

Alpha 4 (h2): 293T Lysate: sc-173533

BACKGROUND

Alpha 4 is a cytoplasmic protein which associates with surface IgM-receptor and may help regulate signal transduction. Alpha 4 regulates the catalytic activity of type 2A-related serine/threonine phosphatases (PP2A) and interacts with MID1, the product of the gene mutated in X-linked Opitz GBBB syndrome. PP2Ac accumulation is caused by an impairment of E3 ubiquitin ligase activity of the MID1 protein which normally targets PP2Ac for degradation through binding to its Alpha 4 regulatory subunit. Patients with Opitz GBBB syndrome suffer from a variable array of developmental defects including craniofacial, cardiac and genital anomalies. Alpha 4 is present at highest levels in heart, skeletal muscle and pancreas, and is a member of the IGBP1/Tap42 family.

REFERENCES

1. Trockenbacher, A., et al. 2001. MID1, mutated in Opitz syndrome, encodes an ubiquitin ligase that targets phosphatase 2A for degradation. *Nat. Genet.* 29: 287-294.
2. Liu, J., et al. 2001. Phosphorylation and microtubule association of the Opitz syndrome protein MID1 is regulated by protein phosphatase 2A via binding to the regulatory subunit Alpha 4. *Proc. Natl. Acad. Sci. USA* 98: 6650-6655.
3. Everett, A.D., et al. 2002. Developmental expression of Alpha 4 protein phosphatase regulatory subunit in tissues affected by Opitz syndrome. *Dev. Dyn.* 224: 461-464.
4. 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.
5. Graham, J.M., Jr., et al. 2003. A new X-linked syndrome with agenesis of the corpus callosum, mental retardation, coloboma, micrognathia and a mutation in the Alpha 4 gene at Xq13. *Am. J. Med. Genet. A* 123: 37-44.
6. SWISS-PROT/TrEMBL (P78318). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

CHROMOSOMAL LOCATION

Genetic locus: IGBP1 (human) mapping to Xq13.1.

PRODUCT

Alpha 4 (h2): 293T Lysate represents a lysate of human Alpha 4 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

Alpha 4 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive Alpha 4 antibodies.

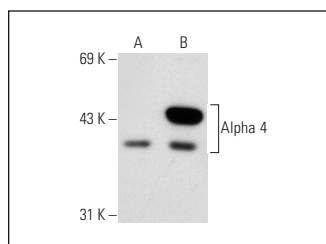
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Alpha 4 (5F6): sc-81608 is recommended as a positive control antibody for Western Blot analysis of enhanced human Alpha 4 expression in Alpha 4 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



Alpha 4 (5F6): sc-81608. Western blot analysis of Alpha 4 expression in non-transfected: sc-117752 (A) and human Alpha 4 transfected: sc-173533 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.