



TOK-1 α (V-19): sc-15414

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 p21 Cip1-binding protein TOK-1 binds to the C-terminal region of p21. TOK-1 is alternatively spliced to form TOK-1 α and TOK-1 β , 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-1 α , but not TOK-1 β , directly binds to the C-terminal proximal region of p21 and both are expressed at the G1/S boundary of cell-cycle. TOK-1 α preferentially binds to an active form of CDK2 via p21 to make a ternary complex in human cells. In addition, TOK-1 α enhances the inhibitory activity of p21 to histone H1 kinase activity of CDK2, suggesting that TOK-1 α may be a new type of CDK2 modulator.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: BCCIP (human) mapping to 10q26.2; Bccip (mouse) mapping to 7.

SOURCE

TOK-1 α (V-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of TOK-1 α of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-15414 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TOK-1 α (V-19) is recommended for detection of TOK-1 α of 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).

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.

RESEARCH USE

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

PROTOCOLS

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