



Liquid Reagents - ready to use

GLDH

(Glutamate-Dehydrogenase)

DGKC

2 Reagents

Diagnostic reagent for quantitative in vitro determination of glutamate dehydrogenase (GLDH) in human serum or plasma on photometric systems

REF

Cont.

D03773 5 x 50 ml 4 x 50 ml Reagent 1 1 x 50 ml Reagent 2

Additionally offered:

 D98485
 5 x 3 ml
 Calibrator
 Diacal Auto

 D98481
 12 x 5 ml
 Control normal
 Diacon N

 D98482
 12 x 5 ml
 Control abnormal
 Diacon P

TEST PARAMETERS

Method: UV, Kinetic, Decreasing Reaction,

DGKC

Wavelength: 340 nm, Hg 334 nm

Temperature: 37°C

Sample: Serum, heparin or EDTA plasma

Linearity: up to 120 U/L

Sensitivity: The lower limit of detection is 2 U/L

REAGENT COMPOSITION

COMPONENTS FINAL CONCENTRATION

Reagent 1:

Triethanolamine, pH 8.0 50 mmol/L 7 Alpha-Ketoglutarate mmol/L Ammonium acetate 100 mmol/L FDTA 2.5 mmol/L ADP mmol/L 1 LDH > 1.5 mmol/L Reagent 2: kU/L NADH 0.25 mmol/L

REAGENT PREPARATION

Substrate Start:

Reagents are ready for use.

Sample Start:

Not recommended.

REAGENT STABILITY AND STORAGE

Conditions: protect from light

close immediately after use do not freeze the reagents!

Substrate Start:

Storage: at $2 - 8^{\circ}$ C

Stability: up to the expiration date

SAMPLE STABILITY AND STORAGE

Stability: at 20 – 25 °C 4 hours

at 2 - 8 °C 1 day

at - 20 °C 4 weeks

FREEZE ONLY ONCE!

Discard contaminated specimens.

INTERFERING SUBSTANCES

no interference up to:

ascorbic acid 30 mg/dl bilirubin 60 mg/dl hemoglobin 500 mg/dl

lipemia interferes

MANUAL TEST PROCEDURE

Bring reagents and samples to room temperature.

Substrate Start

Pipette into test tubes	37°C	
Reagent 1	1000 µl	
Sample 150 µl		
Mix Incubate for approximately 3 minutes at 37 °C		

Mix. Incubate for approximately 3 minutes at 37 °C. Then add:

Reagent 2 250 µl
Mix. Read initial absorbance against air after 30

seconds and start a timer.

Read absorb. again after exactly 1, 2 and 3 min. Determine ΔA during the linear part of the assay.

CALCULATION (light path 1 cm)

GLDH (U/L) = $\Delta A/Min \times Factor$

Factors (37°C):

Factor at 340 nm: 1485

Factor at 334 nm: 1515

UNIT CONVERSION

 $U/L \times 0.01667 = \mu katal/L$

REFERENCE RANGE *(U/L)

Men	≤7
Women	≤ 5

^{*} It is recommended that each laboratory establishes its own normal range.

TEST PRINCIPLE

2-Oxoglutarate $+NH_4^+ + NADH < \frac{GLDH}{} > L-Glutamate <math>+NAD^+ + H_2O$

Glutamate Dehydrogenase catalyzes the reduction of oxoglutarate and the simultaneous oxidation of NADH to NAD.

The resulting rate of decrease in absorbance is directly proportional to GLDH activity.

PERFORMANCE CHARACTERISTICS

LINEARITY

The assay is linear up to 120 U/L. Above this concentration, dilute the sample with NaCl (9 g/L sodium chloride in water) and reassay multiplying the result by the dilution factor.

PRECISION (at 37°C)

Intra-assay	Mean	SD	CV
n = 20	[U/L]	[U/L]	[%]
Sample 1	6.18	0.43	6.98
Sample 2	16.1	0.49	3.02
Sample 3	33.2	0.80	2.40

Inter-assay	Mean	SD	CV
n = 20	[U/L]	[U/L]	[%]
Sample 1	5.77	0.51	8.78
Sample 2	18.3	0.39	2.11
Sample 3	32.0	0.78	2.43

METHOD COMPARISON

A comparison between Dialab GLDH, DGKC (y) and a commercially available reagent according to DGKC (x) using 76 samples gave following results: y = 1.034 x + 0.006 U/I: r = 0.999

QUALITY CONTROL

All control sera with GLDH values determined by this method can be used.

We recommend:

R	EF
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D98481 12 x 5 ml **DIACON N** Assayed Control Serum Normal

D98482 12 x 5 ml **DIACON P** Assayed Control Serum Abnormal

CALIBRATION

The use of a GLDH Calibrator is optional. We recommend:

REF

Cont.

D98485 5 x 3 ml **DIACAL AUTO**

AUTO Assayed Multi Calibration Serum

AUTOMATION

Special adaptations for automated analyzers can be made on request.

WARNINGS AND PRECAUTIONS

- The reagents contain sodium azide (0.95 g/L) as preservative. Do not swallow! Avoid contact with skin and mucous membranes.
- 2. Take the necessary precautions for the use of laboratory reagents.

WASTE MANAGEMENT

Please refer to local legal requirements.

REFERENCES

- Thomas L. Clinical Laboratory Diagnostics. 1st ed. Frankfurt: TH-Books Verlagsgesellschaft; 1998. p. 86-88.
- Moss DW, Henderson AR. Clinical enzymology. In: Burtis CA, Ashwood ER, editors. Tiez Textbook of Clinical Chemistry. 3rd ed. Philadelphia: W.B saunders Company: 1999. p. 617-721
- 3. Deutsche Gesellschaft für Klinische Chemie. Z. Klin Chem Klin Biochem 1972;10:182-92









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