SANTA CRUZ BIOTECHNOLOGY, INC.

eIF3K siRNA (m): sc-77251

BACKGROUND

eIF3K (Eukaryotic translation initiation factor 3 subunit K, muscle-specific gene M9 protein) is a widely expressed translation initiation factor that belongs to the eIF3 subunit K family. Translation initiation factor 3 (eIF3) is a multisubunit complex containing at least 12 subunits. eIF3 binds to the 40S ribosomal subunit, promotes the binding of methionyl-tRNAi and mRNA, and interacts with several other initiation factors to form the 40S initiation complex. eIF3K is the smallest subunit of eIF3 and it interacts with several other subunits of eIF3 and the 40S ribosomal subunit. eIF3K is conserved among high eukaryotes, including mammals, insects, and plants, and it is ubiquitously expressed in human tissues. eIF3K is distributed both in nucleus and cytoplasm and colocalizes with cyclin D3, a regulatory subunit of cyclin-dependent kinase 4 (Cdk4).

REFERENCES

1. Asano, K., et al. 1997. Structure of cDNAs encoding human eukaryotic initiation factor 3 subunits. Possible roles in RNA binding and macromolecular assembly. J. Biol. Chem. 272: 27042-27052.
2. Karki, S., et al. 2002. PLAC-24 is a cytoplasmic Dynein-binding protein that is recruited to sites of cell-cell contact. Mol. Biol. Cell 13: 1722-1734.
3. Mayeur, G.L., et al. 2003. Characterization of eIF3K: a newly discovered subunit of mammalian translation initiation factor eIF3. Eur. J. Biochem. 270: 4133-4139.
4. Shen, X., et al. 2004. Identification of the p28 subunit of eukaryotic initiation factor 3(eIF3K) as a new interaction partner of cyclin D3. FEBS Lett. 573: 139-146.
5. Wei, Z., et al. 2004. Crystal structure of human eIF3K, the first structure of eIF3 subunits. J. Biol. Chem. 279: 34983-34990.
6. Scheel, H., et al. 2005. Prediction of a common structural scaffold for proteasome lid, COP9-signalosome and eIF3 complexes. BMC Bioinformatics 6: 71-71.
7. De Martelaere, K., et al. 2007. Novel interaction between the human 5-HT7 receptor isoforms and PLAC-24/eIF3K. Cell. Signal. 19: 278-288.

CHROMOSOMAL LOCATION

Genetic locus: Eif3k (mouse) mapping to 7 A3.

PRODUCT

eIF3K siRNA (m) is a pool of 2 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 eIF3K shRNA Plasmid (m): sc-77251-SH and eIF3K shRNA (m) Lentiviral Particles: sc-77251-V as alternate gene silencing products.

For independent verification of eIF3K (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-77251A and sc-77251B.

RESEARCH USE

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

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

eIF3K siRNA (m) is recommended for the inhibition of eIF3K expression in mouse 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

eIF3K (F-4): sc-393234 is recommended as a control antibody for monitoring of eIF3K 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 eIF3K gene expression knockdown using RT-PCR Primer: eIF3K (m)-PR: sc-77251-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.