SANTA CRUZ BIOTECHNOLOGY, INC.

HRF siRNA (m): sc-40676

BACKGROUND

Histamine is an inflammatory mediator that is ubiquitously expressed and has a broad range of pharmacologic effects. Specifically, it plays a role in the central nervous, gastrointestinal, respiratory and immune systems. Histamine release is mediated by the stimulation of mast cells and basophils. Histamine-releasing factor (HRF) is a cytokine-like molecule that causes the release of histamine, IL-4 and IL-13 from basophils as well as the secretion of IL-8 and a calcium response in eosinophils. HRF belongs to the translationally controlled tumor protein (TCTP) family. It is expressed in several healthy and tumoral cells, including erythrocytes, hepatocytes, macrophages, platelets, keratinocytes, erythroleukemia cells, gliomas, melanomas, hepatoblastomas and lymphomas, and it is localized in the cytoplasm. HRF plays a pivotal role in allergic diseases and, due to its wide distribution in brain, is thought to be involved in neurodegenerative disorders, such as Alzheimer's disease and Down syndrome.

REFERENCES

1. Parsons, M.E. 1991. Histamine receptors: an overview. Scand. J. Gastroenterol. Suppl. 180: 46-52.
2. MacDonald, S.M., et al. 1995. Molecular identification of an IgE-dependent histamine-releasing factor. Science 269: 688-690.
3. Bissonnette, E.Y. 1996. Histamine inhibits tumor necrosis factor α release by mast cells through H2 and H3 receptors. Am. J. Respir. Cell Mol. Biol. 14: 620-626.
4. Kuna, P. and Kaplan, A.P. 1996. Relationship of histamine-releasing factors and histamine-releasing inhibitory factors to chemokine group of cytokine. Allergy Asthma Proc.17: 5-11.
5. Sanchez, J.C., et al. 1997. Translationally controlled tumor protein: a protein identified in severalnontumoral cells including erythrocytes. Electrophoresis 18: 150-155.
6. MacDonald, S.M. 1997. Human recombinant histamine-releasing factor. Int. Arch. Allergy Immunol. 113: 187-189.
7. MacDonald, S.M., et al. 2001. Immune mimicry in malaria: plasmodium falciparum secretes a functional histamine-releasing factor homolog *in vitro* and *in vivo*. Proc. Natl. Acad. Sci. USA 98: 10829-10832.

CHROMOSOMAL LOCATION

Genetic locus: Tpt1 (mouse) mapping to 14 D3.

PRODUCT

HRF 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 HRF shRNA Plasmid (m): sc-40676-SH and HRF shRNA (m) Lentiviral Particles: sc-40676-V as alternate gene silencing products.

For independent verification of HRF (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-40676A, sc-40676B and sc-40676C.

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

HRF siRNA (m) is recommended for the inhibition of HRF 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.

GENE EXPRESSION MONITORING

HRF (B-3): sc-133131 is recommended as a control antibody for monitoring of HRF 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 HRF gene expression knockdown using RT-PCR Primer: HRF (m)-PR: sc-40676-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.

PROTOCOLS

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