SANTA CRUZ BIOTECHNOLOGY, INC.

PELO siRNA (h): sc-91932

BACKGROUND

PELO (pelota homolog), also known as CGI-17 or PRO1770, is a 385 amino acid nuclear and cytoplasmic protein that belongs to the eukaryotic release factor 1 family and the pelota subfamily. Evolutionary conserved, PELO may be involved in the regulation of cell proliferation and stem cell self-renewal, and is suggested to be required for normal chromosome segregation during cell division and genomic stability. PELO may posses ribonuclease activity and has the ability to recognize stalled ribosomes, thereby triggering endonucleolytic cleavage of mRNA, a mechanism that releases non-functional ribosomes and degrades damaged mRNAs. PELO is ubiquitously expressed and utilizes divalent metal cations as cofactors. PELO may be essential for spermatogenesis, cell cycle control and in meiotic cell division. PELO is encoded by a gene located on human chromosome 5q11.2.

REFERENCES

1. Eberhart, C.G., et al. 1995. The pelota locus encodes a protein required for meiotic cell division: an analysis of G_2/M arrest in *Drosophila* spermatogenesis. Development 121: 3477-3486.
2. Ragan, M.A., et al. 1996. An archaebacterial homolog of pelota, a meiotic cell division protein in eukaryotes. FEMS Microbiol. Lett. 144: 151-155.
3. Shamsadin, R., et al. 2000. Molecular cloning, expression and chromosome location of the human pelota gene PELO. Cytogenet. Cell Genet. 90: 75-78.
4. Shamsadin, R., et al. 2002. Mouse pelota gene (Pelo): cDNA cloning, genomic structure, and chromosomal localization. Cytogenet. Genome Res. 97: 95-99.

CHROMOSOMAL LOCATION

Genetic locus: PELO (human) mapping to 5q11.2.

PRODUCT

PELO 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 PELO shRNA Plasmid (h): sc-91932-SH and PELO shRNA (h) Lentiviral Particles: sc-91932-V as alternate gene silencing products.

For independent verification of PELO (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-91932A, sc-91932B and sc-91932C.

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

PELO siRNA (h) is recommended for the inhibition of PELO 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

PELO (F-4): sc-393418 is recommended as a control antibody for monitoring of PELO 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 PELO gene expression knockdown using RT-PCR Primer: PELO (h)-PR: sc-91932-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Samanfar, B., et al. 2017. The sensitivity of the yeast, *Saccharomyces cerevisiae,* to acetic acid is influenced by DOM34 and RPL36A. PeerJ 5: e4037.

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.