

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human ERK1 in Western blots. In Western blots, no cross-reactivity with human ERK2 is observed.
Source	Monoclonal Mouse IgG _{2A} Clone # 250603
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Human ERK1 synthetic peptide Met1-Val28 Accession # P27361
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.

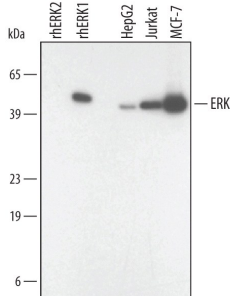
APPLICATIONS

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	0.2 µg/mL	See Below
Immunocytochemistry	0.3-25 µg/mL	See Below
Immunohistochemistry	8-25 µg/mL	See Below

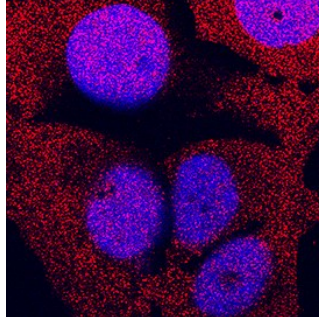
DATA

Western Blot



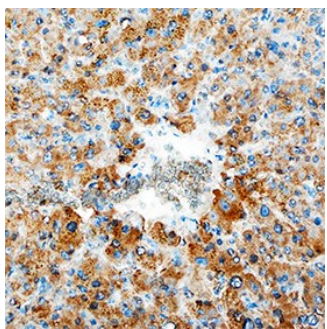
Detection of Human ERK1 by Western Blot. Western blot shows lysates of HepG2 human hepatocellular carcinoma cell line, Jurkat human acute T cell leukemia cell line, and MCF-7 human breast cancer cell line. PVDF membrane was probed with 0.2 µg/mL Mouse Anti-Human ERK1 Monoclonal Antibody (Catalog # MAB1940) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). For additional reference, Recombinant Human Active ERK1 (Catalog # 1879-KS) and Recombinant Human Active ERK2 (Catalog # 1230-KS) (2 ng/lane) were included. A specific band for ERK1 was detected at approximately 44 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 3.

Immunocytochemistry



ERK1 in MCF-7 Human Cell Line. ERK1 was detected in immersion fixed MCF-7 human breast cancer cell line using Mouse Anti-Human ERK1 Monoclonal Antibody (Catalog # MAB1940) at 0.3 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](#).

Immunohistochemistry



ERK1 in Human Liver. ERK1 was detected in immersion fixed paraffin-embedded sections of human liver using Mouse Anti-Human ERK1 Monoclonal Antibody (Catalog # MAB1940) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm in hepatocytes. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

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

ERK1 is a protein Serine/Threonine kinase that is a member of the extracellular signal-regulated kinases (ERKs) which are activated in response to numerous growth factors and cytokines (1). Activation of ERK1 requires both tyrosine and threonine phosphorylation that is mediated by MEK. ERK1 is ubiquitously distributed in tissues with the highest expression in heart, brain, and spinal cord. Activated ERK1 translocates into the nucleus where it phosphorylates various transcription factors.