

ARCHImedline®

Phosphatidylethanol

from whole blood

A371



Visit us online!



LC-MS/MS kit for the quantitative determination of phosphatidylethanol (PEth) 16:0/18:1 and 16:0/18:2 in human whole blood

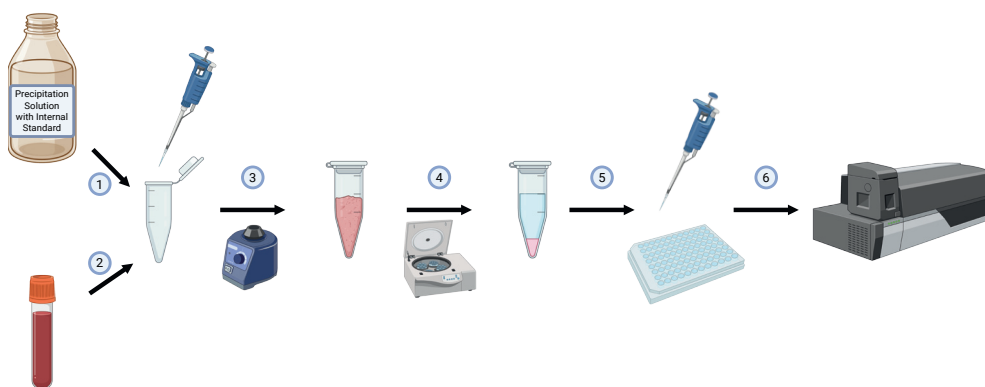
Phosphatidylethanols (PEth) are a group of phospholipids formed in the cell membranes of erythrocytes and other cell types. Their formation results from a transphosphatidylation reaction between ethanol and phosphatidylcholines, catalyzed by the enzyme phospholipase D. The two most abundant species are PEth 16:0/18:1 and PEth 16:0/18:2.

Because this reaction occurs exclusively in the presence of ethanol, PEth serves as a highly specific and sensitive direct marker of alcohol consumption. With a blood half-life of approximately four days, PEth remains detectable for up to three weeks after intake, and in some cases even longer after chronic heavy drinking. Neither gender nor age has a clinically significant effect on PEth concentrations, making it a reliable marker across diverse patient populations. As a direct alcohol biomarker, PEth offers a robust alternative to established long-term parameters such as CDT and GGT.

The A371 – PEth from whole blood kit enables the quantitative determination of PEth 16:0/18:1 and PEth 16:0/18:2 in human whole blood using liquid chromatography coupled with tandem mass spectrometry (LC-MS/MS). The kit is intended for use exclusively by professionals in clinical and medical laboratories.

- LC-MS/MS-Kit for 330 assays
- Two PEth-analytes (16:0/18:1 & 16:0/18:2)
- Simple, straight forward sample preparation in 1.5 mL reaction tubes
- 3 minutes isocratic separation with 3.2 minute injection interval
- 7 point calibration und 3 control levels
- Optional calibration and control levels for PEth concentrations over 1000 ng/mL
- All components are separately available including calibrator and controls

Sample Preparation



- ① Pipetting of 150 µl A371-O10 in the reaction tube
- ② Adding 20 µl blood (sample, calibrator, control)
- ③ Vortex immediately for 10 sec after blood addition
- ④ Centrifuge for 10 minutes at 10000 rcf
- ⑤ Transfer the supernatant to a MTP
- ⑥ Measure the samples (injection volumes between 1 and 5 µL)

Performance Data

Performance data were determined in accordance with the CLSI guidelines accepted by the IVDR. For clarity, the tables show all values using the standard calibration range up to 1000 ng/mL. Data using the extended calibration range up to 4000 ng/mL are available upon request. Linearity, the limit of detection (LOD), and the lower limit of quantification (LLOQ) were determined using a Shimadzu LCMS-8050 MS/MS system.

Linearity, Measuring Range, LOD, LLOQ [whole blood]

