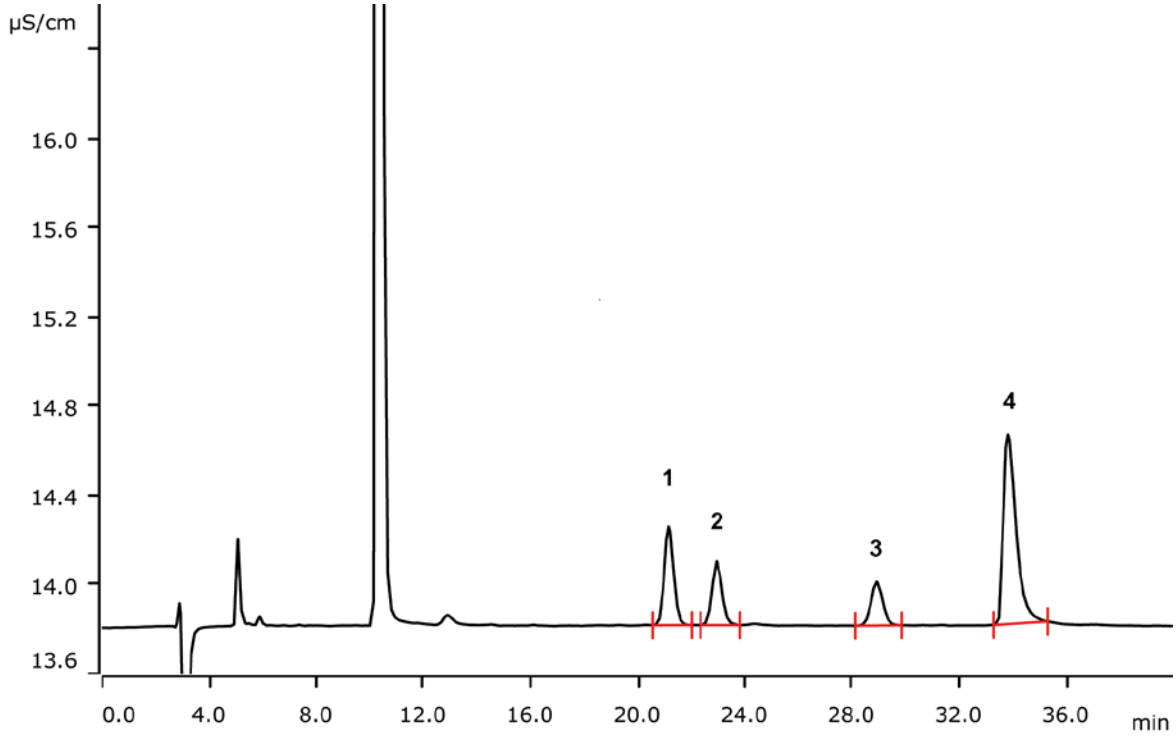
IC Application Note S–345

# β-Glycerophosphate and L-malate in pharmaceutical formulation




β-Glycerophosphate and malate are determined in a pharmaceutical formulation. Using a carbonate eluent on a Metrosep A Supp 7 - 250/4.0 column, the target components are fully separated from α-glycerophosphate and phosphate.

## Results

| Anion | Conc. (injected) [mg/L] | Recovery [%] |
|---|---|---|
| α-glycerophosphate | n.q. | - |
| β-glycerophosphate | 8.37 | 98.4 |
| Phosphate | 2.02 | - |
| Malate | 11.67 | 104.1 |

Metrohm

## Sample

Liquid pharmaceutical formulation

## Sample preparation

Filtration (0.22 µm) and subsequent dilution 1:100 with ultrapure water.

## Columns

| | |
|---|---|
| Metrosep A Supp 7 - 250/4.0 | 6.1006.630 |
| Metrosep A Supp 4/5 Guard/4.0 | 6.1006.500 |

## Solutions

| | |
|---|---|
| Eluent | 3.6 mmol/L sodium carbonate |
| Suppressor regenerant | 100 mmol/L sulfuric acid |
| Rinsing solution | STREAM |

## Instrumentation

| | |
|---|---|
| 930 Compact IC Flex Oven/SeS/PP/Deg | 2.930.2560 |
| IC Conductivity Detector | 2.850.9010 |
| 858 Professional Sample Processor | 2.858.0020 |
| MSM Rotor A | 6.2832.000 |
| Adaptor sleeve for Suppressor Vario | 6.2842.020 |

## Analysis

Conductivity detection after sequential suppression

## Parameters

| | |
|---|---|
| Flow rate | 0.7 mL/min |
| Injection volume | 20 µL |
| $P_{max}$ | 15 MPa |
| Recording time | 40 min |
| Column temperature | 35 °C |