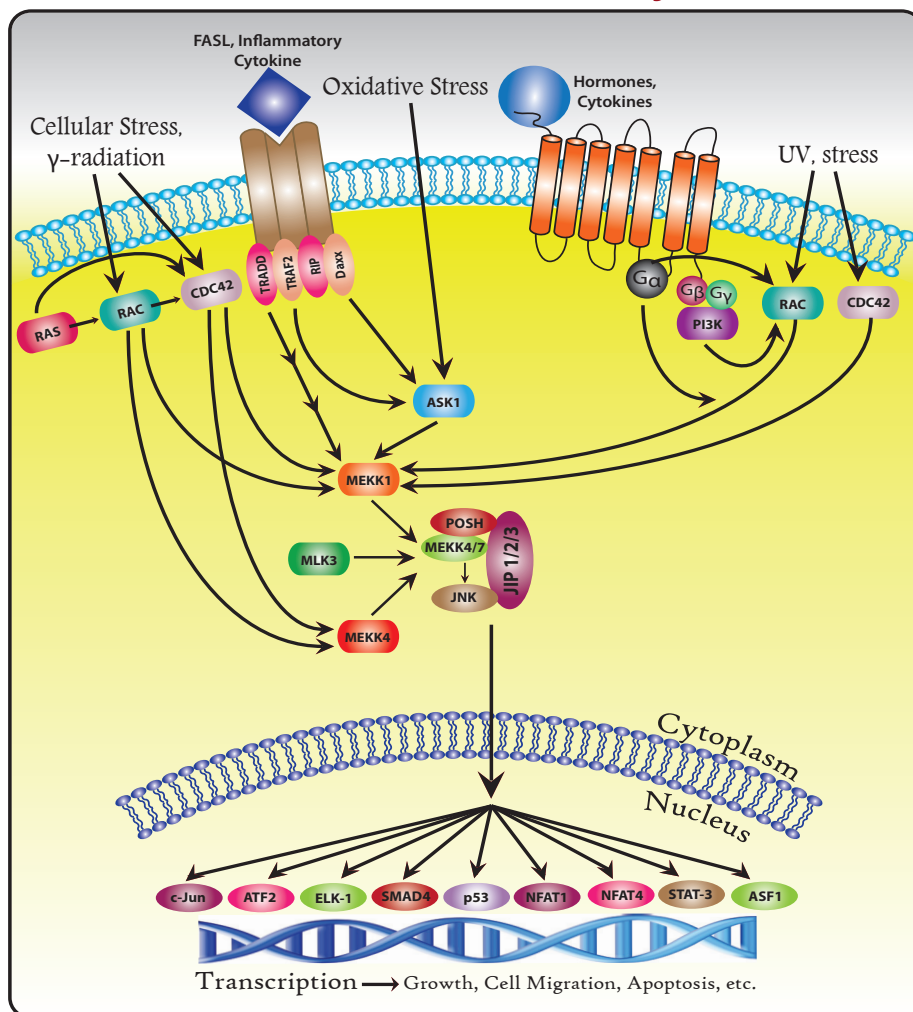


JNK/SAPK Signaling

c-Jun N-terminal kinases (JNKs) are also referred to as stress-activated kinases (SAPKs). JNK/SAPKs are involved in proliferation, apoptosis, motility, metabolism and DNA repair. Dysregulation can contribute to many diseases related to neurodegeneration, chronic inflammation, birth defects, cancer, ischemia/reperfusion injury, as well as, obesity and insulin-resistant diabetes. There are three JNK genes (JNK1, JNK2, JNK3). JNK1 and JNK2 are ubiquitously expressed while JNK3 is restricted to brain, heart and testes. The TXY motif in the activation loop of each JNK is dually phosphorylated by specific MAPK kinases (MKKs).

The inhibition of JNKs in metabolic regulation may offer a therapeutic benefit for obesity-induced insulin resistance. The insulin receptor phosphorylates tyrosine residues on insulin receptor substrate 1 (IRS1). The phosphorylated IRS1 functions as a complex scaffolding protein which recruits numerous signaling proteins in the control of insulin signaling and metabolic regulation. JNKs are activated by high fat diet and obesity, in part due to the elevated levels of TNF α and IL-1. The activated JNKs phosphorylate IRS1 at S307 and this results in reduced insulin receptor catalyzed phosphorylation of IRS1. However, studies have suggested that the reduced phosphorylation of S307 correlates with improved insulin sensitivity. Consequently, JNK1 may be an important target in the treatment of obesity and type II diabetes. This is consistent with findings that a cell permeable JNK inhibitory peptide was able to maintain insulin sensitivity in the obese mouse model.

