



CITRATE

DETERMINATION OF CITRATE IN SERUM, PLASMA, URINE, SEMINAL FLUID AND FOODSTUFFS

- Enzymatic Method
- Instrument Application Sheets Available
- Use Serum ,Plasma, Urine, Seminal Fluid, Foodstuffs
- Incl. Citrate Standard
- Also available Urine Controls Multiparameter
- Wavelength 340, 334, 365 nm



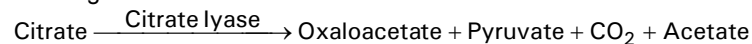
Products	Product no.	Quantity
Citrate Reagent Set	2881	25 - 100 tests
Urine Control (Urinorm) Normal level	2170	10 x 10 ml
Urine Control (Uripath) Abnormal level	2171	10 x 10 ml

SUMMARY

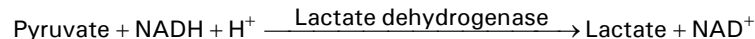
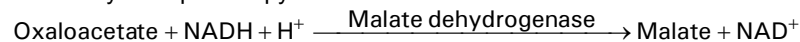
CLINICAL BACKGROUND AND ASSAY PRINCIPLE

Citrate (citric acid) in urine inhibits the crystallisation of calcium salts (especially oxalates and phosphates). With a concentration of citric acid below normal the formation of kidney stones (lithiasis) will be increased. Therefore it is important to search for the course of lithiasis by the determination of citric acid.

Citrate (citric acid) is converted to oxaloacetate and acetate in the reaction catalyzed by the enzyme citrate lyase according to the following reaction:



In the presence of NADH and the enzymes malate dehydrogenase (MDH) and lactate dehydrogenase (LDH) oxaloacetate and its decarboxylation product pyruvate are reduced to malate and lactate according to the following reactions:



The amount of NADH oxidized to NAD⁺ in those reactions is stoichiometric with the concentration of citrate.

SAMPLE MATERIAL

Urine, serum or heparinised plasma, seminal fluid (dilute 1+19) and foodstuffs.

QUALITY CONTROL

Lyophilized human urine preparations with analytical results for Citrate, enzymatic method:

Products	Product no.	Quantity
URINORM, Normal multiparamater urine control	2170	10 x 10 ml
URIPATH, Abnormal multiparamater urine control	2171	10 x 10 ml

EXPECTED VALUES

Urine:	1.5 - 4.7 mmol/24 hours (288 – 903 mg/24 hours)
Serum/plasma:	45 - 130 µmol/l (8.6 – 25.0 mg/l)
Seminal fluid:	21 - 36 mmol/l (4.0 – 6.9 g/l)

NOTES

1. For in vitro diagnostic use only.
2. For professional use only.
3. Always contact INstruChemie for the complete product insert and latest edition.
4. Printed in the Netherlands, Aldolase-summary-280725-1.FEN