

Analyte Quarterly

Vol. 2 2018

Your comprehensive guide to multiplex and single protein detection

- MILLIPLEX® MAP Assays
- SMC™ (Single Molecule Counting) Assays
- ELISA
- RIA
- Custom Assay Development



The life science business of Merck operates as MilliporeSigma in the U.S. and Canada.

Millipore®

Preparation, Separation, Filtration & Testing Products

LOOK closer

All biomarker kits are not created equal

Your time and samples are too precious to trust to anything but the most highly validated kits available. With assay performance data included in every protocol, you can discover with confidence.



Rigorous Assay Development

Specificity

- Antibody specificity is tested to ensure negligible cross-reactivity of each antibody pair with other analytes and proteins in the validated sample types
- Assay specificity is ensured by confirming consistent performance of every analyte in both singleplex and multiplex formats

Method Comparisons

- We test our kits against in-house kits with the same analytes, and against kits from other vendors when available, ensuring we launch the highest performing kits

Selectivity

- Assay buffers and bead diluents are optimized to enhance antibody binding to only those analytes of interest in the presence of sample matrix

Detection and Sensitivity

- The detection range and minimum detectable concentrations (minDCs or LLOQ) for each analyte is published in our protocols, and is based on actual samples

Cross-Talk

- Proper maintenance of instrumentation eliminates or minimizes cross-talk between analytes in the assay

Performance in a Sample Matrix

- Assays are validated for the specific sample type, and for kits validated for serum and plasma, we always provide an optimized native serum matrix to mimic the environment of the sample, normalizing assay performance

Reproducible Results you can Trust

Stability

- All kits are rigorously tested for shipping stability to determine impact on each analyte
- Sample stability is examined at a range of temperatures, and by freeze/thaw; if samples require specific conditions, it is noted in the protocol

Precision and Accuracy

- Intra-assay and inter-assay precision levels are typically within 10-15%
- Accuracy is normally within $\pm 20\%$

Linearity of Dilution

- Spike recovery in sample is performed for each analyte at three concentrations on the standard curve; diluted sample results must be directly proportional to the concentration of analyte in the sample, typically within $\pm 20\%$

Lot-to-Lot Consistency

- A "gold standard" calibrator is used as a reference for all future production lots

Dedicated Support

- Committed care when and where you need it, from our sales specialists, technical support scientists, customer support, and custom immunoassay development team

We'll help you choose the right platform and assays to meet your needs today, and we'll partner with you to meet those needs in the future—without compromising quality.

Platforms Fit for Your Purpose

We're here to guide you to choose the best protein detection platform for your needs

What's better than a well-validated, sensitive, reproducible, robust immunoassay that fits your study requirements? Having a scientific partner offering you a variety of high performance assay platforms. Whether you need rich profiling data from a multiplex panel using Luminex® technology, ultrasensitive detection from an SMC™ assay, or robust ELISAs we help you get data you trust.

MILLIPLEX® MAP Multiplex Detection

- Widest range of research areas—and species
- Broadest selection of analytes from which to choose







SMC™ Assays for SMCxPRO™ or Erenna® Instruments



- Previously undetectable assays, now quantified
- Measure to the femtogram/mL level

ELISAs

- >1,800 ELISAs, EIAs and RIAs against numerous soluble circulating and intracellular biomarkers

Flexibility and sensitivity: our platforms fit your purpose

Protein Detection Platforms	Fit for Purpose	Quantitative	Sensitivity	Sample Volume	Dynamic Range	Multiplex Capability	Custom Assay Support
Luminex® platform							
	Multiplex detection Flexible platform	Yes	pg/mL	≤ 25 µL	•••		Yes
SMCxPRO™ or Erenna® system							
	Ultrasensitivity High performance	Yes	fg/mL	5–100 µL	•••		Yes
ELISA							
	Plate reader compatibility Most widely cited	Yes	pg/mL	50–100 µL	••		Yes

• Good Performance •• Strong Performance ••• Superior Performance  Not Recommended  Recommended

NEW IMMUNOASSAY PRODUCTS

NEW! MILLIPLEX® MAP and Single Protein Detection Kits

Description	Species	Cat. No.
MILLIPLEX® MAP Panels		
Aging Panel 1	Human	HAGE1MAG-20K
Cancer Autoantibody	Human	HCABMAG-13K
IL-18 Singleplex	Human	HIL18MAG-66K
SMC™ Streamlined Kits		
Amyloid Beta 1-40 High Sensitivity Immunoassay Kit	Human, Mouse, Rat	03-0145-00
IL-1β High Sensitivity Immunoassay Kit	Human	03-0160-00
IL-4 High Sensitivity Immunoassay Kit	Human	03-0161-00
IL-13 High Sensitivity Immunoassay Kit	Human	03-0156-00
IL-17A High Sensitivity Immunoassay Kit	Human	03-0159-00
IL-17F High Sensitivity Immunoassay Kit	Human	03-0164-00
IL-23 High Sensitivity Immunoassay Kit	Human	03-0157-00
TNFα High Sensitivity Immunoassay Kit	Human	03-0163-00
Instrumentation		
50 TS Plate Washer, BioTek	N/A	40-301
800 TS Absorbance Reader-Basic, BioTek	N/A	40-300
800 TS Absorbance Reader-Gen 5 Software	N/A	40-006
800 TS Absorbance Reader-Gen 5 Secure	N/A	40-007

Coming Soon

Description	Species	Cat. No.
MILLIPLEX® MAP Panels		
Cytokine Panel	Bovine	Coming Soon!
Pituitary Panel	Canine	Coming Soon!
SMC™ Streamlined Kits		
BAFF High Sensitivity Immunoassay Kit	Human	Coming Soon!
MIP-1β/CCL4 Plate-based Immunoassay Kit	Human	Coming Soon!
IL-1α High Sensitivity Immunoassay Kit	Human	Coming Soon!
IL-5 High Sensitivity Immunoassay Kit	Human	Coming Soon!
IL-22 High Sensitivity Immunoassay Kit	Human	Coming Soon!
Plate Washer Verification Kit	N/A	Coming Soon!

New SMC™ Streamlined Kit Improvements:

Making it easier for you to do your work

- Improved options for sample prep and incubation
- Lyophilization of the standard provides the kit at one storage condition
- Removal of a plate transfer step
- Increased reagent volumes to accommodate automation
- Kits are verified to work on both SMCxPRO™ and Erenna® instruments

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HUMAN

Immunology

Human Cytokine/Chemokine Panel I

- ☐ (Cat. No. HCYTOMAG-60K)
- 29 (Cat. No. HCYTMAG-60K-PX29)
- 29 (Bulk Cat. No. HCYTMAG60PMX29BK)
- 30 (Cat. No. HCYTMAG-60K-PX30) ◆
- 30 (Bulk Cat. No. HCYTMAG60PMX30BK) ◆
- 38 (Cat. No. HCYTMAG-60K-PX38)
- 38 (Bulk Cat. No. HCYTMAG60PMX38BK)
- 41 (Cat. No. HCYTMAG-60K-PX41)
- 41 (Bulk Cat. No. HCYTMAG60PMX41BK)

sCD40L	IL-9
EGF ◆	IL-10 ◆
Eotaxin/CCL11 ◆	IL-12 (p40) ◆
FGF-2/FGF-basic	IL-12 (p70) ◆
Flt3 Ligand	IL-13 ◆
Fractalkine/CX3CL1	IL-15 ◆
G-CSF ◆	IL-17A/CTLA8 ◆
GM-CSF ◆	IP-10/CXCL10 ◆
GRO	MCP-1/CCL2 ◆
IFNα2 ◆	MCP-3/CCL7
IFNγ ◆	MDC/CCL22
IL-1α ◆	MIP-1α/CCL3 ◆
IL-1β ◆	MIP-1β/CCL4 ◆
IL-1Ra ◆	PDGF-AA ▲
IL-2 ◆	PDGF-AB/BB ▲
IL-3 ◆	RANTES/CCL5 ◆▲
IL-4 ◆	TGFα
IL-5 ◆	TNFα ◆
IL-6 ◆	TNFβ/Lymphotoxin-α (LTA) ◆
IL-7 ◆	VEGF-A ◆
IL-8/CXCL8 ◆	

Human Cytokine/Chemokine Panel II

- ☐ (Cat. No. HCP2MAG-62K)
- 23 (Cat. No. HCP2MAG-62K-PX23)
- 23 (Bulk Cat. No. HCP2MAG62KPX23BK)

6Ckine/CCL21/Exodus-2	IL-28A/IFNλ2
BCA-1/CXCL13	IL-33/NF-HEV (mature)
CTACK/CCL27	LIF
ENA-78/CXCL5	MCP-2/CCL8
Eotaxin-2/CCL24/MPIF-2	MCP-4/CCL13
Eotaxin-3/CCL26	MIP-1δ/MIP-5/CCL15
I-309/CCL1	SCF
IL-16	SDF-1/CXCL12
IL-20	TARC/CCL17
IL-21	TPO
IL-23	TRAIL/TNFSF10
	TSLP

Human Cytokine/Chemokine Panel III

(Cat. No. HCP3MAG-63K)

HCC-1/CCL14 ▲	M-CSF
IL-11	MIG/CXCL9
IL-29/IFNλ1	MIP-3α/CCL20
I-TAC/CXCL11	MIP-3β/CCL19
LIX/CXCL6/GCP-2	NAP-2/CXCL7 ▲
Lymphotoxin/XCL1	

Human Cytokine/Chemokine Panel IV

- ☐ (Cat. No. HCP4MAG-64K)
- 21 (Cat. No. HCY4MG-64K-PX21)
- 21 (Cat. No. HCP4MG64KPX21BK)

APRIL/TNFSF13	IL-28B/IFNλ3
BAFF/Blys	IL-32α
BRAX/CXCL14	IL-34
CCL28	IL-35
CXCL16	IL-36β/IL-1F8
HCC-4/CCL16	IL-37/IL-1F7
HMGB1 ●	IL-38/IL-1F10
IFNβ	MIP-4/PARC/CCL18
IL-14/α-Taxilin	MPIF/CCL23
IL-19	YKL40/CHI3L1
IL-24	

Human IL-18 Singleplex

(Cat. No. HIL18MAG-66K) **NEW**

IL-18

Human High Sensitivity T Cell

- ☐ (Cat. No. HSTCMAG-28SK)
- 13 (Cat. No. HSTCMAG28SPMX13) ◆
- 13 (Bulk Cat. No. HSTCMAG28PMX13BK) ◆
- 21 (Cat. No. HSTCMAG28SPMX21)
- 21 (Bulk Cat. No. HSTCMAG28PMX21BK)

Fractalkine/CX3CL1	IL-12 (p70) ◆
GM-CSF ◆	IL-13 ◆
IFNγ ◆	IL-17A/CTLA8
IL-1β ◆	IL-21
IL-2 ◆	IL-23
IL-4 ◆	I-TAC/CXCL11
IL-5 ◆	MIP-1α/CCL3
IL-6 ◆	MIP-1β/CCL4
IL-7 ◆	MIP-3α/CCL20
IL-8/CXCL8 ◆	TNFα ◆
IL-10 ◆	

384-well Human High Sensitivity T Cell

(Cat. No. HSTC384-28K)

- 21 (Cat. No. HSTCMAG384-PX21)
- 21 (Bulk Cat. No. HSTCMAG384PX21BK)

Fractalkine/CX3CL1	IL-12 (p70)
GM-CSF	IL-13
IFNγ	IL-17A/CTLA8
IL-1β	IL-21
IL-2	IL-23
IL-4	I-TAC/CXCL11
IL-5	MIP-1α/CCL3
IL-6	MIP-1β/CCL4
IL-7	MIP-3α/CCL20
IL-8/CXCL8	TNFα
IL-10	

Human Th17

(Cat. No. HTH17MAG-14K)

- 25 (Cat. No. HT17MG-14K-PX25)
- 25 (Bulk Cat. No. HT17MAG14PMX25BK)

GM-CSF	IL-17E/IL-25
IFNγ	IL-17F
IL-1β	IL-21
IL-2	IL-22
IL-4	IL-23
IL-5	IL-27
IL-6	IL-28A/IFNλ2
IL-9	IL-31
IL-10	IL-33/NF-HEV (mature)
IL-12 (p70)	MIP-3α/CCL20
IL-13	MIP-3α/CCL20
IL-15	TNFα
IL-17A/CTLA8	TNFβ/Lymphotoxin-α (LTA)

Human CD8+ T Cell

- ☐ (Cat. No. HCD8MAG-15K)
- 17 (Cat. No. HCD8MAG15K17PMX)
- 17 (Bulk Cat. No. HCD8MAG15KPX17BK)

sCD137/4-1BB/TNFRSF9	IL-4
sFAS/TNFRSF6	IL-5
sFasL	IL-6
GM-CSF	IL-10
Granzyme A	IL-13
Granzyme B	MIP-1α/CCL3
IFNγ	MIP-1β/CCL4
IL-2	Perforin
	TNFα

Legend key for MILLIPLEX® MAP kits

- † Analytes which cannot be plexed together:
 - Active and total
 - Free and total
- ◆ Available in Cat. No. listed
- ▼ Premix panel only
- Bulk indicates Space Saver Packaging

- ▲ These analytes cannot be plexed with other analytes in this panel in serum/plasma
- ▮ Requires a protease inhibitor during sample collection
- Requires sample extraction
- ** No standard/QC; autoantibody levels are reported as MFIs

- Serum/Plasma only
- ★ Tissue Culture samples only
- ^ Competitive assay format
- ☐ Available for custom premix
- Analyte requires a different sample dilution from others in panel

Human Soluble Cytokine Receptor

(Cat. No. HSCRMAG-32K)

14 (Cat. No. HSCRMAG32KPX14)

14 (Bulk Cat. No. HSCRMAG32PMX14BK)

sCD30	sIL-6R
sEGFR/sHER1/ErbB1	sRAGE
sGP130	sTNF RI
sIL-1RI	sTNF RII
sIL-1RII	sVEGFR1/sFlt-1
sIL-2R α	sVEGFR2/sKDR/sFlk-1
sIL-4R	sVEGFR3/sFlt-4

