SANTA CRUZ BIOTECHNOLOGY, INC.

BMS1 (A-12): sc-271040

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

BMS1 (ribosome biogenesis protein BMS1 homolog) is a 1,282 amino acid protein encoded by the human gene BMS1. BMS1 is a nuclear protein that belongs to the BMS1/TSR1 family (BMS1 subfamily). BMS1 is believed to act as a molecular switch during maturation of the 40S ribosomal subunit in the nucleolus. The 40S ribosomal subunit is an important member of the 80S ribosome complex, which also includes initiator tRNA and a 60S ribosomal subunit. The 80S ribosome is assembled by eukaryotic initiation factors (eIFs) at the initiation codon of mRNA in order to begin translation initiation. The joining of these ribosomal subunits requires eIF5B.

REFERENCES

1. Pestova, T.V., et al. 2000. The joining of ribosomal subunits in eukaryotes requires eIF5B. Nature 403: 332-335.
2. Crosier, M., et al. 2002. Human paralogs of KIAA0187 were created through independent pericentromeric-directed and chromosome-specific duplication mechanisms. Genome Res. 12: 67-80.
3. Strausberg, R.L., et al. 2002. Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences. Proc. Natl. Acad. Sci. USA 99: 16899-16903.
4. Andersen, J.S., et al. 2002. Directed proteomic analysis of the human nucleolus. Curr. Biol. 12: 1-11.

CHROMOSOMAL LOCATION

Genetic locus: BMS1 (human) mapping to 10q11.21; Bms1 (mouse) mapping to 6 F1.

SOURCE

BMS1 (A-12) is a mouse monoclonal antibody raised against amino acids 811-988 mapping within an internal region of BMS1 of human origin.

PRODUCT

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

BMS1 (A-12) is available conjugated to agarose (sc-271040 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271040 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271040 PE), fluorescein (sc-271040 FITC), Alexa Fluor® 488 (sc-271040 AF488), Alexa Fluor® 546 (sc-271040 AF546), Alexa Fluor® 594 (sc-271040 AF594) or Alexa Fluor® 647 (sc-271040 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271040 AF680) or Alexa Fluor® 790 (sc-271040 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

BMS1 (A-12) is recommended for detection of BMS1 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).

Suitable for use as control antibody for BMS1 siRNA (h): sc-90718, BMS1 siRNA (m): sc-141720, BMS1 shRNA Plasmid (h): sc-90718-SH, BMS1 shRNA Plasmid (m): sc-141720-SH, BMS1 shRNA (h) Lentiviral Particles: sc-90718-V and BMS1 shRNA (m) Lentiviral Particles: sc-141720-V.

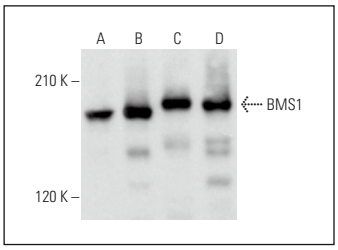
Molecular Weight of BMS1: 146 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, Caco-2 cell lysate: sc-2262 or TK-1 whole cell lysate: sc-364798.

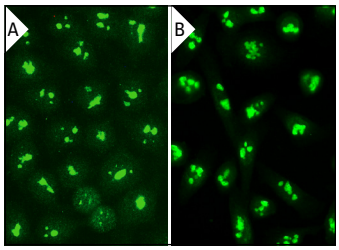
RECOMMENDED SUPPORT REAGENTS

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



BMS1 (A-12): sc-271040. Western blot analysis of BMS1 expression in HeLa nuclear extract (**A**) and Caco-2 (**B**), TK-1 (**C**) and NIH/3T3 (**D**) whole cell lysates.



BMS1 (A-12): sc-271040. Immunofluorescence staining of methanol-fixed HeLa cells showing nucleolar localization (**A**). Immunofluorescence staining of formalin-fixed SW480 cells showing nucleolar localization (**B**).

SELECT PRODUCT CITATIONS

1. Eastham, M.J., et al. 2023. The induction of p53 correlates with defects in the production, but not the levels, of the small ribosomal subunit and stalled large ribosomal subunit biogenesis. Nucleic Acids Res. 51: 9397-9414.
2. Yerlici, V.T., et al. 2024. SARS-CoV-2 targets ribosomal RNA biogenesis. Cell Rep. 43: 113891.

RESEARCH USE

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