

## Brn-3a (14A6): sc-8429

### 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 (14A6) is a mouse monoclonal antibody raised against amino acids 1-109 of Brn-3a of mouse origin.

### PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> 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-8429 X, 200 µg/0.1 ml.

Brn-3a (14A6) is available conjugated to agarose (sc-8429 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-8429 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-8429 PE), fluorescein (sc-8429 FITC), Alexa Fluor® 488 (sc-8429 AF488), Alexa Fluor® 546 (sc-8429 AF546), Alexa Fluor® 594 (sc-8429 AF594) or Alexa Fluor® 647 (sc-8429 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-8429 AF680) or Alexa Fluor® 790 (sc-8429 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

### APPLICATIONS

Brn-3a (14A6) 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), immunohistochemistry (including paraffin-embedded sections) (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 (14A6) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

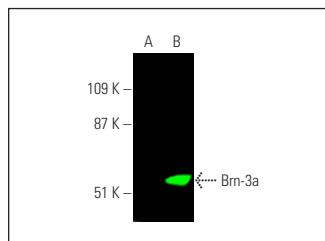
Molecular Weight (predicted) of Brn-3a: 43 kDa.

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

### 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 (14A6): sc-8429. Near-infrared 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. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

### SELECT PRODUCT CITATIONS

- Smith, M.D., et al. 2001. The POU domain transcription factor Brn-3a protects cortical neurons from apoptosis. *Neuroreport* 12: 3183-3188.
- Dong, L.D., et al. 2013. Enhanced expression of NR2B subunits of NMDA receptors in the inherited glaucomatous DBA/2J mouse retina. *Neural Plast.* 2013: 670254.
- Deng, M., et al. 2014. Comparative expression analysis of POU4F1, POU4F2 and ISL1 in developing mouse cochleovestibular ganglion neurons. *Gene Expr. Patterns* 15: 31-37.
- Munguba, G.C., et al. 2014. Nerve fiber layer thinning lags retinal ganglion cell density following crush axonopathy. *Invest. Ophthalmol. Vis. Sci.* 55: 6505-6513.
- Zhao, X., et al. 2015. The effects of sonic hedgehog on retinal Müller cells under high-glucose stress. *Invest. Ophthalmol. Vis. Sci.* 56: 2773-2782.
- Kabayiza, K.U., et al. 2017. The onecut transcription factors regulate differentiation and distribution of dorsal interneurons during spinal cord development. *Front. Mol. Neurosci.* 10: 157.
- Zhao, Y., et al. 2017. Annexin A1 nuclear translocation induces retinal ganglion cell apoptosis after ischemia-reperfusion injury through the p65/IL-1β pathway. *Biochim. Biophys. Acta* 1863: 1350-1358.
- Li, L.U., et al. 2017. P16<sup>INK4a</sup> upregulation mediated by TBK1 induces retinal ganglion cell senescence in ischemic injury. *Cell Death Dis.* 8: e2752.

### RESEARCH USE

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

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA