XSelect HPLC Columns

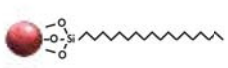
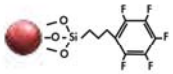
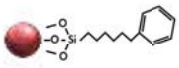
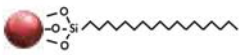
XSelect HPLC Columns are designed for the method-development scientist who requires a diverse selection of sorbents to easily separate the most difficult analyte co-elutions.

XSelect Columns are:

- Designed for selectivity, improving the separation of closely eluting peaks
- Intended for isolation and purification, loading the highest analyte mass of any columns
- Ideal for rapid method development, reducing the time and cost spent developing methods

The base particle, or substrate, critically influences analyte selectivity; the bonded ligand influences selectivity to a lesser extent. Neither the substrate nor the ligand alone provides dramatic selectivity changes. Yet in combination they provide the ultimate means of enhancing analyte selectivity, while ensuring reproducible and robust methods. Accordingly, the XSelect Column family offers the unique optimization of bonded ligands embodied in the technologies of high strength silica (HSS) and charged surface hybrid (CSH).

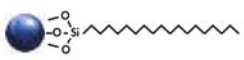
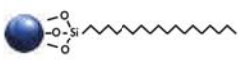
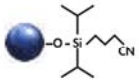
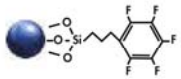
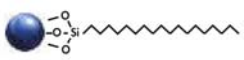
Column Characteristics

	CSH C_{18}, 130Å	CSH Fluoro-Phenyl, 300Å	CSH Phenyl-Hexyl, 130Å	Peptide CSH C_{18}, 130A
	UHPLC: 2.5 µm *XP* HPLC: 3.5, 5, 10 µm	UHPLC: 2.5 µm *XP* HPLC: 3.5, 5 µm	UHPLC: 2.5 µm *XP* HPLC: 3.5, 5 µm	UHPLC: 2.5 µm *XP* HPLC: 3.5, 5, 10 µm
Particle/Ligand				
Ligand Density*	2.3 µmol/m²	2.3 µmol/m²	2.3 µmol/m²	2.3 µmol/m²
Carbon Load*	15%	10%	14%	15%
Endcap Style	Proprietary	None	Proprietary	Proprietary
USP Class No.	L1	L43	L11	L1
pH Range	1–11	1–8	1–11	1–11
Temperature Limits	Low pH = 80 °C, High pH = 45 °C	Low pH = 60 °C, High pH = 45 °C	Low pH = 80 °C, High pH = 45 °C	Low pH = 80 °C, High pH = 45 °C
Surface Area*	185 m²/g	185 m²/g	185 m²/g	185 m²/g
Performance Standards	**Neutrals QC Reference Material** p/n: 186006360	**Neutrals QC Reference Material** p/n: 186006360	**Neutrals QC Reference Material** p/n: 186006360	**Cytochrome *c* Digestion Standard** p/n: 186006371
Application Standards	**Reversed-Phase QC Reference Material** p/n: 186006363	**Reversed-Phase QC Reference Material** p/n: 186006363	**Reversed-Phase QC Reference Material** p/n: 186006363	**Peptide Retention Standard** p/n: 186006555

*Expected or approximate value.

XSelect Columns are also available in UPLC particle sizes (ACQUITY UPLC CSH and ACQUITY UPLC HSS), please refer to pages 90 and 100.

XSELECT® Columns

HSS C_{18}, 130Å	HSS C_{18} SB, 130Å	HSS CN, 130Å	HSS PFP, 130Å	HSS T3, 130Å
UHPLC: 2.5 µm *XP* **HPLC: 3.5, 5 µm**	**UHPLC: 2.5 µm *XP*** **HPLC: 3.5, 5 µm**	**UHPLC: 2.5 µm *XP*** **HPLC: 3.5, 5 µm**	**UHPLC: 2.5 µm *XP*** **HPLC: 3.5, 5 µm**	**UHPLC: 2.5 µm *XP*** **HPLC: 3.5, 5 µm**
				
