

Datasheet for ABIN2486607
anti-ERK1 antibody (Atto 594)

6 Images

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Overview

Quantity:	100 µL
Target:	ERK1 (MAPK3)
Reactivity:	Rat
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This ERK1 antibody is conjugated to Atto 594
Application:	Western Blotting (WB), Immunohistochemistry (IHC), Immunofluorescence (IF), Flow Cytometry (FACS), Immunocytochemistry (ICC)

Product Details

Immunogen:	A 35 residue synthetic peptide, corresponding to Erk1 MAP kinase with the CGG spacer group added and the peptide coupled to KLH.
Specificity:	Detects ~44kda (ERK1) and ~42 kDa (ERK2).
Cross-Reactivity:	Chicken, Cow, Drosophila melanogaster, Human, Mouse, Rat, Sheep, Xenopus laevis
Purification:	Peptide Affinity Purified

Target Details

Target:	ERK1 (MAPK3)
Alternative Name:	ERK1 (MAPK3 Products)
Background:	The extracellular signal-regulated kinases 1 and 2 (ERK1 and ERK2), also called p44 and p42 MAP kinases, are members of the Mitogen Activated Protein Kinase (MAPK) family of proteins

Target Details

found in all eukaryotes. Because the 44 kDa ERK1 and the 42 kDa ERK2 are highly homologous and both function in the same protein kinase cascade, the two proteins are often referred to collectively as ERK1/2 or p44/p42 MAP kinase (1). They are both located in the cytosol and mitochondria (2). While the role of cytosol ERK1/2 is well studied and involved in multiple cellular functions (2), the role of mitochondrial ERK1/2 remains poorly understood. Both ERK 1 and 2 are activated by MEK1 or MEK2, by dual phosphorylation of a threonine and tyrosine residue in the activation loop (TEY motif) (1, 3). Either phosphorylation alone can induce an electrophoretic mobility shift, but both are required for activation of the kinase. This dual phosphorylation is efficiently detected by phosphorylation state-specific antibody directed to the pTEpY motif. Once activated, MAP kinases phosphorylate a broad spectrum of substrates, including cytoskeletal proteins, translation regulators, transcription factors, and the Rsk family of protein kinases (4). ERK1/2 activation is generally thought to confer a survival advantage to cells (5), however there is increasing evidence that suggests that the activation of ERK1/2 also contributes to cell death under certain conditions (5). ERK1/2 also is activated in neuronal and renal epithelial cells upon exposure to oxidative stress and toxicants or deprivation of growth factors, and inhibition of the ERK pathway blocks apoptosis (5).

Gene ID: 50689

NCBI Accession: [NP_059043](#)

UniProt: [P21708](#)

Pathways: [MAPK Signaling](#), [RTK Signaling](#), [Interferon-gamma Pathway](#), [Fc-epsilon Receptor Signaling Pathway](#), [Neurotrophin Signaling Pathway](#), [Response to Growth Hormone Stimulus](#), [Activation of Innate immune Response](#), [Cellular Response to Molecule of Bacterial Origin](#), [Hepatitis C](#), [Protein targeting to Nucleus](#), [Toll-Like Receptors Cascades](#), [Signaling Events mediated by VEGFR1 and VEGFR2](#), [Signaling of Hepatocyte Growth Factor Receptor](#), [VEGFR1 Specific Signals](#), [S100 Proteins](#)

Application Details

Application Notes:

- WB (1:1000)
- IHC (1:100)
- ICC/IF (1:100)
- FCM (1:100)
- optimal dilutions for assays should be determined by the user.

Comment: A 1:1000 dilution of ABIN2486607 was sufficient for detection of ERK1/2 in 20 µg of HeLa cell lysate by ECL immunoblot analysis.

Application Details

Restrictions: For Research Use only

Handling

Format: Liquid

Concentration: 1 mg/mL

Buffer: PBS pH 7.4, 50 % glycerol, 0.09 % sodium azide, Storage buffer may change when conjugated

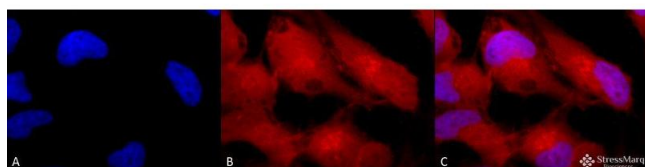
Preservative: Sodium azide

Precaution of Use: This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.

Storage: 4 °C

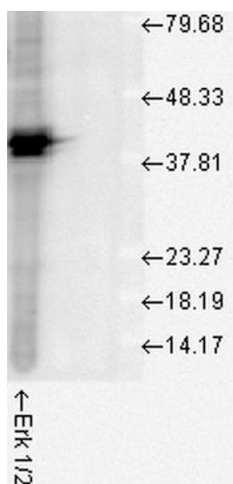
Storage Comment: Conjugated antibodies should be stored at 4°C

Images



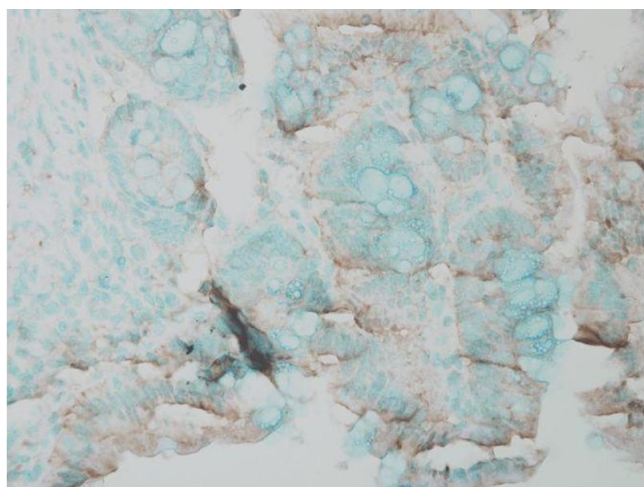
Immunofluorescence (fixed cells)

Image 1. Immunocytochemistry/Immunofluorescence analysis using Rabbit Anti-Erk1/2 Polyclonal Antibody . Tissue: HeLa Cells. Species: Human. Fixation: 2% Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-Erk1/2 Polyclonal Antibody at 1:100 for 12 hours at 4°C. Secondary Antibody: APC Goat Anti-Rabbit (red) at 1:200 for 2 hours at RT. Counterstain: DAPI (blue) nuclear stain at 1:40000 for 2 hours at RT. Localization: Cytoplasm. Nucleus. Magnification: 100x. (A) DAPI (blue) nuclear stain. (B) Anti-Erk1/2 Antibody. (C) Composite.



Western Blotting

Image 2. Western blot analysis of Human Cell line lysates showing detection of ERK1 protein using Rabbit Anti-ERK1 Polyclonal Antibody . Load: 15 µg protein. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Rabbit Anti-ERK1 Polyclonal Antibody at 1:1000 for 2 hours at RT. Secondary Antibody: Donkey Anti-Rabbit IgG: HRP for 1 hour at RT.



Immunohistochemistry

Image 3. Immunohistochemistry analysis using Rabbit Anti-ERK1 Polyclonal Antibody . Tissue: Inflamed colon. Species: Mouse. Fixation: Formalin. Primary Antibody: Rabbit Anti-ERK1 Polyclonal Antibody at 1:25000 for 12 hours at 4°C. Secondary Antibody: Biotin Goat Anti-Rabbit at 1:2000 for 1 hour at RT. Counterstain: Methyl Green at 200uL for 2 min at RT.

Please check the [product details page](#) for more images. Overall 6 images are available for ABIN2486607.