

RNF8 (B-2): sc-271462

BACKGROUND

The RING finger motif is a specialized DNA-binding zinc-finger domain found in many transcriptional regulatory proteins. The RING finger protein (RNF) family includes any protein containing the signature RING finger motif. RNF8 is a ubiquitously expressed nuclear RING finger protein that acts as an E3 ubiquitin-protein ligase. It is required for the ubiquitination of some nuclear proteins and promotes their subsequent degradation. The heterodimeric ubiquitin-conjugating enzyme UBC13 interacts with RNF8, and they co-localize in the nucleus. RNF8 may regulate mediation of UBC13 polyubiquitylation by elongating the ubiquitin chains. RNF8 also binds to Retinoid X receptor α (RXR α), a member of the steroid hormone receptor superfamily. It increases RXR α -mediated transactivation of the RXR α -responsive element (RXRE) promoter in a dose-dependent manner, suggesting that RNF8 is a regulator of RXR α -mediated transcriptional activity.

CHROMOSOMAL LOCATION

Genetic locus: RNF8 (human) mapping to 6p21.2; Rnf8 (mouse) mapping to 17 A3.3.

SOURCE

RNF8 (B-2) is a mouse monoclonal antibody raised against amino acids 186-485 mapping at the C-terminus of RNF8 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RNF8 (B-2) is available conjugated to agarose (sc-271462 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271462 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271462 PE), fluorescein (sc-271462 FITC), Alexa Fluor[®] 488 (sc-271462 AF488), Alexa Fluor[®] 546 (sc-271462 AF546), Alexa Fluor[®] 594 (sc-271462 AF594) or Alexa Fluor[®] 647 (sc-271462 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-271462 AF680) or Alexa Fluor[®] 790 (sc-271462 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

RNF8 (B-2) is recommended for detection of RNF8 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 RNF8 siRNA (h): sc-61484, RNF8 siRNA (m): sc-61485, RNF8 shRNA Plasmid (h): sc-61484-SH, RNF8 shRNA Plasmid (m): sc-61485-SH, RNF8 shRNA (h) Lentiviral Particles: sc-61484-V and RNF8 shRNA (m) Lentiviral Particles: sc-61485-V.

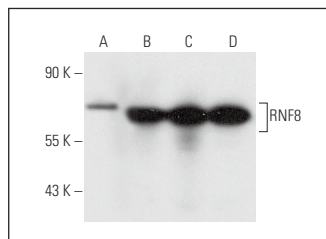
Molecular Weight of RNF8: 56 kDa.

Positive Controls: RNF8 (h2): 293T Lysate: sc-174061, Jurkat nuclear extract: sc-2132 or THP-1 nuclear extract: sc-24963.

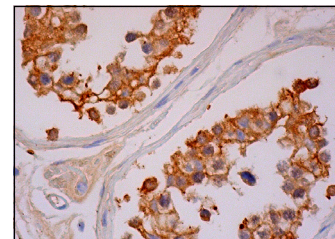
STORAGE

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

DATA



RNF8 (B-2): sc-271462. Western blot analysis of RNF8 expression in non-transfected: sc-117752 (A) and human RNF8 transfected: sc-174061 (B) 293T whole cell lysates and Jurkat (C) and THP-1 (D) nuclear extracts.



RNF8 (B-2): sc-271462. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic and membrane staining of cells in seminiferous ducts.

SELECT PRODUCT CITATIONS

- Nakada, S., et al. 2012. RNF8 regulates assembly of RAD51 at DNA double-strand breaks in the absence of BRCA1 and 53BP1. *Cancer Res.* 72: 4974-4983.
- Muñoz, M.C., et al. 2014. An RNF168 fragment defective for focal accumulation at DNA damage is proficient for inhibition of homologous recombination in BRCA1 deficient cells. *Nucleic Acids Res.* 42: 7720-7733.
- Maculins, T., et al. 2016. A generic platform for cellular screening against ubiquitin ligases. *Sci. Rep.* 6: 18940.
- Chroma, K., et al. 2017. Tumors overexpressing RNF168 show altered DNA repair and responses to genotoxic treatments, genomic instability and resistance to proteotoxic stress. *Oncogene* 36: 2405-2422.
- Ma, C., et al. 2018. The anaphase promoting complex promotes NHEJ repair through stabilizing Ku80 at DNA damage sites. *Cell Cycle* 17: 1138-1145.
- Nambiar, T.S., et al. 2019. Stimulation of CRISPR-mediated homology-directed repair by an engineered RAD18 variant. *Nat. Commun.* 10: 3395.
- Fan, L., et al. 2020. Histone demethylase JMJD1A promotes expression of DNA repair factors and radio-resistance of prostate cancer cells. *Cell Death Dis.* 11: 214.
- Yang, B., et al. 2021. Targeting RNF8 effectively reverses cisplatin and doxorubicin resistance in endometrial cancer. *Biochem. Biophys. Res. Commun.* 545: 89-97.
- Zhou, T., et al. 2022. RNF8 up-regulates AR/ARV7 action to contribute to advanced prostate cancer progression. *Cell Death Dis.* 13: 352.

RESEARCH USE

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

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