# SANTA CRUZ BIOTECHNOLOGY, INC.

# кB-Ras2 siRNA (h): sc-41798



## BACKGROUND

Small guanosine triphosphatases, typified by the mammalian Ras proteins, play major roles in the regulation of numerous cellular pathways. IkB-interacting Ras-like proteins, kB-Ras1 and kB-Ras2, belong to a subclass of evolutionarily conserved Ras-like proteins that differ from other Ras proteins in containing amino acids at positions 12 and 61 that are similar to those present in the oncogenic forms of Ras. These Ras-like proteins, kB-Ras1 and kB-Ras2, interact with the PEST domains of IkB- $\alpha$  and IkB- $\beta$  and decrease their rate of degradation. kB-Ras2 shows 71% identity to kB-Ras1. In cells, kB-Ras proteins are associated only with NFkB:IkB- $\beta$  complexes and therefore may provide an explanation for the slower rate of degradation of IkB- $\alpha$ .

#### REFERENCES

- 1. Bos, J.L. 1989. Ras oncogenes in human cancer: a review. Cancer Res. 49: 4682-4689.
- 2. McCormick, F. 1994. Activators and effectors of Ras p21 proteins. Curr. Opin. Genet. Dev. 4: 71-76.
- 3. May, M.J. and Ghosh, S. 1998. Signal transduction through NFkB. Immunol. Today 19: 80-88.
- 4. Bos, J.L. 1998. All in the family? New insights and questions regarding interconnectivity of Ras, Rap1 and Ral. EMBO J. 17: 6776-6782.
- 5. Bos, J.L. 1998. The Ras gene family and human carcinogenesis. Mutat. Res. 195: 255-271.
- 6. Fenwick, C., Na, S.Y., Voll, R.E., Zhong, H., Im, S.Y., Lee, J.W. and Ghosh, S. 2000. A subclass of Ras proteins that regulate the degradation of  $I\kappa$ B. Science 287: 869-873.

#### CHROMOSOMAL LOCATION

Genetic locus: NKIRAS2 (human) mapping to 17q21.2.

## PRODUCT

 $\kappa$ B-Ras2 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  $\kappa$ B-Ras2 shRNA Plasmid (h): sc-41798-SH and  $\kappa$ B-Ras2 shRNA (h) Lentiviral Particles: sc-41798-V as alternate gene silencing products.

For independent verification of  $\kappa$ B-Ras2 (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-41798A, sc-41798B and sc-41798C.

## **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.

#### 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**

 $\kappa$ B-Ras2 siRNA (h) is recommended for the inhibition of  $\kappa$ B-Ras2 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**

 $\kappa$ B-Ras2 (F-12): sc-374311 is recommended as a control antibody for monitoring of  $\kappa$ B-Ras2 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>TM</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

#### **RT-PCR REAGENTS**

Semi-quantitative RT-PCR may be performed to monitor  $\kappa$ B-Ras2 gene expression knockdown using RT-PCR Primer:  $\kappa$ B-Ras2 (h)-PR: sc-41798-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.