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β ig-h3 siRNA (h): sc-43123

BACKGROUND

Human β ig-h3 ($\alpha 3/\beta 1$ Integrin, keratoepithelin) is a secreted, 683 amino acid, transforming growth factor-inducible, extracellular matrix adhesion molecule. β ig-h3 contains an amino-terminal secretory sequence and a carboxy-terminal Integrin-binding Arg-Gly-Asp (RGD) domain. β ig-h3 is implicated in mechanisms leading to proliferation, differentiation, wound healing and morphogenesis of corneal tissues. Mutations in the β ig-h3 gene, along with elevated levels of β ig-h3 protein in human corneas, occurs with granular dystrophy (GCD) and other inherited disorders of the cornea. β ig-h3 is also a structural component of the human bladder extracellular matrix and may influence nuclear regulatory or structural functions.

REFERENCES

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- Tsujikawa, M., Shimomura, Y., Okada, M., Yamamoto, S., Tano, Y. and Kurahashi, H. 1998. Novel polymorphisms in the β ig-h3 gene. *J. Hum. Genet.* 43: 214-225.
- Bron, A.J. 2000. Genetics of the corneal dystrophies: what we have learned in the past twenty-five years. *Cornea* 19: 699-711.
- Billings, P.C., Herrick, D.J., Kucich, U., Engelsberg, B.N., Abrams, W.R., Macarak, E.J., Rosenbloom, J. and Howard, P.S. 2000. Extracellular matrix and nuclear localization of β ig-h3 in human bladder smooth muscle and fibroblast cells. *J. Cell. Biochem.* 79: 261-273.

CHROMOSOMAL LOCATION

Genetic locus: TGFBI (human) mapping to 5q31.

PRODUCT

β ig-h3 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 β ig-h3 shRNA Plasmid (h): sc-43123-SH and β ig-h3 shRNA (h) Lentiviral Particles: sc-43123-V as alternate gene silencing products.

For independent verification of β ig-h3 (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-43123A, sc-43123B and sc-43123C.

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

β ig-h3 siRNA (h) is recommended for the inhibition of β ig-h3 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 β ig-h3 gene expression knockdown using RT-PCR Primer: β ig-h3 (h)-PR: sc-43123-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

- Hung, M.S., Chen, I.C., You, L., Jablons, D.M., Li, Y.C., Mao, J.H., Xu, Z., Hsieh, M.J., Lin, Y.C., Yang, C.T., Liu, S.T. and Tsai, Y.H. 2015. Knockdown of Cul4A increases chemosensitivity to gemcitabine through upregulation of TGFBI in lung cancer cells. *Oncol. Rep.* 34: 3187-3195.

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.