

Native *S. aureus* PGN Protein

Cat. No. PGN-17S Lot. No. (See product label)

SPECIFICATION

Product Overview

PGN-SA is a peptidoglycan (PGN) preparation from the Gram-positive bacterium *Staphylococcus aureus*.

Species

S.aureus

Description

PGN, a major component of the bacterial cell wall, is a large polymeric molecule made of glycan strands connected by short peptides. It is mainly single-layered in Gram-negative bacteria (e.g. *E. coli*) and multi-layered in Gram-positive bacteria (e.g. *B. subtilis*). The structure of PGN varies among bacterial species at both the level of sugar polymers and of cross-linked amino-acids. In Gram-positive bacteria, the amino-acid side chain structure consists of L-alanine, D-glutamate, L-lysine, and D-alanine, whereas in Gram-negative bacteria, the L-Lysine is replaced by meso-diaminopimelic acid (mDAP or meso-DAP). PGN, either intact or fragmented, is sensed by the innate immune system through different PRRs (pattern recognition receptors). PGN is known to be a potent activator of NF- κ B and TNF- α through TLR2, although it has been reported that PGN agonistic activity for TLR2 is likely relying on other commonly co-purified molecules, such as cell wall lipoproteins and lipoteichoic acids (LTAs). The role of TLR2 in the direct recognition of PGN remains controversial, and the discrepancies among studies may arise from the purification methods as well as from the variation in PGN structure in the different bacterial species.

Quality Control Test

The biological activity of PGN-SA has been verified using HEK-Blue hTLR2 cells. The presence of bacterial endotoxins is assessed using HEK-Blue hTLR4 cells.

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA


Storage	Upon receipt, store at -20 centigrade. Alert Avoid repeated freeze-thaw cycles.
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Shipping	Shipped at room temperature
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GENE INFORMATION

Official Symbol	PGN
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Synonyms	peptidoglycan; PGN
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