

**NEW**

Bioinert Coated Columns  
**YMC Accura BioPro IEX**

**Oligonucleotides**  
**Antibodies &  
Proteins**  
**LC/MS Analyses**



**Highly accurate results**  
**Exceptional recoveries**  
**High throughput**  
**Excellent reproducibility**

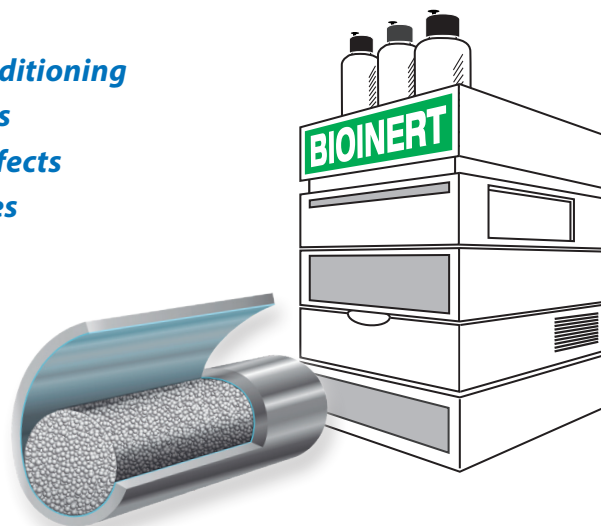
# Non-porous YMC Accura BioPro IEX

## Features

- Exceptionally high recoveries without preconditioning
- Very sharp peak shapes with high sensitivities
- Superior reproducibility and no carry-over effects
- High efficiency and rapid throughput analyses
- New rigid surface coated hardware

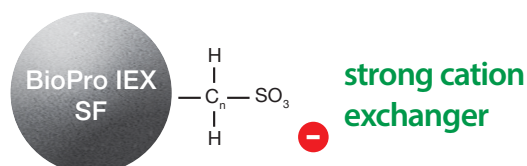
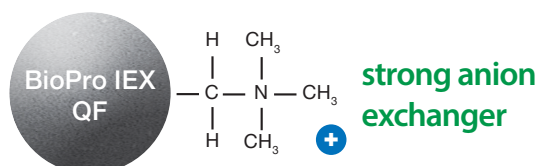
## Ideal choice for

- Oligonucleotides, nucleotides
- Antibodies, proteins and peptides
- Sensitive LC/MS analyses

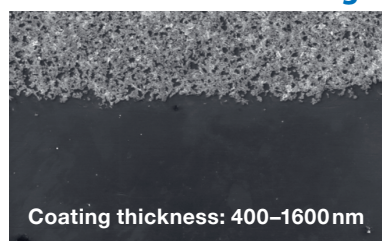


## Specification

	YMC Accura BioPro IEX QF	YMC Accura BioPro IEX SF
Matrix	hydrophilic polymer (polymethacrylate)	hydrophilic polymer (polymethacrylate)
Particle size / $\mu\text{m}$	3, 5	3, 5
Pore size / nm	non-porous	non-porous
Charged group	$-\text{CH}_2\text{N}^+(\text{CH}_3)_3$	$-(\text{CH}_2)_3\text{SO}_3^-$
Counter ion	$\text{Cl}^-$	$\text{Na}^+$
Available pH range	2.0–12.0	2.0–12.0
Temperature range	4–60 °C	
Pressure limit	3 $\mu\text{m}$ : 15–20 MPa, 5 $\mu\text{m}$ : 10–30 MPa	
Column hardware	bioinert coated stainless steel	
Frit hardware		



