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LIN28A Antibody
Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM1485a

Specification

LIN28A Antibody - Product Information

Application	**IF, WB, IHC-P,E**
Primary Accession	Q9H9Z2
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1 Kappa**

LIN28A Antibody - Additional Information

Gene ID 79727

Other Names
Protein lin-28 homolog A, Lin-28A, Zinc finger CCHC domain-containing protein 1, LIN28A, CSDD1, LIN28, ZCCHC1

Target/Specificity
LIN28A recombinant protein is used to produce this monoclonal antibody.

Dilution
IF~~1:10~50
WB~~1:200~2000
IHC-P~~1:50~200

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

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
LIN28A Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

LIN28A Antibody - Protein Information

Name LIN28A

Synonyms CSDD1, LIN28, ZCCHC1

Function RNA-binding protein that inhibits processing of pre-let-7 miRNAs and regulates translation of mRNAs that control developmental timing, pluripotency and metabolism

(PubMed:21247876). Seems to recognize a common structural G-quartet (G4) feature in its miRNA and mRNA targets (Probable). 'Translational enhancer' that drives specific mRNAs to polysomes and increases the efficiency of protein synthesis. Its association with the translational machinery and target mRNAs results in an increased number of initiation events per molecule of mRNA and, indirectly, in mRNA stabilization. Binds IGF2 mRNA, MYOD1 mRNA, ARBP/36B4 ribosomal protein mRNA and its own mRNA. Essential for skeletal muscle differentiation program through the translational up- regulation of IGF2 expression. Suppressor of microRNA (miRNA) biogenesis, including that of let-7, miR107, miR-143 and miR-200c. Specifically binds the miRNA precursors (pre-miRNAs), recognizing an 5'-GGAG-3' motif found in pre-miRNA terminal loop, and recruits TUT4 and TUT7 uridylyltransferases (PubMed:18951094, PubMed:19703396, PubMed:22118463, PubMed:22898984). This results in the terminal uridylation of target pre-miRNAs (PubMed:18951094, PubMed:19703396, PubMed:22118463, PubMed:22898984). Uridylated pre-miRNAs fail to be processed by Dicer and undergo degradation. The repression of let-7 expression is required for normal development and contributes to maintain the pluripotent state by preventing let-7-mediated differentiation of embryonic stem cells (PubMed:18951094, PubMed:19703396, PubMed:22118463, PubMed:22898984). Localized to the periendoplasmic reticulum area, binds to a large number of spliced mRNAs and inhibits the translation of mRNAs destined for the ER, reducing the synthesis of transmembrane proteins, ER or Golgi lumen proteins, and secretory proteins. Binds to and enhances the translation of mRNAs for several metabolic enzymes, such as PFKP, PDHA1 or SDHA, increasing glycolysis and oxidative phosphorylation. Which, with the let-7 repression may enhance tissue repair in adult tissue (By similarity).

Cellular Location
Cytoplasm. Rough endoplasmic reticulum {ECO:0000250|UniProtKB:Q8K3Y3}. Cytoplasm, P-body. Cytoplasm, Stress granule. Nucleus, nucleolus {ECO:0000250|UniProtKB:Q8K3Y3}. Note=Predominantly cytoplasmic (PubMed:22118463). In the cytoplasm, localizes to peri-endoplasmic reticulum regions and detected in the microsomal fraction derived from rough endoplasmic reticulum (RER) following subcellular fractionation May be bound to the cytosolic surface of RER on which ER-associated mRNAs are translated (By similarity). Shuttle from the nucleus to the cytoplasm requires RNA-binding (PubMed:17617744). Nucleolar localization is observed in 10-15% of the nuclei in differentiated myotubes (By similarity). {ECO:0000250|UniProtKB:Q8K3Y3, ECO:0000269|PubMed:17617744, ECO:0000269|PubMed:22118463}

Tissue Location
Expressed in embryonic stem cells, placenta and testis. Tends to be up-regulated in HER2-overexpressing breast tumors

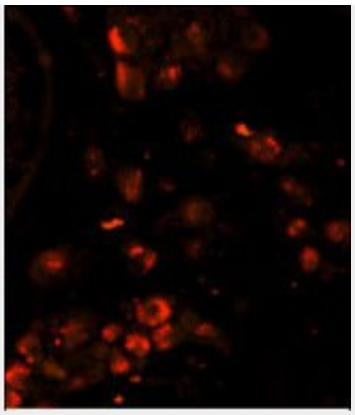
LIN28A Antibody - Protocols

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

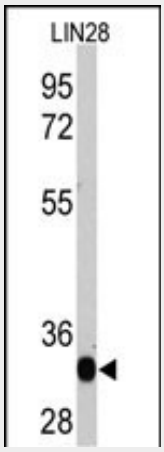
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

LIN28A Antibody - Images

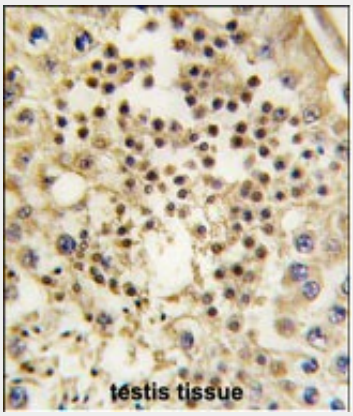
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Immunofluorescence analysis of LIN28A Monoclonal Antibody with paraffin-embedded human testis tissue. 0.025 mg/ml primary antibody was followed by PE-conjugated goat anti-mouse IgG (whole molecule). PE emits orange fluorescence.



Western blot analysis of LIN28 recombinant protein by anti-LIN28A Monoclonal Antibody (Cat.#AM1485a). LIN28 (arrow) was detected using the purified Mab.



Formalin-fixed and paraffin-embedded human testis tissue reacted with LIN28A Monoclonal Antibody (Cat.#AM1485a), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

LIN28A Antibody - References

Pluripotency factors Lin28 and Oct4 identify a sub-population of stem cell-like cells in ovarian cancer. Peng S, et al. Oncogene, 2010 Apr 8. PMID 20101213.

Lin28-mediated post-transcriptional regulation of Oct4 expression in human embryonic stem cells. Qiu C, et al. Nucleic Acids Res, 2010 Mar. PMID 19966271.
An epigenetic switch involving NF-kappaB, Lin28, Let-7 MicroRNA, and IL6 links inflammation to cell transformation. Iliopoulos D, et al. Cell, 2009 Nov 13. PMID 19878981.
TUT4 in concert with Lin28 suppresses microRNA biogenesis through pre-microRNA uridylation. Heo I, et al. Cell, 2009 Aug 21. PMID 19703396.
A role for Lin28 in primordial germ-cell development and germ-cell malignancy. West JA, et al. Nature, 2009 Aug 13. PMID 19578360.