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Product Information

76786 *FluoroSELECT*™ Acetate Assay Kit

Product description
Acetate (CH_3COO^-) 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. Its 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. Sigma-Aldrich's assay uses enzyme-coupled reactions to form a colored, fluorescent product. The fluorescence intensity at 530 nm/590 nm is directly proportional to the acetate concentration in the sample.

Detection ranges and limits
Linear detection range: 0.1–1.0 mM.

Equipment required but not included
Z805491-1EA *FluoroSELECT*™ Single channel fluorometer λ_{ex} 530 nm; λ_{em} 590 nm
Z805823-100EA Glass vials for *FluoroSELECT*™ fluorometer

Components
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

The kit is sufficient for approximately 100 assays.

Storage conditions
Store at -20°C

Procedure
Important: Prior to assay, bring the assay reagents to room temperature. Add 650 µL developer to Enzyme A and 120 µL developer Enzyme B tubes. Mix well by pipetting and vortexing. Keep enzyme tubes cold during the assay.

1. Prepare 1 mM acetate standard by mixing of 5 µL provided standard with 995 µL H2O. In separate mini-glass tubes, add 10 µL H2O ("Blank"), 10 µL 1 mM standard ("Std"), and 10 µL sample.
2. Prepare enough working reagent by combining the following per tube: 90 µL assay buffer, 6 µL enzyme A, 1 µL Enzyme B, 1µL ATP, 1 µL Dye reagent. Add 90 µL working reagent to each tube.
Incubate for 30 min at room temperature in the dark.
3. Switch on the reader. To calibrate the reader, place the "Blank" tube into the sample holder. Press "Calibrate", "Assay 1", then "Blank". Reader starts measuring. Press left arrow on "<- Std -> ", until the window shows "1.000". Place the "Std" tube into the sample holder. Press "Measure". The reader shows "Calibrate Finished". The Reader is now calibrated. Press "Return".
4. Measure. Place the sample tube into the sample holder. Press "Measure", "Assay 1", "Measure". The acetate concentration (mM) will be displayed in the window. Note down the data and press "Return" to measure a next sample. Alternatively, press "Save" to save the data for later retrieval, press "Measure" for the next sample*. Note:If the concentration of the sample is higher than the upper limit, dilute sample in H_2O and repeat assay.*

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.