



Columnas SkillPak™ 1 mL y 5 mL preempaquetadas

Kits y Columnas
para la Evaluación Rápida de Biomoléculas
Anticuerpos monoclonales, Proteínas
y Oligonucleótidos



Desarrollo Rápido de Métodos

Selección de Resinas

Concentración de Muestras

Purificación y separación de biomoléculas

Desde plataformas de diseño a planta piloto

Utilizables con cromatógrafos LPLC o MPLC

Exclusión Molecular

Intercambio Iónico

Interacción Hidrofóbica

Afinidad

Hidroxiapatito

Modo Mixto

DESCUENTO DEL 10% CON EL CÓDIGO #CAM263

VÁLIDO HASTA 30/04/22

INDIQUE #CAM263 EN SU PEDIDO

Selección Skillpack 1mL

#CAM263

Part # Description

Cromatografía de Afinidad

TH-45200	SkillPak TOYOPEARL AF-rProtein L-650F 1 mL column	PVP 131 €
TH-45221	SkillPak TOYOPEARL AF-rProtein L-650F 1 mL columns (qty. 5)	PVP 667 €
TH-45201	SkillPak TOYOPEARL AF-rProtein A HC-650F 1 mL column	PVP 131 €
TH-45222	SkillPak TOYOPEARL AF-rProtein A HC-650F 1 mL columns (qty. 5)	PVP 667 €
TH-45202	SkillPak TOYOPEARL AF-Chelate-650M 1 mL column	PVP 61 €

Cromatografía de Intercambio Iónico

TH-45203	SkillPak TOYOPEARL GigaCap Q-650M 1 mL columns (qty. 5)	PVP 231 €
TH-45204	SkillPak TOYOPEARL GigaCap S-650S 1 mL columns (qty. 5)	PVP 253 €
TH-45205	SkillPak TOYOPEARL Sulfate-650F 1 mL columns (qty. 5)	PVP 231 €
TH-45206	SkillPak TOYOPEARL SuperQ-650S 1 mL columns (qty. 5)	PVP 231 €
TH-45207	SkillPak TSKgel SP-5PW (20) 1 mL columns (qty. 5)	PVP 253 €
TH-45208	SkillPak TSKgel SuperQ-5PW (20) 1 mL columns (qty. 5)	PVP 253 €
TH-45209	SkillPak TOYOPEARL NH2-750F 1 mL columns (qty. 5)	PVP 231 €
TH-45210	SkillPak TOYOPEARL GigaCap DEAE-650M 1 mL columns (qty. 5)	PVP 231 €
TH-45211	SkillPak TOYOPEARL GigaCap CM-650M 1 mL columns (qty. 5)	PVP 231 €
TH-45212	SkillPak TOYOPEARL QAE-550C 1 mL columns (qty. 5)	PVP 231 €
TH-45213	SkillPak TOYOPEARL SP-550C 1 mL columns (qty. 5)	PVP 231 €

Cromatografía de Interacción Hidrofóbica

TH-45214	SkillPak TOYOPEARL Butyl-600M 1 mL columns (qty. 5)	PVP 231 €
TH-45215	SkillPak TOYOPEARL Butyl-650M 1 mL columns (qty. 5)	PVP 231 €
TH-45216	SkillPak TOYOPEARL Phenyl-600M 1 mL columns (qty. 5)	PVP 231 €
TH-45217	SkillPak TOYOPEARL Phenyl-650M 1 mL columns (qty. 5)	PVP 231 €
TH-45218	SkillPak TOYOPEARL PPG-600M 1 mL columns (qty. 5)	PVP 231 €
TH-45219	SkillPak TOYOPEARL Hexyl-650C 1 mL columns (qty. 5)	PVP 231 €
TH-45220	SkillPak TOYOPEARL Ether-650M 1 mL columns (qty. 5)	PVP 231 €

Cromatografía de Modo Mixto

TH-45224	SkillPak TOYOPEARL MX-Trp-650M 1 mL columns (qty. 5)	PVP 231 €
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Cromatografía de Exclusión por Tamaño

