

# MUTANOLYSIN

RECOMBINANT



A&A BIOTECHNOLOGY

A&A Biotechnology is proud to offer recombinant mutanolysin expressed in bacteria. We are first to produce recombinant version of this enzyme worldwide. Our recombinant mutanolysin exhibits superior purity and affordable price, compared to native alternative products available from other vendors. Enzyme is safe, being a product originating from organism recognized by U.S. Food and Drug Administration as GRAS (Generally Recognized as Safe).

## General description

Mutanolysin (EC 3.2.1.17) (N-acetylmuramidase) is a muralytic enzyme that cleaves the  $\beta$ -N-acetylmuramyl-(1 $\rightarrow$ 4)-N-acetylglucosamine linkage of the bacterial cell wall peptidoglycan-polysaccharide. Its carboxy terminal moieties are involved in the recognition and binding of unique cell wall structures abundant in many gram-positive bacteria.

## Application

- Mild conditions formation of spheroplasts of gram-positive bacteria
- Enzymatic cell lysis in DNA and RNA isolation process
- Effective lysis of gram-positive bacteria in environmental studies and DNA-based microbial detection

## Concentration

10 U/ $\mu$ l

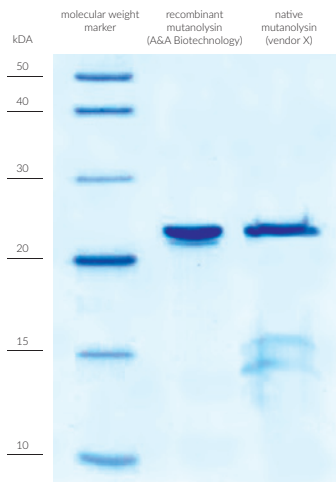
## Unit definition

One unit will produce a  $\Delta A_{600}$  nm of 0.01 per minute at pH 6.0 at 37 °C in a 1 ml volume using suspension of *Streptococcus faecalis* cell wall as substrate.

## Recombinant mutanolysin effectively digests cell wall of particularly resistant to lysis bacteria.

Including but not limited to: *Streptococcus*, *Lactobacillus*, *Lactococcus* and *Listeria*.

### SDS-PAGE analysis of mutanolysin



15% SDS-PAGE, coomassie brilliant blue R-250 stained

## Products

mutanolysin (recombinant), 5 000 U, cat. # 1017-5  
mutanolysin (recombinant), 10 000 U, cat. # 1017-10

Mutanolysin is also available as a part of our dedicated kits for genomic DNA isolation: Genomic Mini AX Bacteria+ SPIN (cat. #O60-100MS)  
Genomic Mini AX Bacteria+ (cat. #O60-60M)

## Ordering

**free samples available!**

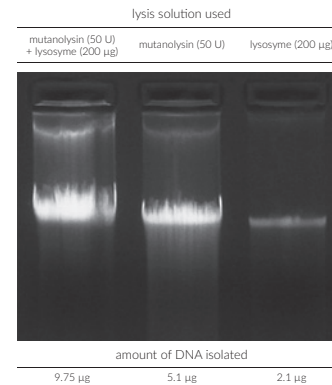
orders@aabiotech.com, +48 58 6982194

More information about recombinant mutanolysin from A&A Biotechnology is also available at [www.mutanolysin.com/en](http://www.mutanolysin.com/en)

## Recombinant mutanolysin and lysozyme synergism

Mutanolysin lytic activity may differ substantially when lysing various, even closely related, bacteria. The lysis effectiveness depends on peptidoglycan cell wall structure and bacteria growth conditions. It is especially important issue to be considered when processing environmental samples. For some hard-to-lyse microorganisms the application of mutanolysin and lysozyme mixture may drastically increase the DNA/RNA yield. Please see below the synergistic effect of lytic activities of recombinant mutanolysin and lysozyme mixture. For supplementing lysozyme application we recommend Lysozyme (cat. # 1005-10 or 1005-50).

## Genomic DNA isolation from 1 ml of overnight *Lactobacillus brevis* culture.



Samples were analysed on 0.8 % agarose in 1 x TAE buffer and stained with ethidium bromide.



A&A BIOTECHNOLOGY