SANTA CRUZ BIOTECHNOLOGY, INC.

PABP (A-4): sc-166381

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 of 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.

SOURCE

PABP (A-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 11-37 near the N-terminus of PABP of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PABP (A-4) is available conjugated to agarose (sc-166381 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166381 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; and to either phycoerythrin (sc-166381 PE), fluorescein (sc-166381 FITC) or Alexa Fluor® 488 (sc-166381 AF488) or Alexa Fluor® 647 (sc-166381 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-166381 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

PABP (A-4) is recommended for detection of PABP of mouse, rat and human origin, PABPC1L, PABPC3 and PABPC4 of human origin, PABPC2 and PABPC6 of mouse origin and the corresponding rat homologs 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).

PABP (A-4) is also recommended for detection of PABP, PABPC1L, PABPC3 and PABPC4 in additional species, including equine, canine, bovine, porcine and avian.

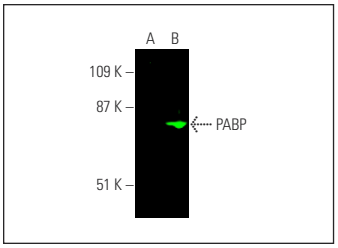
Molecular Weight of PABP: 70 kDa.

Positive Controls: mouse testis extract: sc-2405, PC-3 cell lysate: sc-2220 or PABPC4 (m): 293T Lysate: sc-125774.

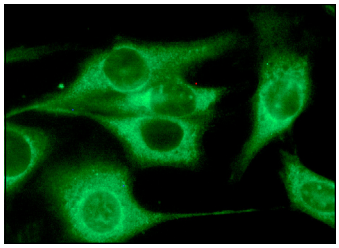
RECOMMENDED SUPPORT REAGENTS

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



PABP (A-4): sc-166381. Near-infrared western blot analysis of PABP expression in non-transfected: sc-117752 (**A**) and mouse PABPC4 transfected: sc-125774 (**B**) 293T whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



PABP (A-4): sc-166381. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Sonnenschein, H.A., et al. 2018. Suppressor of IKKε forms direct interactions with cytoskeletal proteins, Tubulin and α-actinin, linking innate immunity to the cytoskeleton. FEBS Open Bio 8: 1064-1082.
2. Silva, J.M., et al. 2018. Dysregulation of autophagy and stress granule-related proteins in stress-driven Tau pathology. Cell Death Differ. 26: 1411-1427.

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 for detailed protocols and support products.