SANTA CRUZ BIOTECHNOLOGY, INC.

Brn-2 (C-20): sc-6029

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.

CHROMOSOMAL LOCATION

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

SOURCE

Brn-2 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Brn-2 of human origin.

PRODUCT

Each vial contains 100 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-6029 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-6029 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Brn-2 (C-20) is recommended for detection of Brn-2 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-2 (C-20) is also recommended for detection of Brn-2 in additional species, including equine, canine, bovine and porcine.

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 (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

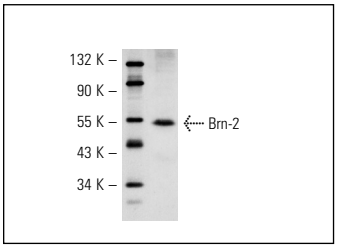
Molecular Weight of Brn-2: 50 kDa.

Positive Controls: SK-N-MC cell lysate: sc-2237 or HeLa nuclear extract: sc-2120.

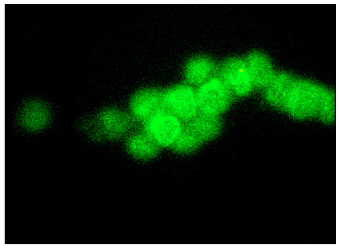
STORAGE

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

DATA



Brn-2 (C-20): sc-6029. Western blot analysis of Brn-2 expression in SK-N-MC whole cell lysate.



Brn-2 (C-20): sc-6029. Immunofluorescence staining of methanol-fixed SK-N-MC cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Skala, H., et al. 1998. Upstream elements involved *in vivo* in activation of the brain-specific rat aldolase C gene. J. Biol. Chem. 273: 31806-31814.
2. Pulvers, J.N., et al. 2009. Brca1 is required for embryonic development of the mouse cerebral cortex to normal size by preventing apoptosis of early neural progenitors. Development 136: 1859-1868.
3. Yamanaka, T., et al. 2010. Mutant huntingtin fragment selectively suppresses Brn-2 POU domain transcription factor to mediate hypothalamic cell dysfunction. Hum. Mol. Genet. 19: 2099-2112.
4. Kobi, D., et al. 2010. Genome-wide analysis of POU3F2/BRN2 promoter occupancy in human melanoma cells reveals Kitl as a novel regulated target gene. Pigment Cell Melanoma Res. 23: 404-418.
5. Takaoka, N., et al. 2011. Analysis of the regulation of fatty acid binding protein 7 expression in human renal carcinoma cell lines. BMC Mol. Biol. 12: 31.
6. Wilson, S.L., et al. 2011. Spatially restricted and developmentally dynamic expression of engrailed genes in multiple cerebellar cell types. Cerebellum 10: 356-372.
7. Berlin, I., et al. 2012. Phosphorylation of BRN2 modulates its interaction with the Pax3 promoter to control melanocyte migration and proliferation. Mol. Cell. Biol. 32: 1237-1247.

RESEARCH USE

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