Website: thermofisher.com
Customer Service (US): 1 800 955 6288 ext. 1
Technical Support (US): 1 800 955 6288 ext. 441
thermofisher.com/contactus

Performance guaranteed

# ERK1 Monoclonal Antibody (ERK-6B11)

**Catalog Number** 13-8600

**Product data sheet**

| Details | |
|---|---|
| **Size** | 100 µg |
| **Host/Isotope** | Mouse / IgG1, kappa |
| **Class** | Monoclonal |
| **Type** | Antibody |
| **Clone** | ERK-6B11 |
| **Immunogen** | Synthetic Peptide corresponding to a section of the C-terminus of rat ERK1. |
| **Conjugate** | Unconjugated |
| **Form** | Liquid |
| **Concentration** | 0.5 mg/mL |
| **Purification** | Affinity chromatography |
| **Storage buffer** | PBS |
| **Contains** | 0.1% sodium azide |
| **Storage Conditions** | -20°C |

| Species Reactivity | |
|---|---|
| **Species reactivity** | Dog, Human, Mouse, Rat |
| **Published species** | Tag, Pig, Rat, Human, Mouse, Not Applicable |

| Tested Applications | Dilution * |
|---|---|
| **ELISA (ELISA)** | Assay-dependent |
| **Immunoprecipitation (IP)** | Assay-dependent |
| **Western Blot (WB)** | 1:1,000 |
| **Immunocytochemistry (ICC/IF)** | 1:250 |

| Published Applications | |
|---|---|
| **Western Blot (WB)** | See 8 publications below |
| **Miscellaneous PubMed (Misc)** | See 1 publications below |
| **Immunoprecipitation (IP)** | See 1 publications below |

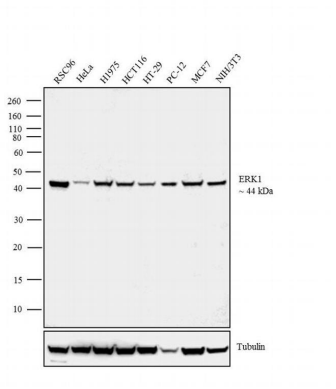
* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.

## Background/Target Information

MAPK3 (ERK1) is a serine/threonine kinase that is an important activator of p90, RSK, MSK, ELK1, and Stat3, and is involved in the MAPK pathway. ERK1 is widely expressed and involved in the regulation of meiosis, mitosis, and post-mitotic functions in differentiated cells. Many different stimuli, including growth factors, cytokines, virus infection, ligands for heterotrimeric guanine nucleotide-binding protein (G protein)-coupled receptors and transforming agents, activate the ERK1 and ERK2 pathways. Functionally, ERK1 is involved with a signaling cascade that regulates various cellular processes such as proliferation, differentiation, and cell cycle progression in response to a variety of extracellular signals. ERK1 is activated by upstream kinases, resulting in its translocation to the nucleus where it phosphorylates nuclear targets. Alternatively spliced transcript variants encoding different protein isoforms of ERK1 have been described.

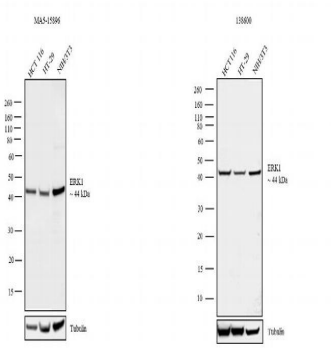
*For Research Use Only. Not for use in diagnostic procedures. Not for resale without express authorization.*

