

ACTG2 (m): 293T Lysate: sc-118229

BACKGROUND

All eukaryotic cells express Actin, which often constitutes as much as 50% of total cellular protein. Actin filaments can form both stable and labile structures and are crucial components of microvilli and the contractile apparatus of muscle cells. While lower eukaryotes, such as yeast, have only one Actin gene, higher eukaryotes have several isoforms encoded by a family of genes. At least six types of Actin are present in mammalian tissues and fall into three classes. α -Actin expression is limited to various types of muscle, whereas β - and γ -Actin are the principle constituents of filaments in other tissues. ACTG2 (Actin, γ 2, smooth muscle, enteric), also known as ACT, ACTE, ACTA3 or ACTL3, is a 376 amino acid γ -Actin that localizes to both the cytoplasm and the cytoskeleton and, like other Actins, is involved in various types of cell motility and structural maintenance.

REFERENCES

1. Miwa, T. and Kamada, S. 1990. The nucleotide sequence of a human smooth muscle (enteric type) γ -Actin cDNA. *Nucleic Acids Res.* 18: 4263.
2. Miwa, T., Manabe, Y., Kurokawa, K., Kamada, S., Kanda, N., Bruns, G., Ueyama, H. and Kakunaga, T. 1991. Structure, chromosome location, and expression of the human smooth muscle (enteric type) γ -Actin gene: evolution of six human Actin genes. *Mol. Cell. Biol.* 11: 3296-3306.
3. Ueyama, H., Inazawa, J., Nishino, H., Han-Xiang, D., Ochiai, Y. and Ohkubo, I. 1995. Chromosomal mapping of the human smooth muscle actin gene (enteric type, ACTA3) to 2p13.1 and molecular nature of the hindIII polymorphism. *Genomics* 25: 720-723.
4. Szucsik, J.C. and Lessard, J.L. 1995. Cloning and sequence analysis of the mouse smooth muscle γ -enteric Actin gene. *Genomics* 28: 154-162.
5. Kohnen, G., Campbell, S., Jeffers, M.D. and Cameron, I.T. 2000. Spatially regulated differentiation of endometrial vascular smooth muscle cells. *Hum. Reprod.* 15: 284-292.
6. Filmore, R.A., Dean, D.A. and Zimmer, W.E. 2002. The smooth muscle γ -Actin gene is androgen responsive in prostate epithelia. *Gene Expr.* 10: 201-211.
7. Lattanzi, G., Cenni, V., Marmioli, S., Capanni, C., Mattioli, E., Merlini, L., Squarizoni, S. and Maraldi, N.M. 2003. Association of emerin with nuclear and cytoplasmic Actin is regulated in differentiating myoblasts. *Biochem. Biophys. Res. Commun.* 303: 764-770.
8. Laasanen, J., Helisalmi, S., Iivonen, S., Eloranta, M.L., Hiltunen, M. and Heinonen, S. 2008. γ 2-Actin gene (enteric type) polymorphism is not associated with obstetric cholestasis or preeclampsia. *Fetal. Diagn. Ther.* 23: 36-40.

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.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: Actg2 (mouse) mapping to 6 C3.

PRODUCT

ACTG2 (m): 293T Lysate represents a lysate of mouse ACTG2 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

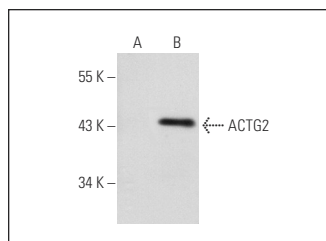
APPLICATIONS

ACTG2 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive ACTG2 antibodies. Recommended use: 10-20 μ l per lane.

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

Muscle Actin (4i346): sc-71625 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse ACTG2 expression in ACTG2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

DATA



Muscle Actin (4i346): sc-71625. Western blot analysis of ACTG2 expression in non-transfected: sc-117752 (A) and mouse ACTG2 transfected: sc-118229 (B) 293T whole cell lysates.

RESEARCH USE

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