

RNF5 (22B3): sc-81716

BACKGROUND

The RING-type zinc finger motif is present in a number of viral and eukaryotic proteins and is made of a conserved cysteine-rich domain that is able to bind two zinc atoms. Proteins that contain this conserved domain are generally involved in the ubiquitination pathway of protein degradation. RNF5 (RING finger protein 5), also known as RMA1, NG2, G16 or RING5, is a 180 amino acid protein that localizes to the membrane and contains one RING-type zinc finger. Expressed in a wide variety of tissues, RNF5 functions as a ubiquitin ligase that can regulate cell motility by controlling the ubiquitination of paxillin, a focal adhesion phosphoprotein that is localized to the cytoskeleton. RNF5 can target paxillin for ubiquitination, thereby altering the localization of paxillin and effecting its ability to recruit signaling molecules to focal adhesions. While overexpression of RNF5 is associated with the progression of breast cancer, lowered expression levels are observed in muscular disorders, indicating an important role for RNF5 in the regulation of cytoskeletal activity.

CHROMOSOMAL LOCATION

Genetic locus: RNF5 (human) mapping to 6p21.32; Rnf5 (mouse) mapping to 17 B1.

SOURCE

RNF5 (22B3) is a mouse monoclonal antibody raised against full-length recombinant RNF5 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.

RNF5 (22B3) is available conjugated to agarose (sc-81716 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-81716 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-81716 PE), fluorescein (sc-81716 FITC), Alexa Fluor® 488 (sc-81716 AF488), Alexa Fluor® 546 (sc-81716 AF546), Alexa Fluor® 594 (sc-81716 AF594) or Alexa Fluor® 647 (sc-81716 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-81716 AF680) or Alexa Fluor® 790 (sc-81716 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

RNF5 (22B3) is recommended for detection of RNF5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for RNF5 siRNA (h): sc-95209, RNF5 siRNA (m): sc-106983, RNF5 shRNA Plasmid (h): sc-95209-SH, RNF5 shRNA Plasmid (m): sc-106983-SH, RNF5 shRNA (h) Lentiviral Particles: sc-95209-V and RNF5 shRNA (m) Lentiviral Particles: sc-106983-V.

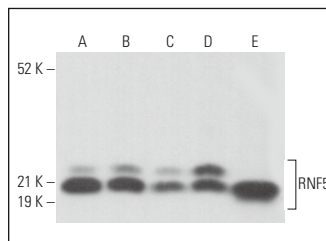
Molecular Weight of RNF5: 18 kDa.

Positive Controls: A549 cell lysate: sc-2413, Neuro-2A whole cell lysate: sc-364185 or KNRK whole cell lysate: sc-2214.

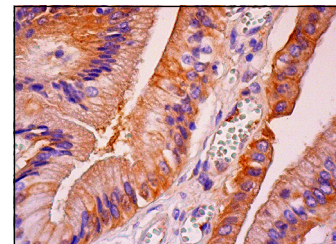
STORAGE

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

DATA



RNF5 (22B3): sc-81716. Western blot analysis of RNF5 expression in A549 (A), Neuro-2A (B), M1 (C), KNRK (D) and PC-12 (E) whole cell lysates.



RNF5 (22B3): sc-81716. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic and membrane staining of glandular cells.

SELECT PRODUCT CITATIONS

- Grove, D.E., et al. 2009. Mechanisms for rescue of correctable folding defects in CFTRΔF508. *Mol. Biol. Cell* 20: 4059-4069.
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- Kadowaki, H., et al. 2018. Molecular mechanism of ER stress-induced pre-emptive quality control involving association of the translocon, Derlin-1, and HRD1. *Sci. Rep.* 8: 7317.
- Kuan, Y.C., et al. 2020. Ring finger protein 5 activates sterol regulatory element-binding protein 2 (SREBP2) to promote cholesterol biosynthesis via ubiquitinating SREBP chaperone SCAP. *J. Biol. Chem.* 295: 3918-3928.
- van de Weijer, M.L., et al. 2020. Quality control of ER membrane proteins by the RNF185/membralin ubiquitin ligase complex. *Mol. Cell* 79: 768-781.e7.
- Principi, E., et al. 2022. Targeting of ubiquitin E3 ligase RNF5 as a novel therapeutic strategy in neuroectodermal tumors. *Cancers* 14: 1802.
- Chen, S., et al. 2022. The role of REC8 in the innate immune response to viral infection. *J. Virol.* 96: e0217521.
- Tsai, P.L., et al. 2022. Dynamic quality control machinery that operates across compartmental borders mediates the degradation of mammalian nuclear membrane proteins. *Cell Rep.* 41: 111675.
- Riepe, C., et al. 2023. Small molecule correctors divert CFTR-F508del from ERAD by stabilizing sequential folding states. *bioRxiv*. E-published.
- Riepe, C., et al. 2024. Small-molecule correctors divert CFTR-F508del from ERAD by stabilizing sequential folding states. *Mol. Biol. Cell* 35: ar15.

RESEARCH USE

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