SANTA CRUZ BIOTECHNOLOGY, INC.

CLIP-170 siRNA (h): sc-43281

BACKGROUND

Cytoplasmic linker protein (CLIP-170) is the original member of a group of microtuble binding proteins designated as plus-end-binding proteins (+TIPs). CLIP-170 binds to the growing plus ends of microtubules and acts as a linker between the dynamic microtubule ends and organelle membranes. The protein acts as an anticatastrophic factor, promoting microtubule rescue near the cell periphery. Fluorescently labeled CLIP-170 can be visualized as a comet like streak around the growing ends of microtubules. CLIP-170 colocalizes with Dynactin and Dynein at microtubule ends and also at the kinetochore. Restin, first identified as a marker for Hodgkin and Reed-Sternberg (HRS) cells, is a splice variant of the gene that includes a 35 amino acid stretch not present in CLIP-170. CLIP-170/restin is highly expressed in HRS cells, monocyte-derived dendritic cells, IL-4 + CD40L activated B cells and Ki-1 lymphoma.

REFERENCES

1. Pierre, P., et al. 1992. CLIP-170 links endocytic vesicles to microtubules. Cell 70: 887-900.
2. Delabie, J., et al. 1993. Restin in Hodgkin's disease and anaplastic large cell lymphoma. Leuk. Lymphoma 12: 21-26.
3. Perez, F., et al. 1999. CLIP-170 highlights growing microtubule ends *in vivo*. Cell 96: 517-527.
4. Sahin, U., et al. 2002. Hodgkin and Reed-Sternberg cell-associated auto-antigen CLIP-170/restin is a marker for dendritic cells and is involved in the trafficking of macropinosomes to the cytoskeleton, supporting a function-based concept of Hodgkin and Reed-Sternberg cells. Blood 100: 4139-4145.
5. Komarova, Y.A., et al. 2002. Cytoplasmic linker proteins promote microtubule rescue *in vivo*. J. Cell Biol. 159: 589-599.
6. Goodson, H.V., et al. 2003. CLIP-170 interacts with Dynactin complex and the APC-binding protein EB1 by different mechanisms. Cell Motil. Cytoskeleton 55: 156-173.

CHROMOSOMAL LOCATION

Genetic locus: CLIP1 (human) mapping to 12q24.31.

PRODUCT

CLIP-170 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CLIP-170 shRNA Plasmid (h): sc-43281-SH and CLIP-170 shRNA (h) Lentiviral Particles: sc-43281-V as alternate gene silencing products.

For independent verification of CLIP-170 (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-43281A, sc-43281B and sc-43281C.

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

CLIP-170 siRNA (h) is recommended for the inhibition of CLIP-170 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 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

CLIP-170 (F-3): sc-28325 is recommended as a control antibody for monitoring of CLIP-170 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 CLIP-170 gene expression knockdown using RT-PCR Primer: CLIP-170 (h)-PR: sc-43281-PR (20 µl, 460 bp). 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.