Anti-ERK2 Antibody

ER131218

Product Type:	Rabbit polyclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IF-Cell, IHC-P, FC
Molecular Wt:	Predicted band size: 41 kDa

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 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.

Immunogen: Synthetic peptide within C-terminal human ERK2.

Positive control: Jurkat cell lysate, A431 cell lysate, PC-12 cell lysate, NIH/3T3 cell lysate, Hela cell lysate, HT-29 cell lysate, MCF-7 cell lysate, A549, human breast cancer tissue, human kidney tissue, mouse kidney tissue.

Subcellular location: Cytoplasm, Nucleus, Membrane, Cytoskeleton.

Database links: SwissProt: P28482 Human | P63085 Mouse | P63086 Rat

Recommended Dilutions:

WB	1:1,000-1:2,000
IF-Cell	1:200
IHC-P	1:200
FC	1:100-1:200

Storage Buffer: 1*PBS (pH7.4), 0.2% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

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

Purity: Immunogen affinity purified.

Images

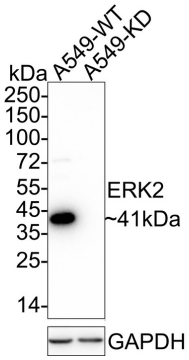

Fig1: Western blot analysis of ERK2 on different lysates with Rabbit anti-ERK2 antibody (ER131218) at 1/2,000 dilution.

Lane 1: A549-si NT cell lysate (10 µg/Lane)
Lane 2: A549-si ERK2 cell lysate (10 µg/Lane)

Predicted band size: 41 kDa
Observed band size: 41 kDa

Exposure time: 17 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (ER131218) at 1/2,000 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

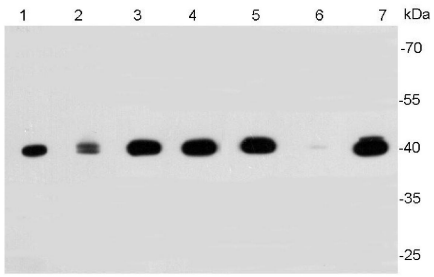

Fig2: Western blot analysis of ERK2 on different lysates. Proteins were transferred to a PVDF membrane and blocked with 5% BSA in PBS for 1 hour at room temperature. The primary antibody was used at a 1/2,000 dilution in 5% BSA at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:5,000 dilution was used for 1 hour at room temperature.
Positive control:
Lane 1: Jurkat cell lysate, untreated
Lane 2: A431 cell lysate, untreated
Lane 3: PC-12 cell lysate, untreated
Lane 4: NIH/3T3 cell lysate, untreated
Lane 5: Hela cell lysate, untreated
Lane 6: HT-29 cell lysate, untreated
Lane 7: MCF-7 cell lysate, untreated

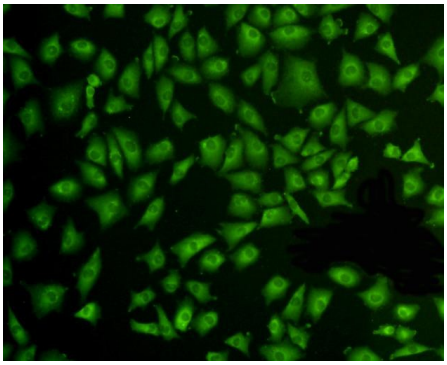

Fig3: ICC staining ERK2 in A549 cells (green). Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature and blocked with 1% Blocker BSA for 15 minutes at room temperature. Cells were probed with the antibody (ER131218) at a dilution of 1/100 for 1 hour at room temperature, washed with PBS. Alexa Fluor™ 488 Goat anti-Rabbit IgG was used as the secondary antibody at 1/100 dilution.

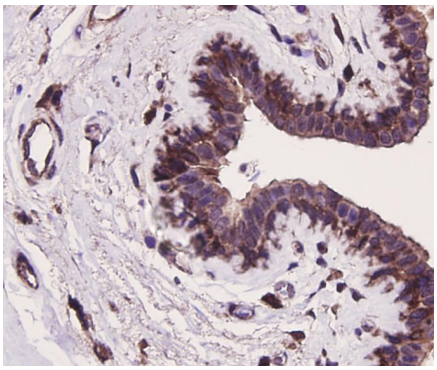

Fig4: Immunohistochemical analysis of paraffin-embedded human breast cancer tissue using anti-ERK2 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the antibody (ER131218) at 1/100 dilution, for 30 minutes at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chrogen. Counter stained with hematoxylin and mounted with DPX.

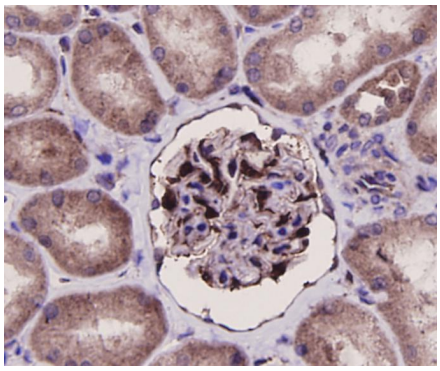

Fig5: Immunohistochemical analysis of paraffin-embedded human kidney tissue using anti-ERK2 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the antibody (ER131218) at 1/100 dilution, for 30 minutes at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chrogen. Counter stained with hematoxylin and mounted with DPX.

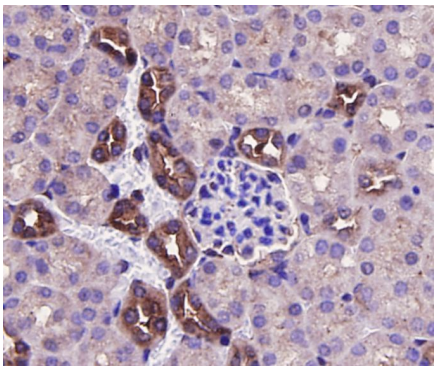

Fig6: Immunohistochemical analysis of paraffin-embedded mouse kidney tissue using anti-ERK2 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the antibody (ER131218) at 1/100 dilution, for 30 minutes at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chrogen. Counter stained with hematoxylin and mounted with DPX.

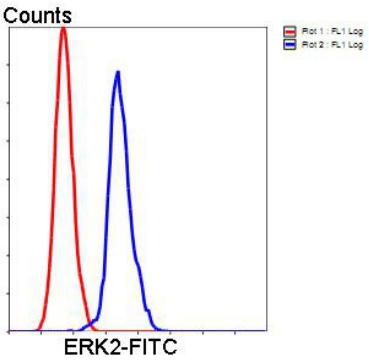

Fig7: Flow cytometric analysis of ERK2 was done on Hela cells. The cells were fixed, permeabilized and stained with ERK2 antibody at 1/100 dilution (blue) compared with an unlabelled control (cells without incubation with primary antibody; red). After incubation of the primary antibody on room temperature for an hour, the cells was stained with FITC-conjugated goat anti-rabbit IgG Secondary antibody at 1/500 dilution.

Background References

1. Wortzel I et al. The ERK cascade: distinct functions within various subcellular organelles. Genes Cancer 2:195-209 (2011).
2. Ohori M et al. Role of a cysteine residue in the active site of ERK and the MAPKK family. Biochem Biophys Res Commun 353:633-637 (2007).
3. Ohori M et al. Identification of a selective ERK inhibitor and structural determination of the inhibitor-ERK2 complex. Biochem Biophys Res Commun 336:357-363 (2005).