Human/Mouse/Rat ERK2 Antibody

Monoclonal Mouse IgG_{2A} Clone # 191801

Catalog Number: MAB1230

DESCRIPTION

Species Reactivity	Human/Mouse/Rat
Specificity	Detects human, rat and mouse ERK2. This antibody does not recognize endogenous ERK1.
Source	Monoclonal Mouse IgG_{2A} Clone # 191801
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant human ERK2 Met1-Ser360 Accession # Q1HBJ4
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 as a 0.2 μm filtered solution in PBS.

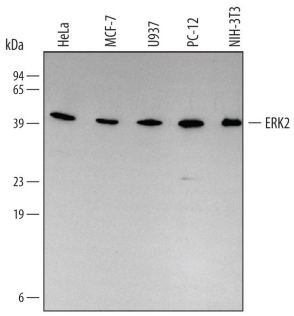
APPLICATIONS

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	1 µg/mL	See Below
Immunocytochemistry	3-25 µg/mL	See Below
Immunohistochemistry	8-25 µg/mL	Perfusion fixed frozen sections of rat brain (cortex)
Simple Western	10 µg/mL	See Below

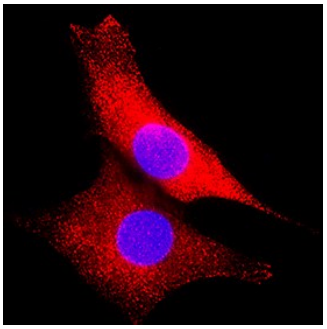
DATA

Western Blot



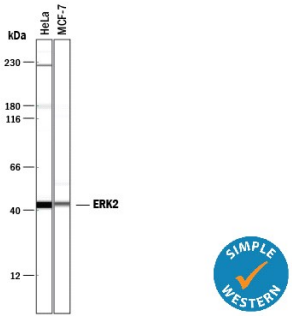
Detection of Human/Mouse/Rat ERK2 by Western Blot. Western blot shows lysates of HeLa human cervical epithelial carcinoma cell line, MCF-7 human breast cancer cell line, U937 human histiocytic lymphoma cell line, PC-12 rat adrenal pheochromocytoma cell line, and NIH-3T3 mouse embryonic fibroblast cell line. PVDF membrane was probed with 1 µg/mL of Mouse Anti-Human/Mouse/Rat ERK2 Monoclonal Antibody (Catalog # MAB1230) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for ERK2 at approximately 44 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunocytochemistry



ERK2 in 3T3-L1 Mouse Cell Line. ERK2 was detected in immersion fixed 3T3-L1 mouse embryonic fibroblast adipose-like cell line using Mouse Anti-Human/Mouse/Rat ERK2 Monoclonal Antibody (Catalog # MAB1230) at 3 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm and nuclei. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

Simple Western



Detection of Human ERK2 by Simple Western™. Simple Western lane view shows lysates of HeLa human cervical epithelial carcinoma cell line and MCF-7 human breast cancer cell line, loaded at 0.5 mg/mL. A specific band was detected for ERK2 at approximately 43 kDa (as indicated) using 10 µg/mL of Mouse Anti-Human/Mouse/Rat ERK2 Monoclonal Antibody (Catalog # MAB1230). 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.** ● 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.

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BACKGROUND

ERK1 and ERK2 (also known as MAPK3 and MAPK1) are 44 and 42 kDa Ser/Thr kinases, respectively. They are part of the Ras-Raf-ERK signal transduction cascade often found downstream of growth factor receptor activation. ERK1 and ERK2 were initially isolated and cloned as kinases activated in response to insulin and NGF. They are expressed in most, if not all, mammalian tissues. Dual threonine and tyrosine phosphorylation activate both ERKs, at Thr202/Tyr204 for human ERK1 and Thr185/Tyr187 for human ERK2.

ERK5, also known as Big Mitogen-activated Protein Kinase 1 (BMK1) and MAPK7, is activated by several mechanisms, including receptor tyrosine kinases, G protein-coupled receptors, and osmotic stress. Like ERK1 and ERK2, ERK5 contains the conserved Thr-Glu-Tyr activation motif in its activation loop. Unlike these ERKs, however, ERK5 contains a unique C-terminal domain that regulates its activation and nuclear translocation.

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