

**LIN28A Antibody (Center)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP11206C**

**Specification**

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**LIN28A Antibody (Center) - Product Information**

Application	IF, WB, IHC-P, FC,E
Primary Accession	<a href="#">O9H9Z2</a>
Other Accession	<a href="#">NP_078950</a>
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	22743
Antigen Region	108-138

**LIN28A Antibody (Center) - 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 KLH conjugated synthetic peptide between 108-138 amino acids from the Central region of human LIN28A.

**Dilution**

IF~~1:100  
WB~~1:4000  
IHC-P~~1:50~100  
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**

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

**LIN28A Antibody (Center) - 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 a 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 PFKF, 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

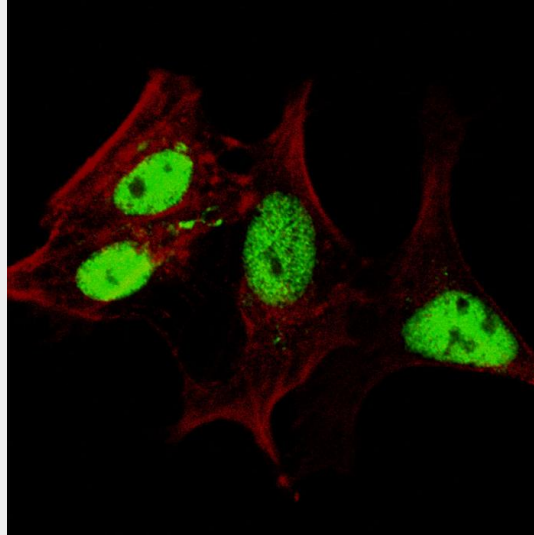
### **LIN28A Antibody (Center) - Protocols**

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

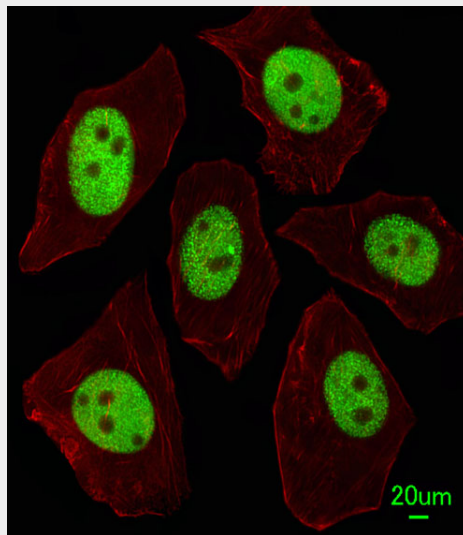
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)

- [Flow Cytometry](#)
- [Cell Culture](#)

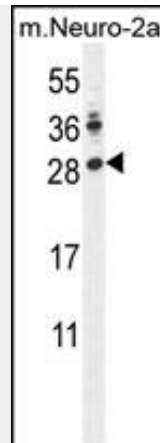
### LIN28A Antibody (Center) - Images



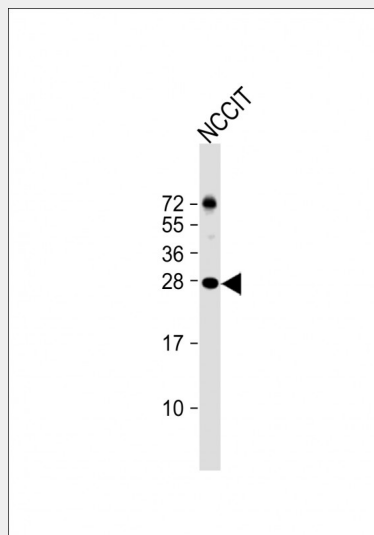
Fluorescent confocal image of SY5Y cells stained with AP11206c LIN28A (Center) antibody. SY5Y cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.2%, 30 min), then incubated with AP11206c LIN28A (Center) primary antibody (1:200, 2 h at room temperature). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:1000, 1h). Cytoplasmic actin was counterstained with Alexa Fluor® 555 (red) conjugated Phalloidin (5.25  $\mu$ M, 25 min). Lin28a immunoreactivity is localized very specifically to the nuclei of the SY5Y cells.



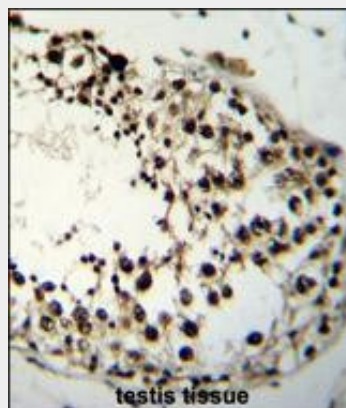
Immunofluorescent analysis of A549 cells, using LIN28A Antibody (Center) (Cat. #AP11206c). AP11206c was diluted at 1:100 dilution. Alexa Fluor 488-conjugated goat anti-rabbit IgG at 1:400 dilution was used as the secondary antibody (green). Cytoplasmic actin was counterstained with Dylight Fluor® 554 (red) conjugated Phalloidin (red).



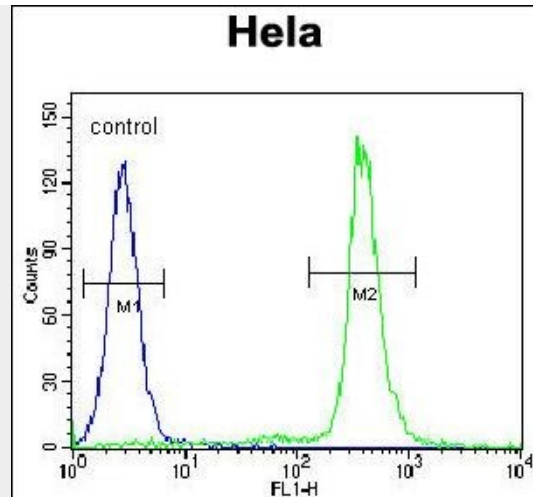
LIN28A Antibody (Center) (Cat. #AP11206c) western blot analysis in mouse Neuro-2a cell line lysates (35ug/lane). This demonstrates the LIN28A antibody detected the LIN28A protein (arrow).



Anti-LIN28A Antibody (Center) at 1:4000 dilution + NCCIT whole cell lysate Lysates/proteins at 20  $\mu$ g per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 23 kDa Blocking/Dilution buffer: 5% NFD/MTBST.



LIN28A Antibody (Center) (Cat. #AP11206c) immunohistochemistry analysis in formalin fixed and paraffin embedded human testis tissue followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of LIN28A Antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.



LIN28A Antibody (Center) (Cat. #AP11206c) flow cytometric analysis of Hela cells (right histogram) compared to a negative control cell (left histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

### LIN28A Antibody (Center) - 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.

### LIN28A Antibody (Center) - 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)