Human Complement Panel 1

(Cat. No. HCMP1MAG-19K)

Adipsin/Factor D	C5a
C2	C9
C4b	Factor I
C5	Mannose-binding Lectin (MBL)

Human Complement Panel 2

(Cat. No. HCMP2MAG-19K)

C1q	Factor B
C3	Factor H
C3b/iC3b	Factor P/Properdin
C4	

Human MMP Panel 1

(Cat. No. HMMP1MAG-55K)

MMP-3	MMP-13
MMP-12	

Human MMP Panel 2

(Cat. No. HMMP2MAG-55K)

MMP-1	MMP-9
MMP-2	MMP-10
MMP-7	

Human TIMP Panel 1 (Serum/Plasma samples)

(Cat. No. HTMP1MAG-54K)

TIMP-1	TIMP-2
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Human TIMP Panel 2 (Cell culture samples)

(Cat. No. HTMP2MAG-54K)

TIMP-1	TIMP-3
TIMP-2	TIMP-4

Multi-Species TGF β – Singleplex

(Cat. No. TGFBMAG-64K-01)

(Bulk Cat. No. TGFBMAG-64K-01BK)

TGF β 1**Multi-Species TGF β – 3 Plex ▼**

(Cat. No. TGFBMAG-64K-03)

NON-CONFIGURABLE KIT

TGF β 1	TGF β 3
TGF β 2	

Immune Response**Human Autoimmune Autoantibody****

(Cat. No. HAIAB-10K)

β 2-Glycoprotein	Ribosomal P
C1q	RNP
CENP-A (Centromere Protein A)	(Ribonucleoprotein) RNP/Smith (RNP/Sm)
CENP-B (Centromere Protein B)	Scl-70
Jo-1	Sm
Ku	SSA/Ro52 (Sjögren's Syndrome-related antigen A/Ro52 kDa)
Mi-2	SSA/Ro60 (Sjögren's Syndrome-related antigen A/Ro60 kDa)
Myeloperoxidase (MPO)	SSA/Ro60 (Sjögren's Syndrome-related antigen A/Ro60 kDa)
PCNA (Proliferating Cell Nuclear Antigen A)	SB/La (Sjögren's Syndrome-related antigen B/La)
PL-12 (Alanyl-tRNA Synthetase)	
PM/Sci 100	
Proteinase 3	

Human Sepsis Panel 1

(Cat. No. HSP1MAG-63K)

sFAS/TNFRSF6	MIF
sFasL	PAI-1 (total)
sICAM-1	sVCAM-1

Human Sepsis Panel 2

(Cat. No. HSP2MAG-63K)

Granzyme B	MIP-1 α /CCL3
HSP70	MIP-1 β /CCL4
IL-1 α	MMP-8
IL-8/CXCL8	

Human Sepsis Panel 3

(Cat. No. HSP3MAG-63K)

Lactotransferrin (LTF)	Resistin
Neutrophil Elastase-2 (ELA2)	Thrombospondin-1 (TSP-1)
NGAL/Lipocalin-2	

Human Skin (Skin extracts only)

(Cat. No. SKINMAG-50K)

Cortisol ^	Involucrin
Fibronectin	Keratin-1,10
Human Serum Albumin (HSA)	Keratin-6

Human Immunoglobulin Isotyping

1 (Cat. No. HGAMMAG-301K)

IgA	IgG3
IgG1	IgG4
IgG2	IgM

Human IgE – Singleplex

(Cat. No. HGAMMAG-303E)

IgE

Metabolism/Endocrinology**Human Adipokine Panel 1 (Serum/Plasma samples)**

(Cat. No. HADK1MAG-61K)

Adiponectin	PAI-1 (total)
Adipsin/Factor D	Resistin
NGAL/Lipocalin-2	

Human Adipokine Panel 2 (Serum/Plasma samples)

(Cat. No. HADK2MAG-61K)

HGF	Leptin
IL-1 β	MCP-1/CCL2
IL-6	NGF
IL-8/CXCL8	TNFA
Insulin	

Human Adipocyte (Cell culture samples)

(Cat. No. HADCYMAG-61K)

Adiponectin	MCP-1/CCL2
HGF	NGF
IL-1 β	PAI-1 (total)
IL-6	Resistin
IL-8/CXCL8	TNFA
Leptin	

Human Diabetes ▼

5 (Cat.No. HDIAB-34K-PMX5)

5 (Bulk Cat. No. HDIAB34KPMX5BK)

NON-CONFIGURABLE KIT

C-Peptide	Insulin
GLP-1 (active)▶	Leptin
Glucagon▶	

Human Metabolic Hormone

(Cat. No. HMHEMAG-34K)

Amylin (active)▶	IL-6
Amylin (total)▶	Insulin
C-Peptide	Leptin
Ghrelin (active)▶	MCP-1/CCL2
GIP (total)	Pancreatic Polypeptide (PP)
GLP-1 (active)▶	PYY (total)
GLP-1 (total)▶	TNFA
Glucagon▶	

Human Myokine

(Cat. No. HMYOMAG-56K)

Apelin	IL-15
BDNF	Irisin
Erythropoietin (EPO)	LIF
FABP3	Myostatin/GDF8
FGF-21	Oncostatin-M (OSM)
Fractalkine/CX3CL1	Osteocrin (OSTN)/Musclin
FSTL1	
IL-6	Osteonectin/SPARC

Human Aging Panel 1(Cat. No. HAGE1MAG-20K) **NEW**

CTACK/CCL27	IL-10*
FGF-21	IL-18
GDF-11	Jag1
GDF-15	Leptin
GnRH	Wnt-3a
IL-6	

Human Liver Protein

(Cat. No. HLPPMAG-57K)

α-Fetoprotein (AFP)	FGF-19
ANGPTL3	FGF-21
ANGPTL4	FGF-23
ANGPTL6	HGF
FABP1	

Human IGF Binding Protein

(Cat. No. HIGFBMAG-53K)

IGFBP1	IGFBP5
IGFBP2	IGFBP6
IGFBP3	IGFBP7
IGFBP4	

Human IGF

(Cat. No. HIGFMAG-52K)

IGF-1	IGF-2
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Human Pituitary Panel 1

(Cat. No. HPTP1MAG-66K)

ACTH	FSH
Agouti-Related Protein (AgRP)	GH
CNTF	LH
	TSH

Multi-Species Hormone

(Cat. No. MSHMAG-21K)

Cortisol	Testosterone
Estradiol	T3
Progesterone	T4

Cardiovascular**Human CVD Panel 1**

(Cat. No. HCVD1MAG-67K)

BNP	LIX/CXCL6/GCP-2
CK-MB	NT proBNP
CXCL16	Oncostatin-M (OSM)
Endocan-1 (ESM-1)	Placental Growth Factor (PLGF)
FABP3	Troponin I (TnI)
FABP4	
LIGHT	

Human CVD Panel 2

(Cat. No. HCVD2MAG-67K)

ADAMTS13	Myoglobin
D-dimer	NGAL/Lipocalin-2
GDF-15	sP-Selectin
sICAM-1	Serum Amyloid A
Myeloperoxidase (MPO)	svCAM-1

Human CVD Panel 3 (Acute Phase)

(Cat. No. HCVD3MAG-67K)

α-1-Acid Glycoprotein (AGP)	Haptoglobin
α-2-Macroglobulin	sL-Selectin
Adipsin/Factor D	Platelet Factor 4 (PF4)/CXCL4
CRP	Serum Amyloid P (SAP)
Fetuin A	von Willebrand Factor (vWF)
Fibrinogen	

Human CVD Panel 4

(Cat. No. HCVD4MAG-67K)

sCD31/sPECAM-1	Pentraxin-3 (PTX3)
dPAPP-A	Thrombomodulin
sE-Selectin	Tissue Factor (TF)
Follistatin (FST)	Troponin T (TnT)

Human CVD Panel 5

(Cat. No. HCVD5MAG-67K)

ADAM15	Leptin Receptor (LEPR)/OB-R
Cadherin 13 (CDH13)	MR-ProADM
sCD163	Notch1
Chromogranin-A (CHGA/CGA)	PLA2G7
HSP60	PTGDS
IGF1R	sST2/IL1RL1
LDLR	Syndecan 4 (SYND4)

Human CVD Panel 6

(Cat. No. HCVD6MAG-67K)

sCD14	LRG1
DPP4	MCAM/MUC18
Endostatin	ucMGP
pGRN	

Human Apolipoprotein

(Cat. No. APOMAG-62K)

Apo AI	Apo CII
Apo AII	Apo CIII
Apo B	Apo E

Bone**Human Bone**

(Cat. No. HBNMAG-51K)

ACTH	Osteocalcin (OC)
DKK1	Osteopontin (OPN)
FGF-23	Osteoprotegerin (OPG)
IL-1β	PTH
IL-6	Sclerostin (SOST)
Insulin	TNFα
Leptin	

Human RANKL – Singleplex

(Cat. No. HRNKL MAG-51K-01)

RANKL

Cancer**Human Immuno-Oncology Checkpoint Protein**

(Cat. No. HCKPMAG-11K)

BTLA	GITRL
CD27	HVEM
CD28	ICOS
CD40	LAG-3
CD80/B7-1	PD-1
CD86/B7-2	PD-L1
CTLA-4/CD152	TIM-3
GITR	TLR-2

Human Cancer Autoantibody**(Cat. No. HCABMAG-13K) **NEW**

CCNB1/Cyclin B1	IGF2BP2/IMP2
CTAG1B/NY-ESO-1	IGF2BP3/IMP3
ENO1	Mucin-1 (MUC1)
Galectin-1 (GAL1)	P16-INK4a
Galectin-3 (GAL3)	p53
HER2/ErbB2	SOX2
HIF-1α	Survivin/BIRC5
HSP60	

Human Circulating Cancer Biomarker Panel 1

(Cat. No. HCCBP1MAG-58K)

α-Fetoprotein (AFP)	IL-8/CXCL8
CA125	Leptin
CA15-3	MIF
CA19-9	Osteopontin (OPN)
CEA	Prolactin
CYFRA21-1	PSA (free)†
sFAS/TNFRSF6	PSA (total)†
sFasL	SCF
FGF-2/FGF-basic	TGFα
HCGβ	TNFα
HE4	TRAIL/TNFSF10
HGF	VEGF-A
IL-6	

Legend key for MILLIPLEX® MAP kits

- † Analytes which cannot be plexed together:
 - Active and total
 - Free and total
- ◆ Available in Cat. No. listed
- ▼ Premix panel only
- Bulk indicates Space Saver Packaging

- ▲ These analytes cannot be plexed with other analytes in this panel in serum/plasma
- ▮ Requires a protease inhibitor during sample collection
- Requires sample extraction
- ** No standard/QC; autoantibody levels are reported as MFIs

- Serum/Plasma only
- ★ Tissue Culture samples only
- ^ Competitive assay format
- ⊙ Available for custom premix
- Analyte requires a different sample dilution from others in panel

Human Circulating Cancer Biomarker Panel 2

(Cat. No. HCCBP2MAG-58K)

Antithrombin III Complement Factor H (CFH)	Extracellular Matrix Protein 1 (ECM1) Vitamin D Binding Protein
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Human Circulating Cancer Biomarker Panel 3

(Cat. No. HCCBP3MAG-58K)

Cathepsin D Ferritin Fibroblast Activation Protein (FAP) Galectin-3 IGFBP3	Melanoma Inhibitory Activity (MIA) Myeloperoxidase (MPO) Sex Hormone Binding Globulin (SHBG)
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Human Circulating Cancer Biomarker Panel 4

(Cat. No. HCCBP4MAG-58K)

ALDH1A1 Carbonic Anhydrase 9 (CA9) CD44 EpCAM Hepsin	Kallikrein-6 Mesothelin Midkine NCAML1/L1CAM/ CD171 Transglutaminase 2 (TGM2)
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Human Cancer/Metastasis Biomarker Panel 1

(Cat. No. HCMBMAG-22K)

DKK1 GDF-15 Neuron-specific Enolase (NSE) Osteonectin/SPARC	Osteoprotegerin (OPG) Periostin TRAP5 TWEAK YKL40/CHI3L1
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Human Angiogenesis/Growth Factor Panel 1

(Cat. No. HAGP1MAG-12K)

Angiopoietin-2 BMP-9 EGF Endoglin Endothelin-1 FGF-1/FGF-acidic FGF-2/FGF-basic Follistatin (FST) G-CSF	HB-EGF HGF IL-8/CXCL8 Leptin Placental Growth Factor (PLGF) VEGF-A VEGF-C VEGF-D
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Human Angiogenesis Panel 2

(Cat. No. HANG2MAG-12K)

Angiostatin/Kringle sAXL sCD31/sPECAM-1 sc-Kit/sStem Cell Factor Receptor (SCFR) sE-Selectin sEGFR/sHER1/sErbB1 sHER2/sEGFR2/ sErbB2 sHER3/sEGFR3/ sErbB3 shGFR/sc-Met	sIL-6Ra sNeuropilin-1 (sNRP-1) Osteopontin (OPN) PDGF-AB/BB Tenascin-C (TN-C) Thrombospondin-2 (TSP-2) sTIE-2 suPAR sVEGFR1/sFlt-1 sVEGFR2/sKDR/sFlk-1 sVEGFR3/sFlt-4
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Neuroscience**Human Amyloid Beta and Tau (CSF samples)**

(Cat. No. HNABTMAG-68K)

Amyloid beta 1-40 Amyloid beta 1-42	pTau (Thr181) Tau (total)
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Human Neuroscience Panel 1 (CSF samples)

(Cat. No. HNS1MAG-95K)

α -Synuclein Glial Fibrillary Acidic Protein (GFAP) Neuron-specific Enolase (NSE)	PARK5/UCLH1 PARK7/DJ1 Transglutaminase 2 (TGM2)
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Human Neuroscience Panel 2

(Cat. No. HNS2MAG-95K)

