

# Pumilio 2 (A-10): sc-398632

## BACKGROUND

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.

## REFERENCES

1. Spassov, D.S. and Jurecic, R. 2002. Cloning and comparative sequence analysis of PUM1 and PUM2 genes, human members of the Pumilio family of RNA-binding proteins. *Gene* 299: 195-204.
2. Jaruzelska, J., et al. 2003. Conservation of a Pumilio-Nanos complex from *Drosophila* germ plasm to human germ cells. *Dev. Genes Evol.* 213: 120-126.
3. Moore, F.L., et al. 2003. Human Pumilio 2 is expressed in embryonic stem cells and germ cells and interacts with DAZ (Deleted in AZoospermia) and DAZ-like proteins. *Proc. Natl. Acad. Sci. USA* 100: 538-543.
4. Vessey, J.P., et al. 2006. Dendritic localization of the translational repressor Pumilio 2 and its contribution to dendritic stress granules. *J. Neurosci.* 26: 6496-6508.
5. Spik, A., et al. 2006. Candidate mRNAs interacting with fertility protein PUMILIO2 in the human germ line. *Reprod. Biol.* 6: 37-42.
6. Spik, A., et al. 2006. Human fertility protein PUMILIO2 interacts *in vitro* with testis mRNA encoding Cdc42 effector 3 (CEP3). *Reprod. Biol.* 6: 103-113.
7. Kusz, K., et al. 2007. Polymorphisms of the human PUMILIO2 gene and male sterility. *Mol. Reprod. Dev.* 74: 795-799.
8. Xu, E.Y., et al. 2007. A gene trap mutation of a murine homolog of the *Drosophila* stem cell factor Pumilio results in smaller testes but does not affect litter size or fertility. *Mol. Reprod. Dev.* 74: 912-921.

## CHROMOSOMAL LOCATION

Genetic locus: PUM2 (human) mapping to 2p24.1; Pum2 (mouse) mapping to 12 A1.1.

## SOURCE

Pumilio 2 (A-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 102-133 near the N-terminus of Pumilio 2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>3</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398632 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

Pumilio 2 (A-10) is recommended for detection of Pumilio 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Pumilio 2 siRNA (h): sc-44773, Pumilio 2 siRNA (m): sc-44774, Pumilio 2 shRNA Plasmid (h): sc-44773-SH, Pumilio 2 shRNA Plasmid (m): sc-44774-SH, Pumilio 2 shRNA (h) Lentiviral Particles: sc-44773-V and Pumilio 2 shRNA (m) Lentiviral Particles: sc-44774-V.

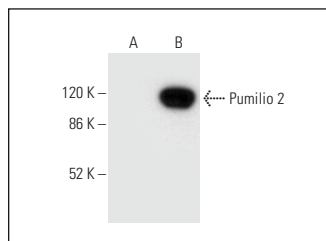
Molecular Weight of Pumilio 2: 114 kDa.

Positive Controls: Pumilio 2 (m): 293T Lysate: sc-122843.

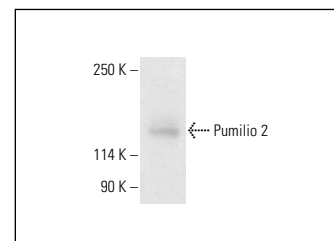
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



Pumilio 2 (A-10): sc-398632. Western blot analysis of Pumilio 2 expression in non-transfected: sc-117752 (A) and mouse Pumilio 2 transfected: sc-122843 (B) 293T whole cell lysates.



Pumilio 2 (A-10): sc-398632. Western blot analysis of Pumilio 2 expression in SP2/O whole cell lysate. Detection reagent used: m-IgGκ BP-HRP: sc-533670.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.