

# MESO SCALE DISCOVERY® Assay Kits



## Cytokines and Chemokines

### Human

BDNF	IL-7	MDC	TGF-β3 <sup>‡</sup>
CTACK	IL-8	MIF <sup>‡</sup>	TIMP-1 <sup>*</sup>
Eotaxin	IL-10	MIG	TIMP-2 <sup>‡</sup>
Eotaxin-3	IL-12	MIP-1α	TNF-α
G-CSF	IL-12p40	MIP-1β	TNF-β <sup>‡</sup>
GM-CSF	IL-12p70	MIP-3α	TNF-RI
ENA-78 <sup>‡</sup>	IL-13	MIP-3β <sup>‡</sup>	TNF-RII
GRO-α	IL-15	MMP-1	TRAIL <sup>‡</sup>
IFN-α2a	IL-16	MMP-2	TSLP <sup>‡</sup>
IFN-β	IL-17	MMP-3	TWEAK <sup>‡</sup>
IFN-γ	IL-18 <sup>‡</sup>	MMP-8 <sup>‡</sup>	
IL-1α	IL-23 <sup>‡</sup>	MMP-9	
IL-1β	IP-10	MMP-10	
IL-1ra <sup>‡</sup>	I-TAC	NGAL <sup>‡</sup>	
IL-2	M-CSF	RANTES	
IL-4	MCP-1	SDF-1α <sup>‡</sup>	
IL-5	MCP-2 <sup>‡</sup>	TARC	
IL-6	MCP-3 <sup>‡</sup>	TGF-β1	
IL-6R	MCP-4	TGF-β2 <sup>‡</sup>	

### Mouse

GM-CSF	MIP-1β <sup>‡</sup>
IFN-γ	MIP-2 <sup>‡</sup>
IL-1β	MIP-3α <sup>‡</sup>
IL-2	MMP-9 <sup>‡</sup>
IL-4	RANTES
IL-5	TNF-α
IL-6	TNF-RI
IL-10	TNF-RII
IL-12	
IL-12p40	
IL-12p70	
IL-13	
IL-17	
IL-23 <sup>‡</sup>	
KC/GRO/CINC (CXCL1)	
MCP-1	
M-CSF <sup>‡</sup>	
MIP-1α <sup>‡</sup>	

### Rat

CINC-2 <sup>‡</sup>
CINC-3 <sup>‡</sup>
CNTF-1 <sup>‡</sup>
GM-CSF
IFN-γ
IL-1α
IL-1β
IL-2 <sup>‡</sup>
IL-4
IL-5
IL-6
IL-10 <sup>‡</sup>
IL-13
KC/GRO/CINC (CXCL1)
MCP-1
MIP-3α
TIMP-1 <sup>‡</sup>
TNF-α

### Non-Human Primate<sup>1</sup>

GM-CSF
IL-1β
IL-2
IL-6
IL-6R
IL-8
IL-12
IL-12p70
MCP-1
MIP-1β
RANTES
TNF-α <sup>‡</sup>
TNF-RII
IFN-γ

### Canine

GM-CSF <sup>‡</sup>
IFN-γ <sup>‡</sup>
IL-2
IL-6
IL-8
IL-10
MCP-1 <sup>‡</sup>
TNF-α

### Bovine

IFN-γ <sup>‡</sup>
IL-1β <sup>‡</sup>
IL-4 <sup>‡</sup>
IL-6 <sup>‡</sup>
MIP-1β <sup>2</sup>
TNF-α <sup>‡</sup>