## Product Images For ERK1 Monoclonal Antibody (ERK-6B11)



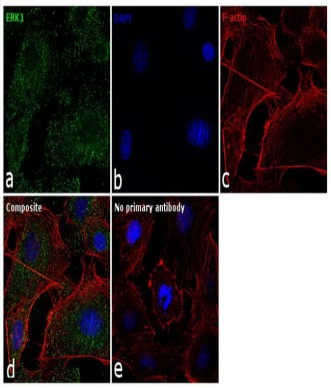

### ERK1 Antibody (13-8600) in WB

Western blot analysis was performed on whole cell extracts (30 µg lysate) of RSC96 (Lane 1), HeLa (Lane 2), H1975 (Lane 3), HCT116 (Lane 4), HT-29 (Lane 5), PC12 (Lane 6), MCF7 (Lane 7) and NIH/3T3 (Lane 8). The blot was probed with Anti-ERK1 Mouse Monoclonal Antibody (Product # 13-8600, 1:1000 dilution) and detected by chemiluminescence using Goat anti-Mouse IgG (H+L) Superclonal™ Secondary Antibody, HRP conjugate (Product # A28177, 0.25 µg/mL, 1:4000 dilution). A 44 kDa band corresponding to ERK1 was observed across the cell lines tested. Known quantity of protein samples were electrophoresed using Novex® NuPAGE® 4-12 % Bis-Tris gel (Product # NP0321BOX), XCell SureLock™ Electrophoresis System (Product # EI0002) and Novex® Sharp Pre-Stained Protein Standard (Product # LC5800). Resolved proteins were then transferred onto a nitrocellulose membrane using the wet transfer system. The membrane was probed with the relevant primary and secondary antibody following blocking with 5 % skimmed milk. Chemiluminescent detection was performed using Pierce™ ECL Western Blotting Substrate (Product # 32106).




### ERK1 Antibody (13-8600)

Antibody specificity was demonstrated by showing that antibodies raised against the same target protein perform similarly. Western blot of ERK1 using Anti-ERK1 Monoclonal Antibody (Product # 13-8600), tested in parallel with ERK1 Monoclonal Antibody (Product # MA5-15896), shows similar expression of ERK1 in the cell lines tested. {IAV}




### ERK1 Antibody (13-8600) in ICC/IF

Immunofluorescence analysis of ERK1 was performed using 70% confluent A549 cells. The cells were fixed with 4% paraformaldehyde for 10 minutes, permeabilized with 0.1% Triton™ X-100 for 10 minutes, and blocked with 1% BSA for 1 hour at room temperature. The cells were labeled with ERK1 (ERK-6B11) Mouse Monoclonal Antibody (Product # 13-8600) at 1:250 dilution in 0.1% BSA and incubated overnight at 4 degree Celsius and then labeled with Goat anti-Mouse IgG (H+L) Superclonal™ Secondary Antibody, Alexa Fluor® 488 conjugate (Product # A28175) at a dilution of 1:2000 for 45 minutes at room temperature (Panel a: green). Nuclei (Panel b: blue) were stained with SlowFade® Gold Antifade Mountant with DAPI (Product # S36938). F-actin (Panel c: red) was stained with Rhodamine Phalloidin (Product # R415, 1:300). Panel d represents the merged image showing cytoplasmic localization. Panel e represents control cells with no primary antibody to assess background. The images were captured at 60X magnification.



