Store at -20°C

#12509

Keratin 17 (D12E5) XP® Rabbit mAb

www.cellsignal.com

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Small 100 µl (10 western blots)
Petite 40 µl (4 western blots)

New 05/14

Entrez-Gene ID #3872
UniProt ID #Q04695

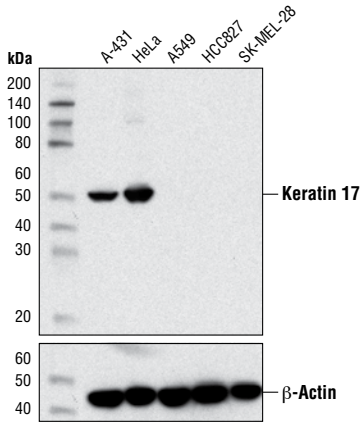
For Research Use Only. Not For Use In Diagnostic Procedures.

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IF-IC, F Endogenous	H, M, R	48 kDa	Rabbit IgG**

Background: 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 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).

Keratin 17 is involved in wound healing and cell growth, two processes that require rapid cytoskeletal remodeling (7). Keratinocytes deficient in keratin 17 exhibit abnormal Akt/mTOR signaling and fail to produce an increase in translation, cell size, or growth; these cells also exhibit abnormal 14-3-3σ localization. As 14-3-3σ typically associates with keratin 17, these results imply that Akt/mTOR signaling results in sequestration of 14-3-3σ with keratin 17 in the cytosol, which is required for translation and cell growth. Phosphorylation of keratin 17 on Ser44 may provide a docking site for 14-3-3σ binding (8).

Specificity/Sensitivity: Keratin 17 (D12E5) XP® Rabbit mAb recognizes endogenous levels of total keratin 17 protein.



Western blot analysis of extracts from various cell lines using Keratin 17 (D12E5) XP® Rabbit mAb (upper) and β-Actin (D6A8) Rabbit mAb #8457 (lower).

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human keratin 17 protein.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibody.*

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

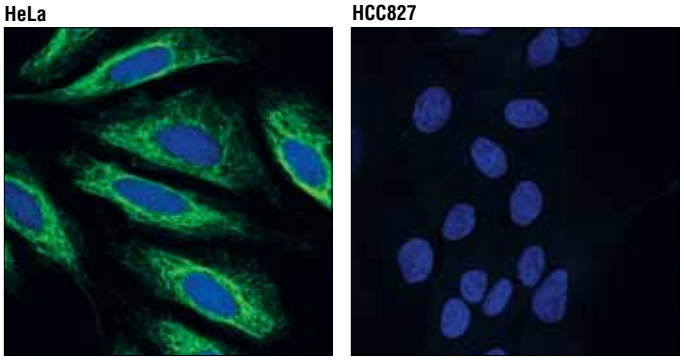
Western blotting	1:1000
Immunofluorescence (IF-IC)	1:200
Flow Cytometry	1:200

For product specific protocols please see the web page for this product at www.cellsignal.com.

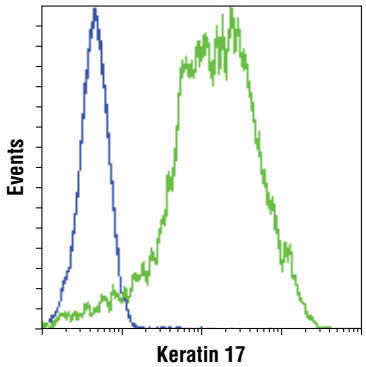
Please visit www.cellsignal.com for a complete listing of recommended complementary products.

Background References:

(1) Moll, R. et al. (1982) *Cell* 31, 11-24.
(2) Chang, L. and Goldman, R.D. (2004) *Nat Rev Mol Cell Biol* 5, 601-13.
(3) Ramaekers, F.C. and Bosman, F.T. (2004) *J Pathol* 204, 351-4.
(4) Lane, E.B. and McLean, W.H. (2004) *J Pathol* 204, 355-66.
(5) Zatloukal, K. et al. (2004) *J Pathol* 204, 367-76.
(6) Owens, D.W. and Lane, E.B. (2004) *J Pathol* 204, 377-85.
(7) Paladini, R.D. et al. (1996) *J Cell Biol* 132, 381-97.
(8) Kim, S. et al. (2006) *Nature* 441, 362-5.



Confocal immunofluorescent analysis of HeLa (positive, left), and HCC827 (negative, right) cells using Keratin 17 (D12E5) XP® Rabbit mAb (green). Blue pseudocolor= DRAQ5® #4084 (fluorescent DNA dye).



Flow cytometric analysis of SK-MEL-28 (blue) and HeLa (green) cells using Keratin 17 (D12E5) XP® Rabbit mAb. Anti-rabbit IgG (H+L), F(ab')$_2$ Fragment (Alexa Fluor® 647 Conjugate) #4414 was used as a secondary antibody.

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

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Cell Signaling TECHNOLOGY®

Applications: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide **Species Cross-Reactivity:** **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **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 **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.