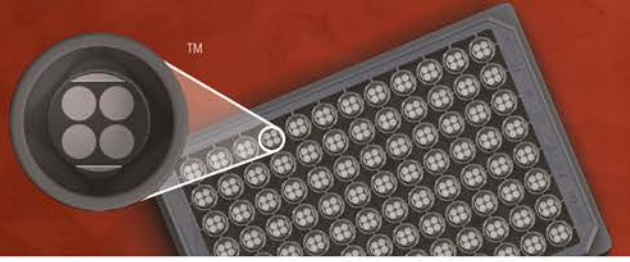
MSD® Phospho-c-Jun (Ser63) Whole Cell Lysate Kit

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

Phospho-c-Jun (Ser63) Whole Cell Lysate Kit	
Kit size	
1 plate	K151CGD-1
5 plates	K151CGD-2
20 plates	K151CGD-3

Phospho-c-Jun (Ser63) Whole Cell Lysate Set	
200 µg	C11CG-1

Ordering information

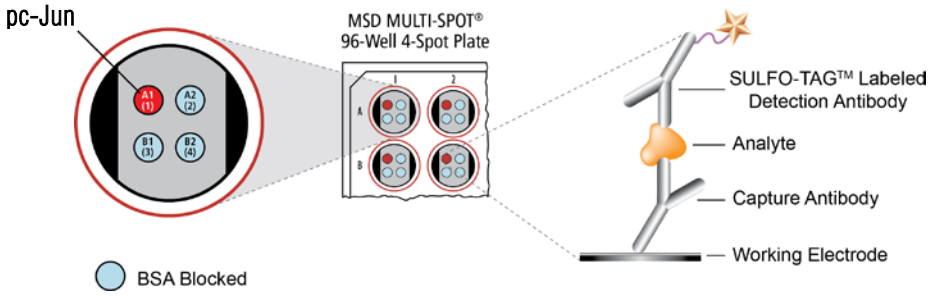
MSD Customer Service
Phone: 1-301-947-2085
Fax: 1-301-990-2776
Email: CustomerService@mesoscale.com

Company Address

MESO SCALE DISCOVERY®
division of
Meso Scale Diagnostics, LLC.
9238 Gaither Road
Gaithersburg, MD 20877 USA

www.mesoscale.com®

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



c-Jun is a proto-oncogene encoding for proteins that either homodimerize or heterodimerize with members of the c-Fos protein family to form the transcription factor Activator Protein-1 (AP-1). Activation of transcription through c-Jun is mediated by SAPK/JNK. In response to cellular exposure to growth factors, cytokines, cellular stress, or damaging agents, upstream phosphorylation events in the MAPK pathway result in the phosphorylation of SAPK/JNK. SAPK/JNK binds to c- Jun on its delta domain and phosphorylates it on serines 63 and 73, located in its transactivation domain. Both the delta and transactivation domains of c-Jun are located near the N-terminus, whereas the DNA-binding and dimerization domains are located near the C-terminus of the protein. The dimerization domain contains a leucine zipper motif that mediates the formation of homo- and heterodimers with Jun and Fos proteins to form AP-1. The AP-1 transcription factor complex binds to TPA response elements on DNA and regulates the expression of genes involved in cellular growth, signaling, differentiation, and apoptosis.

The MSD Phospho-c-Jun (Ser63) Assay is available on 96-well 4-spot plates. This datasheet outlines the performance of the assay.

Typical Data

Representative results for the Phospho-c-Jun (Ser63) Assay are illustrated below. The signal and ratio values provided are examples; individual results may vary depending upon the samples tested. Western blot analyses of each lysate type were performed with phospho-c-Jun and total c-Jun antibodies and are shown for comparison.
Serum starved NIH 3T3 cells (negative) were harvested 15 minutes after UV irradiation (40 mJ/cm^2) (positive). Whole cell lysates were added to MSD MULTI-SPOT® 4-spot plates coated with anti-phospho-c-Jun (Ser63) antibody on one of the four spatially distinct electrodes per well. Phosphorylated c-Jun was detected with anti-total c-Jun antibody conjugated with MSD SULFO-TAG™ reagent.