TH-45223	SkillPak TOYOPEARL HW-40F 1 mL columns (qty. 5)	PVP 231 €
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Cromatografía de Hidroxiapatito

TH-45225	SkillPak Ca++Pure-HA 1 mL column	PVP 253 €
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Librerías de Columnas

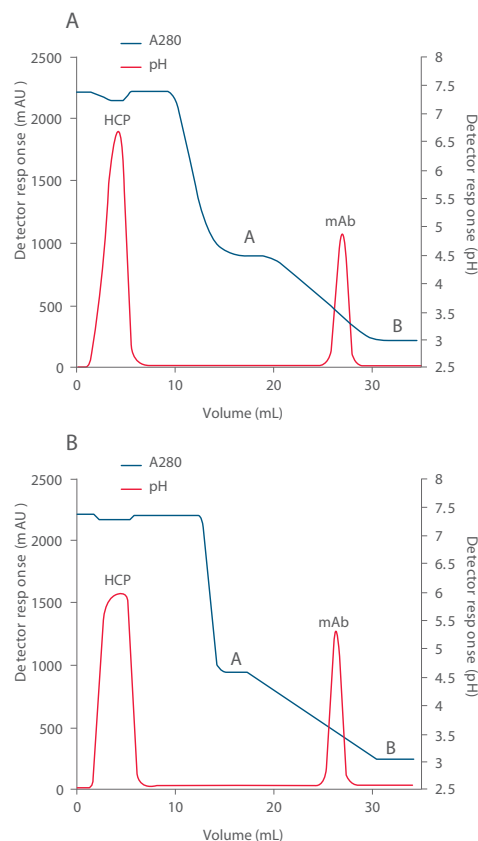
TH-45226	SkillPak Anion Exchange 1 mL column library, 1 mL × 2 each (TOYOPEARL GigaCap Q-650M, GigaCap DEAE-650M, NH2-750F)	PVP 278 €
TH-45227	SkillPak Cation Exchange 1 mL column library, 1 mL × 2 each (TOYOPEARL GigaCap S-650S, GigaCap CM-650M, Sulfate-650F)	PVP 287 €
TH-45228	SkillPak Antibody 1 mL column library, 1 mL × 1 each (TOYOPEARL AF-rProtein A HC-650F, AF-rProtein L-650F, NH2-750F, Sulfate-650F, GigaCap Q-650M, GigaCap S-650S)	PVP 406 €
TH-45229	SkillPak mAb Platform 1 mL column library, 1 mL × 2 each (TOYOPEARL AF-rProtein A HC-650F, Sulfate-650F, NH2-750F)	PVP 400 €
TH-45230	SkillPak Salt Tolerant 1 mL column library, 1 mL × 3 each (TOYOPEARL Sulfate-650F, NH2-750F)	PVP 278 €
TH-45231	SkillPak Mixed Mode 1 mL column library, 1 mL × 3 each (Ca++Pure-HA, TOYOPEARL MX-Trp-650M)	PVP 291 €
TH-45232	SkillPak Best-in-Class 1 mL column library, 1 mL × 1 each (Ca++Pure-HA, TOYOPEARL AF-rProtein A HC-650F, AF-rProtein L-650F, NH2-750F, Sulfate-650F)	PVP 357 €
TH-45233	SkillPak HIC 1 mL column library, 1 mL × 1 each (TOYOPEARL Butyl-650M, Phenyl-650M, PPG-600M, Hexyl-650C, Ether-650M)	PVP 231 €
TH-45236	SkillPak HIC 1 mL column library, 1 mL × 2 each (TOYOPEARL Butyl-600M, Phenyl-600M, PPG-600M)	PVP 278 €



