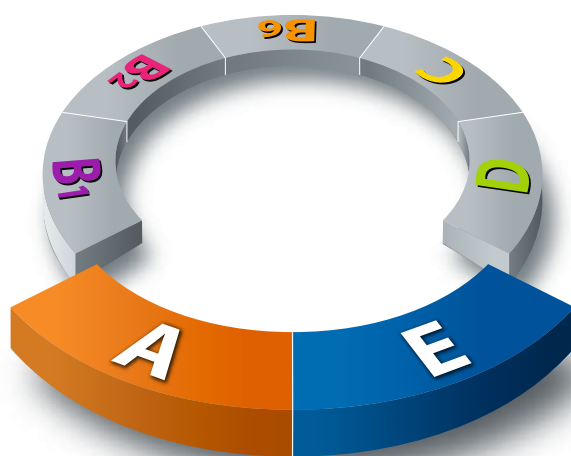




Vitamin A & E

in Serum / Plasma

CE-IVD KIT for Vitamin A & E determination in Serum / Plasma

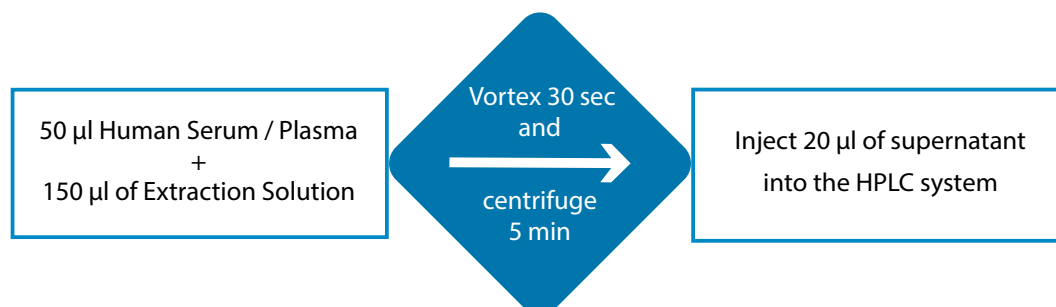
This kit from Labsystems Diagnostics Oy is used in routine clinical laboratories for the quantitative determination of Vitamin A and E in Serum and Plasma to detect deficiencies or hypervitaminosis. It is an in vitro diagnostic product.

