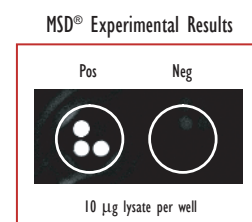
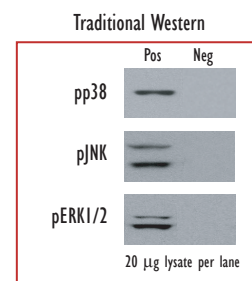
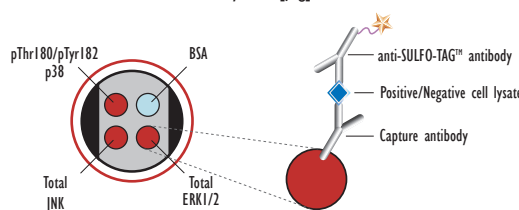
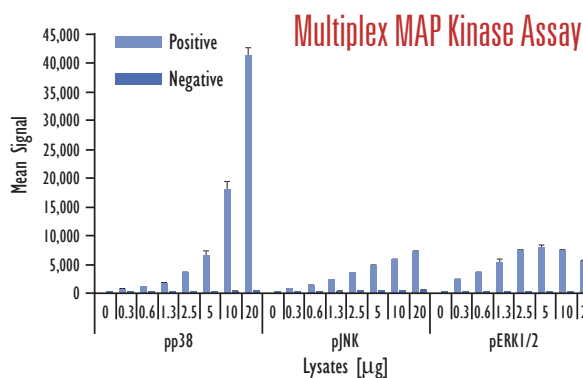


Phosphoprotein and Intracellular Marker Assays from Meso Scale Discovery

MSD offers a large menu of assay kits for research in cellular signaling, focusing on phosphoproteins and intracellular markers. We have developed singleplex and multiplex assays for examining phosphoprotein targets in whole cell lysates and other samples. Use our Phospho/Total duplex assays to measure percent phosphorylation in one sample. Save time and sample volume with our multiplex panels by testing for multiple members of a cellular signaling pathway at one time. Positive and negative control whole cell lysate sets are available for many phosphorylated targets. MSD's analyte menu encompasses many areas of signaling research including oncology, obesity/diabetes, and respiratory diseases. Visit www.mesoscale.com for a complete list of available assays.

	Lysates (µg)	Positive			Negative			P/N
		Average	StdDev	%CV	Average	StdDev	%CV	
pp38	0				221	26	12	
	0.3	671	48	7	274	27	10	2.5
	0.6	1,038	23	2	256	18	7	4.0
	1.3	1,724	71	4	248	6	2	7.0
	2.5	3,567	87	2	248	5	2	14.4
	5	6,485	846	13	266	19	7	24.4
	10	18,060	1,327	7	297	22	7	60.8
20	41,237	1,440	3	431	42	10	95.8	
pJNK	0				205	12	6	
	0.3	834	36	4	232	8	4	3.6
	0.6	1,293	47	4	270	19	7	4.8
	1.3	2,164	114	5	292	27	9	7.4
	2.5	3,432	111	3	338	12	3	10.2
	5	4,801	102	2	385	18	5	12.5
	10	5,645	227	4	459	30	6	12.3
20	7,229	126	2	509	45	9	14.2	
pERK1/2	0				180	4	2	
	0.3	2,265	190	8	213	5	2	10.7
	0.6	3,486	154	4	235	26	11	14.9
	1.3	5,399	496	9	254	7	3	21.3
	2.5	7,282	311	4	273	22	8	26.7
	5	8,006	366	5	287	7	3	27.9
	10	7,387	226	3	283	23	8	26.1
20	5,504	235	4	263	17	7	20.9	



Growing HEK293 cells were treated with rapamycin (1 µM; 3 hr)(negative) or harvested 30 min after UV irradiation (40 mJ/cm²) and treatment with Calyculin A (200 nM; 30 min)(positive). Whole cell lysates were added to MSD® MULTI-SPOT® 4-Spot plates coated with anti-phospho-p38, anti-total-JNK and anti-total-ERK1/2 antibodies on three of the four spatially distinct electrodes per well. Phosphorylated p38, JNK and ERK1/2 were detected with anti-total-p38, anti-phospho-JNK and anti-phospho-ERK1/2 antibodies labeled with MSD® SULFO-TAG™ reagent.

Oncology

Akt (phospho (Ser473) & total)
 Caspase-3 (cleaved)
 EGFR (phospho (Tyr1173) & total)
 ErbB2 (phospho (Tyr1248) & total)
 ERK1/2 (phospho (Thr202/Tyr204)/(Tyr185/Thr187) & total)
 JNK (phospho (Thr183/Tyr185) & total)
 HSP27 (phospho (Ser15), (Ser78) & total)
 Jun (phospho (Ser63))
 Kit (phospho (Tyr721) & total)
 MEK1/2 (phospho (Ser217/221) & total)
 Met (phospho (Tyr1349) & total)
 NFκB (phospho (Ser536) & total)
 p38 (phospho (Thr180/Tyr182) & total)
 p53 (phospho (Ser15) & total)
 p70S6K (phospho (Tyr421/Ser424), (Thr389) & total)
 PARP (cleaved)
 PDGFRβ (phospho (Tyr751))
 STAT3 (phospho (Tyr705))
 VEGFR2 (phospho (Tyr1054/1059))

Respiratory Disease

VASP (phospho (Ser157), (Ser239) & total)

Obesity / Diabetes

Akt (phospho (Ser473) & total)
 IGF-1R (phospho)
 GSK-3β (phospho (Ser9) & total)
 HSP27 (phospho (Ser15),(Ser78) & total)
 p70S6K (phospho (Tyr421/Ser424),(Thr389) & total)
 S6RP (phospho (Ser235/236) & (Ser240/244))
 JNK (phospho (Thr183/Tyr185) & total)
 MEK1/2 (phospho (Ser217/221) & total)

Cell Signaling Panels

- Akt Signaling - pAkt (Ser473), pp70S6K (Thr421/Ser424), pGSK-3β (Ser9)
- EGFR Family - pEGFR, pErbB2, pIGF-1R (detection with SULFO-TAG anti-phosphotyrosine antibody)
- ERK/STAT3 Cascade - pERK1/2 (Thr202/Tyr204)/(Tyr185/Thr187), pMEK1/2 (Ser217/221), pSTAT3 (Tyr705)
- MAP Kinase - pERK1/2 (Thr202/Tyr204)/(Tyr185/Thr187), pJNK (Thr183/Tyr185), pp38 (Thr180/Tyr182)

For research use only; not for use in diagnostic or therapeutic procedures.

