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(Mouse) Zcchc11 Blocking Peptide (C-term)

Synthetic peptide
Catalog # BP20889c

Specification

(Mouse) Zcchc11 Blocking Peptide (C-term) - Product Information

Primary Accession B2RX14

(Mouse) Zcchc11 Blocking Peptide (C-term) - Additional Information

Gene ID 230594

Other Names
Terminal uridylyltransferase 4, TUTase 4, Zinc finger CCHC domain-containing protein 11, Zcchc11, Kiaa0191, Tut4

Target/Specificity
The synthetic peptide sequence is selected from aa 1568-1580 of HUMAN Zcchc11

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

(Mouse) Zcchc11 Blocking Peptide (C-term) - 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:<a

href="http://www.uniprot.org/citations/19703396" target="_blank">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:28671666, PubMed:28792939, PubMed:22898984). 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.

(Mouse) Zcchc11 Blocking Peptide (C-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

(Mouse) Zcchc11 Blocking Peptide (C-term) - Images

(Mouse) Zcchc11 Blocking Peptide (C-term) - 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).

(Mouse) Zcchc11 Blocking Peptide (C-term) - References

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Carninci P.,et al.Science 309:1559-1563(2005).
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