#8507 Store at -20°C

KIF3A (D7G3) Rabbit mAb

Cell Signaling TECHNOLOGY®

✓ 100 µl
(10 western blots)

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New 03/12

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

Entrez-Gene ID #11127
Swiss-Prot Acc. #Q9Y496

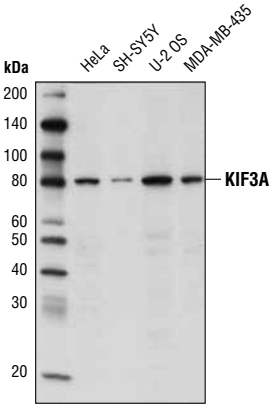
Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP	H, M, R, Mk	80 kDa	Rabbit IgG**
Endogenous			

Background: Kinesin superfamily proteins (KIFs) are molecular motors that drive directional, microtubule-dependent intracellular transport of membrane-bound organelles and other macromolecules (e.g. proteins, nucleic acids). The intracellular transport functions of KIFs are fundamentally important for a variety of cellular functions, including mitotic and meiotic division, motility/migration, hormone and neurotransmitter release, and differentiation (1-4). Researchers have found that disruptions to KIF-mediated intracellular transport have been linked to a variety of pathologies, ranging from tumorigenesis to defects in higher order brain function, such as learning and memory (4-6).

Kinesin superfamily protein 3A (KIF3A) is a central component of the kinesin-2 protein complex (7). KIF3A and its paralog KIF3B bind to form a heterodimeric motor protein with ATP-dependent, plus-end-directed microtubule sliding activity (8). The tail domain of this heterodimer binds to kinesin-associated protein 3 (KAP3), which facilitates binding of the KIF3A/3B motor protein to its cargo (7,8). Recent studies in a variety of model organisms have demonstrated a critical role for kinesin-family proteins, including KIF3A, in the formation and function of cilia (9). Notably, KIF3A was shown to mediate cilia-dependent protein-protein interactions that function to transduce canonical Hedgehog signaling (10).

Specificity/Sensitivity: KIF3A (D7G3) Rabbit mAb recognizes endogenous levels of total KIF3A protein.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human KIF3A protein.



Western blot analysis of extracts from various cell lines using KIF3A (D7G3) Rabbit mAb.

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
Immunoprecipitation	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) Hirokawa, N. et al. (2009) *Nat Rev Mol Cell Biol* 10, 682-96.
(2) Yu, Y. and Feng, Y.M. (2010) *Cancer* 116, 5150-60.
(3) Park, J.J. et al. (2008) *Mol Endocrinol* 22, 989-1005.
(4) Hirokawa, N. et al. (2010) *Neuron* 68, 610-38.
(5) Yoshimura, Y. et al. (2010) *Mol Cell Biol* 30, 2206-19.
(6) Hirokawa, N. and Noda, Y. (2008) *Physiol Rev* 88, 1089-118.
(7) Haraguchi, K. et al. (2006) *J Biol Chem* 281, 4094-9.
(8) Yamazaki, H. et al. (1995) *J Cell Biol* 130, 1387-99.
(9) Zhao, C. et al. (2012) *Proc Natl Acad Sci U S A* 109, 2388-93.
(10) Humke, E.W. et al. (2010) *Genes Dev* 24, 670-82.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 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.

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