<sup>‡</sup> Available through our Prototype Printing Service

<sup>\*</sup> Qualified Kit

<sup>1</sup> Human kits cross-react with NHP samples

<sup>2</sup> Human kit cross-reacts with bovine samples

## Multiplex Panels

### Panel

Human TH1/TH2 7-Plex	IFN-γ, IL-2, IL-4, IL-5, IL-10, IL-12p70, IL-13
Human TH1/TH2 10-Plex	IFN-γ, IL-1β, IL-2, IL-4, IL-5, IL-8, IL-10, IL-12p70, IL-13, TNF-α
Human Proinflammatory 4-Plex I	IFN-γ, IL-1β, IL-6, TNF-α
Human Proinflammatory 4-Plex II	IL-1β, IL-6, IL-8, TNF-α
Human Proinflammatory 7-Plex	IFN-γ, IL-1β, IL-6, IL-8, IL-10, IL-12p70, TNF-α
Human Proinflammatory 9-Plex	GM-CSF, IFN-γ, IL-1β, IL-2, IL-6, IL-8, IL-10, IL-12p70, TNF-α
Human MMP 2-Plex	MMP-2, MMP-10
Human MMP 3-Plex	MMP-1, MMP-3, MMP-9
Human Chemokine 7-Plex	Eotaxin, IL-8, IP-10, MCP-1, MCP-4, MIP-1β, TARC

### Analytes

### Panel

Human Chemokine 9-Plex	Eotaxin, Eotaxin-3, IL-8, IP-10, MCP-1, MCP-4, MDC, MIP-1β, TARC
Human Demonstration 4-Plex	IL-1β, IL-2, IL-6, TNF-α
Human Demonstration 7-Plex	GM-CSF, IL-1β, IL-2, IL-5, IL-6, IL-8, TNF-α
Human Demonstration 10-Plex	GM-CSF, IL-1β, IL-2, IL-4, IL-5, IL-6, IL-8, IL-10, IL-12p70, TNF-α
Mouse TH1/TH2 9-Plex	IFN-γ, IL-1β, IL-2, IL-4, IL-5, KC/GRO/CINC, IL-10, IL-12 total, TNF-α
Mouse Proinflammatory 7-Plex	IFN-γ, IL-1β, IL-6, IL-10, IL-12p70, KC/GRO/CINC, TNF-α
Rat Demonstration 7-Plex	IFN-γ, IL-1β, IL-4, IL-5, IL-13, KC/GRO/CINC, TNF-α
Canine Proinflammatory Panel 3	IL-2, IL-6, IL-8, TNF-α

### Analytes

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



## Disease-focused Biomarkers

### Metabolic Markers

Adiponectin (human, mouse, rat)	Total GLP-1 (ver. 2)
C-Peptide (human, rat)	Glucagon (human/mouse/rat)
sFas (human) <sup>‡</sup>	Insulin (human, mouse/rat)
FasL (human) <sup>‡</sup>	Leptin (human, mouse, rat)
Active Ghrelin (human) <sup>‡</sup>	Total PAI-1 (human) <sup>‡</sup>
Ghrelin (mouse/rat)	Total PYY (human, mouse/rat) <sup>‡</sup>
GLP-1 (x-36)amide	sRAGE (human, mouse, rat) <sup>‡</sup>
Active GLP-1 (7-36)amide	Resistin (human, mouse/rat)
Active GLP-1 (human/mouse/rat)	TSH (human) <sup>‡</sup>
Active GLP-1 (ver. 2)	T3 (human/mouse/rat) <sup>‡</sup>
Total GLP-1 (human/mouse/rat)	T4 (human/mouse/rat) <sup>‡</sup>

### Multiplex Panels

Adiponectin, Resistin (mouse)	Active GLP-1, Insulin, Glucagon, Leptin (human)
Leptin, Insulin (human, mouse, rat)	Active GLP-1 (7-36)amide, Insulin, Glucagon, Leptin (human)
Glucagon, Insulin (mouse/rat)	Insulin Signaling Panel (Total Protein) (IR, IGF-1R, IRS-1)
Active GLP-1(7-36)amide, Insulin, Glucagon (mouse/rat)	Insulin Signaling Panel (Phosphoprotein) (pIR, pIGF-1R, pIRS-1)
Active GLP-1, Insulin, Glucagon (mouse/rat)	
GLP-1(7-36)amide, Insulin, Glucagon (human, mouse/rat)	

