

## DESCRIPTION

|                           |  |
|---------------------------|--|
| <b>Species Reactivity</b> | Human/Mouse/Rat  |
| <b>Specificity</b>        | Detects human, mouse and rat Phospho-p38 $\alpha$ MAP Kinase when dually phosphorylated at T180/Y182. May also recognize the related phosphorylated isoforms p38 $\beta$ , p38 $\gamma$ and p38 $\delta$ . |
| <b>Source</b>             | Polyclonal Rabbit IgG  |
| <b>Purification</b>       | Antigen and protein A Affinity-purified  |
| <b>Immunogen</b>          | Phosphopeptide containing human, rat and mouse p38 $\alpha$ T180/Y182 site   |
| <b>Formulation</b>        | Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details.<br>*Small pack size (-SP) is supplied as a 0.2 $\mu$ m filtered solution in PBS.          |

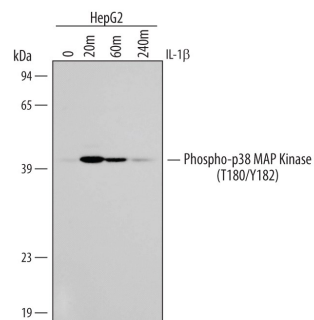
## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the [Technical Information](#) section on our website.

|                             | Recommended Concentration | Sample    |
|-----------------------------|---------------------------|-----------|
| <b>Western Blot</b>         | 0.5 $\mu$ g/mL            | See Below |
| <b>Immunohistochemistry</b> | 5-15 $\mu$ g/mL           | See Below |
| <b>Simple Western</b>       | 5 $\mu$ g/mL              | See Below |

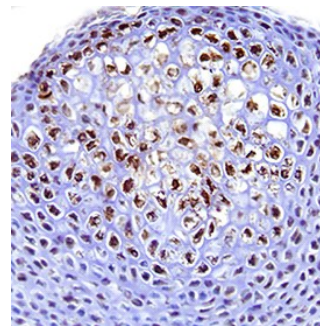
## DATA

### Western Blot



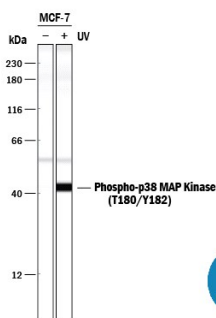
**Detection of Human Phospho-p38 MAP Kinase (T180/Y182) by Western Blot.** Western blot shows lysates of HepG2 human hepatocellular carcinoma cell line untreated (-) or treated (+) with 20 ng/mL Recombinant Human IL-1 $\beta$  (Catalog # 201-LB) for the indicated times. PVDF membrane was probed with 0.5  $\mu$ g/mL of Rabbit Anti-Human/Mouse/Rat Phospho-p38 MAP Kinase (T180/Y182) Antigen Affinity-purified Polyclonal Antibody (Catalog # AF869), followed by HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # HAF008). A specific band was detected for Phospho-p38 MAP Kinase (T180/Y182) at approximately 40 kDa (as indicated). This experiment was conducted under reducing conditions and using [Immunoblot Buffer Group 1](#).

### Immunohistochemistry



**Phospho-p38 (T180/Y182) in Mouse Embryo (13 d.p.c.).** p38 was detected in immersion fixed frozen sections of mouse embryo (13 d.p.c.) using Rabbit Anti-Human/Mouse/Rat Phospho-p38 MAP Kinase (T180/Y182) Antigen Affinity-purified Polyclonal Antibody (Catalog # AF869) at 15  $\mu$ g/mL overnight at 4  $^{\circ}$ C. Tissue was stained using the Anti-Rabbit HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS005) and counterstained with hematoxylin (blue). Specific staining was localized to developing cartilage. View our protocol for [Chromogenic IHC Staining of Frozen Tissue Sections](#).

### Simple Western



**Detection of Human Phospho-p38 MAP Kinase (T180/Y182) by Simple Western™.** Simple Western lane view shows lysates of MCF-7 human breast cancer cell line untreated (-) or treated (+) with ultraviolet light (UV), loaded at 0.5 mg/mL. A specific band was detected for Phospho-p38 MAP Kinase (T180/Y182) at approximately 43 kDa (as indicated) using 5  $\mu$ g/mL of Rabbit Anti-Human/Mouse/Rat Phospho-p38 MAP Kinase (T180/Y182) Antigen Affinity-purified Polyclonal Antibody (Catalog # AF869). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.



## PREPARATION AND STORAGE

**Reconstitution** Reconstitute at 0.2 mg/mL in sterile PBS.

**Shipping** The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.  
\*Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C

**Stability & Storage** Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 6 months, -20 to -70 °C under sterile conditions after reconstitution.

## BACKGROUND

The p38 Mitogen-activated Protein Kinases (MAPKs) are a family of four related Ser/Thr kinases activated by proinflammatory cytokines and environmental stresses, such as UV irradiation and heat shock. Stress signals are delivered to this cascade by members of small GTPases of the Rho family (Rac, Rho, Cdc42). p38 MAPK is involved in the regulation of Hsp27 and MAPKAP-2 and several transcription factors including ATF2, STAT1, and indirectly CREB via activation of MSK1. The p38 MAPK protein also plays a role in cell differentiation, autophagy and apoptosis. Mkk3 and SEK can activate p38 MAPK by phosphorylation at Thr180 and Tyr182, which in turn activates the MAPKAP kinase 2 and regulating phosphorylation of ATF2, Mac and MEF2.