HPLC · SMB · Osmometry

KNAUER

Rapid analysis of water-soluble vitamins

Method **VFD0001J**
HPLC

Column: ProntoSIL 120-5 C18 AQ 150 x 3 mm **Order No. 15CF184PSJ**

Phase: ProntoSIL 120-5 C18 AQ

Conditions:

Eluent: A: 50 mM H_3PO_4 (adjusted to pH 2.5)
B: acetonitrile

Gradient:

Time (min)	% A	% B
0.00	99	1
2.00	99	1
8.50	30	70
11.00	30	70
11.02	99	1
15.00	99	1

Flow rate: 0.6 ml/min
Temperature: 40 °C
Volume: 10 µl

Detection: UV, 268 nm

Sample pretreatment: Water soluble vitamins can be extracted from simple matrices such as vitamin tablets (after homogenization) with water in an ultrasonic bath. Only 250 mg from the total sample are transferred into a 50 ml volume flask. Approximately 40 ml of 0.5% oxalic acid solution was added and the sample stirred. After 20 min treatment in an ultrasonic bath, the sample solution must be cooled down and the volume adjusted to 50 ml with 0.5% oxalic acid. Before injection the sample was filtered through a 0.45 µm syringe filter.

Substances: Ascorbic acid (vitamin C), thiamine (vitamin B1), riboflavin (vitamin B2), niacin (vitamin B3), pyridoxine (vitamin B6)

Keywords: Water-soluble and B-complex vitamins

Chromatogram:

1 Oxalic acid
2 Thiamine (vitamin B1)
3 Ascorbic acid (vitamin C)
4 Niacin (vitamin B3)
5 Pyridoxine (vitamin B6)
6 Riboflavin (vitamin B2)