SANTA CRUZ BIOTECHNOLOGY, INC.

IL-1F10 siRNA (m): sc-146210

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

IL-1 (Interleukin-1) is a cytokine responsible for initiating a variety of activities through the activation of transcription factors, NFκB and AP-1, thereby promoting host response to injury or infection. The IL-1 superfamily is comprised of several ligands and receptors. IL-1F10 (Interleukin-1 family member 10), also known as FIL1T, IL1HY2 or FKSG75, is a 152 amino acid secreted protein that belongs to the IL-1 family. Expressed in fetal skin, spleen and tonsil, IL-1F10 is most highly expressed in the basal epithelia of skin and proliferating B-cells of the tonsil. IL-1F10 binds soluble IL-1 receptor type 1, and is one of nine Interleukin 1 families clustered on chromosome 2, where it is thought to participate in the regulation of adapted and innate immune responses. Existing as two alternatively spliced isoforms, IL-1F10 is encoded by a gene that maps to human chromosome 2q13 and mouse chromosome 2 A3.

REFERENCES

1. Lin, H., Ho, A.S., Haley-Vicente, D., Zhang, J., Bernal-Fussell, J., Pace, A.M., Hansen, D., Schweighofer, K., Mize, N.K. and Ford, J.E. 2001. Cloning and characterization of IL-1HY2, a novel interleukin-1 family member. J. Biol. Chem. 276: 20597-20602.
2. Bensen, J.T., Dawson, P.A., Mychaleckyj, J.C. and Bowden, D.W. 2001. Identification of a novel human cytokine gene in the interleukin gene cluster on chromosome 2q12-14. J. Interferon Cytokine Res. 21: 899-904.
3. Nicklin, M.J., Barton, J.L., Nguyen, M., FitzGerald, M.G., Duff, G.W. and Kornman, K. 2002. A sequence-based map of the nine genes of the human interleukin-1 cluster. Genomics 79: 718-725.
4. Taylor, S.L., Renshaw, B.R., Garka, K.E., Smith, D.E. and Sims, J.E. 2002. Genomic organization of the interleukin-1 locus. Genomics 79: 726-733.
5. Rahman, P., Sun, S., Peddle, L., Snelgrove, T., Melay, W., Greenwood, C. and Gladman, D. 2006. Association between the interleukin-1 family gene cluster and psoriatic arthritis. Arthritis Rheum. 54: 2321-2325.
6. Sims, A.M., Timms, A.E., Bruges-Armas, J., Burgos-Vargas, R., Chou, C.T., Doan, T., Dowling, A., Fialho, R.N., Gergely, P., Gladman, D.D., Inman, R., Kauppi, M., Kaarela, K., Laiho, K., Maksymowych, W., et al. 2008. Prospective meta-analysis of interleukin 1 gene complex polymorphisms confirms associations with ankylosing spondylitis. Ann. Rheum. Dis. 67: 1305-1309.
7. Guo, Z.S., Li, C., Lin, Z.M., Huang, J.X., Wei, Q.J., Wang, X.W., Xie, Y.Y., Liao, Z.T., Chao, S.Y. and Gu, J.R. 2010. Association of IL-1 gene complex members with ankylosing spondylitis in Chinese Han population. Int. J. Immunogenet. 37: 33-37.
8. Jung, M.Y., Kang, S.W., Kim, S.K., Kim, H.J., Yun, D.H., Yim, S.V., Hong, S.J. and Chung, J.H. 2010. The interleukin-1 family gene polymorphisms in Korean patients with rheumatoid arthritis. Scand. J. Rheumatol. 39: 190-196.
9. Yamamoto-Furusho, J.K., Santiago-Hernández, J.J., Perez-Hernández, N., Ramírez-Fuentes, S., Fragoso, J.M. and Vargas-Alarcón, G. 2011. Interleukin 1 β (IL-1B) and IL-1 antagonist receptor (IL-1RN) gene polymorphisms are associated with the genetic susceptibility and steroid dependence in patients with ulcerative colitis. J. Clin. Gastroenterol. 45: 531-535.

CHROMOSOMAL LOCATION

Genetic locus: Il1f10 (mouse) mapping to 2 A3.

PRODUCT

IL-1F10 siRNA (m) is a pool of 2 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 IL-1F10 shRNA Plasmid (m): sc-146210-SH and IL-1F10 shRNA (m) Lentiviral Particles: sc-146210-V as alternate gene silencing products.

For independent verification of IL-1F10 (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-146210A and sc-146210B.

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

IL-1F10 siRNA (m) is recommended for the inhibition of IL-1F10 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 IL-1F10 gene expression knockdown using RT-PCR Primer: IL-1F10 (m)-PR: sc-146210-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.