

Bystin (S-20): sc-67526

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. and Nozawa, S. 2000. 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. and Fukuda, M.N. 2001. 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., Yang, S., Xu, L., Wu, C., Wu, X., Li, A., Yu, Y., Ni, H., Fukuda, M. and Zhou, J. 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., Suzuki, N., Paria, B.C., Sugihara, K., Akama, T.O., Raab, G., Miyoshi, M., Nadano, D. and Fukuda, M.N. 2006. The Bysl gene product, Bystin, is essential for survival of mouse embryos. *FEBS Lett.* 580: 6062-6068.
5. Ma, L., Yin, M., Wu, X., Wu, C., Yang, S., Sheng, J., Ni, H., Fukuda, M.N. and Zhou, J. 2006. Expression of Trophinin and Bystin identifies distinct cell types in the germinal zones of adult rat brain. *Eur. J. Neurosci.* 23: 2265-2276.

CHROMOSOMAL LOCATION

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

SOURCE

Bystin (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Bystin of human origin.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-67526 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Bystin (S-20) is recommended for detection of Bystin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 (S-20) is also recommended for detection of Bystin in additional species, including equine, canine, bovine, porcine and avian.

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.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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