Angiogenin (ANG) ^o ApoE4 ^o FABP3 Ferritin	Neurogranin (NRGN) PRNP (Prion Protein) TREM2
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Human Neurodegenerative Disease Panel 1

(Cat. No. HNDG1MAG-36K)

α -2-Macroglobulin Apo AI Apo CIII Apo E	Complement Factor C3 Complement Factor H (CFH)
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Human Neurodegenerative Disease Panel 2

(Cat. No. HNDG2MAG-36K)

α -1-Antitrypsin (A1AT) C4 CRP	MIP-4/PARC/CCL18 PEDF Serum Amyloid P (SAP)
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Human Neurodegenerative Disease Panel 3

(Cat. No. HNDG3MAG-36K)

BDNF Cathepsin D sICAM-1 Myeloperoxidase (MPO) sNCAM	PAI-1 (total) PDGF-AA PDGF-AB/BB RANTES/CCL5 sVCAM-1
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Human Neurodegenerative Disease Panel 4 (CSF samples)

(Cat. No. HNDG4MAG-36K)

Amyloid beta 1-40 Amyloid beta 1-42 GDNF	sRAGE S100B
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Human Neurological Disorders Panel 3

(Cat. No. HND3MAG-39K)

Angiotensinogen (AGT) Contactin-1 Fetuin A ^o Kallikrein-6	Osteopontin (OPN) Soluble Superoxide Dismutase 1 (sSOD1) Soluble Superoxide Dismutase 2 (sSOD2)
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Human Neuropeptide ■ ^

(Cat. No. HNPMMAG-35K)

α -MSH β -Endorphin Neurotensin	Oxytocin Substance P
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Human Circadian Stress ■ ^

(Cat. No. HNCSMAG-35K)

Cortisol	Melatonin
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Toxicity**Human Kidney Injury Panel 1 (Urine samples)**

(Cat. No. HKI1MAG-99K)

Calbindin Collagen IV FABP1 GST α IP-10/CXCL10	KIM-1 Osteoactivin Renin TFF-3 TIMP-1
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Human Kidney Injury Panel 2 (Urine samples)

(Cat. No. HKI2MAG-99K)

α -1-Microglobulin Albumin Clusterin Cystatin C	EGF NGAL/Lipocalin-2 Osteopontin (OPN)
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Human Kidney Injury Panel 3 (Urine samples)

(Cat. No. HKI3MAG-99K)

β -2-Microglobulin RBP4	Uromodulin
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Human Kidney Injury Panel 4 (Serum/Plasma samples)

(Cat. No. HKI4MAG-99K)

EGF FABP1 IP-10/CXCL10 KIM-1	Osteopontin (OPN) PTH Renin
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Human Kidney Injury Panel 5 (Serum/Plasma samples)

(Cat. No. HKI5MAG-99K)

α -1-Microglobulin Collagen IV NGAL/Lipocalin-2	Osteoactivin TIMP-1 Uromodulin
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Human Kidney Injury Panel 6 (Serum/Plasma samples)

(Cat. No. HKI6MAG-99K)

β -2-Microglobulin Clusterin	Cystatin C RBP4
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Human Liver Injury

(Cat. No. HLINJMAG-75K)

5'NT/CD73 ARG1 GST α	MDH1 SDH
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PRIMATE

Immunology

Non-Human Primate Cytokine/Chemokine Panel 1

- (Cat. No. PRCYTOMAG-40K)
 23 (Cat. No. PCYTMG-40K-PX23)
 25 (Bulk Cat. No. PRCYMG40PMX23BK)

sCD40L	IL-12/23 (p40)
G-CSF	IL-13
GM-CSF	IL-15
IFN γ	IL-17A/CTLA8
IL-1 β	IL-18
IL-1Ra	MCP-1/CCL2
IL-2	MIP-1 α /CCL3
IL-4	MIP-1 β /CCL4
IL-5	TGF α
IL-6	TNF α
IL-8/CXCL8	VEGF-A
IL-10	

Non-Human Primate Cytokine/Chemokine Panel 2

- (Cat. No. PRCYT2MAG40K)
 24 (Cat. No. PRCYT2MAG40K-PX24)
 25 (Bulk Cat. No. PRCYT2MAG40PMX24BK)
 25 (Cat. No. PRCYT2MAG40K-PX25)
 25 (Bulk Cat. No. PRCYT2MAG40PMX25BK)

sCD137/4-1BB/ TNFRSF9	IL-17E/IL-25 IL-21
Eotaxin/CCL11	IL-22
sFasL	IL-23
FGF-2/FGF-basic	IL-28A/IFN λ 2
Fractalkine/CX3CL1	IL-31
Granzyme A	IL-33/NF-HEV (mature)
Granzyme B	
IL-1 α	IP-10/CXCL10
IL-2	MIP-3 α /CCL20
IL-4	Perforin
IL-6	RANTES/CCL5 ▲
IL-16	TNF β /Lymphotoxin- α (LTA)
IL-17A/CTLA8	

Multi-Species TGF β – Singleplex

(Cat. No. TGFBMAG-64K-01)
(Bulk Cat. No. TGFBMAG-64K-01BK)

TGF β 1

Multi-Species TGF β – 3 Plex ▼

(Cat. No. TGFBMAG-64K-03)

NON-CONFIGURABLE KIT

TGF β 1	TGF β 3
TGF β 2	

Metabolism/
Endocrinology

Non-Human Primate Metabolic Hormone

(Cat. No. NHPMHMAG-45K)

Amylin (active)▶	Insulin
C-Peptide	Leptin
Ghrelin (active)▶	MCP-1/CCL2
GIP (total)	Pancreatic Polypeptide (PP)
GLP-1 (active)▶	PYY (total)
Glucagon▶	
IL-6	

Non-Human Primate Pituitary Panel 1

(Cat. No. NHPPT1MG-46K)

ACTH	FSH
Agouti-Related Protein (AgRP)	GH
CNTF	LH
	TSH

Multi-Species Hormone ■ ▲

(Cat. No. MSHMAG-21K)

Cortisol	Testosterone
Estradiol	T3
Progesterone	T4

MOUSE

Immunology

Mouse Cytokine/Chemokine Panel 1

- (Cat. No. MCYTOMAG-70K)
 25 (Cat. No. MCYTOMAG-70K-PMX)◆
 25 (Bulk Cat. No. MCYTOMAG70PMX25BK)◆
 32 (Cat. No. MCYTOMAG-70K-PX32)
 32 (Bulk Cat. No. MCYTOMAG70PMX32BK)

Eotaxin/CCL11	IL-13◆
G-CSF◆	IL-15◆
GM-CSF◆	IL-17A/CTLA8◆
IFN γ ◆	IP-10/CXCL10◆
IL-1 α ◆	KC/GRO α /CXCL1◆
IL-1 β ◆	LIF
IL-2◆	LIX
IL-3	MCP-1/CCL2◆
IL-4◆	M-CSF
IL-5◆	MIG/CXCL9
IL-6◆	MIP-1 α /CCL3◆
IL-7◆	MIP-1 β /CCL4◆
IL-9◆	MIP-2/CXCL2◆
IL-10◆	RANTES/CCL5◆
IL-12 (p40)◆	TNF α ◆
IL-12 (p70)◆	VEGF-A

Mouse Cytokine/
Chemokine Panel 2

- (Cat. No. MECY2MAG-73K)
 15 (Cat. No. MECY2MAG-73KPX)
 15 (Bulk Cat. No. MECY2MAG73KPBK)

Erythropoietin (EPO)	IL-17A/F
Exodus-2/ CCL21/6CKine	IL-20 MDC/CCL22
Fractalkine/CX3CL1	MCP-5/CCL12
IFN β 1	MIP-3 α /CCL20
IFN γ	MIP-3 β /CCL19
IL-11	TARC/CCL17
IL-16	TIMP-1

Mouse High Sensitivity T Cell

(Cat. No. MHSTCMAG-70K)

- 18 (Cat. No. MHSTCMAG-70KPMX)
 18 (Bulk Cat. No. MHSTCMAG-70KPBK)

GM-CSF	IL-10
IFN γ	IL-12 (p70)
IL-1 α	IL-13
IL-1 β	IL17A/CTLA8
IL-2	KC/GRO α /CXCL1
IL-4	LIX
IL-5	MCP-1/CCL2
IL-6	MIP-2/CXCL2
IL-7	TNF α

Mouse Th17

- (Cat. No. MTH17MAG-47K)
 25 (Cat. No. MT17MAG47K-PX25)
 25 (Bulk Cat. No. MT17MAG47PMX25BK)

sCD40L	IL-17E/IL-25
GM-CSF	IL-17F
IFN γ	IL-21
IL-1 β	IL-22
IL-2	IL-23
IL-4	IL-27
IL-5	IL-28B/IFN λ 3
IL-6	IL-31
IL-10	IL-33/NF-HEV (mature)
IL-12 (p70)	MIP-3 α /CCL20
IL-13	TNF α
IL-15	TNF β /Lymphotoxin- α (LTA)
IL-17A/CTLA8	

Mouse CD8+ T Cell

- (Cat. No. MCD8MAG-48K)
 15 (Cat. No. MCD8MAG48K-PX15)
 15 (Bulk Cat. No. MCD8MAG48KPX15BK)

sCD137/4-1BB/ TNFRSF9	IL-4
sFas/TNFRSF6	IL-5
sFasL	IL-6
GM-CSF	IL-10
Granzyme B	IL-13
IFN γ	MIP-1 β /CCL4
IL-2	RANTES/CCL5
	TNF α

Legend key for MILLIPLEX® MAP kits

- † Analytes which cannot be plexed together:
 - Active and total
 - Free and total
- ◆ Available in Cat. No. listed
- ▼ Premix panel only
- Bulk indicates Space Saver Packaging

- ▲ These analytes cannot be plexed with other analytes in this panel in serum/plasma
- ▶ Requires a protease inhibitor during sample collection
- Requires sample extraction
- ** No standard/QC; autoantibody levels are reported as MFIs

- Serum/Plasma only
- ★ Tissue Culture samples only
- ^ Competitive assay format
- ◉ Available for custom premix
- ◊ Analyte requires a different sample dilution from others in panel

Mouse Soluble Cytokine Receptor

(Cat. No. MSCRMAG-42K)

sCD30	sRAGE
sGP130	sTNF RI
sIL-1RI	sTNF RII
sIL-1RII	sVEGFR1/sFlt-1
sIL-2R α	sVEGFR2/sKDR/sFlk-1
sIL-4R	sVEGFR3/sFlt-4
sIL-6R	

Mouse MMP Panel 1 (Serum/Plasma samples)

(Cat. No. MMMP1MAG-79K)

MMP-2	MMP-8
MMP-3	

Mouse MMP Panel 2 (Serum/Plasma samples)

(Cat. No. MMMP2MAG-79K)

proMMP-9	MMP-12
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Mouse MMP Panel 3 (Cell culture samples)

(Cat. No. MMMP3MAG-79K)

MMP-2	proMMP-9
MMP-3	MMP-12
MMP-8	

Multi-Species TGF β – Singleplex

(Cat. No. TGFBMAG-64K-01)
(Bulk Cat. No. TGFBMAG-64K-01BK)

TGF β 1

Multi-Species TGF β – 3 Plex ▼

(Cat. No. TGFBMAG-64K-03)

NON-CONFIGURABLE KIT

TGF β 1	TGF β 3
TGF β 2	

Immune Response

Mouse Immunoglobulin Isotyping

(Cat. No. MGAMMAG-300K)

IgA	IgG2b
IgG1	IgG3
IgG2a	IgM

Mouse IgE – Singleplex

(Cat. No. MGAMMAG-300E)

IgE

Metabolism/ Endocrinology

Mouse Adipokine (Serum/Plasma samples)

(Cat. No. MADKMAG-71K)

IL-6	PAI-1 (total)
Insulin	Resistin
Leptin	TNF α
MCP-1/CCL2	

Mouse Adipocyte (Cell culture samples)

(Cat. No. MADCYMAG-72K)

Adiponectin	PAI-1 (total)
IL-6	Resistin
Leptin	TNF α
MCP-1/CCL2	

Mouse Adiponectin – Singleplex (Serum/Plasma samples)

(Cat. No. MADPNMAG-70K-01)

Adiponectin

Mouse Metabolic Hormone

(Cat. No. MMHMAG-44K)

Amylin (active)▶	Leptin
C-Peptide 2	MCP-1/CCL2
Ghrelin (active)▶	Pancreatic Polypeptide (PP)
GIP (total)	PYY (total)
GLP-1 (active)▶	Resistin
Glucagon▶	TNF α
IL-6	
Insulin	

Mouse Myokine

(Cat. No. MMYOMAG-74K)

BDNF	Irisin
Erythropoietin (EPO) ★	LIF
FGF-21	Myostatin/GDF8
Fractalkine/CX3CL1	Oncostatin-M (OSM)
Follistatin-like Protein 1 (FSTL1)	Osteocrin (OSTN)/Musclin
IL-6	Osteonectin/SPARC
IL-15	

Mouse Pituitary

(Cat. No. MPTMAG-49K)

ACTH	LH
BDNF	Prolactin
FSH	TSH
GH	

Multi-Species Hormone ■ ^

(Cat. No. MSHMAG-21K)

Cortisol	Testosterone
Estradiol	T3
Progesterone	T4

Cardiovascular

Mouse CVD Panel 1

(Cat. No. MCVD1MAG-77K)

sCD31/sPECAM-1	PAI-1 (total)
sE-Selectin	sP-Selectin
sICAM-1	Thrombomodulin
ProMMP-9	

Mouse CVD Panel 2

(Cat. No. MCVD2MAG-77K)

sCD40L	Oncostatin M (OSM)
CXCL16	PLGF-2
Endocan-1 (ESM-1)	Troponin I (TnI)
Follistatin (FST)	Troponin T (TnT)
LIGHT	

Mouse Acute Phase Panel 2

(Cat. No. MAP2MAG-76K)

Adipsin/Factor D	CRP
α -1-Acid Glycoprotein (AGP)	Haptoglobin
α -2-Macroglobulin	Serum Amyloid P (SAP)

