SANTA CRUZ BIOTECHNOLOGY, INC.

Brn-2 (B-2): sc-393324

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 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 tochromosome 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: POU3F2 (human) mapping to 6q16.1; Pou3f2 (mouse) mapping to 4 A3.

SOURCE

Brn-2 (B-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 414-443 at the C-terminus of Brn-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain 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-393324 X, 200 µg/0.1 ml.

Brn-2 (B-2) is available conjugated to agarose (sc-393324 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393324 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393324 PE), fluorescein (sc-393324 FITC), Alexa Fluor® 488 (sc-393324 AF488), Alexa Fluor® 546 (sc-393324 AF546), Alexa Fluor® 594 (sc-393324 AF594) or Alexa Fluor® 647 (sc-393324 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393324 AF680) or Alexa Fluor® 790 (sc-393324 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393324 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Brn-2 (B-2) is recommended for detection of Brn-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

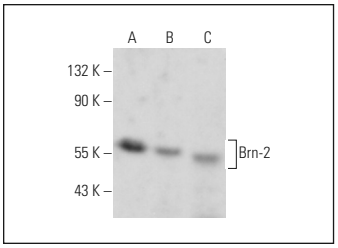
Suitable for use as control antibody for Brn-2 siRNA (h): sc-29837, Brn-2 siRNA (m): sc-29838, Brn-2 shRNA Plasmid (h): sc-29837-SH, Brn-2 shRNA Plasmid (m): sc-29838-SH, Brn-2 shRNA (h) Lentiviral Particles: sc-29837-V and Brn-2 shRNA (m) Lentiviral Particles: sc-29838-V.

Brn-2 (B-2) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

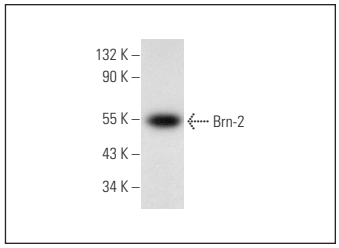
Molecular Weight of Brn-2: 50 kDa.

Positive Controls: MDA-MB-435S whole cell lysate: sc-364184, C6 whole cell lysate: sc-364373 or Jurkat nuclear extract: sc-2132.

DATA



Brn-2 (B-2): sc-393324. Western blot analysis of Brn-2 expression in A-375 (**A**), MDA-MB-435S (**B**) and C6 (**C**) whole cell lysates.



Brn-2 (B-2): sc-393324. Western blot analysis of Brn-2 expression in Jurkat nuclear extract.

SELECT PRODUCT CITATIONS

1. Kim, Y.J., et al. 2018. Chd2 is necessary for neural circuit development and long-term memory. Neuron 100: 1180-1193.e6.
2. Meijer, M., et al. 2019. A single-cell model for synaptic transmission and plasticity in human iPSC-derived neurons. Cell Rep. 27: 2199-2211.e6.
3. Habekost, M., et al. 2020. MicroRNAs and Ascl1 facilitate direct conversion of porcine fibroblasts into induced neurons. Stem Cell Res. 48: 101984.
4. Sulistomo, H.W., et al. 2021. Fhod3 controls the dendritic spine morphology of specific subpopulations of pyramidal neurons in the mouse cerebral cortex. Cereb. Cortex 31: 2205-2219.
5. Ding, C., et al. 2021. Transcription factor POU3F2 regulates TRIM8 expression contributing to cellular functions implicated in schizophrenia. Mol. Psychiatry 26: 3444-3460.
6. Chen, J., et al. 2021. A MYT1L syndrome mouse model recapitulates patient phenotypes and reveals altered brain development due to disrupted neuronal maturation. Neuron 109: 3775-3792.e14.

RESEARCH USE

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