CREATIVE BIOMART®
Assay Kit

D-Lactic acid Assay Kit

Product Information

Cat.No. Kit-2060

Product Overview

Enzymatic method for the determination of D-lactic acid. Based on the spectrophotometric measurement of NADH formed through the combined action of D-lactate dehydrogenase (D-LDH) and D-alanine aminotransferase (D-ALT/D-GPT).

Size

50 tests

Description

D-Lactic acid is a natural product formed by lactic acid bacteria, such as Lactobacillus lactis, Lactobacillus bulgaricus and Leuconostoc cremoris. Thus, the stereospecific measurement of the D-lactate form is of high interest in the manufacturing of many foods and beverages in order to assess the activity of these microorganisms. For instance, D-lactic acid is found in fermented milk products as a result of the action of beneficial microorganisms. Therefore, the quality of milk, meat and fruit juice can be established by measurement of the D- lactic acid content. In contrast, the production of D-lactic acid can indicate wine spoilage by lactic acid bacteria (wine industry). Dlactic acid is also a raw material in the production of compounds such as polylactides and biologically degradable polymers (chemical industry).

Applications

This rapid and simple stereo-specific enzymatic method is used for the determination of D-(-)-lactic acid (D-(-)-lactate) in foodstuffs such as milk and fermented milk products (e. g. cheese, yogurt), wine, cured meats and fish, fruit juices and pickled vegetables, as well as in cosmetics and pharmaceuticals.

Kit Components

Solution 1. Glycylglycine buffer (25 mL, 0.5 M, pH 10.0), Dglutamate (0.5 M) and sodium azide (0.02% w/v) as a preservative. Stable for 2 years at 4 °C. Solution 2. NAD+ (380 mg) and PVP (60 mg). Stable for 5 years at -20 °C. Dissolve in 5.5 mL of distilled water, divide into appropriately sized aliquots and

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store in PP tubes at -20 °C between use (stable for 2 years) and keep cool during use. Once dissolved, the reagent is stable for 2 years at -20 °C. Suspension 3. D-Alanine aminotransferase (D-ALT, 1300 U/mL) in 3.2 M ammonium sulphate (1.1 mL). Stable for 2 years at 4 °C. Suspension 4D. D-Lactate dehydrogenase (D-LDH, 2000 U/mL) in 3.2 M ammonium sulphate (1.1 mL). Stable for 2 years at 4 °C. Solution 5. D-Lactic acid standard solution (5 mL, 0.15 mg/mL). Stable for 2 years at 4 °C. This standard can be used when there is doubt about the method accuracy (εNADH,340 nm = 6300 L×mol-1×cm-1).

Detection method UV method

Compatible Sample Types

Dairy products (cheese, milk, cream, yogurt), meat and fish products, wine, vinegar, fruit and vegetable products, cosmetics, pharmaceutical and biological samples.

Features & Benefits

Very rapid reactionStable reagentsSuitable for manual and micro volume formats

Sensitivity

Reaction volume: 2.24 mLRange: 0.3-300 mg/LDetection limit: 0.30 mg/L

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