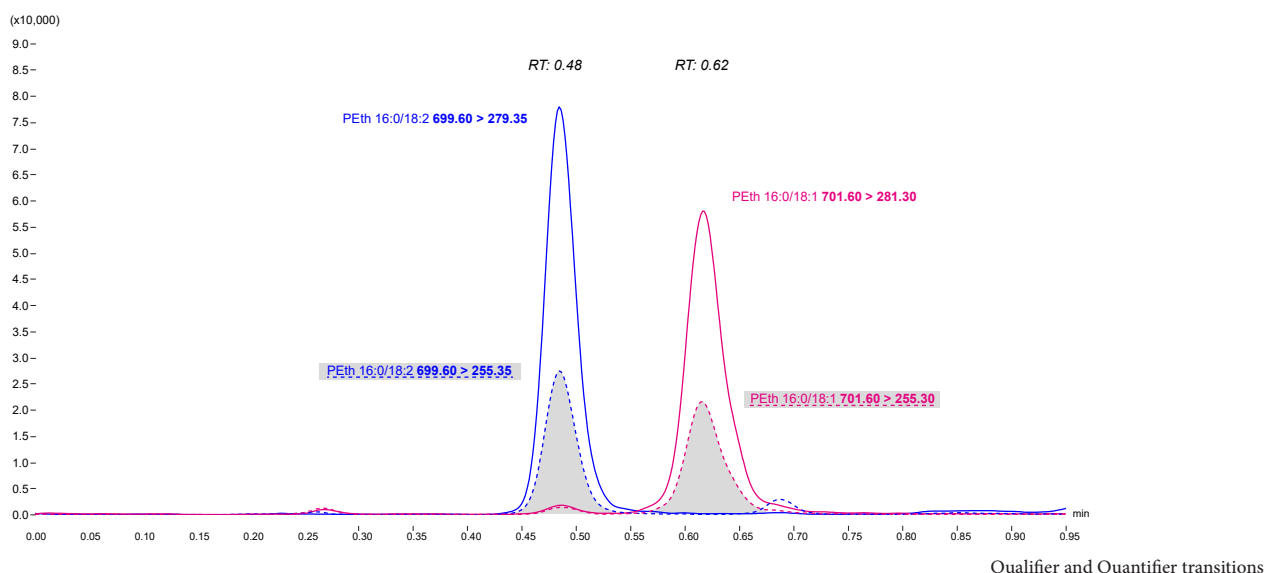
Species	PEth 16:0/18:1 [ng/mL]	PEth 16:0/18:2 [ng/mL]
Linearity	4.9 - 6373.0	4.1 - 6109.0
Measuring Range	4.9 - 1000.0	4.1 - 1000.0
LOD	3.3	2.5
LLOQ	4.9	4.1

Recovery/Precision

Sample Type	Measured Value	Target Value	Abs. BIAS [%]
	PEth 16:0/ 18:1 [ng/mL]	PEth 16:0/ 18:1 [ng/mL]	
ACQ 40	29.6	33.4	11.5
ACQ 300	302.6	308.0	1.7
ACQ 724	83.5	87.7	4.8
Arvecon 3/25 A	34.3	32.4	5.5
Arvecon 3/25 B	261.0	243.0	6.9
Arvecon 1/26 A	86.4	92.2	6.3
Arvecon 1/26 B	164.0	179.0	8.4
RfB PE1/26 A	35.4	38.5	8.1
RfB PE1/26 B	230.0	251.0	8.4
	PEth 16:0/ 18:1 [μmol/L]	PEth 16:0/ 18:1 [μmol/L]	Abs. BIAS [%]
Equalis 2026:01 A	0.08 (56.16 ng/mL)	0.09 (63.18 ng/mL)	11.1
Equalis 2026:01 B	0.24 (168.48 ng/mL)	0.26 (182.52 ng/mL)	7.6
	PEth 16:0/ 18:2 [ng/mL]	PEth 16:0/ 18:2 [ng/mL]	Abs. BIAS [%]
ACQ 724	59.3	56.5	4.9

	PEth 16:0/18:1 [ng/mL]	PEth 16:0/18:2 [ng/mL]	Inter Day/Assay Precision CV [%]; n=160	
			PEth 16:0/18:1	PEth 16:0/18:2
Level 1	19.6	26.3	8	6
Level 2	186.9	188.4	5	5
Level 3	520.6	527.8	5	5

Example Chromatogram



Order Information

Order Number	Item Name/Description	Size/ Packing Unit
A371	PEth from whole blood	330 Assays
A371-001	Mobile phase for PEth from whole blood	650 mL
A371-006	Optimization mix for PEth from whole blood	2 mL
A371-010	Precipitation solution with Internal Standard for PEth from whole blood	50 mL
W001-01	Washing Solution 001	1000 mL
A371-011	Calibrator set – Level 0 – 6 for PEth from whole blood	7 x 1 x 250 µL
A371-012	Control set – Level I – III for PEth from whole blood	3 x 2 x 250 µL
A371-091	HPLC Column 2 for PEth from whole blood	1 pcs
A371-080	Calibrator 7 for PEth from whole blood; 3000 ng/mL	1 x 1 x 250 µL
A371-082	Calibrator 8 for PEth from whole blood; 4000 ng/mL	1 x 1 x 250 µL
A371-081	Control IV for PEth from whole blood; 2500 ng/mL	1 x 1 x 250 µL

For more information or to request a personalized quote,
please email us at info@archimedline.com



CE IVDR 2017/746

ARCHimedline®



ARCHimedline GmbH
Leberstraße 20/2, 1110 Wien, Österreich
Tel: +43 1 394 00 20
info@archimedline.com - www.archimedline.com

© ARCHimedline 07/2026