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YTHDF2 Antibody - C-terminal region

Rabbit Polyclonal Antibody
Catalog # AI15546

Product Information

Application	WB
Primary Accession	Q9Y5A9
Other Accession	NM_016258, NP_057342
Reactivity	Human, Mouse, Rat, Rabbit, Dog, Horse, Bovine
Predicted	Human, Mouse, Rat, Rabbit, Dog, Horse, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	62334

Additional Information

Gene ID	51441
Alias Symbol	HGRG8, NY-REN-2
Other Names	YTH domain-containing family protein 2, CLL-associated antigen KW-14, High-glucose-regulated protein 8, Renal carcinoma antigen NY-REN-2, YTHDF2, HGRG8
Format	Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.
Reconstitution & Storage	Add 50 ul of distilled water. Final anti-YTHDF2 antibody concentration is 1 mg/ml in PBS buffer with 2% sucrose. For longer periods of storage, store at 20°C. Avoid repeat freeze-thaw cycles.
Precautions	YTHDF2 Antibody - C-terminal region is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	YTHDF2 {ECO:0000303|PubMed:24284625, ECO:0000312|HGNC:HGNC:31675}
Function	Specifically recognizes and binds N6-methyladenosine (m6A)- containing RNAs, and regulates their stability (PubMed:24284625, PubMed:26046440, PubMed:26318451, PubMed:32492408). 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:22575960, PubMed:24284625, PubMed:25412658, PubMed:25412661, PubMed:32492408). Acts as a regulator of mRNA stability by promoting degradation of m6A-containing mRNAs via interaction with the CCR4-NOT and ribonuclease P/MRP

complexes, depending on the context (PubMed:24284625, PubMed:26046440, PubMed:27558897, PubMed:30930054, PubMed:32492408). The YTHDF paralogs (YTHDF1, YTHDF2 and YTHDF3) share m6A-containing mRNAs targets and act redundantly to mediate mRNA degradation and cellular differentiation (PubMed:28106072, PubMed:32492408). M6A-containing mRNAs containing a binding site for RIDA/HRSP12 (5'-GGUUC-3') are preferentially degraded by endoribonucleolytic cleavage: cooperative binding of RIDA/HRSP12 and YTHDF2 to transcripts leads to recruitment of the ribonuclease P/MRP complex (PubMed:30930054). Other m6A-containing mRNAs undergo deadenylation via direct interaction between YTHDF2 and CNOT1, leading to recruitment of the CCR4-NOT and subsequent deadenylation of m6A- containing mRNAs (PubMed:27558897). Required maternally to regulate oocyte maturation: probably acts by binding to m6A-containing mRNAs, thereby regulating maternal transcript dosage during oocyte maturation, which is essential for the competence of oocytes to sustain early zygotic development (By similarity). Also required during spermatogenesis: regulates spermagonial adhesion by promoting degradation of m6A-containing transcripts coding for matrix metallopeptidases (By similarity). Also involved in hematopoietic stem cells specification by binding to m6A-containing mRNAs, leading to promote their degradation (PubMed:30065315). Also acts as a regulator of neural development by promoting m6A-dependent degradation of neural development-related mRNA targets (By similarity). Inhibits neural specification of induced pluripotent stem cells by binding to methylated neural-specific mRNAs and promoting their degradation, thereby restraining neural differentiation (PubMed:32169943). Regulates circadian regulation of hepatic lipid metabolism: acts by promoting m6A-dependent degradation of PPARA transcripts (PubMed:30428350). Regulates the innate immune response to infection by inhibiting the type I interferon response: acts by binding to m6A-containing IFNB transcripts and promoting their degradation (PubMed:30559377). May also act as a promoter of cap-independent mRNA translation following heat shock stress: upon stress, relocalizes to the nucleus and specifically binds mRNAs with some m6A methylation mark at their 5'-UTR, protecting demethylation of mRNAs by FTO, thereby promoting cap-independent mRNA translation (PubMed:26458103). Regulates mitotic entry by promoting the phase-specific m6A-dependent degradation of WEE1 transcripts (PubMed:32267835). 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:31642031, 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). May also recognize and bind RNAs modified by C5-methylcytosine (m5C) and act as a regulator of rRNA processing (PubMed:31815440).

Cellular Location

Cytoplasm, cytosol. Cytoplasm, P-body. Cytoplasm, Stress granule. Nucleus. Note=Localizes to the cytosol and relocates to the nucleus following heat shock stress (PubMed:26458103) Can partition into different structures: into P-bodies in unstressed cells, and into stress granules during stress (PubMed:31292544)

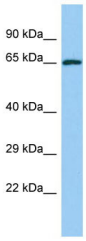
Tissue Location

Highly expressed in induced pluripotent stem cells (iPSCs) and down-regulated during neural differentiation

References

Scanlan M.J.,et al.Int. J. Cancer 83:456-464(1999).
Roberts T.P.,et al.Submitted (OCT-1999) to the EMBL/GenBank/DDBJ databases.
Krackhardt A.M.,et al.Submitted (OCT-2001) to the EMBL/GenBank/DDBJ databases.
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Gregory S.G.,et al.Nature 441:315-321(2006).

Images



Host: Rabbit
Target Name: YTHDF2
Sample Tissue: Jurkat Whole cell lysate
s
Antibody Dilution: 1.0µg/mlYTHDF2 is supported by
BioGPS gene expression data to be expressed in Jurkat

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.