### Alzheimer's Disease

Abeta 38 (human/rodent)	Tau (pT231) (human, mouse)
Abeta 40 (human/rodent)	Tau (pS202) (human/mouse)
Abeta 42 (human/rodent)	Tau (pS262) (human/mouse) <sup>‡</sup>
Total Abeta (human)	Tau (pS396) (human/mouse) <sup>‡</sup>
sAPP $\alpha$ (human)	Tau (pT181) (human/mouse)
sAPP $\beta$ (human, mouse/rat)	Total Tau (human, mouse)
sAPP $\beta$ sw (human, mouse/rat)	
$\beta$ -Secretase (human) (activity assay)	

### Multiplex Panels

Abeta 38, Abeta 40, Abeta 42 — 6E10 detection (human)
Abeta 38, Abeta 40, Abeta 42 — 4G8 detection (human/rodent)
Abeta 38, Abeta 40, Abeta 42, Total Tau (human)
Abeta 38, Abeta 40, Abeta 42, pTau (T231) (human)
Abeta 38, Abeta 40, Abeta 42, sAPP $\alpha$ (human)
Abeta 40, sAPP $\beta$ sw (human)
sAPP $\alpha$ , sAPP $\beta$ (human)
Tau (pT231), Total Tau (human/mouse)

<sup>‡</sup> Available through our Prototype Printing Service      \* Qualified Kit

### Oncology & Vascular Markers

AFP (human)	sErbB2 (human)	Osteopontin (human)	TIMP-1 (human, * rat) <sup>‡</sup>	<b>Multiplex Panels</b>
Angiopoietin 1 (human)	sFas (human) <sup>‡</sup>	p21 (human) <sup>‡</sup>	Thrombomodulin (human)	
Angiopoietin 2 (human)	FGF acidic (human) <sup>‡</sup>	uPA (human) <sup>‡</sup>	sVCAM-1 (human)	
E-Cadherin (human)	bFGF (human)	PEDF/Serpin F1 (human) <sup>‡</sup>	VEGF <sub>(121/165)</sub> (human, mouse/rat)	
P-Cadherin (human)	sFlt-1 (sVEGFR1) (human)	PIGF (human)	VEGF-C (human) <sup>‡</sup>	
Cancer Antigen 125 (human)	HGF (human)	PSA (human) <sup>‡</sup>	VEGF-D (human) <sup>‡</sup>	
Cancer Antigen 15.3 (human) <sup>‡</sup>	HIF-1 $\alpha$ (human)	SAA (human)		
CEA (human)	IGFBP-1 (human)	E-Selectin (human)		
c-Kit (human)	sICAM-1 (human)	L-Selectin (rat) <sup>‡</sup>		
CRP (human)	sICAM-3 (human)	P-Selectin (human)		
EGF (human) <sup>‡</sup>	KDR (sVEGFR2) (human)	TGF- $\beta$ 1 (human)		
sEGFR (human)	sMet (human) <sup>‡</sup>	TGF- $\beta$ 2 (human) <sup>‡</sup>		
Endoglin (human) <sup>‡</sup>	MMP-9 (human)	TGF- $\beta$ 3 (human) <sup>‡</sup>		
EPO (human, mouse/rat)	$\beta$ -NGF (human) <sup>‡</sup>	Tie-2 (human) <sup>‡</sup>		
			Acute Phase Protein Panel 1 (rat) (A2M, AGP) <sup>*</sup>	
			Angiogenesis Panel 1 (human) (VEGF, VEGF-C, VEGF-D, Tie-2, sFlt-1, PIGF, bFGF)	
			Cancer 2-plex (human) (AFP, CEA)	
			Cancer 3-plex (human) (E-cadherin, c-Kit, Osteopontin)	
			c-Kit (pY721), Total c-Kit (human)	
			EPO, VEGF (human)	
			Growth Factor Panel I (human) (bFGF, VEGF, sFlt-1, PIGF)	
			Growth Factor Panel II (human) (c-Kit, KDR)	
			Hypoxia Panel (mouse/rat) (EPO, VEGF)	
			Hypoxia Panel (human) (EPO, IGFBP-1, VEGF)	
			Vascular Injury Panel I (human) (sICAM-3, E-Selectin, P-Selectin, Thrombomodulin)	
			Vascular Injury Panel II (human) (CRP, sICAM-1, sVCAM-1, SAA)	

