

# p130 Cas siRNA (h): sc-36141

## BACKGROUND

p130 represents one of several known substrates for v-Crk encoded p47. p130 Cas (for Crk-associated substrate) exhibits a high level of tyrosine phosphorylation and is tightly associated with v-Crk, suggesting a role in v-Crk-mediated cell signaling. The molecular cloning of Cas p130 has shown it to represent a novel SH3 containing signaling molecule with a cluster of multiple putative SH2-binding motifs for v-Crk. By immunoprecipitation analysis, p130 Cas has been shown to be highly phosphorylated at tyrosine residues subsequent to either v-Src p60 or v-Crk-mediated transformation and to form stable complexes with both of these transforming proteins. p130 Cas behaves as an extremely potent substrate for protein tyrosine kinases and has been reported to relocate from the cytoplasm to cell membrane upon tyrosine phosphorylation. One proposed model is that the SH2 domain of v-Crk functions to activate c-Src kinase, which in turn phosphorylates p130 Cas.

## REFERENCES

1. Matsuda, M., et al. 1990. Binding of transforming protein, p47<sup>gag-crk</sup>, to a broad range of phosphotyrosine-containing proteins. *Science* 248: 1537-1539.
2. Kanner, S.B., et al. 1990. Monoclonal antibodies to individual tyrosine-phosphorylated protein substrates of oncogene-encoded tyrosine kinases. *Proc. Natl. Acad. Sci. USA* 87: 3328-3332.

## CHROMOSOMAL LOCATION

Genetic locus: BCAR1 (human) mapping to 16q23.1.

## PRODUCT

p130 Cas 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see p130 Cas shRNA Plasmid (h): sc-36141-SH and p130 Cas shRNA (h) Lentiviral Particles: sc-36141-V as alternate gene silencing products.

For independent verification of p130 Cas (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-36141A, sc-36141B and sc-36141C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

p130 Cas siRNA (h) is recommended for the inhibition of p130 Cas 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  $\mu$ M in 66  $\mu$ 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.

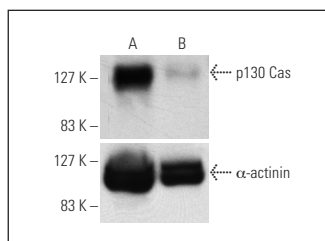
## GENE EXPRESSION MONITORING

p130 Cas (35B.1A4): sc-20029 is recommended as a control antibody for monitoring of p130 Cas 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).

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor p130 Cas gene expression knockdown using RT-PCR Primer: p130 Cas (h)-PR: sc-36141-PR (20  $\mu$ l, 419 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## DATA



p130 Cas siRNA (h): sc-36141. Western blot analysis of p130 Cas expression in non-transfected control (A) and p130 Cas siRNA transfected (B) HeLa cells. Blot probed with p130 Cas (N-20): sc-16516.  $\alpha$ -actinin (H-2): sc-17829 used as specificity and loading control.

## SELECT PRODUCT CITATIONS

1. Natarajan, M., et al. 2006. HEF1 is a necessary and specific downstream effector of FAK that promotes the migration of glioblastoma cells. *Oncogene* 25: 1721-1732.
2. Bandyopadhyay, C., et al. 2014. p130 Cas scaffolds the signalosome to direct adaptor-effector cross talk during Kaposi's sarcoma-associated herpesvirus trafficking in human microvascular dermal endothelial cells. *J. Virol.* 88: 13858-13878.
3. Kumbrink, J., et al. 2021. p130 Cas is correlated with EREG expression and a prognostic factor depending on colorectal cancer stage and localization reducing FOLFIRI efficacy. *Int. J. Mol. Sci.* 22: 12364.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.