

Zyxin siRNA (h): sc-36370

BACKGROUND

Zyxin is a low abundance phosphoprotein localized to focal adhesion plaques and is thought to perform regulatory functions at these regions. The protein contains a number of proline-rich sequences as well as three LIM domains, zinc finger domains involved in protein binding. Zyxin interacts with several other proteins at cell adhesion sites, including members of the CRP (cysteine-rich protein) LIM domain containing protein family. The proline-rich domain of Zyxin associates with an SH3 domain of p95 Vav, but not with similar SH3 domains containing proteins such as GRB2 or PLC γ . Zyxin has also been shown to interact with the focal adhesion protein VASP and may assist in the targeting of VASP to focal adhesions, microfilaments and membrane regions of high dynamic activity. Zyxin may contribute to the organization of the Actin cytoskeleton in mammalian cells.

REFERENCES

- Sadler, I., et al. 1992. Zyxin and cCRP: two interactive LIM domain proteins associated with the cytoskeleton. *J. Cell Biol.* 119: 1573-1587.
- Reinhard, M., et al. 1995. Identification, purification, and characterization of a Zyxin-related protein that binds the focal adhesion and microfilament protein VASP (vasodilator-stimulated phosphoprotein). *Proc. Natl. Acad. Sci. USA* 92: 7956-7960.
- Macalma, T., et al. 1996. Molecular characterization of human Zyxin. *J. Biol. Chem.* 271: 31470-31478.
- Hobert, O., et al. 1996. SH3 domain-dependent interaction of the proto-oncogene product Vav with the focal contact protein Zyxin. *Oncogene* 12: 1577-1581.
- Golsteyn, R.M., et al. 1997. Structural and functional similarities between the human cytoskeletal protein Zyxin and the ActA protein of *Listeria monocytogenes*. *J. Cell Sci.* 110: 1893-1906.

CHROMOSOMAL LOCATION

Genetic locus: ZYX (human) mapping to 7q34.

PRODUCT

Zyxin siRNA (h) 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 Zyxin shRNA Plasmid (h): sc-36370-SH and Zyxin shRNA (h) Lentiviral Particles: sc-36370-V as alternate gene silencing products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20 $^{\circ}$ C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20 $^{\circ}$ 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

Zyxin siRNA (h) is recommended for the inhibition of Zyxin 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

Zyxin (2D1): sc-293448 is recommended as a control antibody for monitoring of Zyxin 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 MarkerTM 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 Zyxin gene expression knockdown using RT-PCR Primer: Zyxin (h)-PR: sc-36370-PR (20 μ l, 523 bp). Annealing temperature for the primers should be 55-60 $^{\circ}$ C and the extension temperature should be 68-72 $^{\circ}$ C.

SELECT PRODUCT CITATIONS

- Bianchi-Smiraglia, A., et al. 2013. Integrin- β 5 and zyxin mediate formation of ventral stress fibers in response to transforming growth factor β . *Cell Cycle* 12: 3377-3389.

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.