SANTA CRUZ BIOTECHNOLOGY, INC.

Neurofibromin (H-12): sc-376886

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Neurofibromatosis type 1 (NF1), or von Reckinghausen neurofibromatosis, is one of the most common autosomal dominant disorders in humans. Early linkage analysis mapped the NF1 gene to chromosome 17. The predicted NF1 transcript encodes the 2,818 amino acid protein Neurofibromin, also designated NF1-GAP-related protein (NF1GRP). By sequence analysis, similarity has been demonstrated within a small region of Neurofibromin and members of the Ras GAP gene family. Functionally, Neurofibromin has been shown by biochemical analysis involving RAS-GAP hydrolysis and functional complementation in yeast to further resemble GAP protein. The Neurofibromin protein is expressed at relatively constant levels in a broad range of cell lines and tissues including brain, lung, liver, kidney, spleen, muscle and colon. Although little is known regarding the function of Neurofibromin, the homology with the catalytic domain of proteins with GTPase activity suggests that Neurofibromin may also interact *in vivo* with Ras proteins.

REFERENCES

1. Riccardi, V.M., et al. 1986. Neurofibromatosis: Phenotype, Natural History, and Pathogenesis. Johns Hopkins Univ. Press, Baltimore.
2. Goldgar, D.E., et al. 1989. Multipoint linkage analysis in neurofibromatosis type 1: an international collaboration. Am. J. Hum. Genet. 44: 6-12.
3. Xu, G., et al. 1990. The neurofibromatosis type 1 gene encodes a protein related to GAP. Cell 62: 599-608.

CHROMOSOMAL LOCATION

Genetic locus: NF1 (human) mapping to 17q11.2; Nf1 (mouse) mapping to 11 B5.

SOURCE

Neurofibromin (H-12) is a mouse monoclonal antibody raised against amino acids 241-540 mapping near the N-terminus of Neurofibromin 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.

Neurofibromin (H-12) is available conjugated to agarose (sc-376886 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376886 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376886 PE), fluorescein (sc-376886 FITC), Alexa Fluor® 488 (sc-376886 AF488), Alexa Fluor® 546 (sc-376886 AF546), Alexa Fluor® 594 (sc-376886 AF594) or Alexa Fluor® 647 (sc-376886 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376886 AF680) or Alexa Fluor® 790 (sc-376886 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

Neurofibromin (H-12) is recommended for detection of Neurofibromin 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), 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).

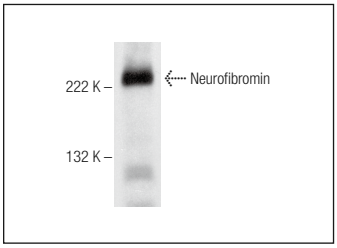
Neurofibromin (H-12) is also recommended for detection of Neurofibromin in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Neurofibromin siRNA (h): sc-36036, Neurofibromin siRNA (m): sc-36037, Neurofibromin siRNA (r): sc-270621, Neurofibromin shRNA Plasmid (h): sc-36036-SH, Neurofibromin shRNA Plasmid (m): sc-36037-SH, Neurofibromin shRNA Plasmid (r): sc-270621-SH, Neurofibromin shRNA (h) Lentiviral Particles: sc-36036-V, Neurofibromin shRNA (m) Lentiviral Particles: sc-36037-V and Neurofibromin shRNA (r) Lentiviral Particles: sc-270621-V.

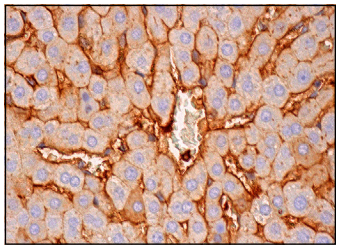
Molecular Weight of Neurofibromin: 250 kDa.

Positive Controls: LNCaP cell lysate: sc-2231, A-431 whole cell lysate: sc-2201 or HeLa whole cell lysate: sc-2200.

DATA



Neurofibromin (H-12): sc-376886. Western blot analysis of Neurofibromin expression in LNCaP whole cell lysate.



Neurofibromin (H-12): sc-376886. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing membrane staining of hepatocytes and sinusoids.

SELECT PRODUCT CITATIONS

1. Brosseau, J.P., et al. 2018. NF1 heterozygosity fosters *de novo* tumorigenesis but impairs malignant transformation. Nat. Commun. 9: 5014.
2. Peta, C., et al. 2020. Nuclear isoforms of Neurofibromin are required for proper spindle organization and chromosome segregation. Cells 9: 2348.
3. Doucet, E., et al. 2021. Blockade of serotonin 5-HT6 receptor constitutive activity alleviates cognitive deficits in a preclinical model of neurofibromatosis type 1. Int. J. Mol. Sci. 22: 10178.
4. Harigai, R., et al. 2022. Mutation of PTPN11 (encoding SHP-2) promotes MEK activation and malignant progression in Neurofibromin-deficient cells in a manner sensitive to BRAP mutation. Cancers 14: 2377.

RESEARCH USE

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