



VITAMIN B1

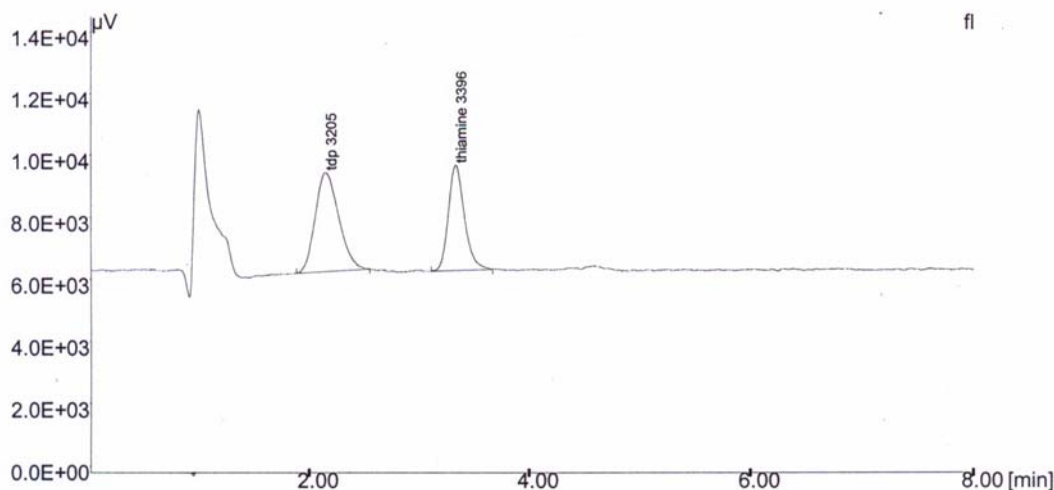
DETERMINATION OF VITAMIN B1 IN WHOLE BLOOD

- HPLC Fluorescence Method
- Determination thiamine and thiaminediphosphate (TDP) in one run
- Use EDTA-blood
- Runtime 7 minutes
- Wavelengths: 365 Ex, 418 Em



Products	Product no.	Quantity
Complete Set (contains according to product insert): Vitamin B1 Reagent Set	2534	50 - 70 Determinations
Components:		
Vitamin B1 Calibration Standard	2421	1 x 2 ml
Vitamin B1 Neutralization Buffer	2422	1 x 3 ml
Vitamin B1 Deproteinization Reagent	2885	1 x 60 ml
Vitamin B1 Phosphate Buffer	2424	1 x 6 ml
Vitamin B1 Oxidation Reagent	2425	1 x 2 ml
Vitamin B1 Stop Solution	2426	1 x 6 ml
Vitamin B1 Mobile Phase Reagent	2427	1 x 500 ml
Additional:		
Vitamin B1/B6 Control Blood Low Level	2490	10 x 4 ml
Vitamin B1/B6 Control Blood Normal level	2489	10 x 4 ml
Vitamin B1/B6 Control Blood High Level	2811	10 x 4 ml
Analytical column Pursuit X Rs 5-C18, 5 µm, 100 x 3 mm	A6000100R030	1 x 1 pcs
Chromsep Guard column SS, 10 x 2 mm	28141	1 x 5 pcs

Vitamin B-1





SUMMARY

CLINICAL BACKGROUND AND ASSAY PRINCIPLE

Almost all Vitamin B1 (thiamine) present in blood is located within the erythrocytes and nearly all is in the form of its coenzyme thiamine diphosphate (TDP or cocarboxylase). Thiamine is present in a much smaller amount.

Thiamine and its phosphate esters are extracted from whole blood. Before chromatography thiamine and its phosphates are oxidized to thiochrome and its phosphates respectively (pre-column derivatization). A good separation of TDP and Thiamine will be obtained on a Analytical column Pursuit X Rs 5-C18.

Thiamine deficiency affects predominantly the peripheral nervous system, the gastrointestinal tract and the cardiovascular system. Thiamine has been shown to be of value in the treatment of beri-beri, alcoholic neuritis and the neuritis of pregnancy or of pellagra. Collect blood samples into EDTA. Store samples at -20°C when not directly analysed. Before analysis frozen samples must be thawed at room temperature.

ANALYTICAL CONDITIONS

Analytical Column	: Pursuit X Rs 5-C18, 5 µm, 100 x 3 mm, artnr.: A6000100R030
Guard Column	: SS 10 x 2 mm Chromsep, artnr. CP 28141
Flow Rate	: 0.6 ml/min.
Detection	: Fluorescence (excitation 365 nm, emission 418 nm).
Injection volume	: 20 µl
Runtime	: Samples; 8 minutes : Controls; 20 minutes

EXPECTED VALUES

TDP	: 90 - 200 nmol/l
Thiame	: 60 - 120 nmol/l

PERFORMANCE

Linearity TDP	: Up to 2000 nmol/l
Thiamine	: Up to 1500 nmol/l

QUALITY CONTROLS

Lyophilized human blood preparations with analytical results for Vitamin B1 (TDP and thiamine) and Vitamin B6 by HPLC.

Products	Product no.	Quantity
Vitamin B1/B6 Control Blood Low (human)	2490	10 x 4 ml
Vitamin B1/B6 Control Blood Normal (human)	2489	10 x 4 ml
Vitamin B1/B6 Control Blood High (human)	2811	10 x 4 ml

NOTES

1. For in vitro diagnostic use only.
2. For professional use only.
3. Always contact INstru**chemie** for the complete product insert and latest edition.
4. Printed in the Netherlands, Vitamin B1-summary-290317-1.FEN