3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

Peptidoglycan from *Saccharomyces cerevisiae*

Catalog Number **72789**
Storage Temperature –20 °C

Product Description

Many bacteria contain in their cell walls a unique biopolymer, peptidoglycan, which lends rigidity to the cell wall and mechanical strength to the cell. Cell walls of Gram-positive bacteria are primarily composed of peptidoglycan, and can contain up to 40 layers of this polymer, which underlies the great mechanical strength of the cell wall. The core structure of peptidoglycan is a carbohydrate backbone of alternating units of *N*-acetyl-glucosamine (Glc*N*Ac) and *N*-acetyl muramic acid (Mur*N*Ac), linked by β(1→4) bonds. The Mur*N*Ac residues are crosslinked with oligopeptides. A unique aspect of peptidoglycans is that they contain D-amino acids, e.g. D-Ala and D-Glu, the only known biological molecule that contains D-amino acids.[1,2]

Several publications cite use of this specific product in different applications and systems, including immune response in ants (*Campotonus fellah*),[3] virus-microbial interactions,[4] and stimulated macrophages from THP-1 human cells.[5]

Preparation Instructions

In general, peptidoglycans cannot be readily solubilized. Instead, suspensions of peptidoglycans can be prepared in aqueous media. One publication has reported preparation of a stock suspension of this product in 1× PBS, pH 7.4, at 10 mg/mL, with further dilutions to working concentrations in the range of 0.01 mg/mL to 1 mg/mL.[4] However, we have not tested these specific conditions ourselves.

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

References

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4. Waldman, P. *et al*., *Environ. Sci. Technol*., **51(23)**, 13633-13640 (2017).
5. Wang, F. *et al*., *Mediators Inflamm.*, **2019**, 1349784 (2019).

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