



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

Weitere Information auf den folgenden Seiten!  
See the following pages for more information!



### Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

# TOK-1 siRNA (m): sc-154549

## BACKGROUND

Combinations of cyclin-cyclin-dependent kinase (CDK) complex and their inhibitors coordinately regulate cell-cycle movement. INK4 family proteins p15, p16, p18 and p19 inhibit CDK4/CDK, whereas Cip/Kip family proteins p21, p27 and P57, inhibit all of the CDKs. p21 induces cell cycle arrest, thus inhibiting CDK activity for Rb inactivation. In addition to binding of CDK-cyclin to the N-terminal region of p21, other proteins such as proliferating cell nuclear antigen (PCNA), SET/TAF1 and calmodulin are able to bind to the C-proximal region of p21. A novel p21Cip1-binding protein TOK-1 binds to the C-terminal region of p21. TOK-1 is alternatively spliced to form TOK-1a and TOK-1b, which are comprised of 322 and 314 amino acids, respectively. TOK-1 co-localizes with p21 in nuclei and has similar expression pattern to that of p21. TOK-1a, but not TOK-1b, directly binds to the C-terminal proximal region of p21 and both are expressed at the G<sub>1</sub>/S boundary of cell-cycle. TOK-1a preferentially binds to an active form of CDK2 via p21 to make a ternary complex in human cells. In addition, TOK-1a enhances the inhibitory activity of p21 to histone H1 kinase activity of CDK2, suggesting that TOK-1a may be a new type of CDK2 modulator.

## REFERENCES

- Connell-Crowley, L., Elledge, S.J. and Harper, J.W. 1998. G<sub>1</sub> cyclin-dependent kinases are sufficient to initiate DNA synthesis in quiescent human fibroblasts. *Curr. Biol.* 8: 65-68.
- Hengstschlager, M., Braun, K., Soucek, T., Miloloza, A. and Hengstschlager-Ottnd, E. 1999. Cyclin-dependent kinases at the G<sub>1</sub>-S transition of the mammalian cell cycle. *Mutat. Res.* 436: 1-9.
- Chen, J., Jackson, P.K., Kirschner, M.W. and Dutta, A. 1995. Separate domains of p21 involved in the inhibition of Cdk kinase and PCNA. *Nature* 374: 386-388.
- Goubin F. and Ducommun B. 1995. Identification of binding domains on the p21Cip1 cyclin-dependent kinase inhibitor. *Oncogene* 10: 2281-2287.
- Harper, J.W., Elledge, S.J., Keyomarsi, K., Dynlacht, B., Tsai, L.H., Zhang, P., Dobrowolski, S., Bai, C., Connell-Crowley, L. and Swindell, E. 1995. Inhibition of cyclin-dependent kinases by p21. *Mol. Biol. Cell* 6: 387-400.
- Luo, Y., Hurwitz, J. and Massague, J. 1995. Cell-cycle inhibition by independent CDK and PCNA binding domains in p21<sup>Cip1</sup>. *Nature* 375: 159-161.
- Ono, T., Kitaura, H., Ugai, H., Murata, T., Yokoyama, K.K., Iguchi-Arigo, S.M. and Ariga, H. 2000. TOK-1, novel p21<sup>Cip1</sup>-binding protein that cooperatively enhances p21-dependent inhibitory activity toward CDK2 kinase. *J. Biol. Chem.* 275: 31145-31154.

## CHROMOSOMAL LOCATION

Genetic locus: Bccip (mouse) mapping to 7 F3.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

TOK-1 siRNA (m) 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 TOK-1 shRNA Plasmid (m): sc-154549-SH and TOK-1 shRNA (m) Lentiviral Particles: sc-154549-V as alternate gene silencing products.

For independent verification of TOK-1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-154549A, sc-154549B and sc-154549C.

## 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

TOK-1 siRNA (m) is recommended for the inhibition of TOK-1 expression in mouse cells.

## SUPPORT REAGENTS

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.

## GENE EXPRESSION MONITORING

TOK-1β (B-10): sc-271985 is recommended as a control antibody for monitoring of TOK-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).

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TOK-1 gene expression knockdown using RT-PCR Primer: TOK-1 (m)-PR: sc-154549-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.