

Shodex Columns Equivalents 2015

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Recommendation not guaranteed

SEC (aqueous GFC): PROTEIN KW							
Product code	Shodex	Tosoh	Phenomenex	GE HealthCare	Bio-Rad	Sepax	PSS
	8.0 x 300 mm	7.8 x 300 mm	7.8 x 300 mm	3.2 x 300 mm	7.8 x 300 mm	7.8 x 300 mm	8.0 x 300 mm
F698900	PROTEIN KW-802.5 (150 Å, 5 µm, 5,000-150,000)	TSKgel G2000SWxl	BioSep SEC-x2000	Superdex 75 PC (13 µm)	Bio-Sil SEC 125-S	SRT SEC-100, SRT SEC 150	PROTEEMA 100 Å
F6989103	PROTEIN KW-803 (300 Å, 5 µm, 10,000 - 700,000)	TSKgel G3000SWxl	BioSep SEC-x3000	Superdex 200 PC (13 µm)	Bio-Sil SEC 250-S	SRT SEC-300	PROTEEMA 300 Å
F6989104	PROTEIN KW-804 (500 Å, 7 µm, 10,000 - 1,000,000)	TSKgel G4000SWxl	BioSep SEC-x4000	none	Bio-Sil SEC 400-S	SRT SEC-500	
F6700131	PROTEIN KW-6 (6.0 x 50 mm)	TSKgel Guard 5Mxl	Guard holder		Bio-Sil SEC Guard	SRT SEC Guard	PROTEEMA precolumn
	4.6 x 300 mm	4.6 x 300 mm	4.6 x 300 mm				
F6989201	PROTEIN KW-402.5 4F (150 Å, 3 µm, 150,000)	TSKgel SuperSW2000	Yarra SEC-2000			Zenix SEC-90, Zenix SEC-100, Zenix SEC-150	
F6989202	PROTEIN KW-403 4F (150 Å, 3 µm, 600,000)	TSKgel SuperSW3000	Yarra SEC-3000	Superdex 200 Increase		Zenix SEC-300	
F6989203	PROTEIN KW-404 4F (500 Å, 5 µm, 1,000,000)	none	Yarra SEC-4000			none	
F6989204	PROTEIN KW-405 4F (1,000 Å, 5 µm, 20,000,000)	none	none			none	
F6700132	PROTEIN KW400G-4A (6.0 x 50 mm)	TSKgel Guard SuperSW	Guard holder			precolumn filter	

SEC (aqueous GFC): Ohpak SB-800									
Product code	Shodex	Tosoh	Phenomenex	Agilent (PL)	Waters	Sepax	Thermo Scientific	Jordi Labs	PSS
	8.0 x 300 mm	7.8 x 300 mm	7.8 x 300 mm	7.5 x 300 mm	7.8 x 300 mm	7.8 x 300 mm	7.8 x 300 mm	7.8 x 300 mm	8.0 x 300 mm
F6429100	Ohpak SB-802 HQ (100-4,000)	TSKgel G2500PWxl	PolySep-SEC GFC-P 1000	PL auaagel-OR 20	Ultrahydrogel 120, Ultrahydrogel DP	none	none	none	none
F6429101	Ohpak SB-802.5 HQ (100-10,000)	TSKgel G3000PWxl	PolySep-SEC GFC-P 2000	PL auaagel-OR 30	Ultrahydrogel 250	SRT-C SEC-100	Acclaim SEC-300	Jordi Gel DVB Glucose100 Å	SUPREMA 30 Å
F6429102	Ohpak SB-803 HQ (1,000-100,000)	TSKgel G4000PWxl	PolySep-SEC GFC-P 3000	PL auaagel-OR 40	Ultrahydrogel 500	SRT-C SEC-150	none	Jordi Gel DVB Glucose 500 Å	SUPREMA 100 Å
F6429103	Ohpak SB-804 HQ (1,000-1,000,000)	TSKgel G5000PWxl	PolySep-SEC GFC-P 4000	PL auaagel-OR 50	Ultrahydrogel 1000	SRT-C SEC-300	Acclaim SEC-1000	Jordi Gel DVB Glucose 1,000 Å	SUPREMA 1,000 Å
F6429104	Ohpak SB-805 HQ (10,000-4,000,000)	none	PolySep-SEC GFC-P 5000	none	none	SRT-C SEC-500	none	Jordi Gel DVB Glucose 10,000 Å	SUPREMA 3,000 Å
F6429105	Ohpak SB-806 HQ (100,000-20,000,000)	TSKgel G6000PWxl	PolySep-SEC GFC-P 6000	PL auaagel-OR 60	Ultrahydrogel 2000	SRT-C SEC-1000, SRT-C SEC-2000	none	Jordi Gel DVB Glucose Mixed Bed	SUPREMA 10,000/30,000 Å
F6429106	Ohpak SB-806M HQ (100-20,000,000)	TSKgel GMxl	PolySep-SEC GFC-P Linear	PL auaagel-OR MIXED-H	Ultrahydrogel Linear	none	none	Jordi Gel DVB Glucose Mixed Bed	SUPREMA linear/ultrahigh
F6709430	Ohpak SB-6 (6.0 x 50 mm)	TSKgel Pwxl Guard	PolySep-SEC GFC-P Guard	PL auaagel-OR Guard	Ultrahydrogel Guard	none	none	Jordi Gel DVB Glucose Guard	SUPREMA precolumn
F6429108	Ohpak SB-807 HQ (50,000-500,000,000)							Jordi Gel DVB Glucose 100,000 Å	
F6709431	SB-807G (8.0 x 50 mm)								