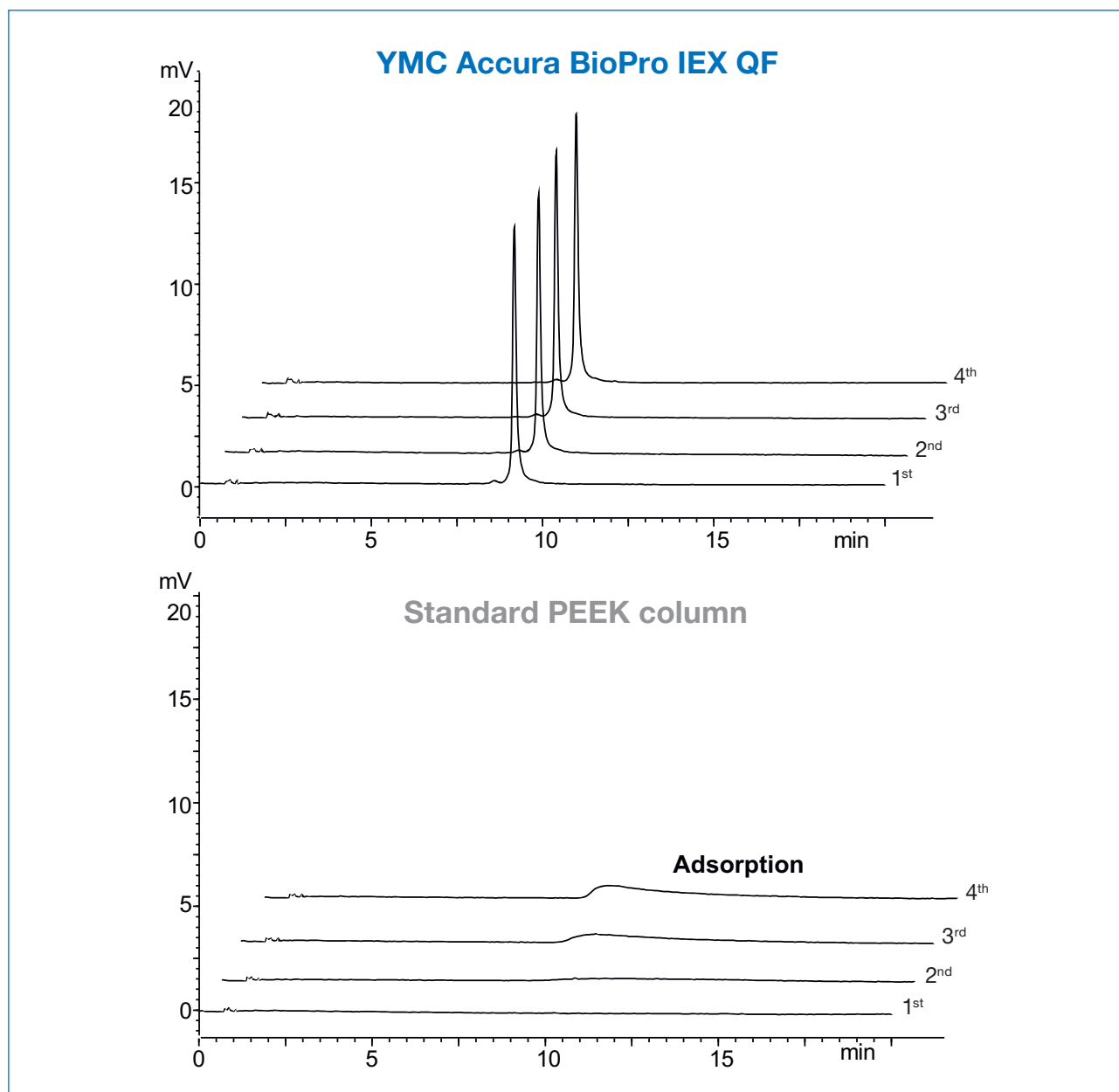
## Durable bioinert coating



The robust bioinert coating used on YMC Accura hardware is 130 to 320-fold thicker making it more durable than other similar hardware concepts. A long-term inertness against sensitive substances is ensured. In order to demonstrate its robustness, a YMC Accura column was packed multiple times. Even though this is quite a challenge for the column surface, the coating remains unaffected (SEM\* picture: top area is bare steel for comparison).

