



HOMOCYSTEINE

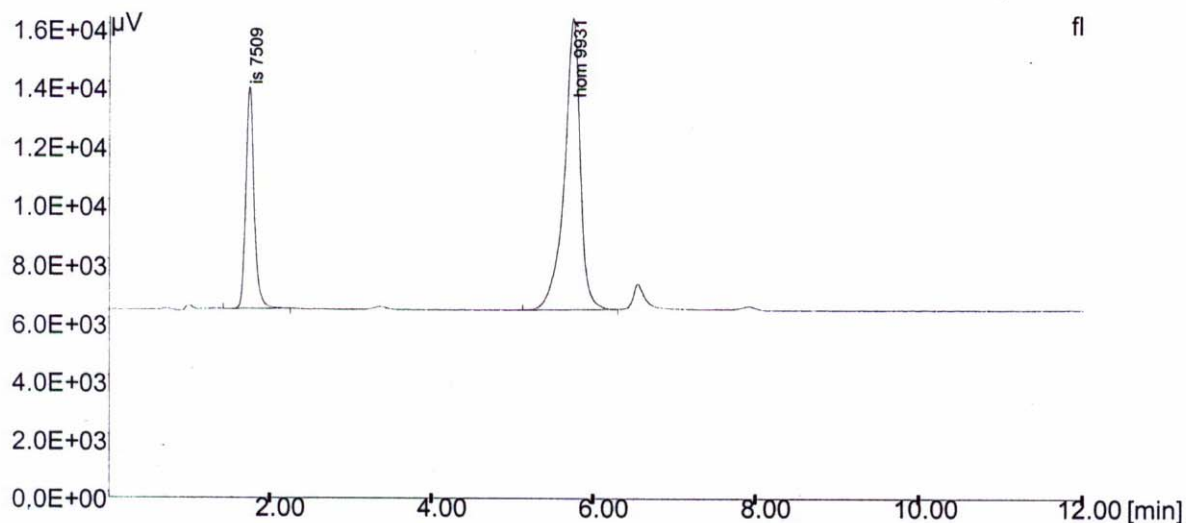
DETERMINATION OF TOTAL HOMOCYSTEINE IN PLASMA OR SERUM

- HPLC Fluorescence Method
- Also detection of Cysteine, Cysteinylglycine
- Use Plasma or Serum
- Runtime 12 minutes
- Wavelengths 390 Ex, 500 Em



Products	Product no.	Quantity
Complete Set (contains according to product insert): Homocysteine Reagent Set	2487	50 - 70 Determinations
Components:		
Homocysteine Calibration Standard	2478	1 x 2 ml
Homocysteine TBP-Reagent	2479	1 x 3 ml
Homocysteine Deproteinization Reagent	2480	1 x 10 ml
Homocysteine Borate Buffer pH=9.5	2841	1 x 5 ml
Homocysteine Borate Buffer pH=10.5	2482	1 x 10 ml
Homocysteine Fluorescence Reagent	2877	1 x 3 ml
Homocysteine Mobile Phase Reagent	2484	1 x 500 ml
Homocysteine Internal Standard	2492	1 x 2 ml
Additional:		
Homocysteine Control Plasma Normal	2485	1 x 2 ml
Homocysteine Control Plasma High	2486	1 x 2 ml
Analytical column Polaris C18-A, 5 µm, 100 x 3 mm	A2000100R030	1 x 1 pcs
Chromsep Guard column RP, 10 x 2 mm	28141	1 x 5 pcs

Homocysteine





SUMMARY

CLINICAL BACKGROUND AND ASSAY PRINCIPLE

Homocysteine is a risk factor for premature cardiovascular disease. Determination of homocysteine in plasma and serum is useful both in the diagnosis and follow-up of folate and cobalamin (Vitamin B12) deficiencies and rare inborn errors causing hyperhomocysteinemia. The methionine loading test can help diagnosis (2). (Oral 100 mg/kg body weight).

Homocysteine is bound to plasma proteins by disulfide bonds. Therefore it is necessary for the determination of total Homocysteine to reduce these disulfide bonds. After deproteinization and bringing the solution to the right pH, derivatization takes place.

A good separation of Cysteine, Cysteinylglycine and Homocysteine will be obtained with an Inertsil Analytical column Polaris C18-A. Collected blood samples should be centrifuged immediately after collection and the serum or plasma should be stored at -20 °C when not directly analyzed. Before analysis frozen samples must be thawed at room temperature.

INTERPRETATION

Peak No.	Component	Polaris C18-A, 5 µm Approx. retention time
1.	Internal Standard	2 min.
2.	Cysteine	4 min.
3.	Cysteinylglycine	5 min.
4.	Homocysteine	7 min.

ANALYTICAL CONDITIONS

Analytical Column	: Polaris C18-A, 5 µm, 100 x 3 mm, artnr.: A2000100R030
Guard Column	: SS 10 x 2 mm Chromsep, artnr. CP 28141
Flow Rate	: 0.8 ml/min (< 100 kg/cm ²)
Detection	: Fluorescence (excitation 390 nm, emission 500 nm)
Injection Volume	: 20 µl
Run time	: 12 minutes

EXPECTED VALUES

	Male	Female	After methionine loading test
Homocysteine, plasma	6.18 - 13.37 µmol/l	3.27 - 12.43 µmol/l	
Homocysteine, serum	8.56 - 17.12 µmol/l	3.92 - 16.84 µmol/l	< 60 µmol/l

LINEARITY

Up to 150 µmol/l

QUALITY CONTROL

Lyophilized human plasma preparations with analytical results for Homocysteine by HPLC method.

Products	Product no.	Quantity
Homocysteine Control Plasma Normal Level	2485	1 x 2 ml
Homocysteine Control Plasma High Level	2486	1 x 2 ml

NOTES

1. For in vitro diagnostic use only.
2. For professional use only.
3. Always contact INstruChemie for the complete product insert and latest edition.
4. Printed in the Netherlands, Homocysteine-summary-290317-1.FEN