## Disease Biomarkers

### Toxicology Assays

#### Kidney Injury

Albumin (human)<sup>‡</sup>  
 B2M (human, <sup>‡</sup> rat<sup>\*</sup>)  
 Calbindin (human)<sup>‡</sup>  
 Cystatin C (human)<sup>‡</sup>  
 Clusterin (human, <sup>‡</sup> rat<sup>\*</sup>)  
 EGF (human)<sup>‡</sup>  
 αGST (human, <sup>‡</sup> rat)  
 πGST (human)<sup>‡</sup>  
 MIG (human)<sup>‡</sup>  
 MIF (human)<sup>‡</sup>

NGAL (human)<sup>‡</sup>  
 Osteoactivin (human)<sup>‡</sup>  
 RBP4 (human)<sup>‡</sup>  
 TIM-1/KIM-1/HAVCR (human, <sup>‡</sup> rat<sup>\*</sup>)  
 TFF3 (human)<sup>‡</sup>  
 Uromodulin (human)<sup>‡</sup>  
 IP-10<sub>urine</sub> (human)<sup>‡</sup>  
 Osteopontin<sub>urine</sub> (human)<sup>‡</sup>  
 TIMP-1<sub>urine</sub> (human)<sup>‡</sup>  
 VEGF<sub>urine</sub> (human)<sup>‡</sup>

#### Multiplex Panels

Argutus AKI Test<sup>®</sup> (rat)<sup>\*</sup>  
 (αGST, GSTYb1, RPA-1)  
 Kidney Injury Panel 1 (rat)<sup>\*</sup>  
 (NGAL, Osteopontin, Albumin, TIM-1)  
 Kidney Injury Panel 2 (rat)<sup>‡</sup> (Clusterin, αGST, TIM-1,  
 Cystatin C, NGAL, Osteopontin, Albumin)  
 Kidney Injury Panel 3 (human) (αGST, Calbindin,  
 Clusterin, Osteoactivin, TFF3, VEGF)  
 Kidney Injury Panel 4 (human)  
 (πGST, RBP4)  
 Kidney Injury Panel 5 (human) (Albumin, B2M,  
 Cystatin C, EGF, NGAL, OPN, UMOD)  
 Kidney Injury Panel 6 (human)  
 (IP-10, MIF, MIG, TIMP-1)

#### Cardiac and Muscle Injury

Apolipoprotein A1 (human)<sup>‡</sup>  
 Apolipoprotein C3 (human)<sup>‡</sup>  
 CRP (human)  
 LBP (human)  
 MPO (human)  
 NT-proBNP (human)  
 TNNI1 (rat)  
 Troponin-I (cTnI) (human)  
 Troponin-ITC Complex (rat)  
 Troponin-T (cTnT) (human)

#### Multiplex Panels

Cardiac Injury Panel 2 (rat)<sup>\*</sup>  
 (cTnI, cTnT, FABP3)  
 Cardiac Injury Panel 3 (rat)<sup>\*</sup>  
 (cTnI, cTnT, FABP3, Myl3)  
 Muscle Injury Panel 1 (rat)<sup>\*</sup>  
 (cTnI, cTnT, sTnI, FABP3, Myl3)  
 Muscle Injury Panel 2 (rat)  
 (Parvalbumin, TIMP-1, CK)  
 Muscle Injury Panel 3 (mouse)  
 (cTnI, FABP3, Myl3, sTnI)

#### Liver Injury

Liver Injury Panel 1 (rat)  
 (Arginase-1, αGST)

