SANTA CRUZ BIOTECHNOLOGY, INC.

KRR1 siRNA (m): sc-146573

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The SSU is a large ribonucleoprotein consisting of at least 40 proteins and the U3 small nucleolar RNA. It is involved in pre-rRNA processing and ribosome assembly. The SSU is necessary for the biogenesis of the 18S rRNA. Cells that are depleted of SSU proteins will arrest in the G_1 phase of the cell cycle. KRR1, also known as HRB2 (HIV-1 Rev binding protein 2) or RIP-1 (Rev interacting protein 1), is a nonribosomal component of the small subunit processome (SSU). KRR1 is 381 amino acids in length and is evolutionarily conserved among human, yeast, fly, nematode and rice. KRR1 localizes to the nucleolus and is highly expressed in dividing cells. It contains one conserved KH domain (RNA-binding motif) and is a crucial component of the SSU, required for both rRNA maturation and ribosome biogenesis.

REFERENCES

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2. Gromadka, R., et al. 2002. The KRR1 gene encodes a protein required for 18S rRNA synthesis and 40S ribosomal subunit assembly in *Saccharomyces cerevisiae*. Acta Biochim. Pol. 47: 993-1005.
3. Bernstein, K.A., et al. 2004. The small-subunit processome is a ribosome assembly intermediate. Eukaryotic Cell 3: 1619-1626.
4. Gromadka, R., et al. 2004. Functional and physical interactions of Krr1p, a *Saccharomyces cerevisiae* nucleolar protein. Acta Biochim. Pol. 51: 173-187.
5. Bernstein, K.A., et al. 2004. The small subunit processome is required for cell cycle progression at G_1. Mol. Biol. Cell 15: 5038-5046.
6. Chen, L., et al. 2006. Inhibition of krr1 gene expression in *Giardia canis* by a virus-mediated hammerhead ribozyme. Vet. Parasitol. 143: 14-20.
7. Chen, L.F., et al. 2007. The cleavage activity of GCV transfer vector-mediated hammerhead ribozyme for KRR1 *in vitro* transcript. Zhongguo Ji Sheng Chong Xue Yu Ji Sheng Chong Bing Za Zhi 25: 279-284.

CHROMOSOMAL LOCATION

Genetic locus: Krr1 (mouse) mapping to 10 D2.

PRODUCT

KRR1 siRNA (m) is a target-specific 19-25 nt siRNA 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 KRR1 shRNA Plasmid (m): sc-146573-SH and KRR1 shRNA (m) Lentiviral Particles: sc-146573-V as alternate gene silencing products.

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 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

KRR1 siRNA (m) is recommended for the inhibition of KRR1 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

KRR1 (F-9): sc-365192 is recommended as a control antibody for monitoring of KRR1 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 KRR1 gene expression knockdown using RT-PCR Primer: KRR1 (m)-PR: sc-146573-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.