CELL APPLICATIONS, INC.

JNK3/MAPK10 Antibody

Cat. No. CP10162

Applications:	**WB, ICC**
Detected MW:	**54 kDa**
Species & Reactivity:	**Human, Mouse**
Isotype:	**Mouse IgG1**

BACKGROUND

Members of the JNK family of kinases are activated by proinflammatory cytokines tumor necrosis factor-alpha and interleukin-1beta as well as environmental stress, such as anisomycin, UV irradiation, hypoxia and osmotic shock. Three distinct genes encoding JNKs, Jnk1, Jnk2 and Jnk3, have been identified and at least ten different splicing isoforms exist in mammalian cells. The downstream substrates of JNKs include the transcription factors c-Jun, ATF-2, Elk1, NFAT, p53 and a cell death domain protein. Each JNK isoform binds to these substrates with different affinities, suggesting a regulation of signaling pathways by substrate specificity of different JNKs *in vivo*. It was found that beta-arrestin 2, a receptor-regulated MAP kinase scaffold protein, can interact with JNK3, and stimulate the phosphorylation of this kinase by MAP kinase kinase 4 (MKK4).[1] Cyclin-dependent kianse 5 can phosphorylate, and inhibit the activity of this kinase, which may be important in preventing neuronal apoptosis.[2]

JNK1 and JNK2 are widely expressed in a variety of tissues. In contrast, JNK3 is selectively expressed in the brain and to a lesser extent in the heart and testis. In the adult human brain, JNK3 expression is localized to a subpopulation of pyramidal neurons in the CA1, CA4 and subiculum regions of the hippocampus and layers 3 and 5 of the neocortex. The CA1 neurons in brain biopsies of patients diagnosed with acute hypoxia showed strong nuclear JNK3 immunoreactivity. In contrast, control samples taken from patients with nonneuronal diseases revealed only diffused cytoplasmic JNK3 staining in the hippocampal neurons. Furthermore, disruption of the JNK3 gene caused resistance of mice to the excitotoxic glutamate receptor agonist kainic acid, including the effects on seizure activity, AP-1 transcriptional activity and apoptosis of hippocampal neurons, indicating that the JNK3 signaling pathway is a critical component in the pathogenesis of glutamate neurotoxicity. Thus, selective modulation of JNK3 activity could potentially provide therapeutic intervention for neurodegenerative diseases such as stroke and epilepsy.[3]

References:

1. Scapin, G. et al: Chem. Biol. 10:705-12, 2003
2. Saporito, MS. Et al: J. Neurosci. 75:1200-8, 2002
3. Xie, X. et al: Structure 6:983-91, 1998

TECHNICAL INFORMATION

Source:
JNK3/MAPK10 Antibody is a mouse monoclonal antibody raised against purified recombinant human JNK3 fragments expressed in *E. coli*.

Specificity and Sensitivity:
This antibody detects endogenous JNK3/MAPK10 proteins without cross-reactivity with other family members.

Storage Buffer: PBS and 30% glycerol

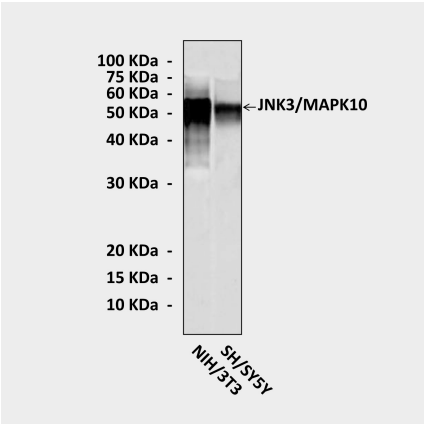
Storage:
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

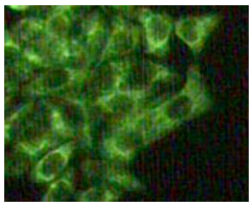
APPLICATIONS

Application:	*Dilution:
WB	1:1000
IP	n/d
IHC	n/d
ICC	1:200
FACS	n/d

**Optimal dilutions must be determined by end user.*

QUALITY CONTROL DATA





Top: Western Blot detection of JNK3 proteins in SKN-SH and NIH3T3 cell lysates using JNK3/MAPK10 Antibody. **Bottom:** This antibody stains HeLa cells in immunofluorescent analysis.