\*Scanning Electron Microscope

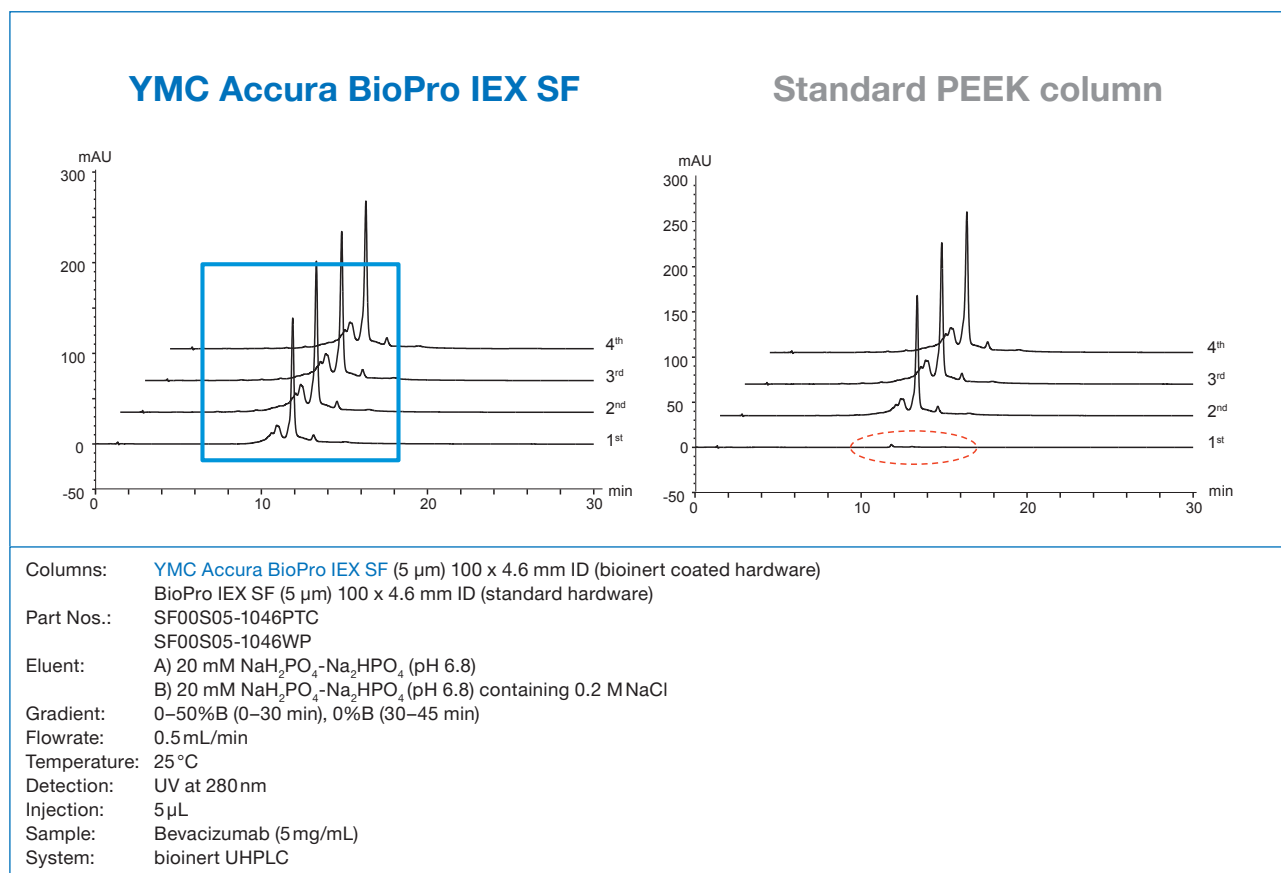
## Sharp peaks and reliable recovery for oligonucleotides



