$	S P	0.08 pg/mL	0.29–1,200 pg/mL	LHSCM285	1 Kit
			N/A	LHSCM285B	1 Kit
IL-1 $\beta$ /IL-1F2	S P	0.18 pg/mL	0.29–1,200 pg/mL	LHSCM201	1 Kit
IL-2	S P	0.28 pg/mL	0.61–2,500 pg/mL	LHSCM202	1 Kit
IL-5	S P	0.12 pg/mL	0.34–1,400 pg/mL	LHSCM205	1 Kit
IL-6	S P	0.31 pg/mL	0.95–3,900 pg/mL	LHSCM206	1 Kit
IL-7	S P C	0.14 pg/mL	0.828–3,390 pg/mL (S, P), 0.828–848 pg/mL (C)	LBHS207	1 Kit
IL-13	S P C	2.01 pg/mL	6.25–25,600 pg/mL (S, P), 6.25–6,400 pg/mL (C)	LBHS213	1 Kit
IL-15	S P C	0.167 pg/mL	0.591–2,420 pg/mL (S, P), 0.591–605 pg/mL (C)	LBHS247	1 Kit
IL-17/IL-17A	S P C	0.349 pg/mL	2.53–10,370 pg/mL (S, P), 2.53–2,593 pg/mL (C)	LBHS317	1 Kit
IL-17F	S P C	4.54 pg/mL	8.97–36,750 pg/mL (S, P), 8.97–9,188 pg/mL (C)	LBHS1335	1 Kit
IL-22	S P C	0.529 pg/mL	1.64–6,700 pg/mL (S, P), 1.64–1,675 pg/mL (C)	LBHS5782	1 Kit
IL-23	S P C	9.52 pg/mL	17.09–70,000 pg/mL (S, P), 17.09–17,500 pg/mL (C)	LBHS1716	1 Kit
IL-31	S P C	0.117 pg/mL	5.13–21,000 pg/mL (S, P), 5.13–5,250 pg/mL (C)	LBHS2824	1 Kit
IL-33	S P C	1.06 pg/mL	2.44–10,000 pg/mL (S, P), 2.44–2,500 pg/mL (C)	LBHS3625	1 Kit
IL-36 $\beta$ /IL-1F8	S P C	0.25 pg/mL	0.527–2,160 pg/mL (S, P), 0.527–540 pg/mL (C)	LBHS1099	1 Kit
TNF- $\alpha$	S P	0.54 pg/mL	0.76–3,100 pg/mL	LHSCM210	1 Kit
Base Kit, Human High Sensitivity Cytokine Magnetic Panel B	N/A	N/A	N/A	LBHS000	1 Kit
Pre-mixed Kit	N/A	N/A	N/A	FCSTM14	1 Kit

## Human Kidney Biomarker Magnetic Panel

Product	Sample Types	Sensitivity	Range	Catalog #	Size
Clusterin	S P U	64.3 pg/mL	664–483,800 pg/mL	LHK2937	1 Kit
CXCL10/IP-10/CRG-2	S P U	0.693 pg/mL	4–3,110 pg/mL	LHK266	1 Kit
Cystatin C	S P U	57.1 pg/mL	23–16,500 pg/mL	LHK1196	1 Kit
Lipocalin-2/NGAL	S P U	63.1 pg/mL	50–36,100 pg/mL	LHK1757	1 Kit
Osteopontin/OPN	S P U	247 pg/mL	405–295,500 pg/mL	LHK1433	1 Kit
RBP4/Retinol-Binding Protein 4	S P U	124 pg/mL	65–47,400 pg/mL	LHK3378	1 Kit
TFF3	S P U	11.5 pg/mL	15–11,000 pg/mL	LHK4407	1 Kit
TIM-1/KIM-1/HAVCR	S P U	16.3 pg/mL	159–116,000 pg/mL	LHK1750	1 Kit
Base Kit, Human Kidney Biomarker Magnetic Panel	N/A	N/A	N/A	LHK000	1 Kit
Pre-mixed Kit	N/A	N/A	N/A	FCSTM16	1 Kit

Sample Type Key: S Serum P Plasma C Cell Culture Supernatants U Urine V Saliva M Milk