Asahipak GF multi-solvent (SEC)			
Product code	Shodex	Tosoh	Jordi Labs
	7.5 x 300 mm	7.8 x 300 mm	7.8 x 300 mm
F760000	Asahipak GF-210 HQ	TSKgel Alpha-2500	none
F760001	Asahipak GF-310 HQ	TSKgel Alpha-3000/4000	Jordi xStream H20 1,000 Å
F760002	Asahipak GF-510 HQ	TSKgel Alpha-5000	Jordi xStream H20 10,000 Å
F760003	Asahipak GF-710 HQ	TSKgel Alpha-6000	Jordi xStream H20 100,000 Å
F760004	Asahipak GF-7M HQ	TSKgel Alpha-M	Jordi xStream H20 Mixed Bed
F6710018	Asahipak GF-1G 78	TSKgel Alpha Guard	Jordi xStream H20 Guard
	4.6 x 150 mm	6.0 x 150 mm	4.6 x 150 mm
	none	TSKgel SuperAW2500	none
F7760312	Asahipak GF-310A-4D	TSKgel SuperAW 3000	Jordi xStream H20 1,000 Å
F7760313	Asahipak GF-510A-4D	TSKgel SuperAW4000	Jordi xStream H20 10,000 Å
F7760314	Asahipak GF-710A-4D	TSKgel SuperAW5000	Jordi xStream H20 100,000 Å
	none	TSKgel SuperAW6000	Jordi xStream H20 Mixed Bed

