


Product datasheet

Anti-ERK5 (phospho T219 + Y221) antibody ab5686

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Overview

Product name	Anti-ERK5 (phospho T219 + Y221) antibody
Description	Rabbit polyclonal to ERK5 (phospho T219 + Y221)
Host species	Rabbit
Specificity	Some cross-reactivity is observed with endogenous ERK1 and 2 (44 and 42 kDa, respectively) due to the high levels of expression and activation of this protein typically observed with most cell types.
Tested applications	Suitable for: WB
Species reactivity	Reacts with: Human Predicted to work with: Mouse 
Immunogen	Synthetic peptide corresponding to ERK5 (phospho T219 + Y221).
Positive control	WB: HEK293 cells transiently co-transfected with plasmids expressing ERK5 kinase domain (ERK5kin) and constitutively activated MEK5 (MEK5D-D).
General notes	<p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer	pH: 7.30 Preservative: 0.05% Sodium azide Constituents: PBS, 50% Glycerol (glycerin, glycerine), 0.1% BSA
Purity	Immunogen affinity purified
Purification notes	The antibody has been negatively preadsorbed using a non-phosphopeptide corresponding to the site of phosphorylation to remove antibody that is reactive with non-phosphorylated ERK5. The

final product is generated by affinity chromatography using an ERK5-derived peptide that is phosphorylated at threonine 219 and tyrosine 221.

Clonality	Polyclonal
Isotype	IgG

Applications

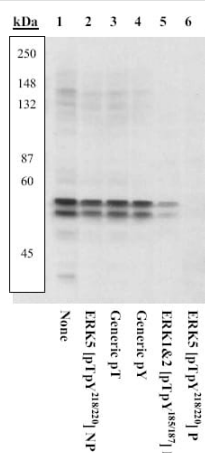
The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab5686 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB	★☆☆☆☆ (1)	1/1000. Predicted molecular weight: 88 kDa. Due to the low abundance and low levels of activation of endogenous ERK5, over-expression or immunoprecipitation may be required.

Target

Function	Plays a role in various cellular processes such as proliferation, differentiation and cell survival. The upstream activator of MAPK7 is the MAPK kinase MAP2K5. Upon activation, it translocates to the nucleus and phosphorylates various downstream targets including MEF2C. EGF activates MAPK7 through a Ras-independent and MAP2K5-dependent pathway. May have a role in muscle cell differentiation. May be important for endothelial function and maintenance of blood vessel integrity. MAP2K5 and MAPK7 interact specifically with one another and not with MEK1/ERK1 or MEK2/ERK2 pathways.
Tissue specificity	Expressed in many adult tissues. Abundant in heart, placenta, lung, kidney and skeletal muscle. Not detectable in liver.
Sequence similarities	Belongs to the protein kinase superfamily. CMGC Ser/Thr protein kinase family. MAP kinase subfamily. Contains 1 protein kinase domain.
Domain	The second proline-rich region may interact with actin targeting the kinase to a specific location in the cell. The TXY motif contains the threonine and tyrosine residues whose phosphorylation activates the MAP kinases.
Post-translational modifications	Dually phosphorylated on Thr-219 and Tyr-221, which activates the enzyme (By similarity). Autophosphorylated in vitro on threonine and tyrosine residues when the C-terminal part of the kinase, which could have a regulatory role, is absent.
Cellular localization	Cytoplasm. Nucleus. Translocates to the nucleus upon activation.

Images



Western blot - Anti-ERK5 (phospho T219 + Y221)
antibody (ab5686)

Peptide Competition:

Extracts prepared from HEK293 cells transiently transfected with plasmids expressing ERK5 kinase domain (ERK5kin) and constitutively activated MEK5D-D were resolved by SDS-PAGE on a 10% polyacrylamide gel and transferred to PVDF. Membranes were blocked with a 5% BSA TBST buffer overnight at 4°C, then were incubated with the ab5686 antibody for two hours at room temperature in a 3% BSA TBST buffer, following prior incubation with: no peptide (1), the non-phosphopeptide corresponding to the immunogen (2), a generic phosphothreonine-containing peptide (3), a generic phosphotyrosine-containing peptide (4), the phosphopeptide derived from the corresponding region of ERK1&2 (5), or, the phosphopeptide immunogen (6). After washing, membranes were incubated with goat F(ab')₂ anti-rabbit IgG alkaline phosphatase conjugate and bands were detected using the Tropix WesternStar™ detection method. The data show that while there is some cross-reactivity with ERK1&

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