Revision 1

Store at -20C

#4387

DDX5 Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk	Endogenous	70	Rabbit	#P17844	1655

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

DDX5 Antibody detects endogenous levels of total DDX5 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly487 of human DDX5. Antibodies are purified by protein A and peptide affinity chromatography.

Background

DDX5 (DEAD box polypeptide 5), also known as p68, was first identified as a 68 kDa nuclear protein with similarity to translation initiation factor eIF-4A (1). DDX5 is a member of the DEAD box family of putative RNA helicases, defined by the presence of a conserved DEAD (Asp-Glu-Ala-Asp) motif that appears to function primarily in the regulation of RNA secondary structure. DDX5 exhibits ATP-dependent RNA helicase activity (2) and has been identified as a critical subunit of the DROSHA complex that regulates miRNA and rRNA processing (3,4). DDX may also regulate mRNA splicing (5) and has been shown to interact with HDAC1, where it can regulate promoter-specific transcription (6). DDX5 interacts with a diverse group of proteins, including Runx2, p53, Smad3, CBP, and p300 (7-10), suggesting an important role for DDX5 in a multitude of developmental processes. Notably, DDX5 may be involved in growth factor-induced epithelial mesechymal transition (EMT). Phosphorylation of DDX5 at Tyr593 following PDGF stimulation was shown to displace Axin from β-catenin; this prevented phosphorylation of β-catenin by GSK-3β, leading to Wnt-independent nuclear translocation of β-catenin (11) and increased transcription of c-Myc, cyclin D1, and Snai1 (12,13).

Background References

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4. Davis, B.N. et al. (2008) *Nature* 454, 56-61.
5. Camats, M. et al. (2008) *PLoS ONE* 3, e2926.
6. Wilson, B.J. et al. (2004) *BMC Mol Biol* 5, 11.
7. Jensen, E.D. et al. (2008) *J Cell Biochem* 103, 1438-51.
8. Bates, G.J. et al. (2005) *EMBO J* 24, 543-53.
9. Warner, D.R. et al. (2004) *Biochem Biophys Res Commun* 324, 70-6.
10. Rossow, K.L. and Janknecht, R. (2003) *Oncogene* 22, 151-6.
11. Yang, L. et al. (2006) *Cell* 127, 139-55.
12. Yang, L. et al. (2007) *J Biol Chem* 282, 16811-9.
13. Carter, C.L. et al. (2010) *Oncogene* 29, 5427-36.

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

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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