3.2 µmol/m²	1.6 µmol/m²	2.0 µmol/m²	3.2 µmol/m²	1.6 µmol/m²
15%	8%	5%	7%	11%
Proprietary	None	None	None	Proprietary
L1	L1	L10	L43	L1
1–8	2–8	2–8	2–8	2–8
Low pH = 45 °C, High pH = 45 °C	Low pH = 45 °C, High pH = 45 °C	Low pH = 45 °C, High pH = 45 °C	Low pH = 45 °C, High pH = 45 °C	Low pH = 45 °C, High pH = 45 °C
230 m²/g	230 m²/g	230 m²/g	230 m²/g	230 m²/g
Neutrals QC Reference Material p/n: 186006360	**Neutrals QC Reference Material** p/n: 186006360	**Neutrals QC Reference Material** p/n: 186006360	**Neutrals QC Reference Material** p/n: 186006360	**Neutrals QC Reference Material** p/n: 186006360
Reversed-Phase QC Reference Material p/n: 186006363	**Reversed-Phase QC Reference Material** p/n: 186006363	—	**Reversed-Phase QC Reference Material** p/n: 186006363	**Reversed-Phase QC Reference Material** p/n: 186006363

Ordering Information

XSelect Analytical Columns

	Dimension	P/N	Dimension	P/N
	Particle Size: 3.5 µm		Particle Size: 5 µm	
CSH C_{18}	1.0 × 50 mm	186005249	2.1 × 30 mm	186005273
	1.0 × 100 mm	186005250	2.1 × 50 mm	186005274
	1.0 × 150 mm	186005251	2.1 × 100 mm	186005275
	2.1 × 30 mm	186005254	2.1 × 150 mm	186005276
	2.1 × 50 mm	186005255	3.0 × 30 mm	186005279
	2.1 × 75 mm	186005644	3.0 × 50 mm	186005280
	2.1 × 100 mm	186005256	3.0 × 100 mm	186005281
	2.1 × 150 mm	186005257	3.0 × 150 mm	186005282
	3.0 × 30 mm	186005260	3.0 × 250 mm	186005283
	3.0 × 50 mm	186005261	4.6 × 30 mm	186005286
	3.0 × 75 mm	186005647	4.6 × 50 mm	186005287
	3.0 × 100 mm	186005262	4.6 × 75 mm	186005288
	3.0 × 150 mm	186005263	4.6 × 100 mm	186005289
	4.6 × 30 mm	186005266	4.6 × 150 mm	186005290
	4.6 × 50 mm	186005267	4.6 × 250 mm	186005291
	4.6 × 75 mm	186005268		
	4.6 × 100 mm	186005269		
	4.6 × 150 mm	186005270		

	Particle Size: 3.5 µm		Particle Size: 5 µm	
CSH Fluoro-Phenyl	1.0 × 50 mm	186005304	2.1 × 30 mm	186005328
	1.0 × 100 mm	186005305	2.1 × 50 mm	186005329
	1.0 × 150 mm	186005306	2.1 × 100 mm	186005330
	2.1 × 30 mm	186005309	2.1 × 150 mm	186005331
	2.1 × 50 mm	186005310	3.0 × 30 mm	186005334
	2.1 × 75 mm	186005646	3.0 × 50 mm	186005335
	2.1 × 100 mm	186005311	3.0 × 100 mm	186005336
	2.1 × 150 mm	186005312	3.0 × 150 mm	186005337
	3.0 × 30 mm	186005315	3.0 × 250 mm	186005338
	3.0 × 50 mm	186005316	4.6 × 30 mm	186005341
	3.0 × 75 mm	186005649	4.6 × 50 mm	186005342
	3.0 × 100 mm	186005317	4.6 × 75 mm	186005343
	3.0 × 150 mm	186005318	4.6 × 100 mm	186005344
	4.6 × 30 mm	186005321	4.6 × 150 mm	186005345
	4.6 × 50 mm	186005322	4.6 × 250 mm	186005346
	4.6 × 75 mm	186005323		
	4.6 × 100 mm	186005324		
	4.6 × 150 mm	186005325		