SEC (organic solvent): GPC							
Product code	Shodex	Tosoh	Agilent (PL)	Waters	Jordi Labs	PSS	
	8.0 x 300 mm	7.8 x 300 mm	7.5 x 300 mm	7.8 x 300 mm	7.8 x 300 mm	8.0 x 300 mm	
F6028010	GPC KF-801	TSKgel G1000Hl	PLgel 10 Å 5 µm	Styrigel HR 0.5	none	SDV 50 Å	
F6028020	GPC KF-802	TSKgel G2000Hl	PLgel 100 Å 5 µm	Styrigel HR 1	Jordi Gel DVB 100 Å	SDV 100 Å	
F6028025	GPC KF-802.5	TSKgel G2500Hl	PLgel 500 Å 5 µm	Styrigel HR 2	Jordi Gel DVB 500 Å	SDV 500 Å / GRAM 30 Å	
F6028030	GPC KF-803	TSKgel G3000Hl	PLgel 10 ³ Å 5 µm	Styrigel HR 3	Jordi Gel DVB 1,000 Å	SDV 1000 Å / GRAM 100 Å	
F6028040	GPC KF-804	TSKgel G4000Hl	PLgel 10 ⁴ Å 5 µm	Styrigel HR 4	Jordi Gel DVB 10,000 Å	SDV 10,000 Å / GRAM 1,000 Å	
F6028050	GPC KF-805	TSKgel G5000Hl	PLgel 10 ⁵ Å 5 µm	Styrigel HR 5	Jordi Gel DVB 100,000 Å	SDV 1,000,000 Å / GRAM 3,000 Å	
F6028060	GPC KF-806	TSKgel G6000Hl	PLgel 10 ⁶ Å 10 µm	Styrigel HR 6	none	SDV 10,000,000 Å / GRAM 10,000 Å	
F6028070	GPC KF-807	TSKgel G7000Hl	none	none	Jordi Gel DVB Mixed Bed	none / GRAM linear	
			none	none	none	none	
F6027030	GPC KF-803L	none	PLgel MIXED E	Styrigel HR 4E	none	none	
F6027040	GPC KF-804L	TSKgel GMHxl-L, mixed-bed	PLgel MIXED D	Styrigel HR 4E	SDV linear S	none	
F6027050	GPC KF-805L	none	PLgel MIXED C	none	SDV linear M / XL	none	
F6027060	GPC KF-806L	TSKgel GMHxl mixed-bed	PLgel MIXED B	Styrigel HR 5E	none	none	
F6027070	GPC KF-807L	none	PLgel MIXED A	Styrigel HR 5E	none	none	
F6700300	GPC KF-G KF=THF	TSKgel Hxl-L Guard	PLgel Guard		Jordi Gel DVB Guard	SDV precolumn	
also available		ks-chloroform, KD-DMP, HFP					
also available		other dimensions: 6.0 x 150, 4.6 x 250					

Product code	Shodex	Tosoh
	8.0 x 300 mm	7.8 x 300 mm
F6021041	GPC LF-804 (multi-pore)	TSKgel Multipore Hxl-M

SUGAR (Ligand exchange)															
Product code	separation mode	analytes	Shodex	USP list	Bio-Rad	Agilent (Polymer Labs)	Phenomenex	Waters	Sepax	Supelco/Sigma-Aldrich	Thermo Scientific	Hamilton	Alltech (Grace)	Transgenomic	Machery-Nagel
			8.0 x 300 mm		7.8 x 300 mm	7.7 x 300 mm	7.8 x 300 mm	6.5 x 300 mm	7.8 x 300 mm	7.8 x 300 mm	7.7 x 300 mm	7.8 x 305 mm	none		
F6378102	ligand exchange + size exclusion	mono-, disaccharides	SUGAR SC1011 / SC1821 (Ca ²⁺)	L19	Aminex HPX-87C (Ca ²⁺)	Hi-Plex PL Ca	Rezex RCM-Monosaccharide Ca+2	Sugar-Pak 1	Carbomix Ca	SupelcoGel Ca	HyperREZ XP Carbohydrate Ca2+	HC-75 Ca2+, HC-40 Ca2+	none	Carbo Sep Coregel 87C	Nucleogel Sugar Ca
F6378105	ligand exchange + size exclusion	mono-, disaccharides	SUGAR SP0810 (Pb ²⁺)	L34	Aminex HPX-87P (Pb2+)	Hi-Plex PL Pb	Rezex RPM-Monosaccharide Pb+2	none	Carbomix Pb	SupelcoGel Pb	HyperREZ XP Carbohydrate Pb2+	HC-75 Pb2+	none	Carbo Sep Coregel 87P, CHO-682	Nucleogel Sugar Pb
F6378010	ligand exchange + size exclusion	mono-, disaccharides	SUGAR KS-801 (Na ⁺)	U58	Aminex HPX-87N (Na+)	Hi-Plex PL Na	Rezex RNM-Carbohydrate Na+	none	Carbomix Na	none	HyperREZ XP Carbohydrate Na+	none	none	Carbo Sep Coregel 87N, CHO-611	Nucleogel Sugar Na
	ligand exchange + size exclusion	oligo-, polysaccharides	SUGAR KS-802 and bigger exclusion limits		none	none	none	none	none	none	none	none	none		
	ligand exchange + size exclusion		none		Aminex HPX-42A (Ag+)	Hi-Plex PL Ag	Rezex RAM-Carbohydrate Ag+	none	none	SupelcoGel Ag	none	none	none		
	ligand exchange + size exclusion		none		Aminex HPX-87K (K+)	Hi-Plex PL K	none	none	Carbomix K	SupelcoGel K	none	none	none	Carbo Sep Coregel 87K	

