

# Keratin 17/19 (D4G2) XP® Rabbit mAb



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

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

**Support** ■ 877-678-TECH (8324)  
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New 07/13

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

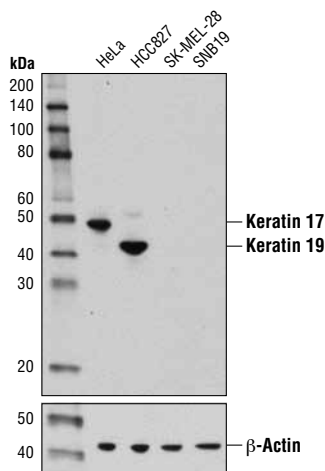
Applications W, IHC-P, IF-IC Endogenous	Species Cross-Reactivity* H, M, R	Molecular Wt. 48/41 kDa	Isotype Rabbit IgG**
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**Background:** Keratins (cytokeratins) are intermediate filament proteins that are mainly expressed in epithelial cells. Keratin 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).

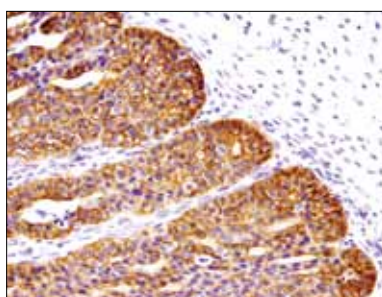
Keratin 17 is involved in wound healing and cell growth, two processes that require rapid cytoskeletal remodeling (7). Keratinocytes deficient in keratin 17 exhibit abnormal Akt/mTOR signaling and fail to produce an increase in translation, cell size, or growth; these cells also exhibit abnormal 14-3-3 $\sigma$  localization. As 14-3-3 $\sigma$  typically associates with keratin 17, these results imply that Akt/mTOR signaling results in sequestration of 14-3-3 $\sigma$  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 14-3-3 $\sigma$  binding (8).

**Specificity/Sensitivity:** Keratin 17/19 (D4G2) XP® Rabbit mAb detects endogenous levels of keratin 17 and keratin 19 proteins.

**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to amino acids near the amino terminus of human keratin 17 and human keratin 19 proteins.



Western blot analysis of extracts from various cell lines using Keratin 17/19 (D4G2) XP® Rabbit mAb (upper) or  $\beta$ -Actin (D6A8) Rabbit mAb #8457 (lower).



Immunohistochemical analysis of paraffin-embedded human ovarian carcinoma using Keratin 17/19 (D4G2) XP® Rabbit mAb.

**Entrez Gene ID** #3872, 3880  
**UniProt ID** #Q04695, P08727

**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  
 Immunohistochemistry (Paraffin) 1:1200†

Unmasking buffer: Citrate

Antibody diluent: SignalStain® Antibody Diluent #8112

Detection reagent: SignalStain® Boost (HRP, Rabbit) #8114

†Optimal IHC dilutions determined using SignalStain® Boost IHC Detection Reagent.

Immunofluorescence (IF-IC) 1:50

IF Protocol: Methanol Fixation required

**For product specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).**

**Please visit [www.cellsignal.com](http://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.

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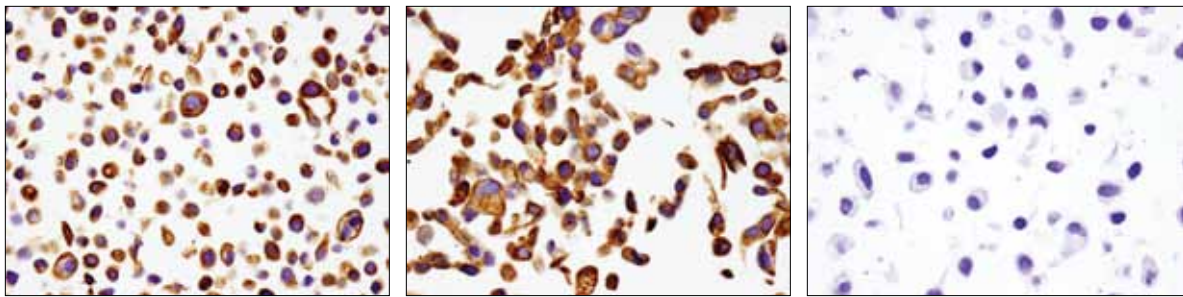
DRAQ5® is a registered trademark of Biostatus Limited.

**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.**

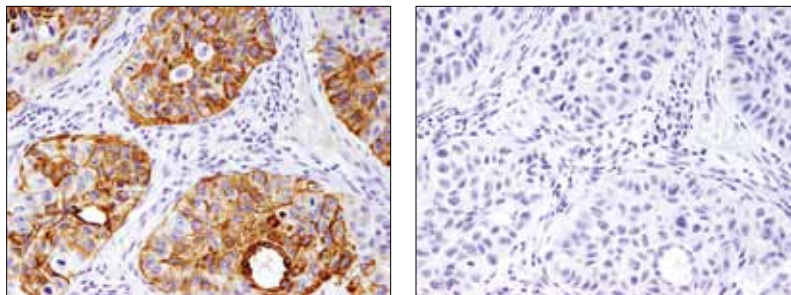
**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide

**Species Cross-Reactivity Key:** 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.

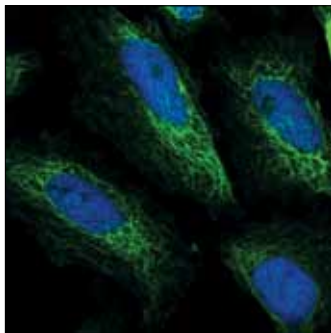


Immunohistochemical analysis of paraffin-embedded keratin 17 positive HeLa cells (left), keratin 19 positive HCC827 cells (middle), and keratin 17/19 negative SK-MEL-28 cells (right), using Keratin 17/19 (D4G2) XP<sup>®</sup> Rabbit mAb.

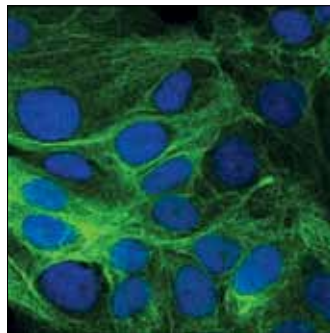


Immunohistochemical analysis of paraffin-embedded human lung squamous cell carcinoma using Keratin 17/19 (D4G2) XP<sup>®</sup> Rabbit mAb in the presence of control peptide (left) or antigen-specific peptide (right).

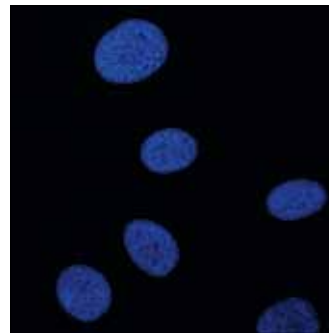
**HeLa**



**HCC827**



**SK-MEL-28**



Confocal immunofluorescent analysis of keratin 17 positive HeLa (left), keratin 19 positive HCC827 (middle), and keratin 17/19 negative SK-MEL-28 cells (right) cells, using Keratin 17/19 (D4G2) XP<sup>®</sup> Rabbit mAb (green). Blue pseudocolor= DRAQ5<sup>®</sup> #4084 (fluorescent DNA dye).