ESPECIFICACIONES DE LAS COLUMNAS SkillPak 1 mL

Dimensiones de Columna	7 mm ID × 2.5 cm altura de lecho
Volumen	1 mL
Flujo máximo	4 mL/min (600 cm/hr)
Presión de Trabajo Máxima	0.3 MPa
Conexiones con roscas estándar	(10-32 para 1/16 " Capilar)
Tampón de Envío	20% etanol para TOYOPEARL y TSKgel [con la excepción de 0.5 mol/L de citrato sódico con 20% etanol para TSKgel SP-5PW (20) y SuperQ-5PW (20)], 20 mmol/L fosfato sódico con 20% etanol para Ca++Pure-HA

ELUCIÓN POR CAMBIO DE pH de mAb usando la columna SkillPak 1 mL TOYOPEARL AF-rProtein A HC-650F (PANEL A); Columna SkillPak 5 mL TOYOPEARL AF-rProtein A HC-650F (PANEL B)



Selección Skillpack 5mL

#CAM263

Part # Description

Cromatografía de Afinidad

TH-45257	SkillPak TOYOPEARL AF-rProtein L-650F 5 mL column	PVP 389 €
TH-45258	SkillPak TOYOPEARL AF-rProtein A HC-650F 5 mL column	PVP 389 €
TH-45259	SkillPak TOYOPEARL AF-Chelate-650M 5 mL column	PVP 268 €

Cromatografía de Intercambio Iónico

TH-45239	SkillPak TOYOPEARL GigaCap Q-650M 5 mL column	PVP 191 €
TH-45240	SkillPak TOYOPEARL GigaCap S-650S 5 mL column	PVP 214 €
TH-45241	SkillPak TOYOPEARL Sulfate-650F 5 mL column	PVP 191 €
TH-45242	SkillPak TOYOPEARL SuperQ-650S 5 mL column	PVP 191 €
TH-45243	SkillPak TSKgel SP-5PW (20) 5 mL column	PVP 214 €
TH-45244	SkillPak TSKgel SuperQ-5PW (20) 5 mL column	PVP 214 €
TH-45245	SkillPak TOYOPEARL NH2-750F 5 mL column	PVP 191 €
TH-45246	SkillPak TOYOPEARL GigaCap DEAE-650M 5 mL column	PVP 191 €
TH-45247	SkillPak TOYOPEARL GigaCap CM-650M 5 mL column	PVP 191 €
TH-45248	SkillPak TOYOPEARL QAE-550C 5 mL column	PVP 191 €
TH-45249	SkillPak TOYOPEARL SP-550C 5 mL column	PVP 191 €



Cromatografía de Interacción Hidrofóbica

TH-45250	SkillPak TOYOPEARL Butyl-600M 5 mL column	PVP 191 €
TH-45251	SkillPak TOYOPEARL Butyl-650M 5 mL column	PVP 191 €
TH-45252	SkillPak TOYOPEARL Phenyl-600M 5 mL column	PVP 191 €
TH-45253	SkillPak TOYOPEARL Phenyl-650M 5 mL column	PVP 191 €
TH-45254	SkillPak TOYOPEARL PPG-600M 5 mL column	PVP 191 €
TH-45255	SkillPak TOYOPEARL Hexyl-650C 5 mL column	PVP 191 €
TH-45256	SkillPak TOYOPEARL Ether-650M 5 mL column	PVP 191 €

Cromatografía de Modo Mixto

TH-45261	SkillPak TOYOPEARL MX-Trp-650M 5 mL column	PVP 191 €
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Cromatografía de Exclusión por Tamaño

TH-45260	SkillPak TOYOPEARL HW-40F 5 mL column	PVP 182 €
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Cromatografía de Hidroxiapatito

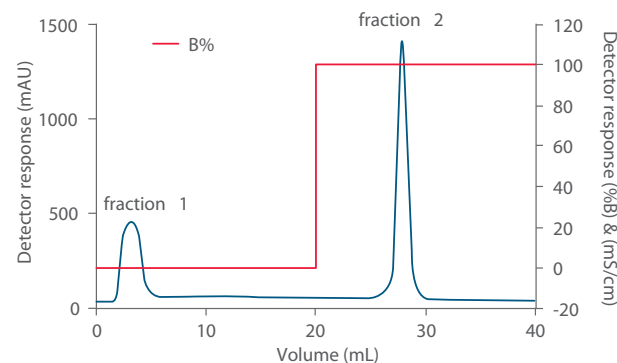
TH-45262	SkillPak Ca++ Pure-HA 5 mL column	PVP 214 €
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Librerías de Columnas

