SANTA CRUZ BIOTECHNOLOGY, INC.

Brn-3 (H-80): sc-28595

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. Atanasoski, S., et al. 1995. Isolation of the human genomic brain-2/N-Oct 3 gene (POUF3) and assignment to chromosome 6q16. Genomics 26: 272-280.
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.
5. Dawson, S.J., et al. 1996. A single amino acid change converts an inhibitory transcription factor into an activator. J. Biol. Chem. 271: 11631-11633.
6. Erkman, L., et al. 1996. Role of transcription factors Brn-3.1 and Brn-3.2 in auditory and visual system development. Nature 381: 603-606.
7. Gan, L., et al. 1996. POU domain factor Brn-3b is required for the development of a large set of retinal ganglion cells. Proc. Natl. Acad. Sci. USA 93: 3920-3925.
8. Suzuki, T., et al. 1996. Preferential differentiation of P19 mouse embryonal carcinoma cells into smooth muscle cells. Use of retinoic acid and antisense against the central nervous system-specific POU transcription factor Brn-2. Circ. Res.78: 395-404.
9. Sumiyama, K., et al. 1998. Human class III POU genes, POU3F1 and POU3F3, map to chromosomes 1p34.1 and 3p14.2. Mamm. Genome 9: 180-181.

SOURCE

Brn-3 (H-80) is a rabbit polyclonal antibody raised against amino acids 321-400 mapping near the C-terminus of Brn-3a 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.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-28595 X, 200 µg/0.1 ml.

APPLICATIONS

Brn-3 (H-80) is recommended for detection of Brn-3a, Brn-3b and Brn-3c 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-3 (H-80) is also recommended for detection of Brn-3a, Brn-3b and Brn-3c in additional species, including equine, canine, bovine, porcine and avian.

Brn-3 (H-80) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Brn-3a: 53 kDa.

Molecular Weight of Brn-3b: 51 kDa.

Molecular Weight of Brn-3c: 42 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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.