

## Bex2 (4H34): sc-70421

### BACKGROUND

The brain-expressed X-linked (Bex) family of proteins are expressed in the central nervous system, with highest levels detected in cerebellum, temporal lobe and pituitary tissues. Bex1 a highly ubiquitinated protein, plays an important role in neuronal differentiation (in response to nerve growth factor (NGF)) and cell cycle progression. Bex1 acts as a link between the cell cycle and the neurotrophic factor signaling. Bex2 is highly expressed in the embryonic brain and interacts with LMO2, a LIM-domain containing transcriptional factor, thereby regulating the transcriptional activity of a DNA-binding complex. Bex1 and Bex2 shuttle between the cytoplasm and the nucleus. Bex2 may be implicated in tumor formation, since upregulation leads to increased sensitivity to chemotherapy-induced apoptosis. Bex2 also exhibits powerful tumor suppressor effects.

### 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., et al. 2002. Trophectoderm-specific expression of the X-linked Bex1/Rex3 gene in preimplantation stage mouse embryos. *Mol. Reprod. Dev.* 61: 281-287.
3. Yang, Q.S., et al. 2002. Cloning and expression pattern of a spermatogenesis-related gene, BEX1, mapped to chromosome Xq22. *Biochem. Genet.* 40: 1-12.
4. Alvarez, E. et al. 2005. Characterization of the Bex gene family in humans, mice and rats. *Gene* 357: 18-28.
5. Han, C., et al. 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. et al. 2005. Immunolocalization of Bex protein in the mouse brain and olfactory system. *J. Comp. Neurol.* 487: 1-14.
7. Bernstein, S.L., et al. 2006. Analysis of optic nerve stroke by retinal Bex expression. *Mol. Vis.* 12: 147-155.
8. Foltz, G., et al. 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., et al. 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: BEX2 (human) mapping to Xq22.1.

### SOURCE

Bex2 (4H34) is a mouse monoclonal antibody raised against full length Bex2 of human origin.

### PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### APPLICATIONS

Bex2 (4H34) is recommended for detection of Bex2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Bex2 siRNA (h): sc-60271, Bex2 shRNA Plasmid (h): sc-60271-SH and Bex2 shRNA (h) Lentiviral Particles: sc-60271-V.

Molecular Weight of Bex2: 15 kDa.

### 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](http://www.scbt.com) for detailed protocols and support products.