#### Inflammation

BNP (rat)  
 Skeletal Troponin I (rat)<sup>\*</sup>  
 TIMP-1 (human, <sup>\*</sup> rat<sup>‡</sup>)

#### Multiplex Panels

Acute Phase Protein Panel 1 (rat)<sup>\*</sup>  
 (A2M, AGP)  
 Inflammation Panel 1 (rat)<sup>\*</sup>  
 (NGAL, TSP-1, TIMP-1, MCP-1)

<sup>‡</sup> Available through our Prototype Printing Service      <sup>\*</sup> Qualified Kit

### Fertility Markers

Estradiol (human, mouse, rat)  
 FSH (human)  
 HCG (human)<sup>‡</sup>  
 Luteinizing Hormone (LH) (human, <sup>\*</sup> rat)  
 Progesterone (human)  
 Prolactin (human)

#### Multiplex Panels

Fertility Panel I (human)  
 (LH, FSH, Progesterone)  
 Steroid Hormone Panel 1 (human/mouse/rat)  
 (Estradiol, Progesterone, Testosterone and DHEA)<sup>‡</sup>

### Bone Markers

ALP (human)  
 Calprotectin (human)<sup>‡</sup>  
 Osteoactivin (human)<sup>‡</sup>  
 Osteoprotegerin (human)  
 Osteocalcin (human)  
 Osteonectin (human)  
 Osteopontin (human)  
 Sclerostin (human)

#### Multiplex Panels

Bone Panel I (human)  
 (ALP, Sclerostin, Osteoprotegerin)  
 Bone Panel II (human)  
 (Osteocalcin, Osteonectin, Osteopontin)

### BioProcess Assays

CHO HCP  
 Methotrexate (MTX)  
 Protein A (ProA)  
 Insulin

#### Multiplex Panels

Bioprocess Panel I (CHO, ProA)  
 Bioprocess Panel II (CHO, MTX, Insulin)

#### Additional Applications

Intact (Whole) Antibodies (human)  
 Isotyping Panel 1 (mouse)  
 (IgA, IgG1, IgG2a, IgG2b, IgG3, IgM)  
 Immunoglobulin Isotyping and Quantification  
 Cell-Based Antibody Screening  
 cAMP  
 Immunogenicity  
 Neutralization Assays  
 Pharmacokinetic Assays for Protein Therapeutics

# MESO SCALE DISCOVERY Assay Kits



## Cell Signaling Pathways

### Singleplex Kits

4E-BP1	pT37/46 Total <sup>‡</sup>	ERK5	pT218/pY220	MAPKAPK2	pT334	S6RP	pS235/236 pS240/244 Total
Akt	pS473 pT308 Total	FOXO3a	pT32	MEK1/2	pS217/221 Total	Smad1	pS463/465
Aurora A	pT288 Total	FRS2	pY196 pY436	MEK2	Total	SRC3	Total
BAD	pS112 Total	GAPDH <sup>‡</sup>		Met	pY1349 Total	STAT3	pY705
BCAR1	pT410	GSK-3α	pS21, Total <sup>‡</sup>	mTOR	pS2448	STAT4	pY693 Total
c-Jun	pS63	GSK-3β	pS9 Total	NFκB	pS536 pS468 Total <sup>‡</sup>	STAT5a,b	pY694 Total
c-Kit	pY721 Total	HIF-1α	Total	p21	Total <sup>‡</sup>	Tau	pT231
Caspase-3	p20/p17 (cleaved) Total	Histone H3	pS10	p38	pT180/pY182 Total		pS202 pS262 <sup>‡</sup> pS396 <sup>‡</sup>
EGFR	pY1173 pY1068 Total	HSP27	pS15 pS78 pS82 Total	p53	pS15 Total		pT181 Total
elF2α	pS51 <sup>‡</sup> Total	HSP70	Total	p70S6K	pT421/pS424 pT389 Total	Tuberin	pT1462 <sup>‡</sup>
elF4E	pS209 Total	IGF-1R	pY Total	PARP	D214 (cleaved)	VASP	pS157 pS239 Total
EphB4	Total <sup>‡</sup>	IR	pY Total	PDGFR-β	pY751	VEGFR2	pY1054 pY1175 Total
ErbB2	pY1248 Total	IRS-1	pS312 Total	Pleckstrin	pS		
ErbB3 (HER3)	pY <sup>‡</sup>	JAK2	pY1007/1008 <sup>‡</sup> Total <sup>‡</sup>	PRAS40	pT246 Total		
ERK1/2	(pT202/pY204), (pT185/pY187) Total	JNK	pT183/pY185 Total	Rb	pS608 pS780 Total		
				RON	pT1238/1239 <sup>‡</sup>		

