SANTA CRUZ BIOTECHNOLOGY, INC.

EAT-2 siRNA (h): sc-42970

BACKGROUND

The pathogenesis of the Ewing sarcoma family of tumors is characterized by the presence of an EWS/FLI1 fusion gene following a translocation between chromosomes 11 and 22, which results in the expression of a chimeric protein. Originally isolated from Ewing's sarcoma tumor cells lines, the EWS/FLI1 activated transcript 2 (EAT-2) protein is an intracellular signaling protein that is expressed in immune cells, including macrophages and B lymphocytes. EAT-2 is expressed in NIH/3T3 cells within 4-8 hours of EWS/FLI1 induction, suggesting a potential role for EAT-2 in the oncogenesis of Ewing's sarcoma. EAT-2 binds members of the signaling lymphocytic-activation molecule (SLAM) family of immune receptors, which are present in varying levels in immune cells. Specifically, EAT-2 plays a role in controlling the signal transduction of antigen-presenting cells by binding to SLAM family members CD150, CD244, CD84 and CD229, which contain conserved tyrosine motifs in their cytoplasmic tails.

REFERENCES

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2. West, D.C. 2000. Ewing sarcoma family of tumors. Curr. Opin. Oncol. 12: 323-329.
3. Morra, M., Lu, J., Poy, F., Martin, M., Sayos, J., Calpe, S., Gullo, C., Howie, D., Rietdijk, S., Thompson, A., Coyle, A.J., Denny, C., Yaffe, M.B., Engel, P., Eck, M.J. and Terhorst, C. 2001. Structural basis for the interaction of the free SH2 domain EAT-2 with SLAM receptors in hematopoietic cells. EMBO J. 20: 5840-5852.
4. Veillette, A. 2002. The SAP family: a new class of adaptor-like molecules that regulates immune cell functions. Sci. STKE 2002: pe8.
5. Fraser, C.C., Howie, D., Morra, M., Qiu, Y., Murphy, C., Shen, Q., Gutierrez-Ramos, J.C., Coyle, A., Kingsbury, G.A. and Terhorst, C. 2002. Identification and characterization of SF2000 and SF2001, two new members of the immune receptor SLAM/CD2 family. Immunogenetics 53: 843-850.

CHROMOSOMAL LOCATION

Genetic locus: SH2D1B (human) mapping to 1q23.3.

PRODUCT

EAT-2 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 EAT-2 shRNA Plasmid (h): sc-42970-SH and EAT-2 shRNA (h) Lentiviral Particles: sc-42970-V as alternate gene silencing products.

For independent verification of EAT-2 (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-42970A, sc-42970B and sc-42970C.

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

EAT-2 siRNA (h) is recommended for the inhibition of EAT-2 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 EAT-2 gene expression knockdown using RT-PCR Primer: EAT-2 (h)-PR: sc-42970-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Enose-Akahata, Y., Matsuura, E., Oh, U. and Jacobson, S. 2009. High expression of CD244 and SAP regulated CD8 T cell responses of patients with HTLV-I associated neurologic disease. PLoS Pathog. 5: e1000682.

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.