SANTA CRUZ BIOTECHNOLOGY, INC.

ACCN5 siRNA (h): sc-89214

BACKGROUND

ACCN5 (amiloride-sensitive cation channel 5), also known as INAC (intestine Na^+ channel) or HINAC (human intestine Na^+ channel), is a member of the degenerin/epithelial sodium channel (DEG/ENaC) superfamily. DEG/ENaC superfamily members are amiloride-sensitive sodium channels that contain intracellular N- and C-termini, two hydrophobic transmembrane regions and a cysteine-containing extracellular loop. Localizing to the cell membrane, ACCN5 is a multi-pass membrane protein that is expressed in small intestine, jejunum and duodenum. ACCN5 is also expressed at low levels in rectum and testis. Existing as a homo- or heterotetramer, ACCN5 functions as a Na^+-selective cation channel that, characteristic of its family, can be inhibited by amiloride.

REFERENCES

1. Sakai, H., et al. 1999. Cloning and functional expression of a novel degenerin-like Na^+ channel gene in mammals. J. Physiol. 519: 323-333.
2. Schaefer, L., et al. 2000. Molecular cloning, functional expression and chromosomal localization of an amiloride-sensitive Na^+ channel from human small intestine. FEBS Lett. 471: 205-210.
3. Krishtal, O. 2003. The ASICs: signaling molecules? Modulators? Trends Neurosci. 26: 477-483.
4. Carattino, M.D., et al. 2004. Epithelial Na^+ channels are activated by laminar shear stress. J. Biol. Chem. 279: 4120-4126.
5. Meltzer, R.H., et al. 2007. Heteromeric assembly of acid-sensitive ion channel and epithelial sodium channel subunits. J. Biol. Chem. 282: 25548-25559.
6. Cueva, J.G., et al. 2007. Nanoscale organization of the MEC-4 DEG/ENaC sensory mechanotransduction channel in *Caenorhabditis elegans* touch receptor neurons. J. Neurosci. 27: 14089-14098.
7. Folgering, J.H., et al. 2008. Molecular basis of the mammalian pressure-sensitive ion channels: focus on vascular mechanotransduction. Prog. Biophys. Mol. Biol. 97: 180-195.

CHROMOSOMAL LOCATION

Genetic locus: ASIC5 (human) mapping to 4q32.1.

PRODUCT

ACCN5 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ACCN5 shRNA Plasmid (h): sc-89214-SH and ACCN5 shRNA (h) Lentiviral Particles: sc-89214-V as alternate gene silencing products.

For independent verification of ACCN5 (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-89214A, sc-89214B and sc-89214C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

ACCN5 siRNA (h) is recommended for the inhibition of ACCN5 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 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 ACCN5 gene expression knockdown using RT-PCR Primer: ACCN5 (h)-PR: sc-89214-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.