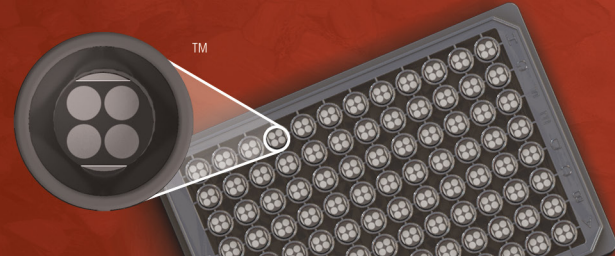


MSD® Total MEK1/2 Assay Whole Cell Lysate Kit

For quantitative determination in human, mouse, and rat whole cell lysate samples



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

Catalog Numbers

Total MEK1/2: Whole Cell Lysate Kit

Kit size

1 plate K151DUD-1

5 plates K151DUD-2

20 plates K151DUD-3

Phospho-MEK1/2 Whole Cell Lysate Set

200 µg C11CW-1

Ordering information

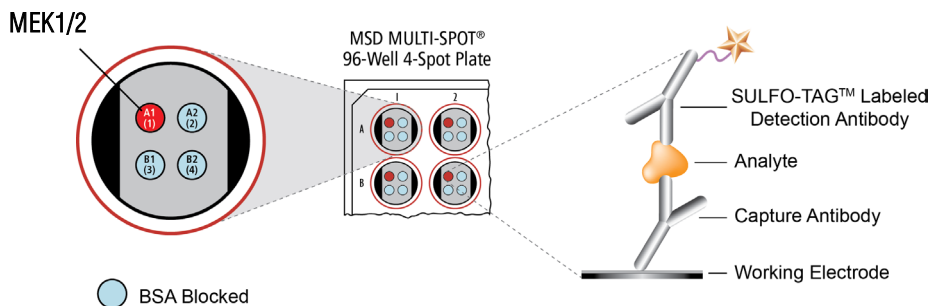
MSD Customer Service
Phone: 1-301-947-2085
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Email: CustomerService@mesoscale.com

Company Address

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Not for use in diagnostic procedures.



MEK1 and **MEK2** (MAPK/ERK kinases 1 and 2), also known as **MKK1** and **MKK2**, are dual-specificity kinases that function as part of the intracellular mitogen-activated protein kinase signaling cascade activated in response to cellular stimulation by cytokines and growth factors. MEK1 and MEK2 are phosphorylated by the serine/threonine kinases Raf-1, Mos, and MEK kinase on serines 217 and 221. PDK1 has also been shown to phosphorylate MEK1 and MEK2, linking the PI-3 kinase /Akt signaling pathway with ERK activation. Activated MEK1 and MEK2 phosphorylate ERK1 /2 on threonine 202 and tyrosine 204 of ERK1 and threonine 185 and tyrosine 187 of ERK2. Activated ERK1/2 phosphorylate targets in both the nucleus and cytoplasm, exerting a regulatory effect on both transcription and translation. The activation of the Raf/MEK/ERK pathway has been shown to affect development, cell growth and differentiation, cell transformation, and cell cycle progression.

The MSD Total MEK1/2 Assay is available on 96-well 4-Spot plates. This datasheet outlines the performance of the assay.

Typical Data

Representative results for the Total MEK1/2 Assay are illustrated below. The signal and ratio values provided below are example data; individual results may vary depending upon the samples tested. Western blot analyses of each lysate type were performed with phospho-MEK1/2 (Ser217/221) and total MEK1/2 antibodies and are shown below for comparison.

Logarithmically growing Jurkat cells were treated with PMA (200 nM; 15 minutes) (positive) or LY294002 (50 µM; 2.5 hours) (negative). Whole cell lysates were added to MSD MULTI-SPOT® 4-Spot plates coated with anti-total MEK1/2 antibodies on one of the four spatially distinct electrodes within a well. Total MEK1/2 was detected with anti-total MEK1/2 antibodies conjugated with MSD SULFO-TAG™ reagent.

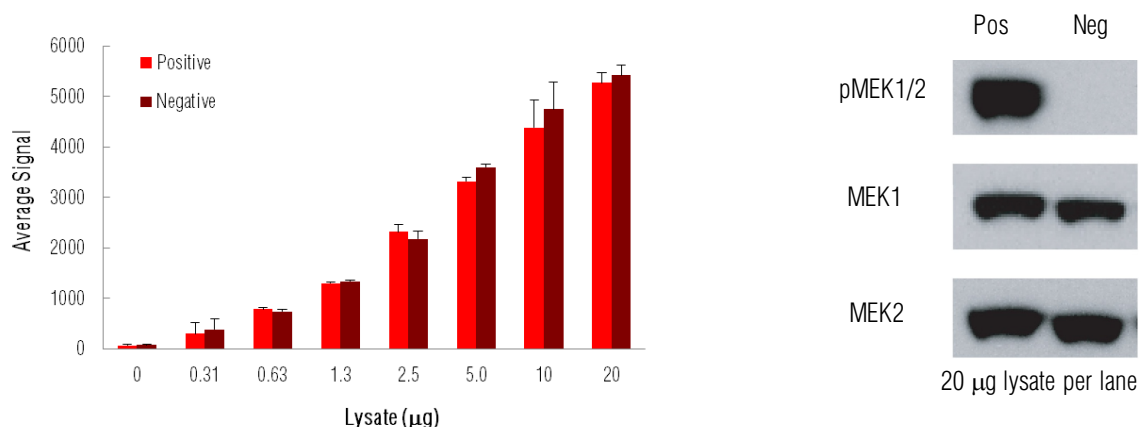


Fig. 1: Sample data generated with the MULTI-ARRAY® Total MEK1/2 Assay. Increased signal is observed with the titration of both pMEK1/2 positive and negative cell lysates. The Total MEK1/2 Assay provides a quantitative measure of the data obtained with the traditional Western blot.

MSD Phosphoprotein Assays

Lysate Titration

Data for pMEK1/2 positive and negative Jurkat cell lysates using the MULTI-ARRAY Total MEK1/2 Assay are presented below.

Lysate (μ g)	Positive			Negative			P/N
	Average Signal	StdDev	%CV	Average Signal	StdDev	%CV	
0	68	19	27.2	76	16	21.3	
0.31	304	217	71.2	386	29	7.5	0.8
0.63	789	36	4.6	742	13	1.7	1.1
1.3	1300	33	2.6	1338	47	3.5	1.0
2.5	2324	141	6.1	2185	94	4.3	1.1
5.0	3324	67	2.0	3604	118	3.3	0.9
10	4382	544	12.4	4752	169	3.5	0.9
20	5270	209	4.0	5421	367	6.8	1.0

MSD Advantage

- **Multiplexing:** Multiple analytes can be measured in one well using typical sample amounts of 25 μ g/well or less without compromising speed or performance
- **Large dynamic range:** Linear range of up to five logs enables the measurement of native levels of biomarkers in normal and diseased samples without multiple dilutions
- **Minimal background:** The stimulation mechanism (electricity) is decoupled from the signal (light)
- **Simple protocols:** Only labels near the electrode surface are detected, enabling no-wash assays
- **Flexibility:** Labels are stable, non-radioactive, and conveniently conjugated to biological molecules
- **High sensitivity and precision:** Multiple excitation cycles of each label enhance light levels and improve sensitivity

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

References using MSD's platform for the measurement of phosphoproteins

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