

NF2 (B-12): sc-55575

BACKGROUND

Neurofibromatosis type 2 (NF2) is a dominantly inherited disorder characterized by the occurrence of bilateral vestibular schwannomas and other central nervous system tumors, including multiple meningiomas. NF2 occurs in about 1 of 40,000 live births. The NF2 gene is highly penetrant; NF2-affected individuals have a 95% chance of developing bilateral vestibular schwannomas. NF2 is distinct from NF1, which is characterized by an incidence of 1 in 4,000, maps to chromosome 17 and encodes a protein designated neurofibromin, which is a large protein with a GAP domain. Genetic linkage studies of both sporadic and familial tumors suggest that NF2 is caused by inactivation of a tumor suppressor gene that maps on chromosome 22q12.2 and encodes a 595 amino acid protein whose function appears to be mediated by interaction with the cytoskeleton.

CHROMOSOMAL LOCATION

Genetic locus: NF2 (human) mapping to 22q12.2; Nf2 (mouse) mapping to 11 A1.

SOURCE

NF2 (B-12) is a mouse monoclonal antibody raised against amino acids 336-595 mapping at the C-terminus of NF2 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NF2 (B-12) is available conjugated to agarose (sc-55575 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-55575 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-55575 PE), fluorescein (sc-55575 FITC), Alexa Fluor[®] 488 (sc-55575 AF488), Alexa Fluor[®] 546 (sc-55575 AF546), Alexa Fluor[®] 594 (sc-55575 AF594) or Alexa Fluor[®] 647 (sc-55575 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-55575 AF680) or Alexa Fluor[®] 790 (sc-55575 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

NF2 (B-12) is recommended for detection of NF2 isoforms 1-10 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).

Suitable for use as control antibody for NF2 siRNA (h): sc-36052, NF2 siRNA (m): sc-36053, NF2 shRNA Plasmid (h): sc-36052-SH, NF2 shRNA Plasmid (m): sc-36053-SH, NF2 shRNA (h) Lentiviral Particles: sc-36052-V and NF2 shRNA (m) Lentiviral Particles: sc-36053-V.

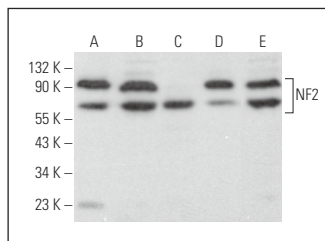
Molecular Weight of NF2: 70 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, PC-3 cell lysate: sc-2220 or MOLT-4 cell lysate: sc-2233.

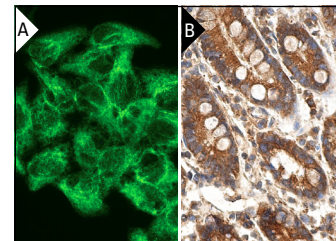
STORAGE

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

DATA



NF2 (B-12): sc-55575. Western blot analysis of NF2 expression in PC-3 (A), MOLT-4 (B), C6 (C), NIH/3T3 (D) and MCF7 (E) whole cell lysates.



NF2 (B-12): sc-55575. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Striedinger, K., et al. 2008. The neurofibromatosis 2 tumor suppressor gene product, merlin, regulates human meningioma cell growth by signaling through YAP. *Neoplasia* 10: 1204-1212.
- Doddrell, R.D., et al. 2013. Loss of SOX10 function contributes to the phenotype of human Merlin-null schwannoma cells. *Brain* 136: 549-563.
- Parra, L.M., et al. 2015. Distinct intracellular domain substrate modifications selectively regulate ectodomain cleavage of NRG1 or CD44. *Mol. Cell. Biol.* 35: 3381-3395.
- Riecken, L.B., et al. 2016. CPI-17 drives oncogenic Ras signaling in human melanomas via Ezzin-Radixin-Moesin family proteins. *Oncotarget* 7: 78242-78254.
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- Zhao, F., et al. 2018. Deregulation of the hippo pathway promotes tumor cell proliferation through YAP activity in human sporadic vestibular schwannoma. *World Neurosurg.* 117: e269-e279.
- Mohan, A.S., et al. 2019. Enhanced dendritic Actin network formation in extended lamellipodia drives proliferation in growth-challenged Rac1^{P29S} melanoma cells. *Dev. Cell* 49: 444-460.e9.
- Nattmann, A., et al. 2020. Analysis of ADAM9 regulation and function in vestibular schwannoma primary cells. *BMC Res. Notes* 13: 528.
- Taniguchi, H., et al. 2021. Pulmonary hypertension associated with neurofibromatosis type 2. *Pulm. Circ.* 11: 20458940211029550.
- Lei, Z., et al. 2024. NF2 can mediate the expression of CAMK2A in a tissue specific manner. *Sci. Rep.* 14: 31992.

RESEARCH USE

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