SANTA CRUZ BIOTECHNOLOGY, INC.

Aminopeptidase P2 siRNA (h): sc-72488

BACKGROUND

Aminopeptidases comprise a family of enzymatic proteins that are widely distributed in both eukaryotes and prokaryotes and function to catalyze the removal of amino acids from the N-termini of proteins. Aminopeptidase P2, also known as XPNPEP2 (X-prolyl aminopeptidase (aminopeptidase P) 2, membrane-bound), is a 674 amino acid lipid-anchored cell membrane protein that belongs to the pita bread fold family of peptidase proteins. Expressed in colon, lung, kidney, heart, liver, placenta and small intestine, Aminopeptidase P2 exists as a homotrimer that functions as a metalloprotease and plays a role in Bradykinin metabolism, as well as in inflammatory responses throughout the body. Aminopeptidase P2 binds manganese as a cofactor and is subject to heavy post-translational glycosylation.

REFERENCES

1. Vanhoof, G., et al. 1992. Kininase activity in human platelets: cleavage of the Arg1-Pro2 bond of Bradykinin by Aminopeptidase P. Biochem. Pharmacol. 44: 479-487.
2. Venema, R.C., et al. 1997. Cloning and tissue distribution of human membrane-bound Aminopeptidase P. Biochim. Biophys. Acta 1354: 45-48.
3. Cottrell, G.S., et al. 1998. The cloning and functional expression of human pancreatic Aminopeptidase P. Biochem. Soc. Trans. 26: S248.
4. Sprinkle, T.J., et al. 1998. Assignment of the membrane-bound human Aminopeptidase P gene (XPNPEP2) to chromosome Xq25. Genomics 50: 114-116.
5. Duan, Q.L., et al. 2005. A variant in XPNPEP2 is associated with angioedema induced by angiotensin I-converting enzyme inhibitors. Am. J. Hum. Genet. 77: 617-626.
6. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 300145. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: XPNPEP2 (human) mapping to Xq26.1.

PRODUCT

Aminopeptidase P2 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs 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 P2 shRNA Plasmid (h): sc-72488-SH and Aminopeptidase P2 shRNA (h) Lentiviral Particles: sc-72488-V as alternate gene silencing products.

For independent verification of Aminopeptidase P2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-72488A, sc-72488B and sc-72488C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support 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 P2 siRNA (h) is recommended for the inhibition of Aminopeptidase P2 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 P2 gene expression knockdown using RT-PCR Primer: Aminopeptidase P2 (h)-PR: sc-72488-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.