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## Zuschläge

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**SZABO-SCANDIC HandelsgmbH**

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

SANTA CRUZ BIOTECHNOLOGY, INC.

# ST8Sia IV siRNA (m): sc-153868

## BACKGROUND

ST8Sia IV (ST8 α-N-acetyl-neuraminide α-2,8-sialyltransferase IV), also known as PST, PST1 or SIAT8D, is a 359 amino acid single-pass type II membrane protein that localizes to the membrane of the Golgi apparatus. Highly expressed in heart, thymus and spleen, as well as fetal lung, brain and kidney, ST8Sia IV functions to catalyze the polycondensation of α-2,8-linked sialic acid, an event that is required for the synthesis of polysialic acid (PSA). PSA is an important regulator of neuronal plasticity and is present in embryonic brain tissue, where it interacts with NCAM (neural cell adhesion molecule) and plays a crucial role in fetal brain development. Defects in the gene encoding ST8Sia IV are associated with idiopathic pancreatitis, schizophrenia and tumor formation/metastasis. ST8Sia IV exists as multiple isoforms produced by alternative splicing events.

## REFERENCES


1. Nakayama, J., et al. 1995. Expression cloning of a human polysialyltransferase that forms the polysialylated neural cell adhesion molecule present in embryonic brain. Proc. Natl. Acad. Sci. USA 92: 7031-7035.
2. Angata, K., et al. 2001. Unique disulfide bond structures found in ST8Sia IV polysialyltransferase are required for its activity. J. Biol. Chem. 276: 15369-15377.
3. Angata, K., et al. 2002. ST8Sia II and ST8Sia IV polysialyltransferases exhibit marked differences in utilizing various acceptors containing oligosialic acid and short polysialic acid. The basis for cooperative polysialylation by two enzymes. J. Biol. Chem. 277: 36808-36817.
4. Cohn, J.A., et al. 2002. Idiopathic pancreatitis related to CFTR: complex inheritance and identification of a modifier gene. J. Investig. Med. 50: 247S-255S.
5. Beecken, W.D., et al. 2005. Valproic acid modulates NCAM polysialylation and polysialyltransferase mRNA expression in human tumor cells. Int. Immunopharmacol. 5: 757-769.
6. Mendiratta, S.S., et al. 2005. Specific amino acids in the first fibronectin type III repeat of the neural cell adhesion molecule play a role in its recognition and polysialylation by the polysialyltransferase ST8Sia IV/PST. J. Biol. Chem. 280: 32340-32348.


## CHROMOSOMAL LOCATION

Genetic locus: St8sia4 (mouse) mapping to 1 D.

## PRODUCT

ST8Sia IV 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ST8Sia IV shRNA Plasmid (m): sc-153868-SH and ST8Sia IV shRNA (m) Lentiviral Particles: sc-153868-V as alternate gene silencing products.

For independent verification of ST8Sia IV (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-153868A, sc-153868B and sc-153868C.

## 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

ST8Sia IV siRNA (m) is recommended for the inhibition of ST8Sia IV 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 ST8Sia IV gene expression knockdown using RT-PCR Primer: ST8Sia IV (m)-PR: sc-153868-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.