SANTA CRUZ BIOTECHNOLOGY, INC.

PITSLRE siRNA (m): sc-37591

BACKGROUND

The PITSLRE β1 protein, a distantly related member of the Cdk family of protein kinases, induces apoptosis after low levels of ectopic expression. Apoptosis, or programmed cell death, is similarly induced by ectopic expression of an amino terminal deletion mutant retaining the catalytic and carboxy-terminal domains of PITSLRE β1, but not by other mutants lacking Histone H1 kinase activity or by other Cdk family members. The terminology for the ten isoforms of the PITSLRE subfamily of proteins is based on the conserved PSTAIRE box region of Cdc2 p34. Depending on which of the PITSLRE genes produce the protein, the cDNA and protein are designated α, β or γ (i.e., PITSLRE A gene, α; PITSLRE B gene, β and PITSLRE C gene, γ). Some of the isoforms such as PITSLRE α1 (T cells) and PITSLRE β1 (B cells and brain), are expressed in specific cell types, while others are expressed ubiquitously.

REFERENCES

1. Bunnell, B.A., et al. 1990. Increased expression of a 58 kDa protein kinase leads to changes in the CHO cell cycle. Proc. Natl. Acad. Sci. USA 87: 7467-7471.
2. Cohen, J.J. 1991. Programmed cell death in the immune system. Adv. Immunol. 50: 55-85.
3. Ellis, R.E., et al. 1991. Mechanisms and functions of cell death. Annu. Rev. Cell Biol. 9: 663-698.
4. Meyerson, M., et al. 1992. A family of human Cdc2-related protein kinases. EMBO J. 11: 2909-2917.
5. Raff, M.C., et al. 1993. Programmed cell death and the control of cell survival: lessons from the nervous system. Science 262: 695-700.
6. Reed, J.C. 1994. Bcl-2 and the regulation of programmed cell death. J. Cell Biol. 124: 1-6.
7. Xiang, J., et al. 1994. Molecular cloning and expression of alternatively spliced PITSLRE protein kinase isoforms. J. Biol. Chem. 269: 15786-15794.
8. Lahti, J.M., et al. 1995. PITSLRE protein kinase activity is associated with apoptosis. Mol. Cell. Biol. 15: 1-11.
9. Petretti, C. et al. 2006. The PITSLRE/CDK11p58 protein kinase promotes centrosome maturation and bipolar spindle formation. EMBO Rep. 7: 418-424.

CHROMOSOMAL LOCATION

Genetic locus: Cdk11b (mouse) mapping to 4 E2.

PRODUCT

PITSLRE 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 PITSLRE shRNA Plasmid (m): sc-37591-SH and PITSLRE shRNA (m) Lentiviral Particles: sc-37591-V as alternate gene silencing products.

For independent verification of PITSLRE (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-37591A, sc-37591B and sc-37591C.

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

PITSLRE siRNA (m) is recommended for the inhibition of PITSLRE expression in mouse 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

PITSLRE (B-9): sc-377296 is recommended as a control antibody for monitoring of PITSLRE 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 PITSLRE gene expression knockdown using RT-PCR Primer: PITSLRE (m)-PR: sc-37591-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.

PROTOCOLS

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