



Citric Acid (K-CITR) Procedure for ChemWell®-T Auto-Analyser

Requirements:

- Citric Acid Assay Kit (K-CITR) (provides ~ 840 assays).
- K-CITR ChemWell®-T assay file.
- Use in association with the Citric Acid Assay Kit (K-CITR) product data booklet.

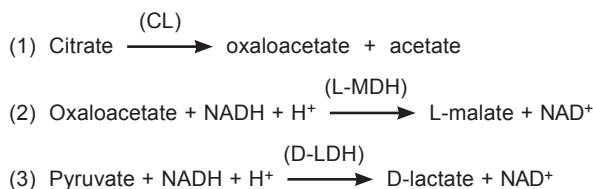
Use:

For the specific measurement of citric acid especially in wines, beverages and food products.

For specific sample preparation methods refer to the Citric Acid Assay Kit (K-CITR) data booklet.

Assay Principle:

Conversion of citric acid via the following reactions is directly proportional to the coupled consumption of NADH:



Procedure:

Prepare the assay reagents and calibrators and use with the K-CITR ChemWell®-T assay file.

Citric Acid Assay Kit Components:

Bottle 1: Buffer (40 mL, pH 7.5) plus sodium azide (0.02% w/v) as a preservative.
Stable for > 2 years at 4°C.

Bottle 2: NADH plus PVP.
Stable for > 5 years at -20°C.

Bottle 3: L-Malate dehydrogenase plus D-lactate dehydrogenase (1.5 mL).
Stable for > 2 years at 4°C.

Bottle 4: (x3) Citrate lyase lyophilisate.
Stable for > 2 years at -20°C.

Preparation of Kit Components:

1. Use the contents of bottle 1 as supplied.
Stable for > 2 years at 4°C.
2. Dissolve the contents of bottle 2 in 16 mL of distilled water. **Stable for > 1 year at 4°C** or > 2 years at -20°C (to avoid repetitive freeze / thaw cycles, divide into appropriately sized aliquots and store in polypropylene tubes).
3. Use the contents of bottle 3 as supplied.
Swirl the bottle to mix contents before use.
Stable for > 2 years at 4°C.
4. Carefully dissolve the contents of one of bottle 4 in 7 mL of distilled water.
Stable for 4 weeks at 4°C or > 6 months at -20°C.

Preparation of Assay Reagents: (per ~ 280 assays)

Reagent 1:

Component	Volume
distilled water	51.5 mL
bottle 1 (buffer)	13 mL
*bottle 2 (NADH)	5 mL
bottle 3 (L-MDH/D-LDH)	0.5 mL
Total volume	20 mL

*after adding 16 mL of distilled water

Reagent 1 stability: > 2 days at 4°C

Reagent 2:

Component	Volume
*bottle 4 (CL)	7 mL
Total volume	7 mL

*after adding 7 mL of distilled water

Reagent 2 stability: > 2 days at 4°C

Calibrators:

K-CITR 1:	0 g/L (use distilled water)
K-CITR 2:	0.75 g/L citric acid
K-CITR 3:	1.5 g/L citric acid
K-CITR 4:	3.0 g/L citric acid

Assay Parameters:

Assay volumes:	Reagent 1: 0.250 mL
	Sample: 0.003 mL
	Reagent 2: 0.025 mL
Calibrators:	0, 0.75, 1.5, 3.0 g/L citric acid
Reaction time:	5 min at 37°C
Wavelength:	340 nm
Assay type:	endpoint
Reaction direction:	decrease
Linearity:	up to 3.0 g/L of citric acid

