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ERK1/ERK2 Polyclonal Antibody

Catalog Number 82380

Product data sheet

Details	
Size	200 µL
Host/Isotope	Rabbit / IgG
Class	Polyclonal
Type	Antibody
Immunogen	Synthetic peptide corresponding to a sequence in the C-terminus of rat p44 MAP Kinase
Conjugate	Unconjugated
Form	Liquid
Concentration	83 µg/mL
Purification	Antigen affinity chromatography
Storage buffer	0.01M HEPES, pH 7.5, with 0.15M NaCl, 100µg/mL BSA, 50% glycerol
Contains	no preservative
Storage Conditions	-20°C

Species Reactivity	
Species reactivity	Bovine, Hamster, Human, Mink, Mouse, Non-human primate, Pig, Rat, Yeast, Zebrafish
Published species	Pig, Human, Not Applicable

Tested Applications	Dilution *
Immunoprecipitation (IP)	1:50
Western Blot (WB)	1:1,000
Immunocytochemistry (ICC/IF)	1:100

Published Applications	
Western Blot (WB)	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.

Product specific information

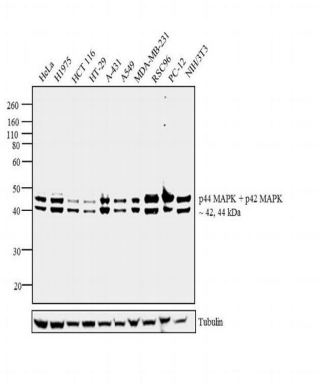
It is not recommended to aliquot this antibody.

Background/Target Information

ERK1 and ERK2 are widely expressed and are involved in the regulation of meiosis, mitosis, and postmitotic 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. When growth factors bind to the receptor tyrosine kinase, Ras interacts with Raf, the serine/threonine protein kinase and activates it as well. Once actived, Raf phosphorylates serine residue in 2 further kinases, MEK1/2, which in turn phosphorylates tyrosine/threonine in extracellular-signal regulated kinase (ERK) 1/2. Upon activation, the ERKs either phosphorylate a number of cytoplasmic targets or migrate to the nucleus, where they phosphorylate and activate a number of transcription factors such as c-Fos and Elk-1.

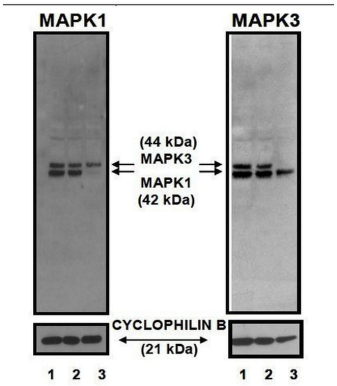
For Research Use Only. Not for use in diagnostic procedures. Not for resale without express authorization.

Product Images For ERK1/ERK2 Polyclonal Antibody



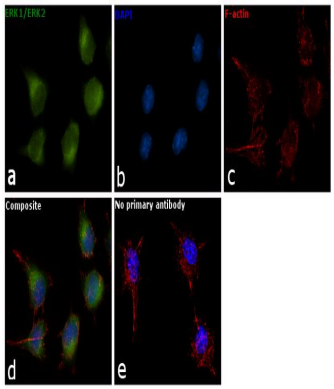
ERK1/ERK2 Antibody (82380) in WB

Western blot analysis was performed on whole cell extracts (30 µg lysate) of HeLa (Lane 1), H1975 (Lane 2), HCT 116 (Lane 3), HT-29 (Lane 4), A-431 (Lane 5), A549 (Lane 6), MDA-MB-231 (Lane 7), RSC96 (Lane 8), PC-12 (Lane 9) and NIH/3T3 (Lane 10). The blot was probed with Rabbit Anti-ERK1/ERK2 Polyclonal Antibody (Product # 82380, 1: 1000 dilution) and detected by chemiluminescence using Goat anti-Rabbit IgG (Heavy Chain) Superclonal™ Secondary Antibody, HRP conjugate (Product # A27036, 0.25 µg/mL, 1:4000 dilution). Two bands at 42, 44 kDa corresponding to ERK1/ERK2 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 with iBlot® 2 Dry Blotting System (Product # IB21001). 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).



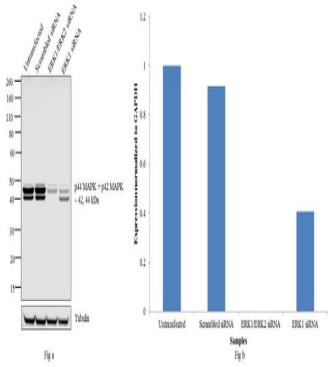
ERK1/ERK2 Antibody (82380)

Antibody specificity was demonstrated by siRNA mediated knockdown of the target protein. A549 cells were transfected with MAPK1 siRNA and decrease in signal intensity was observed in western blot application using Anti-ERK1/ERK2 Rabbit Polyclonal Antibody (Product # 82380). {KD}



ERK1/ERK2 Antibody (82380) in ICC/IF

Immunofluorescence analysis of ERK1/ERK2 was performed using 70% confluent log phase RSC96 cells. The cells were fixed with 4% paraformaldehyde for 10 minutes, permeabilized with 0.1% Triton™ X-100 for 15 minutes, and blocked with 1% BSA for 1 hour at room temperature. The cells were labeled with ERK1/ERK2 Rabbit Polyclonal Antibody (Product # 82380) at 1:100 dilution in 0.1% BSA, incubated at 4 degree Celsius overnight and then labeled with Goat anti-Rabbit IgG (Heavy Chain) Superclonal™ Secondary Antibody, Alexa Fluor® 488 conjugate (Product # A27034) 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.



