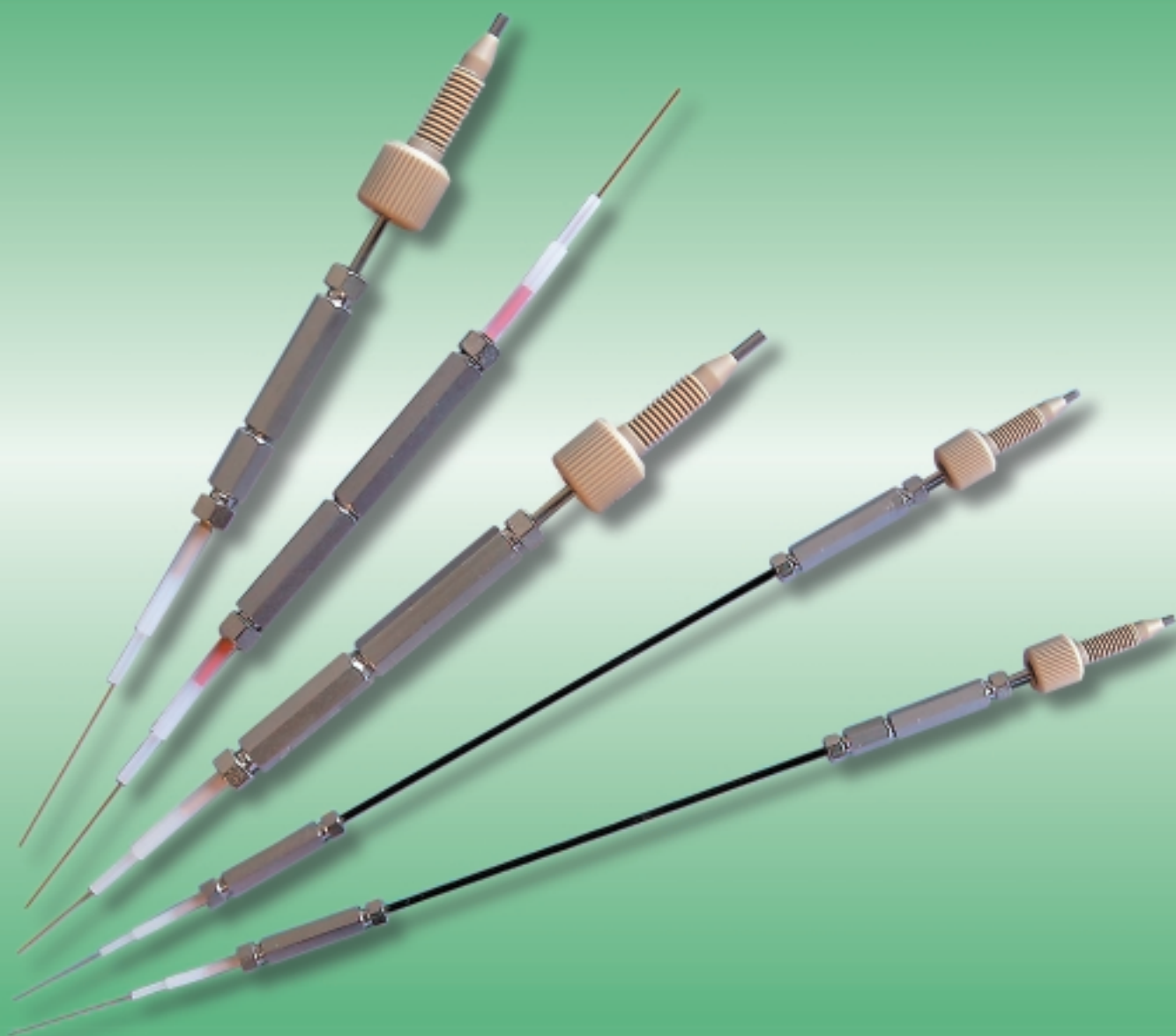


NovoGROM Nano-LC COLUMNS - 25 to 100 μm i.d. -
NovoGROM CAPILLARY COLUMNS - 180 to 800 μm i.d. -



In addition to the on-line coupling with a mass spectrometer, the driving force behind the continuous development of microbore- and capillary chromatography has come in particular from the fields of physiological chemistry and neurochemistry, where the volumes of sample available are often extremely low (μl or even nI), thus requiring maximum sensitivity. Both the reduced running costs and the environmental benefits arising from the drastically reduced consumption of solvents are further significant advantages gained by the miniaturisation of HPLC.