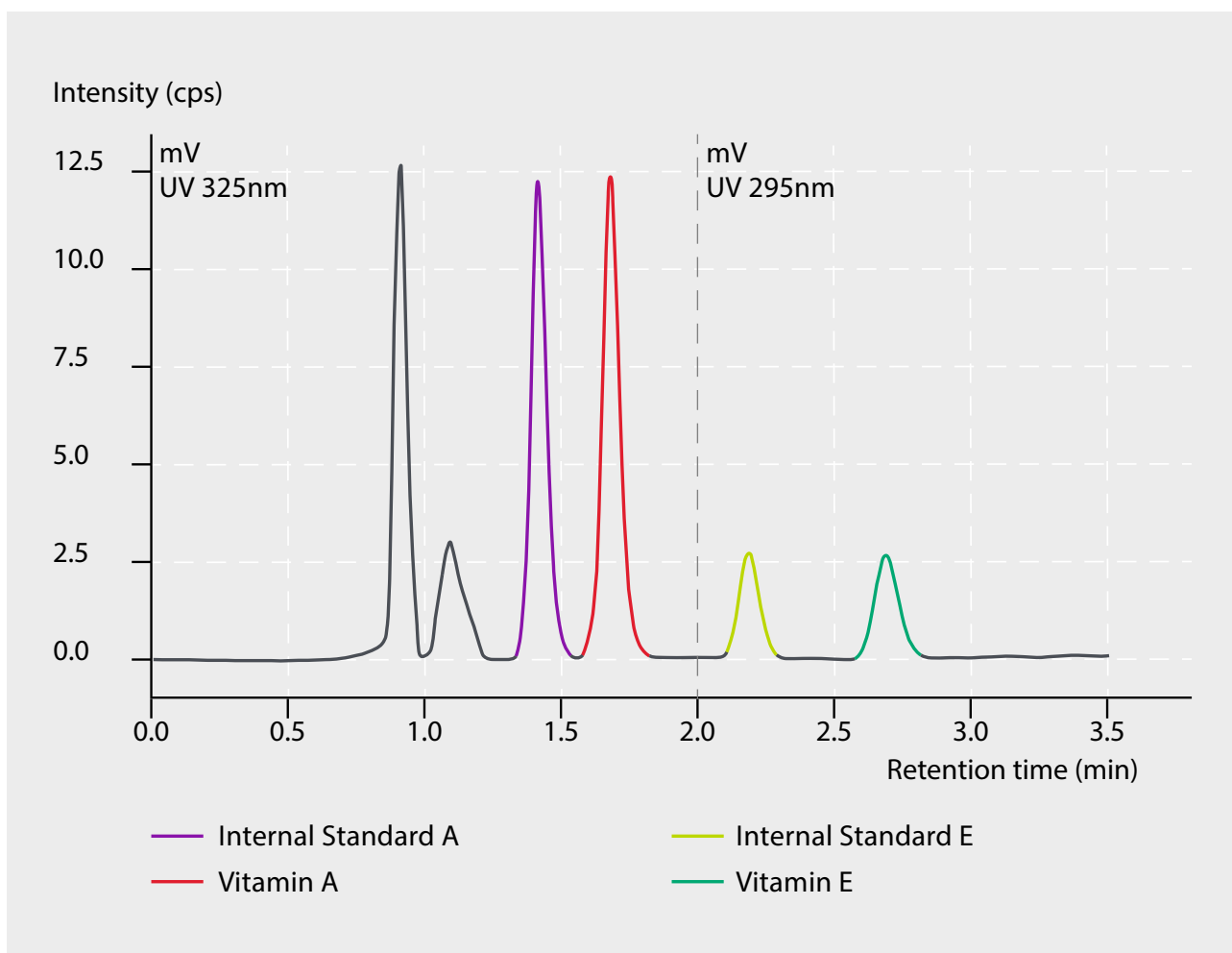
Vitamin A is a micronutrient for the body and has multiple important functions in the organism. It is essential for growth, the functionality of the immune system, the development of cells and tissues as well as skin and mucous membranes among others. Deficiency of Vitamin A leads to night-blindness, dry skin, loss of hair and can also lead to disorders in the metabolism of steroids, whereas high amount of vitamin A can acutely cause headaches, vomiting and nausea or dizziness.

Vitamin E functions in the body as the most important fat-soluble, radical chain-breaking antioxidant. It regulates the expression of various genes, influences cell signalling cascades, and thus exerts a variety of important effects on health. Vitamin E deficiency may occur in case of malabsorption or prolonged parenteral nutrition in humans. Long-term vitamin E deficiency can lead to neurological changes, whereas an excess of vitamin E can lead to decreased absorption of other fat-soluble vitamins.

- ◆ Highly efficient HPLC Kit with equivalent performance to UHPLC for 200 assays
- ◆ One Step Sample Preparation using reaction tubes or 96 Well Filter Plates
- ◆ Chromatographic separation within 3 min
- ◆ The only assay with specific Internal Standards for Vitamin A & E
- ◆ No need for column oven or guard column
- ◆ Prefilter and Rinsing solution are part of the kit
- ◆ 1 Litre of Mobile Phase for 200 assays: lower costs and less waste
- ◆ All components are also separately available including Calibrators and Controls

Sample Preparation Procedure





Representative chromatogram obtained by analysis of a prepared Labsystems Calibrator

HPLC Settings and Chromatographic Conditions

HPLC	System-independent
Flow Rate	1.2 mL/min
Injection Volume	20 µL
Injection Interval	3.5 min
Column Temperature	RT (25°C if column oven available)
Detection	UV (start at 325 nm and switch to 295 nm after 2 min)

Performance Data

All performance parameters listed here were determined on a Shimadzu LC-40X3 HPLC system. The CLSI guidelines were used as a minimum standard for determining the performance parameters.

