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

Ascorbate Oxidase Spatula
from *Cucurbita* species

Version: 16
Content Version: July 2021

Cat. No. 10 736 619 001 25 spatulas

Store the product at +2 to +8°C

1. General Information

1.1. Contents

Vial / bottle	Label	Function / description	Content
1	Ascorbate Oxidase Spatula	Removes ascorbic acid from sample material.	25 spatulas

1.2. Storage and Stability

Storage Conditions (Product)

When stored at +2 to +8°C, the product is stable through the expiry date printed on the label.

Vial / bottle	Label	Storage
1	Ascorbate Oxidase Spatula	Store dry at +2 to +8°C. ⚠ ***Keep protected from light.***

1.3. Additional Equipment and Reagent required

For ascorbic acid removal

- Potassium hydroxide solution or
- Hydrochloric acid
- Indicator paper
- Calcium chloride (optional)

1.4. Application

Use the spatulas to remove ascorbic acid from aqueous solutions in which the presence of ascorbic acid (ascorbate, vitamin C) can interfere with the investigation of the sample material. For example, the detection of blood (erythrocytes) in urine or the determination of oxalic acid in urine during research studies.

2. How to Use this Product

2.1. Protocols

Ascorbic acid removal

The concentration of the ascorbic acid should not exceed a concentration of 10 µg/ml. For concentrations in the range of 50 to 100 µg/ml, stir for 15 minutes. For higher concentrations, dilute the solution.

1. Bring the pH value of 3 to 5 ml of the sample solution to pH 4 to 6 (indicator paper) with a few drops of 1 M potassium hydroxide solution or 1 M hydrochloric acid.

2. Dip the spatula into the sample solution and stir vigorously for 5 seconds every 2 minutes, repeating this procedure approximately 3 times.

3. Leave the spatula in the sample solution during the entire mixing period.

4. After 6 to 8 minutes, withdraw the spatula from the sample solution and discard.
   ⚠ ***Use the spatula only once.***

2.2. Parameters

Inhibition

The oxidation of ascorbic acid by the Ascorbate Oxidase Spatula is affected by:
- >24 mg/ml ethanol in the sample solution.
- >4 µg/ml Mn^{2}+ or >20 µg/ml Pb^{2}+ in the sample solution.
- >4 µg/ml oxalate ion concentration in the sample solution. Precipitation with calcium chloride must be performed.

Specific Activity

The paper zone of one spatula contains approximately 17 U ascorbate oxidase.

Specificity

The enzyme reacts specifically with L-ascorbic acid and iso-ascorbic acid. In the presence of air (oxygen), the ascorbic acid in the sample solution is oxidized to dehydro-ascorbic acid.

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.

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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