

**Anti-ERK1 (RABBIT) Antibody**  
**ERK1 N-Term Antibody**  
**Catalog # ASR5551**

**Specification**

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**Anti-ERK1 (RABBIT) Antibody - Product Information**

Host	Rabbit
Conjugate	Unconjugated
Target Species	Human
Reactivity	Rat, Human, Mouse
Clonality	Polyclonal
Application	WB, E, I, LCI
Application Note	Anti-ERK 1 (RABBIT) antibody has been tested in ELISA and Western Blotting. Specific conditions of reactivity should be optimized by the end user. Expect a band of approximately 43 kDa.
Physical State	Liquid (sterile filtered)
Buffer	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Immunogen	Anti-ERK1 Antibody was produced in rabbits by repeated immunizations with synthetic peptide corresponding to amino acid residues near the N-terminus conjugated to KLH.
Preservative	0.01% (w/v) Sodium Azide

**Anti-ERK1 (RABBIT) Antibody - Additional Information**

**Gene ID** 5595

**Purity**

This affinity purified antibody is directed against human ERK1 protein. Anti-ERK1 antibody was prepared from monospecific antiserum by immunoaffinity chromatography using synthetic peptide coupled to agarose beads followed by cross adsorption to remove any unwanted reactivity. Cross reactivity is expected to occur with human, mouse and rat based on sequence identity of the peptide immunogen. This antibody does not react with the ERK2 isoform.

**Storage Condition**

Store vial at -20° C prior to opening. This product is stable at 4° C as an undiluted liquid. For extended storage, aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Dilute only prior to immediate use.

**Precautions Note**

This product is for research use only and is not intended for therapeutic or diagnostic applications.

**Anti-ERK1 (RABBIT) Antibody - Protein Information**

**Name** MAPK3

**Synonyms** ERK1, PRKM3

### Function

Serine/threonine kinase which acts as an essential component of the MAP kinase signal transduction pathway (PubMed:<a href="http://www.uniprot.org/citations/34497368" target="\_blank">34497368</a>). MAPK1/ERK2 and MAPK3/ERK1 are the 2 MAPKs which play an important role in the MAPK/ERK cascade. They participate also in a signaling cascade initiated by activated KIT and KITLG/SCF. Depending on the cellular context, the MAPK/ERK cascade mediates diverse biological functions such as cell growth, adhesion, survival and differentiation through the regulation of transcription, translation, cytoskeletal rearrangements. The MAPK/ERK cascade also plays a role in initiation and regulation of meiosis, mitosis, and postmitotic functions in differentiated cells by phosphorylating a number of transcription factors. About 160 substrates have already been discovered for ERKs. Many of these substrates are localized in the nucleus, and seem to participate in the regulation of transcription upon stimulation. However, other substrates are found in the cytosol as well as in other cellular organelles, and those are responsible for processes such as translation, mitosis and apoptosis. Moreover, the MAPK/ERK cascade is also involved in the regulation of the endosomal dynamics, including lysosome processing and endosome cycling through the perinuclear recycling compartment (PNRC); as well as in the fragmentation of the Golgi apparatus during mitosis. The substrates include transcription factors (such as ATF2, BCL6, ELK1, ERF, FOS, HSF4 or SPZ1), cytoskeletal elements (such as CANX, CTTN, GJA1, MAP2, MAPT, PXN, SORBS3 or STMN1), regulators of apoptosis (such as BAD, BTG2, CASP9, DAPK1, IER3, MCL1 or PPARG), regulators of translation (such as EIF4EBP1) and a variety of other signaling-related molecules (like ARHGEF2, DEPTOR, FRS2 or GRB10) (PubMed:<a href="http://www.uniprot.org/citations/35216969" target="\_blank">35216969</a>). Protein kinases (such as RAF1, RPS6KA1/RSK1, RPS6KA3/RSK2, RPS6KA2/RSK3, RPS6KA6/RSK4, SYK, MKNK1/MNK1, MKNK2/MNK2, RPS6KA5/MSK1, RPS6KA4/MSK2, MAPKAP3 or MAPKAP5) and phosphatases (such as DUSP1, DUSP4, DUSP6 or DUSP16) are other substrates which enable the propagation the MAPK/ERK signal to additional cytosolic and nuclear targets, thereby extending the specificity of the cascade.

