

# FAM83D siRNA (h): sc-77311

## BACKGROUND

FAM83D, also known as C20orf129 or CHICA, is a 585 amino acid protein that localizes to the cytoplasm and plays a role in chromosome congression and alignment during mitosis. FAM83D is encoded by a gene that maps to chromosome 20 and is expressed as four isoforms due to alternative splicing events. Chromosome 20 consists of approximately 63 million bases and 600 genes. Chromosome 20 contains a region with numerous genes expressed in the epididymis which are thought important for seminal production and some viewed as potential targets for male contraception. The PRNP gene encoding the prion protein associated with spongiform encephalopathies, like Creutzfeldt-Jakob disease, is found on chromosome 20. Amyotrophic lateral sclerosis, spinal muscular atrophy, ring chromosome 20 epilepsy syndrome and Alagille syndrome are also associated with chromosome 20.

## REFERENCES

1. Prusiner, S.B. 1998. The prion diseases. *Brain Pathol.* 8: 499-513.
2. Collins, S., McLean, C.A. and Masters, C.L. 2001. Gerstmann-Sträussler-Scheinker syndrome, fatal familial insomnia and kuru: a review of these less common human transmissible spongiform encephalopathies. *J. Clin. Neurosci.* 8: 387-397.
3. Masullo, C. and Macchi, G. 2001. Does PRNP gene control the clinical and pathological phenotype of human spongiform transmissible encephalopathies? *Clin. Neuropathol.* 20: 19-25.
4. Jóó, J.G., Beke, A., Tóth-Pál, E., Hargitai, B., Szigeti, Z., Papp, C. and Papp, Z. 2006. Trisomy 20 mosaicism and nonmosaic trisomy 20: a report of 2 cases. *J. Reprod. Med.* 51: 209-212.
5. Ville, D., Kaminska, A., Bahi-Buisson, N., Biraben, A., Plouin, P., Telvi, L., Dulac, O. and Chiron, C. 2006. Early pattern of epilepsy in the ring chromosome 20 syndrome. *Epilepsia* 47: 543-549.
6. Elghezal, H., Hannachi, H., Mougou, S., Kammoun, H., Triki, C. and Saad, A. 2007. Ring chromosome 20 syndrome without deletions of the subtelomeric and CHRNA4-KCNQ2 genes loci. *Eur. J. Med. Genet.* 50: 441-445.
7. Kazantsev, A.G. 2007. Cellular pathways leading to neuronal dysfunction and degeneration. *Drug News Perspect.* 20: 501-509.
8. O'Rand, M.G., Widgren, E.E., Wang, Z. and Richardson, R.T. 2007. Eppin: an epididymal protease inhibitor and a target for male contraception. *Soc. Reprod. Fert.* 63: 445-453.
9. Santamaria, A., Nagel, S., Sillje, H.H. and Nigg, E.A. 2008. The spindle protein CHICA mediates localization of the chromokinesin Kid to the mitotic spindle. *Curr. Biol.* 18: 723-729.

## CHROMOSOMAL LOCATION

Genetic locus: FAM83D (human) mapping to 20q11.23.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

FAM83D 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see FAM83D shRNA Plasmid (h): sc-77311-SH and FAM83D shRNA (h) Lentiviral Particles: sc-77311-V as alternate gene silencing products.

For independent verification of FAM83D (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-77311A, sc-77311B and sc-77311C.

## 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

FAM83D siRNA (h) is recommended for the inhibition of FAM83D 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  $\mu$ 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 FAM83D gene expression knockdown using RT-PCR Primer: FAM83D (h)-PR: sc-77311-PR (20  $\mu$ l, 588 bp). 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.