



LASS1 (h): 293T Lysate: sc-111580

BACKGROUND

The LASS (longevity assurance homolog) family members are highly conserved from yeasts to mammals. Six members of this family of proteins involved in sphingolipid synthesis have been characterized (LASS1, LASS2, LASS3, LASS4, LASS5 and LASS6). LASS1, also called LAG1, is a 350 amino acid ceramide synthase located in the membrane of the endoplasmic reticulum. The gene coding LASS1 is bicistronic, containing both the LASS1 and GDF1 open reading frames. Two isoforms of LASS1 have been characterized. Isoform 2 lacks the last 13 amino acids of the intact protein (isoform 1). The cell death and growth inhibition in head and neck squamous cell carcinoma (HNSCC) brought on by the chemotherapeutic agents gemcitabine and doxorubicin via the activation of caspase-3 and caspase-9 may involve LASS1 overexpression.

REFERENCES

1. Venkataraman, K., Riebeling, C., Bodennec, J., Riezman, H., Allegood, J.C., Sullards, M.C. and Futerman, A.H. 2002. Upstream of growth and differentiation factor 1 (UOG1), a mammalian homolog of the yeast longevity assurance gene 1 (LAG1), regulates N-stearoyl-sphinganine (C18-(dihydro) ceramide) synthesis in a fumonisin B1-independent manner in mammalian cells. *J. Biol. Chem.* 277: 35642-35649.
2. Riebeling, C., Allegood, J.C., Wang, E. and Futerman, A.H. 2003. Two mammalian longevity assurance gene (LAG1) family members, Trh1 and Trh4, regulate dihydroceramide synthesis using different fatty acyl-CoA donors. *J. Biol. Chem.* 278: 43452-43459.
3. Mizutani, Y., Kihara, A. and Igarashi, Y. 2006. LASS3 (longevity assurance homologue 3) is a mainly testis-specific (dihydro)ceramide synthase with relatively broad substrate specificity. *Biochem. J.* 398: 531-538.
4. Wang, B., Shi, G., Fu, Y. and Xu, X. 2007. Cloning and characterization of a LASS1-GDF1 transcript in rat cerebral cortex: conservation of a bicistronic structure. *DNA Seq.* 18: 92-103.
5. Senkal, C.E., Ponnusamy, S., Rossi, M.J., Bialewski, J., Sinha, D., Jiang, J.C., Jazwinski, S.M., Hannun, Y.A. and Ogretmen, B. 2007. Role of human longevity assurance gene 1 and C18-ceramide in chemotherapy-induced cell death in human head and neck squamous cell carcinomas. *Mol. Cancer Ther.* 6: 712-722.

CHROMOSOMAL LOCATION

Genetic locus: CERS1 (human) mapping to 19p13.11.

PRODUCT

LASS1 (h): 293T Lysate represents a lysate of human LASS1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

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.

APPLICATIONS

LASS1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive LASS1 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.

PROTOCOLS

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