SANTA CRUZ BIOTECHNOLOGY, INC.

SEI-1 siRNA (h): sc-62988

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The Power to Question

BACKGROUND

SEI-1, also known as SERTAD1 (SERTA domain containing 1) or TRIP-Br1 (transcriptional regulator interacting with the PHD-bromodomain 1), is a transcriptional regulator that integrates signals provided by transcription factors. Acting at E2F-responsive promoters, SEI-1 interacts with the PHD- and bromodomains of proteins such as TIF1 and DP-1, thereby transmitting their signals to the promoter and stimulating transcriptional activity. SEI-1 exists as a multiprotein complex with E2F-1 and DP-1 and is expressed at different levels throughout the cell cycle, allowing it to regulate cell cycle progression via promoter control during the G_1 and S phases. Additionally, SEI-1 can render the activity of the cyclin D-Cdk4 complex, an important catalyst of the cell cycle, resistant to the inhibitory effects of p16. Overexpression of SEI-1 is implicated in the development of squamous cell carcinomas of the head and neck.

REFERENCES

1. Hsu, S.I., et al. 2001. TRIP-Br: a novel family of PHD zinc finger- and bromodomain-interacting proteins that regulate the transcriptional activity of E2F-1/DP-1. EMBO J. 20: 2273-2285.
2. Tang, T.C., et al. 2002. Identification of a candidate oncogene SEI-1 within a minimal amplified region at 19q13.1 in ovarian cancer cell lines. Cancer Res. 62: 7157-7161.

CHROMOSOMAL LOCATION

Genetic locus: SERTAD1 (human) mapping to 19q13.2.

PRODUCT

SEI-1 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 SEI-1 shRNA Plasmid (h): sc-62988-SH and SEI-1 shRNA (h) Lentiviral Particles: sc-62988-V as alternate gene silencing products.

For independent verification of SEI-1 (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-62988A, sc-62988B and sc-62988C.

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

SEI-1 siRNA (h) is recommended for the inhibition of SEI-1 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

SEI-1 (3H4): sc-517080 is recommended as a control antibody for monitoring of SEI-1 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 SEI-1 gene expression knockdown using RT-PCR Primer: SEI-1 (h)-PR: sc-62988-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. Jung, S., et al. 2013. Oncogenic function of $p34^{SEI-1}$ via NEDD4-1-mediated PTEN ubiquitination/degradation and activation of the PI3K/Akt pathway. Int. J. Oncol. 43: 1587-1595.
2. Li, C., et al. 2015. Nutrient/serum starvation derived TRIP-Br3 down-regulation accelerates apoptosis by destabilizing XIAP. Oncotarget 6: 7522-7535.
3. Jung, S., et al. 2015. TRIP-Br1 oncoprotein inhibits autophagy, apoptosis, and necroptosis under nutrient/serum-deprived condition. Oncotarget 6: 29060-29075.
4. Li, C., et al. 2016. Inhibitory role of TRIP-Br1 oncoprotein in hypoxia-induced apoptosis in breast cancer cell lines. Int. J. Oncol. 48: 2639-2646.
5. Nguyen, T.N.Q., et al. 2022. The regulation of Insulin receptor/Insulin-like growth factor 1 receptor ratio, an important factor for breast cancer prognosis, by TRIP-Br1. J. Hematol. Oncol. 15: 82.

RESEARCH USE

For research use only, not for use in diagnostic procedures.