SANTA CRUZ BIOTECHNOLOGY, INC.

Rab 32 (m2): 293T Lysate: sc-122902

BACKGROUND

Small GTP-binding proteins of the RAB family play essential roles in vesicle and granule targeting. Rab 32 is a 225 amino acid protein that belongs to the small GTPase superfamily and the Rab family. Rab 32 has an unusual GTP-binding sequence, DIAGQE, in place of the more common DTAGQE. Rab 32 acts as an A-kinase anchoring protein by binding to the type II regulatory subunit of protein kinase A and anchoring it to mitochondria. Also involved in synchronization of mitochondrial fission, Rab 32 is widely expressed with high levels in heart, liver, kidney, bone marrow, testis, colon and fetal lung. Rab 32 has been found to be frequently hypermethylated in microsatellite instability-high (MSI-H) colon cancers. Although Rab 32 methylation is rare in endometrial cancers, it is strongly associated with hMLH1 hypermethylation and MSI in gastric adenocarcinomas. The Rab 32 gene is conserved in chimpanzee, bovine, mouse, rat, chicken, zebrafish, fruit fly, mosquito and *C. elegans,* and maps to human chromosome 6q24.3.

REFERENCES

1. Bao, X., Faris, A.E., Jang, E.K. and Haslam, R.J. 2002. Molecular cloning, bacterial expression and properties of Rab31 and Rab32. Eur. J. Biochem. 269: 259-271.
2. Alto, N.M., Soderling, J. and Scott, J.D. 2002. Rab32 is an A-kinase anchoring protein and participates in mitochondrial dynamics. J. Cell Biol. 158: 659-668.
3. Pereira-Leal, J.B., Strom, M., Godfrey, R.F. and Seabra, M.C. 2003. Structural determinants of Rab and Rab escort protein interaction: Rab family motifs define a conserved binding surface. Biochem. Biophys. Res. Commun. 301: 92-97.
4. Mungall, A.J., Palmer, S.A., Sims, S.K., Edwards, C.A., Ashurst, J.L., Wilming, L., Jones, M.C., Horton, R., Hunt, S.E., Scott, C.E., Gilbert, J.G., Clamp, M.E., Bethel, G., Milne, S., Ainscough, R., Almeida, J.P., et al. 2003. The DNA sequence and analysis of human chromosome 6. Nature 425: 805-811.
5. Alto, N.M., Soderling, S.H., Hoshi, N., Langeberg, L.K., Fayos, R., Jennings, P.A. and Scott, J.D. 2003. Bioinformatic design of A-kinase anchoring protein-in silico: a potent and selective peptide antagonist of type II protein kinase A anchoring. Proc. Natl. Acad. Sci. USA 100: 4445-4450.
6. Shibata, D., Mori, Y., Cai, K., Zhang, L., Yin, J., Elahi, A., Hamelin, R., Wong, Y.F., Lo, W.K., Chung, T.K., Sato, F., Karpeh, M.S. and Meltzer, S.J. 2006. RAB32 hypermethylation and microsatellite instability in gastric and endometrial adenocarcinomas. Int. J. Cancer 119: 801-806.
7. Hirota, Y. and Tanaka, Y. 2009. A small GTPase, human Rab32, is required for the formation of autophagic vacuoles under basal conditions. Cell. Mol. Life Sci. 66: 2913-2932.
8. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 612906. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: Rab32 (mouse) mapping to 10 A1.

PRODUCT

Rab 32 (m): 293T Lysate represents a lysate of mouse Rab 32 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

Rab 32 (m2): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Rab 32 antibodies. Recommended use: 10-20 µl per lane.

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

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.