Bone

Mouse Bone

(Cat. No. MBNMAG-41K)

ACTH	Leptin
DKK1	Osteoprotegerin (OPG)
FGF-23	Sclerostin (SOST)
IL-6	TNF α
Insulin	

Cancer

Mouse Angiogenesis / Growth Factor Panel 1

(Cat. No. MAGPMAG-24K)

sALK-1	IL-6
Amphiregulin	IL-17A/CTLA8
Angiopoietin-2 ▲	KC/CXCL1
Betacellulin ▲	Leptin
sCD31/sPECAM-1 ▲	MCP-1/CCL2
EGF	MIP-1 α /CCL3
Endoglin	Placental Growth Factor (PLGF-2)
Endothelin-1	Prolactin
sFasL	SDF-1/CXCL12
FGF-2/FGF-basic	TNF α
Follistatin (FST)	VEGF-A
G-CSF	VEGF-C
HGF	VEGF-D
IL-1 β	

Neuroscience

Mouse Amyloid Beta

(Cat. No. MABMAG-83K)

Amyloid beta 1-40	Amyloid beta 1-42
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Mouse Neuropeptide ■ ^

(Cat. No. RMNPMAG-83K)

α-MSH	Oxytocin
β-Endorphin	Substance P
Neurotensin	

Toxicity

Mouse Kidney Injury Panel 1

(Cat. No. MKI1MAG-94K)

β-2-Microglobulin	Renin
IP-10/CXCL10	TIMP-1
KIM-1	VEGF-A

Mouse Kidney Injury Panel 2

(Cat. No. MKI2MAG-94K)

Clusterin	NGAL/Lipocalin-2
Cystatin C	Osteopontin (OPN)
EGF	

RAT

Immunology

Rat Cytokine/Chemokine

☉ (Cat. No. RECYTMAG-65K)

27 (Cat. No. RECYMAG65K27PMX)

27 (Bulk Cat. No. RECYMAG65PMX27BK)

EGF	IL-10
Eotaxin/CCL11	IL-12 (p70)
Fractalkine/CX3CL1	IL-13
G-CSF	IL-17A/CTLA8
GM-CSF	IL-18
GROα/KC/CINC-1/CXCL1	IP-10/CXCL10
IFNγ	Leptin
IL-1α	LIX
IL-1β	MCP-1/CCL2
IL-2	MIP-1α/CCL3
IL-4	MIP-2/CXCL2
IL-5	RANTES/CCL5
IL-6	TNFα
	VEGF

Multi-Species TGFβ – Singleplex

(Cat. No. TGFBMAG-64K-01)
(Bulk Cat. No. TGFBMAG-64K-01BK)

TGFβ1

Multi-Species TGFβ – 3 Plex ▼

(Cat. No. TGFBMAG-64K-03)

NON-CONFIGURABLE KIT

TGFβ1	TGFβ3
TGFβ2	

Metabolism/Endocrinology

Rat Adipokine (Serum/Plasma samples)

(Cat. No. RADPKMAG-80K)

IL-1β	MCP-1/CCL2
IL-6	PAI-1 (total)
Insulin	TNFα
Leptin	

Rat Adipocyte (Cell culture samples)

(Cat. No. RADPCMAG-82K)

Adiponectin	MCP-1/CCL2
IL-1β	PAI-1 (total)
IL-6	TNFα
Leptin	

Rat Metabolic Hormone

(Cat. No. RMHMAG-84K)

Amylin (active) †	Insulin
C-Peptide 2	Leptin
Ghrelin (active) †	MCP-1/CCL2
GIP (total)	Pancreatic Polypeptide (PP)
GLP-1 (active) †	PYY (total)
Glucagon †	TNFα
IL-6	

Rat Myokine

(Cat. No. RMYOMAG-88K)

BDNF	IL-6
Erythropoietin (EPO)	IL-15
FGF-21	Irisin
Fractalkine/CX3CL1	LIF
Follistatin-like Protein 1 (FSTL1)	Osteocrin (OSTN)/Musclin
Myostatin/GDF8	Osteonectin/SPARC

Rat Pituitary

(Cat. No. RPTMAG-86K)

ACTH	LH
BDNF	Prolactin
FSH	TSH
GH	

Rat Stress Hormone ■

(Cat. No. RSHMAG-69K)

ACTH	Melatonin^
Corticosterone^	

Multi-Species Hormone ■ ^

(Cat. No. MSHMAG-21K)

Cortisol	Testosterone
Estradiol	T3
Progesterone	T4

Rat Thyroid

(Cat. No. RTHYMAG-30K)

T3^	TSH
T4^	

Cardiovascular

Rat Cardiac Injury Panel 1

(Cat. No. RCI1MAG-87K)

Cardiac Troponin I (cTnI)	FABP3
Cardiac Troponin T (cTnT)	Follistatin-like Protein 1 (FSTL1)
Creatine Kinase Muscle (CKM)	Myosin Light Chain 3 (MYL3)
	TIMP-1

Rat Vascular Injury Panel 1 (Serum/Plasma samples)

(Cat. No. RV1MAG-26K)

Caveolin-1	IL-6
Connective Tissue Growth Factor (CTGF)	MCP-1/ CCL2
GROα/KC/CINC-1/CXCL1	PAI-1 (total)
	TIMP-1
	TNFα
	VEGF

Rat Vascular Injury Panel 2 (Serum/Plasma samples)

(Cat. No. RV2MAG-26K)

Adiponectin	sICAM-1
sE-Selectin	von Willebrand Factor (vWF)

Legend key for MILLIPLEX® MAP kits

- † Analytes which cannot be plexed together:
 - Active and total
 - Free and total
- ◆ Available in Cat. No. listed
- ▼ Premix panel only
- Bulk indicates Space Saver Packaging

- ▲ These analytes cannot be plexed with other analytes in this panel in serum/plasma
- ‡ Requires a protease inhibitor during sample collection
- Requires sample extraction
- ** No standard/QC; autoantibody levels are reported as MFIs

- Serum/Plasma only
- ★ Tissue Culture samples only
- ^ Competitive assay format
- ☉ Available for custom premix
- Analyte requires a different sample dilution from others in panel

Rat Vascular Injury Panel 3
(Serum/Plasma samples)

(Cat. No. RV3MAG-26K)

α-1-Acid Glycoprotein (AGP)	Fibrinogen▲
α-2-Macroglobulin (A2M)	Haptoglobin

Bone

Rat Bone Panel 1
(Serum/Plasma samples)

(Cat. No. RBN1MAG-31K)

ACTH	Leptin
DKK1	Osteoprotegerin (OPG)
FGF-23	PTH
Insulin	Sclerostin (SOST)

Neuroscience

Rat Neuropeptide ■ ^

(Cat. No. RMNPMAG-83K)

α-MSH	Oxytocin
β-Endorphin	Substance P
Neurotensin	

Toxicity

Rat Kidney Toxicity Panel 1
(Urine samples)

(Cat. No. RKT1MAG-37K)

Calbindin	KIM-1
Clusterin	Osteopontin (OPN)
GSTα^	TIMP-1
IP-10/CXCL10	VEGF-A

Rat Kidney Toxicity Panel 2
(Urine samples)

(Cat. No. RKT2MAG-37K)

α-1-Acid Glycoprotein (AGP)	Cystatin C
Albumin^	EGF
β-2-Microglobulin	NGAL/Lipocalin-2

Rat Liver Injury

(Cat. No. RLI1MAG-92K)

5'NT/CD73	GSTα
ARG1	SDH
GOT1	

OTHER SPECIES

Immunology

Canine Cytokine/Chemokine

- ☐ (Cat. No. CCYTOMAG-90K)
- 15 (Cat. No. CCYTMG-90K-PX13)
- 15 (Bulk Cat. No. CCYTMG90KPX13BK)

GM-CSF	IL-15
IFNγ	IL-18
IL-2	IP-10/CXCL10
IL-6	KC-like
IL-7	MCP-1/CCL2
IL-8/CXCL8	TNFα
IL-10	

Equine Cytokine/Chemokine

- ☐ (Cat. No. EQCYTMAG-93K)
- 23 (Cat. No. EQCYTMG-93KPX23)
- 23 (Cat. No. EQCTMG93KPX23BK)

Eotaxin/CCL11	IL-6
FGF-2/FGF-basic	IL-8/CXCL8
Fractalkine/CX3CL1	IL-10
G-CSF	IL-12 (p70)
GM-CSF	IL-13
GRO	IL-17A/CTLA8
IFNγ	IL-18
IL-1α	IP-10/CXCL10
IL-1β	MCP-1/CCL2
IL-2	RANTES/CCL5
IL-4	TNFα
IL-5	

Feline Cytokine/Chemokine ▼

- 19 (Cat. No. FCYTMAG-20K-PMX)
- 19 (Bulk Cat. No. FCYTMAG20KPX19BK)
- NON-CONFIGURABLE KIT

sFAS/TNFRSF6	IL-13
Flt3 Ligand	IL-18
GM-CSF	KC/GRO
IFNγ	MCP-1/CCL2
IL-1β	PDGF-BB
IL-2	RANTES/CCL5
IL-4	SCF
IL-6	SDF-1/CXCL12
IL-8/CXCL8	TNFα
IL-12 (p40)	

Porcine Cytokine/Chemokine

- ☐ (Cat. No. PCYTMAG-23K)
- 15 (Cat. No. PCYTMG-23K-13PX)
- 15 (Bulk Cat. No. PCYTMAG23PMX13BK)

GM-CSF	IL-6
IFNγ	IL-8/CXCL8
IL-1α	IL-10
IL-1β	IL-12
IL-1Ra	IL-18
IL-2	TNFα
IL-4	

Multi-Species TGFβ – Singleplex

(Cat. No. TGFBMAG-64K-01)
(Bulk Cat. No. TGFBMAG-64K-01BK)

TGFβ1

Multi-Species TGFβ – 3 Plex ▼

(Cat. No. TGFBMAG-64K-03)

NON-CONFIGURABLE KIT

TGFβ1	TGFβ3
TGFβ2	

Metabolism/Endocrinology

Canine Gut Hormone

(Cat. No. CGTMAG-98K)

Amylin (total)▶	Insulin
Ghrelin (active)▶	Leptin
GIP (total)	Pancreatic
GLP-1 (active)▶	Polypeptide (PP)
Glucagon	PYY (total)

Canine Pituitary

(Cat. No. CPTMAG-96K)

ACTH	GH
BDNF	TSH
FSH	

Feline Metabolic Hormone

(Cat. No. FMHMAG-29K)

Amylin (active)▶	Insulin
Ghrelin (active)▶	Leptin
GIP (total)	Pancreatic
GLP-1 (active)▶	Polypeptide (PP)
Glucagon▶	PYY (total)

Multi-Species Hormone ■ ^

(Cat. No. MSHMAG-21K)

Cortisol	Testosterone
Estradiol	T3
Progesterone	T4

Toxicity

Canine Kidney Toxicity Expanded Panel 1
(Urine samples)

(Cat. No. CKT1MAG-97K)

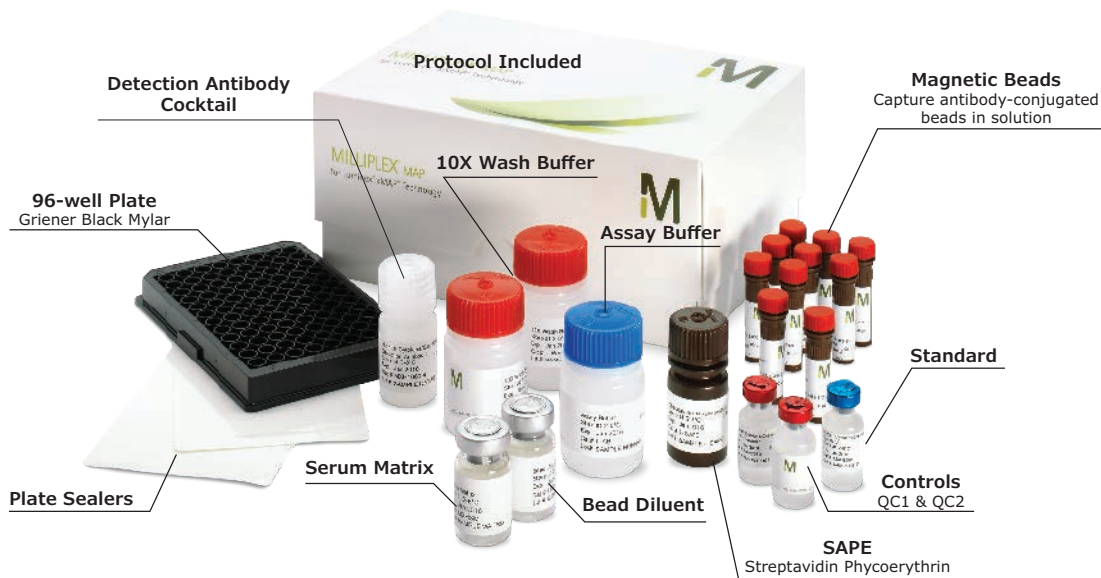
Clusterin	MCP-1/CCL2
Cystatin C	NGAL/Lipocalin-2
IL-8/CXCL8	Osteopontin (OPN)
KIM-1	

Canine Kidney Toxicity Panel 2
(Urine samples)

(Cat. No. CKT2MAG-97K)

Albumin	RBP4
β-2-Microglobulin	TFF-3

What's in the MILLIPLEX® kit?



