For life science research only.
Not for use in diagnostic procedures.

Nitrate Reductase
from *Aspergillus* species
NAD(P)H:nitrate oxidoreductase, EC 1.6.6.2

Version: 06
Content Version: November 2020

Cat. No. 10 981 249 001 20 U

Store the product at −15 to −25°C.

1. General Information

1.1. Contents

Vial / bottle	Label	Function / description	Content
1	Nitrate Reductase	Lyophilized	1 vial, 20 U

1.2. Storage and Stability

Storage Conditions (Product)

When stored at −15 to −25°C, the product is stable through the expiry date printed on the label.

Vial / bottle	Label	Storage
1	Nitrate Reductase	Store dry at −15 to −25°C. ⚠ ***Keep protected from light.***

Reconstitution

Add 2 ml double-distilled water to 20 U Nitrate Reductase. Store 1 week at +2 to +8°C; for longer periods, store in aliquots at −15 to −25°C.

⚠ ***Avoid repeated freezing and thawing.***

1.3. Additional Equipment and Reagent required

For reconstitution of lyophilizate

- Double-distilled water

1.4. Application

Use Nitrate Reductase for nitrate determination, such as
- Assay of nitrite and nitrate in culture media.
- Determination of NO_3 in serum.

2. How to Use this Product

2.1. Before you Begin

Safety Information

Laboratory procedures

- Handle all samples as if potentially infectious, using safe laboratory procedures. As the sensitivity and titer of potential pathogens in the sample material varies, the operator must optimize pathogen inactivation by the Lysis / Binding Buffer or take appropriate measures, according to local safety regulations.
- Do not eat, drink or smoke in the laboratory work area.
- Do not pipette by mouth.
- Wear protective disposable gloves, laboratory coats and eye protection, when handling samples and kit reagents.
- Wash hands thoroughly after handling samples and reagents.

Waste handling

- Discard unused reagents and waste in accordance with country, federal, state, and local regulations.
- Safety Data Sheets (SDS) are available online on dialog.roche.com, or upon request from the local Roche office.

2.2. Protocols

Nitrate determination

- Use an NADPH concentration of 600 µM and flavin adenine dinucleotide (FAD) concentration of 5 µM.
- In the assay, the concentration of NADPH is 200 to 250 µmol/ml. This guarantees the function of the assay with regard to the stability of NADPH. It is the highest possible NADPH concentration to measure a reasonable E1.
- The decrease in absorbance is measured at 340 nm or at Hg 365 nm, respectively.

⚠ ***Careful sample preparation is a crucial step. Deproteination is essential to obtaining good results.***

2.3. Parameters

Contaminants

<0.5% NADPH oxidase, <0.8% NAD(P)H-dependent ADH, <0.15% nitrite reductase

Molecular Weight

200 to 250 kDa

Purity

Electrophoretic purity

Usually one major band on SDS-PAGE is visible, two faint minor bands may be visible.

Specific Activity

Approximately 0.4 U/mg lyophilizate (10 U/mg protein) at +25°C with nitrate as the substrate.

3. Supplementary Information

3.1. Conventions

To make information consistent and easier to read, the following text conventions and symbols are used in this document to highlight important information:

Text convention and symbols	
Information Note: Additional information about the current topic or procedure.	
Important Note: Information critical to the success of the current procedure or use of the product.	
① ② ③ etc.	Stages in a process that usually occur in the order listed.
❶ ❷ ❸ etc.	Steps in a procedure that must be performed in the order listed.
* (Asterisk)	The Asterisk denotes a product available from Roche Diagnostics.

3.2. Changes to previous version

Layout changes.
Editorial changes.
Update to include new safety Information to ensure handling according controlled conditions.

3.3. Trademarks

All product names and trademarks are the property of their respective owners.

3.4. License Disclaimer

For patent license limitations for individual products please refer to:
List of biochemical reagent products.

3.5. Regulatory Disclaimer

For life science research only. Not for use in diagnostic procedures.

3.6. Safety Data Sheet

Please follow the instructions in the Safety Data Sheet (SDS).

3.7. Contact and Support

To ask questions, solve problems, suggest enhancements or report new applications, please visit our **Online Technical Support Site**.

To call, write, fax, or email us, visit **sigma-aldrich.com**, and select your home country. Country-specific contact information will be displayed.

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