Limit of Quantification and Linearity: The method is linear from the Lower Limit of Quantification (LLOQ) to at least the highest value determined here and defined as ULOQ (Upper Limit of Quantification).

Analyte	Linearity [mg/l] in Serum		Linearity [mg/l] in Plasma	
	LLOQ	ULOQ	LLOQ	ULOQ
Vitamin A	0,02	5,0	0,02	5,0
Vitamin E	0,1	50,0	0,1	50,0

Recovery: The relative recoveries were calculated by comparing the mean area response of the analytes from the extracted samples (spiked before extraction) to that of unextracted samples (spiked after extraction) at 3 different levels.

Analyte	Recovery [%] in Serum	Recovery [%] in Plasma
Vitamin A	97	101
Vitamin E	94	99

Reproducibility: The intraassay reproducibility was determined by processing the same sample multiple times (n=6) and measuring the levels of Vitamins A and E at 3 different concentrations.

Analyte	CV [%] at Conc.	CV [%] at Conc.	CV [%] at Conc.
Vitamin A	2,5 % at 0,24 mg/l	1,0 % at 0,49 mg/l	0,6 % at 0,89 mg/l
Vitamin E	1,5 % at 3,29 mg/l	1,2 % at 6,34 mg/l	2,5 % at 18,9 mg/l

The interaassay reproducibility was determined by processing the same sample multiple times (n=6) and measuring the levels of Vitamins A and E at 3 different concentrations on 20 days in different series (n=360).

Analyte	CV [%] at Conc.	CV [%] at Conc.	CV [%] at Conc.
Vitamin A	5,7 % at 0,24mg/l	4,6 % at 0,49 mg/l	5,7 % at 0,89 mg/l
Vitamin E	7,0 % at 3,29 mg/l	6,3 % at 6,34 mg/l	6,7 % at 18,9 mg/l

Ordering Information

Product Code	Product
7250033	Vitamin A and E in Serum / Plasma HPLC kit For 200 analyses
Kit Contents	VAE-Mobile Phase, 1000 ml VAE-Rinsing Solution, 300ml VAE-Extraction Solution with Internal Standards, 33 ml VAE-Serum Calibration Standard, 1 x 1 ml VAE-Sample Preparation Tubes, 1 x 200 pcs. VAE-Prefilter, 1 pc. VAE-Instruction for use
Accessories to be ordered separately	
Start Accessories for Chromatographic Separation	
72500331	VAE-Analytical HPLC Column, (equilibrated), with original test chromatogram, 1 pc.
72500332	VAE-HPLC Prefilter Assembly, one-time accessory, 1 pc.
Labsystems Diagnostics Oy Vitamin A and E Controls	
72500333	VAE-Control Set (Low + High Control), 2 x 5 x 2 ml
72500334	VAE-Control Set (Low), 10 x 2 ml
72500335	VAE-Control Set (High), 10 x 2 ml
Start Accessories for Automation	
1494112	VAE-Sample Preparation Filter Plates for automation, 1 x 3 plates
1494117	VAE-Sample Analysis Plates, V-bottomed, for automation, 1 x 3 plates
1494116	VAE-Analysis Plate cover, 1 x 3 covers
Kit Components available separately	
3469877	VAE-Serum Calibration Standard, 5 x 1 ml
3469876	VAE-Mobile Phase, 1000 ml
3469875	VAE-Rinsing Solution, 300 ml
3469880	VAE-Extraction Solution with Internal Standards, 33 ml
3467711	VAE-Sample Preparation Tubes, 1 x 200 pcs.
1494113	VAE-Prefilters, 1 x 5 pcs.



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