SANTA CRUZ BIOTECHNOLOGY, INC.

CDV3 siRNA (m): sc-142241

BACKGROUND

The EGF receptor family comprises several related receptor tyrosine kinases that are frequently overexpressed in a variety of carcinomas. Members of this receptor family include EGFR (HER1), Neu (ErbB-2, HER2), ErbB-3 (HER3), and ErbB-4 (HER4), which form either homodimers or heterodimers upon ligand binding. Neu, a glycoprotein, undergoes transactivation upon hetero-dimerization with other EGF receptor family members. Activation of Neu potentiates tumor cell motility and protease secretion and invasion, and also modulates cell cycle checkpoint function, DNA repair and apoptotic responses. Amplification and/or overexpression of Neu occurs in 20-30% of breast carcinomas, and detection of increased Neu expression can be a predictor of disease prognosis. The CDV3 protein is a 258 amino acid protein that localizes in the cytoplasm. It acts as a repressor of Neu and subsequently may be involved in the progression of some cancers, including breast cancer, gliomas and prostate tumors.

REFERENCES

1. Rubin, I., et al. 2001. The basic biology of HER2. Ann. Oncol. 12: S3-S8.
2. Eccles, S.A. 2001. The role of c-erbB-2/HER2/Neu in breast cancer progression and metastasis. J. Mammary Gland Biol. Neoplasia 6: 393-406.
3. Hellyer, N.J., et al. 2001. Heregulin-dependent activation of phosphoinositide 3-kinase and Akt via the ErbB-2/ErbB-3 co-receptor. J. Biol. Chem. 276: 42153-42161.
4. Ukita, Y., et al. 2002. Gene amplification and mRNA and protein overexpression of c-erbB-2 (HER-2/Neu) in human intrahepatic cholangiocarcinoma as detected by fluorescence *in situ* hybridization, *in situ* hybridization and immunohistochemistry. J. Hepatol. 36: 780-785.
5. Hayes, D.F., et al. 2002. c-erbB-2 in breast cancer: development of a clinically useful marker. Semin. Oncol. 29: 231-245.
6. Cho, H.S., et al. 2003. Structure of the extracellular region of HER2 alone and in complex with the Herceptin Fab. Nature 421: 756-760.
7. Waldeck, W., et al. 2007. Induced and repressed genes after irradiation sensitizing by pentoxyphylline. Int. J. Cancer 120: 1198-1207.

CHROMOSOMAL LOCATION

Genetic locus: Cdv3 (mouse) mapping to 9 F1.

PRODUCT

CDV3 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 CDV3 shRNA Plasmid (m): sc-142241-SH and CDV3 shRNA (m) Lentiviral Particles: sc-142241-V as alternate gene silencing products.

For independent verification of CDV3 (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-142241A, sc-142241B and sc-142241C.

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

CDV3 siRNA (m) is recommended for the inhibition of CDV3 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 CDV3 gene expression knockdown using RT-PCR Primer: CDV3 (m)-PR: sc-142241-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.