SANTA CRUZ BIOTECHNOLOGY, INC.

Fra-2 siRNA (h): sc-35407

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Fos related gene, Fra-2, was initially molecularly cloned from chicken genomic DNA and shown to represent a new member of the immediate early gene family. The human counterpart of the chicken Fra-2 gene has since been described. Sequence alignment shows that the amino acid sequences conserved among Fra-2, c-Fos, Fra-1 and Fos B are contained in five regions. Region 2, the longest and most highly conserved region, contains the leucine zipper structure and the basic region, suggesting that like Fos, Fra-1 and Fos B, Fra-2 also forms heterodimers with c-Jun that recognize a specific DNA sequence such as the binding site for transcription factor AP-1. Such a model is further supported by the finding that the Fra-2 gene product forms a complex with c-Jun in growth-stimulated cells.

REFERENCES

1. Curran, T., et al. 1985. Viral and cellular Fos proteins are complexed with a 39,000-dalton cellular protein. Mol. Cell. Biol. 5: 167-172.
2. Sambucetti, L.C., et al. 1986. The Fos protein complex is associated with DNA in isolated nuclei and binds to DNA cellulose. Science 234: 1417-1419.
3. Rauscher, F.J., et al. 1988. Fos-associated protein p39 is the product of the Jun proto-oncogene. Science 240: 1010-1016.
4. Cohen, D.R., et al. 1989. The product of a Fos- related gene, Fra-1, binds cooperatively to the AP-1 site with Jun: transcription factor AP-1 is comprised of multiple protein complexes. Genes Dev. 3: 173-184.
5. Zerial, M., et al. 1989. The product of a novel growth factor activated gene, Fos B, interacts with Jun proteins enhancing their DNA binding activity. EMBO J. 8: 805-813.

CHROMOSOMAL LOCATION

Genetic locus: FOSL2 (human) mapping to 2p23.2.

PRODUCT

Fra-2 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 Fra-2 shRNA Plasmid (h): sc-35407-SH and Fra-2 shRNA (h) Lentiviral Particles: sc-35407-V as alternate gene silencing products.

For independent verification of Fra-2 (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-35407A, sc-35407B and sc-35407C.

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

Fra-2 siRNA (h) is recommended for the inhibition of Fra-2 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

Fra-2 (G-5): sc-166102 is recommended as a control antibody for monitoring of Fra-2 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 Fra-2 gene expression knockdown using RT-PCR Primer: Fra-2 (h)-PR: sc-35407-PR (20 µl, 473 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Kong, H.K., et al. 2012. The regulatory mechanism of the LY6K gene expression in human breast cancer cells. J. Biol. Chem. 287: 38889-38900.
2. Gupta, S., et al. 2015. Selective participation of c-Jun with Fra-2/c-Fos promotes aggressive tumor phenotypes and poor prognosis in tongue cancer. Sci. Rep. 5: 16811.
3. Alam, M. and Mishra, R. 2021. Bcl-x_L expression and regulation in the progression, recurrence, and cisplatin resistance of oral cancer. Life Sci. 280: 119705.

RESEARCH USE

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