



PGRP-SC1B (dG-16): sc-27733

BACKGROUND

The innate immune system recognizes microorganisms through a series of pattern recognition receptors that are highly conserved in evolution. Peptidoglycan recognition proteins (PGRPs) are pattern recognition molecules that are conserved from insects to mammals and recognize bacteria and their unique cell wall component, peptidoglycan (PGN). *Drosophila* PGRP-SC1B is an N-acetylmuramoyl-L-alanine amidase (NAMLAA), an enzyme that cleaves the lactylamide bond between muramic acid and the peptide chain in peptidoglycan (PGN). Mutant forms of PGRP-SC1B lacking a potential zinc ligand are enzymatically inactive yet retain their peptidoglycan affinity.

REFERENCES

- Jiggins, F.M., et al. 2003. The evolution of parasite recognition genes in the innate immune system: purifying selection on *Drosophila melanogaster* peptidoglycan recognition proteins. *J. Mol. Evol.* 57: 598-605.
- Gelius, E., et al. 2003. A mammalian peptidoglycan recognition protein with N-acetylmuramoyl-L-alanine amidase activity. *Biochem. Biophys. Res. Commun.* 306: 988-994.
- Mellroth, P., et al. 2003. A scavenger function for a *Drosophila* peptidoglycan recognition protein. *J. Biol. Chem.* 278: 7059-7064.
- Stenbak, C.R., et al. 2004. Peptidoglycan molecular requirements allowing detection by the *Drosophila* immune deficiency pathway. *J. Immunol.* 173: 7339-7348.
- Takehana, A., et al. 2004. Peptidoglycan recognition protein (PGRP)-LE and PGRP-LC act synergistically in *Drosophila* immunity. *EMBO J.* 23: 4690-4700.
- Lee, M.H., et al. 2004. Peptidoglycan recognition proteins involved in 1,3- β -D-glucan-dependent prophenoloxidase activation system of insect. *J. Biol. Chem.* 279: 3218-3227.
- Pili-Floury, S., et al. 2004. *In vivo* RNA interference analysis reveals an unexpected role for GGBP1 in the defense against Gram-positive bacterial infection in *Drosophila* adults. *J. Biol. Chem.* 279: 12848-12853.
- Dziarski, R. 2004. Peptidoglycan recognition proteins (PGRPs). *Mol. Immunol.* 40: 877-886.

SOURCE

PGRP-SC1B (dG-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PGRP-SC1B of *Drosophila melanogaster* origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-27733 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

PGRP-SC1B (dG-16) is recommended for detection of PGRP-SC1B of *Drosophila melanogaster* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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