SANTA CRUZ BIOTECHNOLOGY, INC.

Aminopeptidase B-L1 siRNA (h): sc-94953

BACKGROUND

Aminopeptidase B-L1 (arginyl aminopeptidase (aminopeptidase B)-like 1), also known as RNPEPL1, APB or arginine aminopeptidase, is a 494 amino acid protein that belongs to the M1 family and shares 49% identity with aminopeptidase B. Encoded by a gene that maps to human chromosome 2q37.3, Aminopeptidase B-L1 contains eleven exons and is ubiquitously expressed, with higher levels in heart and skeletal muscle. Aminopeptidase B-L1 participates in inositol and phosphatidylinositol kinase activities, zinc ion binding and metallopeptidase activity. Aminopeptidase B-L1 is inhibited by calcium ions but is unaltered by chloride ions. Exhibiting broad specificity, Aminopeptidase B-L1 displays a preference for a P1 methionine, glutamine or citrulline residue, and employs a wide pH range, with its optimum between 6.6 and 8.0.

REFERENCES

1. Gomez, S., et al. 1988. Relationship between endo- and exopeptidases in a processing enzyme system: activation of an endoprotease by the aminopeptidase B-like activity in somatostatin-28 convertase. Proc. Natl. Acad. Sci. USA 85: 5468-5472.
2. Horikawa, Y., et al. 2000. Genetic variation in the gene encoding calpain-10 is associated with type 2 diabetes mellitus. Nat. Genet. 26: 163-175.
3. Hayes, M.G., et al. 2005. Patterns of linkage disequilibrium in the type 2 diabetes gene calpain-10. Diabetes 54: 3573-3576.
4. Iwasaki, N., et al. 2005. Genetic variants in the calpain-10 gene and the development of type 2 diabetes in the Japanese population. J. Hum. Genet. 50: 92-98.
5. Falvella, F.S., et al. 2009. FGFR4 Gly388Arg polymorphism may affect the clinical stage of patients with lung cancer by modulating the transcriptional profile of normal lung. Int. J. Cancer 124: 2880-2885.
6. Manco, G. 2009. Carboxylesterases: a world with still words to say. Protein Pept. Lett. 16: 1135-1136.
7. Thompson, M.W., et al. 2009. Arginyl aminopeptidase-like 1 (RNPEPL1) is an alternatively processed aminopeptidase with specificity for methionine, glutamine, and citrulline residues. Protein Pept. Lett. 16: 1256-1266.
8. Du, D., et al. 2010. Microarray analysis of high-glucose diet-induced changes in mRNA expression in jejunums of C57BL/6J mice reveals impairment in digestion, absorption. Mol. Biol. Rep. 37: 1867-1874.

CHROMOSOMAL LOCATION

Genetic locus: RNPEPL1 (human) mapping to 2q37.3.

PRODUCT

Aminopeptidase B-L1 siRNA (h) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Aminopeptidase B-L1 shRNA Plasmid (h): sc-94953-SH and Aminopeptidase B-L1 shRNA (h) Lentiviral Particles: sc-94953-V as alternate gene silencing products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Aminopeptidase B-L1 siRNA (h) is recommended for the inhibition of Aminopeptidase B-L1 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Aminopeptidase B-L1 gene expression knockdown using RT-PCR Primer: Aminopeptidase B-L1 (h)-PR: sc-94953-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.