SANTA CRUZ BIOTECHNOLOGY, INC.

Neuro D (A-10): sc-46684

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The basic helix-loop-helix (bHLH) proteins are transcription factors that are required for several aspects of development, including cell type determination, terminal differentiation and sex determination. The HLH domain is required for dimerization, while the basic region makes specific contacts with DNA. Members of the myogenic determination family, MyoD, Myf5, myogenin and MRF4, all have bHLH domains. These proteins heterodimerize with members of the E protein family and initiate myogenesis. Neuro D has been identified as a bHLH transcription factor functioning in neurogenic differentiation. Neuro D is expressed transiently in a subset of neurons in the central and peripheral nervous systems at the time of their terminal differentiation into mature neurons. Moreover, ectopic expression of Neuro D in *Xenopus* embryos induces premature differentiation of neuronal precursors and Neuro D can convert presumptive epidermal cells into neurons.

CHROMOSOMAL LOCATION

Genetic locus: NEUROD1 (human) mapping to 2q31.3.

SOURCE

Neuro D (A-10) is a mouse monoclonal antibody raised against amino acids 281-356 of Neuro D 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-46684 X, 200 µg/0.1 ml.

Neuro D (A-10) is available conjugated to agarose (sc-46684 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-46684 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-46684 PE), fluorescein (sc-46684 FITC), Alexa Fluor® 488 (sc-46684 AF488), Alexa Fluor® 546 (sc-46684 AF546), Alexa Fluor® 594 (sc-46684 AF594) or Alexa Fluor® 647 (sc-46684 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-46684 AF680) or Alexa Fluor® 790 (sc-46684 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Neuro D (A-10) is recommended for detection of Neuro D of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:2000), 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 Neuro D siRNA (h): sc-36035, Neuro D shRNA Plasmid (h): sc-36035-SH and Neuro D shRNA (h) Lentiviral Particles: sc-36035-V.

Neuro D (A-10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

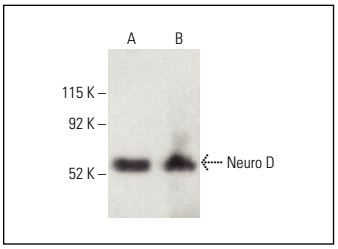
Molecular Weight of Neuro D: 50 kDa.

Positive Controls: Y79 nuclear extract: sc-2126, IMR-32 cell lysate: sc-2409 or Y79 cell lysate: sc-22401.

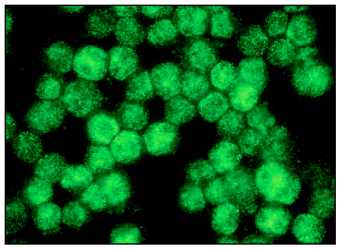
STORAGE

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

DATA



Neuro D (A-10) HRP: sc-46684 HRP. Direct western blot analysis of Neuro D expression in IMR-32 whole cell lysate (**A**) and Y79 nuclear extract (**B**).



Neuro D (A-10): sc-46684. Immunofluorescence staining of methanol-fixed Y79 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Zhao, M., et al. 2008. Amelioration of streptozotocin-induced diabetes in mice with cells derived from human marrow stromal cells. PLoS ONE 3: e4666.
2. Zhao, M. and Huang, G.C. 2012. Conversion of non-endocrine human pancreatic cells to Insulin-producing cells for treatment of diabetes. Methods Mol. Biol. 806: 73-85.
3. Lee, J., et al. 2013. Expansion and conversion of human pancreatic ductal cells into Insulin-secreting endocrine cells. Elife 2: e00940.
4. Li, X., et al. 2016. Differentiation of spiral ganglion-derived neural stem cells into functional synaptogenetic neurons. Stem Cells Dev. 25: 803-813.
5. Bengoa-Vergniory, N., et al. 2017. Identification of noncanonical Wnt receptors required for Wnt-3a-induced early differentiation of human neural stem cells. Mol. Neurobiol. 54: 6213-6224.
6. Fukuda, T., et al. 2018. The poly-cistronic expression of four transcriptional factors (CRX, RAX, Neuro D, OTX2) in fibroblasts via retro- or lentivirus causes partial reprogramming into photoreceptor cells. Cell Biol. Int. 42: 608-614.
7. Mao, X., et al. 2019. Single-cell RNA sequencing of hESC-derived 3D retinal organoids reveals novel genes regulating RPC commitment in early human retinogenesis. Stem Cell Reports 13: 747-760.
8. Robledinos-Antón, N., et al. 2020. TAZ represses the neuronal commitment of neural stem cells. Cells 9: 2230.
9. Pearson, J.D., et al. 2021. Binary pan-cancer classes with distinct vulnerabilities defined by pro- or anti-cancer YAP/TEAD activity. Cancer Cell 39: 1115-1134.e12.

RESEARCH USE

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