## Human MMP Panel

Product	Sample Types	Sensitivity	Range	Catalog #	Size
EMMPRIN/CD147	S P C U V	5.6 pg/mL	35.3-25,700 pg/mL	LMP972	1 Kit
MMP-1	S P C U V	1.1 pg/mL	25.1-18,300 pg/mL	LMP901B	1 Kit
MMP-2	S P U V	12.6 pg/mL	86.7-63,100 pg/mL	LMP902C	1 Kit
MMP-3	S P C U V	2.9 pg/mL	35.3-25,700 pg/mL	LMP513B	1 Kit
MMP-7	S P C U V	6.6 pg/mL	76.7-55,850 pg/mL	LMP907B	1 Kit
MMP-8	S P C U V	16.6 pg/mL	82-59,700 pg/mL	LMP908B	1 Kit
MMP-9	S P C U V	13.7 pg/mL	100-73,100 pg/mL	LMP911B	1 Kit
MMP-10	S P C U V	3.2 pg/mL	42.7-31,000 pg/mL	LMP910	1 Kit
MMP-12	S P C U V	0.7 pg/mL	9.2-6,700 pg/mL	LMP919B	1 Kit
MMP-13	S C U V	63.5 pg/mL	444-324,000 pg/mL	LMP511B	1 Kit
Base Kit, Human MMP Panel	N/A	N/A	N/A	LMP000B	1 Kit
Pre-mixed Kit	N/A	N/A	N/A	FCST07	1 Kit

## Human MMP Magnetic Panel

Product	Sample Types	Sensitivity	Range	Catalog #	Size
EMMPRIN/CD147	S P C U V	5.6 pg/mL	35.3-25,700 pg/mL	LMPM972	1 Kit
MMP-1	S P C U V	1.1 pg/mL	25.1-18,300 pg/mL	LMPM901	1 Kit
MMP-2	S P U V	12.6 pg/mL	86.6-63,100 pg/mL	LMPM902	1 Kit
MMP-3	S P C U V	2.9 pg/mL	35.3-25,700 pg/mL	LMPM513	1 Kit
MMP-7	S P C U V	6.6 pg/mL	76.6-55,850 pg/mL	LMPM907	1 Kit
MMP-8	S P C U V	16.6 pg/mL	81.9-59,700 pg/mL	LMPM908	1 Kit
MMP-9	S P C U V	13.7 pg/mL	100.3-73,100 pg/mL	LMPM911	1 Kit
MMP-10	S P C U V	3.2 pg/mL	42.5-31,000 pg/mL	LMPM910	1 Kit
MMP-12	S P C U V	0.7 pg/mL	27.6-6,700 pg/mL	LMPM919	1 Kit
MMP-13	S C U V	63.5 pg/mL	444-324,000 pg/mL	LMPM511	1 Kit
Base Kit, Human MMP Magnetic Panel	N/A	N/A	N/A	LMPM000	1 Kit
Pre-mixed Kit	N/A	N/A	N/A	FCSTM07	1 Kit

## Human TGF-β Magnetic Panel

Product	Sample Types	Sensitivity	Range	Catalog #	Size
TGF-β1			N/A	LTGM100	1 Kit
TGF-β2			N/A	LTGM200	1 Kit
TGF-β3			N/A	LTGM300	1 Kit
			N/A	LTGM00	1 Kit
Pre-mixed Kit			N/A	FCSTM17	1 Kit

## Human Obesity Panel

Product	Sample Types	Sensitivity	Range	Catalog #	Size
Adiponectin/Acrp30	S P C	19.8 pg/mL	343-250,000 pg/mL	LOB1065	1 Kit
C-Reactive Protein/CRP	S P C	1.9 pg/mL	32-23,500 pg/mL	LOB1707	1 Kit
CCL2/JE/MCP-1	S P C	0.47 pg/mL	3.3-2,400 pg/mL	LUH279	1 Kit
Complement Factor D/Adipsin	S P C	3.5 pg/mL	114-83,000 pg/mL	LOB1824	1 Kit
IL-6	S P C	1.11 pg/mL	3-2,400 pg/mL	LUH206	1 Kit
IL-10	S P C	0.3 pg/mL	3-2,320 pg/mL	LUH217	1 Kit
Leptin/OB	S P C	20.2 pg/mL	81-59,000 pg/mL	LUB398	1 Kit
Resistin	S P C	7.3 pg/mL	45-32,700 pg/mL	LOB1359	1 Kit
Serpin E1/PAI-1	S P C	2.9 pg/mL	18-13,000 pg/mL	LOB1786	1 Kit
TNF-α	S P C	1.5 pg/mL	5.3 - 3,900 pg/mL	LUH210	1 Kit
Base Kit, Human Obesity Panel	N/A	N/A	N/A	LOB000	1 Kit

**Sample Type Key:** S Serum P Plasma C Cell Culture Supernatants U Urine V Saliva M Milk  
**Analyte** available exclusively from R&D Systems.

