RIP3 (B-2): sc-374639

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BIOTECHNOLOGY

The Power to Question

BACKGROUND

The death domain is a cytoplasmic domain of approximately 80 amino acids that is necessary for the transduction of apoptotic signals and is present in the apoptosis-mediating receptors TNF-R1 and FAS. Other death domain-containing, but otherwise structurally unrelated proteins have been identified on the basis of their ability to associate with the cytoplasmic domains of TNF-R1 or FAS. One of these proteins, the receptor-interacting protein 3 (RIP3), contains an N-terminal kinase domain and shares extensive homology with RIP and RIP2. However, RIP3 contains a unique C-terminal death domain, which promotes apoptosis. RIP3 can be expressed as two splice variants, RIP3β and RIP3γ, which contain a truncated N-terminal kinase domain and a distinct and shorter C-terminus. Subsequently, expression of these splice variants downregulates RIP3-mediated apoptosis.

CHROMOSOMAL LOCATION

Genetic locus: RIPK3 (human) mapping to 14q12; Ripk3 (mouse) mapping to 14 C3.

SOURCE

RIP3 (B-2) is a mouse monoclonal antibody raised against amino acids 138-180 mapping within an internal region of RIP3 of human origin.

PRODUCT

Each vial contains 200 µg IgG$_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RIP3 (B-2) is available conjugated to agarose (sc-374639 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374639 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374639 PE), fluorescein (sc-374639 FITC), Alexa Fluor® 488 (sc-374639 AF488), Alexa Fluor® 546 (sc-374639 AF546), Alexa Fluor® 594 (sc-374639 AF594) or Alexa Fluor® 647 (sc-374639 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374639 AF680) or Alexa Fluor® 790 (sc-374639 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

RIP3 (B-2) is recommended for detection of RIP3 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 RIP3 siRNA (h): sc-61482, RIP3 siRNA (m): sc-61483, RIP3 shRNA Plasmid (h): sc-61482-SH, RIP3 shRNA Plasmid (m): sc-61483-SH, RIP3 shRNA (h) Lentiviral Particles: sc-61482-V and RIP3 shRNA (m) Lentiviral Particles: sc-61483-V.
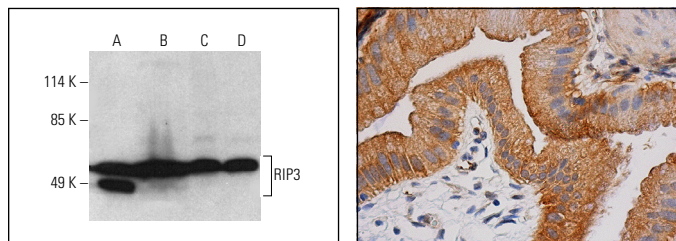
Molecular Weight of RIP3: 60 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, C6 whole cell lysate: sc-364373 or NIH/3T3 whole cell lysate: sc-2210.

STORAGE

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

DATA

RIP3 (B-2) HRP: sc-374639 HRP. Direct western blot analysis of RIP3 expression in NIH/3T3 (**A**), C6 (**B**), A-10 (**C**) and RAW 264.7 (**D**) whole cell lysates.

RIP3 (B-2): sc-374639. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Sawai, H., et al. 2015. Differential changes in sphingolipids between TNF-induced necroptosis and apoptosis in U-937 cells and necroptosis-resistant sublines. Leuk. Res. 39: 964-970.

2. Dey, A., et al. 2016. Inhibition of BMI1 induces autophagy-mediated necroptosis. Autophagy 12: 659-670.

3. Greenlee-Wacker, M.C., et al. 2017. Lysis of human neutrophils by community-associated methicillin-resistant *Staphylococcus aureus*. Blood 129: 3237-3244.

4. Dziedzic, S.A., et al. 2018. ABIN-1 regulates RIPK1 activation by linking Met1 ubiquitylation with Lys63 deubiquitylation in TNF-RSC. Nat. Cell Biol. 20: 58-68.

5. Wang, C., et al. 2019. NLRP3 deficiency exacerbates enterovirus infection in mice. FASEB J. 33: 942-952.

6. Tian, R.D., et al. 2020. Phosphorylation of eIF2α mitigates endoplasmic reticulum stress and hepatocyte necroptosis in acute liver injury. Ann. Hepatol. 19: 79-87.

7. Zhang, J., et al. 2021. Identification of early-onset photoreceptor degeneration in transgenic mouse models of Alzheimer's disease. iScience 24: 103327.

8. Li, Y., et al. 2022. Generative deep learning enables the discovery of a potent and selective RIPK1 inhibitor. Nat. Commun. 13: 6891.

9. Sundaram, B., et al. 2023. NLRP12-PANoptosome activates PANoptosis and pathology in response to heme and PAMPs. Cell 186: 2783-2801.e20.

10. Yang, S., et al. 2023. Necroptosis of macrophage is a key pathological feature in biliary atresia via GDCA/S1PR2/ZBP1/p-MLKL axis. Cell Death Dis. 14: 175.

RESEARCH USE

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