SANTA CRUZ BIOTECHNOLOGY, INC.

Ggnbp2 siRNA (m): sc-145389

BACKGROUND

LCRG1 (laryngeal carcinoma-related protein 1), also known as Ggnbp2 (gametogenetin-binding protein 2), LZK1 or ZNF403, is a 697 amino acid protein that may be involved in spermatogenesis. LCRG1 interacts with gametogenetin, a protein primarily expressed in testis and ovary. Localized in the cytoplasm, LCRG associates with vesicular structures. LCRG1 is expressed in brain, placenta, lung, liver and kidney, with highest levels found in heart, pancreas and skeletal muscle. LCRG1 is strongly down-regulated in 40% of primary laryngeal carcinoma and in six of ten various cancer cell lines. Phosphorylated on Serine 360, LCRG1 exists as three isoforms produced by alternative splicing events.

REFERENCES

1. Li, Y.J., Xie, H.L., Chen, Z.C. and He, C.M. 2001. Cloning and expression analysis of a laryngeal carcinoma related gene, LCRG1. Sheng Wu Hua Xue Yu Sheng Wu Wu Li Xue Bao 33: 315-319.
2. Li, Y. and Chen, Z. 2004. Molecular cloning and characterization of LCRG1 a novel gene localized to the tumor suppressor locus D17S800-D17S930. Cancer Lett. 209: 75-85.
3. Zhang, J., Wang, Y., Zhou, Y., Cao, Z., Huang, P. and Lu, B. 2005. Yeast two-hybrid screens imply that GGNBP1, Ggnbp2 and OAZ3 are potential interaction partners of testicular germ cell-specific protein GGN1. FEBS Lett. 579: 559-566.
4. Zhang, X., Xiao, Z., Chen, Z., Li, C., Li, J., Yanhui, Y., Yang, F., Yang, Y. and Oyang, Y. 2006. Comparative proteomics analysis of the proteins associated with laryngeal carcinoma-related gene 1. Laryngoscope 116: 224-230.
5. Dephoure, N., Zhou, C., Villen, J., Beausoleil, S.A., Bakalarski, C.E., Elledge, S.J. and Gygi, S.P. 2008. A quantitative atlas of mitotic phosphorylation. Proc. Natl. Acad. Sci. USA 105: 10762-10767.
6. Duan, C.J., Jiang, T.B. and Li, C. 2008. Screening the effective target sequences of laryngeal carcinoma related gene LCRG1. Zhong Nan Da Xue Xue Bao Yi Xue Ban 33: 468-475.
7. Aihara, T., Nakamura, N., Honda, S. and Hirose, S. 2009. A novel potential role for gametogenetin-binding protein 1 (GGNBP1) in mitochondrial morphogenesis during spermatogenesis in mice. Biol. Reprod. 80: 762-770.

CHROMOSOMAL LOCATION

Genetic locus: Ggnbp2 (mouse) mapping to 11 C.

PRODUCT

Ggnbp2 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 Ggnbp2 shRNA Plasmid (m): sc-145389-SH and Ggnbp2 shRNA (m) Lentiviral Particles: sc-145389-V as alternate gene silencing products.

For independent verification of Ggnbp2 (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-145389A, sc-145389B and sc-145389C.

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

Ggnbp2 siRNA (m) is recommended for the inhibition of Ggnbp2 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 Ggnbp2 gene expression knockdown using RT-PCR Primer: Ggnbp2 (m)-PR: sc-145389-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Li, S., Moore, A.K., Zhu, J., Li, X., Zhou, H., Lin, J., He, Y., Xing, F., Pan, Y., Bohler, H.C., Ding, J., Cooney, A.J., Lan, Z. and Lei, Z. 2016. Ggnbp2 is essential for pregnancy success via regulation of mouse trophoblast stem cell proliferation and differentiation. Biol. Reprod. 94: 41.

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.