GROM offers a full range of columns and accessories for capillary HPLC for those interested in taking advantage of the most modern developments in HPLC. Similar to the proven analytical **NovoGROM** cartridge system, the integrated guard columns are sealed manually without tools („finger-tight“).

According to the customer's requirements these columns can be supplied packed with any stationary phase listed in this catalogue.

Don't be afraid of **Capillary-HPLC**

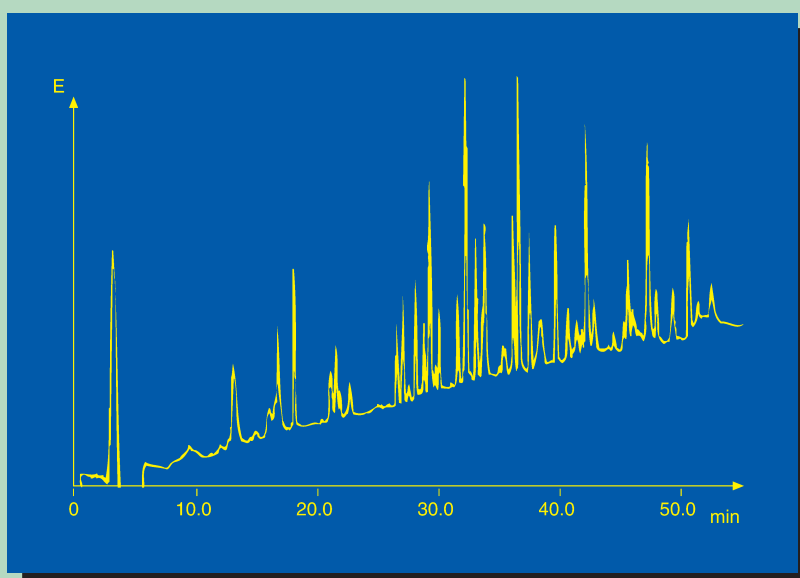
There is no sound reason for not taking advantage of the unique benefits of this exciting technique:

- convenient „on-line“ coupling to mass spectrometer
- suitable for **minimal sample volumes** commonly encountered when analysing biochemical or neuro-chemical samples
- ≥ 100 -fold increased **sensitivity**
- **drastically reduced costs** for purchasing and disposing of solvents

easy to use
NovoGROM
capillary columns

- 50 to 800 μm inner diameter
- 5, 20, 100, 150 or 250 mm in length
- „finger-tight“, no tools needed for assembling
- dead-volume-free coupling of capillary guard columns
- direct coupling via „fused silica“ capillary to flow cell

01 083 Tryptic digest of a Dehydrogenase



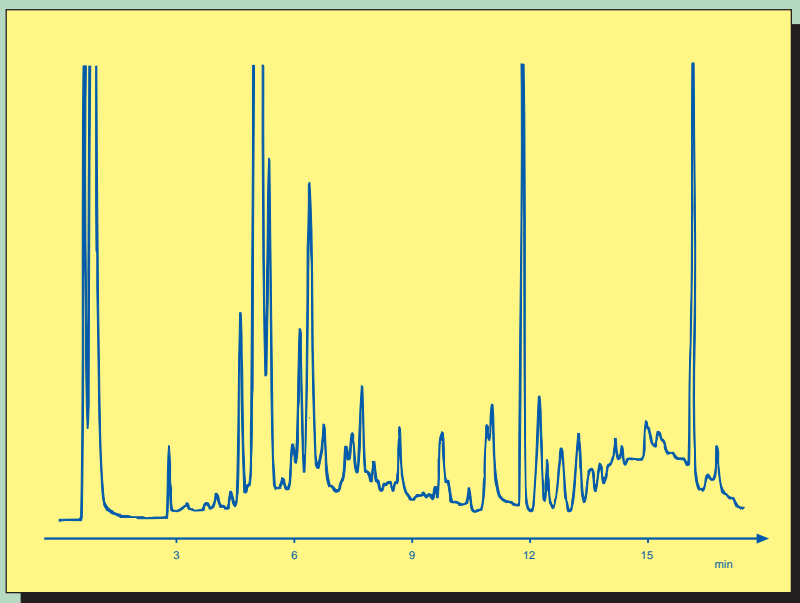
Column phase: GROM-SIL 100 ODS-2 FE,
5 μm
Column size: 250 mm x 300 μm
Eluent: A: 0.1% TFA in H_2O
B: 0.1% TFA in ACN
Gradient: 10–60% B (0–90 min)
Flow rate: 5 $\mu\text{l}/\text{min}$
Pressure: 16–7 MPa
Temperature: RT
Detection (UV): 214 nm
Sample: 1 μl (2 pMol)

