

Bystin (A-10): sc-271722

BACKGROUND

Bystin (or Bystin-like) is an evolutionarily conserved protein from yeast to humans. It localizes to the nucleolus and cytoplasm. Nuclear Bystin associates with the 40S ribosomal subunit and cytoplasmic Bystin directly binds Trophinin and Tastin, facilitating the adhesion of cells expressing these proteins. Knock-down of Bystin inhibits cell proliferation and delays RNA processing of the 18S component of the 40S Ribosomal subunit. This suggests that Bystin plays an important role in ribosome biogenesis. In addition, embryo development is arrested around the 16-cell stage when Bystin expression is knocked down. This implies that Bystin is important for the development of preimplantation embryos. Bystin is also overexpressed in human cancers providing further evidence suggesting that it participates in cell proliferation.

REFERENCES

1. Fukuda, M.N., et al. 1999. Trophinin, Tastin, and Bystin: a complex mediating unique attachment between trophoblastic and endometrial epithelial cells at their respective apical cell membranes. *Semin. Reprod. Endocrinol.* 17: 229-234.
2. Aoki, R., et al. 2000. Recent molecular approaches to elucidate the mechanism of embryo implantation: Trophinin, Bystin, and Tastin as molecules involved in the initial attachment of blastocysts to the uterus in humans. *Semin. Reprod. Med.* 18: 265-271.

CHROMOSOMAL LOCATION

Genetic locus: BYSL (human) mapping to 6p21.1; Bysl (mouse) mapping to 17 C.

SOURCE

Bystin (A-10) is a mouse monoclonal antibody raised against amino acids 138-437 mapping at the C-terminus of Bystin of human origin.

PRODUCT

Each vial contains 200 µg IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Bystin (A-10) is recommended for detection of Bystin 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 Bystin siRNA (h): sc-62030, Bystin siRNA (m): sc-62031, Bystin shRNA Plasmid (h): sc-62030-SH, Bystin shRNA Plasmid (m): sc-62031-SH, Bystin shRNA (h) Lentiviral Particles: sc-62030-V and Bystin shRNA (m) Lentiviral Particles: sc-62031-V.

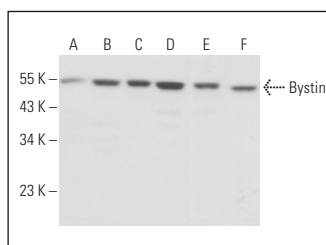
Molecular Weight of Bystin: 50 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, HeLa whole cell lysate: sc-2200 or NIH/3T3 whole cell lysate: sc-2210.

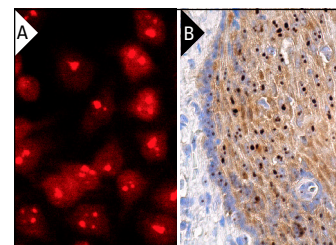
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Bystin (A-10): sc-271722. Western blot analysis of Bystin expression in HeLa (A), Jurkat (B), A-431 (C), NIH/3T3 (D), RAW 264.7 (E) and A-10 (F) whole cell lysates.



Bystin (A-10): sc-271722. Immunofluorescence staining of methanol-fixed HeLa cells showing nucleolar and nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing nucleolar and cytoplasmic staining of squamous epithelial cells (B).

SELECT PRODUCT CITATIONS

1. Landry-Voyer, A.M., et al. 2016. Human PDCD2L is an export substrate of CRM1 that associates with 40S ribosomal subunit precursors. *Mol. Cell. Biol.* 36: 3019-3032.
2. Khajuria, R.K., et al. 2018. Ribosome levels selectively regulate translation and lineage commitment in human hematopoiesis. *Cell* 173: 90-103.e19.
3. Landry-Voyer, A.M., et al. 2020. PDCD2 functions as an evolutionarily conserved chaperone dedicated for the 40S Ribosomal Protein uS5 (RPS2). *Nucleic Acids Res.* 48: 12900-12916.

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.