



ACETOACETATE - AUT

DETERMINATION OF ACETOACETATE IN EDTA BLOOD

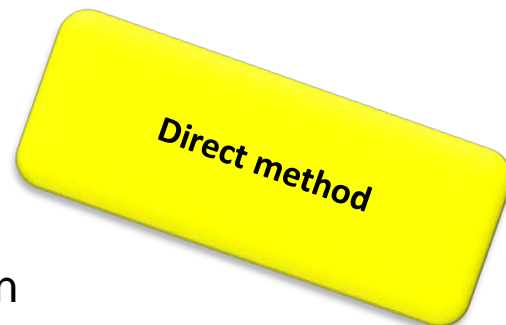
Enzymatic method

Suitable for all analyzers – 150 tests

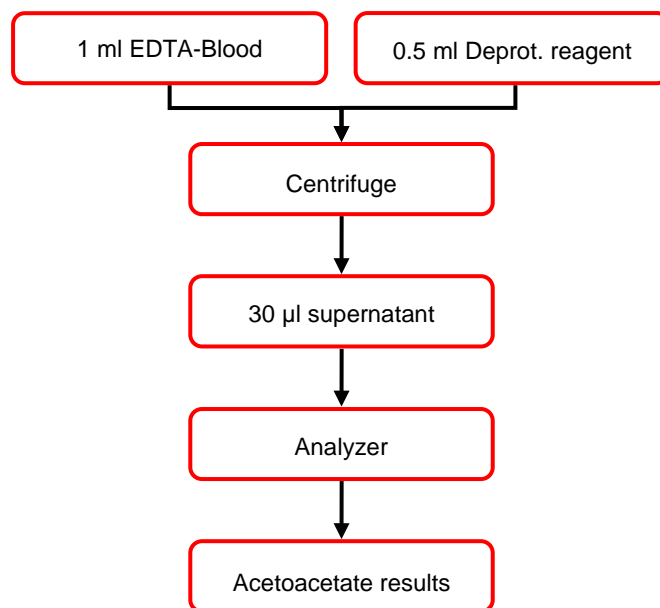
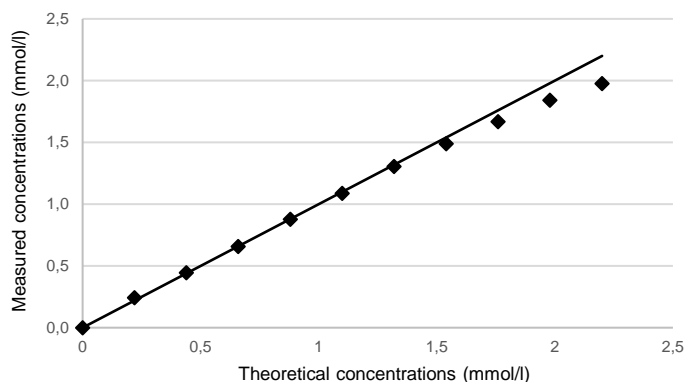
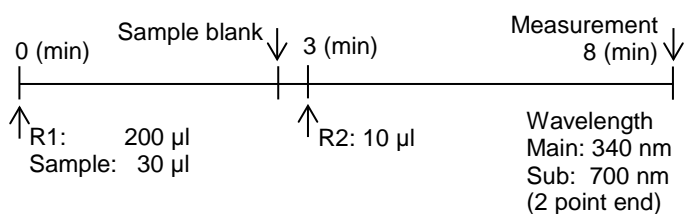
Product insert with instructions for automated and manual procedures

Stability reagents > 4 years after production

Acetoacetate controls available



Settings for automatic analyzers



Linearity: 1.5 mmol/l

Mean CV's: 1.99%

Mean recovery: 100.5%

Product name	Product no.	Quantity
Acetoacetate AUT Reagent Set	3061	30 -150 tests
Acetoacetate Control - AUT, Medium Level	3062	10 x 1 ml
Acetoacetate Control - AUT, High Level	3063	10 x 1 ml
Acetoacetate Control - AUT, Extra High Level	3064	10 x 1 ml





