Datasheet for ABIN967747

# anti-ERK2 antibody (AA 219-358)

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## Overview

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|---|---|
| Quantity: | 50 µg |
| Target: | ERK2 (MAPK1) |
| Binding Specificity: | AA 219-358 |
| Reactivity: | Human, Mouse, Rat, Dog, Chicken, Frog |
| Host: | Mouse |
| Clonality: | Monoclonal |
| Conjugate: | This ERK2 antibody is un-conjugated |
| Application: | Western Blotting (WB), Immunohistochemistry (IHC), Immunoprecipitation (IP), Immunofluorescence (IF) |

## Product Details

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|---|---|
| Immunogen: | Rat ERK2 aa. 219-358 |
| Clone: | 33-ERK2 |
| Isotype: | IgG2b |
| Cross-Reactivity: | Human, Dog (Canine), Mouse (Murine), Chicken, Frog |
| Characteristics: | 1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.<br>2. Please refer to us for technical protocols.<br>3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.<br>4. Source of all serum proteins is from USDA inspected abattoirs located in the United States. |

## Product Details

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| Purification: | The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography. |

## Target Details

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|---|---|
| Target: | ERK2 (MAPK1) |
| Alternative Name: | ERK2 (MAPK1 Products) |
| Background: | The family of serine/threonine kinases known as ERKs (extracellular signal regulated kinases) or MAPKs (mitogen-activated protein kinases) are activated after cell stimulation by a wide variety of hormones and growth factors. Cell stimulation induces a signaling cascade that leads to phosphorylation of MEK (MAPK/ERK kinase) which, in turn, activates ERK via tyrosine and threonine phosphorylation. Structural analysis of ERK2 indicates that phosphorylation induces a conformational change that exposes the active site for substrate binding. Myriad proteins represent the downstream effectors for the active ERK and implicate it in the control of cell proliferation and differentiation, as well as regulation of the cytoskeleton. Activation of ERK is normally transient and cells possess dual specificity phosphatases that are responsible for its down-regulation. Furthermore, multiple studies have shown that elevated ERK activity is associated with some cancers. ERK2 is the 42kDa member of the ERK family and is highly homologous to ERK1. |
| Molecular Weight: | 42 kDa |
| Pathways: | MAPK Signaling, RTK Signaling, Apoptosis, Interferon-gamma Pathway, Fc-epsilon Receptor 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, Monocarboxylic Acid Catabolic Process, Autophagy, G-protein mediated Events, Signaling Events mediated by VEGFR1 and VEGFR2, Signaling of Hepatocyte Growth Factor Receptor, VEGFR1 Specific Signals, BCR Signaling, S100 Proteins |

## Application Details

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| Comment: | Related Products: ABIN967389 |
| Restrictions: | For Research Use only |

## Handling

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|---|---|
| Format: | Liquid |

## Handling

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|---|---|
| Concentration: | 250 µg/mL |
| Buffer: | Aqueous buffered solution containing BSA, glycerol, and ≤0.09 % sodium azide. |
| 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: | Store undiluted at -20°C. |

## Publications

Product cited in:

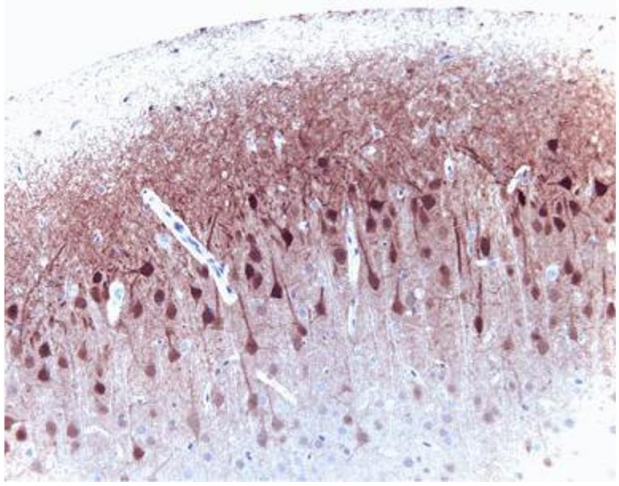
Kim, Ju, Oh, Yoon, Song, Kim, Yoo, Bang, Kang, Chun: "ERK-1/2 and p38 kinase oppositely regulate nitric oxide-induced apoptosis of chondrocytes in association with p53, caspase-3, and differentiation status." in: **The Journal of biological chemistry**, Vol. 277, Issue 2, pp. 1332-9, ( 2002) (PubMed).

Lund-Johansen, Davis, Bishop, de Waal Malefyt: "Flow cytometric analysis of immunoprecipitates: high-throughput analysis of protein phosphorylation and protein-protein interactions." in: **Cytometry**, Vol. 39, Issue 4, pp. 250-9, (2000) (PubMed).

Lehmann, Janda, Pierreux, Rytömaa, Schulze, McMahon, Hill, Beug, Downward: "Raf induces TGFbeta production while blocking its apoptotic but not invasive responses: a mechanism leading to increased malignancy in epithelial cells." in: **Genes & development**, Vol. 14, Issue 20, pp. 2610-22, (2000) (PubMed).

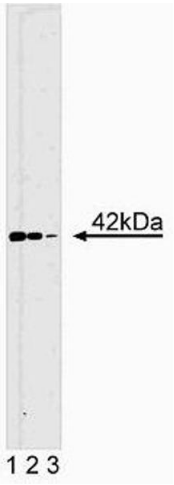
Liu, Tsai, Aird: "Egr-1 gene is induced by the systemic administration of the vascular endothelial growth factor and the epidermal growth factor." in: **Blood**, Vol. 96, Issue 5, pp. 1772-81, (2000) ( PubMed).

Visconti, Gadina, Chiariello, Chen, Stancato, Gutkind, OShea: "Importance of the MKK6/p38 pathway for interleukin-12-induced STAT4 serine phosphorylation and transcriptional activity." in: **Blood**, Vol. 96, Issue 5, pp. 1844-52, (2000) (PubMed).



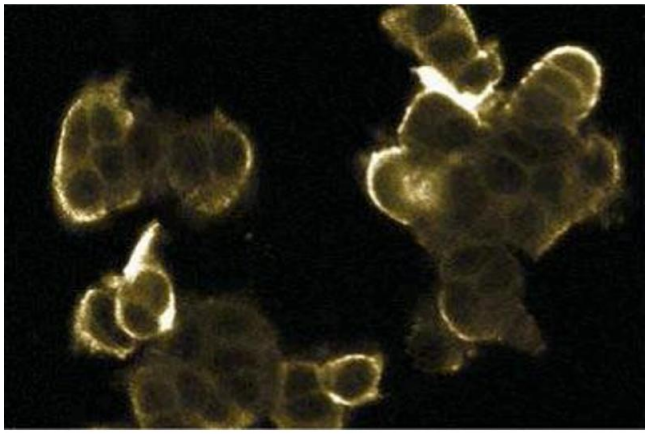
## Immunohistochemistry (Paraffin-embedded Sections)

**Image 1.** ERK 2 (clone 33) staining on rat brain. Formalin fixed paraffin section with citrate buffer pretreatment. 20X




## Western Blotting

**Image 2.** Western blot analysis of ERK2 on rat pituitary lysate. Lane 1: 1:5000, lane 2: 1:10000, lane 3: 1:20000 dilution of ERK2.



## Immunofluorescence

**Image 3.** Immunofluorescence staining of MCF7 cells.