JNK/SAPK Pathway



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Assay Kits

Product Name	Cat. No.	Size
KinaseSTAR™ JNK Activity Assay Kit	K431	40 assays
KinaseSTAR™ JNK Activity Screening Kit	K430	40 assays

Antibodies

Product Name	Cat. No.	Size
ASK1/MAPKKK5 Antibody	3128	100 µg
BAFF Antibody	3203	30 µg, 100 µg
cdc/Rac Blocking Peptide	3080BP	50 µg
cdc42/Rac Antibody	3080	30 µg, 100 µg
CIKS/Act1 Antibody	3314	100 µg
c-Jun antibody	3009	30 µg, 100 µg
c-Jun Antibody	3702	100 µg
CREB Antibody	3360R	30 µg, 100 µg
Elk-1 Antibody	3387	100 µg
Erk5 Antibody	3397	100 µg
Fas Ligand Antibody (Clone I-6060)	3330	100 µg
GCK (Glucokinase) Antibody	3153	100 µg
GCK (Glucokinase) Antibody	3154	100 µg
IRAK-4 Antibody	3580	100 µg
JIK Antibody	3784	100 µl
JIP-1 Antibody	3664	30 µg, 100 µg
JLP Antibody	3736	100 µl
JNK Antibody	3701	30 µg, 100 µg
MKK3 Antibody	3285	100 µg
MLK3 Antibody	3430	100 µg
NIK Antibody	3193R	30 µg, 100 µg
p38 MAP Kinase Antibody	3114	30 µg, 100 µg
p42/44 MAPK Antibody	3542	100 µg
PAK2 Antibody	3443	30 µg, 100 µg
PAK3 Antibody	3686	30 µg, 100 µg
PAK4 Antibody	3444	30 µg, 100 µg
Phospho CREB (Ser129) Antibody	A1222	100 µl
Phospho-ATF-2 Antibody	3359	100 µg
Phospho-c-Jun (Ser73) Antibody	3502	100 µg
Phospho-Erk1/2 Antibody	3441	100 µg
Phospho-JKK/SEK1/MKK4 Antibody	3478	100 µg
Phospho-JNK/SAPK Antibody	3589	100 µg
Phospho-MAPKAPK-2 Antibody	3434	100 µg
Phospho-MSK1 Antibody	3278	100 µg
Phospho-p38 MAPK Antibody	3438	100 µg
RIP Antibody	3279	30 µg, 100 µg
TAB1 Antibody	3682	100 µg

Proteins/Enzymes

Product Name	Cat. No.	Size
c-Jun (1-79)-GST Fusion Protein	7001	100 µg
JNK Activated Cell Lysate	7032	1 mg
JNK Negative Control Cell Lysate	7031	1 mg
JNK1, Active	7757	5 µg, 100 µg
MAPKAPK2, Active	7737	5 µg, 100 µg
MAPKAPK3, Active	7755	5 µg

JNK Inhibitors

Product Name	Cat. No.	Size	CAS Number
BAY 43-9006	1594	25 mg, 100 mg	475207-59-1
DB07268	B1134	10 mg, 50 mg	929007-72-7
Doramapimod	1954	5 mg, 25 mg	285983-48-4
EZSolution™ SP600125	9541	5 mg	129-56-6
JNK-IN-8	2729	5 mg, 25 mg	1410880-22-6
L-JNK Peptide Inhibitor I	7011	50 µl	50 µl
PathwayReady™ MAP Kinase Signaling Inhibitor Panel	K862	7 inhibitors	Multiple Inhibitors
PD 98059	1666	5 mg	167869-21-8
EZSolution™ PD 98059	1783	5 mg	167869-21-8
PD-0325901	1643	2 mg, 5 mg, 25 mg	391210-10-9
PD184352	1585	1 mg, 5 mg, 25 mg	212631-79-3
EZSolution™ PD184352	1871	1 mg	212631-79-3
SB 203580	1712	1 mg, 5 mg	152121-47-6
EZSolution™ SB 203580	1786	1 mg	152121-47-6
SP600125	1669	5 mg	129-56-6
U0126	1668	5 mg	109511-58-2
VX-702	1598	1 mg, 5 mg	745833-23-2

JNK/SAPK Activators

Product Name	Cat. No.	Size	CAS Number
Anisomycin	1549	10 mg	22862-76-6

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