



# D-Fructose/D-Glucose (K-FRGLQR) Procedure for ChemWell®-T Auto-Analyser

## Requirements:

- D-Fructose/D-Glucose (Liquid Ready Reagents) Assay Kit (K-FRGLQR) (provides ~ 1100 assays).
- K-FRGLQR (GLUCOSE) and K-FRGLQR (TOTAL) ChemWell®-T assay files and the K-FRGLQR (FRUCTOSE) ChemWell®-T indices file.
- Use in association with the D-Fructose/D-Glucose Assay Kit (K-FRGLQR) product data booklet.

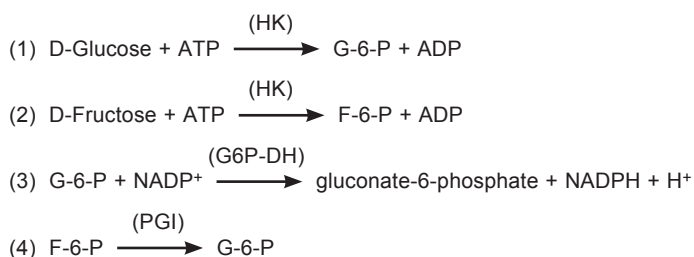
## Use:

For the specific measurement of D-fructose and/or D-glucose especially in wines, fruit juices, beverages and food products.

For specific sample preparation methods refer to the D-Fructose/D-Glucose Assay Kit (K-FRGLQR) data booklet.

## Assay Principle:

Conversion of D-fructose and/or D-glucose via the following reactions is directly proportional to the coupled formation of NADPH:



## Procedure:

Prepare the assay reagents and calibrators and use with the K-FRGLQR (GLUCOSE) and K-FRGLQR (TOTAL) ChemWell®-T assay files and the K-FRGLQR (FRUCTOSE) ChemWell®-T indices file.

## D-Fructose/D-Glucose Assay Kit Components:

### Bottle 1: Reagent 1 (44 mL)

Contains sodium azide (0.08% w/v) as a preservative. Ready to use. Stable for > 2 years at 4°C.

### Bottle 2: Reagent 2 (22 mL)

Contains sodium azide (0.05% w/v) as a preservative. Ready to use. Stable for > 2 years at 4°C.

**Bottle 3: Reagent 3 (22 mL)** Contains sodium azide (0.05% w/v) as a preservative. Ready to use. Stable for > 2 years at 4°C.

**Bottle 4: D-Glucose plus D-Fructose Standard (2 mL)** (3 g/L of each sugar). Ready to use. Stable for > 2 years at room temperature.

## Preparation of Assay Reagents:

### K-FRGLQR R1:

Use bottle 1 (Reagent 1) as supplied.

### K-FRGLQR R2:

Use bottle 2 (Reagent 2) as supplied.

### K-FRGLQR R3:

Use bottle 3 (Reagent 3) as supplied.

### Calibrators:

#### K-FRGLQR 4:

Use bottle 4 (D-Glucose plus D-Fructose Standard) as supplied.

Use serial dilutions of K-FRGLQR 4 to prepare K-FRGLQR 2 and K-FRGLQR 3.

K-FRGLQR 1: 0 g/L (use distilled water)

K-FRGLQR 2: 0.75 g/L of each sugar (D-fructose + D-glucose)

K-FRGLQR 3: 1.5 g/L of each sugar (D-fructose + D-glucose)

K-FRGLQR 4: 3.0 g/L of each sugar (D-fructose + D-glucose)

## Assay Parameters:

Assay volumes: **K-FRGLQR (GLUCOSE)**

Distilled water: 0.160 mL

K-FRGLQR R1: 0.040 mL

Sample: 0.003 mL

K-FRGLQR R2: 0.020 mL

Assay volumes: **K-FRGLQR (TOTAL)**

Distilled water: 0.160 mL

K-FRGLQR R1: 0.040 mL

Sample: 0.003 mL

K-FRGLQR R2: 0.020 mL

K-FRGLQR R3: 0.020 mL

Calibrators: 0, 0.75, 1.5, 3.0 g/L of each sugar (D-fructose + D-glucose)

Reaction time: 5 min at 37°C: K-FRGLQR (GLUCOSE)  
10 min at 37°C: K-FRGLQR (TOTAL)

Wavelength: 340 nm

Assay type: endpoint

Reaction direction: increase

Linearity: up to 6 g/L of total sugar (D-fructose + D-glucose)

## ChemWell®-T Files:

- K-FRGLQR (GLUCOSE) measures free D-glucose (g/L).
- K-FRGLQR (TOTAL) measures free D-glucose plus D-fructose (g/L).
- K-FRGLQR (FRUCTOSE) indices file calculates D-fructose (g/L) from K-FRGLQR (TOTAL) and K-FRGLQR (GLUCOSE).

