

Wee 2 siRNA (m): sc-155333

BACKGROUND

The Wee kinases are major regulators of mitotic entry. Wee kinases function by phosphorylating Cdc2 and related Cdk on conserved tyrosine and threonine residues. This phosphorylation blocks the activity of the Cdc2 and prevents entry into mitosis. The abundance and activity of the Wee kinases are regulated during the cell cycle and development. Wee 2 (Wee1-like protein kinase 2), also known as WEE1B, is a 567 amino acid nuclear protein belonging to the protein kinase superfamily. Expressed in testis, Wee 2 phosphorylates and inhibits Cdc2 and may act as a negative regulator of entry into the G₂ to M transition of mitosis. The gene encoding Wee 2 is located on human chromosome 7, which houses over 1,000 genes and comprises nearly 5% of the human genome. Defects in some of the genes localized to chromosome 7 have been linked to Osteogenesis imperfecta, Williams-Beuren syndrome, Pendred syndrome, Lissencephaly, Citrullinemia and Shwachman-Diamond syndrome.

REFERENCES

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3. Igarashi, M., et al. 1991. Wee1+-like gene in human cells. *Nature* 353: 80-83.
4. McGowan, C.H., et al. 1995. Human Wee1 kinase inhibits cell division by phosphorylating p34Cdc2 exclusively on Tyr 15. *EMBO J.* 12: 75-85.
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CHROMOSOMAL LOCATION

Genetic locus: Wee2 (mouse) mapping to 6 B1.

PRODUCT

Wee 2 siRNA (m) is a target-specific 19-25 nt siRNA 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 Wee 2 shRNA Plasmid (m): sc-155333-SH and Wee 2 shRNA (m) Lentiviral Particles: sc-155333-V as alternate gene silencing products.

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

Wee 2 siRNA (m) is recommended for the inhibition of Wee 2 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Wee 2 gene expression knockdown using RT-PCR Primer: Wee 2 (m)-PR: sc-155333-PR (20 μ l). 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.