(U)HPLC columns – find your best fit!

TSKgel® - Column technology since > 50 years!

SEC-Size exclusion chromatography

HPLC SEC columns

The gold-standard for aggregate and fragment analysis in mAbs and biopharmaceuticals is the **G3000SWXL** column and its improved version **SuperSW3000**.

UHPLC SEC columns

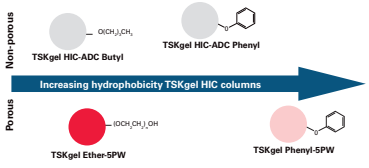
Our UHPLC-compatible **UP-SW** columns are available in different pore sizes and valued for their robustness, repeatability and long lifetime.

Column	ID × L (mm)	TP 30 cm	$Flow_{max}$ ml/min
G3000SWXL (5 µm)	7.8×300/150	20000	1.2
SuperSW3000 (4 µm)	4.6×300/150	30000	0.4
UP-SW3000 (2 µm)	4.6×300/150	45000	0.35/0.5
G2000SWXL (5 µm)	7.8×300/150	20000	1.2
SuperSW2000 (4 µm)	4.6×300	30000	0.4
UP-SW2000 (2 µm)	4.6×300/150	45000	0.35/0.5
G4000SWXL (8 µm)	7.8×300	16000	1.2
UP-SW Aggregate (3µm)	4.6×300/150	35000	0.35/0.5

HIC-Hydrophobic interaction chromatography

HIC-ADC columns are modern non-porous HIC columns with high reproducibility, excellent separation performance and long lifetimes. They are available with different ligands and hydrophobicities to serve differently hydrophobic molecules. Typical applications include drug-antibody ratio (DAR) analysis of antibody-drug conjugates (ADCs), antibody-oligo-conjugates, hydrophobicity screening of drug candidates and recombination efficiency in multi-specifics.

The porous HIC-columns **Ether-5PW and Phenyl-5PW** have a higher binding capacity and serve semi-preparative applications.



Column	ID × L (mm)
HIC-ADC Butyl (5 µm)	4.6×35/100
HIC-ADC Phenyl (5 µm)	4.6×35/100
Ether-5PW (10 µm)	2.0/7.5×75
Phenyl-5PW (10 µm)	2.0/7.5×75

RPC-Reversed phase chromatography

ODS-100 columns general purpose C18 columns and can be used for small molecules, nucleotides, peptide mapping, vitamins and organic acids. It comes in two different hydrophobicities to allow for more hydrophobic and less hydrophobic molecule analysis.

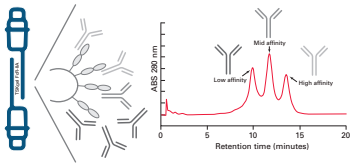
The **Protein C4-300** column is a large pore column with lower hydrophobicity to analyze full proteins.

Column	Available in custom prep dimensions
ODS-100V (3 or 5 µm)	15 % carbon, stands 100 % water, end-capped, more polar molecules
ODS-100Z (3 or 5 µm)	20 % carbon, end-capped, more hydrophobic molecules
Protein C4-300 (3 µm)	3 % carbon, end-capped, full protein analysis

AFC-Affinity chromatography

Protein A-5PW selectively captures Fc-containing mAb-derived therapeutics and is a reliable partner with long lifetimes for titer-determinations during up-stream processing.

FcR-IIIA columns are coupled with a ligand resembling an Fc-receptor found on human immune cells that binds glycosylated Fc parts of mAbs. The elution profile reports on the glycosylation status and the ADCC mode of action of therapeutic mAbs.



FcR-IIIA affinity separation

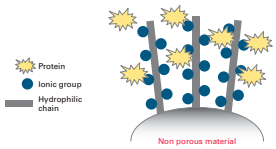
Column	ID × L (mm)	
Protein A-5PW (20 µm)	4.6×3.5	mAb -Titer
FcR-IIIA-NPR (5 µm)	4.6×75	mAb Glycan/ADCC - analysis
FcR-IIIA-5PW (10 µm)	7.8×100	mAb Glycan/ADCC - prep

IEX-Ion exchange chromatography

The **DNA-NPR** weak anion-exchange column is the workhorse for plasmid isoform separations and oligonucleotides. Its small, non-porous polymeric particles show efficient separations due to low mass transfer restistance and offer high pH-stability.

The **CM-STAT and SP-STAT** cation exchange columns are the first choice for charge variant analysis in proteins, mAbs or bispecifics.

The **Q-STAT** anion-exchange column is established for full-empty separations of AAVs using a non-toxic method. All **STAT** columns are non-porous for fast and resolutive separations while exhibiting extended binding capacity due to hydrophilic chains for ligand coupling.



Column	ID × L (mm)	Particle
DNA-NPR (WAX)	4.6×75	2.5 µm
Q-STAT (SAX)	4.6×100/3×35	7/10 µm
CM-STAT(WCX)	4.6×100/3×35	7/10 µm
SP-STAT (SCX)	4.6×100/3×35	7/10 µm

Hydrophilic interaction chromatography

Amide-80 columns are available in various particle sizes and dimensions to cover UHPLC, HPLC and semi-preparative applications. They stand out due to low secondary interaction, high durability and the possibility to run high-speed separations. They are established for analysis of glycans, glycopeptides, oligonucleotides or amino acids. Its low leaching favors the combination with mass spectrometry.

NH_2-100 HILIC columns offer an alternative and ionizable amino ligand for separation of anion compounds in a mixed-mode fashion.

Column	
Amide-80 (2; 3; 5; 10 µm	Carbomoyl ligand, various column dimensions for high-speed UHPLC up to semi-prep applications, for analysis of glycans, peptides, oligos, vitamins...
NH_2 (3 µm)	Amino ligand, direct connect version available for RPC-coupling, can mix with AEX-mode depending on conditions

TOSOH BIOSCIENCE

SEPARATION & PURIFICATION

CONNECTING MINDS. TOUCHING LIVES.