ERK1/ERK2 Antibody (82380)

Antibody specificity was demonstrated by siRNA mediated knockdown of target protein. MCF7 cells were transfected with ERK1 and ERK1/ERK2 siRNA and decrease in signal was observed in Western Blot using Anti-ERK1/ERK2 Polyclonal Antibody (Product # 82380). {KD}

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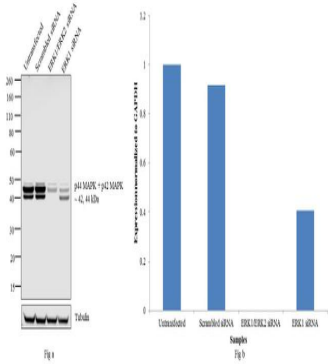
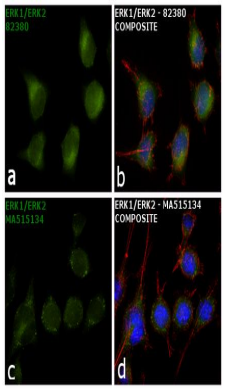


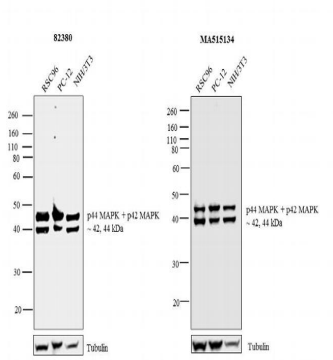
ERK1/ERK2 Antibody (82380) in WB

Knockdown of ERK1/ERK2 was achieved by transfecting MCF7 cells with ERK1/ERK2 specific validated siRNAs (Silencer® select Product # s11140, s11137 and s11138). Western blot analysis (Fig a) was performed using whole cell lysates from the ERK1 knockdown cells (lane 4), ERK1/ERK2 knock down cells (lane 3), non-specific scrambled siRNA transfected cells (lane 2) and untransfected cells (lane 1). The blots were probed with Anti-ERK1/ERK2 Rabbit Polyclonal Antibody (Product # 82380, 1:500 dilution) and Goat anti-Rabbit IgG (Heavy Chain) Superclonal™ Secondary Antibody, HRP conjugate (Product # A27036, 0.25 µg/mL, 1:4000 dilution). Densitometric analysis of this western blot is shown in histogram (Fig b). Loss of signal upon siRNA mediated knock down confirms that antibody is specific to ERK1/ERK2.



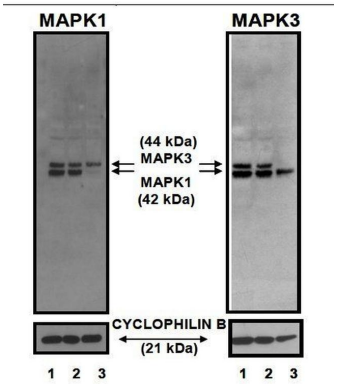
ERK1/ERK2 Antibody (82380)

Antibody specificity was demonstrated by showing that antibodies raised against the same target protein perform similarly. Immunofluorescence of ERK1/ERK2 using ERK1/ERK2 polyclonal antibody (Product # 82380) along with another ERK1/ERK2 monoclonal antibody (Product # MA5-15134) shows similar expression of ERK1/ERK2 in RSC96 cells. {IAV}



ERK1/ERK2 Antibody (82380)

Antibody specificity was demonstrated by showing that antibodies raised against the same target protein perform similarly. Western blot of ERK1/ERK2 using ERK1/ERK2 Polyclonal Antibody (Product # 82380), tested in parallel with ERK1/ERK2 Monoclonal Antibody (Product # MA5-15134), shows similar expression of ERK1/ERK2 in the cell lines tested. {IAV}



ERK1/ERK2 Antibody (82380) in WB

A549 cells were lysed 72 hours after transfection. Cells were transfected with Transfection Reagent alone (Lane 1), 100nM ON-TARGETplus siCONTROL Non-Targeting Pool (Lane 2), or 25nM ON-TARGETplus MAPK1 siRNA (Lane 3). Western blot data for Cyclophilin B is included as a control for equal protein loading.

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PubMed References For ERK1/ERK2 Polyclonal Antibody

1 Western Blot References

Species / Dilution	Summary
	82380 was used in Western Blotting to investigate the role of miR-130b in hepatic lipid homeostasis and lipoprotein export.
Human / Not Cited	American journal of physiology. Endocrinology and metabolism (2020; 318: E262) **"miR-130b is a potent stimulator of hepatic very-low-density lipoprotein assembly and secretion via marked induction of microsomal triglyceride transfer protein."** Author(s):Zhang J,Jazii FR,Haghighi MM,Alvares D,Liu L,Khosraviani N,Adeli K PubMed Article URL:http://dx.doi.org/10.1152/ajpendo.00276.2019

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