

PABP (F-2): sc-166027

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 simultaneously 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.

CHROMOSOMAL LOCATION

Genetic locus: PABPC1 (human) mapping to 8q22.3; Pabpc1 (mouse) mapping to 15 B3.1.

SOURCE

PABP (F-2) is a mouse monoclonal antibody raised against amino acids 1-300 (deletion 82-129) mapping at the N-terminus of PABP of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PABP (F-2) is recommended for detection of PABP1, PABP2, PABP3, PABP4 and PABP5 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), immunohistochemistry (including paraffin-embedded sections) (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 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: A549 cell lysate: sc-2413, MCF7 whole cell lysate: sc-2206 or Hep G2 cell lysate: sc-2227.

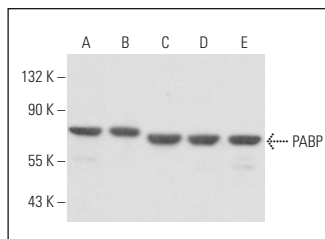
STORAGE

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

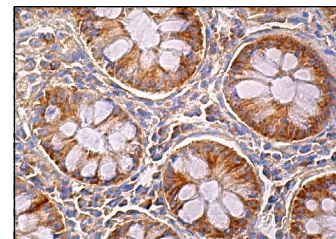
RESEARCH USE

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

DATA



PABP (F-2): sc-166027. Western blot analysis of PABP expression in A549 (A), NIH/3T3 (B), MCF7 (C), Hep G2 (D) and NTERA-2 cl.D1 (E) whole cell lysates.



PABP (F-2): sc-166027. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Baird, N.L., et al. 2012. Arenavirus infection induces discrete cytosolic structures for RNA replication. *J. Virol.* 86: 11301-11310.
- Geibler, V., et al. 2013. The RNA helicase Ddx5/p68 binds to hUpf3 and enhances NMD of Ddx17/p72 and Smg5 mRNA. *Nucleic Acids Res.* 41: 7875-7888.
- Eisermann, K., et al. 2015. Poly(A) binding protein cytoplasmic 1 is a novel co-regulator of the androgen receptor. *PLoS ONE* 10: e0128495.
- Hwang, C.K., et al. 2017. Phosphorylation of poly(rC) binding protein 1 (PCBP1) contributes to stabilization of μ opioid receptor (MOR) mRNA via interaction with AU-rich element RNA-binding protein 1 (AUF1) and poly A binding protein (PABP). *Gene* 598: 113-130.
- Puvvula, P.K., et al. 2021. Inhibiting an RBM39/MLL1 epigenomic regulatory complex with dominant-negative peptides disrupts cancer cell transcription and proliferation. *Cell Rep.* 35: 109156.
- Martini, S., et al. 2021. A genetically-encoded crosslinker screen identifies SERBP1 as a PKC ϵ substrate influencing translation and cell division. *Nat. Commun.* 12: 6934.
- Park, S., et al. 2023. The mammalian midbody and midbody remnant are assembly sites for RNA and localized translation. *Dev. Cell* 58: 1917-1932.e6.
- Pinto, C.M., et al. 2024. The joint action of yeast eisosomes and membraneless organelles in response to ethanol stress. *Heliyon* 10: e31561.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.



See **PABP (A-4): sc-166381** for PABP antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.