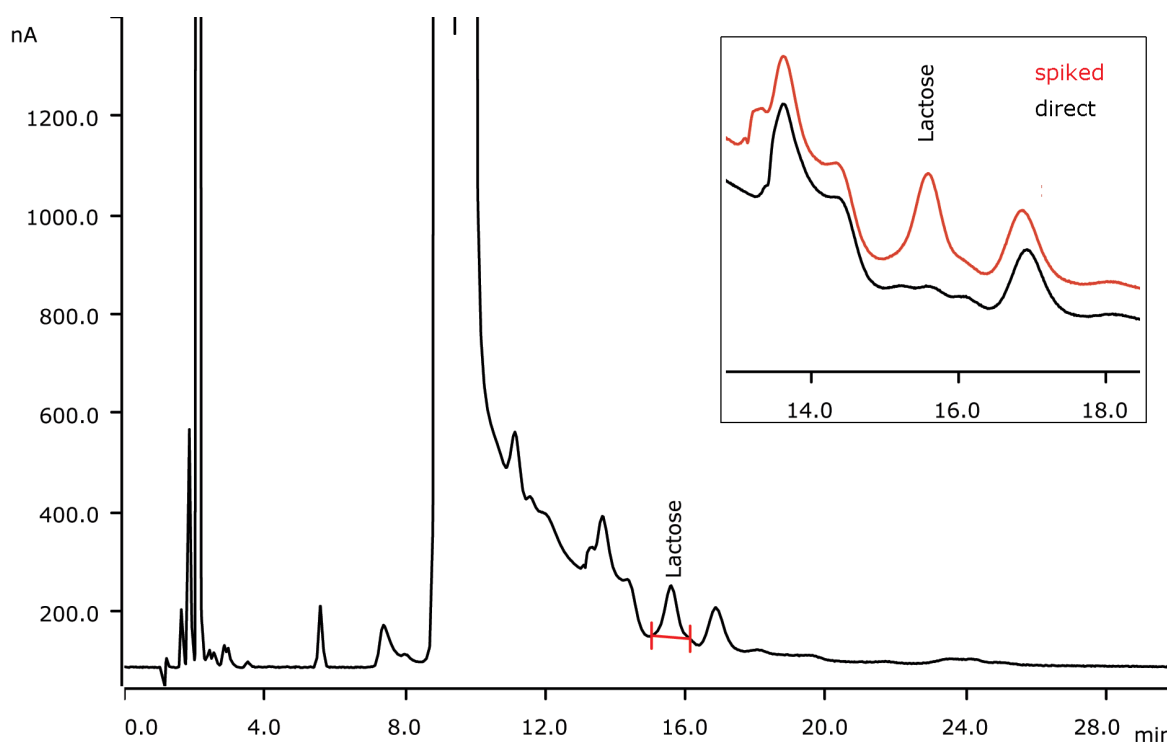


# Residual lactose in lactose-free milk



Lactose intolerance is the inability to digest lactose. Lactose is a sugar found in milk and other dairy products. Lactose-free milk is analyzed applying Inline Dialysis before sample injection. There was no detectable amount of lactose found in the analyzed milk sample. The spiked sample chromatogram corresponds to the limit of 100 mg/L. The separation has been performed on Metrosep Carb 2 - 150/4.0.

## Results

| Compound                 | Concentration [mg/L] |
|--------------------------|----------------------|
| Lactose                  | n.d                  |
| Spike (100 mg/L lactose) | 109                  |

## Sample

Lactose-free milk

## Sample preparation

Dilution 1 : 100, Metrohm Inline Dialysis

## Columns

|   |            |
|---|------------|
| Metrosep Carb 2 - 150/4.0                 | 6.1090.420 |
| Metrosep Carb 2 Guard/4.0                 | 6.1090.500 |
| Metrosep CO <sub>3</sub> Trap 1 - 100/4.0 | 6.1015.300 |

## Solutions

|        |  |
|--------|--|
| Eluent | 5.0 mmol/L sodium hydroxide<br>2.0 mmol/L sodium acetate |
|--------|--|

## Parameters

|                    |            |
|--------------------|------------|
| Flow rate          | 0.8 mL/min |
| Injection volume   | 20 µL      |
| Recording time     | 30 min     |
| Column temperature | 40 °C      |

## PAD Parameters

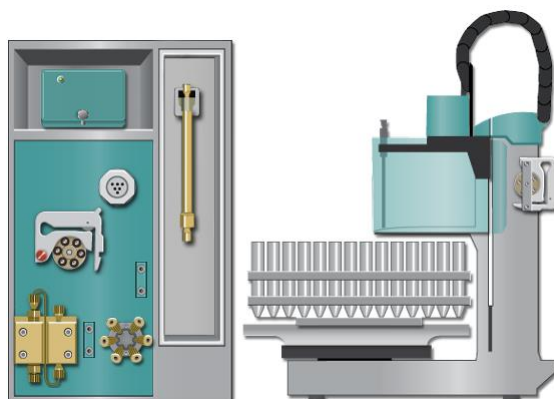
|                     |               |
|---------------------|---------------|
| Cell                | Wall-Jet cell |
| Working electrode   | Gold (3 mm)   |
| Reference electrode | Palladium     |
| Spacer              | 50 µm         |
| Measuring potential | 50 mV         |
| Meas. range         | 200 µA        |
| Meas. duration      | 100 ms        |
| Cycle duration      | 550 ms        |
| Temperature         | 35 °C         |
| Mode                | PAD           |

## Analysis

Pulsed amperometric detection

## Instrumentation

|   |            |
|---|------------|
| 930 Compact IC Flex Oven/ChS/PP/Deg                 | 2.930.2360 |
| IC Amperometric Detector                            | 2.850.9110 |
| 585 Professional Sample Processor                   | 2.858.0010 |
| IC equipment Wall-Jet cell: anion analysis (Au, Pd) | 6.5337.010 |
| IC equipment: Inline Dialysis                       | 6.5330.100 |



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