

# FLYWCH1 siRNA (m): sc-145203

## BACKGROUND

FLYWCH1 (FLYWCH-type zinc finger 1) is a 716 amino acid nuclear protein containing five FLYWCH-type zinc fingers. Existing as five alternatively spliced isoforms, FLYWCH1 is encoded by a gene located on human chromosome 16p13.3. Chromosome 16 encodes over 900 genes and comprises nearly 3% of human cellular DNA. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth. The rare disorder Rubinstein-Taybi syndrome is also associated with chromosome 16 through the CREBBP gene, which encodes a critical CREB binding protein. Crohn's disease is a gastrointestinal inflammatory condition associated with chromosome 16 through the NOD2 gene. An association with systemic lupus erythematosus and a number of other autoimmune disorders with the pericentromeric region of chromosome 16 has led to the identification of SLC5A11 as a potential autoimmune modifier.

## REFERENCES

1. Ben Hamida, C., Cavalier, L., Belal, S., Sanhaji, H., Nadal, N., Barhoumi, C., M'Rissa, N., Marzouki, N., Mandel, J.L., Ben Hamida, M., Koenig, M. and Hentati, F. 1997. Homozygosity mapping of giant axonal neuropathy gene to chromosome 16q24.1. *Neurogenetics* 1: 129-133.
2. Karlsson, J., Zhao, X., Lonskaya, I., Neptin, M., Holmdahl, R. and Andersson, A. 2003. Novel quantitative trait loci controlling development of experimental autoimmune encephalomyelitis and proportion of lymphocyte subpopulations. *J. Immunol.* 170: 1019-1026.
3. Forabosco, P., Gorman, J.D., Cleveland, C., Kelly, J.A., Fisher, S.A., Ortmann, W.A., Johansson, C., Johanneson, B., Moser, K.L., Gaffney, P.M., Tsao, B.P., Cantor, R.M., Alarcón-Riquelme, M.E., Behrens, T.W., Harley, J.B., et al. 2006. Meta-analysis of genome-wide linkage studies of systemic lupus erythematosus. *Genes Immun.* 7: 609-614.
4. Carneiro, L.A., Travassos, L.H. and Girardin, S.E. 2007. Nod-like receptors in innate immunity and inflammatory diseases. *Ann. Med.* 39: 581-593.
5. Gervasini, C., Castronovo, P., Bentivegna, A., Mottadelli, F., Faravelli, F., Giovannucci-Uzielli, M.L., Pessagno, A., Lucci-Cordisco, E., Pinto, A.M., Salvati, L., Selicorni, A., Tenconi, R., Neri, G. and Larizza, L. 2007. High frequency of mosaic CREBBP deletions in Rubinstein-Taybi syndrome patients and mapping of somatic and germ-line breakpoints. *Genomics* 90: 567-573.
6. King, K., Bagnall, R., Fisher, S.A., Sheikh, F., Cuthbert, A., Tan, S., Mundy, N.I., Rosenstiel, P., Schreiber, S., Mathew, C.G. and Roberts, R.G. 2007. Identification, evolution, and association study of a novel promoter and first exon of the human NOD2 (CARD15) gene. *Genomics* 90: 493-501.
7. Koop, O., Schirmacher, A., Nelis, E., Timmerman, V., De Jonghe, P., Ringelstein, B., Rasic, V.M., Evrard, P., Gärtner, J., Claeys, K.G., Appenzeller, S., Rautenstrauss, B., Hühne, K., Ramos-Arroyo, M.A., Wörle, H., et al. 2007. Genotype-phenotype analysis in patients with giant axonal neuropathy (GAN). *Neuromuscul. Disord.* 17: 624-630.
8. Tattoli, I., Travassos, L.H., Carneiro, L.A., Magalhaes, J.G. and Girardin, S.E. 2007. The nodosome: NOD1 and NOD2 control bacterial infections and inflammation. *Semin. Immunopathol.* 29: 289-301.

## CHROMOSOMAL LOCATION

Genetic locus: Flywch1 (mouse) mapping to 17 A3.3.

## PRODUCT

FLYWCH1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see FLYWCH1 shRNA Plasmid (m): sc-145203-SH and FLYWCH1 shRNA (m) Lentiviral Particles: sc-145203-V as alternate gene silencing products.

For independent verification of FLYWCH1 (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-145203A, sc-145203B and sc-145203C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

FLYWCH1 siRNA (m) is recommended for the inhibition of FLYWCH1 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  $\mu$ M in 66  $\mu$ 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 FLYWCH1 gene expression knockdown using RT-PCR Primer: FLYWCH1 (m)-PR: sc-145203-PR (20  $\mu$ l). 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.