

SUMMARY

shipped at room temperature; store at 2 - 8 °C

Nisin concentration: 2.5% Nisin from *Lactococcus lactis*,
(balance sodium chloride and denatured milk solids)

1 ml 5% acetic acid

For research use only

Introduction

Antibiotic with bactericidal action on *E. coli*. Binds to the lipid A portion of bacterial lipopolysaccharides. Induces pore formation in the membranes of cortex cells from excised sorghum roots.

Mode of Action: Binds to and interferes with the permeability of the cytoplasmic membrane.

Antimicrobial spectrum: Gram-negative bacteria.

Furthermore, nisin is used as inductor for several common *Lactococcus lactis* gene expressions systems as there is e.g. the MoBiTec NICE® system. For further details please see the according manual.

Protocol

Supplied material:	Nisin from <i>Lactococcus lactis</i> :	1 g
Potency:	≥ 1,000,000 per IU/g	
Concentration:	2.5% (balance sodium chloride and denatured milk solids)	
storage temp.:	2 - 8 °C	
Acetic acid, 5 %:	1 ml	

Preparation of nisin stock solution

Nisin stock solution: 1 mg/ml pure nisin in 0.05% acetic acid.

By using VS-ELK01000-02, prepare a 40 mg/ml solution in 0.05% acetic acid (supplied 5% acetic acid diluted with dist. water) for obtaining a final concentration of 1 mg/ml pure nisin. Let dissolve it for 5 - 10 min. at RT and spin to pellet insoluble material. The nisin itself is dissolved completely in the clear supernatant.

Store aliquoted vials of the 1 mg/ml nisin solution at -20 °C. Frozen aliquots are stable for at least 1 year.

Note: Prepare nisin dilution from aliquoted and frozen 1 mg/ml nisin stock solution in sterile water just before use and dispose this dilution after use. A diluted nisin solution is not stable.

Nisin induction of gene expression in *Lactococcus lactis*

The growth and induction conditions are optimized for *Lactococcus lactis*. When other species are used, the growth temperature and amount of nisin required for induction can be different.

General growth protocol

1. Grow 5 ml culture overnight, 30 °C
2. Dilute 1/25 in 2 x 10 ml fresh medium (30 °C)
3. Grow until the OD₆₀₀ ≈ 0.4
4. Induce one 10 ml culture with 1 ng/ml nisin and keep the other 10 ml culture as negative control.
5. Incubate 2 - 3 hours, measure the OD₆₀₀ to monitor growth of the induced and non-induced cultures. Collect cells by centrifugation; re-suspend the pellet in a suitable buffer or sterile water.
6. Make a cell free extract and test for protein production by SDS-PAGE, enzyme assay etc.

Order Information, Shipping and Storage

Order#	Product	Quantity
VS-ELK01000-02	NICE [®] Nisin Kit (Nisin, 5% acetic acid)	Kit
shipped at room temperature; store at 2 - 8 °C		

Contact and Support

MoBiTec GmbH ● Lotzestrasse 22a ● D-37083 Goettingen ● Germany

Customer Service – General inquiries & orders

phone: +49 (0)551 707 22 0
fax: +49 (0)551 707 22 22
e-mail: order@mobitec.com

Technical Service – Product information

phone: +49 (0)551 707 22 70
fax: +49 (0)551 707 22 77
e-mail: info@mobitec.com

MoBiTec in your area: Find your local distributor at

www.mobitec.com