Technical Bulletin

Pyruvate Quick Test Strips

Catalog Number MAS006

Product Description

Pyruvate, a key intermediate in cellular metabolic pathways, can be converted to a variety of things such as carbohydrates, fatty acids, or energy depending on the pathway. It can also be converted to alanine and ethanol. In the beverage industry, monitoring levels of pyruvate during alcoholic fermentation can be important for the production of beer, wine, and spirits. Some brewers even add sodium pyruvate to their beer to alter the flavor and give the beer more body. In regard to health, abnormal levels of pyruvate have been linked to various liver diseases and metabolic disorders.

Pyruvate Quick Test Strips are based on pyruvate oxidase-catalyzed oxidation of pyruvate in which peroxidase reduces the formed peroxide and oxidizes a chromogenic reagent. The intensity of the blue product is directly proportional to pyruvate concentration in the sample. The semi-quantitative detection range of the kit is 0-131 mg/L (undiluted) pyruvate.

This kit is suitable for the detection of pyruvate in a variety of food and beverage samples, as well as biological samples such as plasma, serum, and urine.

Components

The kit is sufficient for 10 tests

- Pyruvate Test Strips (10 strips) Catalog Number MAS006A — 1 Each
- Sample Dilution Tubes (400 µL of water per tube) Catalog Number MAS006B — 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 white wine and urine samples, a 9-fold dilution is strongly recommended. Other acidic samples (beer, fruit juice, etc.) should be diluted 5-fold. Serum and plasma should be diluted 2-fold.

Procedure

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

   Table 1.
   Sample Dilutions

Final Dilution	Volume of Sample to Add to Tube
9-fold	50 µL
5-fold	100 µL
2-fold	400 µL

2. Replace cap on the Sample Dilution 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 Pyruvate Test Strips, making sure to fully submerge the tan 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 Pyruvate Chart. Multiply the concentration on the chart by the Sample dilution factor (i.e., 2, 5, or 9) to determine the concentration of Pyruvate in the original Sample.

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