Cell Signaling MILLIPLEX® MAP Assays

Uncover how your cells communicate

We offer three kit formats in our MILLIPLEX® MAP Cell Signaling portfolio to meet your diverse needs:

1. Phosphoprotein or total protein (or mixed) multiplex assays (≥ 3 -plex)
2. Same protein phosphoprotein and total protein in the same assay (2-plex)
3. Singleplex MAPmate™ kits you can plex on your own

Akt/mTOR (Phosphoprotein) – 11 Plex

(Cat. No. 48-611MAG) AB2 ▼ **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
Akt/PKB	✓ (Ser473)	H, M, R	
GSK3 α	✓ (Ser21)	H, M, R	
GSK3 β	✓ (Ser9)	H, M, R	
IGF1R	✓ (Tyr1135/1136)	H, M	
IR	✓ (Tyr1162/1163)	H	
IRS1	✓ (Ser636)	H, R	
mTOR	✓ (Ser2448)	H, M	
p70S6 Kinase	✓ (Thr389/412)	H, M, R	
PTEN	✓ (Ser380)	H, M, R	
RPS6	✓ (Ser235/236)	H, M, R	
TSC2	✓ (Ser939)	H, M, R	

Akt/mTOR (Total) – 11 Plex

(Cat. No. 48-612MAG) AB2 ▼ **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
Akt/PKB	✓	H, M, R	
GSK3 α	✓	H, M, R	
GSK3 β	✓	H, M, R	
IGF1R	✓	H, M, R	
IR	✓	H, R	
IRS1	✓	H, M, R	
mTOR	✓	H, M, R	
p70S6 Kinase	✓	H, M, R	
PTEN	✓	H, M, R	
RPS6	✓	H, M, R	
TSC2	✓	H, M, R	

- Can be plexed with other 2 Plexes
- * Cannot plex with other phospho Akt
- ▼ Premix panel only

AB1: Uses Assay Buffer 1
AB2: Uses Assay Buffer 2

H Human
M Mouse
R Rat

Early Apoptosis – 7 Plex(Cat. No. 48-669MAG) AB2 ▼ **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
Akt/PKB		✓ (Ser473)	H, M, R
BAD		✓ (Ser112)	H
Bcl-2		✓ (Ser70)	H
Active Caspase 8	✓		H
Active Caspase 9	✓		H
JNK/SAPK1		✓ (Thr183/Tyr185)	H, M, R
p53		✓ (Ser46)	H

Human Bcl-2 Family Apoptosis Panel 1 - 6 Plex(Cat. No. 48-682MAG) AB1 ▼ **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
BAD	✓	✓ (Ser112)	H
BAX	✓		H
Bcl-xL/BAD (interaction)	✓		H
BIM	✓		H
Mcl-1/BIM (interaction)	✓		H

Human Bcl-2 Family Apoptosis Panel 2 - 4 Plex(Cat. No. 48-683MAG) AB1 ▼ **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
Bcl-2	✓		H
Bcl-xL	✓		H
Mcl-1	✓		H
NOXA/Mcl-1 (interaction)	✓		H

Human DNA Damage/Genotoxicity – 7 Plex(Cat. No. 48-621MAG) AB1 ▼ **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
ATR	✓		H
Chk1		✓ (Ser345)	H, M, R
Chk2		✓ (Thr68)	H
H2A.X		✓ (Ser139)	H, M, R
MDM2	✓		H, M, R
p21	✓		H
p53		✓ (Ser15)	H

MAPK/SAPK (Phosphoprotein) – 10 Plex(Cat. No. 48-660MAG) AB2 ▼ **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
ATF2		✓ (Thr71)	H, M
c-Jun		✓ (Ser73)	H, M, R
Erk/MAPK 1/2		✓ (Thr185/Tyr187)	H, M, R
HSP27		✓ (Ser78)	H
JNK/SAPK1		✓ (Thr183/Tyr185)	H, M, R
MEK1		✓ (Ser222)	H, M, R
MSK1		✓ (Ser212)	H, M
p38/SAPK2A/B		✓ (Thr180/Tyr182)	H, M, R
p53		✓ (Ser15)	H
STAT1		✓ (Tyr701)	H, M

Human RTK (Phosphoprotein)**(Choose Analytes that Meet your Needs)**

(Cat. No. HPRTKMAG-01K) AB1

Analyte	Total	Phosphorylated	
c-Kit		(pan Tyr)	H
c-Met/HGFR		(pan Tyr)	H
ErbB1/EGFR		(pan Tyr)	H
ErbB2/HER2		(pan Tyr)	H
ErbB3/HER3		(pan Tyr)	H
ErbB4/HER4		(pan Tyr)	H
FGFR1		(pan Tyr)	H
Flt3		(pan Tyr)	H
IGF1R		(pan Tyr)	H
IR		(pan Tyr)	H
MSCFR		(pan Tyr)	H
PDGFR α		(pan Tyr)	H, M, R
PDGFR β		(pan Tyr)	H
TIE1		(pan Tyr)	H
TIE2		(pan Tyr)	H
VEGFR1/Flt-1		(pan Tyr)	H
VEGFR2/KDR/Flk-1		(pan Tyr)	H
VEGFR3/Flt-4		(pan Tyr)	H, M, R

Multi-Pathway (Phosphoprotein) – 9 Plex(Cat. No. 48-680MAG) AB2 ▼ **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
Akt/PKB		✓ (Ser473)	H, M, R
CREB		✓ (Ser133)	H, M, R
Erk/MAPK 1/2		✓ (Thr185/Tyr187)	H, M, R
JNK/SAPK1		✓ (Thr183/Tyr185)	H, M, R
NF κ B		✓ (Ser536)	H
p38/SAPK2A/B		✓ (Thr180/Tyr182)	H, M, R
p70S6 Kinase		✓ (Thr389/412)	H, M, R
STAT3		✓ (Ser727)	H, M, R
STAT5A/B		✓ (Tyr694/699)	H, M, R

Multi-Pathway (Total) – 9 Plex(Cat. No. 48-681MAG) AB2 ▼ **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
Akt/PKB	✓		H, M, R
CREB	✓		H, M, R
Erk/MAPK 1/2	✓		H, M, R
JNK/SAPK1	✓		H, M, R
NF κ B	✓		H, M, R
p38/SAPK2A/B	✓		H, M, R
p70S6 Kinase	✓		H, M, R
STAT3	✓		H, M, R
STAT5A/B	✓		H, M, R

NFκB – 6 Plex(Cat. No. 48-630MAG) AB1 ▼ **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
c-Myc	✓		H
FADD		✓ (Ser194)	H
IκBα		✓ (Ser32)	H
IKKα/β		✓ (Ser177/181)	H
NFκB		✓ (Ser536)	H, M
TNFR1	✓		H

Protein Translation – 6 Plex(Cat. No. 48-655MAG) AB2 ▼ **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
eIF2a		✓ (Ser51)	H, M, R
eIF-4B		✓ (Ser422)	H, M, R
eIF-4E		✓ (Ser209)	H, M, R
eIF-4G		✓ (Ser1108)	H, M, R
4E-BP1	✓	✓ (Thr37/46)	H, M, R

Src Family Kinase Active Site (Phosphoprotein) – 8 Plex(Cat. No. 48-650MAG) AB2 ▼ **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
Blk		✓ (Tyr389)	H
Fgr		✓ (Tyr412)	H, R
Fyn		✓ (Tyr420)	H, M, R
Hck		✓ (Tyr411)	H, M
Lck		✓ (Tyr394)	H, M, R
Lyn		✓ (Tyr397)	H, R
Src		✓ (Tyr419)	H, M, R
Yes		✓ (Tyr421)	H, M, R

STAT (Phosphoprotein) – 5 Plex(Cat. No. 48-610MAG) AB2 ▼ **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
STAT1		✓ (Tyr701)	H, M
STAT2		✓ (Tyr690)	H
STAT3		✓ (Tyr705)	H, M, R
STAT5A/B		✓ (Tyr694/699)	H, M, R
STAT6		✓ (Tyr641)	H

T-Cell Receptor (Phosphoprotein) – 7 Plex(Cat. No. 48-690MAG) AB2 ▼ **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
CD3ε		✓ (pan Tyr)	H
CREB		✓ (Ser133)	H, M, R
Erk/MAPK 1/2		✓ (Thr185/Tyr187)	H, M, R
LAT		✓ (pan Tyr)	H
Lck		✓ (pan Tyr)	H, M, R
Syk		✓ (pan Tyr)	H
ZAP-70		✓ (pan Tyr)	H

TGFβ – 6 Plex(Cat. No. 48-614MAG) AB2 ▼ **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
Akt/PKB		✓ (Ser473)	H
Erk/MAPK 1/2		✓ (Thr185/Tyr187)	H, M, R
SMAD2		✓ (Ser465/467)	H, M, R
SMAD3		✓ (Ser423/425)	H, M, R
SMAD4	✓		H, M, R
TGFβRII	✓		H

Akt Phospho/Total – 2 Plex(Cat. No. 48-618MAG) AB2 ▼ * ●● **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
Akt/PKB		✓ (Ser473)	H, M, R
Akt/PKB	✓		H, M, R

Akt1 Phospho/Total – 2 Plex(Cat. No. 48-631MAG) AB2 ▼ * ●● **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
Akt1		(Ser473)	H, M, R
Akt1	✓		H, M, R

Akt2 Phospho/Total – 2 Plex(Cat. No. 48-632MAG) AB2 ▼ * ●● **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
Akt2		(Ser474)	H, M, R
Akt2	✓		H, M, R

Akt3 Phospho/Total – 2 Plex(Cat. No. 48-633MAG) AB2 ▼ * ●● **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
Akt3		(Ser472)	H, M, R
Akt3	✓		H, M, R

- Can be plexed with other 2 Plexes
- * Cannot plex with other phospho Akt
- ▼ Premix panel only

AB1: Uses Assay Buffer 1
AB2: Uses Assay Buffer 2

H Human
M Mouse
R Rat

CREB Phospho/Total – 2 Plex(Cat. No. 48-628MAG) AB2 ▼●● **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
CREB		✓ (Ser133)	H, M, R
CREB	✓		H, M, R

mTOR Phospho/Total – 2 Plex(Cat. No. 48-625MAG) AB2 ▼●● **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
mTOR		✓ (Ser2448)	H, M, R
mTOR	✓		H, M

Erk/MAPK 1/2 Phospho/Total – 2 Plex(Cat. No. 48-619MAG) AB2 ▼●● **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
Erk/MAPK 1/2		✓ (Thr185/Tyr187)	H, M, R
Erk/MAPK 1/2	✓		H, M, R

p38 Phospho/Total – 2 Plex(Cat. No. 48-624MAG) AB1 or AB2 ▼●● **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
p38/SAPK2A/B		✓ (Thr180/Tyr182)	H, M, R
p38/SAPK2A/B	✓		H, M, R

IRS1 Phospho/Total – 2 Plex(Cat. No. 48-626MAG) AB2 ▼●● **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
IRS1		✓ (Ser636)	H, M
IRS1	✓		H, M, R

STAT3 Phospho/Total – 2 Plex(Cat. No. 48-623MAG) AB2 ▼●● **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
STAT3		✓ (Tyr705)	H, M, R
STAT3	✓		H, M, R

JNK Phospho/Total – 2 Plex(Cat. No. 48-622MAG) AB2 ▼●● **NON-CONFIGURABLE KIT**

Analyte	Total	Phosphorylated	
JNK/SAPK1		✓ (Thr183/Tyr185)	H, M, R
JNK/SAPK1	✓		H, M, R

- Can be plexed with other 2 Plexes
 - * Cannot plex with other phospho Akt
 - ▼ Premix panel only
- AB1:** Uses Assay Buffer 1 **H** Human
AB2: Uses Assay Buffer 2 **M** Mouse
R Rat

Cell Signaling MAPmate™ Assays

Plex up to 8 individual MAPmate™ assays together using our Cell Signaling Buffer and Detection Kit, or include them in existing MILLIPLEX® MAP Cell Signaling Panels to enhance the panel within the guidelines provided in the protocols. All of the analytes in the

MAPmate™ portfolio are available to build into custom assays. For more information on our custom immunoassay program, contact your sales specialist or email us at customassay@emdmillipore.com.

Important MAPmate™ Guidelines

- Consult the protocol prior to use
- Use the Cell Signaling Buffer & Detection Kit (**48-602MAG**), which contains all necessary reagents except the MAPmate™ assay
- All MAPmate™ assays use Cell Signaling Assay Buffer 2 (AB2)
- The following MAPmate™ assays should not be plexed together:
 - Phospho-specific and total MAPmate™ pairs
 - GAPDH and β -Tubulin MAPmates™ can be used for normalization with any of the MAPmates™
- Note: additional lysates are available to order upon request

MAPmate™ Kits	Species Homology	Cat. No.
β -Tubulin (total)	H, M, R	46-713MAG
GAPDH (total)	H	46-667MAG
Akt/PKB (Ser473)	H, M, R	46-677MAG
Akt/PKB (total)	H, M, R	46-675MAG
BAD (Ser112)	H, M	46-694MAG
Caspase 3 (Active)	H, M	46-604MAG
ERK/MAPK 1/2 (Thr185/Tyr187)	H, M, R	46-602MAG
ERK/MAPK 1/2 (total)	H, M, R	46-609MAG
JNK/SAPK1 (Thr183/Tyr185)	H, M	46-613MAG
JNK/SAPK1 (total)	H, M	46-618MAG
mTOR (Ser2448)	H, M, R	46-686MAG
mTOR (total)	H, M, R	46-685MAG
p38/SAPK2A/B (Thr180/Tyr182)	H, M, R	46-610MAG
p38/SAPK2A/B (total)	H, M, R	46-612MAG
Cleaved PARP (total)	H	46-656MAG
STAT1 (Tyr701)	H, M	46-655MAG
STAT1 (total)	H, M	46-654MAG



Custom MILLIPLEX® MAP Assay Development

Accelerate your research with customized MILLIPLEX® MAP assays designed for YOUR samples. We offer the following services:

- Develop new analytes
- Multiplex new analytes with existing analytes
- Rearrange existing analytes into new panels
- Design and validate assays on your samples
- Kit bridging for lot-to-lot reproducibility

Get started today!

