SANTA CRUZ BIOTECHNOLOGY, INC.

NBR1 (4BR): sc-130380

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

NBR1 (neighbor of BRCA1 gene 1), also known as M17S2, MIG19 or 1A13B, is a 966 amino acid protein that is encoded by a gene neighboring the well-characterized tumor suppressor BRCA1. Originally thought to be the ovarian cancer antigen CA125, NBR1 contains structural motifs, including a B-box/coiled-coil domain, an OPR domain and a ZZ-type zinc finger, that are characteristic of several proteins involved in cell transformation. NBR1 interacts with SQSTM1 (sequestosome 1 protein), Titin and MuRF2 (muscle-specific RING finger protein 2), suggesting a possible role in developmental pathways. Two isoforms, designated NBR1A and NBR1B, are expressed due to alternative splicing events. Expression of both isoforms is downregulated in malignant mammary tissues, indicating that NBR1 may be involved in tumor suppression.

CHROMOSOMAL LOCATION

Genetic locus: NBR1 (human) mapping to 17q21.31; Nbr1 (mouse) mapping to 11 D.

SOURCE

NBR1 (4BR) is a mouse monoclonal antibody raised against recombinant NBR1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

NBR1 (4BR) is recommended for detection of NBR1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for NBR1 siRNA (h): sc-94187, NBR1 siRNA (m): sc-149849, NBR1 shRNA Plasmid (h): sc-94187-SH, NBR1 shRNA Plasmid (m): sc-149849-SH, NBR1 shRNA (h) Lentiviral Particles: sc-94187-V and NBR1 shRNA (m) Lentiviral Particles: sc-149849-V.

Molecular Weight of NBR1: 107 kDa.

Positive Controls: PC-12 cell lysate: sc-2250 or F9 cell lysate: sc-2245.

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).

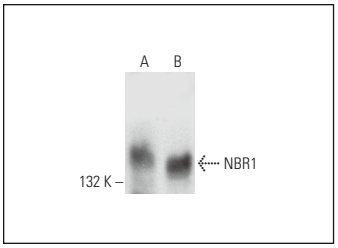
STORAGE

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.

DATA



NBR1 (4BR): sc-130380. Western blot analysis of NBR1 expression in PC-12 (**A**) and F9 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Yang, J.Q., et al. 2010. NBR1 is a new PB1 signalling adapter in Th2 differentiation and allergic airway inflammation *in vivo.* EMBO J. 29: 3421-3433.
2. Hernandez, E.D., et al. 2014. A macrophage NBR1-MEKK3 complex triggers JNK-mediated adipose tissue inflammation in obesity. Cell Metab. 20: 499-511.
3. Shi, J., et al. 2014. Dominant-negative function of the C-terminal fragments of NBR1 and SQSTM1 generated during enteroviral infection. Cell Death Differ. 21: 1432-1441.
4. Nogalska, A., et al. 2014. Sodium phenylbutyrate reverses lysosomal dysfunction and decreases amyloid-β42 in an *in vitro*-model of inclusion-body myositis. Neurobiol. Dis. 65: 93-101.
5. Shi, J., et al. 2015. NBR1 is dispensable for PARK2-mediated mitophagy regardless of the presence or absence of SQSTM1. Cell Death Dis. 6: e1943.
6. Soo, K.Y., et al. 2015. ALS-associated mutant FUS inhibits macroautophagy which is restored by overexpression of Rab1. Cell Death Discov. 1: 15030.
7. Rui, Y.N., et al. 2015. The GST-BHMT assay reveals a distinct mechanism underlying proteasome inhibition-induced macroautophagy in mammalian cells. Autophagy 11: 812-832.
8. Choi, W.H., et al. 2016. Open-gate mutants of the mammalian proteasome show enhanced ubiquitin-conjugate degradation. Nat. Commun. 7: 10963.
9. Wei, Y., et al. 2017. Prohibitin 2 is an inner mitochondrial membrane mitophagy receptor. Cell 168: 224-238.
10. Yan, Z., et al. 2017. Exercise leads to unfavourable cardiac remodelling and enhanced metabolic homeostasis in obese mice with cardiac and skeletal muscle autophagy deficiency. Sci. Rep. 7: 7894.

PROTOCOLS

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