Technical Bulletin

D-Lactic Acid Quick Test Strips

Catalog Number MAS003

Product Description

Lactic acid, or lactate, is generated by lactic acid dehydrogenases (LDH) under hypoxic or anaerobic conditions. D-Lactic acid is produced in only minor quantities in animals, and measuring for D-lactic acid in animal samples is a means to determine the presence of bacterial infection. Furthermore, since D-lactic acid is a specific indicator of bacteria fermentation, its measurement can be used to determine the freshness of milk, meat, and fruit juices. Elevated levels of D-lactic acid in wine is an indication of lactic acid bacteria contamination.

The D-Lactic Acid Quick Test Strips are based on the D-lactate dehydrogenase-catalyzed oxidation of D-lactic acid in which the formed NADH reduces a chromogenic reagent. The intensity of product color is directly proportional to D-lactic acid concentration in the sample. The semi-quantitative detection range of the kit is 0-180 mg/L (undiluted) D-lactic acid.

This kit is suitable for the detection of D-lactic acid in a variety of food and beverage samples.

Components

The kit is sufficient for 10 tests

- D-Lactic Acid Test Strips (10 strips) Catalog Number MAS003A — 1 Each
- Sample Development Tubes (400 µL of Development Reagent per tube) Catalog Number MAS003B — 10 Each

Equipment Required but Not Provided

- Pipetting devices and accessories

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 kit is shipped at room temperature. Store components at 2-8 °C. Keep strips dry and out of direct sunlight.

Preparation Instructions

Sample Preparation

No initial dilution is required. For wine samples, a 21-fold dilution of the sample is recommended. Other acidic samples (fruit juice, beer, etc.) should be diluted 5-fold. Homogenized milk should be diluted 2-fold.

Procedure

1. Unscrew the cap of one of the Sample Development Tubes and add the Sample volume required according to Table 1.

   Table 1.
   Sample Dilutions

Final Dilution	Volume of Sample to Add to Tube
21-fold	20 µL
5-fold	100 µL
2-fold	400 µL

2. Replace cap on the Sample Development Tube, securely close the tube, and invert the tube 3-4 times to mix the diluted Sample.
3. Unscrew cap and dip in one of the D-Lactic Acid Test Strips, making sure to fully submerge the yellow reaction pad at the end of the strip. Leave the strip submerged for 5 seconds and then remove the strip and shake gently to remove any excess liquid.
4. Allow the color to develop on the strip for 5 minutes.
5. Compare the color of the reaction pad of the strip with the provided D-Lactic Acid Chart. Multiply the concentration on the chart by the Sample dilution factor (i.e., 2, 5, or 21) to determine the concentration of D-Lactic Acid in the original Sample.

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