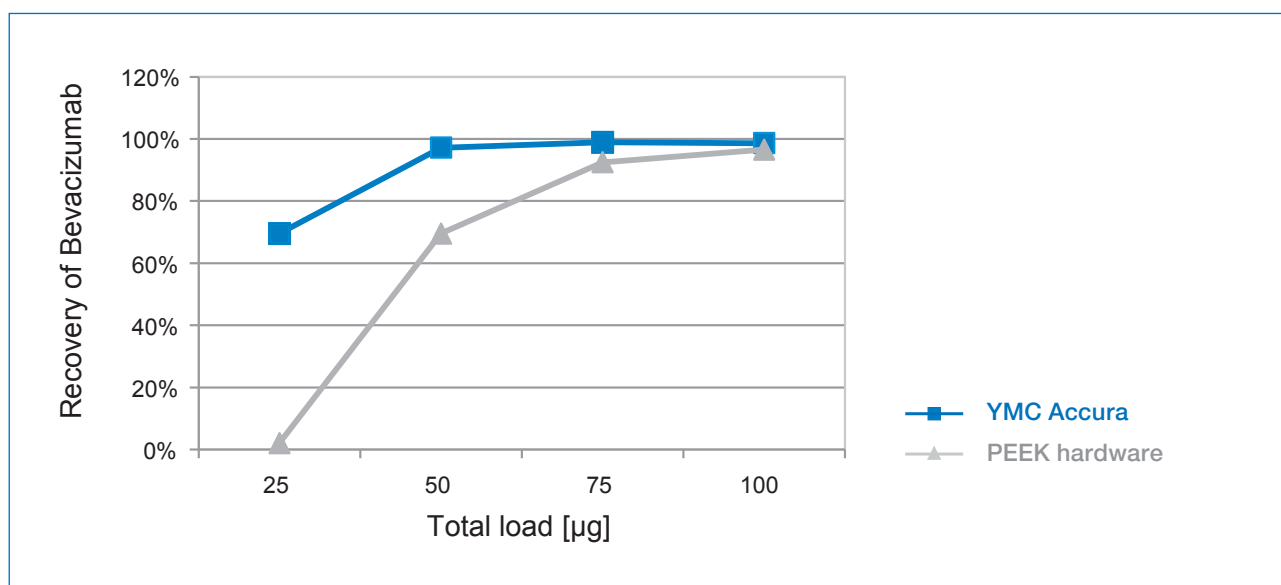
Columns: YMC Accura BioPro IEX QF (5  $\mu$ m) 100 x 4.6 mm ID (bioinert coated hardware)  
 BioPro IEX QF (5  $\mu$ m) 100 x 4.6 mm ID (standard hardware)  
 Part Nos.: QF00S05-1046PTC  
 QF00S05-1046WP  
 Eluent: A) 20 mM Tris-HCl (pH 8.1)  
 B) 20 mM Tris-HCl (pH 8.1) containing 1.0 M NaClO<sub>4</sub>  
 Gradient: 25–40%B (0–15 min), 40%B (15–20 min)  
 Flow rate: 1.0 mL/min  
 Temperature: 60 °C  
 Detection: UV at 260 nm  
 Injection: 4  $\mu$ L (5 nmol/mL)  
 Sample: 21mer RNA  
 System: bioinert HPLC

Oligonucleotides generally exhibit poor peak shape and therefore low recovery in AEX analysis, mainly due to adsorption onto the column hardware. YMC Accura BioPro IEX columns provide high recovery and very good peak shapes from the first injection. This makes YMC Accura BioPro IEX QF columns ideal for the analysis of oligonucleotides with reproducible results. The columns show stable peak areas from the 1<sup>st</sup> injection, so that no preconditioning is required.

