LiChroprep® Sorbent

High selective, efficient silica sorbent for reproducible peptide purification processes

Preparative chromatography plays an important role in purifying valuable compounds in research, pilot plant operation and production. The advantage of this chromatographic method is that it delivers high levels of purity in a rapid and economical manner.

We provide a wide range of surface modified silica sorbents for the purification of APIs and intermediates, designed to meet the special requirements of our customers' manufacturing processes.

Irregularly shaped sorbents are a very efficient and an economic alternative for almost all preparative chromatography purification challenges. The totally porous, irregular particles of LiChroprep® sorbent are tightly classified in the 15–25 µm, 25–40 µm and 40–63 µm ranges and exhibit good separation performance and sufficient stability at reasonable cost.

Figure 1. Separation of a HPLC peptide standard mixture on LiChroprep® RP-18 (15–25 µm) sorbent

LiChroprep® Benefits

- Reproducible, homogeneous, irregularly shaped silica gel matrix
- Narrow, well defined particle size distribution for high performance and high permeability
- Excellent selectivity and efficiency
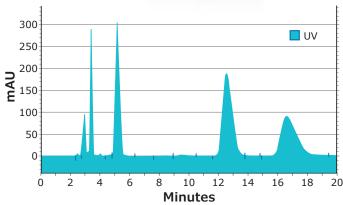- Large batch size up to 200 kg in the modification step

Conditions

Column	Hibar® 250 x 4.6mm LiChroprep® RP-18 (15–25 µm)
Eluent	A: 0.1% TFA in water B: 0.1% TFA in ACN/water 80/20 (v/v)
Gradient	0–40 min A/B 80/20—50/50
Flow rate	1.0 mL/min
Injection	40 µL
Sample	HPLC Peptide Mix (1) Gly-Tyr (2) Val-Tyr-Val (3) Met-Enkephalin (4) Leu-Enkephalin (5) Angiotensin

MilliporeSigma
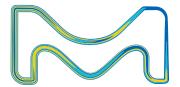
Physical and Chemical Data

Parameter	LiChroprep® RP-18 15–25 µm	LiChroprep® RP-18 25–40 µm	LiChroprep® RP-18 40–63 µm	Method
Particle size range d_{50} [µm]	18–25	30–35	55–65	Laser diffraction
Quality factor d_{90}/d_{10}	≤4.0	≤5.0	≤4.0	
Mean pore size [nm]	10	10	10	N_2 adsorption (BET)
Carbon content [weight %]	≥15	≥15	≥15	CHN analysis
Iron content [weight %]	≤0.02	≤0.02	≤0.02	
Specific pore volume [mL/g]	0.95–1.03	0.95–1.03	0.95–1.03	N_2 adsorption (BET)
Specific surface area [m²/g]	330–380	330–380	330–380	N_2 adsorption (BET)
Surface coverage [µmol/m²]	3.0	3.0	3.0	
Elutables [weight %]	≤0.10	≤0.10	≤0.10	
Bulk density [g/mL]	0.39	0.44	0.48	
Packing density [g/mL]	0.51	0.52	0.60	
Selectivity				
α Acetophenone/Phenol	1.8–2.2	1.8–2.2	1.8–2.2	
α Acetophenone/Cinnamic acid	1.1–1.3	1.1–1.3	1.1–1.3	
α 1.Naphtol/Phenol	3.9–4.4	3.9–4.4	3.9–4.4	
Capacity				
k' Toluene	17.0–22.0	19.0–24.0	17.0–22.0	

Ordering Information

Description	Particle Size	Qty	Catalogue No.
LiChroprep® RP-18	15–25 µm	0.1, 0.5, 10 kg	1.13901
LiChroprep® RP-18	25–40 µm	0.1, 0.5, 5, 25 kg	1.09303
LiChroprep® RP-18	40–63 µm	0.25, 1, 25 kg	1.13900
LiChroprep® RP-8	40–63 µm	0.25, 1 kg	1.09362
LiChroprep® Si 60	15–25 µm	1, 25 kg	1.09336
LiChroprep® Si 60	25–40 µm	1 kg	1.09390
LiChroprep® Si 60	40–63 µm	0.25, 1, 25 kg	1.13905

LiChroprep® is available in ready-to-use Hibar® 250–25 mm prepacked, stainless steel columns as well as in different bulk pack sizes.

For additional information, please visit
SigmaAldrich.com