SANTA CRUZ BIOTECHNOLOGY, INC.

PGRP-L siRNA (h): sc-62788

BACKGROUND

Peptidoglycan recognition protein-L (PGRP-L) is a pattern recognition molecule consisting of 576 amino acid residues. It is the longest and most widely expressed member of the PGRP family. PGRP-L is a Zn^{2+}-dependent protein with N-acetylmuramyl-L-alanine-amidase activity that digests peptidoglycan. PGRP-L can form a homodimer and may dimerize with other PGRP proteins. It is a secreted serum protein but is also expressed as a transmembrane protein in liver parenchymal cells binding peptidoglycan and Gram-positive bacteria. PGRP-L deficient mice exhibit slightly lower levels of IL-6 and TNFα but exhibit no obvious phenotypic abnormalities. This suggests that PGRP-L may play a minor role in innate immune functions. In addition, PGRP-L may be a key player in the activation of NOD1, an intracellular pattern recognition protein.

REFERENCES

1. Schenck, J.F., et al. 1992. Human exposure to 4.0-Tesla magnetic fields in a whole-body scanner. Med. Phys. 19: 1089-1098.
2. Liu, C., et al. 2001. Peptidoglycan recognition proteins: a novel family of four human innate immunity pattern recognition molecules. J. Biol. Chem. 276: 34686-34694.
3. Girardin, S.E., et al. 2003. Peptidoglycan molecular requirements allowing detection by NOD1 and NOD2. J. Biol. Chem. 278: 41702-41708.
4. Liepinsh, E., et al. 2003. NMR structure of *Citrobacter freundii* AmpD, comparison with bacteriophage T7 lysozyme and homology with PGRP domains. J. Mol. Biol. 327: 833-842.
5. Lo, D., et al. 2003. Peptidoglycan recognition protein expression in mouse Peyer's Patch follicle associated epithelium suggests functional specialization. Cell. Immunol. 224: 8-16.
6. Wang, Z.M., et al. 2003. Human peptidoglycan recognition protein-L is an N-acetylmuramoyl-L-alanine amidase. J. Biol. Chem. 278: 49044-49052.
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CHROMOSOMAL LOCATION

Genetic locus: PGLYRP2 (human) mapping to 19p13.12.

PRODUCT

PGRP-L 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 PGRP-L shRNA Plasmid (h): sc-62788-SH and PGRP-L shRNA (h) Lentiviral Particles: sc-62788-V as alternate gene silencing products.

For independent verification of PGRP-L (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-62788A, sc-62788B and sc-62788C.

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

PGRP-L siRNA (h) is recommended for the inhibition of PGRP-L 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

PGRP-L (B-4): sc-166646 is recommended as a control antibody for monitoring of PGRP-L 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 PGRP-L gene expression knockdown using RT-PCR Primer: PGRP-L (h)-PR: sc-62788-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.