STEP 1

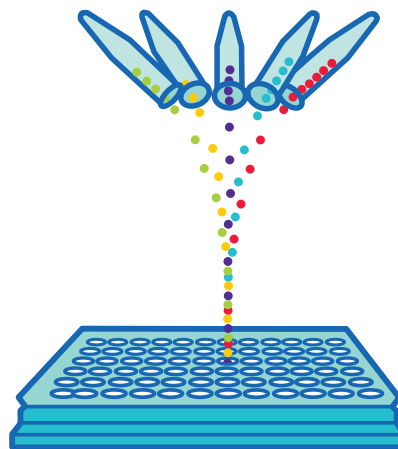
Submit full protein names, species and sample type for feasibility assessment to customassay@emdmillipore.com

STEP 2

Receive work plan and quotation from sales specialist

STEP 3

Place purchase order and participate in project kickoff call





Download our new custom menu of services brochure for a complete listing of services at [MerckMillipore.com/customassay](https://www.MerckMillipore.com/customassay)



Single analyte detection customized.

When your assays require detection of single analytes only, consider custom assay services for SMCxPRO™ and ELISA plate readers. Leverage sub-picogram detection capabilities of SMCxPRO™ to quantify proteins previously undetectable in samples. For more information on SMCxPRO™, visit [MerckMillipore.com/smcxpro](https://www.MerckMillipore.com/smcxpro).



SMCxPRO™



ELISA Plate Reader

Custom MILLIPLEX® MAP Analytes

Human	
Analyte	Sample
α 1-Acid Glycoprotein (AGP)	Urine
B-cell Maturation Antigen (BCMA)	Serum/Plasma
Calprotectin	Serum/Plasma
CD13 Aminopeptidase N	Serum/Plasma
Ceruloplasmin	Urine
Collagen 1	Multiple
CSTB (Cystatin B)	Serum/Plasma
Elafin	Serum/Plasma
Galectin-1	Serum/Plasma
GRP78	Serum/Plasma
Lecithin-cholesterol Acyltransferase (LCAT)	Serum/Plasma
Lipocalin like prostaglandin D synthase (LPGDS)	Urine
Semaphorin 3A	Cell and Tissue Culture Supernatants
ST2 (Suppressor of Tumorigenicity 2)	Serum/Plasma
sTM (Soluble Thrombomodulin)	Serum/Plasma
Transferrin	Urine
VE Cadherin/Cadherin 5	Serum/Plasma

Mouse and/or Rat	
Analyte	Sample
BMP-9	Serum/Plasma
Galectin-1	Serum/Plasma
Galectin-3	Serum/Plasma
HGFR/cMET	Serum/Plasma
IGF-1	Serum/Plasma
Periostin	Serum/Plasma
sAXL	Serum/Plasma
Tenascin C	Serum/Plasma
TRAIL	Serum/Plasma
Vasopressin	Plasma
Vitronectin	Serum/Plasma

MILLIPLEX® MAP Analyte Index

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Hardware	Flow Cytometry-based	Flow Cytometry-based	Fluorescent Imager
Bead Compatibility	Magnetic and nonmagnetic	Magnetic and nonmagnetic	Magnetic
Multiplex Capacity	500	100 (80 for MagPlex®)	50
Read Time (Microtiter Plate)	~20 min/96-well plate ~75 min/384-well plate	~40 min/96-well plate	~60 min/96-well plate
Applications	Protein/Nucleic Acid	Protein/Nucleic Acid	Protein/Nucleic Acid
Dynamic Range	4.5 logs	3.5 logs	3.5 logs
Dimensions including PC (W x D x H)	110 x 62 x 63 cm	115 x 60 x 50 cm	70 x 60 x 50 cm
Weight (Analyzer)	77.1 kg (170 lbs)	49 kg (113 lbs)	17.5 kg (38.5 lbs)
CFR 21 Part 11	✓	✓	✓
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Luminex® 200™, Platinum 360*	•	●		•	SVCLUMPLT360
MAGPIX®, Standard	•	○			SVCLUMGLDMAGPIX
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Description	Pack Size	Cat. No.
MAGPIX® Drive Fluid	4 pack, 750 mL ea	MPXDF-4PK
Sheath Fluid for Luminex® 100/200™ & FLEXMAP 3D® Systems	20 L	40-50015
Sheath Fluid (20x concentrate)	1 L	40-50018
MAGPIX® Calibration Kit	25 uses	MPX-CAL-K25
MAGPIX® Performance Verification Kit	25 uses	MPX-PVER-K25
Luminex® 200™ Calibration Kit (xPONENT®)	25 uses	LX2R-CAL-K25
Luminex® 200™ Performance Verification Kit (xPONENT®)	25 uses	LX2R-PVER-K25
FLEXMAP 3D® Calibration Kit	25 uses	F3D-CAL-K25
FLEXMAP 3D® Performance Verification Kit	25 uses	F3D-PVER-K25
Handheld Magnetic Separator Block	1 each	40-285

Training

Description	Cat. No.
MAGPIX® System Onsite Installation and Training	TRONSITE-MAGPIX
Luminex® 200™ System Onsite Installation and Training	TRONSITE-LX200
FLEXMAP 3D® System Onsite Installation and Training	TRONSITE-FM3D
MILLIPLEX® Analyst 5.1 Software Onsite Installation and Training	TRONSITE-MA
BioTek® Washer Onsite Installation and Training	TRONSITE-BIOTEK
MILLIPLEX® MAP Kits Training	TRONSITE-MPX

Luminex® Systems Installation Qualification (IQ) and Operational Qualification (OQ)

IQ/OQ Protocol	Protocol No.
FLEXMAP 3D® for xPONENT® 4.2 platform	VP-FM3D-4.2
Luminex® 200™ xPONENT® 4.2 platform	Coming Soon!
MAGPIX® xPONENT® 4.2 platform	VP-MAGPIX-4.2
Field Service**	92-00040-00-002

** Optional for Luminex® 200™ and required for FLEXMAP 3D®

MILLIPLEX® Analyst 5.1 “Flex” Software

Use our advanced curve-fitting algorithm, developed from our experience in assay manufacturing and validated using real-life data sets

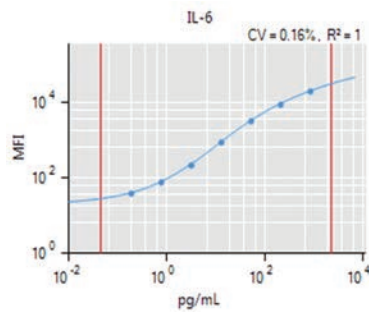
MILLIPLEX® Analyst 5.1 “Flex” software was designed to focus on data derived from the low and high ends of standard curves. Data in these regions can be important and are commonly missed by existing multiplex data analysis packages.

In developing the curve-fitting algorithms for MILLIPLEX® Analyst 5.1 “Flex” Software,

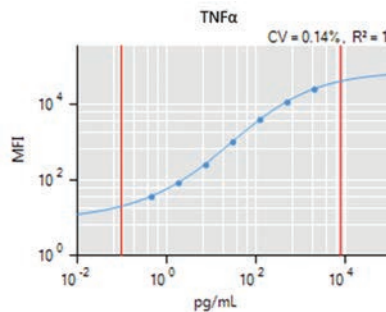
simulations were run on 600+ data sets using actual experimental standard curves to determine the fit that would give the lowest CVs at the low and high ends of the curves, and that work well even with standard curves of low quality. With its dongle-activated format, MILLIPLEX® Analyst 5.1 “Flex” Software may be used from the lab to the office with this simple plug and play functionality.

MILLIPLEX® Analyst 5.1 Detailed Reports

Easily export complete multiplex data for use in presentations and record keeping.



Curve statistics: 5-P.log(2.96, 11.89, 0.52, 3.19, 0.31)
Chi = 1.88%, CV = 0.16%, R² = 0.9999
DC = (0.047, 2025)



Curve statistics: 5-P.log(2.13, 11.10, 0.41, 3.06, 0.47)
Chi = 1.66%, CV = 0.14%, R² = 0.9999
DC = (0.097, 7853)

Notes:

DC – The detectable concentration range.

CV – The Coefficient of Variation of standard curve replicates at each dilution level.

Chi – The Chi-Squared test statistic of the distance between observed concentrations with expected concentrations.

Figure 6. Example data from the MILLIPLEX® Human High Sensitivity T Cell panel (HSTCMAG-28SK, analytes IL-6 and TNFα). Curves generated using 5 parameter logarithmic curve fit using MILLIPLEX® Analyst 5.1.

Standard	Exp pg/mL	MFI	Obs pg/mL	% CV	% Recovery	minDC pg/mL
IL-6						
Blank	0	24	—	11.79	—	0.047
Std 1	0.18	38.5	0.18	5.51	99.99	
Std 2	0.73	75	0.74	11.31	100.69	
Std 3	2.93	211.5	2.86	5.68	97.64	
Std 4	11.72	847	11.99	9.18	102.34	
Std 5	46.88	3052	47.5	4.73	101.33	
Std 6	187.5	8262	181.59	5.02	96.85	
Std 7	750	18348	759.68	1.92	101.29	
TNFα						
Blank	0	22.25	—	11.12	—	0.097
Std 1	0.43	36	0.43	3.93	99.62	
Std 2	1.71	83.5	1.74	2.54	101.83	
Std 3	6.84	246.5	6.66	3.73	97.42	
Std 4	27.34	954.5	27.45	4.96	100.38	
Std 5	109.38	3665	111.88	3.43	102.29	
Std 6	437.5	10648	428.21	0.05	98.11	
Std 7	1750	23262	1758	1.01	100.44	

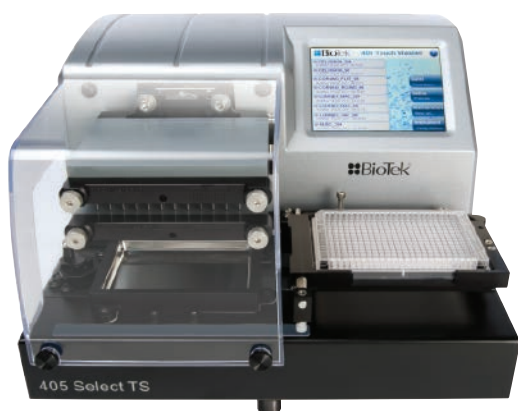
Table 1. Standard curve performance from HSTCMAG-28SK analytes IL-6 and TNFα using MILLIPLEX® Analyst 5.1. minDC = minimum detectable concentration.

Description	Cat. No.
MILLIPLEX® Analyst 5.1 “Flex” Software	40-086

BioTek® Washing & Dispensing Solutions for MILLIPLEX® MAP Assays

In partnership with BioTek®, we offer the latest advancements in 96- and 384-well plate washing: a fully automated system designed to quickly wash an entire plate through biomagnetic separation, washing and vacuum filtration. We offer two systems which allow magnetic and vacuum filtration options—with

the 405™ TS model offering an easy-to-use and glove-touchable screen. For those looking for a more automated assay format, the MultiFlo™ FX will allow users to dispense kit reagents in a timely and uniform fashion, to ensure excellent assay reproducibility.



BioTek® 405™ Select TS (touch screen) Washer

BioTek® washer advantages:

- Fast and hands-free full plate washing
- MILLIPLEX® MAP and Luminex® xMAP®-approved
- High-energy neodymium iron boron magnets for rapid separation of multiplex beads with superior retention
- 405™ TS models have a state-of-the-art, high-resolution LED backlit touch screen user interface for an intuitive and flexible instrument
- 405™ TS models come with the built-in Ultrasonic Advantage™ enabling easy cleaning even with the toughest of sample types

BioTek® MultiFlo™ FX Automated Reagent Dispenser



The perfect instrument for MILLIPLEX® MAP 384-well Assays

- Fully automated process: load standards, QCs and samples and walk away
- Optimized for both 384- and 96-well plates
- The performance of a larger robot for a fraction of the cost
- Self-contained, programmable washer enables precise fluidic delivery—ensuring complete control while washing 96-well and 384-well assay plates

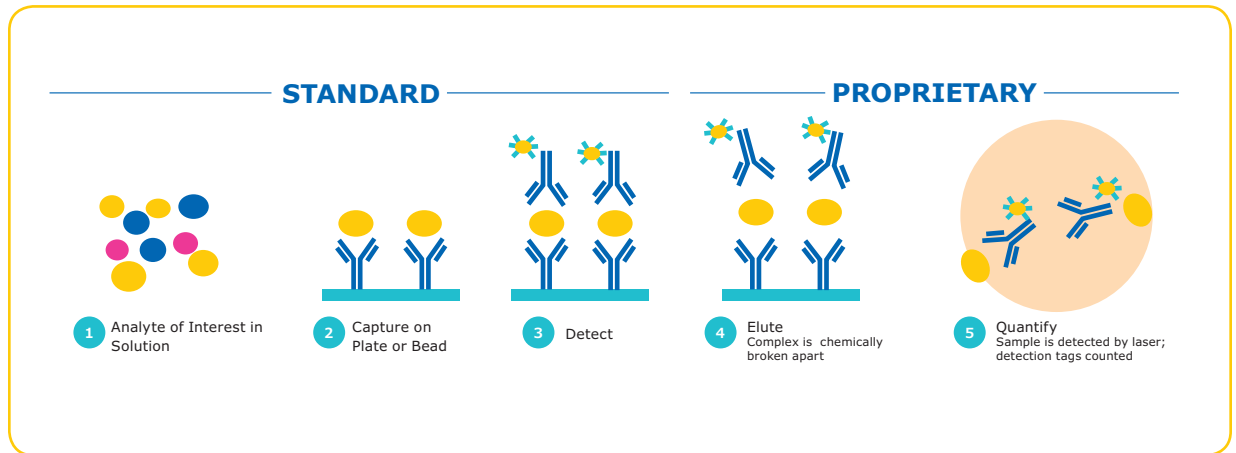
Description	Cat. No.
BioTek® MultiFlo™ FX Automated Reagent Dispenser	40-099

SMC™ Technology

Single Molecule Counting (SMC™) Technology: Reduced background + increased signal

SMC™ technology provides maximum immunoassay performance while following a workflow similar to traditional ELISA technology, as shown below. By combining a unique assay elution step and robust digital counting, SMC™ technology achieves improved signal-

to-noise ratios over traditional immunoassay technologies. The SMC™ technology thus provides enhanced quantification at both low and high levels of expression on one complete system.



