



FREE FATTY ACIDS - NEFA

DETERMINATION OF FREE FATTY ACIDS (NON ESTERIFIED FATTY ACIDS) IN SERUM OR PLASMA

Enzymatic method

Suitable for all analyzers – 100 tests

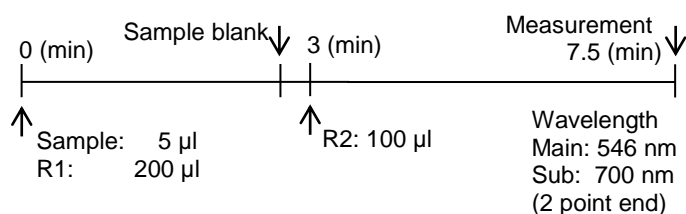
Product insert with instructions for automated and manual procedures

Stability > 3 years after production

FFA controls available

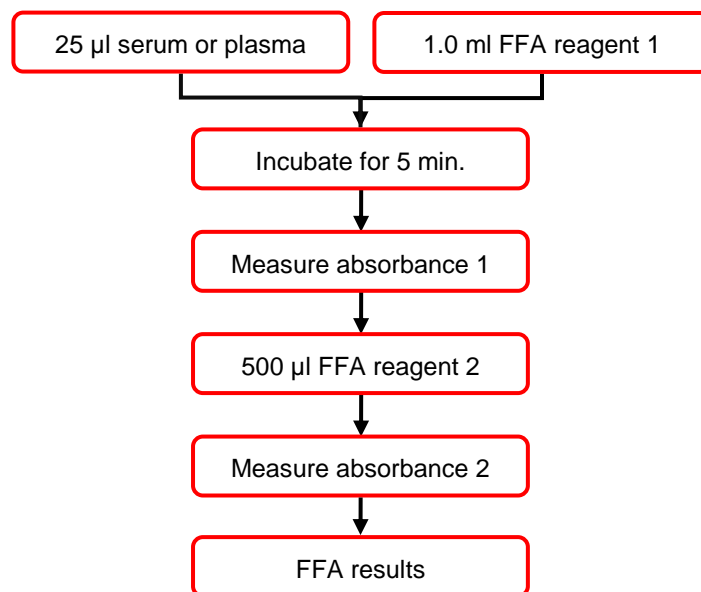
Small volumes per vial
=
Minimized excess reagents

Settings for automatic analyzers



Added FFA (mmol/l)	Measured (mmol/l)	Recovery (%)
1.11	1.11	100.0
2.22	2.23	100.5
3.33	3.34	100.3

Manual procedure



Linearity: 4.00 mmol/l

Mean CV's: 2.04%

Mean recovery: 100.3%

Correlation compared to another manufacturer: 0.997

Product name	Product no.	Quantity
Free Fatty Acids Reagent Set	3055	20 -100 tests
Free Fatty Acids Control High Level	3052	10 x 1 ml
Free Fatty Acids Control Normal Level	3053	10 x 1 ml
Free Fatty Acids Control Extra High Level	3054	10 x 1 ml





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- Product insert with instructions for automated and manual procedures
- Stability > 3 years after production
- FFA controls available
- Wavelength 546 nm

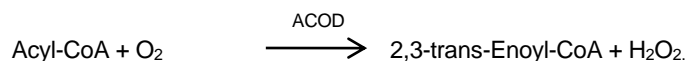
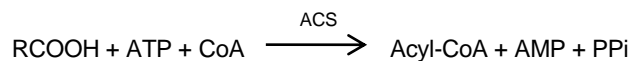


Products	Product no.	Quantity
Free Fatty Acids Reagent Set	3055	20 - 100 tests
Free Fatty Acids Control , High Level	3052	10 x 1 ml
Free Fatty Acids Control , Normal Level	3053	10 x 1 ml
Free Fatty Acids Control , Extra High Level	3054	10 x 1 ml

SUMMARY

PRINCIPLE

Free Fatty Acids react with Coenzyme A in the presence of Acyl CoA Synthetase to Acyl CoA. Acyl CoA is oxidized to 2,3-trans-Enoyl-CoA and H₂O₂. The intensity of the purple pigment is proportional to the concentration of Free Fatty Acids.



