

#3519 Store at -20°C

Phospho-Keratin 17 (Ser44) Antibody


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

Applications: WB, FC-FP	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 49	Source: Rabbit	UniProt ID: #Q04695	Entrez-Gene Id: 3872
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Product Usage Information	Application Western Blotting Flow Cytometry (Fixed/Permeabilized)	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	Phospho-Keratin 17 (Ser44) Antibody detects endogenous levels of keratin 17 only when phosphorylated on Ser44.	
Species predicted to react based on 100% sequence homology:	Monkey	
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to amino acids surrounding Ser44 of human keratin 17. Antibodies are purified by Protein A and peptide affinity chromatography.	
Background	<p>Keratins (cytokeratins) are intermediate filament proteins that are mainly expressed in epithelial cells. Keratin heterodimers composed of an acidic keratin (or type I keratin, keratins 9 to 23) and a basic keratin (or type II keratin, keratins 1 to 8) assemble to form filaments (1,2). Keratin isoforms demonstrate tissue- and differentiation-specific profiles that make them useful as research biomarkers (1). Research studies have shown that mutations in keratin genes are associated with skin disorders, liver and pancreatic diseases, and inflammatory intestinal diseases (3-6).</p> <p>Keratin 17 has been shown to be involved in wound healing, a process that requires rapid remodelling of the cytoskeleton (7). Another process that requires cytoskeletal remodelling is cell growth. It has been shown that in keratin 17 null keratinocytes that signaling through the Akt/mTOR pathway fails to produce an increase in translation, cell size or growth, and that this defect is associated with abnormal localization of 14-3-3σ. Since in normal cells, 14-3-3σ associates with keratin 17, a model has been proposed whereby signaling through Akt/mTOR produces a sequestration of 14-3-3σ in the cytosol via its interaction with keratin 17, and this sequestration by keratin 17 is required for translation and cell growth. Phosphorylation of keratin 17 on Ser 44 is thought to provide a docking site for 14-3-3σ binding (8).</p>	
Background References	<ol style="list-style-type: none"> 1. Moll, R. et al. (1982) <i>Cell</i> 31, 11-24. 2. Chang, L. and Goldman, R.D. (2004) <i>Nat Rev Mol Cell Biol</i> 5, 601-13. 3. Ramaekers, F.C. and Bosman, F.T. (2004) <i>J Pathol</i> 204, 351-4. 4. Lane, E.B. and McLean, W.H. (2004) <i>J Pathol</i> 204, 355-66. 5. Zatloukal, K. et al. (2004) <i>J Pathol</i> 204, 367-76. 6. Owens, D.W. and Lane, E.B. (2004) <i>J Pathol</i> 204, 377-85. 7. Paladini, R.D. et al. (1996) <i>J Cell Biol</i> 132, 381-97. 8. Kim, S. et al. (2006) <i>Nature</i> 441, 362-5. 	

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 FC-FP: Flow Cytometry (Fixed/Permeabilized)

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

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