

DESCRIPTION

Species Reactivity	Human/Mouse/Rat
Specificity	Detects human, mouse and rat p38 α . Does not detect recombinant human p38 β , p38 γ or p38 δ .
Source	Polyclonal Rabbit IgG
Purification	Antigen and protein A Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant human p38 α Met1-Ser360 Accession # Q16539
Formulation	Lyophilized from a 0.2 μ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μ m filtered solution in PBS.

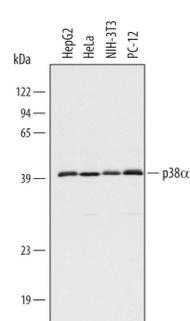
APPLICATIONS

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
Western Blot	0.5 μ g/mL	See Below
Immunohistochemistry	5-15 μ g/mL	See Below
Simple Western	5 μ g/mL	See Below
Knockout Validated	p38 α is specifically detected in HEK293T human embryonic kidney parental cell line but is not detectable in p38 α knockout HEK293T cell line.	

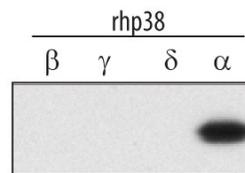
DATA

Western Blot



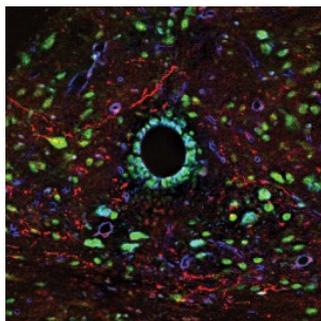
Detection of Human, Mouse, and Rat p38 α by Western Blot. Western blot shows lysates of HepG2 human hepatocellular carcinoma cell line, HeLa human cervical epithelial carcinoma cell line, NIH-3T3 mouse embryonic fibroblast cell line, and PC-12 rat adrenal pheochromocytoma cell line. PVDF membrane was probed with 0.5 μ g/mL Rabbit Anti-Human/Mouse/Rat p38 α Antigen Affinity-purified Polyclonal Antibody (Catalog # AF8691) followed by HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # HAF008). A specific band for p38 α was detected at approximately 40 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Western Blot



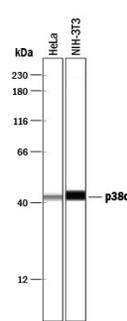
Detection of Human p38 α by Western Blot. Western blot shows recombinant human p38 β , p38 γ , p38 δ and Recombinant Human Active p38 α (Catalog # 5477-KS) (2 ng/lane). PVDF membrane was probed with 0.5 μ g/mL Rabbit Anti-Human/Mouse/Rat p38 α Antigen Affinity-purified Polyclonal Antibody (Catalog # AF8691) followed by HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # HAF008). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



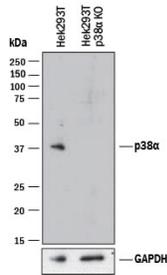
Orexin B, p38 α , & Integrin beta 1 in Mouse Brainstem. Orexin B, p38 α , and Integrin β 1 were detected in perfusion fixed frozen sections of mouse brainstem using Human Orexin B Monoclonal Antibody (red; Catalog # MAB734), Rabbit Anti-Human/Mouse/Rat p38 α Antigen Affinity-purified Polyclonal Antibody (green; Catalog # AF8691), and Mouse Integrin β 1 Antigen Affinity-purified Polyclonal Antibody (blue; Catalog # AF2405). Tissue was incubated with primary antibodies overnight at 4 °C. Tissue was stained using NorthernLights™ 493-conjugated Anti-Rabbit IgG Secondary Antibody (green; Catalog # NL006), NorthernLights 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007), and NorthernLights 637-conjugated Anti-Goat IgG Secondary Antibody (blue; Catalog # NL002). The image of Integrin beta 1 is pseudo-colored for presentation. View our protocol for [Fluorescent IHC Staining of Frozen Tissue Sections](#).

Simple Western



Detection of Human and Mouse p38 α by Simple Western™. Simple Western lane view shows lysates of HeLa human cervical epithelial carcinoma cell line and NIH-3T3 mouse embryonic fibroblast cell line, loaded at 0.2 mg/mL. A specific band was detected for p38 α at approximately 43 kDa (as indicated) using 5 μ g/mL of Rabbit Anti-Human/Mouse/Rat p38 α Antigen Affinity-purified Polyclonal Antibody (Catalog # AF8691). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

Western Blot



Western Blot Shows Human p38 α Specificity by Using Knockout Cell Line.
Western blot shows lysates of HEK293T human embryonic kidney parental cell line and p38 α knockout HEK293T cell line (KO). PVDF membrane was probed with 0.5 μ g/mL of Rabbit Anti-Human/Mouse/Rat p38 α Antigen Affinity-purified Polyclonal Antibody (Catalog # AF8691) followed by HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # HAF008). A specific band was detected for p38 α at approximately 38 kDa (as indicated) in the parental HEK293T cell line, but is not detectable in knockout HEK293T cell line. GAPDH (Catalog # AF5718) is shown as a loading control. This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

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. <ul style="list-style-type: none"> ● 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.