## No preconditioning required for reliable results



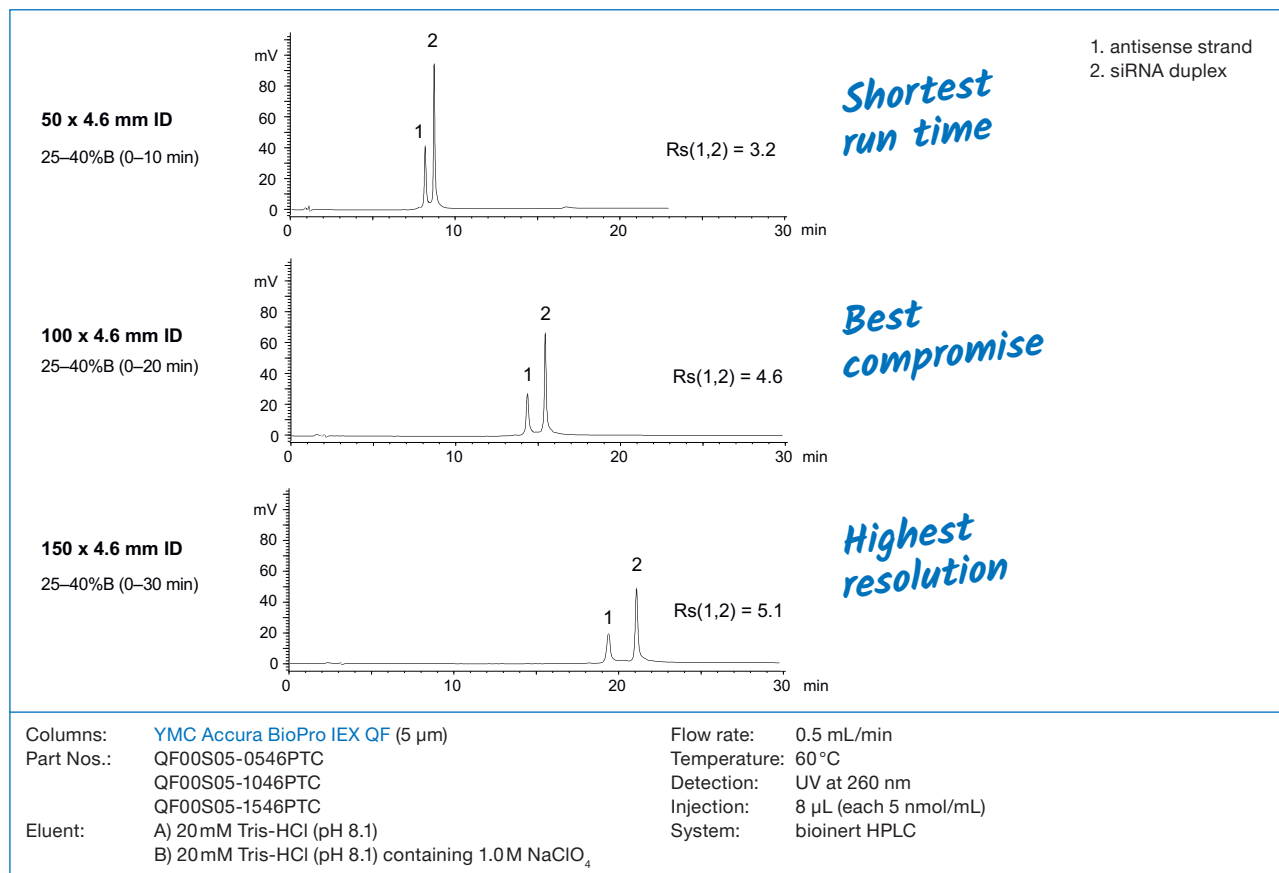
## Higher recovery for low loading amounts



The high inertness of YMC Accura BioPro IEX columns also requires no preconditioning in CEX analyses. Especially at low loading amounts, YMC Accura BioPro IEX SF columns provide higher recoveries compared to the standard PEEK column.