TH-45263	SkillPak mAb Platform 5 mL column library, 5 mL × 1 each (TOYOPEARL AF-rProtein A HC-650F, Sulfate-650F, NH2-750F)	PVP 701 €
TH-45264	SkillPak Salt Tolerant 5 mL column library, 5 mL × 1 each (TOYOPEARL Sulfate-650F, NH2-750F)	PVP 386 €
TH-45265	SkillPak Mixed Mode 5 mL column library, 5 mL × 1 each (Ca ++Pure-HA, TOYOPEARL MX-Trp-650M)	PVP 408 €
TH-45266	SkillPak Best-in-Class 5 mL column library, 5 mL x 1 each (Ca ++Pure-HA, TOYOPEARL AF-rProtein A HC-650F, AF-rProtein L-650F, NH 2-750F, Sulfate-650F)	PVP 1232 €

Dimensiones de Columna	8 mm ID × 10 cm altura de lecho
Volumen	5 mL
Flujo estándar	1.3 mL/min (150 cm/hr)
Flujo Máximo	5 mL/min (600 cm/hr) para TOYOPEARL M Y resinas de grado C; 2.5 mL/min (300 cm/hr) para TSKgel, Ca++Pure-HA y TOYOPEARL S- y resinas de grado F, incluido TOYOPEARL AF-rProtein A HC-650F y TOYOPEARL AF-rProtein L-650F
Presión de Trabajo Máxima	0.3 MPa para resinas TOYOPEARL, ≤ 0.4 MPa Para resinas TSKgel y Ca++Pure-HA
Conexiones con roscas estándar	(10-32 para 1/16" Capilar)
Tampón de Envío	20% etanol para TOYOPEARL y TSKgel 20 mmol/L fosfato sódico con 20% etanol para Ca++Pure-HA
Factor de Asimetría (As)	0.8-1.04 para TOYOPEARL y TSKgel, 0.8-2.6 para Ca++Pure-HA

CAPTURA DE Fab USANDO LA COLUMNA SkillPak 1 mL TOYOPEARL AF-rProtein L-650F



Column: SkillPak 1 mL TOYOPEARL AF-rProtein L-650F
Flow rate: 0.5 mL/min
Mobile phase: A: 0.1 mol/L citrate buffer, pH 6.5
B: 0.1 mol/L citrate buffer, pH 2.2
Detection: UV @ 280 nm
Sample: papain-digested human IgG1

DESCUENTO DEL 10% CON EL CÓDIGO #CAM263
VÁLIDO HASTA 30/04/22

INDIQUE #CAM263 EN SU PEDIDO

PROCESS MEDIA - FIND YOUR BEST FIT!

TOYOPEARL®, TSKgel®, and CA⁺⁺PURE-HA® Chromatography Resins

Biomolecules are purified by a succession of chromatography steps. Each step uses a different mode of separation, based on specific interactions between the biomolecules and the packing material.

The various modes are based on specific physical, chemical, or biological features of the target or sample, like size, charge, hydrophobicity, function or specific content of the molecule.

TOSOH BIOSCIENCE offers a comprehensive line of media and pre-packed columns for all modes of liquid chromatography - affinity, ion-exchange, mixed-mode, hydrophobic, hydroxyapatite, and size exclusion.

AFC Affinity Chromatography

AF-rProtein A HC-650F binds to the Fc part of antibodies. It allows for increased productivity and reduced production costs. IgG DBCs over 100 g/L can even be observed at higher titers. This prevents DSP bottlenecks even at short residence times.

AF-rProtein L-650F binds to the Kappa-light chain of antibodies and antibody derivatives. It excels all other commercially available protein L media with regards to binding capacity and robustness. It is especially suited for the purification of new antibody formats such as antibody fragments, single chain variable fragments, domain antibodies and immunoglobulin types that cannot be purified with Protein A media.

