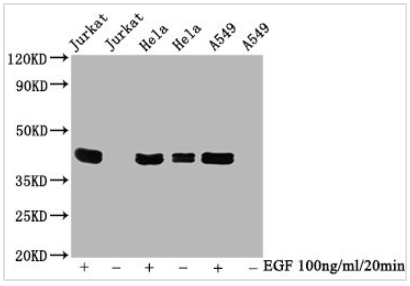
Phospho-MAPK3 (T202/Y204) + MAPK1 (T185/Y187) Antibody

Product Code	CSB-RA013456A204phHU
Abbreviation	Mitogen-activated protein kinase 3
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P27361/P28482
Immunogen	A synthesized peptide derived from Human Phospho-MAPK3 (T202/Y204) + MAPK1 (T185/Y187)
Species Reactivity	Human
Tested Applications	ELISA, WB; Recommended dilution: WB:1:500-1:5000
Relevance	Serine/threonine kinase which acts as an essential component of the MAP kinase signal transduction pathway. 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 plays also 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, FRS2 or GRB10). Protein kinases (such as RAF1, RPS6KA1/RSK1, RPS6KA3/RSK2, RPS6KA2/RSK3, RPS6KA6/RSK4, SYK, MKNK1/MNK1, MKNK2/MNK2, RPS6KA5/MSK1, RPS6KA4/MSK2, MAPKAPK3 or MAPKAPK5) 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.
Form	Liquid
Conjugate	Non-conjugated

Storage Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Alias	Mitogen-activated protein kinase 3, MAP kinase 3, MAPK 3, ERT2, Extracellular signal-regulated kinase 1, ERK-1, Insulin-stimulated MAP2 kinase, MAP kinase isoform p44, p44-MAPK, Microtubule-associated protein 2 kinase, p44-ERK1, MAPK3, ERK1, PRKM3
Immunogen Species	Homo sapiens (Human)
Research Area	Neuroscience
Gene Names	MAPK3/MAPK1
Accession NO.	4F6

Image



Western Blot
Positive WB detected in Jurkat whole cell lysate?Hela whole cell lysate?A549 whole cell lysate(treated with EGF or not)
All lanes Phospho-MAPK3 antibody at 0.95μg/ml
Secondary
Goat polyclonal to rabbit IgG at 1/50000 dilution
Predicted band size: 42 KDa
Observed band size: 42 KDa

Description

The vectors expressing anti-MAPK3/MAPK1 antibody were constructed as follows: immunizing an animal with a synthesized peptide derived from human Phospho-MAPK3 (T202/Y204) + MAPK1 (T185/Y187), isolating the positive splenocyte and extracting RNA, obtaining DNA by reverse transcription, sequencing and screening MAPK3/MAPK1 antibody gene, and amplifying heavy and light chain sequence by PCR and cloning them into plasma vectors. After that, the vector clones were transfected into the mammalian cells for production. The product is the recombinant MAPK3/MAPK1 antibody. Recombinant MAPK3/MAPK1 antibody in the culture medium was purified using affinity-chromatography. It can react with MAPK3/MAPK1 protein from Human and is used in the ELISA, WB.

The phosphorylated mitogen-activated protein kinase3/1 (MAPK3/1) protein is expressed in some primordial follicles and all growing follicles. Culture of 3 days post-parturition (dpp) ovaries with the MAPK3/1 signaling inhibitor U0126 significantly reduced the number of activated follicles and was accompanied by dramatically reduced granulosa cell proliferation and increased oocyte apoptosis. MAPK3 and its isoforms have been commonly ascribed analogous downstream functions due to their striking similarities. However, it is becoming increasingly clear that these isoforms- particularly MAPK3 and MAPK1 have explicitly different functions. While MAPK1 has a more pronounced role in cell

proliferation and developmental processes. MAPK3 does not seem to be required during development and its deficiency may be compensated for by MAPK1. So far, a deficiency of MAPK3 in the CNS has been associated with facilitated learning and long-term memory. MAPK3 (Erk1) is important for the induction of T-cell anergy. Our goal was to determine the influence of MAPK3 on the capacity of DC to arm T-cell responses in autoimmunity.