



Aminopeptidase A siRNA (m): sc-41549

BACKGROUND

Aminopeptidase A, also designated APA, gp160 human kidney differentiation antigen, glutamyl Aminopeptidase, or enpep, is a differentiation-related kidney glycoprotein. As a cell surface, zinc-dependent metalloprotease, Aminopeptidase A specifically cleaves amino-terminal acidic residues from peptide substrates such as Angiotensin II. APA is expressed on the surface of epithelial cells of the glomerulus and proximal tubule cells of the human nephron, where it may mediate the constitutive trafficking of Glut4-containing vesicles. These Glut4-containing vesicles are tissue-specific secretory-like microsomal structures that mediate Insulin-dependent translocation of Glut4 to the cell surface in fat and muscle cells. Mutations in the gp160/APA gene, including loss of protein expression or enzymatic activity, occur in 20% of primary clear cell renal carcinomas.

REFERENCES

1. Nanus, D.M., et al. 1993. Molecular cloning of the human kidney differentiation antigen gp160: human Aminopeptidase A. *Proc. Natl. Acad. Sci. USA* 90: 7069-7073.
2. Kandror, K.V., et al. 1994. The major protein of Glut4-containing vesicles, gp160, has Aminopeptidase activity. *J. Biol. Chem.* 269: 30777-30780.
3. Online Mendelian Inheritance in Man, OMIM™. 1997. Johns Hopkins University, Baltimore, MD. MIM Number: 138297. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Filippis, A., et al. 1998. Possible role for gp160 in constitutive but not Insulin-stimulated Glut4 trafficking: dissociation of gp160 and Glut4 localization. *Biochem. J.* 330: 405-411.
5. Nanus, D.M., et al. 1998. Aminopeptidase A expression and enzymatic activity in primary human renal cancers. *Int. J. Oncol.* 13: 261-267.
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CHROMOSOMAL LOCATION

Genetic locus: Enpep (mouse) mapping to 3 G3.

PRODUCT

Aminopeptidase A siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Aminopeptidase A shRNA Plasmid (m): sc-41549-SH and Aminopeptidase A shRNA (m) Lentiviral Particles: sc-41549-V as alternate gene silencing products.

For independent verification of Aminopeptidase A (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-41549A, sc-41549B and sc-41549C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Aminopeptidase A siRNA (m) is recommended for the inhibition of Aminopeptidase A expression in mouse 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 μ M in 66 μ l. 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.

GENE EXPRESSION MONITORING

Aminopeptidase A (FG35.4): sc-52444 is recommended as a control antibody for monitoring of Aminopeptidase A gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Aminopeptidase A gene expression knockdown using RT-PCR Primer: Aminopeptidase A (m)-PR: sc-41549-PR (20 μ l). 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.