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elafin siRNA (h): sc-42866

BACKGROUND

Elafin, also known as elastase-specific inhibitor (ESI) or skin-derived anti-leukoprotease (SKALP), is a low molecular weight elastase inhibitor derived from psoriatic skin. Elafin is found in the epidermis of several inflammatory skin diseases, but not in normal human epidermis. It is found in the urine of psoriatic patients, and immunohistochemical studies show that elafin is found in the suprabasal differentiated keratinocytes of psoriatic epidermis. In inflamed skin, elafin exists both as a free form and as an immobilized form covalently attached to the cornified envelopes by transglutaminase cross-linking. Although there is no allelic association between pustular psoriasis (or psoriasis in general) and polymorphism of the PI3 gene, a decrease of elafin is found in lesional skin of patients with pustular psoriasis compared with plaque-type psoriasis. The gene which encodes elafin maps to human chromosome 20q13.12.

REFERENCES

1. Chang, A., et al. 1990. Elastase-inhibiting activity in scaling skin disorders. *Acta Derm. Venereol.* 70: 147-151.
2. Schalkwijk, J., et al. 1990. Skin-derived antileucoproteases (SKALPs): characterization of two new elastase inhibitors from psoriatic epidermis. *Br. J. Dermatol.* 122: 631-641.
3. Molhuizen, H.O., et al. 1993. SKALP/elafin: an elastase inhibitor from cultured human keratinocytes. Purification, cDNA sequence, and evidence for transglutaminase cross-linking. *J. Biol. Chem.* 268: 12028-12032.
4. Molhuizen, H.O., et al. 1994. Assignment of the human gene encoding the epidermal serine proteinase inhibitor SKALP (PI3) to chromosome region 20q12→q13. *Cytogenet. Cell Genet.* 66: 129-131.

CHROMOSOMAL LOCATION

Genetic locus: PI3 (human) mapping to 20q13.12.

PRODUCT

elafin 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 elafin shRNA Plasmid (h): sc-42866-SH and elafin shRNA (h) Lentiviral Particles: sc-42866-V as alternate gene silencing products.

For independent verification of elafin (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-42866A, sc-42866B and sc-42866C.

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

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

GENE EXPRESSION MONITORING

elafin (H-2): sc-398075 is recommended as a control antibody for monitoring of elafin 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 elafin gene expression knockdown using RT-PCR Primer: elafin (h)-PR: sc-42866-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

1. Yu, K.S., et al. 2011. Epigenetic regulation of the transcription factor Foxa2 directs differential elafin expression in melanocytes and melanoma cells. *Biochem. Biophys. Res. Commun.* 408: 160-166.

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.