SANTA CRUZ BIOTECHNOLOGY, INC.

nov siRNA (m): sc-39334

BACKGROUND

The CCN (CTGF/Cyr61/nov) family of genes presently consists of six distinct members, which encode proteins that participate in fundamental biological processes such as cell proliferation, adhesion, migration, differentiation, wound healing, angiogenesis and several pathologies including fibrosis and tumorigenesis. Whereas Cyr61 and CTGF act as positive regulators of cell growth, nov (nephroblastoma overexpressed, CCN3 or novH) provides the first example of a CCN protein with negative regulatory properties and the first example of aberrant expression being associated with tumor development. In animals and humans increased expression of nov is detected in tissues where calcium is a key regulator, such as the adrenal gland, central nervous system, bone and cartilage, heart muscle and kidney. The nov protein associates with Notch1 extracellular domain and inhibits myoblast differentiation via Notch signaling pathway. The gene that expresses nov is located on human chromosome 8q24.12 and was originally cloned following discovery of its avian homolog as a consequence of overexpression in virally induced nephroblastoma.

REFERENCES

1. Perbal, B. 2001. nov (nephroblastoma overexpressed) and the CCN family of genes: structural and functional issues. Mol. Pathol. 54: 57-79.
2. Kocialkowski, S., et al. 2001. Expression of the human nov gene in first trimester fetal tissues. Anat. Embryol. 203: 417-427.
3. Sakamoto, K., et al. 2002. The nephroblastoma overexpressed gene (nov/CCN3) protein associates with Notch1 extracellular domain and inhibits myoblast differentiation via Notch signaling pathway. J. Biol. Chem. 277: 29399-29405.
4. Lafont, J., et al. 2002. The expression of novH in adrenocortical cells is downregulated by TGFβ 1 through c-Jun in a Smad-independent manner. J. Biol. Chem. 277: 41220-41229.
5. Li, C.L., et al. 2002. A role for CCN3 (nov) in calcium signalling. Mol. Pathol. 55: 250-261.

CHROMOSOMAL LOCATION

Genetic locus: Nov (mouse) mapping to 15 D1.

PRODUCT

nov 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 nov shRNA Plasmid (m): sc-39334-SH and nov shRNA (m) Lentiviral Particles: sc-39334-V as alternate gene silencing products.

For independent verification of nov (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-39334A, sc-39334B and sc-39334C.

PROTOCOLS

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

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

nov siRNA (m) is recommended for the inhibition of nov 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 nov gene expression knockdown using RT-PCR Primer: nov (m)-PR: sc-39334-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.