Revision 1

#13817 Store at -20C

KIF3B Antibody

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H M R Mk	Endogenous	85	Rabbit	#O15066	9371

Product Usage Information

Application	Dilution
Western Blotting	1:1000

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

KIF3B Antibody recognizes endogenous levels of total KIF3B protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human KIF3B protein. Antibodies are purified by protein A and peptide affinity chromatography.

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). Disruptions to KIF-mediated intracellular transport have been linked with a variety of pathologies, ranging from tumorigenesis to defects in higher order brain function such as learning and memory (4-6).
KIF3B binds the related kinesin family member 3A (KIF3A) and kinesin-associated protein 3 (KAP3) to form kinesin-2, an ATP-dependent heterotrimeric motor protein complex that uses plus-end-directed microtubule sliding activity to drive anterograde organelle transport (7). Studies in the zebrafish model suggest that KIF3B is required for the development and function of cilia in multiple cell types (8). Research studies show that KIF3B protein is upregulated in human hepatocellular carcinoma and that its expression is associated with poor prognosis in this cancer type (9).

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. Yamazaki, H. et al. (1995) *J Cell Biol* 130, 1387-99.
8. Zhao, C. et al. (2012) *Proc Natl Acad Sci U S A* 109, 2388-93.
9. Huang, X. et al. (2014) *Dig Dis Sci* 59, 795-806.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting

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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