

WFIKKN siRNA (h): sc-72395

BACKGROUND

WFIKKN (WAP, follistatin/kazal, immunoglobulin, kunitz and netrin domain containing 1), also known as WFIKKN1, is a secreted multi-domain protein. It is expressed in adult pancreas, liver, kidney and thymus and fetal lung, skeletal muscle and liver. WFIKKN contains a whey acidic protein (WAP) domain, a follistatin (FS) domain, an immunoglobulin (Ig) domain, two Kunitz (KU) domains and a netrin domain. The FS, WAP and KU domains are frequently involved in inhibition of serine proteases. This suggests that WFIKKN may be a multi-domain serine protease and metalloproteinase inhibitor. In particular, WFIKKN may regulate Trypsin activity.

REFERENCES

1. Trexler, M., Bányaí, L. and Patthy, L. 2001. A human protein containing multiple types of protease-inhibitory modules. *Proc. Natl. Acad. Sci. USA* 98: 3705-3709.
2. Trexler, M., Bányaí, L. and Patthy, L. 2002. Distinct expression pattern of two related human proteins containing multiple types of protease-inhibitory modules. *Biol. Chem.* 383: 223-228.
3. Nagy, A., Trexler, M. and Patthy, L. 2003. Expression, purification and characterization of the second Kunitz-type protease inhibitor domain of the human WFIKKN protein. *Eur. J. Biochem.* 270: 2101-2107.
4. Hill, J.J., Qiu, Y., Hewick, R.M. and Wolfman, N.M. 2003. Regulation of myostatin *in vivo* by growth and differentiation factor-associated serum protein-1: a novel protein with protease inhibitor and follistatin domains. *Mol. Endocrinol.* 17: 1144-1154.
5. Bernocco, S., Steiglitz, B.M., Svergun, D.I., Petoukhov, M.V., Ruggiero, F., Ricard-Blum, S., Ebel, C., Geourjon, C., Deleage, G., Font, B., Eichenberger, D., Greenspan, D.S. and Hulmes, D.J. 2003. Low resolution structure determination shows procollagen C-proteinase enhancer to be an elongated multidomain glycoprotein. *J. Biol. Chem.* 278: 7199-7205.
6. Nishida, A.T., Kobuke, K., Kojima, K., Ito, J., Honjo, T. and Tashiro, K. 2004. OC is preferentially expressed in the presumptive sensory organ region of the otocyst. *Dev. Dyn.* 231: 766-774.
7. Rawlings, N.D., Tolle, D.P. and Barrett, A.J. 2004. Evolutionary families of peptidase inhibitors. *Biochem. J.* 378: 705-716.
8. Christeller, J.T. 2005. Evolutionary mechanisms acting on proteinase inhibitor variability. *FEBS J.* 272: 5710-5722.
9. Liepinsh, E., Nagy, A., Trexler, M., Patthy, L. and Otting, G. 2006. Second Kunitz-type protease inhibitor domain of the human WFIKKN1 protein. *J. Biomol. NMR* 35: 73-78.

CHROMOSOMAL LOCATION

Genetic locus: WFIKKN1 (human) mapping to 16p13.3.

PROTOCOLS

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

PRODUCT

WFIKKN 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see WFIKKN shRNA Plasmid (h): sc-72395-SH and WFIKKN shRNA (h) Lentiviral Particles: sc-72395-V as alternate gene silencing products.

For independent verification of WFIKKN (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-72395A, sc-72395B and sc-72395C.

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

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

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor WFIKKN gene expression knockdown using RT-PCR Primer: WFIKKN (h)-PR: sc-72395-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.