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Datasheet for 100-401-F25

Erk1/2 Antibody

Overview

Description:	Anti-ERK1/2 (RABBIT) Antibody - 100-401-F25
Item No.:	100-401-F25
Size:	100 µL
Applications:	IF, IHC, WB
Reactivity:	Human, Mouse, Rat, Bovine, Chicken, D. melanogaster, Sheep, Xenopus
Host Species:	Rabbit

Product Details

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 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. They are both located in the cytosol and mitochondria. While the role of cytosol ERK1/2 is well studied and involved in multiple cellular functions, 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). 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. ERK1/2 activation is generally thought to confer a survival advantage to cells; 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.
Synonyms:	Mitogen-activated protein kinase 3, Extracellular signal-regulated kinase 1, ERK-1, Insulin-stimulated MAP2 kinase, MAP kinase isoform p44, p44-MAPK, MNK1, Microtubule-associated protein 2 kinase, p44-ERK1, Erk1, Prkm3
Host Species:	Rabbit
Clonality:	Polyclonal

Format:	Antiserum

Target Details

Gene Name:	Mapk3
Reactivity:	Human, Mouse, Rat, Bovine, Chicken, D. melanogaster, Sheep, Xenopus
Immunogen Type:	Conjugated Peptide
Immunogen:	Erk 1/2 Antibody was produced from whole rabbit serum prepared by repeated immunizations with a synthetic peptide, corresponding to Erk1 MAP kinase with the CGG spacer group added and the synthetic peptide coupled to KLH.
Purity/Specificity:	Anti-Erk1/2 Antibody was purified by affinity chromatography. A BLAST analysis was used to suggest cross-reactivity with Erk1/2 from Human, Mouse, Rat, Cow, Sheep, Chicken, Drosophila, and Xenopus based on 100% homology with the immunizing sequence. Cross-reactivity with Erk1/2 from other sources has not been determined. Cell Signaling research.
Relevant Links:	• NCBI - NP_059043.1 • GeneID - 50689 • UniProtKB - P21708

Application Details

Tested Applications:	IF, IHC, WB
Application Note:	Anti-Erk1/2 Antibody has been tested in WB, IF microscopy and IHC. Expect a band approximately ~44kda and ~42kDa bands corresponding to the molecular weights of Erk1 and Erk2. Specific conditions for reactivity should be optimized by the end user.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
FC:	10µg/mL
IHC:	1:50
WB:	1:5000

Formulation

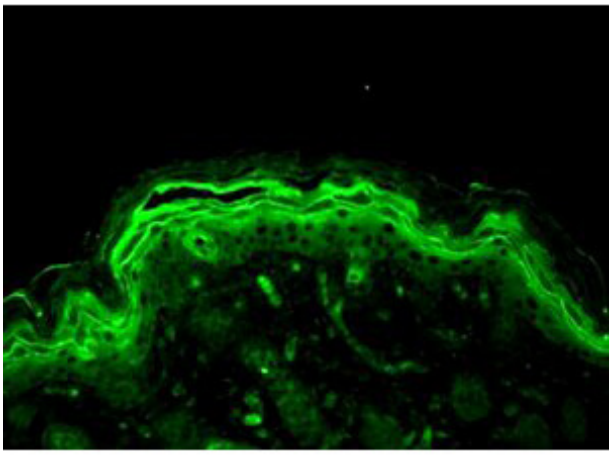
Physical State:	Liquid (sterile filtered)
Concentration:	1mg/ml by Refractometry
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2

Preservative:	0.09% (w/v) Sodium Azide
Stabilizer:	50% (v/v) Glycerol

Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

Images



Immunofluorescence Microscopy
Immunofluorescence Microscopy of Rabbit anti-ERK1/2 antibody. Tissue: backskin sections of transgenic mice. Fixation: 0.5% PFA. Antigen retrieval: not required. Primary antibody: ERK1/2 antibody at 10 µg/mL for 1 h at RT. Secondary antibody: Fluorescein rabbit secondary antibody at 1:10,000 for 45 min at RT. Localization: ERK1/2 is cytoplasmic. Staining: ERK1/2 as green fluorescent signal.

Western Blot
Western Blot of Rabbit anti-ERK1/2 antibody. Lane 1: human cell line mix. Lane 2: none. Load: 35 µg per lane. Primary antibody: ERK1/2 antibody at 1:1000 for overnight at 4°C. Secondary antibody: IRDye800™ rabbit secondary antibody at 1:10,000 for 45 min at RT. Block: 5% BLOTTO overnight at 4°C. Predicted/Observed size: 43 kDa, 43 kDa for ERK1/2. Other band(s): none.

Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.