ACETOACETATE AUTOMATED – ENZYMATIC METHOD

DETERMINATION OF ACETOACETATE IN EDTA BLOOD

- Enzymatic method
- Suitable for all analyzers – 150 tests
- Product insert with instructions for automated and manual procedures
- Stability reagents > 4 years after production
- Acetoacetate controls available
- Wavelength 340 nm

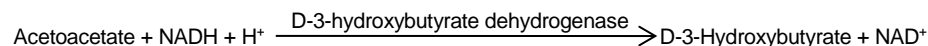


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SUMMARY

PRINCIPLE

The procedure utilizes the enzyme, D-3-hydroxybutyrate dehydrogenase, which catalyses the following reaction:



In the presence of excess NADH, substantially all acetoacetate is converted to D-3-hydroxybutyrate. The reduction of absorbance at 340 nm due to oxidation of NADH to NAD⁺ becomes a measure of the amount of acetoacetate originally present.

SAMPLE MATERIAL

Deproteinized EDTA blood. Plasma and serum cannot be used.

LINEARITY

Up to 1.5 mmol/l

EXPECTED VALUES

Fasting venous EDTA blood:
< 0.1 mmol/l

QUALITY CONTROL

Products	Product no.	Quantity
Acetoacetate Control - AUT , Medium Level	3062	10 x 1 ml
Acetoacetate Control - AUT , High Level	3063	10 x 1 ml
Acetoacetate Control - AUT , Extra High Level	3064	10 x 1 ml

QUANTITY OF DETERMINATIONS

Procedure

- Automated : 150 tests
- Manual : 30 tests

NOTES

1. For in vitro diagnostic use only.
2. For professional use only.
3. Contact INstru**chemie** for the complete validation report and the latest edition product insert.

CONCENTRATION MEASUREMENTS

The concentrations of a medium, high and extra high sample were measured with an automatic analyzer in order to verify acceptable absorbances.

Acetoacetate measurements

	Medium	High	Extra High
Δ Absorbance	0.1771	0.3018	0.4998
Concentration (mmol/l)	0.20	0.65	1.29

TEST CONDITIONS

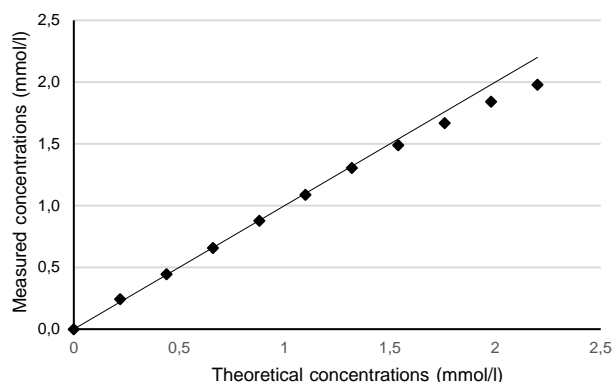
All tests were performed under the following conditions:

Temperature	: 37 °C
Wavelength	: 340 nm
Light path	: 0.6 cm
Blank	: Distilled or deionized water
Sample	: Deproteinized EDTA blood

LINEARITY

The Acetoacetate AUT assay is linear up to 1.5 mmol/l.

Linearity measurements with an automatic analyzer



SENSITIVITY

The sensitivity (limit of detection) was determined by measuring deproteinized human control material (Acetoacetate concentration = 0 mmol/l) 20 times.

Sensitivity = 3 x standard deviation = 0.06 mmol/l

PRECISION

The precision is determined by measuring Acetoacetate Control AUT High Level and a deproteinized human blood sample 10 times a day (repeatability) for 5 consecutive days (reproducibility), using an automatic analyzer.

Repeatability:

	Sample (mmol/l)	Control (mmol/l)
Mean	0.28	0.24
Standard deviation	0.007	0.005
Variation coefficient (%)	2.50	2.08

Reproducibility:

	Sample (mmol/l)	Control (mmol/l)
Mean	0.28	0.24
Standard deviation	0.007	0.005
Variation coefficient (%)	2.50	2.08

RECOVERY

The recovery is determined by measuring the Acetoacetate concentration in spiked deproteinized human blood 15 times using an automatic analyzer.

Recovery:

Added Acetoacetate (mmol/l)	Measured (mmol/l)	Recovery (%)
0.39	0.40	102.6
0.79	0.80	101.3
1.18	1.15	97.5

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