SANTA CRUZ BIOTECHNOLOGY, INC.

Brn-3a (H-6): sc-390078

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 (H-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 97-135 near the N-terminus of Brn-3a 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-390078 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-390078 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

Brn-3a (H-6) is recommended for detection of Brn-3a 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-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 (H-6) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

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

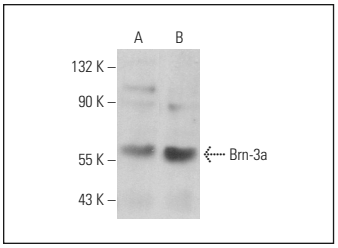
Molecular Weight (observed) of Brn-3a: 47 kDa.

Positive Controls: Brn-3a (h): 293T Lysate: sc-128117, MDA-MB-231 cell lysate: sc-2232 or K-562 whole cell lysate: sc-2203.

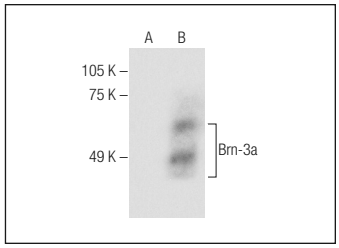
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Brn-3a (H-6): sc-390078. Western blot analysis of Brn-3a expression in K-562 (**A**) and MDA-MB-231 (**B**) whole cell lysates.



Brn-3a (H-6): sc-390078. 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. Edin, F., et al. 2014. Differentiation of human neural progenitor cell-derived spiral ganglion-like neurons: a time-lapse video study. Acta Otolaryngol. 134: 441-447.
2. Ulbrich, F., et al. 2016. Argon mediates protection by interleukin-8 suppression via a TLR2/TLR4/Stat3/NFκB pathway in a model of apoptosis in neuroblastoma cells *in vitro* and following ischemia-reperfusion injury in rat retina *in vivo*. J. Neurochem. 138: 859-873.
3. Ulbrich, F., et al. 2016. The CORM ALF-186 mediates anti-apoptotic signaling via an activation of the p38 MAPK after ischemia and reperfusion injury in retinal ganglion cells. PLoS ONE 11: e0165182.
4. Ulbrich, F., et al. 2017. The carbon monoxide releasing molecule ALF-186 mediates anti-inflammatory and neuroprotective effects via the soluble guanylate cyclase β1 in rats' retinal ganglion cells after ischemia and reperfusion injury. J. Neuroinflammation 14: 130.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.