Steps 2-3

Antibodies translate each biomarker into a signal

Step 4

Fluorescent dye-labeled detection antibodies dissociate from the immunocomplex

Step 5

On the SMCxPRO™ instrument, signal is collected from free-floating fluorochromes using a rotating laser, CCD camera and counting individual molecules by an Avalanche Photodiode

Digital counting improves sensitivity and dynamic range

The SMCxPRO™ and Erenna® instruments capture the sum of all digital events counted above a background threshold. This model can have limited dynamic range, so at higher concentrations on the ErennaR instrument, a proprietary algorithm computes the total sum of all photons recorded as an additional standard curve. The SMCxPRO™ instrument digital event algorithm computes digital events across a spectrum of time series for a single standard curve, thus improving assay sensitivity and extending the dynamic measuring range beyond what can be achieved with traditional technologies.

SMC™ Immunoassay Kits

Analyte	LLOQ (pg/mL) ¹	Median Endogenous (pg/mL) ²	Species ³	Sample Type ⁴	MTO or STOCK	Cat. No.
Akt1 (Ser473)	0.98	NA	H, M, R	L	MTO	03-0100-01
Akt1 (total)	7.8	NA	H, M, R	L	MTO	03-0099-01
Amyloid beta 1-40 ^{6,7} NEW	5.86	P: 152; CSF: 1366	H, M, R	C, P	STOCK	03-0145-00
Amyloid beta 1-42 ^{6,7}	0.98	P: 15; CSF: 191	H, M, R	C, P	STOCK	03-0146-00
cTnI ⁶	0.69	1.75	H, Cy, R, C, GP	P, S	STOCK	03-0092-00
cTnI ^{6,7}	0.69	1.75	H, Cy, R, C, GP	P, S	STOCK	03-0154-00
G-CSF	0.08	17	H	P	MTO	03-0047-00
GM-CSF	0.02	0.2	H	P	MTO	03-0067-00
GLP-1 (active)	0.4	3.46	H, M, R, C	P	MTO	03-0024-03
GLP-1 (total)	0.39	17.8	H, M, R, C	P	MTO	03-0025-06
Glucagon ^{6,7}	0.781	44	H, M, R	P	STOCK	03-0153-00
IFN-γ	0.2	0.79	H	P	STOCK	03-0049-00
IL-1α	0.39	1.06	H	P	STOCK	03-0072-00
IL-1β ⁶ NEW	0.2	P: 0.45; S: 1.08	H	P	STOCK	03-0028-00
IL-1β ^{6,7} NEW	0.2	P: 7.4; S: 0.12	H	P, S	STOCK	03-0160-00
IL-2	0.2	0.21	H	P, S	MTO	03-0051-00
IL-4 ⁶ NEW	0.04	0.12	H	P	STOCK	03-0052-00
IL-4 ^{6,7} NEW	0.04	P: 0.18; S: 0.18	H	P, S	STOCK	03-0161-00
IL-5	3.91	4.52	H	P	STOCK	03-0053-00
IL-6 ⁶	0.08	1.3	H	P, S	STOCK	03-0089-01
IL-6 ^{6,7}	0.08	1.3	H	P, S	STOCK	03-0155-00
IL-7	0.39	4.91	H	P, S	MTO	03-0094-00
IL-8 / CXCL8	0.24	3.6	H	P, S	MTO	03-0055-00
IL-10	0.39	1.01	H	P	STOCK	03-0056-00
IL-12	0.05	0.13	H	P, S	STOCK	03-0057-00
IL-13 v2 ⁶	0.04	0.21	H	P, S	STOCK	03-0109-02
IL-13 ^{6,7} NEW	0.04	P: 0.39; S: 0.33	H	P, S	STOCK	03-0156-00
IL-15	0.1	3.38	H	P, S	MTO	03-0058-00
IL-17A v2	0.03	0.12	H	P, S	STOCK	03-0103-00
IL-17A ^{6,7} NEW	0.07	P: 0.31; S: 0.30	H	P, S	STOCK	03-0159-00
IL-17F v2	0.2	0.86	H	P, S	STOCK	03-0102-00
IL-17F ^{6,7} NEW	0.2	P: 1.1; S: 1.2	H	P, S	STOCK	03-0164-00
IL-17A/F Heterodimer v2	1.2	2.75	H	P, S	STOCK	03-0119-00
IL-21	0.2	0.53	H	S	MTO	03-0014-07
IL-22 ⁶	0.2	3.3	H	P	STOCK	03-0059-01
IL-23 ⁶ NEW	0.1	0.18	H	P, S	STOCK	03-0112-00
IL-23 ^{6,7} NEW	0.1	P: 0.65; S: 0.46	H	P, S	STOCK	03-0157-00
KIM-1 ⁵	3.91	P: 65; S: 75; U: 147	H	P, S, U	MTO	03-0118-00
TNFα ⁶ NEW	0.2	2.3	H	P	STOCK	03-0088-00
TNFα ^{6,7} NEW	0.2	P: 0.85; S: 0.78	H	P, S	STOCK	03-0163-00
TNFα	0.4	38.6	M	S	MTO	03-0108-00
VEGF	0.2	66.5	H	P	STOCK	03-0068-00

¹ LLOQ: Lowest point on standard curve with CV < 20% and accuracy within 20% of expected values.

² Median Endogenous: Minimum of 10 samples from individual donors assessed for ability to quantify baseline biomarker values.

³ Optimized for first species type listed. Other listed species have been tested, but not optimized for peak performance.

Key: H=Human; M=Mouse; R=Rat; GP=Guinea Pig; Cy=Cynomolgus Monkey; C=Canine

⁴ Optimized for use in sample type(s) listed. Key: P=Plasma; S=Serum; L=Lysate; U=Urine; C=Cerebrospinal Fluid (CSF)

⁵ Plate-based assay.

⁶ Assay characteristic data is representative for both Erenna® and SMCxPRO™.

⁷ New streamlined format kit. For list of changes refer to the new kits section.

For a complete list of kits qualified on both the SMCxPRO™ and Erenna® instruments, visit [MerckMillipore.com/smcxpro](https://www.MerckMillipore.com/smcxpro)

Validation Criteria for Verified Immunoassays

A comprehensive set of criteria evaluating ultimate quantitative performance are used to qualify verified immunoassays

- **Lower limit of quantitation:** Lowest point on standard curve with CV <20% and accuracy within 20% of expected values
- **Inter- and intra-assay precision:** Samples run on multiple plates over multiple days. Spiked and un-spiked samples within 20% across experiments
- **Spike recovery:** Minimum of 10 samples spiked with acceptable recovery between 80–120%
- **Dilutional linearity:** Assays within 20% of expected value
- **Endogenous range:** Minimum of 10 samples from individual donors assessed for ability to quantify biomarker levels

Mouse Plate-based Discovery Immunoassay Kits

Discovery immunoassays are provided as complete kits to run on your Erenna® platform

- Reproducible LLOQ
- Simple workflow
- Minimal sample volume

Analyte	LLOQ (pg/mL)	Median Endogenous (pg/mL)	Species	Sample Type	Cat. No.
Mouse IL-4	0.49	NA	M	S	03-0136-00
Mouse IL-5	0.24	6.1	M	S	03-0132-00
Mouse IL-10	6.2	8.3	M	S	03-0134-00
Mouse IL-13	3.91	12.0	M	S	03-0133-00
Mouse IL-17A	0.98	9.2	M	S	03-0123-00
Mouse IL-17F	0.49	2.2	M	S	03-0125-01
Mouse IL-21	4.9	44.0	M	S	03-0126-00
Mouse IL-22	100	195	M	S	03-0127-00
Mouse TNFα	0.49	28.4	M	S	03-0137-00



Expert Custom Assays & Sample Testing for SMC™ Technology

We understand you don't always have the time or resources to develop your own assay for your protein of interest or to test your critical samples. Our custom scientific team has over 130 years of immunoassay development experience with core expertise in SMC™ technology. Let us help you accelerate your program from discovery research into clinical trials with a custom designed program for you.

Our services include:

Collaborative Biomarker Discovery & Development

- Preclinical to early clinical sample testing
- Immunoassay development
- Biomarker verification to sponsor requirements

Biotherapeutic Development

- Pharmacokinetics
- Pharmacodynamics
- Immunogenicity

Reagent Selection

- Reagent sourcing
- Screening and selection
- Antibody derivatization

Sample Testing

- Prototype sample testing
- Proprietary kit sample testing
- SMC™ immunoassay kit testing

We are happy to announce the launch of our new SMCxPlore Services, customized streamlined options to "explore" SMC™ technology with your analyte of interest or critical samples.

SMCxPlore Assay Development Feasibility:

Development of a prototype assay using your antibody pairs and standard. Ideal for bringing your assay in house.

SMCxPlore Assay Conversion to SMC™:

With access to over 600 proven antibody pairs, let us develop a SMC™ assay that isn't currently available.

SMCxPlore Proof of Concept Sample Testing:

Sample testing of up to 30 of your critical samples using one of our highly validated SMC™ immunoassays.



CUSTOM

SMC™ (SINGLE MOLECULE COUNTING) CUSTOM ASSAYS AND SERVICES

FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES.

SMCxPRO™ Immunoassay System Specifications



SMCxPRO™ & Ancillary Product Services	Cat. No.
SMCxPRO™ Complete System	95-0100-00
Standard SMCxPRO™ Installation	96-2011-00
SMCxPRO™ System Training – 1 day	96-2022-00
SMC™ Advanced Training – 3 days	96-2023-00
SMCxPRO™ IQ/OQ Installation	96-2012-00
SMCxPRO™ PQ Service	96-2013-00
BioTek® 405 Touch Microplate Washer with MAG plate	95-0004-05
Tecan Hydroflex Microplate 8-Channel Washer	95-0014-00
Jitterbug Plate Shaker	70-0009-00

Network/PC Requirement

- Microsoft Windows® 7/10 Operating Systems
- A static IP address and an FTP server
- xPRO Operating and Analysis Software included (32- or 64-bit compliant)

Read Plate Format

- 384-well plate

Assay Format

- Bead-based assays
- Plate-based assays

Instrument Specifications

- Instrument dimensions: 406.4 mm H x 355.6 mm W x 444.5 mm D (16"H x 14"W x 17.5"D)
- Weight: 22.7 kg (50 lbs)
- US: 115 VAC, 50-60 Hz (Operating range 90-125 V)
- International: 230 VAC, 50-60 Hz (Operating range 180-250 V)

Min. Instrument Performance Specifications

Metric	Specification
Slope	>1.2 response/fM ¹
Background	<3 response/fM ¹
Limit of Detection (LoD)	<1 fM
Precision	<10% CV ²
Dynamic Range	>4 logs

¹ Determined from calibrator set: 0-300 fM of 150 kD antibody labeled with fluorophore

² Response measurements from 30fM calibrator, n=20

Installation and Training

- Set up of unit on bench and complete calibration of unit
- Run of ASSIST program to verify instrument performance
- Optional IQ/OQ and PQ Services available

Three Levels of Onsite Service Support for SMCxPRO™ Platform

- **Total Service:** Unlimited visits including labor, travel, expenses and all parts for any service for one year
- **Advanced Service:** Labor, travel and expenses for one preventative maintenance and one floating visit for one year
- **Essential Service:** Labor for one preventative maintenance visit for one year

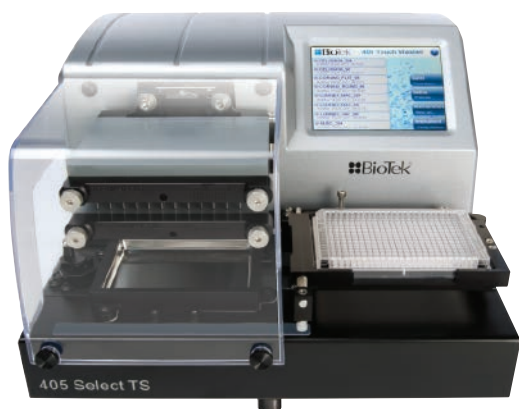
Advanced Customer Training

Take advantage of ultrasensitive digital (SMC™) technology while developing your own application-specific immunoassays in either bead- or plate-based assay format. We offer hands-on training at your facility or at one of our global training centers. This training will provide the tools you need to develop your own immunoassays for use on the SMCxPRO™ and Erenna® instruments. Ask your sales specialist for more information.

Description	Cat. No.
SMC™ Assay Development Training – 3 days	96-2024-00
SMC™ Assay Development Training – extra day	96-2025-00

Ancillary Equipment to Optimize your SMC™ Assays

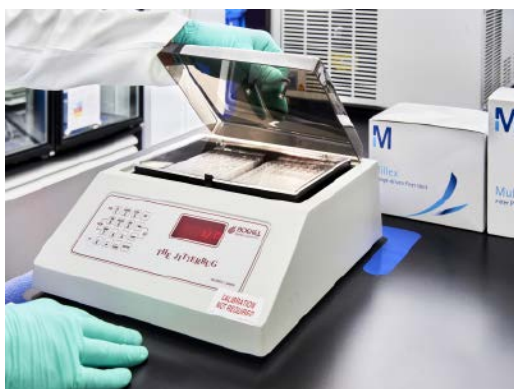
BioTek® 405TS 384 Well Plate Washer



In partnership with BioTek®, we offer the latest advancements in 384-well plate washing: a fully automated system designed to quickly wash an entire plate through biomagnetic separation, washing and vacuum filtration. The system comes specifically optimized for use with SMC™ assays with the inclusion of a specially designed magnetic plate and customized pre-programmed plate washing protocols. The 405™ TS model offers an easy-to-use and glove touchable screen.

Description	Cat. No.
BioTek® 405™ TS Magnetic 96-well Washer Complete with Touch Screen and Ultrasonic Cleaning	95-0004-05

Boekel Scientific Jitterbug, 130000, Heated Microplate Shaker (115V)



This heated microplate shaker is ideal for Immunoassays like SMC™ requiring heating and shaking of microplates. Includes inner lid to reduce risk of contamination.

