SANTA CRUZ BIOTECHNOLOGY, INC.

Brn-3a (C-20): sc-31984

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.

CHROMOSOMAL LOCATION

Genetic locus: POU4F1 (human) mapping to 13q31.1; Pou4f1 (mouse) mapping to 14 E2.3.

SOURCE

Brn-3a (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Brn-3a 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-31984 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-31984 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Brn-3a (C-20) is recommended for detection of Brn-3a 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-3a (C-20) is also recommended for detection of Brn-3a in additional species, including canine.

Suitable for use as control antibody for Brn-3a siRNA (h): sc-29839, Brn-3a siRNA (m): sc-29840, Brn-3a shRNA Plasmid (h): sc-29839-SH, Brn-3a shRNA Plasmid (m): sc-29840-SH, Brn-3a shRNA (h) Lentiviral Particles: sc-29839-V and Brn-3a shRNA (m) Lentiviral Particles: sc-29840-V.

Brn-3a (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of Brn-3a: 43 kDa.

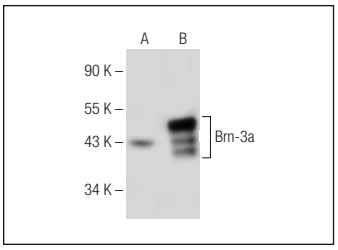
Molecular Weight (observed) of Brn-3a: 47 kDa.

Positive Controls: Brn-3a (h): 293T Lysate: sc-128117.

STORAGE

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

DATA



Brn-3a (C-20): sc-31984. Western blot analysis of Brn-3a expression in non-transfected: sc-117752 (**A**) and human Brn-3a transfected: sc-128117 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Nadal-Nicolás, F.M., et al. 2009. Brn-3a as a marker of retinal ganglion cells: qualitative and quantitative time course studies in naive and optic nerve-injured retinas. Invest. Ophthalmol. Vis. Sci. 50: 3860-3868.
2. Hayashida, Y., et al. 2009. Inhibition of adult rat retinal ganglion cells by D1-type dopamine receptor activation. J. Neurosci. 29: 15001-15016.
3. Nadal-Nicolás, 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.
4. Kerr, N.M., et al. 2012. High pressure-induced retinal ischaemia reperfusion causes upregulation of gap junction protein connexin43 prior to retinal ganglion cell loss. Exp. Neurol. 234: 144-152.
5. Gallagher, S.K., et al. 2012. Dopaminergic amacrine cells express opioid receptors in the mouse retina. Vis. Neurosci. 29: 203-209.
6. Charalambous, P., et al. 2013. Regulation and effects of GDF-15 in the retina following optic nerve crush. Cell Tissue Res. 353: 1-8.
7. Fan, W., et al. 2013. Expression of NMDA receptor subunit 1 in the rat retina. Acta Histochem. 115: 42-47.
8. Hozumi, Y., et al. 2013. Distinct expression and localization of diacylglycerol kinase isozymes in rat retina. J. Histochem. Cytochem. 61: 462-476.

RESEARCH USE

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