

Store at  
-20°C

# K-Ras Antibody

#53270

Cell Signaling  
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orders@cellsignal.comEntrez-Gene ID #3845  
UniProt ID #P01116

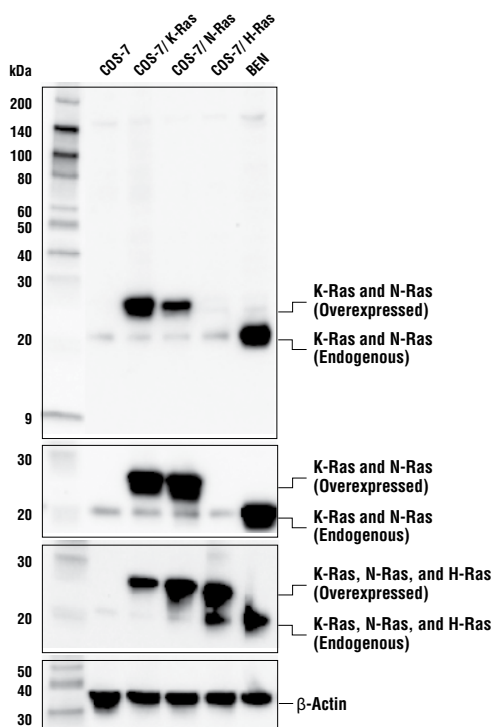
New 07/19

**For Research Use Only. Not For Use In Diagnostic Procedures.****Applications**  
W, IF-IC  
Endogenous**Species Cross-Reactivity\***  
H, M, R, Mk**Molecular Wt.**  
21 kDa**Source**  
Rabbit\*\*

**Background:** The 21 kDa guanine-nucleotide binding proteins (K-Ras, H-Ras, and N-Ras) cycle between active (GTP-bound) and inactive (GDP-bound) forms (1). Receptor tyrosine kinases and G protein-coupled receptors activate Ras, which then stimulates the Raf-MEK-MAPK pathway (2-4). GTPase-activating proteins (GAP) normally facilitate the inactivation of Ras. However, research studies have shown that in 30% of human tumors, point mutations in Ras prevent the GAP-mediated inhibition of this pathway (5). The most common oncogenic Ras mutation found in tumors is Gly12 to Asp12 (G12D), which prevents Ras inactivation, possibly by increasing the overall rigidity of the protein (5,6).

**Specificity/Sensitivity:** K-Ras Antibody recognizes endogenous levels of total K-Ras protein. This antibody cross-reacts with N-Ras in a K-Ras preferred manner, but does not cross-react with H-Ras or R-Ras protein.

**Source/Purification:** Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding V125 of human K-Ras protein. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from COS-7 cells untransfected (-) or transfected with a construct expressing K-Ras, N-Ras, or H-Ras protein (+), and extracts from BEN cells using K-Ras Antibody (upper), Ras (D2C1) Rabbit mAb #8955 (upper, middle) and Ras (27H5) Rabbit mAb #3339 (lower, middle), and β-Actin (D6A8) Rabbit mAb #8457 (lower).

**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.

\*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)	1:1600-1:3200
Fixative:	4% Formaldehyde
Permeabilization:	0.3% Triton X-100

For product specific protocols and a complete listing of recommended companion products please see the product web page at [www.cellsignal.com](http://www.cellsignal.com).

**Background References:**

- (1) Boguski, M.S. and McCormick, F. (1993) *Nature* 366, 643-54.
- (2) Avruch, J. et al. (1994) *Trends Biochem Sci* 19, 279-83.
- (3) Buday, L. and Downward, J. (1993) *Cell* 73, 611-20.
- (4) Huang, D.C. et al. (1993) *Mol Cell Biol* 13, 2420-31.
- (5) Bos, J.L. (1989) *Cancer Res* 49, 4682-9.
- (6) Ma, J. and Karplus, M. (1997) *J Mol Biol* 274, 114-31.

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**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.**

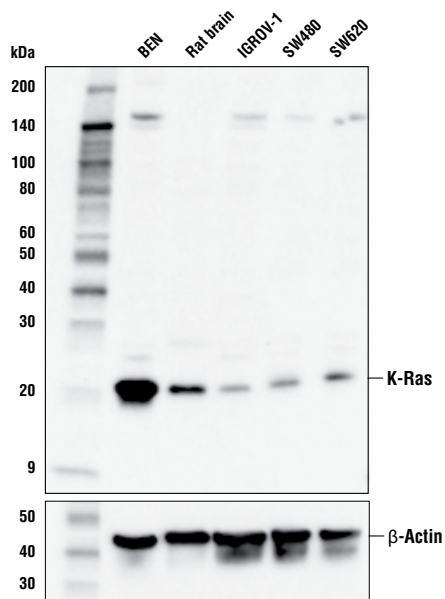
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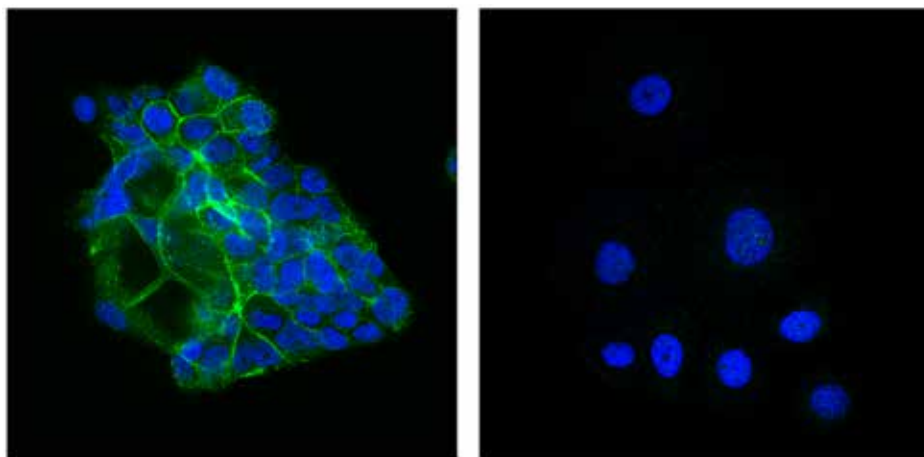
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Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide Species Cross-Reactivity: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken 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.



Western blot analysis of extracts from various cell lines and rat brain using K-Ras Antibody (upper) and  $\beta$ -Actin (D6A8) Rabbit mAb #8457 (lower).



Confocal immunofluorescent analysis of BEN cells (left, positive) and MDA-MB-468 cells (right, low-expressing) using K-Ras Antibody (green). Samples were mounted in ProLong<sup>®</sup> Gold Antifade Reagent with DAPI #8961 (blue).

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