SANTA CRUZ BIOTECHNOLOGY, INC.

Brn-3b (S-16): sc-31988

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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 domain proteins. Expressed during the development of the forebrain and coexpressed in most layer II-V cortical neurons, Brn-1 and Brn-2 appear to critically control the initiation of radial migration of cortical neurons. Brn-2 is thought to be involved in smooth muscle cell development and differentiation. 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. Brn-3a has two functional transactivating domains, one at the amino terminus and one at the carboxy terminus. 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.

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.

CHROMOSOMAL LOCATION

Genetic locus: POU4F2 (human) mapping to 4q31.23, POU4F3 (human) mapping to 5q32; Pou4f2 (mouse) mapping to 8 C1, Pou4f3 (mouse) mapping to 18 B3-E1

SOURCE

Brn-3b (S-16) 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-31988 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-31988 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Brn-3b (S-16) is recommended for detection of Brn-3b, and to a lesser extent, Brn-3c of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (S-16) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

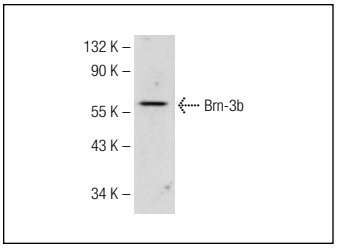
Molecular Weight of Brn-3b: 51 kDa.

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

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.

DATA



Brn-3b (S-16): sc-31988. Western blot analysis of Brn-3b expression in mouse eye tissue extract.

SELECT PRODUCT CITATIONS

1. Ruzhynsky, V.A., et al. 2009. E2F4 is required for early eye patterning. Dev. Neurosci. 31: 238-246.

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.