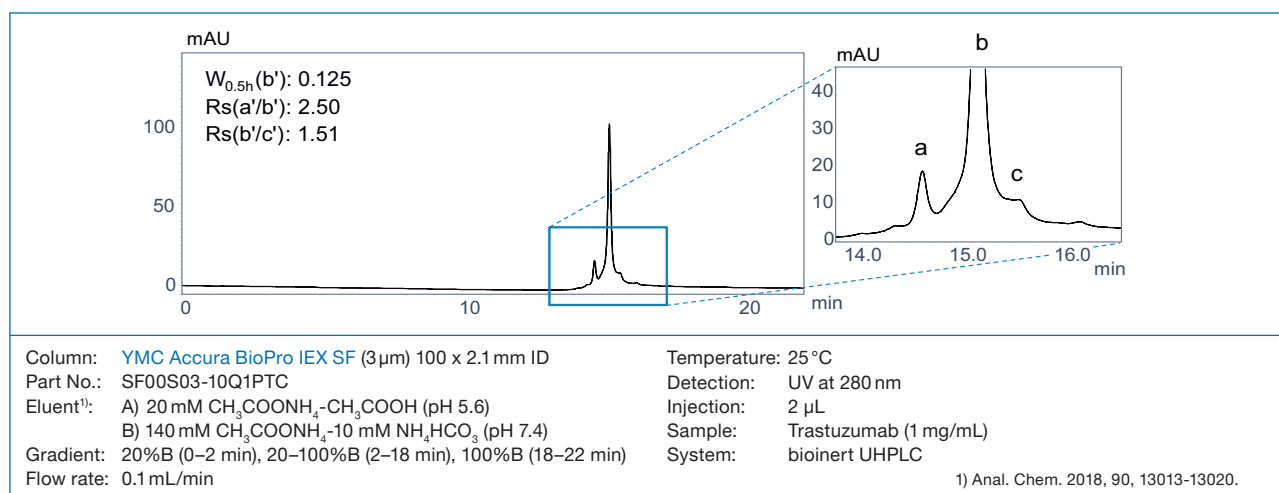
# Column dimensions according to analysis type

## Different column lengths for each separation purpose



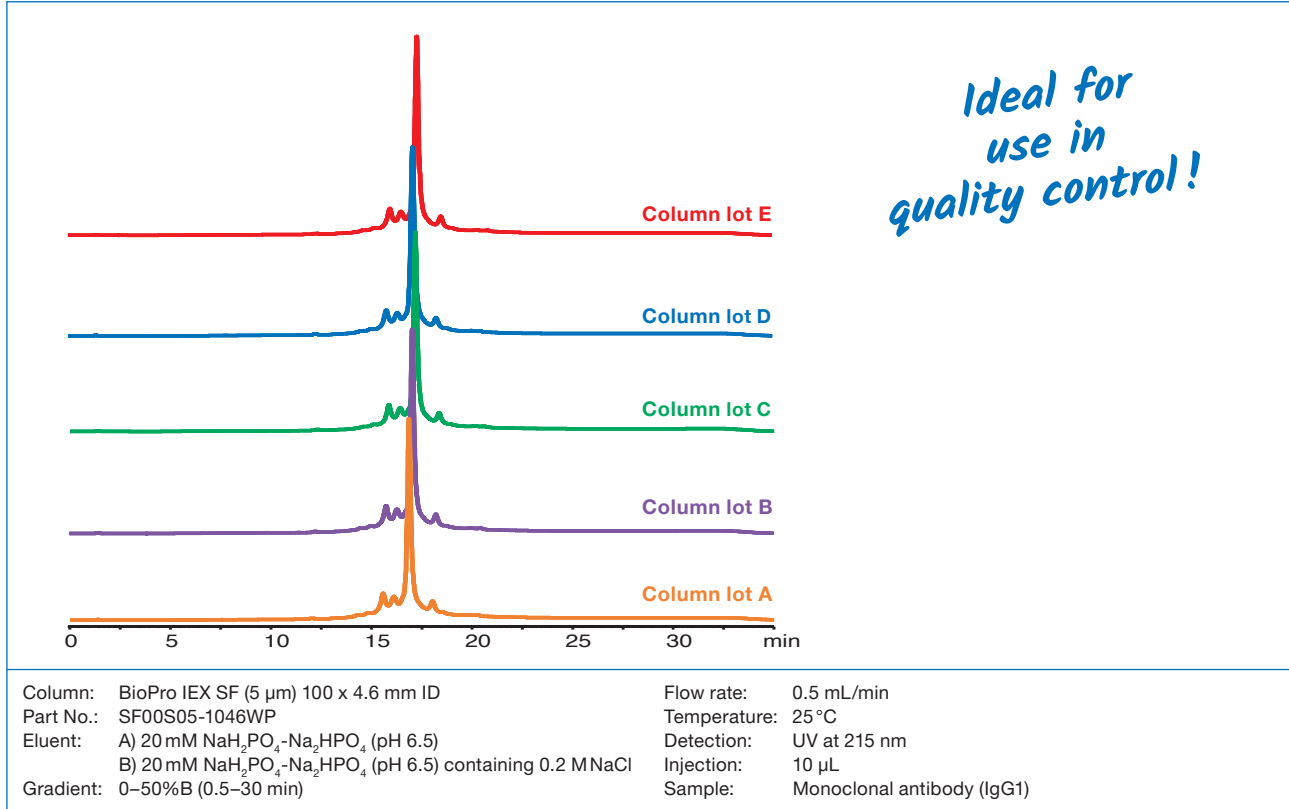
YMC Accura BioPro IEX columns are available with different lengths for specific purposes. Short columns provide short run times and high throughput, whilst retaining good resolution. Longer columns offer a higher resolution that is required for challenging samples, such as the separation of single- and double-stranded RNA.

