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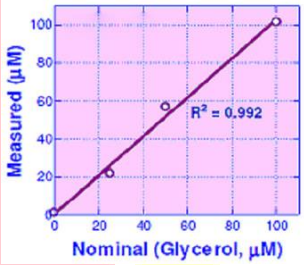
Glycerol Quantification with Fluorometer 530/590nm

DESCRIPTION:

***GLYCEROL* [*GLYCERIN* or *GLYCERINE*,** C3H5(OH)3] is widely used in foods, beverages and pharmaceutical formulations. It is also a main byproduct of biodiesel production. Simple, direct and automation-ready procedures for measuring glycerol concentrations find wide applications. The glycerol assay uses a single Working Reagent that combines glycerol kinase, glycerol phosphate oxidase and color reactions in one step. The fluorescence intensity at λex/em = 530/590nm is directly proportional to glycerol concentration in the sample.

Assay Performance:

- Sensitive and accurate. Use as little as 10 µL samples.
- Linear detection range: 2 -100 µM, 18 - 920 µg/dL, or 0.18 - 9.20 ppm.
- Simple and convenient. The procedure involves addition of a single working reagent and incubation for 20 min at room temperature.
- Improved reagent stability. The optimized formulation has greatly enhanced the reagent and signal stability.



Assay Procedure:

1. Standard. Prepare 1 mM Standard by mixing 5 µL of the provided standard with 495 µL distilled H2O. Then mix 50 µL of the 1mM Standard with 450 µL H2O to obtain 100 µM Glycerol Standard. In separate mini-glass tubes, add 10 µL H2O ("Blank"), 10 µL 100 µM Glycerol Standard ("Std"), and 10 µL Sample.
2. Prepare enough Working Reagent for all assay tubes, by mixing per tube: 100 µL Assay Buffer, 2 µL Enzyme Mix, 1 µL ATP and 1 µL Dye Reagent in a clean Eppendorf tube. Then add 100 µL Working Reagent to each tube and mix. Incubate for 20 min in the dark.
3. Switch on the fluorometer. To calibrate the fluorometer, place the "Blank" tube into the sample holder. Press "Calibrate", "Assay 1", then "Blank". Fluorometer starts Measuring. Press left arrow on "<-Std -> ", until the window shows "100.000". Place the "Std" tube into the Sample holder. Press "Measure". The reader shows "Calibration Finished". Press "Return".
4. Measure. Place the sample tube into the Sample Holder. Press "Measure", "Assay 1", "Measure". The Glycerol concentration (µM) 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.

Product Information:

Products are for Research Use Only.

- Glycerol Assay Kit: sufficient for approximately 200 assays. Kit content: (1) 24 mL Assay Buffer; (2) 500 µL Enzyme Mix; (3) 250 µL ATP; (4) 220 µL Dye Reagent; (5) 100 µL Glycerol Standard (100 mM).

*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 Assay Buffer at 4°C and other reagents at -20°C.

*Shelf life of 12 months after receipt.

- Mini glass tubes (optional).
- The fluorometer comes with a 5VDC power adapter, a USB cable, manual and data management software CD.