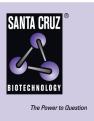
SANTA CRUZ BIOTECHNOLOGY, INC.

α3d Tubulin siRNA (h): sc-105022



BACKGROUND

Tubulin is a major cytoskeleton component that has five distinct forms, designated α , β , γ , δ and ϵ Tubulin. α and β Tubulins form heterodimers which multimerize to form a microtubule filament. Multiple β Tubulin isoforms ($\beta 1$, $\beta 2$, $\beta 3$, $\beta 4$, $\beta 5$, $\beta 6$ and $\beta 8$) have been characterized and are expressed in mammalian tissues. $\beta 1$ and $\beta 4$ are present throughout the cytosol, $\beta 2$ is present in the nuclei and nucleoplasm, and $\beta 3$ is a neuron-specific cytoskeletal protein. γ Tubulin forms the gammasome, which is required for nucleating microtubule filaments at the centrosome. Both δ Tubulin and ϵ Tubulin are associated with the centrosome. δ Tubulin is a homolog of the *Chlamydomonas* δ Tubulin Uni3 and is found in association with the centrioles, whereas ϵ Tubulin localizes to the pericentriolar material. ϵ Tubulin exhibits a cell-cycle-specific pattern of localization, first associating with only the older of the centrosomes.

REFERENCES

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- 3. Zheng, Y., et al. 1991. γ Tubulin is present in *Drosophila melangaster* and *Homo sapiens* and is associated with the centrosome. Cell 65: 817-823.
- 4. Leask, A. and Stearns, T. 1998. Expression of amino- and carboxyl-terminal γ and β Tubulin mutants in cultured epithelial cells. J. Biol. Chem. 273: 2661-2668.
- Luduena, R.F. 1998. Multiple forms of Tubulin: different gene products and covalent modifications. Int. Rev. Cytol. 178: 207-275.
- Walss, C., et al. 1999. Presence of the β2 isotype of Tubulin in the nuclei of cultured mesangial cells from rat kidney. Cell Motil. Cytoskeleton 42: 274-284.
- Modig, C., et al. 1999. Identification of β3 and β4 Tubulin isotypes in cold-adapted microtubules from Atlantic cod (*Gadus morhua*): antibody mapping and cDNA sequencing. Cell Motil. Cytoskeleton 42: 315-330.

CHROMOSOMAL LOCATION

Genetic locus: TUBA3D (human) mapping to 2q21.1.

PRODUCT

 $\alpha 3d$ Tubulin siRNA (h) is a pool of 2 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 $\alpha 3d$ Tubulin shRNA Plasmid (h): sc-105022-SH and $\alpha 3d$ Tubulin shRNA (h) Lentiviral Particles: sc-105022-V as alternate gene silencing products.

For independent verification of α 3d Tubulin (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-105022A and sc-105022B.

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

 $\alpha 3 \text{d}$ Tubulin siRNA (h) is recommended for the inhibition of $\alpha 3 \text{d}$ Tubulin 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor α 3d Tubulin gene expression knockdown using RT-PCR Primer: α 3d Tubulin (h)-PR: sc-105022-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.