## Ideally suited for native IEX-MS



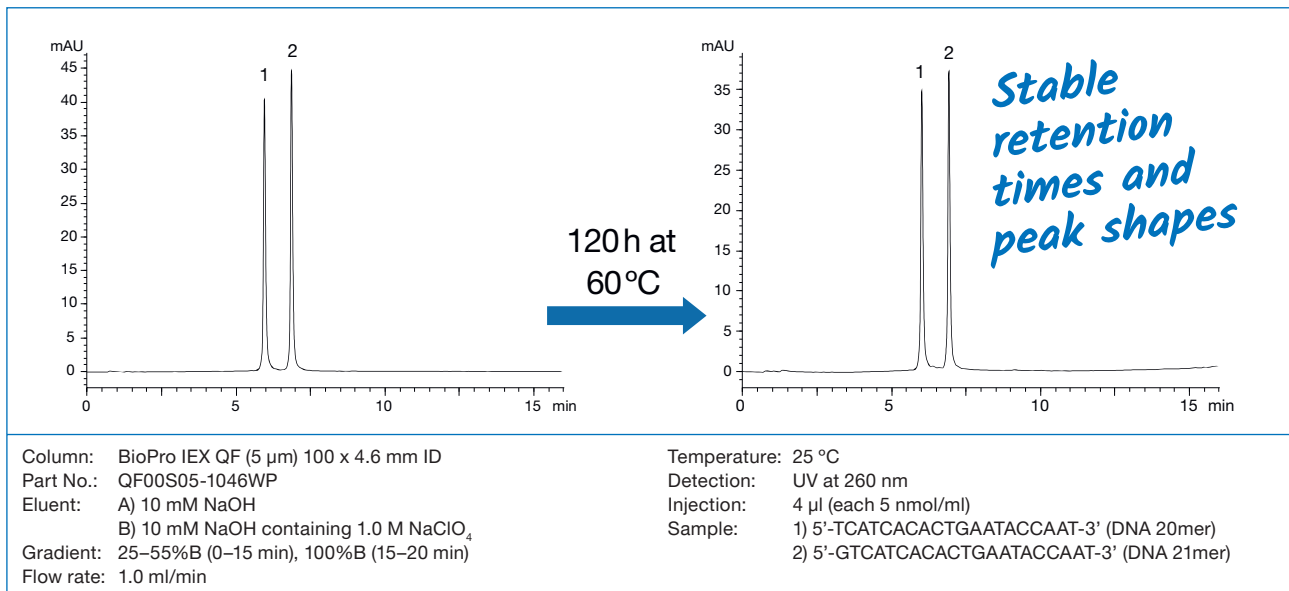
Smaller column IDs that allow lower flow rates and volatile mobile phases are necessities for coupling to mass detection. Such high sensitivity analyses are ideally performed using YMC Accura BioPro IEX columns. Another positive effect is the decreased solvent consumption and lower amount of sample required.

