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PUM2 Antibody (S182) Blocking Peptide

Synthetic peptide
Catalog # BP7734d

Specification

PUM2 Antibody (S182) Blocking Peptide - Product Information

Primary Accession Q8TB72

PUM2 Antibody (S182) Blocking Peptide - Additional Information

Gene ID 23369

Other Names
Pumilio homolog 2, Pumilio-2, PUM2, KIAA0235, PUMH2

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7734d was selected from the S182 region of human PUM2. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

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.

PUM2 Antibody (S182) Blocking Peptide - Protein Information

Name PUM2

Synonyms KIAA0235, PUMH2

Function
Sequence-specific RNA-binding protein that acts as a post- transcriptional repressor by binding the 3'-UTR of mRNA targets. Binds to an RNA consensus sequence, the Pumilio Response Element (PRE), 5'- UGUANAUA-3', that is related to the Nanos Response Element (NRE) (, PubMed:21397187). Mediates post-transcriptional repression of transcripts via different mechanisms: acts via direct recruitment of the CCR4-POP2-NOT deadenylase leading to translational inhibition and mRNA degradation (PubMed:22955276). Also mediates deadenylation- independent repression by promoting accessibility of miRNAs (PubMed:18776931, PubMed:22345517).

Acts as a post-transcriptional repressor of E2F3 mRNAs by binding to its 3'-UTR and facilitating miRNA regulation (PubMed:22345517). Plays a role in cytoplasmic sensing of viral infection (PubMed:25340845). Represses a program of genes necessary to maintain genomic stability such as key mitotic, DNA repair and DNA replication factors. Its ability to repress those target mRNAs is regulated by the lncRNA NORAD (non-coding RNA activated by DNA damage) which, due to its high abundance and multitude of PUMILIO binding sites, is able to sequester a significant fraction of PUM1 and PUM2 in the cytoplasm (PubMed:26724866). May regulate DCUN1D3 mRNA levels (PubMed:25349211). May support proliferation and self-renewal of stem cells. Binds specifically to miRNA MIR199A precursor, with PUM1, regulates miRNA MIR199A expression at a postranscriptional level (PubMed:28431233).

Cellular Location
Cytoplasm. Cytoplasmic granule. Cytoplasm, perinuclear region. Note=The cytoplasmic granules are stress granules which are a dense aggregation in the cytosol composed of proteins and RNAs that appear when the cell is under stress. Colocalizes with NANOS3 in the stress granules Colocalizes with NANOS1 and SNAPIN in the perinuclear region of germ cells.

Tissue Location
Expressed in male germ cells of adult testis (at protein level). Highly expressed in testis and ovary. Predominantly expressed in stem cells and germ cells. Expressed at lower level in brain, heart, kidney, liver, muscle, placenta, intestine and stomach Expressed in cerebellum, corpus callosum, caudate nucleus, hippocampus, medulla oblongata and putamen. Expressed in all fetal tissues tested

PUM2 Antibody (S182) Blocking Peptide - Protocols

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

- Blocking Peptides

PUM2 Antibody (S182) Blocking Peptide - Images

PUM2 Antibody (S182) Blocking Peptide - Background

PUM2 is a sequence-specific RNA-binding protein that regulates translation and mRNA stability by binding the 3'-UTR of mRNA targets. Its interactions and tissue specificity suggest that it may be required to support proliferation and self-renewal of stem cells by regulating the translation of key transcripts.

PUM2 Antibody (S182) Blocking Peptide - References

Kusz,K., Mol. Reprod. Dev. 74 (6), 795-799 (2007)Spik,A., Reprod Biol 6 SUPPL 1, 37-42 (2006)Moore,F.L., Proc. Natl. Acad. Sci. U.S.A. 100 (2), 538-543 (2003)