SANTA CRUZ BIOTECHNOLOGY, INC.

atrophin-2 (REREF1H8): sc-81115



BACKGROUND

Atrophin-2 (arginine-glutamic acid dipeptide repeats protein, atrophin-1-like protein) is a 1,566 amino acid protein encoded by the human gene RERE. Atrophin-2 is a member of the atrophin family of arginine-glutamic acid (RE) dipeptide repeat-containing proteins and contains one BAH domain, one ELM2 domain, one GATA-type zinc finger and one SANT domain. Atrophin-2 plays a role as a transcriptional repressor during development and later may play a role in cell survival. Overexpression of atrophin-2 recruits Bax to the nucleus, particularly to the promyelocytic leukemia (PML) nuclear body, also known as the PML oncogenic domain (POD), and triggers caspase-3 activation, leading to cell death. Atrophin-2 also interacts with HDAC1 and atrophin-1. Its interaction with atrophin-1 is improved when the poly-Gln region of atrophin-1 is extended.

REFERENCES

- 1. Waerner, T., Gardellin, P., Pfizenmaier, K., Weith, A. and Kraut, N. 2001. Human RERE is localized to nuclear promyelocytic leukemia oncogenic domains and enhances apoptosis. Cell Growth Differ. 12: 201-210.
- 2. Hatta, M. and Fukamizu, A. 2001. PODs in the nuclear spot: enigmas in the magician's pot. Sci. STKE 2001: pe1.
- 3. Erkner, A., Roure, A., Charroux, B., Delaage, M., Holway, N., Coré, N., Vola, C., Angelats, C., Pagès, F., Fasano, L. and Kerridge, S. 2002. Grunge, related to human atrophin-like proteins, has multiple functions in Drosophila development. Development 129: 1119-1129.
- 4. Zoltewicz, J.S., Stewart, N.J., Leung, R. and Peterson, A.S. 2003. atrophin-2 recruits histone deacetylase and is required for the function of multiple signaling centers during mouse embryogenesis. Development 131: 3-14.
- 5. Fransson, S., Martinsson, T. and Ejeskär, K. 2006. Neuroblastoma tumors with favorable and unfavorable outcomes: significant differences in mRNA expression of genes mapped at 1p36.2. Genes Chromosomes Cancer 46: 45-52.
- 6. Wang, L., Rajan, H., Pitman, J.L., McKeown, M. and Tsai, C.C. 2006. Histone deacetylase-associating atrophin proteins are nuclear receptor co-repressors. Genes Dev. 20: 525-530.
- 7. Plaster, N., Sonntag, C., Schilling, T.F. and Hammerschmidt, M. 2007. RERE α /atrophin-2 interacts with histone deacetylase and FGF-8 signaling to regulate multiple processes of zebrafish development. Dev. Dyn. 236: 1891-1904.
- 8. Shen, Y., Lee, G., Choe, Y., Zoltewicz, J.S. and Peterson, A.S. 2007. Functional architecture of atrophins. J. Biol. Chem. 282: 5037-5044.

CHROMOSOMAL LOCATION

Genetic locus: RERE (human) mapping to 1p36.23.

SOURCE

atrophin-2 (REREF1H8) is a mouse monoclonal antibody raised against a recombinant protein corresponding to an internal region of atrophin-2 of human origin.

PRODUCT

Each vial contains 100 $\mu g~lg G_{2b}$ in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

APPLICATIONS

atrophin-2 (REREF1H8) is recommended for detection of atrophin-2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for atrophin-2 siRNA (h): sc-88090. atrophin-2 shRNA Plasmid (h): sc-88090-SH and atrophin-2 shRNA (h) Lentiviral Particles: sc-88090-V.

Molecular Weight of atrophin-2 isoforms 1/2: 172/109 kDa.

Positive Controls: U-698-M whole cell lysate: sc-364799 or HEK293 whole cell lysate: sc-45136.

DATA





of atrophin-2 expression in HEK293 whole cell lysate

atrophin-2 (REREF1H8): sc-81115. Western blot analysis of atrophin-2 expression in U-698-M whole cell lysate

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.