SANTA CRUZ BIOTECHNOLOGY, INC.

FAM3B siRNA (m): sc-145039

BACKGROUND

FAM3B (family with sequence similarity 3, member B), also known as ORF9, C21orf11 or PANDER (pancreatic-derived factor), is a 235 amino acid secreted protein that localizes to discrete vesicular and perinuclear structures. Expressed at high levels in pancreas and at lower levels in kidney, colon, testis, prostate and small intestine, FAM3B functions as an islet-specific cytokine that promotes apoptosis and may inhibit insulin secretion from β-cells, possibly playing a role in overall pancreatic activity. FAM3B may also function in the regulation of glycemic levels, with possible correlations to the onset of diabetes. Human FAM3B shares 78% sequence identity with its mouse counterpart, suggesting a conserved role between species. Three isoforms of FAM3B, designated A, B and C, exist due to alternative splicing events. The gene encoding FAM3B maps to human chromosome 21, which houses approximately 300 genes and comprises nearly 1.5% of the human genome.

REFERENCES

1. Zhu, Y., et al. 2002. Cloning, expression, and initial characterization of a novel cytokine-like gene family. Genomics 80: 144-150.
2. Robert-Cooperman, C.E., et al. 2011. PANDER KO mice on high-fat diet are glucose intolerant yet resistant to fasting hyperglycemia and hyperinsulinemia. FEBS Lett. 585: 1345-1349.
3. Hou, X., et al. 2011. Upregulation of pancreatic derived factor (FAM3B) expression in pancreatic β-cells by MCP-1 (CCL2). Mol. Cell. Endocrinol. 343: 18-24.
4. Wang, C., et al. 2012. Role of pancreatic-derived factor in type 2 diabetes: evidence from pancreatic β cells and liver. Nutr. Rev. 70: 100-106.

CHROMOSOMAL LOCATION

Genetic locus: Fam3b (mouse) mapping to 16 C4.

PRODUCT

FAM3B 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 FAM3B shRNA Plasmid (m): sc-145039-SH and FAM3B shRNA (m) Lentiviral Particles: sc-145039-V as alternate gene silencing products.

For independent verification of FAM3B (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-145039A and sc-145039B.

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

FAM3B siRNA (m) is recommended for the inhibition of FAM3B 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 FAM3B gene expression knockdown using RT-PCR Primer: FAM3B (m)-PR: sc-145039-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.