CREATIVE BIOMART®
Assay Kit

L-Lactic acid Assay Kit

Product Information

Cat.No. Kit-2061

Product Overview

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

Size

50 tests

Description

L-Lactic acid is a common final product of the metabolism of a wide variety of living organisms, including lactic acid bacteria. L-Lactate in wine is also formed during the malolactic fermentation ("second fermentation"). The content of L-lactate in beer indicates the presence of Lactobacilli in production. The stereo-specific measurement of the lactate forms is of high interest e. g. in the manufacturing of sour milk products in order to assess the activity of microorganisms. The content of L-lactate in liquid whole egg or in egg powder gives good information about the hygienic situation of the products. Commercial lactic acid may not contain the stereo-isomeric forms in the ratio 1:1. Free Llactic acid in the presence of water/moisture tends to form the dimer lactyl-lactate which does not react in the enzymatic determination; therefore, this material cannot be used for the production of standard solutions.

Applications

This rapid and simple stereo-specific enzymatic method is used for the determination of L-(+)-lactic acid (L-(+)-lactate) in foodstuffs such as milk and milk products (e. g. cheese, yogurt), wine, beer, bread and bakery goods, baking agents and sourdough, dietetic food, fruit and vegetable products (e. g. juices, jam, tomato pulp), meat products, soft drinks and lemonades, vinegar, as well as in animal feed, cosmetics, paper and cardboard, pharmaceuticals and biological samples.

Kit Components

Solution 1. Glycylglycine buffer (25 mL, 0.5 M, pH 10.0), Dglutamate (0.5 M) and sodium azide (0.02%

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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 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 4L. L-Lactate dehydrogenase (L-LDH, 2000 U/mL) in 3.2 M ammonium sulphate (1.1 mL). Stable for 2 years at 4 °C.Solution 5. L-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 products and bakery products, wine, vinegar, fruit and vegetable products, animal feed, paper, cosmetics, pharmaceutical, biological cultures 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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