

## Product Information

## Achromopeptidase from bacteria

Free of DNA contaminants, suitable for Microbiome research

**SAE0196**

### Product Description

Achromopeptidase is a lysyl endopeptidase, originally isolated from a soil bacterium discovered by Masaki and co-workers,<sup>1</sup> with a broad range of bacteriolytic activity. Achromopeptidase lyses the cell walls of many Gram-positive organisms that are resistant to lysozyme such as *Streptococcus faecalis*<sup>2</sup> and *Micrococcus luteus*,<sup>3</sup> as well as a number of Gram-negative organisms.

Achromopeptidase has been shown to contain two different bacteriolytic proteases, alp<sup>3</sup> (α-lytic protease) and blp<sup>4</sup> (β-lytic protease):

- Alp cleaves both the junction bond between the polysaccharide and the peptide moiety in addition to the D-Ala-Gly and Gly-Gly peptide bonds in peptidoglycan.<sup>3</sup>
- Blp has particular specificity for cleavage of Gly-X bonds.<sup>4</sup>

The study of microbial communities has been revolutionized in recent years 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,<sup>5</sup> DNA extraction reagents free of DNA contaminants are essential.

This product undergoes strict quality control testing to ensure the absence of detectable levels of contaminating microbial DNA, using 35 cycles of PCR amplification of 16S and 18S rDNA using universal primer sets.

### Product

Optimum pH: pH 8.5 – 9

Specific Activity: ≥ 1000 units/mg solid

Unit Definition: One unit will produce a change in A<sub>600</sub> of 0.001 per minute per mL at pH 8.0 at 37 °C, using a suspension of *Micrococcus lysodeikticus* as substrate (1 cm light path).

### 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

The product retains activity for at least 2 years when stored lyophilized at –20 °C.

### Preparation Instructions

Solutions of this product can be prepared in DNA-free water (Cat. No. MBD0025). Aliquot the protein solution and store the solution aliquots at –20 °C. Avoid freeze-thaw cycles.

## References

1. Masaki, T. *et al.*, *Biochim. Biophys. Acta*, **660(1)**, 44-50 (1981).
2. Ezaki, T., and Suzuki, S., *J. Clin. Microbiol.*, **16(5)**, 844-846 (1982).
3. Li, S. *et al.*, *J. Biochem.*, **122(4)**, 772-778 (1997).
4. Li, S. *et al.*, *J. Biochem.*, **124(2)**, 332-339 (1998).
5. Motley, S.T. *et al.*, *BMC Genomics*, **15(1)**, 443 (2014).

## Notice

We provide information and advice to our customers on application technologies and regulatory matters to the best of our knowledge and ability, but without obligation or liability. Existing laws and regulations are to be observed in all cases by our customers. This also applies in respect to any rights of third parties. Our information and advice do not relieve our customers of their own responsibility for checking the suitability of our products for the envisaged purpose.

The information in this document is subject to change without notice and should not be construed as a commitment by the manufacturing or selling entity, or an affiliate. We assume no responsibility for any errors that may appear in this document.

### Technical Assistance

Visit the tech service page at [SigmaAldrich.com/techservice](https://SigmaAldrich.com/techservice).

### Standard Warranty

The applicable warranty for the products listed in this publication may be found at [SigmaAldrich.com/terms](https://SigmaAldrich.com/terms).

### Contact Information

For the location of the office nearest you, go to [SigmaAldrich.com/offices](https://SigmaAldrich.com/offices).

The life science business of Merck operates as MilliporeSigma in the U.S. and Canada.

Merck and Sigma-Aldrich are trademarks of Merck KGaA, Darmstadt, Germany or its affiliates. All other trademarks are the property of their respective owners. Detailed information on trademarks is available via publicly accessible resources.

© 2022 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved.

SAE0196pis Rev 03/22 DT,ES,GCY

The Merck logo is displayed in a bold, red, sans-serif font.