Stress and Apoptosis Antibody Sampler Kit

1 Kit (8 x 20 microliters)

For Research Use Only. Not for Use in Diagnostic Procedures.

Product Includes |
Product # | Quantity | Mol. Wt | Isotype/Source |
---|---|---|---|
Phospho-MAPKAPK-2 (Thr334) (27B7) Rabbit mAb | 3007 | 20 µl | 49 kDa | Rabbit IgG |
Phospho-HSP27 (Ser82) (D1H2F6) XP® Rabbit mAb | 9709 | 20 µl | 27 kDa | Rabbit IgG |
Phospho-SAPK/JNK (Thr183/Tyr185) (81E11) Rabbit mAb | 4668 | 20 µl | 46, 54 kDa | Rabbit IgG |
Phospho-c-Jun (Ser73) (D47G9) XP® Rabbit mAb | 3270 | 20 µl | 48 kDa | Rabbit IgG |
Phospho-p53 (Ser15) (15G8) Mouse mAb | 9286 | 20 µl | 53 kDa | Mouse IgG1 |
Cleaved Caspase-3 (Asp175) (5A1E) Rabbit mAb | 9664 | 20 µl | 17, 19 kDa | Rabbit IgG |
Cleaved PARP (Asp214) (D64E10) XP® Rabbit mAb | 5625 | 20 µl | 89 kDa | Rabbit IgG |
Phospho-p38 MAPK (Thr180/Tyr182) (D3F9) XP® Rabbit mAb | 4511 | 20 µl | 43 kDa | Rabbit IgG |
Antibody Information:

**Description**

The Stress and Apoptosis Antibody Sampler Kit provides an economical means of evaluating stress and apoptotic responses of each protein. The kit contains enough primary and secondary antibody to perform two western blot experiments per primary antibody.

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

**Background**

Cells respond to environmental or intracellular stresses through various mechanisms ranging from initiation of prosurvival strategies to activation of cell death pathways that remove damaged cells from the organism. Many of the proteins and cellular processes involved in normal signaling and survival pathways also play dual roles in cell death-promoting mechanisms. Apoptosis is a regulated cellular suicide mechanism characterized by nuclear condensation, cell shrinkage, membrane blebbing, and DNA fragmentation. Caspase-3 (CPP-32, Apoptain, Yama, SCA-1) is a critical executioner of apoptosis, as it is either partially or totally responsible for the proteolytic cleavage of many key proteins such as the nuclear enzyme poly(ADP-ribose) polymerase (PARP) (1). PARP appears to be involved in DNA repair in response to environmental stress (2). This protein can be cleaved by many ICE-like caspases in vitro (3,4) and is one of the main cleavage targets of caspase-3 in vivo (5,6). PARP helps cells to maintain their viability; cleavage of PARP facilitates cellular disassembly and serves as a marker of cells undergoing apoptosis (7). The p53 tumor suppressor protein plays a major role in cellular response to DNA damage and other genomic aberrations. Activation of p53 can lead to either cell cycle arrest and DNA repair or apoptosis (8). DNA damage induces phosphorylation of p53 at Ser15 and Ser20 and leads to a reduced interaction between p53 and its negative regulator, the oncoprotein MDM2 (9). MDM2 inhibits p53 accumulation by targeting it for ubiquitination and proteasomal degradation (10,11). Stress-activated protein kinases (SAPK)/Jun amino-terminal kinases (JNK) are members of the MAPK family that are activated by a variety of environmental stresses, inflammatory cytokines, growth factors, and GPCR agonists. Stress signals are delivered to this cascade by small GTPases of the Rho family (Rac, Rho, cdc42) (12). 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 (12,13). c-Jun is a member of the Jun Family, containing c-Jun, JunB, and JunD, and is a component of the transcription factor AP-1 (activator protein-1). Extracellular signals from growth factors, chemokines, and stress activate AP-1-dependent transcription. The transcriptional activity of c-Jun is regulated by phosphorylation at Ser63 and Ser73 through SAPK/JNK (reviewed in 14). AP-1 regulated genes exert diverse biological functions including cell proliferation, differentiation, and apoptosis, as well as transformation, invasion and metastasis, depending on cell type and context (15,17). p38 MAP kinase (MAPK), also called RK (18) or CSBP (19), is the mammalian orthologue of the yeast HOG kinase that participates in a signaling cascade controlling cellular responses to cytokines and stress (17-20). MKK3, MKK6, and SEK activate p38 MAP kinase by phosphorylation at Thr180 and Tyr182. MAPKAPK-2 is a direct target of p38 MAPK (17). Multiple residues of MAPKAPK-2 are phosphorylated in vivo in response to stress. However, only four residues (Thr25, Thr222, Ser272 and...
Stress and Apoptosis Antibody Sampler Kit (#8357) Datasheet Without Images

Cell Signaling Technology

Background

References


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