

LIN28 Antibody
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP11549a

Specification

LIN28 Antibody - Product Information

Application	WB, FC,E
Primary Accession	O9H9Z2
Other Accession	NP_078950.1
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	22743

LIN28 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

This LIN28A antibody is generated from rabbits immunized with a His fusion protein from human LIN28A.

Dilution

WB~~1:1000

FC~~1:10~50

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

LIN28 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

LIN28 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

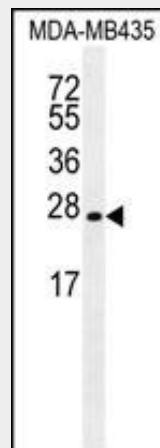
Expressed in embryonic stem cells, placenta and testis. Tends to be up-regulated in HER2-overexpressing breast tumors

LIN28 Antibody - Protocols

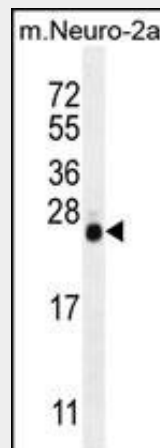
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

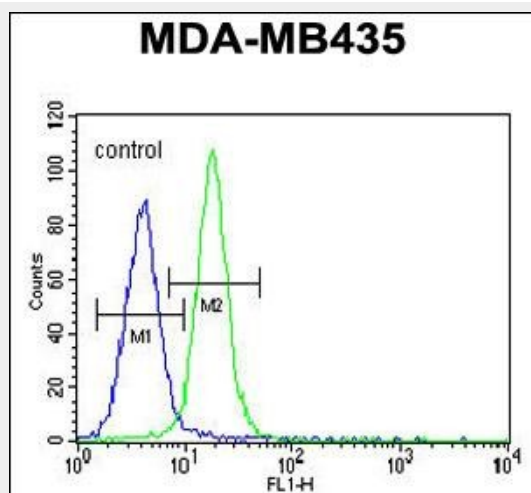
LIN28 Antibody - Images



LIN28 Antibody (Cat. #AP11549a) western blot analysis in MDA-MB435 cell line lysates (35ug/lane). This demonstrates the LIN28 antibody detected the LIN28 protein (arrow).



LIN28 Antibody (Cat. #AP11549a) western blot analysis in mouse Neuro-2a cell line lysates (35ug/lane). This demonstrates the LIN28 antibody detected the LIN28 protein (arrow).



LIN28 Antibody (Cat. #AP11549a) flow cytometric analysis of MDA-MB435 cells (right histogram) compared to a negative control cell (left histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

LIN28 Antibody - Background

Acts as a 'translational enhancer', driving specific mRNAs to polysomes and thus increasing 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 stabilizing the mRNAs. 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 (By similarity). Acts as a suppressor of microRNA (miRNA) biogenesis by specifically binding the precursor let-7 (pre-let-7), a miRNA precursor. Acts by binding pre-let-7 and recruiting ZCCHC11/TUT4 uridylyltransferase, leading to the terminal uridylation of pre-let-7. Uridylated pre-let-7 miRNAs fail to be processed by Dicer and undergo degradation. Degradation of pre-let-7 in embryonic stem (ES) cells contributes to the maintenance of ES cells. In contrast, LIN28A down-regulation in neural stem cells by miR-125, allows the processing of pre-let-7. Specifically recognizes the 5'-GGAG-3' motif in the terminal loop of pre-let-7. Also recognizes and binds non pre-let-7 pre-miRNAs that contain the 5'-GGAG-3' motif in the terminal loop, leading to their terminal uridylation and subsequent degradation.

LIN28 Antibody - References

- Peng, S., et al. *Oncogene* 29(14):2153-2159(2010)
Qiu, C., et al. *Nucleic Acids Res.* 38(4):1240-1248(2010)
Iliopoulos, D., et al. *Cell* 139(4):693-706(2009)
Heo, I., et al. *Cell* 138(4):696-708(2009)
West, J.A., et al. *Nature* 460(7257):909-913(2009)