

MsrB3 (C-4): sc-514897

BACKGROUND

MSRB3 (methionine-R-sulfoxide reductase B3, mitochondrial) is a 185 amino acid protein that exists as a monomer and belongs to the msrB Met sulfoxide reductase family. As a catalyst for the reduction of free and protein-bound methionine sulfoxide to methionine, MsrB3 is expressed in colon, bone marrow, cerebellum, spinal cord, small intestine, heart, eye lens, kidney. MsrB3 exists as two alternatively spliced isoforms which exhibit different subcellular localizations in human: MsrB3 isoform 1 (MsrB3B) is a mitochondrial protein whereas isoform 2 (MsrB3A) localizes to Endoplasmic reticulum. However, in mice, MsrB3 appears to be Endoplasmic reticulum protein for which no splice variants have been characterized. The gene encoding MsrB3 maps to human chromosome 12, which is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and trisomy 12p.

REFERENCES

1. Delgado Carrasco, J., et al. 2001. Achondrogenesis type II-hypochondrogenesis: radiological features. Case report. *An. Esp. Pediatr.* 55: 553-557.
2. Yokoyama, T., et al. 2003. A case of Kniest dysplasia with retinal detachment and the mutation analysis. *Am. J. Ophthalmol.* 136: 1186-1188.

CHROMOSOMAL LOCATION

Genetic locus: MSRB3 (human) mapping to 12q14.3; MsrB3 (mouse) mapping to 10 D2.

SOURCE

MsrB3 (C-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 101-120 within an internal region of MsrB3 of human origin.

PRODUCT

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

MsrB3 (C-4) is available conjugated to agarose (sc-514897 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514897 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514897 PE), fluorescein (sc-514897 FITC), Alexa Fluor® 488 (sc-514897 AF488), Alexa Fluor® 546 (sc-514897 AF546), Alexa Fluor® 594 (sc-514897 AF594) or Alexa Fluor® 647 (sc-514897 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514897 AF680) or Alexa Fluor® 790 (sc-514897 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514897 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

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

APPLICATIONS

MsrB3 (C-4) is recommended for detection of MsrB3 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 MsrB3 siRNA (h): sc-95827, MsrB3 siRNA (m): sc-149663, MsrB3 shRNA Plasmid (h): sc-95827-SH, MsrB3 shRNA Plasmid (m): sc-149663-SH, MsrB3 shRNA (h) Lentiviral Particles: sc-95827-V and MsrB3 shRNA (m) Lentiviral Particles: sc-149663-V.

Molecular Weight of MsrB3: 20 kDa.

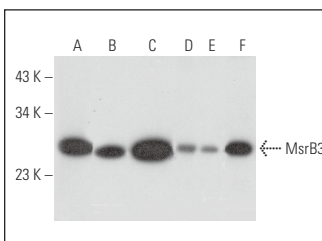
Positive Controls: KNRK whole cell lysate: sc-2214, human bladder extract: sc-363751 or RT-4 whole cell lysate: sc-364257.

RECOMMENDED SUPPORT REAGENTS

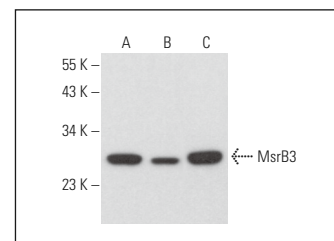
To ensure optimal results, the following support reagents are recommended:

- 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



MsrB3 (C-4): sc-514897. Western blot analysis of MsrB3 expression in RT-4 (A), MES-SA/Dx5 (B) and MIA PaCa-2 (C) whole cell lysates and human colon (D), human bladder (E) and human uterus (F) tissue extracts.



MsrB3 (C-4): sc-514897. Western blot analysis of MsrB3 expression in AN3 CA (A), C3H/10T1/2 (B) and KNRK (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Riechert, E., et al. 2021. Identification of dynamic RNA-binding proteins uncovers a Cpeb4-controlled regulatory cascade during pathological cell growth of cardiomyocytes. *Cell Rep.* 35: 109100.
2. Jeon, S. and Kim, M.M. 2021. The down-regulation of melanogenesis via MITF and FOXO1 signaling pathways in SIRT1 knockout cells using CRISPR/Cas9 system. *J. Biotechnol.* 342: 114-127.

RESEARCH USE

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