

Recombinant Full Length Human TUT7 Protein, GST-tagged

Cat. No. TUT7-6862HF **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Human ZCCHC6 full-length ORF (AAH32456.1, 1 a.a. - 412 a.a.) recombinant protein with GST-tag at N-terminal was expressed in Wheat Germ.
Species	Human
Source	In Vitro Cell Free System
ProteinLength	412 amino acids
Description	Uridyltransferase that mediates the terminal uridylation of mRNAs with short (less than 25 nucleotides) poly(A) tails, hence facilitating global mRNA decay. 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. 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. Acts as a suppressor of miRNA biogenesis by mediating the terminal uridylation of some miRNA precursors, including that of let-7 (pre-let-7). Uridylated pre-let-7 RNA is not processed by Dicer and undergo degradation. Pre-let-7 uridylation is strongly enhanced in the presence of LIN28A. 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. Add oligo-U tails to truncated pre-miRNAs with a 5' overhang which may promote rapid degradation of non-functional pre-miRNA species. Does not play a role in replication-dependent histone mRNA degradation.

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Due to functional redundancy between TUT4 and TUT7, the identification of the specific role of each of these proteins is difficult. TUT4 and TUT7 restrict retrotransposition of long interspersed element-1 (LINE-1) in cooperation with MOV10 counteracting the RNA chaperone 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.

Molecular Mass	74.3 kDa
AA Sequence	MGD TAKPYFVKRTKDRGTMDDDDFRRGHPQQDYLIIDHAKGHGSKMEKGLQKKK ITPGNYGNTPRKGPCAVSSNPYAFKNPIYSQPAWMNDSHKDQSKRWLSDEHTGNS DNWREFKPGPRIPVINRQRKDSFQENEDGYRWQDTRGCRTVRRLFHKDLTSLETT SEMEAGSPENKKQRSRPRKPRKTRNEENEQDGDLEGPVIDESVLSTKELLGLQQA ERLKRDCIDRLKRRPRNYPTAKYTCRLCDVLIESIAFAHKHIKEKRHKKNIKEKQEEEL LTTLPPTPSQINAVGIAIDKVVQEFGLHNENLEQRLEIKRIMENVFQHKLPDCSLRLY GSSCSRLGFKNSDVNIDIQFPAIMSQPDVLLLVECLKNSDSFIDVDADFHARVPVVV CREKQRSHFFKLFY
Applications	Enzyme-linked Immunoabsorbent Assay Western Blot (Recombinant protein) Antibody Production Protein Array
Storage	Store at -80 centigrade. Aliquot to avoid repeated freezing and thawing.
Storage Buffer	50 mM Tris-HCl, 10 mM reduced Glutathione, pH=8.0 in the elution buffer.

GENE INFORMATION

Gene Name	TUT7 terminal uridylyl transferase 7 [Homo sapiens (human)]
Official Symbol	TUT7
Synonyms	TUT7; terminal uridylyl transferase 7; PAPD6; TENT3B; ZCCHC6; terminal uridylyltransferase 7; PAP associated domain containing 6; TUTase 7; zinc finger CCHC domain-containing protein 6; zinc finger CCHC-type containing 6; zinc finger, CCHC domain containing 6; EC 2.7.7.52
Gene ID	79670
mRNA Refseq	NM_024617
Protein Refseq	NP_078893
MIM	613467
UniProt ID	Q5VYS8

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