SAMPLE MATERIAL

Serum or EDTA Plasma

Stability of the samples: 2 days at 2-6 °C

Store samples at - 20 °C when immediate measurement is not possible

LINEARITY

Up to 4.00 mmol/l

EXPECTED VALUES

Serum or EDTA Plasma:

Men : 0.1 – 0.60 mmol/l

Women : 0.1 – 0.45 mmol/l

QUALITY CONTROL

Products	Product no.	Quantity
Free Fatty Acids Control , High Level	3052	10 x 1 ml
Free Fatty Acids Control , Normal Level	3053	10 x 1 ml
Free Fatty Acids Control , Extra High Level	3054	10 x 1 ml

QUANTITY OF DETERMINATIONS

Procedure

- Automated : 100 tests

- Manual : 20 tests

NOTES

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

CONCENTRATION MEASUREMENTS

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

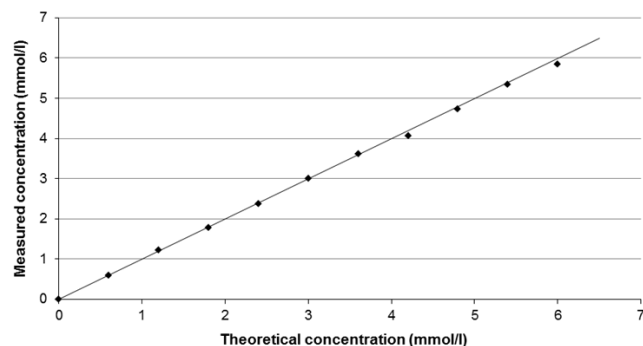
FFA measurements

	Low	Normal	High
Absorbance	0.0258	0.109	0.216
Concentration (mmol/l)	0.19	0.80	1.57

LINEARITY

The FFA assay is at least linear up to 4.00 mmol/l.

FFA linearity measurements with an automatic analyzer



PRECISION

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

Repeatability:

	Sample (mmol/l)	Control (mmol/l)
Mean	0.24	1.51
Standard deviation	0.006	0.027
Variation coefficient (%)	2.50	1.79

Reproducibility:

	Sample (mmol/l)	Control (mmol/l)
Mean	0.24	1.50
Standard deviation	0.005	0.027
Variation coefficient (%)	2.08	1.80

TEST CONDITIONS

All tests were performed under the following conditions:

Temperature	: 37 °C
Wavelength	: 546 nm
Light path	: 0.7 cm
Blank	: Distilled or deionized water
Sample	: Serum / EDTA plasma

SENSITIVITY

The sensitivity (limit of detection) was determined by measuring basic calibrator material (FFA concentration = 0 mmol/l) 20 times.

$$\text{Sensitivity} = 3 \times \text{standard deviation} = 3 \times 0.003 = 0.009 \text{ mmol/l}$$

RECOVERY

The recovery is determined by measuring the FFA concentration in a spiked human serum sample 10 times using an automatic analyzer.

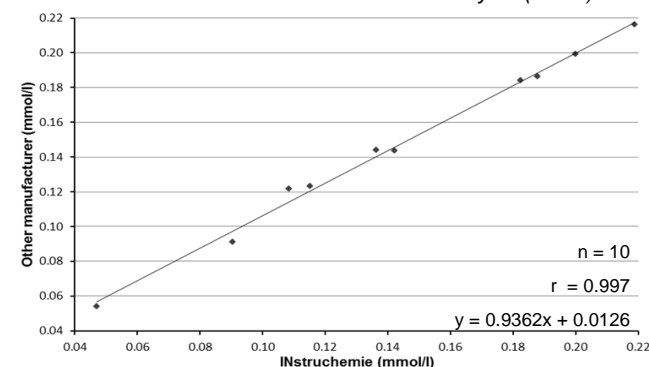
Recovery:

Added FFA (mmol/l)	Measured (mmol/l)	Recovery (%)
1.11	1.11	100.0
2.22	2.23	100.5
3.33	3.34	100.3

CORRELATION

Pearsons' correlation is determined by measuring the FFA concentration in multiple human sera with INstruChemie reagent and reagent of another manufacturer.

FFA correlation measured with an automatic analyzer (mmol/l)





FAX – FORM: +31-(0)596 – 634 755

TELEPHONE NO.: +31-(0)596 – 634 831

E-MAIL: info@instruchemie**.nl**

Attn	INstru chemie B.V.
	Sales & Marketing
	Fons Nieland, Arie Jan de Graaf
Tel no.	+31-(0)596 – 634 831
Fax no.	+31-(0)596 – 634 755
E-mail	info@instru chemie .nl
Date	January 2015
Reference	2140114-2.FEN

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