CREATIVE BIOMART®
Assay Kit

Urea/Ammonia Assay Kit

Product Information

Cat.No.

Kit-2068

Product Overview

Enzymatic method for the determination of urea and ammonia. Based on the spectrophotometric measurement of NADPHconsumed through the reactions, after addition of urease (URE) and glutamate dehydrogenase (GlDH).

Size

50 tests

Description

Urea is the most important product of protein metabolism in mammals and the most abundant organic compound in their urine. Ammonia is mainly produced by microbial protein catabolism of organic materials. Therefore, these analytes may be used as reliable quality indicators for food products such as fruit juice, milk, cheese, meat and seafood. Urea and/or ammonia may also be sued as indicators of the presence of faeces, urine and microorganisms in water.

Applications

This rapid and simple specific enzymatic method is used for the simultaneous determination of urea and ammonia (ammonium ions) in foodstuffs such as wine, fruit juice, bakery products, dairy products, egg products, meat and seafood, as well as in paper, fertilizer, pharmaceuticals, cosmetics, water and biological samples.

Kit Components

Solution 1. TEA buffer (25 mL, 0.5 M, pH 8.0) plus imidazole (200 mM), 2-oxoglutarate (40 mM) and sodium azide (0.02 % w/v) as a preservative. Stable for 2 years at 4 °C. Tablets 2. 100 tablets of NADPH supplied in a plastic vial containing desiccant. Allow this container to warm to room temperature (in the presence of a desiccant if possible) before opening to remove tablets. Stable for 3 years when stored dry at 4 °C or -20 °C. Add 2 tablets and 0.5 mL of solution 1 per assay, including blank reaction, to a test tube and stir intermittently over 2-3 min (Solution 1+2). Suspension

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3. Glutamate dehydrogenase (GlDH) is provided in 2.5 M lithium sulphate (EC 1.4.1.2; 1.1 mL, 475 U/mL). Stable for 2 years at 4 °C. Swirl bottle before use. Suspension 4. Urease is provided in 2.5 M lithium sulphate (EC 3.5.1.5; 1.1 mL, 1200 U/mL). Stable for 2 years at 4 °C. Swirl bottle before use. Powder 5. Urea control powder (~2 g). Stable for 2 years at room temperature. Accurately weigh approx. 70 mg of urea into a 1 L volumetric flask, fill to the mark with distilled water and mix thoroughly.Prepare fresh before use. This control solution is stable for ~3 months -20 °C.Solution 6. Ammonia standard solution (5 mL, 0.04 mg/mL) in 0.02% (w/v) sodium azide. Stable for 2 years at 4 °C. This standard should be used when there is doubt about the method accuracy .

Detection method UV method

Compatible Sample Types

Grape juice/must and wine, fruit juice, milk, cheese, meat, seafood and bakery products, paper, fertilizer, pharmaceuticals, cosmetics, water and biological samples.

Features & Benefits

Stable enzyme suspensionsVery rapid reaction

Sensitivity

Reaction volume: 2.64mLRange: Urea – 1.5-140 mg/L; Ammonia – 10-70 mg/LDetection limit: Urea -0.13 mg/L; Ammonia – 0.07 mg/L

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