

SEI-1 (S-13): sc-55046



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 G₁ 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. Over-expression of SEI-1 is implicated in the development of squamous cell carcinomas of the head and neck.

REFERENCES

- Hsu, S.I., Yang, C.M., Sim, K.G., Hentschel, D.M., O'Leary, E. and Bonventre, J.V. 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.
- Tang, T.C., Sham, J.S., Xie, D., Fang, Y., Huo, K.K., Wu, Q.L. and Guan, X.Y. 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.
- Sim, K.G., Zang, Z., Yang, C.M., Bonventre, J.V. and Hsu, S.I. 2004. TRIP-Br links E2F to novel functions in the regulation of cyclin E expression during cell cycle progression and in the maintenance of genomic stability. *Cell Cycle* 3: 1296-1304.
- Tang, D.J., Hu, L., Xie, D., Wu, Q.L., Fang, Y., Zeng, Y., Sham, J.S. and Guan, X.Y. 2005. Oncogenic transformation by SEI-1 is associated with chromosomal instability. *Cancer Res.* 65: 6504-6508.
- Watanabe-Fukunaga, R., Iida, S., Shimizu, Y., Nagata, S. and Fukunaga, R. 2005. SEI family of nuclear factors regulates p53-dependent transcriptional activation. *Genes Cells* 10: 851-860.
- Bott, S.R., Arya, M., Kirby, R.S. and Williamson, M. 2005. p21WAF1/CIP1 gene is inactivated in metastatic prostatic cancer cell lines by promoter methylation. *Prostate Cancer Prostatic Dis.* 8: 321-326.
- Li, J., Muscarella, P., Joo, S.H., Knobloch, T.J., Melvin, W.S., Weghorst, C.M. and Tsai, M.D. 2005. Dissection of Cdk4-binding and transactivation activities of p34(SEI-1) and comparison between functions of p34(SEI-1) and p16(INK4A). *Biochemistry* 44: 13246-13256.
- Sim, K.G., Cheong, J.K. and Hsu, S.I. 2006. The TRIP-Br family of transcriptional regulators is essential for the execution of cyclin E-mediated cell cycle progression. *Cell Cycle* 5: 1111-1115.
- Lai, I.L., Wang, S.Y., Yao, Y.L. and Yang, W.M. 2007. Transcriptional and subcellular regulation of the TRIP-Br family. *Gene* 388: 102-109.

RESEARCH USE

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

CHROMOSOMAL LOCATION

Genetic locus: SERTAD1 (human) mapping to 19q13.1-q13.2; Sertad1 (mouse) mapping to 7 A3.

SOURCE

SEI-1 (S-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SEI-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-55046 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SEI-1 (S-13) is recommended for detection of SEI-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SEI-1 siRNA (h): sc-62988 and SEI-1 siRNA (m): sc-62989.

Molecular Weight of SEI-1: 25 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.