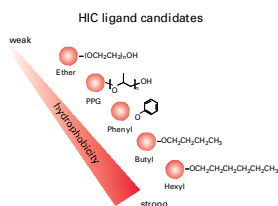
Antibody AFC resins	Min. static capacity (mAb)	Special feature
PROTEIN A		
AF-rProtein A HC-650F	68 g/L	Highest binding capacity
AF-rProtein A-650F	45 g/L	Fast flow rates
PROTEIN L		
AF-rProtein L-650F	64 g/L	Highest binding for non-standard mAb formats
Other AFC resins		
GROUP SPECIFIC	ACTIVATED RESINS*	REACTIVE RESINS*
AF-Chelate-650M	AF-Tresyl-650M	AF-Formyl-650M
AF-Red-650M	AF-Epoxy-650M	AF-Amino-650M
AF-Heparin HC-650M		AF-Carboxy-650M

* Activated and reactive resins are used to couple your ligand of choice.

HIC Hydrophobic Interaction Chromatography

The large choice of pore and particle sizes for TOYOPEARL and TSKgel HIC resins gives the possibility to screen for the resin offering at the same time the highest binding capacity, the highest recovery, and the highest selectivity.

PPG-600M is specially well suited for the purification of antibodies and antibody-drug conjugates.



HIC resins	Typical capacity (g/L) Lysozyme (L) or mAb (A)	Special feature Target molecules
Ether-650 (S, M)	20 (L)	Very hydrophobic proteins
PPG-600M	30 (A)	Antibodies and ADCs
Phenyl-600M	50 (A)	Antibodies
Phenyl-650 (S, M, C)	30 (A)	Recombinant proteins
SuperButyl-550C	40 (L)	Recombinant proteins
Butyl-600M	50 (A)	Antibodies
Butyl-650 (S, M, C)	40 (L)	Recombinant proteins
Hexyl-650C	40 (L)	Hydrophilic proteins
Ether-5PW (20, 30)	20 (L)	Very hydrophobic proteins
Phenyl-5PW (20, 30)	20 (L)	Highest resolution

MXC Mixed Mode Chromatography

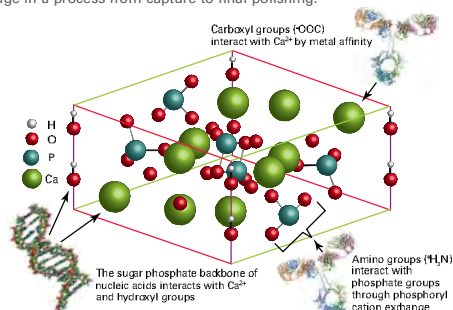
MX-Trp-650M is a multimodal resin with unique selectivity and high recovery. Its ligands have both ionic and hydrophobic groups. This unique ligand allows the separation of acidic, basic, and neutral proteins by one resin. It provides high binding capacity and outstanding selectivity for mAbs and mAb aggregates.

MXC resins	Typical capacity (mAb)	Recovery (mAb)
MX-Trp-650M	95 g/L	97 %



HA Hydroxyapatite

Ca⁺⁺Pure-HA provides exceptional separation properties and unequalled selectivity and resolution for multiple classes of biomolecules. The robust nature of Ca⁺⁺Pure-HA offers the flexibility to use this resin at any stage in a process from capture to final polishing.



HA resin	Typical capacity (human IgG)
Ca ⁺⁺ Pure-HA	> 30 g/L (2 min residence time)

IEC Ion Exchange Chromatography

Sulfate-650F is a highly selective, salt tolerant and high capacity cation exchange resin for the capture and intermediate polishing of biomolecules. It offers the ability to use mobile phases at physiological conditions without any loss of capacity or selectivity.

NH2-750F is a salt-tolerant anion-exchange resin, working both in flow-through and bind/elute mode. It is ideal for removing impurities from target proteins without dilution, or for intermediate or final purification of monoclonal antibodies. One of its major benefits is the possibility to remove aggregates as well as endotoxins, HCPs, viruses and DNA in a single step.

