

# NUDT18 siRNA (h): sc-77648

## BACKGROUND

NUDT18 (nudix (nucleoside diphosphate linked moiety X)-type motif 18) is a 323 amino acid protein that contains one nudix hydrolase domain and belongs to the nudix hydrolase family. Using magnesium or manganese as cofactors, NUDT18 is thought to mediate the hydrolysis of select nucleoside diphosphate derivatives. Multiple isoforms of NUDT18 exist due to alternative splicing events. The gene encoding NUDT18 maps to human chromosome 8, which encodes over 800 genes and is associated with a variety of diseases and malignancies. Schizophrenia, bipolar disorder, trisomy 8, Pfeiffer syndrome, congenital hypothyroidism, Waardenburg syndrome and some leukemias and lymphomas are thought to occur as a result of defects in specific genes that map to chromosome 8.

## REFERENCES

1. Wildenauer, D.B. and Schwab, S.G. 1999. Chromosomes 8 and 10 workshop. *Am. J. Med. Genet.* 88: 239-243.
2. Kashino, G., Kodama, S., Suzuki, K., Oshimura, M. and Watanabe, M. 2001. Preferential expression of an intact WRN gene in Werner syndrome cell lines in which a normal chromosome 8 has been introduced. *Biochem. Biophys. Res. Commun.* 289: 111-115.
3. Selicorni, A., Gueneri, S., Ratti, A. and Pizzuti, A. 2002. Cytogenetic mapping of a novel locus for type II Waardenburg syndrome. *Hum. Genet.* 110: 64-67.
4. Adam, P.J., Boyd, R., Tyson, K.L., Fletcher, G.C., Stamps, A., Hudson, L., Poyser, H.R., Redpath, N., Griffiths, M., Steers, G., Harris, A.L., Patel, S., Berry, J., Loader, J.A., Townsend, R.R., Daviet, L., Legrain, P., et al. 2003. Comprehensive proteomic analysis of breast cancer cell membranes reveals unique proteins with potential roles in clinical cancer. *J. Biol. Chem.* 278: 6482-6489.
5. Huang, X.P., Rong, T.H., Wang, J.Y., Tang, Y.Q., Li, B.J., Xu, D.R., Zhao, M.Q., Zhang, L.J., Fang, Y., Su, X.D. and Liang, Q.W. 2006. Negative implication of c-Myc as an amplification target in esophageal cancer. *Cancer Genet. Cytogenet.* 165: 20-24.
6. van Duin, M., van Marion, R., Vissers, K.J., Hop, W.C., Dinjens, W.N., Tilanus, H.W., Siersema, P.D. and van Dekken, H. 2007. High-resolution array comparative genomic hybridization of chromosome 8q: evaluation of putative progression markers for gastroesophageal junction adenocarcinomas. *Cytogenet. Genome Res.* 118: 130-137.
7. Kamath, A., Tara, H., Xiang, B., Bajaj, R., He, W. and Li, P. 2008. Double-minute MYC amplification and deletion of MTAP, CDKN2A, CDKN2B, and ELAVL2 in an acute myeloid leukemia characterized by oligonucleotide-array comparative genomic hybridization. *Cancer Genet. Cytogenet.* 183: 117-120.

## CHROMOSOMAL LOCATION

Genetic locus: NUDT18 (human) mapping to 8p21.3.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

NUDT18 siRNA (h) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NUDT18 shRNA Plasmid (h): sc-77648-SH and NUDT18 shRNA (h) Lentiviral Particles: sc-77648-V as alternate gene silencing 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

NUDT18 siRNA (h) is recommended for the inhibition of NUDT18 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  $\mu$ M in 66  $\mu$ l. 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 NUDT18 gene expression knockdown using RT-PCR Primer: NUDT18 (h)-PR: sc-77648-PR (20  $\mu$ l). 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.