Note! Any modern HPLC system may easily be converted to a capillary HPLC by means of a splitter, microinjector (only needed when working in isocratic mode) and capillary detector cell.

NovoGROM capillary columns (for further information see pages 12/13 and 144) can be packed with any of the stationary phases listed or with the customer's stationary phase.

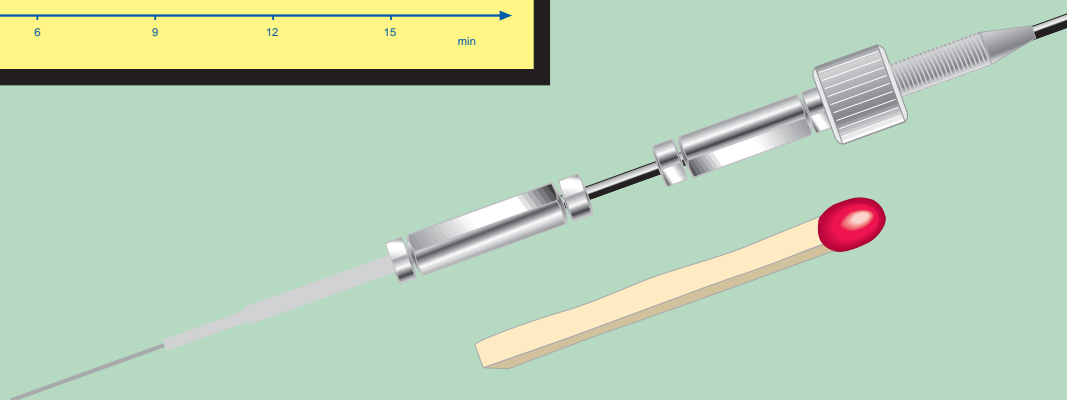
Capillary High Speed Liquid Chromatography

33 mm x 300 µm capillary column, 1.5 µm packing material



10 184 Control of peptide synthesis

Column phase: GROM-SIL 100 ODS-2 FE, 1.5 µm
Column size: 33mm x 300 µm
Eluent: A: H₂O, 0.1% TFA
 B: Acetonitrile, 0.1% TFA
Gradient: 5–60% B (0–15 min)
Flow rate: 6 µl/min
Temperature: RT
Detection (UV): 214 nm
Sample: 60 nl



Typical computer printout of column test protocol

PACKING MATERIAL
 GROM-SIL 100 ODS-2 FE
 PARTICLE SIZE 1.5 µm
COLUMN DIMENSIONS
 33 mm x 300 µm ID
 PART NO. GSQD20210C0430
 SERIAL NO. 290995 1

TEST CONDITIONS
MOBILE PHASE
 CH₃CN:H₂O 70:30
FLOW RATE 5 µL/min
PRESSURE 5 MPa
DETECTION: UV 254 nm



PEAK NO.	RETENTION TIME (MIN)	SOLUTES	ASYMMETRY FACTOR	THEORETICAL PLATES/COL	THEORETICAL PLATES/M
1	1.38	METHYLBENZOATE	1.2	3307	100221
2	1.65	ETHYLBENZOATE	1.2	3803	115236
3	2.07	PROPYLBENZOATE	1.4	4985	151072
4	2.71	BUTYLBENZOATE	1.3	5787	175371
5	3.71	PENTYLBENZOATE	1.3	7181	217592