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YTHDF1 Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP50608

Product Information

Application	WB
Primary Accession	Q9BYJ9
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	polyclonal
Calculated MW	60874

Additional Information

Gene ID	54915
Other Names	YTH domain-containing family protein 1, Dermatomyositis associated with cancer putative autoantigen 1, DACA-1, YTHDF1, C20orf21
Dilution	WB~~ 1:1000
Format	Rabbit IgG in phosphate buffered saline (without Mg2+ and Ca2+), pH 7.4, 150mM NaCl, 0.09% (W/V) sodium azide and 50% glycerol.
Storage Conditions	-20℃

Protein Information

Name	YTHDF1 {ECO:0000303|Ref.4, ECO:0000312|HGNC:HGNC:15867}
Function	Specifically recognizes and binds N6-methyladenosine (m6A)- containing mRNAs, and regulates their stability (PubMed:24284625, PubMed:26318451, PubMed:32492408, PubMed:39900921). M6A is a modification present at internal sites of mRNAs and some non-coding RNAs and plays a role in mRNA stability and processing (PubMed:24284625, PubMed:32492408). Acts as a regulator of mRNA stability by promoting degradation of m6A-containing mRNAs via interaction with the CCR4-NOT complex (PubMed:32492408). The YTHDF paralogs (YTHDF1, YTHDF2 and YTHDF3) shares m6A-containing mRNAs targets and act redundantly to mediate mRNA degradation and cellular differentiation (PubMed:28106072, PubMed:32492408). Required to facilitate learning and memory formation in the hippocampus by binding to m6A-containing neuronal mRNAs (By similarity). Acts as a regulator of axon guidance by binding to m6A-containing ROBO3 transcripts (By similarity). Acts as a negative regulator of antigen cross-presentation in myeloid dendritic cells (By similarity). In the context of tumorigenesis, negative regulation of antigen cross-presentation limits the anti-tumor response by reducing efficiency of tumor-antigen cross- presentation (By similarity). Promotes

formation of phase-separated membraneless compartments, such as P-bodies or stress granules, by undergoing liquid-liquid phase separation upon binding to mRNAs containing multiple m6A-modified residues: polymethylated mRNAs act as a multivalent scaffold for the binding of YTHDF proteins, juxtaposing their disordered regions and thereby leading to phase separation (PubMed:31292544, PubMed:31388144, PubMed:32451507). The resulting mRNA-YTHDF complexes then partition into different endogenous phase- separated membraneless compartments, such as P-bodies, stress granules or neuronal RNA granules (PubMed:31292544).

Cellular Location Cytoplasm. Cytoplasm, P-body. Cytoplasm, Stress granule

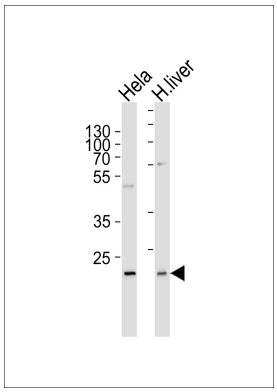
Background

Specifically recognizes and binds N6-methyladenosine (m6A)-containing RNAs. 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.

References

Ota T.,et al.Nat. Genet. 36:40-45(2004).
Deloukas P.,et al.Nature 414:865-871(2001).
Onouchi H.,et al.Submitted (FEB-2001) to the EMBL/GenBank/DDBJ databases.
Bechtel S.,et al.BMC Genomics 8:399-399(2007).
Daub H.,et al.Mol. Cell 31:438-448(2008).

Images



Western blot analysis of lysates from Hela cell line and human liver tissue lysate(from left to right),using YTHDF1 Antibody(AP50608). AP50608 was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody.Lysates at 35ug per lane.