## Human Magnetic Obesity Panel

Product	Sample Types	Sensitivity	Range	Catalog #	Size
Adiponectin/Acrp30	S P	6.4 pg/mL	466–340,000 pg/mL	LOBM1065	1 Kit
C-Reactive Protein	S P	1.4 pg/mL	20–14,800 pg/mL	LOBM1707	1 Kit
CCL2/MCP-1	S P	0.16 pg/mL	3–2,100 pg/mL	LUHM279	1 Kit
Complement Factor D/Adipsin	S P	1.8 pg/mL	126–91,500 pg/mL	LOBM1824	1 Kit
IL-6	S P	0.36 pg/mL	4–3,200 pg/mL	LUHM206	1 Kit
IL-10	S P	0.13 pg/mL	7–4,950 pg/mL	LUHM217	1 Kit
Leptin	S P	7.69 pg/mL	50–36,500 pg/mL	LUBM398	1 Kit
Resistin	S P	0.85 pg/mL	46–33,200 pg/mL	LOBM1359	1 Kit
Serpin E1/PAI-1	S P	0.2 pg/mL	14–10,300 pg/mL	LOBM1786	1 Kit
TNF- $\alpha$	S P	0.6 pg/mL	6–4,500 pg/mL	LUHM210	1 Kit
Base kit, Obesity Panel	NA	N/A	N/A	LOBM000	1 Kit
Pre-mixed Kit	NA	N/A	N/A	FCSTM08	1 Kit

## Predetermined Multiplex Kits

Product	Sample Types	Sensitivity	Range	Catalog #	Size
TIMP 4-plex Kit	S P C U V M		N/A	LKT003	1 Kit
TIMP 4-plex Magnetic Kit	S P C U V M		N/A	LKTM003	1 Kit

## Luminex Immunoglobulin Isotyping Mouse Assay

Product	Sample Types	Sensitivity	Range	Catalog #	Size
IgA	S P C	N/A	N/A	LXIGM5	1 Kit
	S P C	N/A	N/A	LXMIGMG5	1 Kit
IgG <sub>1</sub>	S P C	N/A	N/A	LXIGM1	1 Kit
	S P C	N/A	N/A	LXMIGMG1	1 Kit
IgG <sub>2A</sub>	S P C	N/A	N/A	LXIGM2	1 Kit
	S P C	N/A	N/A	LXMIGMG2	1 Kit
IgG <sub>2B</sub>	S P C	N/A	N/A	LXIGM3	1 Kit
	S P C	N/A	N/A	LXMIGMG3	1 Kit
IgG <sub>3</sub>	S P C	N/A	N/A	LXIGM4	1 Kit
	S P C	N/A	N/A	LXMIGMG4	1 Kit
IgM	S P C	N/A	N/A	LXIGM6	1 Kit
	S P C	N/A	N/A	LXMIGMG6	1 Kit
Isotype Assay, Base Kit	S P C	N/A	N/A	LXIGM	1 Kit
	S P C	N/A	N/A	LXMIGMG	1 Kit

## Luminex Controls

Product	Catalog #	Size
Control, Human Cytokine Panel A	QC02	1 Each
Control, Human Angiogenesis Panel A	QC06	1 Each
Control, Human Biomarker Panel A	QC07	1 Each
Control, Human Cardiac Panel A	QC08	1 Each
Control, Human Cardiac Panel B	QC09	1 Each
Control, Human Cytokine Panel B	QC10	1 Each
Control, Human HS Cytokine Panel A	QC11	1 Each
Control, Human MMP Panel	QC12	1 Each
Control, Human Obesity Panel	QC13	1 Each
Control, Human Adhesion Molecule Panel	QC15	1 Each
Control, Human TIMP Panel	QC16	1 Each
Control, Human Magnetic Kidney Biomarker Panel	QC18	1 Each
Control, Human Magnetic HS Cytokine Panel B	QC19	1 Each
Control, TGF- $\beta$ Panel	QC17	1 Each