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DDX3 Antibody

Store at -20C
#2635

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 Hm Mk	Endogenous	75	Rabbit	#O00571	1654

Product Usage Information

Application

Western Blotting

Dilution

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

DDX3 Antibody detects endogenous levels of total DDX3 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the amino-terminal sequence of human DDX3. Antibodies are purified using protein A and peptide affinity chromatography.

Background

The DEAD box family of RNA helicases is characterized in part by a common D-E-A-D amino acid motif. The family is composed of a growing number of proteins found in a wide range of organisms from bacteria to mammals. DEAD helicases have distinct biological functions in RNA metabolism and ribonucleoprotein (RNP) processing (reviewed in 1,2). DDX3 is a DEAD box family RNA helicase with diverse cellular functions. DDX3 is required for nuclear export of HIV-1 viral transcripts, possibly in a complex with the viral Rev protein and host cofactor CRM1 (3). DDX3 is required for hepatitis C virus (HCV) RNA replication (4) and its expression is downregulated in hepatitis B virus (HBV) associated hepatocellular carcinoma (HCC) (5). Recent evidence suggests that DDX3 functions as a tumor suppressor protein. Its expression inhibits tumor cell colony formation and increases expression of the cdk inhibitor p21 Waf1/Cip1. Low DDX3 expression has been shown in HCC (5,6), and aberrant subcellular localization occurs in many squamous cell carcinomas (6). Reduced DDX3 expression in cultured cells causes a diminished dependence on serum for cell proliferation and changes in cyclin D1 and p21 Waf1/Cip1 expression (5). DDX3 is phosphorylated at Thr204 and Thr323 by the mitotic cyclin dependent kinase, cyclin B/cdc2. This phosphorylation is thought to cause a loss of DDX3 function and a concomitant repression of ribosome biogenesis and translation in mitosis (7).

Background References

1. Rocak, S. and Linder, P. (2004) *Nat Rev Mol Cell Biol* 5, 232-41.
2. Linder, P. (2006) *Nucleic Acids Res* 34, 4168-80.
3. Yedavalli, V.S. et al. (2004) *Cell* 119, 381-92.
4. Ariumi, Y. et al. (2007) *J Virol* 81, 13922-6.
5. Chang, P.C. et al. (2006) *Oncogene* 25, 1991-2003.
6. Chao, C.H. et al. (2006) *Cancer Res* 66, 6579-88.
7. Sekiguchi, T. et al. (2007) *Biochem Biophys Res Commun* 356, 668-73.

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 **Hm:** Hamster **Mk:** Monkey

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