### Cellular Location

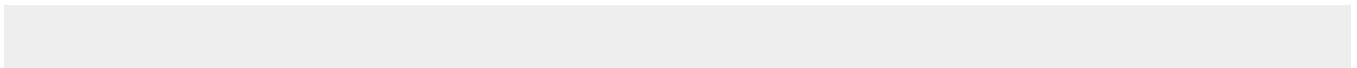
Cytoplasm {ECO:0000250|UniProtKB:P21708}. Nucleus. Membrane, caveola {ECO:0000250|UniProtKB:P21708}. Cell junction, focal adhesion {ECO:0000250|UniProtKB:Q63844} Note=Autophosphorylation at Thr-207 promotes nuclear localization (PubMed:19060905). PEA15-binding redirects the biological outcome of MAPK3 kinase-signaling by sequestering MAPK3 into the cytoplasm (By similarity). {ECO:0000250|UniProtKB:Q63844, ECO:0000269|PubMed:19060905}

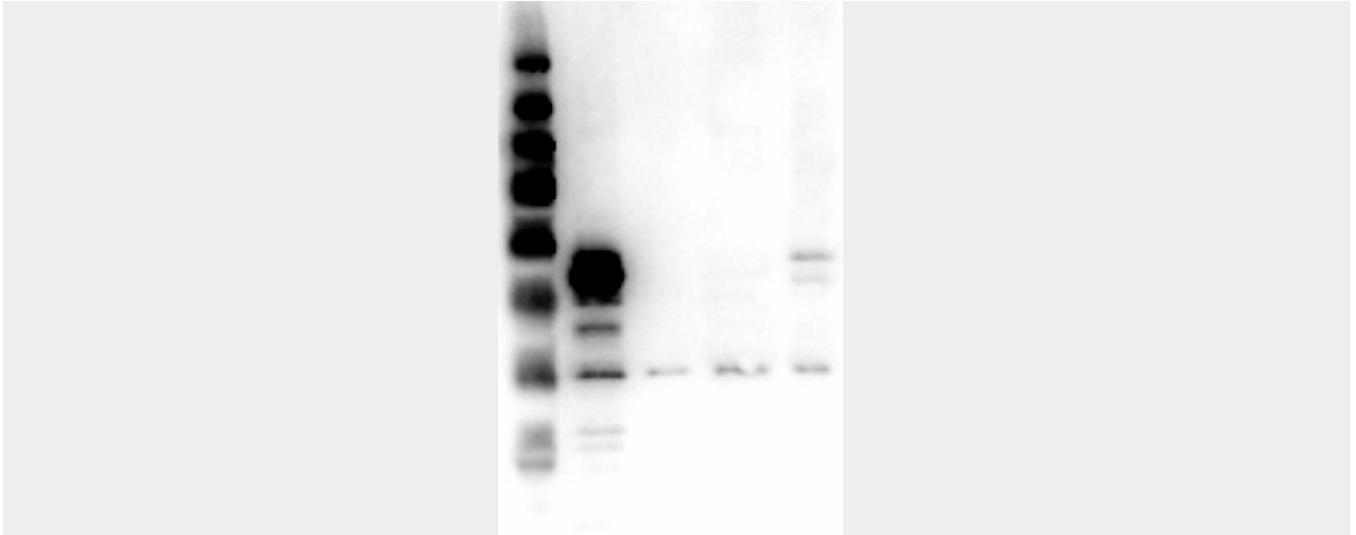
### Anti-ERK1 (RABBIT) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### Anti-ERK1 (RABBIT) Antibody - Images





Western Blot of Rabbit Anti-ERK1 N-Term Antibody. Lane 1: Molecular weight marker. Lane 2: ERK1 double mutant WC Lysate. Lane 3: ERK2 protein. Lane 4: Mouse Brain WC Lysate (p/n W10-000-T004). Lane 5: HEK293 WC Lysate (p/n W09-000-365). Load: 10ng lysate or 50ng protein. Blocking: Universal Blocking Buffer (p/n MB-073) for 30 min RT. Primary antibody: Anti-ERK1 N-Term at 1  $\mu$ g/mL in MB-073 overnight at 4°C. Secondary antibody: Goat anti-Rabbit HRP (p/n 611-103-122) 1:40,000 in buffer (p/n MB-073) for 30 min at RT. Expect: ~43kDa.

#### **Anti-ERK1 (RABBIT) Antibody - Background**

ERK1 antibodies detect the ERK1 isoform. Mitogen activated protein kinase 3, also known as MAPK3, ERK, or ERK1, is an integral component of the MAP kinase cascade that regulates cell growth and differentiation. ERK1 and ERK2 are activated by MEK1 and MEK2 in the B-raf signaling pathway resulting in its translocation to the nucleus where it phosphorylates nuclear targets. Human ERK1 and ERK2 are 84% identical in sequence and share common functionality in cells. Anti-ERK1 antibody is ideal for investigators involved in Neuroscience, Cell Signaling and Cancer Research.