SANTA CRUZ BIOTECHNOLOGY, INC.

EMSY siRNA (h): sc-45565

BACKGROUND

EMSY interacts with BRCA2 and plays a role in chromatin remodeling. This interaction has been confirmed in HeLa cells. Overexpression of EMSY strongly correlates with amplification in sporadic breast cancer and higher grade ovarian cancer. The EMSY gene is amplified in 18% of breast cancer cell lines. EMSY amplification is highly correlated with DNA amplification in both cell lines and primary tumors. This amplification is a general sign of poor prognosis and shortened disease-free survival time. EMSY from a wide variety of species has a conserved 80 amino acid sequence at the N-terminus. In irradiated MEFs (mouse embryonic fibroblasts), EMSY was found to migrate to damaged DNA.

REFERENCES

1. Haber, D.A., et al. 2003. The BRCA2-EMSY connection: implications for breast and ovarian tumorigenesis. Cell 115: 507-508.
2. Hughes-Davies, L., et al. 2003. EMSY links the BRCA2 pathway to sporadic breast and ovarian cancer. Cell 115: 523-535.
3. Rodriguez, C., et al. 2004. Amplification of the BRCA2 pathway gene EMSY in sporadic breast cancer is related to negative outcome. Clin. Cancer Res. 10: 5785-5791.
4. Yao, J., et al. 2004. EMSY links breast cancer gene 2 to the "Royal Family". Breast Cancer Res. 6: 201-203.
5. Livingston, D.M., et al. 2004. EMSY, a BRCA2 partner in crime. Nat. Med. 10: 127-128.
6. Benusiglio, P.R., et al. 2005. Common variation in EMSY and risk of breast and ovarian cancer: a case-control study using HapMap tagging SNPs. BMC Cancer 5: 81.
7. Raouf, A., et al. 2005. Genomic instability of human mammary epithelial cells overexpressing a truncated form of EMSY. J. Natl. Cancer Inst. 97: 1302-1306.
8. Huang, Y., et al. 2006. Crystal structure of the HP1-EMSY complex reveals an unusual mode of HP1 binding. Structure 14: 703-712.

CHROMOSOMAL LOCATION

Genetic locus: C11orf30 (human) mapping to 11q13.5.

PRODUCT

EMSY 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 EMSY shRNA Plasmid (h): sc-45565-SH and EMSY shRNA (h) Lentiviral Particles: sc-45565-V as alternate gene silencing products.

For independent verification of EMSY (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-45565A, sc-45565B and sc-45565C.

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

EMSY siRNA (h) is recommended for the inhibition of EMSY 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.

GENE EXPRESSION MONITORING

EMSY (E-9): sc-515469 is recommended as a control antibody for monitoring of EMSY gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor EMSY gene expression knockdown using RT-PCR Primer: EMSY (h)-PR: sc-45565-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.