

NF2 (E-2): sc-55574

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 one 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 one 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.

REFERENCES

1. Rouleau, G.A., et al. 1990. Flanking markers bracket the neurofibromatosis type 2 (NF2) gene on chromosome 22. *Am. J. Hum. Genet.* 46: 323-328.
2. Narod, S.A., et al. 1992. Neurofibromatosis type 2 appears to be a genetically homogeneous disease. *Am. J. Hum. Genet.* 51: 486-496.
3. Evans, D.G., et al. 1992. A genetic study of type 2 neurofibromatosis in the United Kingdom. I. Prevalence, mutation rate, fitness and confirmation of maternal transmission effect on severity. *J. Med. Genet.* 29: 841-846.

CHROMOSOMAL LOCATION

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

SOURCE

NF2 (E-2) 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.

APPLICATIONS

NF2 (E-2) 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) 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.

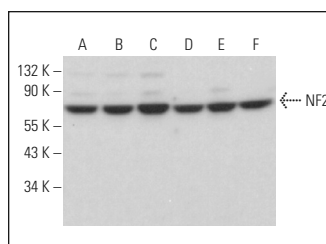
Molecular Weight of NF2: 70 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812, c4 whole cell lysate: sc-364186 or Hep G2 cell lysate: sc-2227.

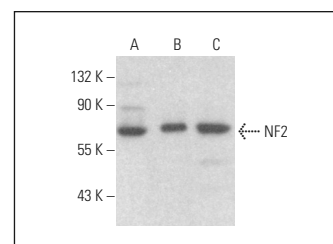
RECOMMENDED SUPPORT REAGENTS

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



NF2 (E-2): sc-55574. Western blot analysis of NF2 expression in Hep G2 (A), MDA-MB-231 (B), IMR-32 (C), Neuro-2A (D), c4 (E) and C6 (F) whole cell lysates.



NF2 (E-2): sc-55574. Western blot analysis of NF2 expression in Hep G2 (A), SH-SY5Y (B) and PC-12 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Morrow, K.A., et al. 2016. Loss of tumor suppressor Merlin results in aberrant activation of Wnt/β-catenin signaling in cancer. *Oncotarget* 7: 17991-18005.
2. Das, S., et al. 2017. Loss of Merlin induces metabolomic adaptation that engages dependence on Hedgehog signaling. *Sci. Rep.* 7: 40773.
3. Moleirinho, S., et al. 2017. Regulation of localization and function of the transcriptional co-activator YAP by angiomin. *Elife* 6: e23966.
4. Roehrig, A.E., et al. 2021. Cell-cell adhesion regulates Merlin/NF2 interaction with the PAF complex. *PLoS ONE* 16: e0254697.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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



See **NF2 (B-12): sc-55575** for NF2 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.