SANTA CRUZ BIOTECHNOLOGY, INC.

Midline-1 (2C11): sc-293353

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The Power to Question

BACKGROUND

Midline-1 (tripartite motif-containing protein 18, putative transcription factor XPRF, RING finger protein 59) is a 667 amino acid protein encoded by the human gene MID1. Midline-1 belongs to the TRIM/RBCC family and contains two B-box-type zinc fingers, one B30.2/SPRY domain, one COS domain, one Fibronectin type III domain and one RING-type zinc finger. Midline-1 is believed to have E3 ubiquitin ligase activity which targets the catalytic subunit of protein phosphatase 2 for degradation. It is a cytoplasmic protein found as a homodimer or heterodimer with Midline-2. It also interacts with IGBP1 (lymphocyte signaling protein A4). Defects in MID1 are the cause of Opitz syndrome type I (OS-I). OS-I is an X-linked recessive disorder characterized by hypertelorism, genital-urinary defects such as hypospadias in males and splayed labia in females, lip-palate-laryngotracheal clefts, imperforate anus, developmental delay and congenital heart defects. OS-I mutations produce proteins with a decreased affinity for microtubules.

REFERENCES

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2. Buchner, G., et al. 1999. MID2, a homologue of the Opitz syndrome gene MID1: similarities in subcellular localization and differences in expression during development. Hum. Mol. Genet. 8: 1397-1407.
3. Schweiger, S., et al. 1999. The Opitz syndrome gene product, MID1, associates with microtubules. Proc. Natl. Acad. Sci. USA 96: 2794-2799.
4. Trockenbacher, A., et al. 2001. MID1, mutated in Opitz syndrome, encodes a ubiquitin ligase that targets phosphatase 2A for degradation. Nat. Genet. 29: 287-294.
5. Short, K.M., et al. 2002. MID1 and MID2 homo- and heterodimerise to tether the Rapamycin-sensitive PP2A regulatory subunit, α4, to microtubules: implications for the clinical variability of X-linked Opitz GBBB syndrome and other developmental disorders. BMC Cell Biol. 3: 1.
6. So, J., et al. 2004. Mild phenotypes in a series of patients with Opitz GBBB syndrome with MID1 mutations. Am. J. Med. Genet. A 132A: 1-7.
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CHROMOSOMAL LOCATION

Genetic locus: MID1 (human) mapping to Xp22.2; Mid1 (mouse) mapping to X F5.

SOURCE

Midline-1 (2C11) is a mouse monoclonal antibody raised against amino acids 441-540 of Midline-1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Midline-1 (2C11) is recommended for detection of Midline-1 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

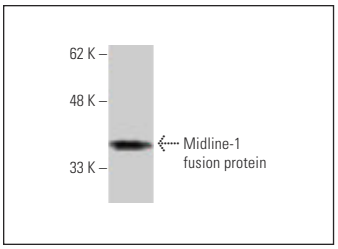
Suitable for use as control antibody for Midline-1 siRNA (h): sc-62614, Midline-1 siRNA (m): sc-62615, Midline-1 shRNA Plasmid (h): sc-62614-SH, Midline-1 shRNA Plasmid (m): sc-62615-SH, Midline-1 shRNA (h) Lentiviral Particles: sc-62614-V and Midline-1 shRNA (m) Lentiviral Particles: sc-62615-V.

Molecular Weight of Midline-1: 75 kDa.

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).

DATA



Midline-1 (2C11): sc-293353. Western blot analysis of human recombinant Midline-1 fusion protein.

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.

PROTOCOLS

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