**Phospho-p38 MAP Kinase (Thr180/Tyr182) Antibody**

**Applications**

<table>
<thead>
<tr>
<th>Applications</th>
<th>Species Cross-Reactivity*</th>
<th>Molecular Wt.</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>W, IP, IF-IC</td>
<td>Endogenous</td>
<td>43 kDa</td>
<td>Rabbit**</td>
</tr>
</tbody>
</table>

**Background:** p38 MAP kinase (MAPK), also called RK (1) or CSBP (2), is the mammalian orthologue of the yeast HOG kinase that participates in a signaling cascade controlling cellular responses to cytokines and stress (1-4). Four isoforms of p38 MAPK, p38α, β, γ (also known as Erk6 or SAPK3), and δ (also known as SAPK4) have been identified. Similar to the SAPK/JNK pathway, p38 MAPK is activated by a variety of cellular stresses including osmotic shock, inflammatory cytokines, lipopolysaccharide (LPS), UV light, and growth factors (1-5). MKK3, MKK6, and SEK activate p38 MAPK by phosphorylation at Thr180 and Tyr182. Activated p38 MAPK has been shown to phosphorylate and activate MAPKAP kinase 2 (3) and to phosphorylate the transcription factors ATF-2 (5), Max (6), and MEF2 (5-8).

**SB203580** (4-(4-fluorophenyl)-2-(4-methylsulfinylphenyl)-5-(4-pyridyl)-imidazole) is a selective inhibitor of p38 MAPK. This compound inhibits the activation of MAP-KAPK-2 by p38 MAPK and subsequent phosphorylation of HSP27 (9). SB203580 inhibits p38 MAPK catalytic activity by binding to the ATP-binding pocket, but does not inhibit phosphorylation of p38 MAPK by upstream kinases (10).

**Specificity/Sensitivity:** Phospho-p38 MAPK (Thr180/Tyr182) Antibody detects endogenous levels of p38 MAPK only when activated by phosphorylation at threonine 180 and tyrosine 182. This antibody does not cross-react with the phosphorylated forms of either p42/44 MAPK or SAPK/JNK. It will also react with p38 singly phosphorylated at Thr180 and singly phosphorylated at Tyr182.

**Source/Purification:** Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues around Thr180/Tyr182 of human p38 MAPK. Antibodies are purified by protein A and peptide affinity chromatography.

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

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.**

**Recommended Antibody Dilutions:**

- Western Blotting: 1:1000
- Immunoprecipitation: 1:50
- Immunofluorescence (IF-IC): 1:400

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

**Entrez-Gene ID #1432**

**Swiss-Prot Acc. # Q16539**

**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E—ELISA

**Species Cross-Reactivity Key:** H—human M—mouse R—rat Hm—hamster Mi—monkey C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine

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### Background References:


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**Confocal immunofluorescent analysis of HeLa cells +/- UV light, labeled with Phospho-p38 MAP Kinase (green). Absence of staining in untreated cells (left) and cytoplasmic localization in treated cells (right). Red = Actin filaments (phalloidin).**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Product #</th>
<th>Western Blot</th>
<th>Immuno-precipitation</th>
<th>Immuno-histochemistry</th>
<th>Immuno-fluorescence</th>
<th>Flow Cytometry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phospho-p38 MAP Kinase (Thr180/Tyr182) Antibody</td>
<td>9211</td>
<td>++</td>
<td>++</td>
<td>–</td>
<td>++</td>
<td>++</td>
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<tr>
<td>Phospho-p38 MAPK (Thr180/Tyr182) (28B10) Mouse mAb</td>
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<td>–</td>
<td>–</td>
<td>++</td>
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<tr>
<td>Phospho-p38 MAPK (Thr180/Tyr182) (3D7) Rabbit mAb</td>
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<td>–</td>
<td>++</td>
<td>+++</td>
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<tr>
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<td>–</td>
<td>+++</td>
<td>+++</td>
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