SANTA CRUZ BIOTECHNOLOGY, INC.

Pumilio 1 siRNA (m): sc-62913

BACKGROUND

Pumilio 1, also known as PUM1, PUMH1 (Pumilio homolog 1), HSPUM, PUMH or PUML1, is a homolog of the *Drosophila* Pumilio protein and belongs to the PUF family. The PUF family is comprised of evolutionarily conserved proteins that contain a C-terminal RNA-binding domain made up of eight highly conserved tandem repeats. PUF proteins function as sequence-specific RNA-binding proteins and bind NREs (nanos response elements) in the 3'-untranslated regions of target mRNAs. They play an important role mediating mRNA stabilization and repressing translation. Pumilio 1 is a typical PUF protein expressed in fetal tissues as well as adult stomach, kidney, intestine, muscle, brain and heart tissues. Pumilio 1 localizes to the cytoplasm and is believed to participate in cell fate, cell development, cell differentiation and maintenance of somatic stem cells.

REFERENCES

1. Wang, X., et al. 2001. Crystal structure of a Pumilio homology domain. Mol. Cell 7: 855-865.
2. Spassov, D.S. and Jurecic, R. 2002. Cloning and comparative sequence analysis of PUM1 and PUM2 genes, human members of the Pumilio family of RNA-binding proteins. Gene 299: 195-204.
3. Wang, X., et al. 2002. Modular recognition of RNA by a human Pumilio-homology domain. Cell 110: 501-512.
4. Spassov, D.S. and Jurecic, R. 2003. The PUF family of RNA-binding proteins: does evolutionarily conserved structure equal conserved function? IUBMB Life 55: 359-366.
5. Islam, S., et al. 2005. Developmental and regional expression and localization of mRNAs encoding proteins involved in RNA translocation. J. Histochem. Cytochem. 53: 1501-1509.

CHROMOSOMAL LOCATION

Genetic locus: Pum1 (mouse) mapping to 4 D2.2.

PRODUCT

Pumilio 1 siRNA (m) 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 Pumilio 1 shRNA Plasmid (m): sc-62913-SH and Pumilio 1 shRNA (m) Lentiviral Particles: sc-62913-V as alternate gene silencing products.

For independent verification of Pumilio 1 (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-62913A, sc-62913B and sc-62913C.

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

Pumilio 1 siRNA (m) is recommended for the inhibition of Pumilio 1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Pumilio 1 gene expression knockdown using RT-PCR Primer: Pumilio 1 (m)-PR: sc-62913-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.