XSelect Analytical Columns *Continued*

	Dimension	P/N	Dimension	P/N
	Particle Size: 3.5 µm		Particle Size: 5 µm	
CSH Phenyl-Hexyl	1.0 × 50 mm	186005359	2.1 × 30 mm	186005383
	1.0 × 100 mm	186005360	2.1 × 50 mm	186005384
	1.0 × 150 mm	186005361	2.1 × 100 mm	186005385
	2.1 × 30 mm	186005364	2.1 × 150 mm	186005386
	2.1 × 50 mm	186005365	3.0 × 30 mm	186005389
	2.1 × 75 mm	186005645	3.0 × 50 mm	186005390
	2.1 × 100 mm	186005366	3.0 × 100 mm	186005391
	2.1 × 150 mm	186005367	3.0 × 150 mm	186005392
	3.0 × 30 mm	186005370	3.0 × 250 mm	186005393
	3.0 × 50 mm	186005371	4.6 × 30 mm	186005396
	3.0 × 75 mm	186005648	4.6 × 50 mm	186005397
	3.0 × 100 mm	186005372	4.6 × 75 mm	186005398
	3.0 × 150 mm	186005373	4.6 × 100 mm	186005399
	4.6 × 30 mm	186005376	4.6 × 150 mm	186005400
	4.6 × 50 mm	186005377	4.6 × 250 mm	186005401
	4.6 × 75 mm	186005378		
	4.6 × 100 mm	186005379		
	4.6 × 150 mm	186005380		

	Particle Size: 3.5 µm		Particle Size: 5 µm	
HSS C_{18}	1.0 × 50 mm	186006376	2.1 × 30 mm	186006390
	1.0 × 100 mm	186006377	2.1 × 50 mm	186006391
	1.0 × 150 mm	186006378	2.1 × 100 mm	186006392
	2.1 × 30 mm	186006380	2.1 × 150 mm	186006393
	2.1 × 50 mm	186006381	3.0 × 30 mm	186006395
	2.1 × 75 mm	186006382	3.0 × 50 mm	186006396
	2.1 × 100 mm	186006383	3.0 × 100 mm	186006397
	2.1 × 150 mm	186006384	3.0 × 150 mm	186006398
	3.0 × 30 mm	186004765	3.0 × 250 mm	186006399
	3.0 × 50 mm	186004766	4.6 × 30 mm	186006401
	3.0 × 75 mm	186005642	4.6 × 50 mm	186004852
	3.0 × 100 mm	186004762	4.6 × 75 mm	186006402
	3.0 × 150 mm	186004763	4.6 × 100 mm	186006403
	4.6 × 30 mm	186004771	4.6 × 150 mm	186004773
	4.6 × 50 mm	186004772	4.6 × 250 mm	186004775
	4.6 × 75 mm	186006387		
	4.6 × 100 mm	186004767		
	4.6 × 150 mm	186004768		
	4.6 × 250 mm	186004770		

	Dimension	P/N	Dimension	P/N
	Particle Size: 3.5 µm		Particle Size: 5 µm	
HSS C_{18} SB	1.0 × 50 mm	186006417	2.1 × 30 mm	186006431
	1.0 × 100 mm	186006418	2.1 × 50 mm	186006432
	1.0 × 150 mm	186006419	2.1 × 100 mm	186006433
	2.1 × 30 mm	186006421	2.1 × 150 mm	186006434
	2.1 × 50 mm	186006422	3.0 × 30 mm	186006436
	2.1 × 75 mm	186006423	3.0 × 50 mm	186006437
	2.1 × 100 mm	186006424	3.0 × 100 mm	186006438
	2.1 × 150 mm	186006425	3.0 × 150 mm	186006439
	3.0 × 30 mm	186004746	3.0 × 250 mm	186006440
	3.0 × 50 mm	186004747	4.6 × 30 mm	186006442
	3.0 × 75 mm	186005643	4.6 × 50 mm	186004757
	3.0 × 100 mm	186004743	4.6 × 75 mm	186006443
	3.0 × 150 mm	186004744	4.6 × 100 mm	186006444
	4.6 × 30 mm	186004752	4.6 × 150 mm	186004754
	4.6 × 50 mm	186004753	4.6 × 250 mm	186004756
	4.6 × 75 mm	186006428		
	4.6 × 100 mm	186004748		
	4.6 × 150 mm	186004749		
	4.6 × 250 mm	186004751		

