SANTA CRUZ BIOTECHNOLOGY, INC.

PAP-α/β/γ (D-1): sc-365607

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Polyadenylation of the 3' ends of eukaryotic mRNAs is a key event that takes place in the nucleus during maturation of mRNA. The reaction occurs in two distinct steps: endoribonucleolytic cleavage of the pre-RNA at the poly(A) site, followed by synthesis of the poly(A) tail at the 3' end of the up-stream cleavage product. The poly(A) polymerase (PAP) is required for the adenosine addition reaction. Western blot analysis reveals three PAPs, namely PAP-α, PAP-β and PAP-γ, demonstrating different molecular masses in HeLa cell extracts. The amino-terminal region of PAP is required for nonspecific polymerase activity, while both the amino and carboxy termini are required for specific polymerase activity. Additionally, PAP contains a functional ribonucleoprotein-type RNA binding domain (RBD) that is responsible for primer binding.

REFERENCES

1. Weichs an der Glon, C., et al. 1993. Tat-dependent occlusion of the HIV poly(A) site. EMBO J. 12: 2119-2128.
2. Thuresson, A.C., et al. 1994. Multiple forms of poly(A) polymerases in human cells. Proc. Natl. Acad. Sci. USA 91: 979-983.
3. Pendurthi, U.R., et al. 1997. Binding of factor VIIa to tissue factor induces alterations in gene expression in human fibroblast cells: upregulation of poly(A) polymerase. Proc. Natl. Acad. Sci. USA 94: 12598-12603.
4. Yamauchi, T., et al. 1999. Assignment of the human poly(A) polymerase (PAP) gene to chromosome 14q32.1-q32.2 and isolation of a polymorphic CA repeat sequence. J. Hum. Genet. 44: 253-255.
5. Mouland, A.J., et al. 2002. Hypophosphorylation of poly(A) polymerase and increased polyadenylation activity are associated with human immunodeficiency virus type 1 Vpr expression. Virology 292: 321-330.

SOURCE

PAP-α/β/γ (D-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 85-117 within an internal region of PAP-α of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PAP-α/β/γ (D-1) is available conjugated to agarose (sc-365607 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365607 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365607 PE), fluorescein (sc-365607 FITC), Alexa Fluor® 488 (sc-365607 AF488), Alexa Fluor® 546 (sc-365607 AF546), Alexa Fluor® 594 (sc-365607 AF594) or Alexa Fluor® 647 (sc-365607 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365607 AF680) or Alexa Fluor® 790 (sc-365607 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365607 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

PAP-α/β/γ (D-1) is recommended for detection of PAP-α, PAP-β and PAP-γ 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).

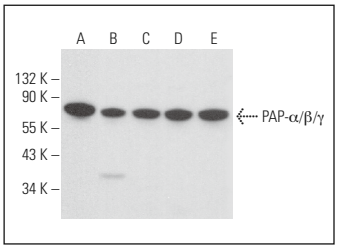
Molecular Weight of PAP-α/β/γ: 64 kDa.

Positive Controls: AT3B-1 whole cell lysate: sc-364372, PAP-α (h): 293 Lysate: sc-110765 or F9 cell lysate: sc-2245.

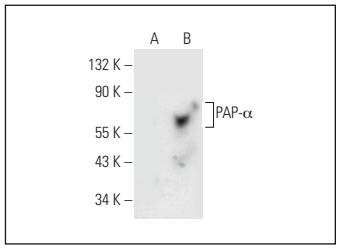
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGλ BP-HRP: sc-516132 or m-IgGλ BP-HRP (Cruz Marker): sc-516132-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-IgGλ BP-FITC: sc-516185 or m-IgGλ BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PAP-α/β/γ (D-1): sc-365607. Western blot analysis of PAP-α/β/γ expression in AT3B-1 (**A**), MIA PaCa-2 (**B**), SH-SY5Y (**C**), F9 (**D**) and c4 (**E**) whole cell lysates. Detection reagent used: m-IgGλ BP-HRP (Cruz Marker): sc-516132-CM.



PAP-α/β/γ (D-1): sc-365607. Western blot analysis of PAP-α expression in non-transfected: sc-110760 (**A**) and human PAP-α transfected: sc-110765 (**B**) 293 whole cell lysates.

SELECT PRODUCT CITATIONS

1. Komini, C., et al. 2021. PAPOLA contributes to cyclin D1 mRNA alternative polyadenylation and promotes breast cancer cells proliferation. J. Cell Sci. 134: jcs252304.

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.