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YTHDC1 (6W12) Rabbit Monoclonal Antibody

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Catalog # AP93778

Product Information

Application	WB, IHC-P, IF
Primary Accession	Q96MU7
Reactivity	Human, Mouse, Rat
Clonality	Monoclonal
Calculated MW	84700

Additional Information

Gene ID	91746
Other Names	YTH domain-containing protein 1, Splicing factor YT521, YT521-B, YTHDC1 (HGNC:30626)
Dilution	WB~~1:1000 IHC-P~~N/A IF~~1:50~200
Storage Conditions	-20℃

Protein Information

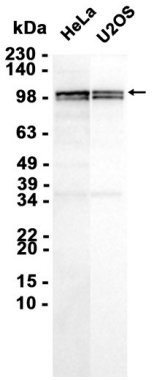
Name	YTHDC1 (HGNC:30626)
Function	Regulator of alternative splicing that specifically recognizes and binds N6-methyladenosine (m6A)-containing RNAs (PubMed:25242552, PubMed:26318451, PubMed:26876937, PubMed:28984244). M6A is a modification present at internal sites of mRNAs and some non- coding RNAs and plays a role in the efficiency of mRNA splicing, processing and stability (PubMed:25242552, PubMed:26318451). Acts as a key regulator of exon-inclusion or exon-skipping during alternative splicing via interaction with mRNA splicing factors SRSF3 and SRSF10 (PubMed:26876937). Specifically binds m6A-containing mRNAs and promotes recruitment of SRSF3 to its mRNA-binding elements adjacent to m6A sites, leading to exon-inclusion during alternative splicing (PubMed:26876937). In contrast, interaction with SRSF3 prevents interaction with SRSF10, a splicing factor that promotes exon skipping: this prevents SRSF10 from binding to its mRNA-binding sites close to m6A-containing regions, leading to inhibit exon skipping during alternative splicing (PubMed:26876937). May also regulate alternative splice site selection (PubMed:20167602). Also involved in nuclear export of m6A-containing mRNAs via interaction with SRSF3: interaction with SRSF3 facilitates m6A-containing mRNA-binding to both SRSF3 and NXF1, promoting mRNA nuclear export (PubMed:28984244). Involved in S- adenosyl-L-methionine homeostasis by regulating expression of MAT2A transcripts, probably by binding m6A-containing MAT2A mRNAs (By similarity). Also recognizes and

	binds m6A on other RNA molecules (PubMed:27602518). Involved in random X inactivation mediated by Xist RNA: recognizes and binds m6A-containing Xist and promotes transcription repression activity of Xist (PubMed:27602518). Also recognizes and binds m6A-containing single-stranded DNA (PubMed:32663306). Involved in germline development: required for spermatogonial development in males and oocyte growth and maturation in females, probably via its role in alternative splicing (By similarity).
Cellular Location	Nucleus. Nucleus speckle. Note=Localizes to a novel subnuclear structure, the YT bodies. {ECO:0000250|UniProtKB:Q9QY02}

Background

Enables N6-methyladenosine-containing RNA binding activity. Involved in mRNA export from nucleus; mRNA splice site selection; and regulation of gene expression. Located in nuclear speck and plasma membrane. [provided by Alliance of Genome Resources, Apr 2022]

Images



Western blot analysis of extracts from HeLa,U2OS cells using AP93778 at 1:1000.