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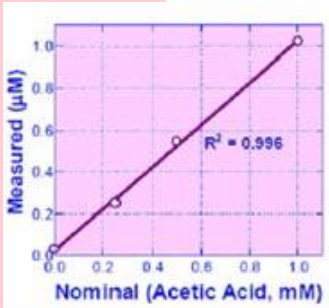
Acetate Quantification with Fluorometer 530/590nm

Description：

ACETATE is a common anion and fundamental to all forms of life. When bound to coenzyme A, it is central to the metabolism of carbohydrates and fats. It is acid form, acetic acid, is produced and excreted by acetic acid bacteria, such as Acetobacter genus and Clostridium acetobutylicum, which are found universally in foodstuffs, water, and soil. Acetic acid is also a component of the vaginal lubrication of humans and other primates, where it appears to serve as a mild antibacterial agent. Acetic acid is the main component of vinegar, and extensively used in food, dyes, paints, glue and synthetic fibres.

hVI's assay uses enzyme-coupled reactions to form a colored, fluorescent product. The fluorescence intensity at 530nm/590nm is directly proportional to the acetate concentration in the sample.



Assay Performance：

- Sensitive and accurate. Use as little as 10 µL samples.
- Linear detection range: 0.1 – 1.0 mM.

Field Kit includes:

- Handheld Fluorometer, with USB Cable, 5VDC Power Supply, and manual/data-management software CD.
- Mini glass tubes (optional).
- Acetate Assay Kit: Sufficient for approximately 100 assays.
  - Kit contents: (1) 25 mL Assay Buffer (2) Enzyme A (dried) (3) Enzyme B (dried) (4) 120 µL ATP (5) 120 µL Dye Reagent (6) 1 mL Developer (7) 1 mL Standard

※Note:

* Avoid contact and inhalation. Standard laboratory safety procedures should be followed when handling this product. Safety procedures include wearing OSHA approved safety glasses, gloves and protective clothing.

*Shipping and storage: the kit is shipped on ice. **Store all reagents at -20°C**. Shelf life: 12 months after receipt.

Assay Procedure：

Important: prior to assay, bring the assay reagents to room temperature. Add 600 µL Developer to Enzyme A and 120 µL Assay Buffer to Enzyme B tubes. Mix well by pipetting andvortexing. Keep enzyme tubes cold during the assay. **<Note: Those reconstituted Enzyme A and Enzyme B are stable for four weeks if stored at -20°C.>**

1. Prepare 1 mM Acetate Standard by mix 5 µL provided Standard with 995 µL H_2O.
2. In separate mini-glass tubes, add 10 µL H2O ("Blank"), 10 µL 1 mM Standard ("Std"), and 10 µL Sample.
3. Prepare enough Working Reagent by combining the following per tube: 90 µL Assay Buffer, 5 µL Enzyme A, 1µL Enzyme B, 1µL ATP, 1 µL Dye Reagent.
4. Add 90 µL Working Reagent to each tube. Incubate for 30 min at room temperature in the dark.
5. Calibrate fluorometer. Place the "Blank" tube into the sample holder. Press [Calibrate] → [Continue] → [Assay 1] → [Blank]. Fluorometer starts Measuring. Press number setting keys in "< - + >" until the window shows "0.00". Place the fourth step of "Std" tube into the Sample holder. Press [Measure]. Press number setting keys in "< - + >" until the window shows "1.00". The fluorometer shows "Calibrate Finished". The fluorometer is now calibrated. Press [Return].
6. Measure. Place the sample tube into the Sample Holder. Press [Measure] → [Assay 1] → [Measure]. The Acetate concentration will be displayed in the window. Record the data, or press "Save" to save the data for later retrieval. Press [Return] and then [Measure] for the next sample.

Note: if Sample concentration is higher than the upper limit, dilute Sample in H_2O and repeat assay.