SANTA CRUZ BIOTECHNOLOGY, INC.

Bystin (F-7): sc-393616

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.
3. Sheng, J., et al. 2004. Bystin as a novel marker for reactive astrocytes in the adult rat brain following injury. Eur. J. Neurosci. 20: 873-884.
4. Aoki, R., et al. 2006. The Bysl gene product, Bystin, is essential for survival of mouse embryos. FEBS Lett. 580: 6062-6068.
5. Ma, L., et al. 2006. Expression of Trophinin and Bystin identifies distinct cell types in the germinal zones of adult rat brain. Eur. J. Neurosci. 23: 2265-2276.
6. Ayala, G.E., et al. 2006. Bystin in perineural invasion of prostate cancer. Prostate 66: 266-272.
7. Miyoshi, M., et al. 2007. Bystin in human cancer cells: intracellular localization and function in ribosome biogenesis. Biochem. J. 404: 373-381.

CHROMOSOMAL LOCATION

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

SOURCE

Bystin (F-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 151-184 within an internal region of Bystin of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-393616 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Bystin (F-7) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Bystin (F-7) is also recommended for detection of Bystin in additional species, including equine.

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.

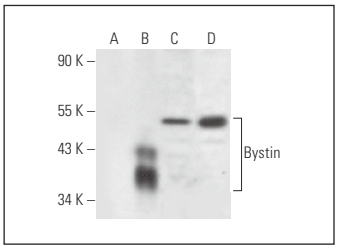
Molecular Weight of Bystin: 50 kDa.

Positive Controls: Bystin (m): 293T Lysate: sc-118882, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

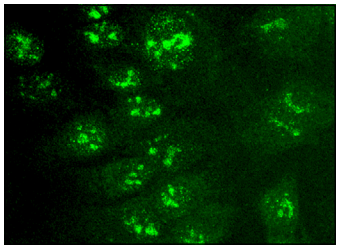
RECOMMENDED SUPPORT REAGENTS

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



Bystin (F-7): sc-393616. Western blot analysis of Bystin expression in non-transfected 293T: sc-117752 (**A**), mouse Bystin transfected 293T: sc-118882 (**B**), HeLa (**C**) and Jurkat (**D**) whole cell lysates.



Bystin (F-7): sc-393616. Immunofluorescence staining of methanol-fixed HepG2 cells showing nucleolar and nuclear localization.

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.