Citric Acid

(Citrate Lyase - UV-Test)

Reagent for the Quantitative Photometric Determination of Citric Acid/Citrate

Cat.No	Package Size
535 000 Lyophilisates for	3 x 9 ml R1 / 3 x 0,2 ml R2

METHOD and PRINCIPLE

Citrate yields, catalyzed through citrate lyase, oxalic acetate and acetic acetate, and through further enzymatic reactions finally pyruvate. Pyruvate reacts with NADH, giving lactate and NAD. The decrease of the absorbance of NADH is measured in the UV-range; it is proportional to the concentration of the citrate.
The result is calculated with the given factor.
A standard for calibration is available on request*.

REAGENTS

Constituents :

R1 (lyophilisate)

Glycylglycin-Buffer	(pH 7,8)
L-MDH	110 U
L-LDH	220 U
NADH	4 mg

R2 (lyophilisate)

Citrate lyase	15 U

*** Supplementary** (optional)

Storage/Stability

Reagents stored at 2-8 °C are stable until the expiration date printed on the labels.
Keep away from direct light!

Disposal/Waste

Dispose waste according to the local official regulations.

Preparation of Working Reagents

R1 Add 9 ml Aqua dest., mix gently till dissolution.

Stability :
2 weeks at 2 - 8°C,
if contamination is strictly avoided

R2 Add 0,2 ml Aqua dest., mix gently till dissolution.

Stability :
5 days at 2 - 8°C,
if contamination is strictly avoided

R1 and R2 ,

frozen at <-20°C, are stable 4 weeks

SAMPLES

Solutions of Citric Acid-/Citrate

Disregard contaminated samples

Note:

<u>In case of Plasma-samples make predilution</u>,
ask us for special information !

PROCEDURE

The reagent can be used manually and on most analyzers. Applications are available on request.

Wavelength ***340 nm***
Temperature ***20 - 25° C***
Cuvette ***1 cm light path***

Measure against water or air, decreasing absorbance

	Blank	Sample or Standard *
Reagent R1	1000 µl	1000 µl
Sample or Standard	-	200 µl
Aqua dest.	2000 µl	1800 µl
Mix well , incubate for about 5 min, then measure absorbance A_1 of Sample and of Blank		
Reagent R2	20 µL	20 µL
Mix well, incubate for about 5 min - 10 min, read A_2		

$$\Delta E = (E_1 - E_2)_{Sample/Standard} - (E_1 - E_2)_{Blank}$$

Calculation (with Factor)

Citrate or Citrate-monohydrate (g/l) = ΔA x F

Wavelength	F_1 (Citrate)	F_2 (Citrate-monohydrate)
340 nm	0,460	0,504

PERFORMANCE DATA

Measuring Range and Linearity

The measurable linear test range is 0,005 g/l till 0,400 g/l. For higher concentrations samples must be diluted (e.g.) 1+1 with phys. NaCl solution. Multiply result (e.g.) by 2.

Specifity/Interferences

No interferences known.

Greiner Diagnostic GmbH - Unter Gereuth 10 – D-79353 Bahlingen – Germany
www.greiner-diagnostic.com

LITERATURE

Möllering, H. und Gruber, W. (1966): Determination of citrate with citratlyase, Anal. Biochem. 17, 369-376

SYMBOLS USED

For ***in vitro*** diagnostic medical use

Batch Code


Use by...


Temperature limitation

Greiner Diagnostic GmbH - Unter Gereuth 10 – D-79353 Bahlingen – Germany
www.greiner-diagnostic.com