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10-6594: Mouse Monoclonal Antibody to Erk1/2 (Clone: 784CT7.6.3)(Discontinued)

Clonality :	Monoclonal
Clone Name :	784CT7.6.3
Application :	FACS,WB
Reactivity :	Human,Mouse
Gene :	MAPK3
Gene ID :	5595
Uniprot ID :	P27361
Format :	Purified
Alternative Name :	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
Isotype :	Mouse IgG2a
Immunogen Information :	Recombinant Protein

Description

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 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.

Product Info

Amount :	80 µl / 400 µl
Purification :	Protein G Chromatography
Content :	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide.
Storage condition :	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term store at -20°C in small aliquots to prevent freeze-thaw cycles.

Application Note

FACS~1:25|| WB~1:1000~4000

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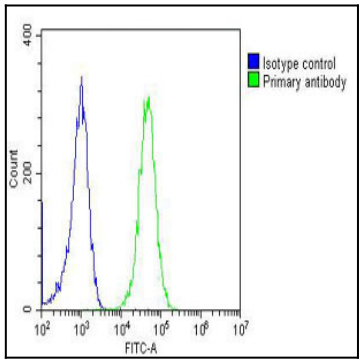

Figure 1: Overlay histogram showing Jurkat cells stained with Erk1/2 Antibody (10-6594) (green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then icubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (1:25 dilution) for 60 min at 37°C. The secondary antibody used was Goat-Anti-Mouse IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed at 1/200 dilution for 40 min at 37°C. Isotype control antibody (blue line) was mouse IgG2a (1Î¼g/1x10^6 cells) used under the same conditions. Acquisition of >10, 000 events was performed.

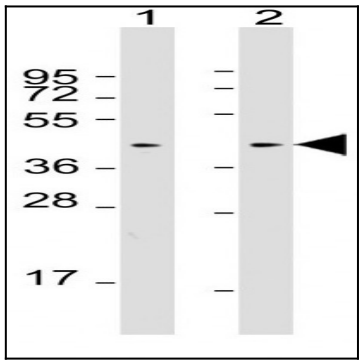

Figure 2: All lanes : Anti-Erk1/2 Antibody at 1:4000 dilution with Lane 1: Jurkat whole cell lysates, Lane 2: MCF-7 whole cell lysates/proteins at 20 Î¼g per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 41 kDa.

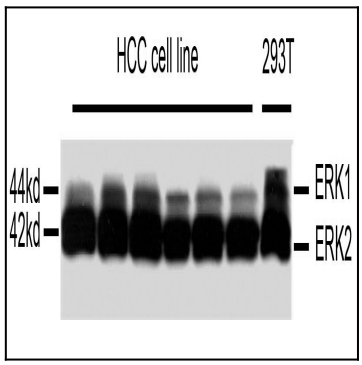

Figure 3: Western blot analysis of mouse monoclonal antibody Erk1/2 Antibody (10-6594) extracts from HCC cell line and 293T cells .

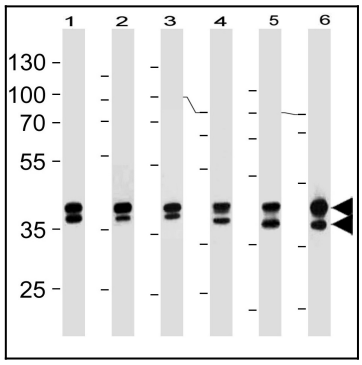

Figure 4: Western blot analysis of Erk1/2 Antibody (10-6594) with Lane 1: 293, Lane 2: MCF-7, Lane 3: Jurkat, Lane 4: mouse NIH/3T3, Lane 5: rat C6 cell line and Lane 6: mouse heart lysates (35Î¼g/lane). This demonstrates the Erk1/2 antibody detected the Erk1/2 protein.

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