ERK1/2

rev. 02/02/16

Cat#: ET1601-29

Product Type: Recombinant rabbit monoclonal IgG, primary antibodies

Species reactivity: Human, Mouse, Rat, Zebra fish

Applications: WB, ICC/IF, IP, FC

Molecular Wt.: 42/44 kDa

Description: Mitogen-activated protein kinase (MAPK) signaling pathways involve two closely related MAP kinases, known as extracellular-signal-related kinase 1 (ERK 1, p44) and 2 (ERK 2, p42). Growth factors, steroid hormones, G protein-coupled receptor ligands and neurotransmitters can initiate MAPK signaling pathways. Activation of ERK 1 and ERK 2 requires phosphorylation by upstream kinases such as MAP kinasekinase (MEK), MEK kinase and Raf-1. ERK 1 and ERK 2 phosphorylation can occur at specific tyrosine and threonine sites mapping within consensus motifs that include the threonine-glutamate-tyrosine motif. ERK activation leads to dimerization with other ERKs and subsequent localization to the nucleus. Active ERK dimers phosphorylate serine and threonine residues on nuclear proteins and influence a host of responses that include proliferation, differentiation, transcription regulation and development. The human ERK 1 gene maps to chromosome 16p11.2 and encodes a 379 amino acid protein that shares 83% sequence identity to ERK 2. The human ERK2 gene maps to chromosome 22q11.21 and encodes a 360-amino acid protein.

Immunogen:
Recombinant protein.

Positive control:
SW480, MCF-7, Hela, PC12, HCT116, NIH/3T3, A549.

Subcellular location:
Cytoplasm, Nucleus

Database links:
SwissProt: P27361/P28482(Human) P63085/Q63844(Mouse)
P21708/P63086(Rat)

Recommended Dilutions:
WB: 1:1,000-1:5,000 **ICC:** 1:50-1:200
FC: 1:50-1:100

Storage Buffer:
1*TBS (pH7.4), 1%BSA, 40%Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction:
Store at +4° C after thawing. Aliquot store at -20° C or -80° C. Avoid repeated freeze / thaw cycles.

Purity:
ProA affinity purified

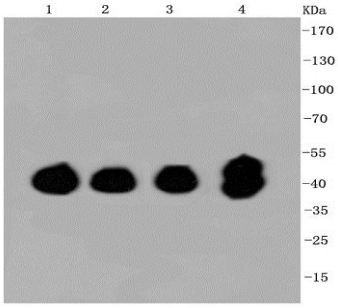

Fig1: Western blot analysis of ERK1/2 on different cell lysates using anti-ERK1/2 antibody at 1/1,000 dilution.
Positive control:
Lane 1: Hela *Lane 2: SW480*
Lane 3: HCT116 *Lane 4: PC12*

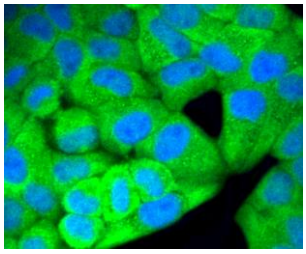

Fig2: ICC staining ERK1/2 in Hela cells (green). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.

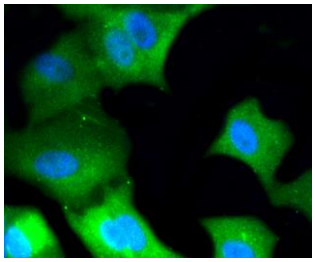

Fig3: ICC staining ERK1/2 in MCF-7 cells (green). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.

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Applications: WB=Western blot IP=Immunoprecipitation IHC=Immunohistochemistry IF=Immunofluorescence FC=Flow cytometry
Species Cross-Reactivity: H=human M=mouse R=rat Hm=hamster Mk=monkey Mi=mink C=chicken Dm=D.melanogaster X=Xenopus Z=zebrafish
B=bovine Dg=dog Pg=pig Sc=S.

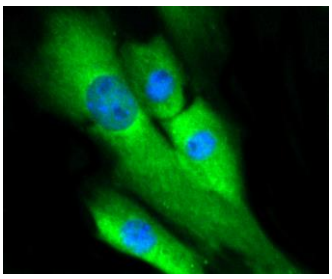

Fig4: ICC staining ERK1/2 in NIH/3T3 cells (green). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.

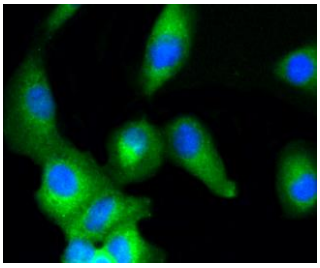

Fig5: ICC staining ERK1/2 in A549 cells (green). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.

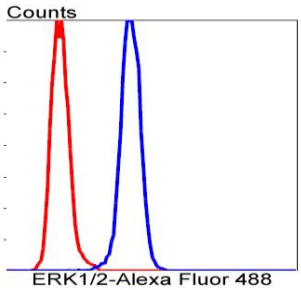

Fig6: Flow cytometric analysis of Hela cells with ERK1/2 antibody at 1/50 dilution (blue) compared with an unlabelled control (cells without incubation with primary antibody; red). Alexa Fluor 488-conjugated goat anti rabbit IgG was used as the secondary antibody.

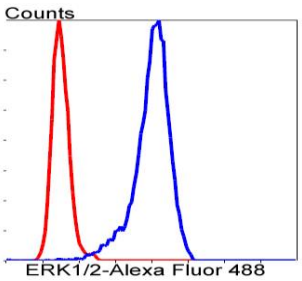

Fig7: Flow cytometric analysis of SH-SY-5Y cells with ERK1/2 antibody at 1/50 dilution (blue) compared with an unlabelled control (cells without incubation with primary antibody; red). Alexa Fluor 488-conjugated goat anti rabbit IgG was used as the secondary antibody.

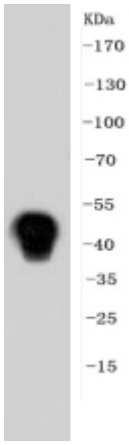

Fig8: Western blot analysis of ERK1/2 on zebra fish tissue lysates using anti-ERK1/2 antibody

Background References

1. Ye, Q. et al. 2014. Lactoferrin deficiency promotes colitis-associated colorectal dysplasia in mice. PloS one. 9: e103298.
2. Polidoro, L. et al. 2013. Vitamin D protects human endothelial cells from H_2O_2 oxidant injury through the Mek/Erk-Sirt1 axis activation. Journal of cardiovascular translational research. 6: 221-31.