

# Midline-2 (K-15): sc-55130

## BACKGROUND

Midline-2 (midline defect 2, tripartite motif-containing protein 1) is a 715 amino acid protein encoded by the human gene MID2. Midline-2 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-2 is a cytoplasmic protein found as a homodimer or heterodimer with Midline-1. It also interacts with IGBP1 (lymphocyte signaling protein A4). Dimerization is mediated by the tripartite motif, RBCC (RING- and B box-type zinc fingers and coiled-coil domains), and microtubule association is dependent on the C-terminal B30.2 domain. Midline-2 is expressed at low levels in fetal kidney and lung, and in adult prostate, ovary and small intestine.

## REFERENCES

1. Dal Zotto, L., et al. 1998. The mouse Mid1 gene: implications for the pathogenesis of Opitz syndrome and the evolution of the mammalian pseudoautosomal region. *Hum. Mol. Genet.* 7: 489-499.
2. Schweiger, S., et al. 1999. The Opitz syndrome gene product, MID1, associates with microtubules. *Proc. Natl. Acad. Sci. USA* 96: 2794-2799.
3. 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.
4. Perry, J., et al. 2000. FXY2/MID2, a gene related to the X-linked Opitz syndrome gene FXY/ MID1, maps to Xq22 and encodes a FNIII domain-containing protein that associates with microtubules. *Genomics* 62: 385-394.
5. Landry, J.R. and Mager, D.L. 2002. Widely spaced alternative promoters, conserved between human and rodent, control expression of the Opitz syndrome gene MID1. *Genomics* 80: 499-508.
6. Short, K.M., et al. 2002. MID1 and MID2 homo- and heterodimerise to tether the Rapamycin-sensitive PP2A regulatory subunit,  $\alpha 4$ , to microtubules: implications for the clinical variability of X-linked Opitz GBBB syndrome and other developmental disorders. *BMC Cell Biol.* 3: 1.
7. Zhang, F., et al. 2006. Antiretroviral potential of human tripartite motif-5 and related proteins. *Virology* 353: 396-409.

## CHROMOSOMAL LOCATION

Genetic locus: MID2 (human) mapping to Xq22.3.

## SOURCE

Midline-2 (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Midline-2 of human origin.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-55130 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Midline-2 (K-15) is recommended for detection of midline-2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

Midline-2 (K-15) is also recommended for detection of midline-2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Midline-2 siRNA (h): sc-75784, Midline-2 shRNA Plasmid (h): sc-75784-SH and Midline-2 shRNA (h) Lentiviral Particles: sc-75784-V.

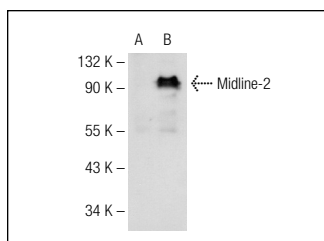
Molecular Weight of Midline-2: 81 kDa.

Positive Controls: Midline-2 (h2): 293T Lysate: sc-158731.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



Midline-2 (K-15): sc-55130. Western blot analysis of Midline-2 expression in non-transfected: sc-117752 (A) and human Midline-2 transfected: sc-158731 (B) 293T whole cell lysates.

## RESEARCH USE

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