

# FAM20A siRNA (m): sc-145032

## BACKGROUND

FAM20A is a 541 amino acid secreted protein that belongs to the FAM20 family. While highly expressed in lung and liver, FAM20A has intermediate expression in thymus and ovary. The gene that encodes FAM20A maps to human chromosome 17q24.2. Defects in FAM20A are the cause of amelogenesis imperfecta and gingival fibromatosis syndrome (AIGFS). AIGFS is an autosomal recessive condition characterized by mild gingival fibromatosis and dental anomalies, including hypoplastic amelogenesis imperfecta, intrapulpal calcifications, delay of tooth eruption, hypodontia/oligodontia, pericoronal radiolucencies and unerupted teeth.

## REFERENCES

1. Nalbant, D., et al. 2005. FAM20: an evolutionarily conserved family of secreted proteins expressed in hematopoietic cells. *BMC Genomics* 6: 11.
2. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611062. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. An, C., et al. 2010. A transgenic mouse line with a 58-kb fragment deletion in chromosome 11E1 that encompasses part of the Fam20a gene and its upstream region shows growth disorder. *Kobe J. Med. Sci.* 55: E82-E92.
4. O'Sullivan, J., et al. 2011. Whole-Exome sequencing identifies FAM20A mutations as a cause of amelogenesis imperfecta and gingival hyperplasia syndrome. *Am. J. Hum. Genet.* 88: 616-620.
5. Cho, S.H., et al. 2012. Novel FAM20A mutations in hypoplastic amelogenesis imperfecta. *Hum. Mutat.* 33: 91-94.

## CHROMOSOMAL LOCATION

Genetic locus: Fam20a (mouse) mapping to 11 E1.

## PRODUCT

FAM20A 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 FAM20A shRNA Plasmid (m): sc-145032-SH and FAM20A shRNA (m) Lentiviral Particles: sc-145032-V as alternate gene silencing products.

For independent verification of FAM20A (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-145032A, sc-145032B and sc-145032C.

## 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

FAM20A siRNA (m) is recommended for the inhibition of FAM20A 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 FAM20A gene expression knockdown using RT-PCR Primer: FAM20A (m)-PR: sc-145032-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.

## PROTOCOLS

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