Thermo Fisher Scientific
3747 N. Meridian Road
Rockford, IL 61105 USA

thermofisher.com/contactus

## PubMed References For ERK1 Monoclonal Antibody (ERK-6B11)

### 8 Western Blot References

| Species / Dilution | Summary |
|---|---|
| Human / Not Cited | 13-8600 was used in Western Blotting to suggest that ethanolic and acetone extracts from Physalis peruviana have potential to overcome oxidative damage induced by neurotoxic compounds.<br><br>Frontiers in chemistry ( 2020; 6: )<br>**"Extracts of Physalis peruviana Protect Astrocytic Cells Under Oxidative Stress With Rotenone."**<br>Author(s):Areiza-Mazo N,Robles J,Zamudio-Rodriguez JA,Giraldez L,Echeverria V,Barrera-Bailon B,Aliev G,Sahebkar A, Ashraf GM,Barreto GE<br>PubMed Article URL:http://dx.doi.org/10.3389/fchem.2018.00276 |
| Human / Not Cited | Molecular cancer research : MCR ( 2003; 1: 801)<br>**"Distinct mechanisms mediate the initial and sustained phases of cell migration in epidermal growth factor receptor-overexpressing cells."**<br>Author(s):Kruger JS,Reddy KB<br>PubMed Article URL:http://www.ncbi.nlm.nih.gov/pubmed/14517342 |
| Pig / Not Cited<br>Rat / Not Cited | The Journal of biological chemistry ( 2005; 280: 31208)<br>**"Roscovitine targets, protein kinases and pyridoxal kinase."**<br>Author(s):Bach S,Knockaert M,Reinhardt J,Lozach O,Schmitt S,Baratte B,Koken M,Coburn SP,Tang L,Jiang T,Liang DC, Galons H,Dierick JF,Pinna LA,Meggio F,Totzke F,Schächtele C,Lerman AS,Carnero A,Wan Y,Gray N,Meijer L<br>PubMed Article URL:http://dx.doi.org/10.1074/jbc.M500806200 |
| Human / Not Cited | 13-8600 was used in Western Blot to explore the potential relationships among curcumin, circRNAs, and nasopharyngeal carcinoma (NPC).<br><br>Journal of Cancer ( 2020; 11: 2360)<br>**"Curcumin Enhances Radiosensitization of Nasopharyngeal Carcinoma via Mediating Regulation of Tumor Stem-like Cells by a CircRNA Network."**<br>Author(s):Zhu D,Shao M,Yang J,Fang M,Liu S,Lou D,Gao R,Liu Y,Li A,Lv Y,Mo Z,Fan Q<br>PubMed Article URL:http://dx.doi.org/10.7150/jca.39511 |
| Not Applicable / 1:3000 | 13-8600 was used in western blot to study molecular pathways required for fear learning<br><br>The Journal of neuroscience : the official journal of the Society for Neuroscience ( 2009; 29: 10131)<br>**"TrkB modulates fear learning and amygdalar synaptic plasticity by specific docking sites."**<br>Author(s):Musumeci G,Sciarretta C,Rodríguez-Moreno A,Al Banchaabouchi M,Negrete-Díaz V,Costanzi M,Berno V, Egorov AV,von Bohlen Und Halbach O,Cestari V,Delgado-García JM,Minichiello L<br>PubMed Article URL:http://dx.doi.org/10.1523/JNEUROSCI.1707-09.2009 |
| Not Applicable / Not Cited | 13-8600 was used in western blot to demonstrate that phosphatase of activated cells 1 phosphatase is a direct transcription target of E2F-1 and mediates apoptosis<br><br>Oncogene ( 2007; 26: 6526)<br>**"PAC1 is a direct transcription target of E2F-1 in apoptotic signaling."**<br>Author(s):Wu J,Jin YJ,Calaf GM,Huang WL,Yin Y<br>PubMed Article URL:http://dx.doi.org/10.1038/sj.onc.1210484 |
| Tag / Not Cited<br>Human / Not Cited | The Journal of biological chemistry ( 2003; 278: 52116)<br>**"Regulation of SPIN90 phosphorylation and interaction with Nck by ERK and cell adhesion."**<br>Author(s):Lim CS,Kim SH,Jung JG,Kim JK,Song WK<br>PubMed Article URL:http://dx.doi.org/10.1074/jbc.M310974200 |
| Rat / Not Cited | 13-8600 was used in western blot to test if an increase in fat cell size modulates signaling pathways by changing the relationships between the cell and the extracellular matrix.<br><br>International journal of obesity and related metabolic disorders : journal of the International Association for the Study of Obesity ( 2003; 27: 1178)<br>**"Adipocyte functions are modulated by cell size change: potential involvement of an integrin/ERK signalling pathway."**<br>Author(s):Farnier C,Krief S,Blache M,Diot-Dupuy F,Mory G,Ferre P,Bazin R<br>PubMed Article URL:http://dx.doi.org/10.1038/sj.ijo.0802399 |

### 1 Miscellaneous PubMed References

| Species / Dilution | Summary |
|---|---|
| Mouse / 1:3000 | 13-8600 was used in western blot to generate and characterize mice conditionally deleted for Ngf or Trka in the central nervous system.<br><br>The Journal of neuroscience : the official journal of the Society for Neuroscience ( 2012; 32: 14885)<br>**"Loss of NGF-TrkA signaling from the CNS is not sufficient to induce cognitive impairments in young adult or intermediate-aged mice."**<br>Author(s):Müller M,Triaca V,Besusso D,Costanzi M,Horn JM,Koudelka J,Geibel M,Cestari V,Minichiello L<br>PubMed Article URL:http://dx.doi.org/10.1523/JNEUROSCI.2849-12.2012 |



Thermo Fisher Scientific
3747 N. Meridian Road
Rockford, IL 61105 USA

thermofisher.com/contactus

## 1 Immunoprecipitation References

| Species / Dilution | Summary |
|---|---|
| Human / Not Cited | The Journal of biological chemistry ( 2003; 278: 31547)<br>**"Alpha 7 nicotinic acetylcholine receptors mediate beta-amyloid peptide-induced tau protein phosphorylation."**<br>Author(s):Wang HY,Li W,Benedetti NJ,Lee DH<br>PubMed Article URL:http://dx.doi.org/10.1074/jbc.M212532200 |



Thermo Fisher Scientific
3747 N. Meridian Road
Rockford, IL 61105 USA

thermofisher.com/contactus