Datasheet for ABIN361833

anti-ERK1 antibody

8 Images | 4 Publications

Go to Product page

Overview

Quantity:	100 µL
Target:	ERK1 (MAPK3)
Reactivity:	Rat
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This ERK1 antibody is un-conjugated
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 ABIN361832 was sufficient for detection of ERK1/2 in 20 µg of HeLa cell lysate by ECL immunoblot analysis.

Application Details

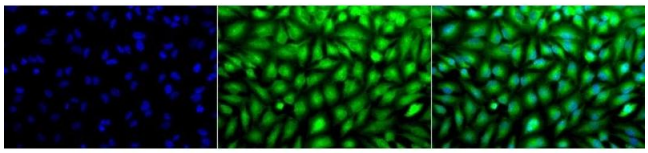
Restrictions:	For Research Use only

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:	-20 °C
Storage Comment:	-20°C

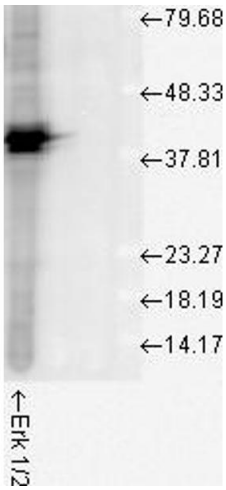
Publications

Product cited in:	Revuelta-López, Cal, Herraiz-Martínez, de Gonzalo-Calvo, Nasarre, Roura, Gálvez-Montón, Bayes-Genis, Badimon, Hove-Madsen, Llorente-Cortés: "Hypoxia-driven sarcoplasmic/endoplasmic reticulum calcium ATPase 2 (SERCA2) downregulation depends on low-density lipoprotein receptor-related protein 1 (LRP1)-signalling in cardiomyocytes." in: **Journal of molecular and cellular cardiology**, Vol. 85, pp. 25-36, (2015) (PubMed). Thon, Hosoi, Yoshii, Ozawa: "Leptin induced GRP78 expression through the PI3K-mTOR pathway in neuronal cells." in: **Scientific reports**, Vol. 4, pp. 7096, (2014) (PubMed). Bhat, Gomis, Potter, Tikoo: "Role of Hsp90 in CpG ODN mediated immunostimulation in avian macrophages." in: **Molecular immunology**, Vol. 47, Issue 6, pp. 1337-46, (2010) (PubMed). Enikanolaiye, Larivière, Troy, Arabzadeh, Atasoy, Turksen: "Involucrin-claudin-6 tail deletion mutant (CDelta206) transgenic mice: a model of delayed epidermal permeability barrier formation and repair." in: **Disease models & mechanisms**, Vol. 3, Issue 3-4, pp. 167-80, (2010) (PubMed).



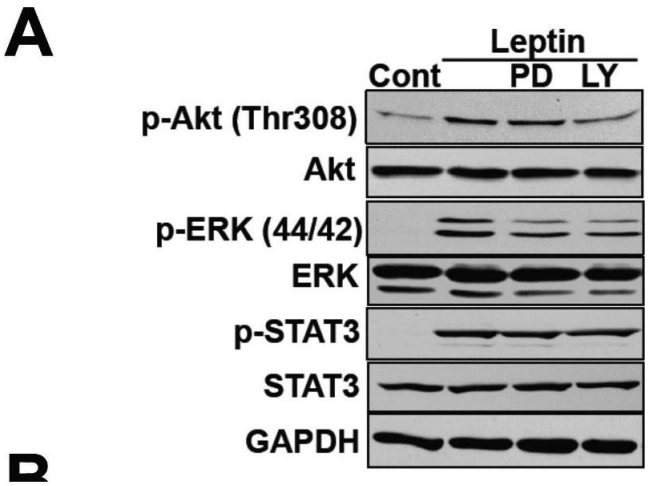
Immunocytochemistry

Image 1. Immunocytochemistry/Immunofluorescence analysis using Rabbit Anti-Erk1/2 Polyclonal Antibody (ABIN361832 and ABIN361833). Tissue: Cervical cancer cell line (HeLa). Species: Human. Fixation: 2 % Formaldehyde for 20 min at RT. Primary Antibody: Rabbit Anti-Erk1/2 Polyclonal Antibody (ABIN361832 and ABIN361833) at 1:100 for 12 hours at 4 °C. Secondary Antibody: FITC Goat Anti-Rabbit (green) 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: 20x. (A) DAPI (blue) nuclear stain. (B) Anti-Erk1/2 Antibody. (C) Composite.



Western Blotting

Image 2. Erk1 2 Western Blotting 1 in 1000 human cell line mix 10ug.



Western Blotting

Image 3. Involvement of PI3K in the leptin-induced expression of GRP78.(A). SH-SY5Y-ObRb cells were pretreated with PD98059 (PD, 10μM) or LY294002 (LY, 5μM) for 30 min followed by leptin (0.5 μg/mL, 30 min). Western blotting analysis was performed using specific antibodies for phospho-Akt (Thr308), Akt, phospho-ERK 1/2 (Thr202/Tyr204), ERK, phospho-STAT3 (Tyr705), STAT3, and GAPDH. (B). Densitometric analysis of phospho-Akt (Thr308), phospho-ERK1/2 (Thr202/Tyr204), and phospho-STAT3 (Tyr705) levels using image analyzing software. The

treatment with PD inhibited the phosphorylation of ERK, but not Akt. The treatment with LY significantly inhibited the phosphorylation of Akt and also slightly inhibited that of ERK. The treatment with PD or LY did not inhibit the phosphorylation of STAT3. Data are expressed as the mean ± S.E. of 3 independent experiments (n = 3). ** P < 0.01. (C). SH-SY5Y-ObRb cells were pretreated with PD98059 (PD, 10 μM) or LY294002 (LY, 5μM) for 30 min followed by leptin (0.5 μg/mL, 24h). Western blotting analysis was performed using antibodies for GRP78 and GAPDH. (D). A densitometric analysis of GRP78 levels were performed using image analyzing software. LY hindered the effects of leptin on the induction of GRP78 expression. Data are expressed as the mean ± S.E. of 4 independent experiments (n = 4). ** P < 0.01. - figure provided by CiteAb. Source: PMID25403445

Please check the product details page for more images. Overall 8 images are available for ABIN361833.