F6378100	ion exclusion + size exclusion	sugars + organic acids	SUGAR SH1011 (H ⁺)	L17	Aminex HPX-87H (H ⁺)	Hi-Flex PL H	Rezex RHM-Monosaccharide H+	none	Carboxim H	SupelcoGel H	HyperREZ XP Carbohydrate H+	PRP-X200, PRP-X300, HC-75 H+	Prevail Organic Acid	Carbo Sep Coregel 87H	Nucleogel Sugar H
F6378030	ion exclusion	organic acids	RSpak KC-811 (H ⁺)	L17	none	none	Rezex ROA-Organic Acid H+	none	none	none	HyperREZ XP Organic acids	none	Anion exclusion IC column		
F7001003	ligand exchange + HILIC	sugars with sodium salts	RSpak DC-613 (Na ⁺)	L58											
F7001300	ligand exchange + HILIC	dr., trisaccharides	SUGAR SZ5532 (Zn ²⁺)	L58											
F7001400	ligand exchange + HILIC	sugar alcohols	SUGAR SC1211 (Ca ²⁺)	L19							HyperREZ XP Sugar Alcohols				

Reversed Phase (RP): C18

Shodex	Shodex	Shodex	Agilent	Waters	Merck	Phenomenex	Kromasil/Akzo Nobel	Supelco/Sigma-Aldrich
Silica (USP L1)	Polymer	Polymer	Silica	Silica	Silica	Silica	Silica	Silica
Silica C18, Silica C18M, Silica C18P	Asahipak ODP-40, Asahipak ODP-50	ODP2 HP	Zorbax ODS C-18, MetaSil C18, OmniSpher C18, Polaris C18, Pursuit C18	Spherisorb ODS, SunFire C18, Symmetry C18, Atlantis T3/AC18, Xterra RP18, µBondapak C18	LiChrospher RP-18, LiChrosorb RP-18, Superspher RP-18, Purospher RP-18	Kinetex C18, Gemini C18, Luna C18, Jupiter C18, Prodigy C18, Aqua C18, Synergi Fusion-RP/Hydro-RP	Kromasil C18, Eternity C18	Ascentsis C18, SupecoSIL LC-18,
			Thermo Fisher/Dionex	Machery-Nagel	Hichrom	GL Sciences	Restek	Shiseido
			Silica	Silica	Silica	Silica	Silica	Silica
			Acclaim 120 C18, Hypersil ODS (C18), BetaSil C18	Nucleosil C18, Nucleodur C18	Partisil ODS	Inertsil ODS	Pinnacle C18, Viva C18, Allure C18, Ultra C18	Capcell Pak C18
other dimensions available, please compare particle size and pore size								

Product code	Shodex Polymer	Agilent	Waters	Thermo Scientific/Dionex	Supelco/Sigma-Aldrich
F7009000	RSpak RP18-415 (protein) (450 Å)	Poroshell 300 C18, Zorbax 300SB-C18	Symmetry300 C18	Acclaim 300 C18 (protein)	SUPELCOSIL LC-304

HILIC: Asahipak NH2P (Amino)

Shodex	Sepax	Tosoh	Agilent	Waters	Kromasil/Akzo Nobel	Supelco/Sigma-Aldrich	Merck	Restek
Asahipak NH2P (polymer-based)	HP-Amino	TSKgel NH2-100	ZORBAX NH2	Spherisorb Amino (NH2)	Kromasil NH2	SUPELCOSIL LC-NH2	LiChrospher NH2, Purospher STAR NH2	Pinnacle II Amino, Hypersil AFS 2 Amino
available in different dimensions and particle sizes								

