SANTA CRUZ BIOTECHNOLOGY, INC.

Latexin siRNA (h): sc-60917

BACKGROUND

Latexin, also designated endogenous carboxypeptidase inhibitor (ECI) or tissue carboxypeptidase inhibitor (TCI), belongs to the protease inhibitor I47 family of proteins. Latexin acts as a non-competitive, reversible inhibitor for metallocarboxypeptidases (MCPs), including CPA1, CPA2 and CPA4. It is a cytoplasmic protein that is highly expressed in heart, prostate, pancreas, ovary, kidney, brain and colon. Latexin consists of two topologically equivalent subdomains that bind to MCPs with low specificity, which gives it with the flexibility to inhibit all vertebrate A/B MCPs. Latexin is involved in the transmission of pain and plays a role in inflammation.

REFERENCES

1. Uratani, Y., et al. 2000. Latexin, a carboxypeptidase α inhibitor, is expressed in rat peritoneal mast cells and is associated with granular structures distinct from secretory granules and lysosomes. Biochem. J. 346: 817-826.
2. Liu, Q., et al. 2001. Cloning, tissue expression pattern and genomic organization of Latexin, a human homologue of rat carboxypeptidase α inhibitor. Mol. Biol. Rep. 27: 241-246.
3. Takiguchi-Hayashi, K. 2001. *In vitro* clonal analysis of rat cerebral cortical neurons expressing Latexin, a subtype-specific molecular marker of glutamatergic neurons. Brain Res. Dev. Brain Res. 132: 87-90.
4. Aagaard, A., et al. 2005. An inflammatory role for the mammalian carboxypeptidase inhibitor Latexin: relationship to cystatins and the tumor suppressor TIG1. Structure 13: 309-317.
5. García-Castellanos, R., et al. 2005. Detailed molecular comparison between the inhibition mode of A/B-type carboxypeptidases in the zymogen state and by the endogenous inhibitor Latexin. Cell. Mol. Life Sci. 62: 1996-2014.
6. Pallarès, I., et al. 2005. Structure of human carboxypeptidase A4 with its endogenous protein inhibitor, Latexin. Proc. Natl. Acad. Sci. USA 102: 3978-3983.
7. Jin, M., et al. 2006. Reduced pain sensitivity in mice lacking Latexin, an inhibitor of metallocarboxypeptidases. Brain Res. 1075: 117-121.

CHROMOSOMAL LOCATION

Genetic locus: LXN (human) mapping to 3q25.32.

PRODUCT

Latexin 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 Latexin shRNA Plasmid (h): sc-60917-SH and Latexin shRNA (h) Lentiviral Particles: sc-60917-V as alternate gene silencing products.

For independent verification of Latexin (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-60917A, sc-60917B and sc-60917C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

Latexin siRNA (h) is recommended for the inhibition of Latexin 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.

GENE EXPRESSION MONITORING

Latexin (8H5): sc-517052 is recommended as a control antibody for monitoring of Latexin 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Latexin gene expression knockdown using RT-PCR Primer: Latexin (h)-PR: sc-60917-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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