

Bex1 (N-14): sc-48963

BACKGROUND

The brain-expressed X-linked (Bex) family of proteins is expressed in the central nervous system, with highest levels detected in cerebellum, temporal lobe and pituitary tissues. Bex1 plays an important role in neuronal differentiation in response to nerve growth factor (NGF), as well as in cell cycle progression. Bex1 is a highly ubiquitinated protein and acts as a link between the cell cycle and neurotrophic factor signaling. Bex2 interacts with LMO2, thereby regulating the transcriptional activity of a DNA-binding complex. Bex1 and Bex2 are widely expressed outside of the central nervous system with high expression in the liver. Bex1 and Bex2 shuttle between the cytoplasm and the nucleus. Though the role of Bex1 is largely unknown, it may function by coordinating internal cellular states with the ability of cells to respond to external signals.

REFERENCES

1. Brown, A.L. and Kay, G.F. 1999. Bex1, a gene with increased expression in parthenogenetic embryos, is a member of a novel gene family on the mouse X chromosome. *Hum. Mol. Genet.* 8: 611-619.
2. Williams, J.W., Hawes, S.M., Patel, B. and Latham, K.E. 2002. Trophoblast-specific expression of the X-linked Bex1/Rex3 gene in preimplantation stage mouse embryos. *Mol. Reprod. Dev.* 61: 281-287. Erratum in *Mol. Reprod. Dev.* 63: 141.
3. Yang, Q.S., Xia, F., Gu, S.H., Yuan, H.L., Chen, J.Z., Yang, Q.S., Ying, K., Xie, Y. and Mao, Y.M. 2002. Cloning and expression pattern of a spermatogenesis-related gene, BEX1, mapped to chromosome Xq22. *Biochem. Genet.* 40: 1-12.
4. Alvarez, E., Zhou, W., Witta, S.E. and Freed, C.R. 2005. Characterization of the Bex gene family in humans, mice, and rats. *Gene* 357: 18-28.
5. Han, C., Liu, H., Liu, J., Yin, K., Xie, Y., Shen, X., Wang, Y., Yuan, J., Qiang, B., Liu, Y.J. and Peng, X. 2005. Human Bex2 interacts with LMO2 and regulates the transcriptional activity of a novel DNA-binding complex. *Nucleic Acids Res.* 33: 6555-6565.
6. Koo, J.H., Saraswati, M. and Margolis, F.L. 2005. Immunolocalization of Bex protein in the mouse brain and olfactory system. *J. Comp. Neurol.* 487: 1-14.
7. Bernstein, S.L., Koo, J.H., Slater, B.J., Guo, Y. and Margolis, F.L. 2006. Analysis of optic nerve stroke by retinal Bex expression. *Mol. Vis.* 12: 147-155.
8. Foltz, G., Ryu, G.Y., Yoon, J.G., Nelson, T., Fahey, J., Frakes, A., Lee, H., Field, L., Zander, K., Sibenaller, Z., Ryken, T.C., Vibhakar, R., Hood, L. and Madan, A. 2006. Genome-wide analysis of epigenetic silencing identifies Bex1 and Bex2 as candidate tumor suppressor genes in malignant glioma. *Cancer Res.* 66: 6665-6674.
9. Vilar, M., Murillo-Carretero, M., Mira, H., Magnusson, K., Besset, V. and Ibáñez, C.F. 2006. Bex1, a novel interactor of the p75 neurotrophin receptor, links neurotrophin signaling to the cell cycle. *EMBO J.* 25: 1219-1230.

CHROMOSOMAL LOCATION

Genetic locus: BEX1 (human) mapping to Xq22.1; Bex1 (mouse) mapping to X F1.

SOURCE

Bex1 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Bex1 of human origin.

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-48963 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Bex1 (N-14) is recommended for detection of Bex1 of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Bex1 siRNA (h): sc-60269, Bex1 siRNA (m): sc-60270, Bex1 shRNA Plasmid (h): sc-60269-SH, Bex1 shRNA Plasmid (m): sc-60270-SH, Bex1 shRNA (h) Lentiviral Particles: sc-60269-V and Bex1 shRNA (m) Lentiviral Particles: sc-60270-V.

Molecular Weight of Bex1: 15 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) 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.

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 or our catalog for detailed protocols and support products.



Try **Bex1/2 (D-6): sc-376342**, our highly recommended monoclonal alternative to Bex1 (N-14).