SANTA CRUZ BIOTECHNOLOGY, INC.

WFIKKN2 siRNA (m): sc-155346

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The Power to Question

BACKGROUND

WFIKKN2 (WAP, follistatin/kazal, immunoglobulin, kunitz and netrin domain containing 2), also known as GASP-1, hGASP-1 or WFIKKNRP, is a 576 amino acid secreted protein that belongs to the WFIKKN family. Expressed in ovary, testis and brain, WFIKKN2 consists of two BPTI/Kunitz inhibitor domains, an Ig-like C2-type (immunoglobulin-like) domain, a Kazal-like domain, an NTR domain and a WAP domain. The WAP-type, follistatin type, Kunitz-type and NTR-type protease inhibitory domains may control the action of multiple types of proteases. WFIKKN2 is suggested to bind to growth and differentiation factors, GDF-8 and GDF-11, with high affiniity thereby regulating their actiivity. WFIKKN2 is encoded by a gene located on human chromosome 17q21.33.

REFERENCES

1. Trexler, M., Bányai, 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., Bányai, 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. Christeller, J.T. 2005. Evolutionary mechanisms acting on proteinase inhibitor variability. FEBS J. 272: 5710-5722.
6. Schneyer, A.L., Sidis, Y., Gulati, A., Sun, J.L., Keutmann, H. and Krasney, P.A. 2008. Differential antagonism of activin, myostatin and growth and differentiation factor 11 by wild-type and mutant follistatin. Endocrinology 149: 4589-4595.
7. Kondás, K., Szláma, G., Trexler, M. and Patthy, L. 2008. Both WFIKKN1 and WFIKKN2 have high affinity for growth and differentiation factors 8 and 11. J. Biol. Chem. 283: 23677-23684.
8. Szláma, G., Kondás, K., Trexler, M. and Patthy, L. 2010. WFIKKN1 and WFIKKN2 bind growth factors TGFβ1, BMP2 and BMP4 but do not inhibit their signalling activity. FEBS J. 277: 5040-5050.
9. Kondás, K., Szláma, G., Nagy, A., Trexler, M. and Patthy, L. 2011. Biological functions of the WAP domain-containing multidomain proteins WFIKKN1 and WFIKKN2. Biochem. Soc. Trans. 39: 1416-1420.

CHROMOSOMAL LOCATION

Genetic locus: Wfikkn2 (mouse) mapping to 11 D.

PROTOCOLS

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

PRODUCT

WFIKKN2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see WFIKKN2 shRNA Plasmid (m): sc-155346-SH and WFIKKN2 shRNA (m) Lentiviral Particles: sc-155346-V as alternate gene silencing products.

For independent verification of WFIKKN2 (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-155346A, sc-155346B and sc-155346C.

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

WFIKKN2 siRNA (m) is recommended for the inhibition of WFIKKN2 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 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 WFIKKN2 gene expression knockdown using RT-PCR Primer: WFIKKN2 (m)-PR: sc-155346-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.