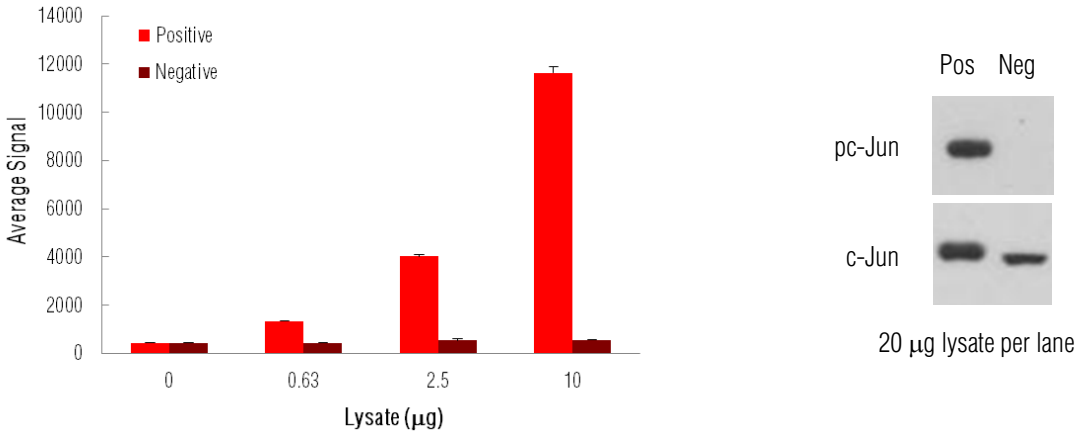


Fig. 1: Sample data generated with the Phospho-c-Jun (Ser63) Assay. Increased signal is observed with the titration of pc-Jun positive cell lysate. Signal for negative lysate remains low throughout the titration. The Phospho-c-Jun (Ser63) assay provides a quantitative measure of the data obtained with the traditional Western blot.

Lysate Titration

Data for pc-Jun positive and negative NIH 3T3 cell lysates using the Phospho-c-Jun (Ser63) assay are presented below.

Lysate (µg)	Positive			Negative			P/N
	Average Signal	StdDev	%CV	Average Signal	StdDev	%CV	
0	430	8	2.0	439	12	2.7	
0.63	1337	6	0.4	448	14	3.2	3.0
2.5	4022	86	2.1	533	89	16.7	7.5
10	11 628	271	2.3	561	3	0.5	21

MSD Advantage

- **Multiplexing:** Multiple analytes can be measured in one well using typical sample amounts of 25 µg/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

1. Cho H, Black SC, Looper D, Shi M, Kelly-Sullivan D, Timofeevski S, Siegel K, Yu XH, McDonnell SR, Chen P, Yie J, Ogilvie KM, Fraser J, Briscoe CP. Pharmacological characterization of a small molecule inhibitor of c-Jun kinase. Am J Physiol Endocrinol Metab. 2008 Nov;295(5):E1142-51.
2. Yang R, Wilcox DM, Haasch DL, Jung PM, Nguyen PT, Voorbach MJ, Doktor S, Brodjian S, Bush EN, Lin E, Jacobson PB, Collins CA, Landschulz KT, Trevillyan JM, Rondinone CM, Surowy TK. Liver-specific knockdown of JNK1 up-regulates proliferator-activated receptor gamma coactivator 1 beta and increases plasma triglyceride despite reduced glucose and insulin levels in diet-induced obese mice. J Biol Chem. 2007 Aug 3;282(31):22765-74.
3. Gowan SM, Hardcastle A, Hallsworth AE, Valenti MR, Hunter LJ, de Haven Brandon AK, Garrett MD, Raynaud F, Workman P, Aherne W, Eccles SA. Application of meso scale technology for the measurement of phosphoproteins in human tumor xenografts. Assay Drug Dev Technol. 2007 Jun;5(3):391-401.