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Pumilio 2 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP54794

Product Information

Application	WB, IHC-P, IHC-F, IF, ICC, E
Primary Accession	Q8TB72
Reactivity	Rat, Pig, Dog, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	114216
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from Human Pumilio 2
Epitope Specificity	901-1066/1066
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cytoplasm (Probable). Cytoplasmic granule (By similarity). 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. Co-localizes with NANOS3 in the stress granules (By similarity). Co-localizes with NANOS1 and SNAPIN in the perinuclear region of germ cells.
SIMILARITY	Contains 1 PUM-HD domain. Contains 8 pumilio repeats.
SUBUNIT	Homodimer; homodimerizes in vitro. Interacts with DAZ, DAZL and NANOS1 via its pumilio repeats. Binds to a RNA consensus sequence, that is related to the Nanos Response Element (NRE), a 16 bp sequence found in the 3'-UTR of the Drosophila hb mRNA. Also binds to the NRE. Interacts with NANOS3 (By similarity). Interacts with SNAPIN.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Pumilio 2 is a sequence-specific RNA-binding protein that regulates translation and mRNA stability by binding mRNA targets. It supports proliferation and self-renewal of stem cells by regulating the translation of key transcripts. The Pumilio gene encodes proteins that are required for development of germ stem cells in one or both sexes. The Pumilio protein interacts with the human Nanos1 protein and this interaction may play a conserved role in germ cell development. Pumilio 2 is highly expressed in testis and ovary and at lower levels in brain, heart, kidney, liver, muscle, placenta, intestine and stomach. It is also expressed in stem cells, germ cells and in most fetal tissues.

Additional Information

Gene ID	23369

Other Names	Pumilio homolog 2, Pumilio-2, PUM2, KIAA0235, PUMH2
Target/Specificity	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.
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.