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Product Information

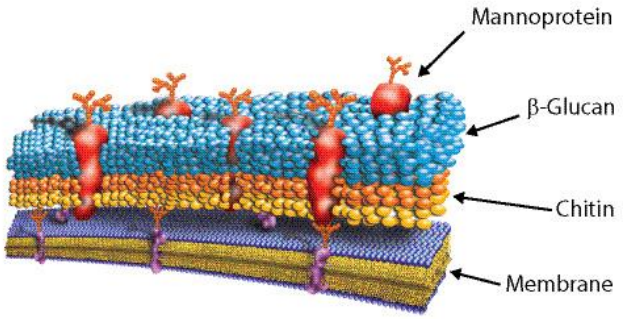
Lyticase from *Arthrobacter luteus*
free of DNA contaminants
suitable for microbiome research

Catalog Number **SAE0098**
Storage Temperature –20 °C

CAS RN 37340-57-1

Product Description

Yeast cells are difficult to disrupt because the cell walls may form capsules or resistant spores. DNA can be extracted from yeast by using lysing enzymes such as lyticase, chitinase, zymolase, and gluculase to induce partial spheroplast formation. Spheroplasts are subsequently lysed to release DNA. Lyticase is preferred to digest cell walls of yeast and generate spheroplasts from fungi for transformation.[1]



Lyticase contains β-(1→3)-glucan laminaripentao-hydrolase with additional β-(1→3)-glucanase, protease, and mannanase activities.[1,2] For isolation of nucleic acids, lyticase has been used in the lysis of yeast cell walls (e.g. *Candida*, *Debaryomyces*, *Saccharomyces*, *Saccharomycopsis*, *Saccharomycodes*, *Eremothecium*, and *Schwanniomyces* species).[3,4]

The study of microbial communities has been revolutionized by the widespread adoption of culture-independent analytical techniques such as 16S rRNA gene sequencing and metagenomics. Since DNA contamination during sample preparation is a major problem of these sequence-based approaches, DNA extraction reagents free of DNA contaminants are essential. This purified lyticase undergoes strict quality control testing to ensure the absence of detectable levels of contaminating DNA, using 35 cycles of PCR amplification of 16S and 18S rDNA with universal primer sets.

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.

Storage/Stability

Solutions of lyticase can be prepared in DNA-free water. One publication reports preparation of stock solutions of lyticase at 5 mg/mL in 1 M sorbitol with 0.1 M EDTA, pH 8.0, with storage of these stock solutions at –20 °C in frozen aliquots.[5] However, we have not tested this method ourselves.

References

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2. Machado, F.R.S., Jr. *et al*., *J. Biotechnol*., **218**, 108-114 (2016).
3. Van Burik, J.-A.H. *et al*., *Med. Mycol*., **36(5)**, 299-303 (1998).
4. Goldschmidt, P. *et al.*, *PLos One*, **9(6)**, e94886 (2014).
5. Hong, S.-B. et al., *Methods in Biotechnology*, “AMB 1 experiment 31: Plasmid DNA isolation from yeast”. Wiley-Blackwell (Hoboken, NJ), pp. 143-144 (2017).

DT,LB,GCY,MAM 03/19-1