	Particle Size: 3.5 µm		Particle Size: 5 µm	
HSS T3	1.0 × 50 mm	186006458	2.1 × 30 mm	186006472
	1.0 × 100 mm	186006459	2.1 × 50 mm	186006473
	1.0 × 150 mm	186006460	2.1 × 100 mm	186006474
	2.1 × 30 mm	186006462	2.1 × 150 mm	186006475
	2.1 × 50 mm	186006463	3.0 × 30 mm	186006477
	2.1 × 75 mm	186006464	3.0 × 50 mm	186006478
	2.1 × 100 mm	186006465	3.0 × 100 mm	186006479
	2.1 × 150 mm	186006466	3.0 × 150 mm	186006480
	3.0 × 30 mm	186004783	3.0 × 250 mm	186006481
	3.0 × 50 mm	186004784	4.6 × 30 mm	186006483
	3.0 × 75 mm	186005641	4.6 × 50 mm	186004794
	3.0 × 100 mm	186004780	4.6 × 75 mm	186006484
	3.0 × 150 mm	186004781	4.6 × 100 mm	186006485
	4.6 × 30 mm	186004789	4.6 × 150 mm	186004791
	4.6 × 50 mm	186004790	4.6 × 250 mm	186004793
	4.6 × 75 mm	186006469		
	4.6 × 100 mm	186004785		
	4.6 × 150 mm	186004786		
	4.6 × 250 mm	186004788		

	Dimension	P/N	Dimension	P/N
	Particle Size: 3.5 µm		Particle Size: 5 µm	
HSS PFP	1.0 × 50 mm	186005842	2.1 × 30 mm	186005868
	1.0 × 100 mm	186005843	2.1 × 50 mm	186005869
	1.0 × 150 mm	186005844	2.1 × 100 mm	186005871
	2.1 × 30 mm	186005846	2.1 × 150 mm	186005872
	2.1 × 50 mm	186005847	3.0 × 30 mm	186005874
	2.1 × 75 mm	186005848	3.0 × 50 mm	186005875
	2.1 × 100 mm	186005849	3.0 × 100 mm	186005877
	2.1 × 150 mm	186005850	3.0 × 150 mm	186005878
	3.0 × 30 mm	186005852	3.0 × 250 mm	186005879
	3.0 × 50 mm	186005853	4.6 × 30 mm	186005881
	3.0 × 75 mm	186005854	4.6 × 50 mm	186005882
	3.0 × 100 mm	186005855	4.6 × 75 mm	186005883
	3.0 × 150 mm	186005856	4.6 × 100 mm	186005884
	4.6 × 30 mm	186005858	4.6 × 150 mm	186005885
	4.6 × 50 mm	186005859	4.6 × 250 mm	186005886
	4.6 × 75 mm	186005860		
	4.6 × 100 mm	186005861		
	4.6 × 150 mm	186005862		
	4.6 × 250 mm	186005863		

