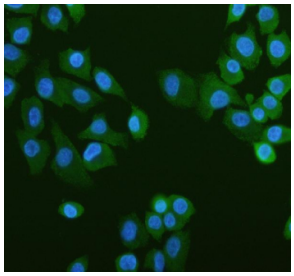
PUM1 Antibody / Pumilio 1 (FY12002)

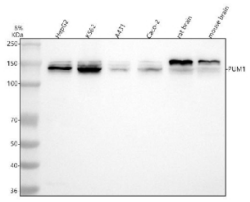
Catalog No.	Formulation	Size
FY12002	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.	100 ug

Bulk quote request

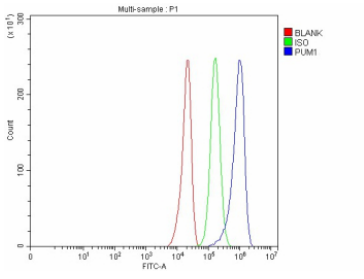
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4
UniProt	Q14671
Localization	Cytoplasm
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry : 5ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This PUM1 antibody is available for research use only.



IF analysis of PUM1 using anti-PUM1 antibody (green). PUM1 was detected in an immunocytochemical section of cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-PUM1 antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. The section was counterstained with DAPI (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of PUM1 using anti-PUM1 antibody. Lane 1: human HepG2 whole cell lysates, Lane 2: human K562 whole cell lysates, Lane 3: human whole cell lysates, Lane 4: human Caco-2 whole cell lysates, Lane 5: rat brain tissue lysates, Lane 6: mouse brain tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-PUM1 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. Expected size of PUM1 ~126 kDa (human). Observed strong band at ~140 kDa (human) with a weaker ~150 kDa band above it, and in mouse/rat a strong ~150 kDa band with weaker ~140 kDa band. PUM1 is known to exhibit migration at ~130-140 kDa in Western blots and has multiple splice variants, which may account for the ~150 kDa band.



Flow Cytometry analysis of U251 cells using anti-PUM1 antibody. Overlay histogram showing U251 cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-PUM1 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

Description

PUM1 antibody detects Pumilio homolog 1, encoded by the PUM1 gene. Pumilio homolog 1 is a highly conserved RNA binding protein that regulates post-transcriptional gene expression by controlling mRNA stability and translation. PUM1 antibody provides researchers with an essential reagent to study RNA biology, developmental regulation, and disease mechanisms involving RNA processing.

Pumilio homolog 1 belongs to the Pumilio and FBF family of proteins, which are characterized by their PUF RNA binding domains. Research using PUM1 antibody has shown that PUM1 binds to specific sequences in the 3' untranslated regions of target mRNAs, promoting degradation or translational repression. Through this activity, PUM1 regulates diverse biological processes, including cell proliferation, differentiation, and neuronal function.

Studies with PUM1 antibody have demonstrated that it participates in developmental pathways by regulating maternal mRNAs during embryogenesis. In germline cells, PUM1 contributes to stem cell maintenance by repressing differentiation-promoting transcripts. These findings underscore its importance in balancing self-renewal and differentiation in development.

Pumilio homolog 1 also influences neuronal biology. Research using PUM1 antibody has shown that it regulates synaptic function by controlling translation of synaptic mRNAs. Dysregulation of PUM1 is associated with neurological disorders, including intellectual disability and ataxia. Mutations that impair PUM1 function alter neuronal protein synthesis, contributing to disease pathology.

In cancer, PUM1 has been implicated in tumor progression. Studies with PUM1 antibody have revealed that altered expression modulates proliferation and survival pathways, supporting malignant growth. By controlling mRNA turnover of oncogenes and tumor suppressors, PUM1 integrates into signaling networks that determine tumor cell fate.

PUM1 antibody is widely used in western blotting, immunohistochemistry, and RNA immunoprecipitation. Western blotting quantifies protein expression, immunohistochemistry reveals localization in tissues such as brain and ovary, and RNA

immunoprecipitation identifies bound target transcripts. These applications make PUM1 antibody indispensable for RNA biology research.

By providing validated PUM1 antibody reagents, NSJ Bioreagents supports studies into RNA regulation, development, and disease. Detection of Pumilio homolog 1 provides researchers with insight into how post-transcriptional control shapes cellular function.

Application Notes

Optimal dilution of the PUM1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human PUM1 recombinant protein (Position: M1-D361) was used as the immunogen for the PUM1 antibody.

Storage

After reconstitution, the PUM1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.