

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human MSK1 and MSK2 when phosphorylated at S376 and S360, respectively.
Source	Recombinant Monoclonal Rabbit IgG Clone # 1013D
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Phosphopeptide containing the human MSK1(S376) site. Accession # O75582
Formulation	Lyophilized from a 0.2 µm 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 µm 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	0.1 µg/mL	See Below
Simple Western	5 µg/mL	HeLa human cervical epithelial carcinoma cell line treated PMA

DATA

Western Blot

Detection of Human Phospho-MSK1 (S376)/MSK2 (S360) by Western Blot. Western blot shows lysates of HeLa human cervical epithelial carcinoma cell line untreated (-) or treated (+) with 200 nM PMA for 20 minutes and 100 ng/mL Recombinant Human EGF (Catalog # Catalog # [236-EG](#)) for 5 minutes. PVDF membrane was probed with 0.1 µg/mL of Rabbit Anti-Human Phospho-MSK1/MSK2 (MSK1 S376, MSK2 S360) Monoclonal Antibody (Catalog # MAB1094) followed by HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # [HAF008](#)). A specific band was detected for Phospho-MSK1 (S376)/MSK2 (S360) at approximately 95 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Simple Western

Detection of Human MSK1/MSK2 by Simple Western™. Simple Western lane view shows lysates of HeLa human cervical epithelial carcinoma cell line untreated (-) or treated (+) with 200 nM PMA for 20 minutes, loaded at 0.2 mg/mL. A specific band was detected for MSK1/MSK2 at approximately 98 kDa (as indicated) using 5 µg/mL of Rabbit Anti-Human Phospho-MSK1/MSK2 (MSK1 S376, MSK2 S360) Monoclonal Antibody (Catalog # MAB1094). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 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

Mitogen- and Stress-activated protein Kinases 1 and 2 (MSK1/2) have been shown to play key roles in the transcriptional regulation of immediate early genes such as c-fos. MSK1, also known as Ribosomal Protein S6 Kinase 5 (RPS6KA5), and MSK2, also known as RSKB and RPS6KA4, belong to the AGC family of kinases. Both proteins have two kinase domains connected by a regulatory linker region, and are activated by the mitogen-activated protein kinases ERK1, ERK2, and p38. Nuclear MSK phosphorylates and activates a number of transcription factors, including ATF1 and CREB. The phosphorylation of MSK1 at Ser376 or the equivalent Ser360 in MSK2 is required for kinase activity. These sites are located in the AGC kinase domain and are autophosphorylated. Their phosphorylation is essential for the catalytic activity of the N-terminal kinase domain. The sequence surrounding MSK1(S376) and MSK2(S360) is 100% identical.