	Particle Size: 3.5 µm		Particle Size: 5 µm	
HSS CN	1.0 × 50 mm	186005901	2.1 × 30 mm	186005928
	1.0 × 100 mm	186005903	2.1 × 50 mm	186005929
	1.0 × 150 mm	186005904	2.1 × 100 mm	186005931
	2.1 × 30 mm	186005906	2.1 × 150 mm	186005932
	2.1 × 50 mm	186005907	3.0 × 30 mm	186005934
	2.1 × 75 mm	186005908	3.0 × 50 mm	186005935
	2.1 × 100 mm	186005909	3.0 × 100 mm	186005937
	2.1 × 150 mm	186005910	3.0 × 150 mm	186005938
	3.0 × 30 mm	186005912	3.0 × 250 mm	186005939
	3.0 × 50 mm	186005913	4.6 × 30 mm	186005941
	3.0 × 75 mm	186005914	4.6 × 50 mm	186005942
	3.0 × 100 mm	186005915	4.6 × 75 mm	186005943
	3.0 × 150 mm	186005916	4.6 × 100 mm	186005944
	4.6 × 30 mm	186005918	4.6 × 150 mm	186005945
	4.6 × 50 mm	186005919	4.6 × 250 mm	186005946
	4.6 × 75 mm	186005920		
	4.6 × 100 mm	186005921		
	4.6 × 150 mm	186005922		
	4.6 × 250 mm	186005923		

XSelect Peptide Columns

	Dimension	P/N	Dimension	P/N
	Particle Size: 3.5 µm		Particle Size: 5 µm	
CSH C_{18}, 130Å	2.1 × 50 mm	186006950	4.6 × 50 mm	186007076
	2.1 × 100 mm	186006951	4.6 × 100 mm	186007077
	2.1 × 150 mm	186006952	4.6 × 150 mm	186007078
	4.6 × 50 mm	186006955		
	4.6 × 100 mm	186006956		
	4.6 × 150 mm	186006957		

XSelect Columns Method Validation Kits*

	Dimension	P/N	Dimension	P/N
	Particle Size: 3.5 µm		Particle Size: 5 µm	
CSH C_{18}	2.1 × 100 mm	186005538	2.1 × 150 mm	186005543
	3.0 × 100 mm	186005539	3.0 × 100 mm	186005544
	3.0 × 150 mm	186005540	3.0 × 150 mm	186005545
	4.6 × 100 mm	186005541	4.6 × 100 mm	186005546
	4.6 × 150 mm	186005542	4.6 × 150 mm	186005547
			4.6 × 250 mm	186005548
CSH Fluoro-Phenyl	2.1 × 100 mm	186005549	2.1 × 150 mm	186005554
	3.0 × 100 mm	186005550	3.0 × 100 mm	186005555
	3.0 × 150 mm	186005551	3.0 × 150 mm	186005556
	4.6 × 100 mm	186005552	4.6 × 100 mm	186005557
	4.6 × 150 mm	186005553	4.6 × 150 mm	186005558
			4.6 × 250 mm	186005559
CSH Phenyl-Hexyl	2.1 × 100 mm	186005560	2.1 × 150 mm	186005565
	3.0 × 100 mm	186005561	3.0 × 100 mm	186005566
	3.0 × 150 mm	186005562	3.0 × 150 mm	186005567
	4.6 × 100 mm	186005563	4.6 × 100 mm	186005568
	4.6 × 150 mm	186005564	4.6 × 150 mm	186005569
			4.6 × 250 mm	186005570
HSS C_{18}	2.1 × 100 mm	186006406	2.1 × 150 mm	186006411
	3.0 × 100 mm	186006407	3.0 × 100 mm	186006412
	3.0 × 150 mm	186006408	3.0 × 150 mm	186006413
	4.6 × 100 mm	186006409	4.6 × 100 mm	186006414
	4.6 × 150 mm	186006410	4.6 × 150 mm	186006415
			4.6 × 250 mm	186006416
HSS C_{18} SB	2.1 × 100 mm	186006447	2.1 × 150 mm	186006452
	3.0 × 100 mm	186006448	3.0 × 100 mm	186006453
	3.0 × 150 mm	186006449	3.0 × 150 mm	186006454
	4.6 × 100 mm	186006450	4.6 × 100 mm	186006455
	4.6 × 150 mm	186006451	4.6 × 150 mm	186006456
			4.6 × 250 mm	186006457

*Each Method Validation Kit contains 3 columns, each from a different batch.

