AMMONIA

GLDH-UV

Cat.No	Package Size
106 016	6 x 10 ml R1a / 6 ml R1b / 2 x 8 ml R2,/ Standard
106 000	5 x 20 ml R1a / 10 ml R1b / 25 ml R2,/ Standard
106 001	2 x 100 ml R1a / 2 x 10 ml R1b / 2 x 25 ml R2/ Standard

PRINCIPLE

"GLDH-UV"/ enzymatic UV-Test :

2-Oxoglutarat + NH_4^+ + NADH $\xrightarrow{GLDH}$ L-Glutamat + NAD^+ + H_2O

GLDH = Glutamatdehydrogenase

REAGENTS

Composition (concentrations in the test)

R1a:	TRIS buffer	pH 8,0	50 mmol/l
	GLDH		> 6,0 kU/l
	LDH		> 2 kU/l
	EDTA		5,3 mmol/l
R1b:	NADH		0,18 mmol/l
R2:	2-Oxoglutarate		18 mmol/l
Standard solution:			200 µg/dl (118 µmol/l)

The sealed reagents are stable up to the indicated expiry date if stored at 2° - 8°C.

Reaction mixture

R2 and **Standardsolution** are ready for use

Reagent R1 :

Mix 10 parts of R1a with 1 part of R1b

***Stability** of reaction mixture: + 2° to + 8°C: 4 days*
+18° to +25°C: 2 days

Precautions

The reagents contain 0.95 % sodium azide as preservative. Do not swallow or ingest.
Keep away from skin and mucous membranes!

SAMPLE MATERIAL

Plasma (do not use ammonia heparinate!)

REFERENCE VALUES

Adults:	**Women:**	≤ 82 µg/dl (≤ 48 µmol/l)
	Men:	≤ 94 µg/dl (≤ 55 µmol/l)

ASSAY PROCEDURE

Wavelength : 334/340/365 nm
Light path: 1 cm
Temperature : 37° C
Measure decreasing absorbance against Reagent Blank (RBL)

Pipette into cuvettes

	Sample	RBL
Sample	200 µl	-
Aqua dist.	-	200 µl
Reaction mixture R1	1000 µl	1000 µl
Mix and incubate for 3 min, then read A_1 against reagent blank (RBL)		
Reagent R2	200 µl	200 µl
Mix, incubate 5 min , then read A_2		

Determine $\Delta A = (A_1 - A_2)$ Sample and Standard

CALCULATION

with standard :

$$Ammonia\ [\mu g/dl] = \frac{\Delta A\ sample}{\Delta A\ standard} \times Conc.\ Standard\ [\mu g/dl]$$

Recalculation

Ammonia [µg/dl] x 0,588 = Ammonia [µmol/l]

QUALITY CONTROL

We recommend Greiner special controls with proven values for the Greiner Method .

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

PERFORMANCE DATA

- **Analytical range**
The test is linear up to 1500 µmol/l (2500µg/dl). At higher concentrations dilute the samples 1 + 1 with phys. NaCl solution and multiply the results by 2.

- **Detection limit**
The lower detection limit is 3.2 µmol/l (5.4 µg/dl)

- **Precision**
Between-run reproducibility

N=11	Mean [µmol/l]	SD [µmol/l]	CV (%)
Control 1	121,2	2,27	1,88
Control 2	93,0	1,45	1,56
Patient	361,6	2,91	0,80

Within-run reproducibility

N=11	Mean [µmol/l]	SD [µmol/l]	CV (%)
Control 1	123,5	3,67	2,97
Control 2	91,1	1,64	1,80
Patient	361,5	4,93	1,36

- **Correlation**
A comparative study has been performed between the Greiner method and another commercial reagent on 31 human serum samples. The parameters of linear regression are as follows:

y = 1,048 x – 3,99 µg/dl; r = 0,998

INTERFERENCES

No interference by Ascorbic Acid up to 40 mg/dl
Bilirubin up to 40 mg/dl,
Hemoglobin up to 500 mg/dl
Lipemia up to zu 600 mg/dl Triglycerides .

LITERATURE

1. Thomas L. Clinical Laboratory Diagnostics. 1st ed. Frankfurt: TH-Books Verlagsgesellschaft; 1998
2. Greiling, H. Gressner, A.M.: Lehrbuch d. Klin.Chemie
und Pathobiochemie (1987), S. 446-447

SYMBOLS USED

IVD For *in vitro* diagnostic medical use

LOT Batch Code

Use by

Temperature limitation

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