<sup>‡</sup> Available through our Prototype Printing Service

### Multiplex Panels

Akt Signaling Panel (Phosphoprotein)  
(pAkt, pp70S6K, pGSK-3β)

Akt Signaling Panel (Total Protein)  
(Akt, p70S6K, GSK-3β)

Akt Signaling Panel II (Phosphoprotein)  
(pAkt, pp70S6K, pGSK-3β, pS6RP)

Akt Signaling Panel II (Total Protein)  
(Akt, p70S6K, GSK-3β, S6RP)<sup>‡</sup>

Apoptosis Panel  
(pp53, p53, Cl. Caspase-3, Cl. PARP)

EGFR Family Panel  
(pEGFR, pErbB2, pIGF-1R)

EGFR, ErbB2, ErbB3  
(pY detection)<sup>‡</sup>

ERK-STAT3 Cascade Panel  
(pERK1/2, pMEK1/2, pSTAT3)

Insulin Signaling Panel (Phosphoprotein)  
(pIR, pIGF-1R, pIRS-1)

Insulin Signaling Panel (Total Protein)  
(IR, IGF-1R, IRS-1)

MAP Kinase Panel (Phosphoprotein)  
(pERK1/2, pJNK, pp38)

MAP Kinase Panel (Total Protein)  
(ERK1/2, JNK, p38)

STAT Panel  
(pSTAT3, pSTAT4, pSTAT5a,b)

p53 (pS15), Total p53

p70S6K (pT421/pS424), Total p70S6K

Rb (pS608), Total Rb

Rb (pS780), Total Rb

S6RP (pS240/244), Total S6RP

STAT5a,b (pY694), Total STAT5a,b

Tau (pT231), Total Tau

VASP (pS157), VASP (pS239), Total VASP

### Activated/Total Panels

Akt (pS473), Total Akt

BAD (pS112), Total BAD

Caspase-3 (Cl. p20/p17),  
Total Caspase-3

EGFR (pY1173), Total EGFR

elF4E (pS209), Total<sup>‡</sup>

ErbB2 (pY1248), Total ErbB2

ERK1/2 (pT202/pY204)/(pT185/pY187),  
Total ERK1/2

GSK-3α (pS21), Total GSK-3α<sup>‡</sup>

GSK-3β (pS9), Total GSK-3β

HSP27 (pS15), Total HSP27

HSP27 (pS78), Total HSP27

HSP27 (pS82), Total HSP27

JNK (pT183/pY185), Total JNK

c-Kit (pY721), Total c-Kit

MEK1/2 (pS217/221), Total MEK1/2

Met (pY1349), Total Met

mTOR (pS2448), Total mTOR

NFκB (pS468), Total NFκB<sup>‡</sup>

NFκB (pS536), Total NFκB<sup>‡</sup>

p38 (pT180/pY182), Total p38

### Ubiquitin Pathway Kits

Total MDM2

Ubiquitinated MDM2

Self-Ubiquitinated MDM2  
(Activity Assay)

Total p53

Ubiquitinated p53

MDM2 - p53 complex

### Multiplex Panels

MDM2 (Ub), Total MDM2

p53 (Ub), Total p53

## Contact Information

Customer Service

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