Description	Cat. No.
Boekel Jitterbug Heated Microplate Shaker (115V)	70-0009-00

Tecan® HydroFlex™ 8 Channel Plate Washer



The HydroFlex™ microplate washer is a flexible washer with automated microplate strip washing, magnetic bead washing and vacuum filtration in 96-well plate formats. Along with microplate shaking and automated buffer switching included, the system comes specifically optimized for use with SMC™ assays with the inclusion of a specially designed magnetic plate and customized pre-programmed plate washing protocols.

Description	Cat. No.
Tecan® HydroFlex™ 8 Channel Plate Washer	95-0014-00

Millipore Brand ELISAs

Metabolic/Endocrine ELISAs

Our menu of metabolic and endocrine ELISAs allows end-users a consistent and reliable method of investigating metabolic disease states or defining outcomes within toxicological studies during drug development.

Description	Species	Standard Curve Range	Sensitivity	Sample Volume	Cat. No.	Bulk Packaging Cat. No.*
Adiponectin	Human	1.56–200 ng/mL	0.2 ng/mL	10 µL	EZHADP-61K	EZHADP-61BK
Adiponectin (High Molecular Weight)	Human	1.5–200 ng/mL	0.5 ng/mL	10 µL	EZHMWAN-65K	
Adiponectin	Mouse	1–50 ng/mL	0.2 ng/mL	10 µL	EZMADP-60K	EZMADP-60BK
Adiponectin	Rat	3.125–200 ng/mL	0.4 ng/mL	10 µL	EZRADP-62K	
Amylin (active)	Human	1–100 pM	0.7 pM	50 µL	EZHA-52K	EZHA-52BK
C-Peptide	Human	0.2–20 ng/mL	0.05 ng/mL	10 µL	EZHCP-20K	EZHCP-20BK
C-Peptide	Canine	0.2–10 ng/mL	0.24 ng/mL	25 µL	EZCCP-47K	EZCCP-47BK
C-Peptide 2	Mouse, Rat	25–1600 pM	15.0 pM	20 µL	EZRMCP2-21K	
C-Reactive Protein (CRP)	Human	0.12–10 ng/mL	0.2 ng/mL	2 µL	CYT298	
C-Reactive Protein (CRP)	Rat	4.9–10 ng/mL	2.5 ng/mL	2 µL	CYT294	
FGF-21	Human	31.25–2000 pg/mL	10.0 pg/mL	50 µL	EZHFGF21-19K	
FGF-21	Mouse, Rat	49.4–12,000 pg/mL	10.0 pg/mL	10 µL	EZRMFGF21-26K	
FGF-23	Human	9.9–2400 pg/mL	3.5 pg/mL	50 µL	EZHFGF23-32K	EZHFGF23-32BK
Ghrelin (active)	Human	25–2000 pg/mL	15.0 pg/mL	20 µL	EZGRA-88K	EZGRA-88BK
Ghrelin (active)	Mouse, Rat	25–2000 pg/mL	8.0 pg/mL	20 µL	EZRGRA-90K	
Ghrelin (total)	Human	100–5000 pg/mL	50.0 pg/mL	20 µL	EZGRT-89K	EZGRT-89BK
Ghrelin (total)	Mouse, Rat	0.1–10 ng/mL	0.04 ng/mL	20 µL	EZRGRT-91K	
GIP (total)	Human	8.2–2000 pg/mL	4.2 pg/mL	20 µL	EZHGIP-54K	EZHGIP-54BK
GIP (total)	Mouse, Rat	8.2–2000 pg/mL	4.2 pg/mL	10 µL	EZRMGIP-55K	EZRMGIP-55BK
GLP-1 (active)	Multi-Species	2–100 pM	1.0 pM	100 µL	EGLP-35K	EGLP-35BK
GLP-1 High Sensitivity (active) Δ••	Multi-Species	See data sheet	0.14 pM	50 µL	EZGLPHS-35K	EZGLPHS-35BK
GLP-1 (total)	Multi-Species	4.1–1000 pM	1.0 pM	20–50 µL	EZGLP1T-36K	EZGLP1T-36BK
GLP-2	Multi-Species	1–64 ng/mL	0.3 ng/mL	50 µL	EZGLP2-37K	
Glucagon Δ WHO	Human, Mouse, Rat	0.02–2 ng/mL	0.003 ng/mL	150–300 µL	EZGLU-30K	EZGLU-30BK
Growth Hormone (GH)	Mouse, Rat	0.7–50 ng/mL	0.07 ng/mL	10 µL	EZRMGH-45K	EZRMGH-45BK
Insulin WHO	Human	2–200 µU/mL	1.0 µU/mL	20 µL	EZHI-14K	EZHI-14BK
Insulin	Mouse, Rat	0.2–10 ng/mL	0.1 ng/mL	10 µL	EZRMI-13K	EZRMI-13BK
Insulin (Animal serum free)	Human	2–200 µU/mL	0.85 µU/mL	20 µL	EZHIASF-14K	
Leptin	Canine	0.78–50 ng/mL	0.21 ng/mL	20 µL	EZCL-31K	
Leptin	Mouse	0.2–30 ng/mL	0.05 ng/mL	10 µL	EZML-82K	EZML-82BK
Leptin	Rat	0.2–30 ng/mL	0.08 ng/mL	10 µL	EZRL-83K	EZRL-83BK
Leptin "Dual Range" WHO	Human	0.5–100 ng/mL	0.2 ng/mL	25 µL	EZHL-80SK	EZHL-80BK
Pancreatic Polypeptide	Human	12.6–3000 pg/mL	12.3 pg/mL	50 µL	EZHPP-40K	EZHPP-40BK
Procollagen Type IIA N-Propeptide (PIIANP)	Human	lot dependent	30.0 ng/mL	5 µL	EZPIIANP-53K	
Proinsulin (total) WHO	Human	2–200 pM	0.5 pM	20 µL	EZHPI-15K	EZHPI-15BK
PYY (total)	Human	10–2000 pg/mL	6.5 pg/mL	20 µL	EZHPYYT66K	
Resistin	Human	0.16–5 ng/mL	0.02 ng/mL	20 µL	EZHR-95K	EZHR-95BK
SAA-3	Mouse	0.078–5 µg/mL	0.078 µg/mL	10 µL	EZMSAA3-12K	

* Bulk packaging available on select kits — more environmentally friendly and saves space (10 kit equivalent)

•• Preferred assay for measuring GLP-1 (active)

Δ Chemiluminescent assay

Millipore Brand ELISAs & RIAs

Neuroscience ELISAs

Get a complete picture of the complexities associated with normal and disease states of the nervous system with reliable quantification of biomarkers using our neuropeptide and neurodegenerative ELISAs.

Description	Species	Standard Curve Range	Sensitivity	Sample Volume	Cat. No.
α-Synuclein	Human, Mouse, Rat	3–60 ng/mL	3 ng/mL	100 µL	NS400
Amyloid beta 1-40	Human	16–500 pg/mL	4 pg/mL	50 µL	EZHS40
Amyloid beta 1-42	Human	16–500 pg/mL	5 pg/mL	50 µL	EZHS42
Amyloid beta, Set	Human	Contains 1 each of EZHS40 and EZHS42			EZHS-SET
Amyloid beta (Brain) 1-40	Human	16–500 pg/mL	4 pg/mL	50 µL	EZBRAIN40
Amyloid beta (Brain) 1-42	Human	16–500 pg/mL	5 pg/mL	50 µL	EZBRAIN42
Amyloid beta (Brain), Set	Human	Contains 1 each of EZBRAIN40 and EZBRAIN42			EZBRAIN-SET
BDNF (Brain-Derived Neurotrophic Factor)	Human, Rat	7.8–500 pg/mL	7.8 pg/mL	50 µL	CYT306
GFAP (Glial Fibrillary Acidic Protein)	Human, Mouse, Rat	1.5–100 ng/mL	1.5 ng/mL	100 µL	NS830
NGF (Nerve Growth Factor)	Mouse, Rat	10–1000 pg/mL	10–15 pg/mL	50 µL	CYT304
NPY (Neuropeptide Y)	Human	5–1000 pg/mL	2 pg/mL	50 µL	EZHNPY-25K
NPY (Neuropeptide Y)	Mouse, Rat	0.01–2 ng/mL	0.004 ng/mL	20 µL	EZRMNPY-27K
PEDF (Pigment Epithelium-Derived Factor)	Human	0.9–62.5 ng/mL	0.9 ng/mL	50 µL	CYT420
Phosphorylated Neurofilament, (pNF-H) Sandwich	Multi-Species	0.0293–15 ng/mL	0.0585 ng/mL	1–10 µL	NS170
S100B	Human	2.7–2000 pg/mL	1.3 pg/mL	50 µL	EZHS100B-33K

Radioimmunoassays (RIAs)

RIAs have long been considered a valuable, economical and accurate way to measure protein concentration. As many researchers move away from using radioactive material, please consider using our other high quality immunoassays for your research needs.

Description	Species	Standard Curve Range	Sensitivity	Sample Volume	Cat. No.
Adiponectin	Human	lot dependent	1 ng/mL	5 µL	HADP-61HK
C-Peptide	Canine	0.156–20 ng/mL	0.15 ng/mL	50 µL	CCP-24HK
C-Peptide	Human	0.1–5 ng/mL	0.1 ng/mL	50 µL	HCP-20K
Ghrelin (active)	Human	lot dependent	7.8 pg/mL	50 µL	GHRA-88HK
Ghrelin (total)	Human	lot dependent	93 pg/mL	50 µL	GHRT-89HK
GLP-1 (active)	Multi-Species	10–500 pM	3 pM	300 µL	GLP1A-35HK
GLP-1 (total)	Multi-Species	10–1000 pM	3 pM	300 µL	GLP1T-36HK
Glucagon	Multi-Species	20–400 pg/mL	20 pg/mL	50 µL	GL-32K
Insulin	Porcine	2–200 µU/mL	2 µU/mL	50 µL	PI-12K
Insulin	Rat	0.1–10 ng/mL	0.1 ng/mL	50 µL	RI-13K
Insulin LisPro	Multi-Species	2.5–250 µU/mL	2.5 µU/mL	100 µL	LPI-16K
Insulin (sensitive)	Rat	0.02–1 ng/mL	0.02 ng/mL	50 µL	SRI-13K
Insulin Specific	Human	2–200 µU/mL	2 µU/mL	50 µL	HI-14K
Leptin	Human	0.5–100 ng/mL	0.5 ng/mL	50–100 µL	HL-81K
Leptin	Multi-Species	1–50 ng/mL	1 ng/mL	50 µL	XL-85K
Leptin (sensitive)	Human	0.05–10 ng/mL	0.05 ng/mL	50 µL	SHL-81K
Proinsulin	Human	2–100 pM	2 pM	100–200 µL	HPI-15K
PYY	Mouse, Rat	lot dependent	15.6 pg/mL (78.1 pg/mL)	100 µL (20 µL)	RMPYY-68HK
PYY (3-36)	Human	lot dependent	20 pg/mL	<100 µL	PYY-67HK
PYY (total)	Human	lot dependent	10 pg/mL	<100 µL	PYYT-66HK

Sigma-Aldrich Brand ELISAs

We offer a portfolio of > 1,800 ELISAs and EIAs, covering a diverse range of species and sample types. A variety of research areas are addressed, from inflammation and cardiovascular disease to metabolic and veterinary research. With such a large number of ELISAs, it is impossible to list them all on a single page, so search your target at SigmaAldrich.com. To view protocols and performance parameters, type “sample” into the **Certificate of Analysis** box and open the PDF.

ELISA Designations

- Sandwich ELISA
 - Standard off-the-shelf assay
 - Some may be designated “lysate” to accommodate the change from serum, plasma or supernatant
- Custom Sandwich ELISA
 - Requires custom manufacture and validation
- Upcharge may apply
- EIA
 - Competitive ELISA
- Cell-Based Phosphorylation ELISA
 - For use on cell lysates to detect phosphorylation events

	Cytokines	Metabolic	Cardiovascular	Angiogenesis	Signaling
	✓	✓	✓	✓	✓
	✓	✓	✓	✓	✓
	✓	✓		✓	✓
	✓				
	✓	✓			
	✓				
	✓				
	✓				
	✓				
	✓	✓			

ELISA Reading and Washing Equipment in Partnership with BioTek®

Supporting our collection of over 1800 ELISA products, we are pleased to introduce the 800 TS Absorbance Reader and 50 TS Plate Washer which together provide a cost effective addition to your ELISA work flow.

BioTek® 800 TS Absorbance Reader

For Merck Millipore and Sigma-Aldrich ELISAs

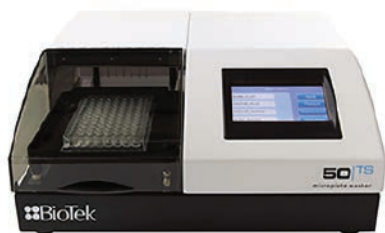


- Precise, accurate and versatile, used for many applications, including ELISA, protein and other end-point assays, plus kinetics and cell-based assays
- Software options: Basic, Gen 5 and Gen 5 Secure
- Flexible filter options; 450nm, 590nm, 630nm and 750nm as standard
- Optional absorbance test NIST traceable plate
- Color touchscreen for quick programming and simple operation
- USB flash drive for convenient data export
- Durable and high quality design

Description	Cat. No.
BioTek® 800 TS Absorbance Reader, Gen 5 Software NEW	40-006
BioTek® 800 TS Absorbance Reader, Gen 5 Secure NEW	40-007
BioTek® 800 TS Absorbance Reader, Basic NEW	40-300

BioTek® 50 TS Plate Washer

BioTek® 50 TS Magnetic 96-well automated strip washer



- Color touchscreen makes programming quick and easy
- Easy touch operation for washing full or partial plates
- Reliable and safe: liquid level sensing
- Automated switching of up to 3 buffers for even greater automation
- Automated, built-in maintenance routines for continued reliable operation

Replaces the BioTek® ELx50 Magnetic 96-well Strip Washer

Description	Cat. No.
BioTek® 50 TS Plate Washer NEW	40-301

Millipore®

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