ACE
Quantitative Photometric FAPGG* Test

Cat. No.	Package Size
101 080	R1/R2 = 10 x 10 ml Buffer / Lyophilisate
101 081 (Hit I)	R1/R2 = 6 x 10 ml Buffer / Lyophilisate

SUMMARY

ACE is a hydrolase that transforms Angiotensin I (quite inactive) in Angiotensin II (a very strong vasoconstrictor).
ACE does also inactivate bradykinin.
Elevated levels of ACE occur in patients with active sarcoidosis, tubercolosis, Gaucher's disease and in many other pathological conditions of lung and liver diseases.

PRINCIPLE

ACE catalyzes the hydrolysis of FAPGG*, forming furylacryloylphenylalanine (FAP). The decrease of the absorbance at 340 nm is proportional to the activity of the ACE and is measured kinetically

REAGENT

Composition (concentrations in the test):

Reagent R1a (liquid)
Good's Buffer >20 mmol/L pH 8.2
Reagent R1b (lyophilized)
FAPGG* >0.25 mmol/L

* FAPGG = Furylacryloylphenylalanylglycylglycine

Stability:

The reagents, stored at 2-8°C, are stable up to the expiry date printed on the labels .

Additional Reagents – not included in the kit:

- ACE CALIBRATOR 1 x 1 mL
□□□□□□□□□□ **Kit No. 282 000**

- ACE NORMAL CONTROL 3 x 1 mL
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- ACE ELEVATED CONTROL 3 x 1 mL
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Preparation of working reagent :

Add 10 ml of Reagent 1a to one vial of Reagent 1b.
Mix gently for dissolution.

STABILITY: Up to 4 weeks stored at 2-8°C if not contamined during handling.

Close immediately after handling.

SAMPLES

• Serum and Heparinplasma
(EDTA plasma cannot be used!)

ANALYTICAL PROCEDURE

• Wavelength: 340 nm
• Temperature: 37°C
• Reading: against air or distilled water
Decreasing Absorbance

Let reagent reach working temperature before use

Pipette into test tubes or cuvettes

	S (Sample)	Cal (Calibrator)
Working Reagent	1000 µl	1000 µl
Sample	100 µl	----
Calibrator	----	100 µl

Mix well and incubate for 5 minutes at 37°C.
Read the absorbance of calibrator (Acal1) and sample (As1).
Exactly after another 5 minutes at 37°C read again calibrator (Acal2) and sample (As2).

Determine difference of absorbance for sample and calibrator:

$\Delta As = A1s - A2s$

$\Delta Acal = A1cal - A2cal$

CALCULATION

$(\Delta As / \Delta Acal) \times$ Calibrator conc. = U/L of ACE

REFERENCE VALUES

	37°C	30°C
U/L	8 - 52	5 - 33

NOTES

1. Dilute samples with activity higher than 150 U/L with saline solution 1+3 ; repeat determination and multiply result by 4.
2. Attention to interferring substances: see references 2.
3. Avoid the use of anticoagulants containing fluorides and EDTA.

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

PERFORMANCE CHARACTERISTICS

Linearity: ACE may be determined between 3 - 150 U/L. For concentrations ≥ 150 U/L, dilute the sample 1+3 with saline sol., repeat the determination and multiply the result x 4.

Sensitivity: The minimum detectable is 3 U/L.

Within-run Precision:

	Mean (U/L) ± 2s	CV %
Serum 1	50,2 ± 4,8	4,77
Serum 2	119,8 ± 6,9	2,86

Run-to-run (Day-to-day) Precision:

	Mean (U/L) ± 2s	CV %
Serum 1	49,9 ± 6,9	6,21
Serum 2	120,0 ± 8,4	3,51

Interferences: See References (2).

Correlation: A group of 20 sera from 3 to 130 U/L was assayed by this procedure and using a similar commercially available ACE Reagent. Comparison of the data gave the following results:

Linear regression equation y = 1,0563 x - 0,80
Correlation coefficient r = 0,999

REFERENCES

1. Textbook of Clinical Chemistry, Ed. by N.W. Tietz, W.B. Saunders Co., Philadelphia (1999).
2. Young D.S. et al., Clin. Chem. 21, 302D (1975).
3. Maguire G.A. et al., Ann. Clin. Biochem. 22, 204 (1985).

SYMBOLS USED

For *in vitro* diagnostic medical use

Batch Code

Use by

Temperature limitation

Greiner Diagnostic GmbH - Unter Gereuth 10 **–** D-79353 Bahlingen – Germany
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