

Brn-3b (H-18): sc-31989

BACKGROUND

The Brn family of transcription factors are found in a highly restricted subset of neurons and are critical to the early embryonic development of the central nervous system. Brn-1 and Brn-2 are class III POU (Pit-Oct-Unc) domain proteins, whereas Brn-3 is a class IV POU domain protein. Three Brn-3 proteins have been described and are designated Brn-3a, Brn-3b and Brn-3c. While Brn-3a and Brn-3c stimulate transcription, Brn-3b generally functions as a transcriptional repressor. However, Brn-3b, but not Brn-3a, has been shown to regulate the expression of the acetylcholine receptor. Interestingly, Brn-3a has two functional transactivating domains, one at the amino-terminus and one at the carboxy-terminus. Brn-2 is thought to be involved in smooth muscle cell development and differentiation.

REFERENCES

1. Collum, R.G., et al. 1992. A novel POU homeodomain gene specifically expressed in cells of the developing mammalian nervous system. *Nucleic Acids Res.* 20: 4919-4925.
2. Fedtsova, N.G., et al. 1995. Brn-3.0 expression identifies early post-mitotic CNS neurons and sensory neural precursors. *Mech. Dev.* 53: 291-304.
3. Schonemann, M.D., et al. 1995. Development and survival of the endocrine hypothalamus and posterior pituitary gland requires the neuronal POU domain factor Brn-2. *Genes Dev.* 9: 3122-3135.
4. Budhram-Mahadeo, V., et al. 1996. The different activities of the two activation domains of the Brn-3a transcription factor are dependent on the context of the binding site. *J. Biol. Chem.* 271: 9108-9113.

CHROMOSOMAL LOCATION

Genetic locus: POU4F2 (human) mapping to 4q31.22; Pou4f2 (mouse) mapping to 8 C1.

SOURCE

Brn-3b (H-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Brn-3b 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-31989 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-31989 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

Brn-3b (H-18) is recommended for detection of Brn-3b 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).

Brn-3b (H-18) is also recommended for detection of Brn-3b in additional species, including equine, canine, bovine and porcine.

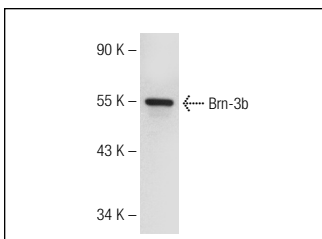
Suitable for use as control antibody for Brn-3b siRNA (h): sc-38766, Brn-3b siRNA (m): sc-38767, Brn-3b shRNA Plasmid (h): sc-38766-SH, Brn-3b shRNA Plasmid (m): sc-38767-SH, Brn-3b shRNA (h) Lentiviral Particles: sc-38766-V and Brn-3b shRNA (m) Lentiviral Particles: sc-38767-V.

Brn-3b (H-18) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Brn-3b: 51 kDa.

Positive Controls: mouse eye extract: sc-364241 or K-562 whole cell lysate: sc-2203.

DATA



Brn-3b (H-18): sc-31989. Western blot analysis of Brn-3b expression in mouse eye tissue extract.

SELECT PRODUCT CITATIONS

1. Nie, D., et al. 2010. Tsc2-Rheb signaling regulates EphA-mediated axon guidance. *Nat. Neurosci.* 13: 163-172.
2. Nadal-Nicolas, F.M., et al. 2012. Whole number, distribution and co-expression of brn3 transcription factors in retinal ganglion cells of adult albino and pigmented rats. *PLoS ONE* 7: e49830.

RESEARCH USE

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



Try **Brn-3b (D-8): sc-514474** or **Brn-3 (A-4): sc-390780**, our highly recommended monoclonal alternatives to Brn-3b (H-18). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Brn-3b (D-8): sc-514474**.