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## Lieferung & Zahlungsart

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## Zuschläge

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- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand


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SANTA CRUZ BIOTECHNOLOGY, INC.

# NBC4 siRNA (m): sc-149845

## BACKGROUND

NBC4 (electrogenic sodium bicarbonate cotransporter 4), also known as SLC4A5 (solute carrier family 4, sodium bicarbonate cotransporter, member 5), is a 1,137 amino acid multi-pass membrane protein that belongs to the anion exchanger family. NBC4 is an electrogenic sodium/bicarbonate cotransporter that may participate in the regulation of bicarbonate influx/efflux at the apical membrane of cells. NBC4 is highly expressed in liver, spleen and testis, and moderately expressed in choroid plexus, hippocampus, cerebrum and cerebellum, and in kidney cortex and medulla. Inhibited by 4,4'-di-isothiocyanatostilbene-2,2'-disulfonic acid (DIDS, an inhibitor of several anion channels and transporters), NBC4 is a key player in regulating intracellular pH in several cell types. NBC4 exists as eight alternatively spliced isoforms and is encoded by a gene located on human chromosome 2p13.1.

## REFERENCES


1. Sassani, P., et al. 2002. Functional characterization of NBC4: a new electrogenic sodium-bicarbonate cotransporter. Am. J. Physiol., Cell Physiol. 282: C408-C416.
2. Virkki, L.V., et al. 2002. Functional characterization of human NBC4 as an electrogenic $Na^+$-HCO cotransporter (NBCe2). Am. J. Physiol., Cell Physiol. 282: C1278-C1289.
3. Xu, J., et al. 2003. Expression of the $Na^+$-$HCO_3^-$ cotransporter NBC4 in rat kidney and characterization of a novel NBC4 variant. Am. J. Physiol. Renal Physiol. 284: F41-F50.
4. Kristensen, J.M., et al. 2004. Expression of $Na^+$/$HCO_3^-$ co-transporter proteins (NBCs) in rat and human skeletal muscle. Acta Physiol. Scand. 182: 69-76.
5. Abuladze, N., et al. 2004. Expression and localization of rat NBC4c in liver and renal uroepithelium. Am. J. Physiol., Cell Physiol. 287: C781-C789.
6. Damkier, H.H., et al. 2007. Molecular expression of SLC4-derived $Na^+$-dependent anion transporters in selected human tissues. Am. J. Physiol. Regul. Integr. Comp. Physiol. 293: R2136-R2146.
7. Millar, I.D., et al. 2008. NBCe2 exhibits a 3 $HCO_3^-$:1 $Na^+$ stoichiometry in mouse choroid plexus epithelial cells. Biochem. Biophys. Res. Commun. 373: 550-554.


## CHROMOSOMAL LOCATION

Genetic locus: Slc4a5 (mouse) mapping to 6 C3.

## PRODUCT

NBC4 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 NBC4 shRNA Plasmid (m): sc-149845-SH and NBC4 shRNA (m) Lentiviral Particles: sc-149845-V as alternate gene silencing products.

For independent verification of NBC4 (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-149845A, sc-149845B and sc-149845C.

## 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

NBC4 siRNA (m) is recommended for the inhibition of NBC4 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 NBC4 gene expression knockdown using RT-PCR Primer: NBC4 (m)-PR: sc-149845-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 or our catalog for detailed protocols and support products.