

MassChrom[®] Vitamins B₁ and B₆ in Whole Blood with Reaction Vials

LC-MS/MS Assay

CE-IVD
certified!

- > Fast and easy sample preparation
- > Robust method with high selectivity
- > Short run time of 2.5 minutes
- > Isotopically labelled internal standard for each analyte

SPECIFICATIONS

Limit of quantification:	3.4 µg/l TPP 2.8 µg/l PLP
Linearity:	850 µg/l TPP 1000 µg/l PLP
Repeatability:	CV = 1.9-5.2 %
Within-Laboratory Precision:	CV = 2.5-7.1 %
Analysis time:	2.5 min

PRE-ANALYTIC TREATMENT

Specimens: whole blood.

SAMPLE PREPARATION

- > Pipette 40 µl sample/calibrator/**MassCheck**[®] control into reaction vial.
- > Add 80 µl Internal Standard Mix, mix briefly vortex).
- > Add 350 µl Precipitation Reagent, mix for 1 min (vortex) and centrifuge for 2 min.
- > Transfer supernatant into autosampler vial.
- > Inject 20 µl into the LC-MS/MS system.

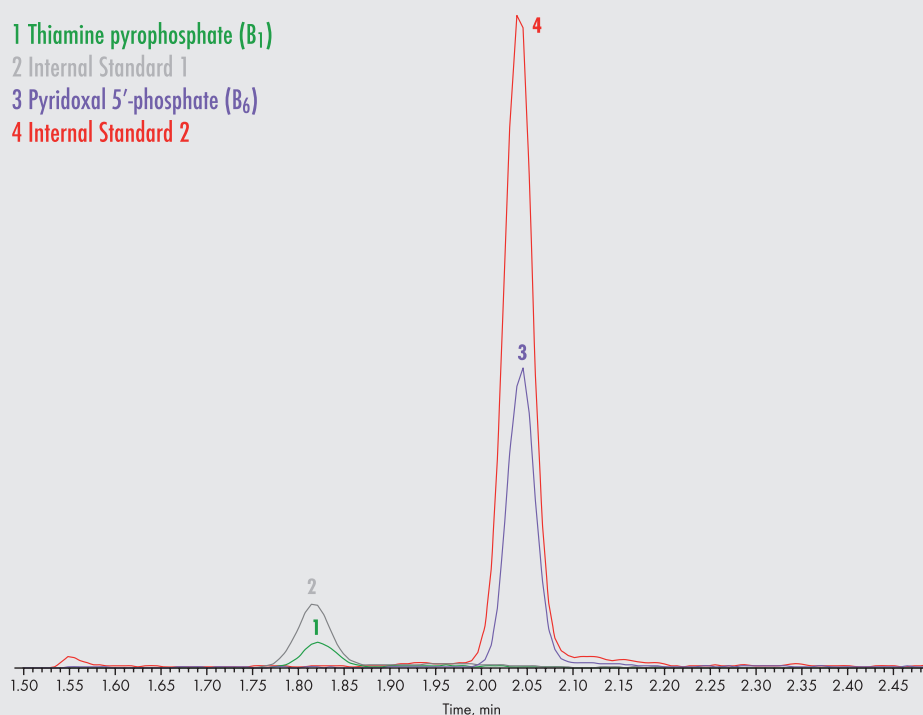
HPLC PARAMETERS

Injection volume:	20 µl
Flow rate:	0.5 ml/min
Column temperature:	30 °C

MS PARAMETERS

Ionisation:	ESI positive
MS/MS Mode:	MRM

1 Thiamine pyrophosphate (B₁)
2 Internal Standard 1
3 Pyridoxal 5'-phosphate (B₆)
4 Internal Standard 2



This Chromsystems assay enables combined determination of the active forms of vitamin B₁ (thiamine pyrophosphate, TPP) and vitamin B₆ (pyridoxal 5'-phosphate, PLP) in whole blood by LC-MS/MS. Sample preparation consists of a simple protein precipitation step, with no need for derivatisation. This makes for a much faster sample preparation and high sample throughput. Analytes and potential interferences are effectively and swiftly separated within 2.5 minutes, indicating the method's high selectivity and speed. The chromatographic separation of the **MassChrom**[®] assay is fast enough to ensure a high throughput in the laboratory, but sufficiently resolving for a clear separation of the two analytes with minimal potential matrix effects. Isotope-labelled internal standards for both parameters as well as 6PLUS1[®] calibrators and **MassCheck**[®] controls ensure accurate and precise results. The assay is available in 2 configurations either with reaction vials or with 96 deep well plates.

ORDERING INFORMATION

These products are not available in all countries

Order no.	Product
87000	MassChrom [®] Vitamins B ₁ and B ₆ in Whole Blood With Reaction Vials For 480 tests
Components, also available separately:	
87001	Mobile Phase A, 700 ml
87002	Mobile Phase B, 350 ml
87046	Internal Standard Set, consisting of: Internal Standard Mix (lyoph.), 5 x 8.0 ml Reconstitution Buffer, 5 x 8.5 ml
87005	Precipitation Reagent, 85 ml
87009	Rinsing Solution, 500 ml
33008	Reaction Vials, 2 ml, 100 pcs.
Startup Accessories:	
87100	Analytical Column, equilibrated, with test chromatogram, 1 pc.
87015	Tuning Mix (Analytes and Internal Standards), 1 ml
87018	Dilution Buffer, 100 ml
87019	Adjustment Reagent for small injection volumes, 20 ml
J0601	Autosampler Vials, screw neck, amber glass, 1.5 ml, 100 pcs.
J0602	Autosampler Vials, screw neck, 15 µl inner cone, clear glass, 1.1 ml, 100 pcs.
J0410	PP Screw-on Caps, pierceable silicone/PTFE septa, 1.0 mm, 100 pcs.
J0504	PE Screw-on Caps, rubber/PTFE septa, 9 mm, 100 pcs.
J0403	Micro-Inserts for Autosampler Vials, clear glass, conical bottom, 100 pcs.
Chromsystems Multilevel Calibrator and MassCheck[®] Controls for Vitamins B₁ and B₆ in Whole Blood (lyoph.):	
87039	6PLUS1 [®] Multilevel Whole Blood Calibrator Set Vitamins B ₁ and B ₆ , 7 x 0.5 ml
0273	MassCheck [®] Vitamins B ₁ and B ₆ Whole Blood Control, Level I, 5 x 1.0 ml
0274	MassCheck [®] Vitamins B ₁ and B ₆ Whole Blood Control, Level II, 5 x 1.0 ml
0275	MassCheck [®] Vitamins B ₁ and B ₆ Whole Blood Control, Level III, 5 x 1.0 ml

Assay for plasma/serum
under development