SuperQ-5PW (20) is the industry standard for the purification of oligonucleotides.

IEC resins	Typical capacity (g/L resin) BSA Lysozyme mAb Insulin	Special feature Target molecules
STRONG ANION EXCHANGERS		
NH2-750F	70	Salt-tolerant
GigaCap Q-650 (S, M)	150	Highest capacity
SuperQ-650 (S, M, C)	145	Proteins <50 kDa
Q-600C AR	110	Alkaline stability
QAE-550C	50	Capturing of small proteins
SuperQ-5PW (20, 30)		Oligonucleotides
WEAK ANION EXCHANGERS		
GigaCap DEAE-650M		Blood products and nucleic acids.
DEAE-650 (S, M, C)	25	GigaCap - highest capacity
DEAE-5PW (20, 30)		

STRONG CATION EXCHANGERS				
Sulfate-650F		115		Salt-tolerant
GigaCap S-650 (S, M)	200	150	140	Highest capacity
SP-650 (S, M, C)	40	10	50	Cost efficient
SP-550C	100	15	80	Capturing of small proteins
MegaCap II SP-550EC	70		90	Insulin capturing
SP-3PW (30)			65	Insulin polishing
SP-5PW (20, 30)			30	Highest resolution
WEAK CATION EXCHANGERS				
GigaCap CM-650M	35	100		Highest capacity
CM-650 (S, M, C)	35			Cost efficient

SEC Size Exclusion Chromatography

All TOYOPEARL resins are based on the polymeric HW-type beads. Their rigid polymeric backbone has better pressure-flow properties than most other commercially made materials. The base resins are stable over the pH 2-12 range for operating conditions and pH 1-13 for cleaning conditions.

SEC resins	Pore size	Target molecules
HW-40 (S, F, C)	5 nm	Separation of low MW compounds / buffer exchange
HW-50 (S, F)	12.5 nm	Peptide fragments
HW-55 (S, F)	50 nm	Proteins and antibodies
HW-65 (S, F, C)	100 nm	
HW-75 (F)	> 100 nm	Large nucleic acids, viruses and plasmid DNA

WHAT'S IN A NAME?

1. Resin types

Tosoh Bioscience offers three base beads: TOYOPEARL, TSKgel, and Ca⁺⁺Pure-HA.

TOYOPEARL and TSKgel products are hydroxylated methacrylic polymer resins and are offered in many different pore sizes and particle diameters. The key differences between the two types are particle size availability, degree of crosslinking, dynamic binding capacity, and operating pressures.

Since similarly functionalized TOYOPEARL and TSKgel resins have the same backbone polymer chemistry, the selectivity remains the same when scaling up or down.

Unlike all other TOYOPEARL and TSKgel products, Ca⁺⁺Pure-HA is a hydroxyapatite resin. Ca⁺⁺Pure-HA is a spherical, macroporous form of the hexagonal crystalline structure of Ca₁₀(PO₄)₆(OH)₂.

2. Particle sizes

Grade	TOYOPEARL	GigaCap	TSKgel	Ca ⁺⁺ Pure-HA
EC	200 µm			
C	100 µm (SEC are 75 µm)			
M	65 µm (MX-Trp is 75 µm)	75 µm		
F	45 µm			
S	35 µm (SEC are 30 µm)	35 µm		
(30)			30 µm	
(20)			20 µm	
HA				39 µm

3. Pore sizes of base media for AFC, MXC, IEC, and HIC

TOYOPEARL	Base resin	Pore size
TOYOPEARL 550 resins	HW-55 base resin	50 nm
TOYOPEARL 600 resins	HW-60 base resin	75 nm
TOYOPEARL 650 resins	HW-65 base resin	100 nm
TOYOPEARL 750 resins	HW-75 base resin	> 100 nm
TSKgel 3PW resin	PW-3000 base resin	25 nm
TSKgel 5PW resin	PW-5000 base resin	100 nm