

Ki67 siRNA (h): sc-37613

BACKGROUND

Ki67 is a nuclear protein that is expressed in proliferating cells and may be required for maintaining cell proliferation. Ki67 has been used as a marker for cell proliferation of solid tumors and some hematological malignancies. A correlation has been demonstrated between Ki67 index and the histopathological grade of neoplasms. Assessment of Ki67 expression in renal and ureter tumors shows a correlation between tumor proliferation and disease progression, thus making it possible to differentiate high-risk patients. Ki67 expression may also prove to be important for distinguishing between malignant and benign peripheral nerve sheath tumors.

REFERENCES

- Lopez, F., et al. 1991. Modalities of synthesis of Ki-67 antigen during the stimulation of lymphocytes. *Cytometry* 12: 42-49.
- Schluter, C., et al. 1993. The cell proliferation-associated antigen of antibody Ki-67: a very large, ubiquitous nuclear protein with numerous repeated elements, representing a new kind of cell cycle-maintaining proteins. *J. Cell Biol.* 123: 513-522.
- Gore, S.D., et al. 1993. Validation of flow-cytometric determination of Ki-67 expression as a measure of growth factor response in acute myelogenous leukemia. *Exp. Hematol.* 21: 1702-1708.
- Limas, C., et al. 1993. Proliferation activity of urothelial neoplasms: comparison of BrdU incorporation, Ki-67 expression, and nucleolar organiser regions. *J. Clin. Pathol.* 46: 159-165.

CHROMOSOMAL LOCATION

Genetic locus: MKI67 (human) mapping to 10q26.2.

PRODUCT

Ki67 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Ki67 shRNA Plasmid (h): sc-37613-SH and Ki67 shRNA (h) Lentiviral Particles: sc-37613-V as alternate gene silencing products.

For independent verification of Ki67 (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-37613A, sc-37613B and sc-37613C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Ki67 siRNA (h) is recommended for the inhibition of Ki67 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 μ M in 66 μ l. 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

Ki67 (Ki-67): sc-23900 is recommended as a control antibody for monitoring of Ki67 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 Ki67 gene expression knockdown using RT-PCR Primer: Ki67 (h)-PR: sc-37613-PR (20 μ l, 455 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

- Belso, N., et al. 2019. Differential role of D cyclins in the regulation of cell cycle by influencing Ki67 expression in HaCaT cells. *Exp. Cell Res.* 374: 290-303.

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.