

PUM1 Antibody (N-term)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7734a

Specification

PUM1 Antibody (N-term) - Product Information

Application	IHC-P, WB,E
Primary Accession	Q14671
Other Accession	Q80U78
Reactivity	Human
Predicted	Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	126473
Antigen Region	1-30

PUM1 Antibody (N-term) - Additional Information

Gene ID 9698

Other Names

Pumilio homolog 1, HsPUM, Pumilio-1, PUM1, KIAA0099, PUMH1

Target/Specificity

This PUM1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1-30 amino acids from the N-terminal region of human PUM1.

Dilution

IHC-P~~1:10~50

WB~~1:1000

E~~Use at an assay dependent concentration.

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

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

PUM1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

PUM1 Antibody (N-term) - Protein Information

Name PUM1 ([HGNC:14957](#))

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:[18328718](#), PubMed:[21397187](#), PubMed:[21572425](#), PubMed:[21653694](#)). 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:[20818387](#), PubMed:[20860814](#), PubMed:[22345517](#)). Following growth factor stimulation, phosphorylated and binds to the 3'-UTR of CDKN1B/p27 mRNA, inducing a local conformational change that exposes miRNA-binding sites, promoting association of miR-221 and miR-222, efficient suppression of CDKN1B/p27 expression, and rapid entry to the cell cycle (PubMed:[20818387](#)). Acts as a post-transcriptional repressor of E2F3 mRNAs by binding to its 3'-UTR and facilitating miRNA regulation (PubMed:[22345517](#), PubMed:[29474920](#)). 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](#)). Involved in neuronal functions by regulating ATXN1 mRNA levels: acts by binding to the 3'-UTR of ATXN1 transcripts, leading to their down-regulation independently of the miRNA machinery (PubMed:[25768905](#), PubMed:[29474920](#)). Plays a role in cytoplasmic sensing of viral infection (PubMed:[25340845](#)). In testis, acts as a post-transcriptional regulator of spermatogenesis by binding to the 3'-UTR of mRNAs coding for regulators of p53/TP53. Involved in embryonic stem cell renewal by facilitating the exit from the ground state: acts by targeting mRNAs coding for naive pluripotency transcription factors and accelerates their down-regulation at the onset of differentiation (By similarity). Binds specifically to miRNA MIR199A precursor, with PUM2, regulates miRNA MIR199A expression at a postranscriptional level (PubMed:[28431233](#)).

Cellular Location

Cytoplasm. Cytoplasm, P-body. Cytoplasmic granule. Note=Recruited to cytoplasmic stress granules upon viral infection.

Tissue Location

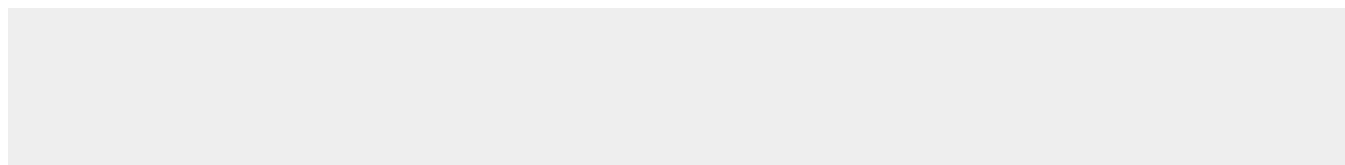
Expressed in brain, heart, kidney, muscle, intestine and stomach. Not expressed in cerebellum, corpus callosum, caudate nucleus, hippocampus, medulla oblongata and putamen. Expressed in all fetal tissues tested.

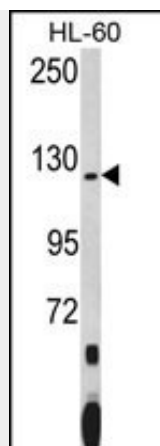
PUM1 Antibody (N-term) - Protocols

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

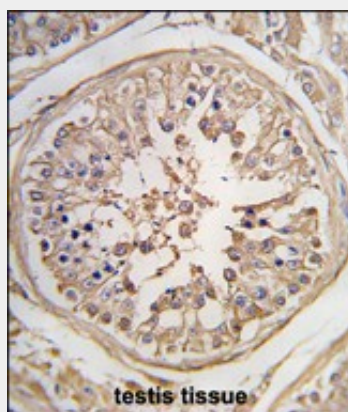
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

PUM1 Antibody (N-term) - Images





Western blot analysis of PUM1 (Human N-term) (Cat. #AP7734a) in HL-60 cell line lysates (35ug/lane). PUM1 (arrow) was detected using the purified Pab.(2ug/ml)



Formalin-fixed and paraffin-embedded human testis tissue reacted with PUM1 Antibody (N-term) (Cat.#AP7734a), 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.

PUM1 Antibody (N-term) - Background

PUM1 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.

PUM1 Antibody (N-term) - 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)