SANTA CRUZ BIOTECHNOLOGY, INC.

PAL siRNA (h): sc-106748

BACKGROUND

The Src homology 3 (SH3) region is a small protein domain of approximately 60 amino acids present in a large group of proteins. In general, it exists in association with catalytic domains, as in the nonreceptor protein-tyrosine kinases and phospholipase C-γ, within structural proteins, such as spectrin or myosin, and in small adapter proteins, such as Crk and GRB2. SH3 domains are often accompanied by SH2 domains of 100 amino acids that bind to tyrosine-phosphorylated regions of target proteins, frequently linking activated growth factors to putative signal transduction proteins. Deletion or mutation of SH3 domains generally activates the transforming potential of nonreceptor tyrosine kinases, suggesting that SH3 mediates negative regulation of an intrinsic transforming activity. PAL (protein expressed in activated lymphocytes) is an SH2 domain-binding adapter protein that is expressed in actively dividing and proliferating cells, suggesting a role for PAL in governing cell cycle progression.

REFERENCES

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2. Ellis, C., et al. 1990. Phosphorylation of GAP and GAP-associated proteins by transforming and mitogenic tyrosine kinases. Nature 343: 377-381.
3. Morrison, D.K., et al. 1990. Platelet-derived growth factor (PDGF)-dependent association of phospholipase C-γ with the PDGF receptor signaling complex. Mol. Cell. Biol. 10: 2359-2366.
4. Cantley, L.C., et al. 1991. Oncogenes and signal transduction. Cell 64: 281-302.
5. Koch, C.A., et al. 1991. SH2 and SH3 domains: elements that control interactions of cytoplasmic signaling proteins. Science 252: 669-674.
6. Ravichandran, K.S., et al. 1993. Interaction of Shc with the ζ chain of the T cell receptor upon T cell activation. Science 262: 902-905.
7. Schmandt, R., et al. 1999. Cloning and characterization of mPAL, a novel Shc SH2 domain-binding protein expressed in proliferating cells. Oncogene 18: 1867-1879.

CHROMOSOMAL LOCATION

Genetic locus: SHCBP1 (human) mapping to 16q11.2.

PRODUCT

PAL 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 PAL shRNA Plasmid (h): sc-106748-SH and PAL shRNA (h) Lentiviral Particles: sc-106748-V as alternate gene silencing products.

For independent verification of PAL (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-106748A, sc-106748B and sc-106748C.

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

PAL siRNA (h) is recommended for the inhibition of PAL 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PAL gene expression knockdown using RT-PCR Primer: PAL (h)-PR: sc-106748-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.