

DPP3 (h): 293T Lysate: sc-173142

BACKGROUND

Dipeptidyl peptidases (DPPs) mediate regulatory activity of their substrates and have been linked to a variety of diseases including type 2 diabetes, obesity and cancer. DPPs have post-proline dipeptidyl aminopeptidase activity, cleaving Xaa-Pro dipeptides from the N-termini of proteins. DPPs can bind specific voltage-gated potassium channels and alter their expression and biophysical properties and may also influence T cells. DPP proteins include DPP1, DPP2, DPP3, DPP7, DPP10, DPPX and CD26. DPP3 (dipeptidyl-peptidase 3), also known as DPPIII, is a zinc-exopeptidase that belongs to the peptidase M49 family. DPP3 localizes to the cytoplasm and is involved in intracellular protein catabolism. More specifically, DPP3 is an important enzyme involved in the degradation of enkephalins. An increase in the activity of DPP3 is implicated in ovarian and endometrial cancers.

REFERENCES

1. Shimamori, Y., Watanabe, Y. and Fujimoto, Y. 1989. Human placental dipeptidyl aminopeptidase III: hydrolysis of enkephalins and its stimulation by cobaltous ion. *Biochem. Med. Metab. Biol.* 40: 305-310.
2. Hashimoto, J., Yamamoto, Y., Kurosawa, H., Nishimura, K. and Hazato, T. 2000. Identification of dipeptidyl peptidase III in human neutrophils. *Biochem. Biophys. Res. Commun.* 273: 393-397.
3. Yamamoto, Y., Hashimoto, J., Shimamura, M., Yamaguchi, T. and Hazato, T. 2000. Characterization of tynorphin, a potent endogenous inhibitor of dipeptidyl peptidase III. *Peptides* 21: 503-508.
4. Fukasawa, K.M., Fukasawa, K. and Harada, M. 2000. Assignment of the dipeptidyl peptidase III gene (DPP3) to human chromosome 11 band q12→q13.1 by *in situ* hybridization. *Cytogenet. Cell Genet.* 88: 99-100.
5. Abramic, M., Schleuder, D., Dolovcak, L., Schroder, W., Strupat, K., Sagi, D., Peter-Katalini, J. and Vitale, L. 2001. Human and rat dipeptidyl peptidase III: biochemical and mass spectrometric arguments for similarities and differences. *Biol. Chem.* 381: 1233-1243.
6. Abramic, M., Simaga, S., Osmak, M., Cicin-Sain, L., Vukelic, B., Vlahovick, K. and Dolovcak, L. 2003. Highly reactive cysteine residues are part of the substrate binding site of mammalian dipeptidyl peptidases III. *Int. J. Biochem. Cell Biol.* 36: 434-446.
7. Simaga, S., Babic, D., Osmak, M., Spren, M. and Abramic, M. 2003. Tumor cytosol dipeptidyl peptidase III activity is increased with histological aggressiveness of ovarian primary carcinomas. *Gynecol. Oncol.* 91: 194-200.
8. Liu, Y., Kern, J.T., Walker, J.R., Johnson, J.A., Schultz, P.G. and Luesch, H. 2007. A genomic screen for activators of the antioxidant response element. *Proc. Natl. Acad. Sci. USA* 104: 5205-5210.
9. Navarathna, D.H., Hornby, J.M., Krishnan, N., Parkhurst, A., Duhamel, G.E. and Nickerson, K.W. 2007. Effect of farnesol on a mouse model of systemic candidiasis, determined by use of a DPP3 knockout mutant of *Candida albicans*. *Infect. Immun.* 75: 1609-1618.

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.

CHROMOSOMAL LOCATION

Genetic locus: DPP3 (human) mapping to 11q13.2.

PRODUCT

DPP3 (h): 293T Lysate represents a lysate of human DPP3 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

DPP3 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive DPP3 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.

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.