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(Mouse) Zcchc11 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP20889c

Product Information

Application	WB, E
Primary Accession	B2RX14
Reactivity	Mouse
Predicted	Rat, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB51164
Calculated MW	184650

Additional Information

Gene ID	230594
Other Names	Terminal uridylyltransferase 4, TUTase 4, Zinc finger CCHC domain-containing protein 11, Zcchc11, Kiaa0191, Tut4
Target/Specificity	This (Mouse) Zcchc11 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 1568-1600 amino acids from the C-terminal region of (Mouse) Zcchc11.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	(Mouse) Zcchc11 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Tut4 {ECO:0000312|MGI:MGI:2445126}
Function	Uridylyltransferase that mediates the terminal uridylation of mRNAs with short (less than 25 nucleotides) poly(A) tails, hence facilitating global mRNA decay (PubMed:28792939). Essential for both oocyte maturation and fertility. Through 3' terminal uridylation of mRNA, sculpts, with TUT7, the maternal

	transcriptome by eliminating transcripts during oocyte growth (PubMed:28792939). Involved in microRNA (miRNA)-induced gene silencing through uridylation of deadenylated miRNA targets. Also functions as an integral regulator of microRNA biogenesiS using 3 different uridylation mechanisms (By similarity). Acts as a suppressor of miRNA biogenesis by mediating the terminal uridylation of some miRNA precursors, including that of let-7 (pre-let-7), miR107, miR-143 and miR-200c. Uridylated miRNAs are not processed by Dicer and undergo degradation. Degradation of pre-let-7 contributes to the maintenance of embryonic stem (ES) cell pluripotency (By similarity). Also catalyzes the 3' uridylation of miR-26A, a miRNA that targets IL6 transcript. This abrogates the silencing of IL6 transcript, hence promoting cytokine expression (PubMed:19703396). In the absence of LIN28A, TUT7 and TUT4 monouridylate group II pre-miRNAs, which includes most of pre-let7 members, that shapes an optimal 3' end overhang for efficient processing (PubMed:28671666). Add oligo-U tails to truncated pre-miRNAS with a 5' overhang which may promote rapid degradation of non-functional pre-miRNA species (By similarity). May also suppress Toll-like receptor-induced NF-kappa-B activation via binding to T2BP (By similarity). Does not play a role in replication- dependent histone mRNA degradation (By similarity). Due to functional redundancy between TUT4 and TUT7, the identification of the specific role of each of these proteins is difficult (PubMed:22898984, PubMed:28671666, PubMed:28792939). TUT4 and TUT7 restrict retrotransposition of long interspersed element-1 (LINE-1) in cooperation with MOV10 counteracting the RNA chaperonne activity of L1RE1. TUT7 uridylates LINE-1 mRNAs in the cytoplasm which inhibits initiation of reverse transcription once in the nucleus, whereas uridylation by TUT4 destabilizes mRNAs in cytoplasmic ribonucleoprotein granules (By similarity).
Cellular Location	Nucleus {ECO:0000250|UniProtKB:Q5TAX3}. Cytoplasm. Cytoplasm, Cytoplasmic ribonucleoprotein granule {ECO:0000250|UniProtKB:Q5TAX3}. Note=Mainly cytoplasmic (PubMed:19703396). Translocates into the cytoplasm following treatment of the cell with LPS. Co-enriched in cytoplasmic foci with MOV10 {ECO:0000250|UniProtKB:Q5TAX3, ECO:0000269|PubMed:19703396}
Tissue Location	Ubiquitously expressed.

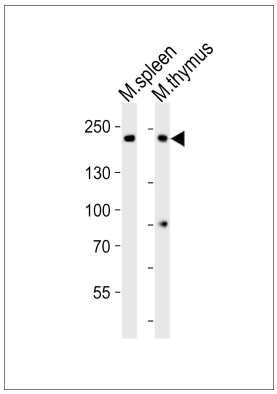
Background

Uridylyltransferase that acts as a suppressor of microRNA (miRNA) biogenesis by specifically mediating the terminal uridylation of some miRNAs. Catalyzes the 3' uridylation of precursor let-7 (pre-let-7), a miRNA precursor. Uridylated pre- let-7 miRNAs fail to be processed by Dicer and undergo degradation. Degradation of pre-let-7 contributes to the maintenance of embryonic stem (ES) cells and is required for ES cells to maintain pluripotency. Does not bind RNA by itself, recruited to pre-let-7 miRNAs via its interaction with LIN28A and LIN28B (By similarity). Also catalyzes the 3' uridylation of miR- 26A, a miRNA that represses IL6 transcript, leading to abrogate IL6 transcript repression and promote cytokine expression. May also suppress Toll-like receptor-induced NF-kappa-B activity via binding to T2BP. Does not play a role in replication-dependent histone mRNA degradation (By similarity).

References

Church D.M.,et al.PLoS Biol. 7:E1000112-E1000112(2009).
Okazaki N.,et al.Submitted (FEB-2005) to the EMBL/GenBank/DDBJ databases.
Carninci P.,et al.Science 309:1559-1563(2005).
Trost M.,et al.Immunity 30:143-154(2009).
Jones M.R.,et al.Nat. Cell Biol. 11:1157-1163(2009).

Images



Western blot analysis of lysates from mouse spleen, mouse thymus tissue lysate (from left to right), using Zcchc11 Antibody (C-term)(Cat. #AP20889c). AP20889c was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody. Lysates at 20ug per lane.

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