Phospho-SAPK/JNK (Thr183/Tyr185) (G9) Mouse mAb

Applications | Species Cross-Reactivity | Molecular Wt. | Isotype
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W, IP, IF-IC, F | H, M, R, Hm, Sc | 46 kDa, 54 kDa | Mouse IgG1**

Background: The stress-activated protein kinase/Jun-amino-terminal kinase SAPK/JNK is potently and preferentially activated by a variety of environmental stresses including UV and gamma radiation, ceramides, inflammatory cytokines and in some instances, by growth factors and GPCR agonists (1-6). As with the other MAPKs, the core signaling unit is composed of a MAPKKK, typically MEKK1-MEKK4, or by one of the mixed lineage kinases (MLKs), which phosphorylate and activate MKK4/7. Upon activation, MKKs phosphorylate and activate the SAPK/JNK kinase (2). Stress signals are delivered to this cascade by small GTPases of the Rho family (Rac, Rho, cdc42) (3). Both Rac1 and cdc42 mediate the stimulation of MEKKs and MLKs (3). Alternatively, MKK4/7 can be activated in a GTPase independent mechanism via stimulation of a germinal center kinase (GCK) family member (4). There are three SAPK/JNK genes each of which undergoes alternative splicing resulting in numerous isoforms (3). SAPK/JNK, when active as a dimer, can translocate to the nucleus and regulate transcription through its effects on c-Jun, ATF-2 and other transcription factors (3,5).

Specificity/Sensitivity: Phospho-SAPK/JNK (Thr183/Tyr185) (G9) Mouse mAb detects endogenous levels of p46 and p54 SAPK/JNK dually phosphorylated at Thr183 and Tyr185. This antibody does not recognize endogenous levels of phosphorylated p44/42 MAPK or p38 MAP kinase.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr183/Tyr185 of human SAPK/JNK.

Background References:

Flow cytometric analysis of Jurkat cells, untreated (green) or anisomycin-treated (blue), using Phospho-SAPK/JNK (Thr183/Tyr185) (G9) Mouse mAb compared to a nonspecific negative control antibody (red).

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

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Confocal immunofluorescent analysis of HeLa cells untreated (left) and anisomycin-treated (right) using Phospho-SAPK/JNK (Thr183/Tyr185) (G9) Mouse mAb (green). Actin filaments have been labeled with DY-554 phalloidin (red).