

PABP (F-20): sc-18611

BACKGROUND

PABP, for Poly(A)-binding protein, is an essential, well-conserved, multifunctional protein involved in translational initiation, mRNA biogenesis and degradation. PABP is required for the shortening of the 3' poly(A) tail of eukaryotic mRNA and translation initiation. The interaction between PABP and eukaryotic translation initiation factor 4G (eIF4G) facilitates translational initiation of polyadenylated mRNAs. This interaction is mediated, at least in part, by eIF4G, which bridges the mRNA termini by simultaneous binding PABP and the cap-binding protein, eIF4E. With lower affinities, PABP can also associate with non-poly(A) sequences. The physiological consequences of these PABP/RNA interactions are far from clear but may include functions such as translational silencing. PABP is a modular protein, with four N-terminal RNA-binding domains and an extensive C-terminus. During poliovirus infection, cleavage of eIF4GII and PABP have been proposed to contribute to complete host translation shutoff. The human PABP gene maps to chromosome 8q22.3 and encodes a 633 amino acid protein.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 604679. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Chekanova, J.A., et al. 2001. Analysis of an essential requirement for the poly(A) binding protein function using cross-species complementation. *Curr. Biol.* 11: 1207-1214.
3. Deo, R.C., et al. 2001. X-ray structure of the human hyperplastic discs protein: an ortholog of the C-terminal domain of poly(A)-binding protein. *Proc. Natl. Acad. Sci. USA* 98: 4414-4419.
4. Mohr, E., et al. 2001. Vasopressin mRNA localization in nerve cells: characterization of *cis*-acting elements and *trans*-acting factors. *Proc. Natl. Acad. Sci. USA* 98: 7072-7079.
5. Kuyumcu-Martinez, N.M., et al. 2002. Efficient cleavage of ribosome-associated poly(A)-binding protein by enterovirus 3C protease. *J. Virol.* 76: 2062-2074.

SOURCE

PABP (F-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of PABP of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-18611 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

PABP (F-20) is recommended for detection of PABP of mouse, rat, and human origin, PABPC1L, and PABPC4 of mouse and human origin, PABPC2, and PABPC6 of mouse origin, and corresponding homologues in rat by Western Blotting (starting dilution 1:200, 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 1:30-1:3,000).

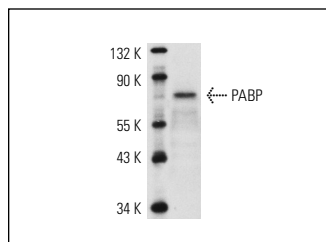
PABP (F-20) is also recommended for detection of PABP in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for PABP siRNA (h): sc-36169, PABP siRNA (m): sc-36170, PABP shRNA Plasmid (h): sc-36169-SH, PABP shRNA Plasmid (m): sc-36170-SH, PABP shRNA (h) Lentiviral Particles: sc-36169-V and PABP shRNA (m) Lentiviral Particles: sc-36170-V.

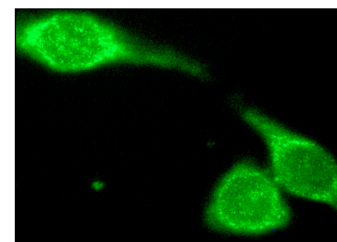
Molecular Weight of PABP: 70 kDa.

Positive Controls: mouse testis extract: sc-2405, PC-3 cell lysate: sc-2220 or LNCaP cell lysate: sc-2231.

DATA



PABP (F-20): sc-18611. Western blot analysis of PABP expression in mouse testis extract.



PABP (F-20): sc-18611. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Fontaine-Rodriguez, E.C., et al. 2004. Proteomics of herpes simplex virus infected cell protein 27: association with translation initiation factors. *Virology* 330: 487-492.
2. Fujita, K., et al. 2008. Immunohistochemical identification of messenger RNA-related proteins in basophilic inclusions of adult-onset atypical motor neuron disease. *Acta Neuropathol.* 116: 439-445.

RESEARCH USE

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



Try **PABP (A-4): sc-166381** or **PABP (10E10): sc-32318**, our highly recommended monoclonal alternatives to PABP (F-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **PABP (A-4): sc-166381**.