XSelect Columns Method Validation Kits* *Continued*

	Dimension	P/N	Dimension	P/N
	Particle Size: 3.5 µm		Particle Size: 5 µm	
HSS T3	2.1 × 100 mm	186006488	2.1 × 150 mm	186006493
	3.0 × 100 mm	186006489	3.0 × 100 mm	186006494
	3.0 × 150 mm	186006490	3.0 × 150 mm	186006495
	4.6 × 100 mm	186006491	4.6 × 100 mm	186006496
	4.6 × 150 mm	186006492	4.6 × 150 mm	186006497
			4.6 × 250 mm	186006498
HSS PFP	2.1 × 100 mm	186005890	2.1 × 150 mm	186005895
	3.0 × 100 mm	186005891	3.0 × 100 mm	186005896
	3.0 × 150 mm	186005892	3.0 × 150 mm	186005897
	4.6 × 100 mm	186005893	4.6 × 100 mm	186005898
	4.6 × 150 mm	186005894	4.6 × 150 mm	186005899
			4.6 × 250 mm	186005900
HSS CN	2.1 × 100 mm	186005950	2.1 × 150 mm	186005955
	3.0 × 100 mm	186005951	3.0 × 100 mm	186005956
	3.0 × 150 mm	186005952	3.0 × 150 mm	186005957
	4.6 × 100 mm	186005953	4.6 × 100 mm	186005958
	4.6 × 150 mm	186005954	4.6 × 150 mm	186005959
			4.6 × 250 mm	186005960
Peptide CSH C_{18}	2.1 × 100 mm	186006953		
	4.6 × 100 mm	186006959		

*Each Method Validation Kit contains 3 columns, each from a different batch.

APPLICATION AREA: Chemical Fingerprint of Natural Products

"The XSelect HSS T3 Column made difference in my work results!

Several attempts to obtain the chromatographic profile of a natural product extract were performed with other columns, which showed about
10 substances in the chemical fingerprint. The XSelect HSS T3 Column presented a chromatographic profile of my extract with about 20 substances with incredible separation! Including the substance, I was looking for it was trace in the sample and I did not observe it in the analysis carried out
with the other columns. It was a pleasant surprise and I was amazed with the separation profile obtained in LC-MS analyses."

REVIEWER: Ana Amaral

ORGANIZATION: FIOCRUZ

XSelect VanGuard Cartridges

	Dimension	P/N	Dimension	P/N
	Particle Size: 3.5 µm		Particle Size: 5 µm	
CSH C_{18}	2.1 × 5 mm	186007811	2.1 × 5 mm	186007814
	3.9 × 5 mm	186007813	3.9 × 5 mm	186007816
CSH Fluoro-Phenyl	2.1 × 5 mm	186007820	2.1 × 5 mm	186007824
	3.9 × 5 mm	186007822	3.9 × 5 mm	186007826
CSH Phenyl-Hexyl	2.1 × 5 mm	186007830	2.1 × 5 mm	186007836
	3.9 × 5 mm	186007832	3.9 × 5 mm	186007838
HSS C_{18}	2.1 × 5 mm	186007851	2.1 × 5 mm	186007854
	3.9 × 5 mm	186007853	3.9 × 5 mm	186007856
HSS C_{18} SB	2.1 × 5 mm	186007842	2.1 × 5 mm	186007845
	3.9 × 5 mm	186007844	3.9 × 5 mm	186007847
HSS T3	2.1 × 5 mm	186007878	2.1 × 5 mm	186007881
	3.9 × 5 mm	186007880	3.9 × 5 mm	186007883
HSS PFP	2.1 × 5 mm	186007869	2.1 × 5 mm	186007872
	3.9 × 5 mm	186007871	3.9 × 5 mm	186007874
HSS CN	2.1 × 5 mm	186007860	2.1 × 5 mm	186007863
	3.9 × 5 mm	186007862	3.9 × 5 mm	186007865

Universal VanGuard Cartridge Holder

Description	P/N
Universal VanGuard Cartridge Holder	186007949