IC (anion and cation exchange)

Product code	Shodex	Tosoh	Sepax	Thermo Scientific	Agilent (PL)	Hamilton	GE HealthCare
F6110011	strong anion exchange SAX, quaternary ammonium	IEC QA-825	Proteomix SAX	OmniPac PAX-100	PL SA, Bio IEX SAX	PRP-X500	Mono Q
F6118255	weak anion exchange WAX, diethylaminoethyl	IEC DEAE-825	TSKgel DEAE-SPW	Proteomix WAX	Bio IEX WAX		
F6112110	weak anion exchange WAX, dimethylaminoethyl (DMAC)	PIKES DEAE-2B	TSKgel DEAE-NPR				
F6118250	strong cation exchange SCX, sulfopropyl	IEC SP-825	TSKgel SP-SPW	Proteomix SCX	PL SCX, Bio IEX SCX		Mono S
F6113110	strong cation exchange SCX, sulfopropyl (HPLC)	PIKES SP-2B	TSKgel SP-NPR		Bio IEX WCX		
F6110002	weak cation exchange WCX, carboxymethyl	IEC CM-825	TSKgel CM-SPW	Proteomix SCX			

Mixed mode/ dual mode: RP + IEX

Product code	Shodex	Thermo scientific
F7008240	RSpak JI-50 4D (RP + SAX)	OmniPac PAX-500
		Acclaim Mixed-Mode WAX
F7008160	RSpak NN-414 (RP + SCX)	OmniPac PCX-500
		Acclaim Mixed-Mode WCX

Ion Chromatography (IC)

	Product code	Shodex	Thermo Scientific (Dionex)	Metrohm	Grace (Alltech)	Hamilton	Biokal
anions (fluoride, phosphate)	F6995243	IC NI-424 (non-suppressor)	5 µm, 4.6 x 100 mm, steel	Anion/78		PRP-X100	MCI-Gel SCA04
anions (fluoride, phosphate)	F6995240	IC S244 (non-suppressor)	12 µm, 4.6 x 100 mm, steel	Anion/5			
standard anions	F6995244	IC S1-90 4E (suppressor, Na2CO3)	9 µm, 4.0 x 250 mm, PEEK	IonPac AS22, AS 4A-5C,	Metrosep A Supp4	PRP-X110S	
standard anions	F6995245	IC S1-90 4E (suppressor, Na2CO3)	5 µm, 4.0 x 250 mm, PEEK	AS12A, AS14, AS14A	Metrosep A Supp5	PRP-X110	
oxyhalides-anions	F6995290	IC S1-35 4D (suppressor, Na2CO3)	5.5 µm, 4.0 x 150 mm, PEEK	IonPac AS23, AS29-HC, AS29-5C	Novosep A-2, Novosep A-1		
oxyhalides-anions	F6995260	IC S1-52 4E (suppressor, Na2CO3)	5 µm, 4.0 x 250 mm, PEEK		Metrosep A Supp7		
cations	F7123000	IC VS-50 (suppressor/non-suppressor)	5 µm, 4.6 x 125 mm, steel	CS12, CS14, CS19			MCI-Gel SCK01
cations (mono-, divalent, divalent)	F7120012	IC WX-421 (non-suppressor)	5 µm, 4.6 x 125 mm, steel	Metrosep C1			
cations (mono-, divalent)	F6995210	IC WX-521 (non-suppressor)	12 µm, 4.6 x 150 mm, steel	CS10	Metrosep C5	PRP-X200	
cations (transition metals)	F6995250	IC T-521 (non-suppressor)	12 µm, 4.6 x 150 mm, PEEK	IonPac CS 5A		PRP-X800	

No equivalents, because solvent is NaOH: IonPac AS10, AS11, AS15, AS16, AS17, AS18, AS19, AS20, AS21, AS24, AS25, AS26, AS27