SANTA CRUZ BIOTECHNOLOGY, INC.

APRIL siRNA (h): sc-39822

BACKGROUND

A proliferation-inducing ligand (APRIL), also designated TNFSF13, is a type II membrane protein that shares characteristics with other members of the tumor necrosis factor (TNF) cytokine family. APRIL is expressed in high levels in transformed cell lines and in human colon, thyroid, and lymphoid tumor tissues. APRIL is critically involved in the regulation of infections, inflammation, autoimmune diseases, and tissue homeostasis. APRIL is implicated in the regulation of tumor cell growth. The C-terminal extracellular domain has a jelly roll topography and is important in ligand trimerization. The binding of the ligand to its respective receptor induces oligomerization, initiating downstream signaling events. Intrinsic to oligomerization is the formation of the receptor binding site at the junction between neighboring subunits, creating a multivalent ligand.

REFERENCES

1. Smith, C.A., et al. 1994. The TNF receptor superfamily of cellular and viral proteins: activation, costimulation, and death. Cell 76: 959-962.
2. Banner, D.W., et al. 1996. The crystal structure of the complex of blood coagulation factor VIIa with soluble tissue factor. Nature 380: 41-46.
3. Hahne, M., et al. 1998. APRIL, a new ligand of the tumor necrosis factor family, stimulates tumor cell growth. J. Exp. Med. 188: 1185-1190.
4. Hu, S., et al. 1999. Characterization of TNFRSF19, a novel member of the tumor necrosis factor receptor superfamily. Genomics 62: 103-107.
5. Khare, S.D., et al. 2000. Severe B cell hyperplasia and autoimmune disease in TALL-1 transgenic mice. Proc. Natl. Acad. Sci. USA 97: 3370-3375.

CHROMOSOMAL LOCATION

Genetic locus: TNFSF12-TNFSF13 (human) mapping to 17p13.1.

PRODUCT

APRIL 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 APRIL shRNA Plasmid (h): sc-39822-SH and APRIL shRNA (h) Lentiviral Particles: sc-39822-V as alternate gene silencing products.

For independent verification of APRIL (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-39822A, sc-39822B and sc-39822C.

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

APRIL siRNA (h) is recommended for the inhibition of APRIL 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

APRIL (F-5): sc-374673 is recommended as a control antibody for monitoring of APRIL 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 APRIL gene expression knockdown using RT-PCR Primer: APRIL (h)-PR: sc-39822-PR (20 µl, 594 bp). 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.