

#3372 Store at -20C

Erk5 Antibody



Cell Signaling
TECHNOLOGY®

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB, IP	H M R Mk	Endogenous	115	Rabbit	#Q13164	5598

Product Usage Information

Application

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity / Sensitivity

Erk5 Antibody detects endogenous levels of total Erk5 protein. This antibody does not cross-react with Erk1 or Erk2.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to human Erk5. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Erk5 (Mitogen-activated protein kinase 7, Big mitogen-activated protein kinase 1) is a member of the MAPK superfamily implicated in the regulation numerous cellular processes including proliferation, differentiation, and survival (1-4). Like other MAPK family members, Erk5 contains a canonical activation loop TEY motif (Thr218/Tyr220) that is specifically phosphorylated by MAP2K5 (MEK5) in a growth-factor-dependent, Ras-independent mechanism (5-7). For example, EGF stimulation promotes Erk5 phosphorylation that induces its translocation to the nucleus where it phosphorylates MEF2C and other transcriptional targets (5,6). Erk5 is also activated in response to granulocyte colony-stimulating factor (G-CSF) in hematopoietic progenitor cells where it promotes survival and proliferation (7). In neuronal cells, Erk5 is required for NGF-induced neurite outgrowth, neuronal homeostasis, and survival (8,9). Erk5 is thought to play a role in blood vessel integrity via maintenance of endothelial cell migration and barrier function (10-12). Although broadly expressed, research studies have shown that mice lacking *erk5* display numerous cardiac defects, suggesting Erk5 plays a critical role in vascular development and homeostasis (1,2).

Background References

1. Zhou, G. et al. (1995) *J Biol Chem* 270, 12665-9.
2. Hayashi, M. and Lee, J.D. (2004) *J Mol Med* 82, 800-8.
3. Wang, X. and Tournier, C. (2006) *Cell Signal* 18, 753-60.
4. Nishimoto, S. and Nishida, E. (2006) *EMBO Rep* 7, 782-6.
5. Kato, Y. et al. (1998) *Nature* 395, 713-6.
6. Kato, Y. et al. (1997) *EMBO J* 16, 7054-66.
7. Dong, F. et al. (2001) *J Biol Chem* 276, 10811-6.
8. Obara, Y. et al. (2009) *J Biol Chem* 284, 23564-73.
9. Finegan, K.G. et al. (2009) *Cell Death Differ* 16, 674-83.
10. Spiering, D. et al. (2009) *J Biol Chem* 284, 24972-80.
11. Sawhney, R.S. et al. (2009) *J Cell Physiol* 219, 152-61.
12. Zhao, Z. et al. (2009) *Mol Cell Biochem* 322, 171-8.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.
All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.