## Excellent batch-to-batch reproducibility

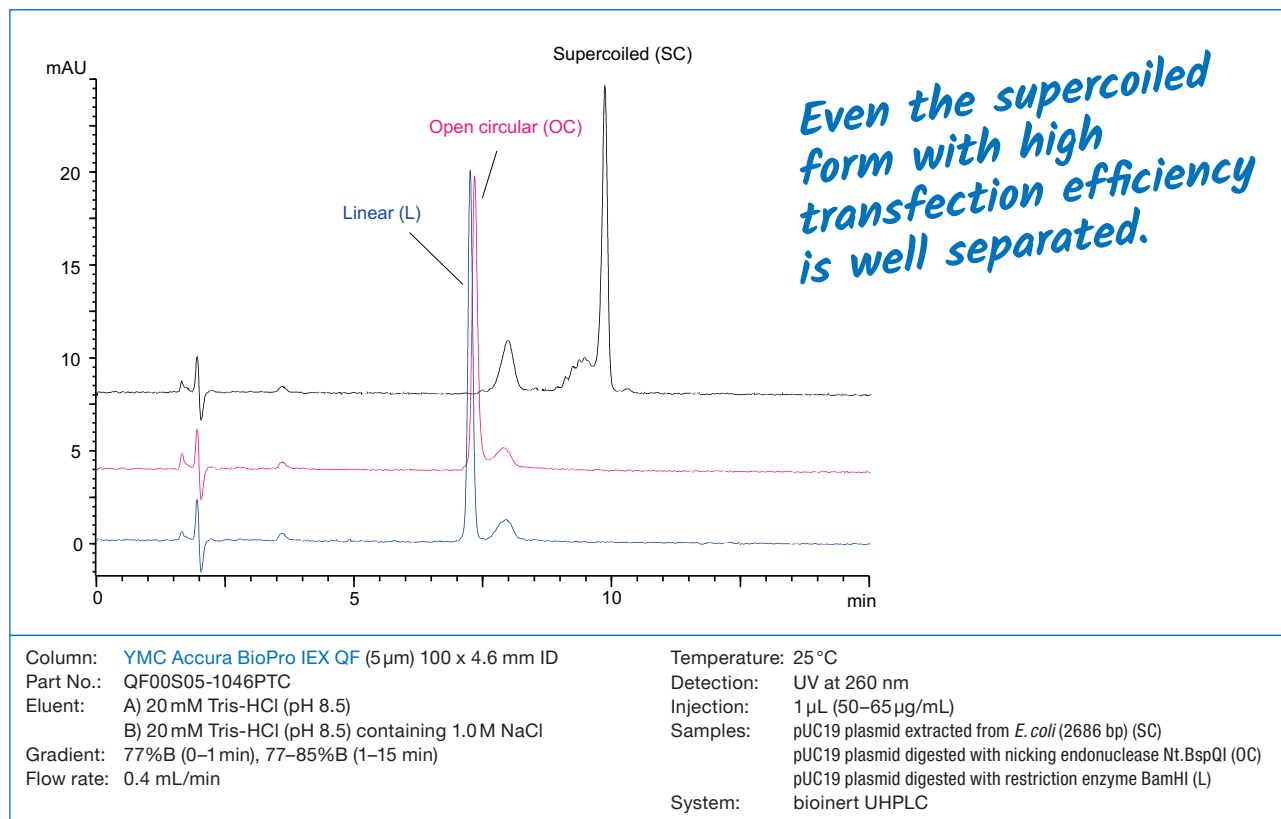


**BioPro IEX columns exhibit excellent batch-to-batch reproducibility – as in this example – for mAb analysis with resolution of peaks for small charge variants. All gel batches are inspected by rigorous quality control tests and must meet the required criteria before release. BioPro IEX columns are the best choice for the quality control of mAbs, proteins, oligonucleotides and other biopharmaceuticals.**

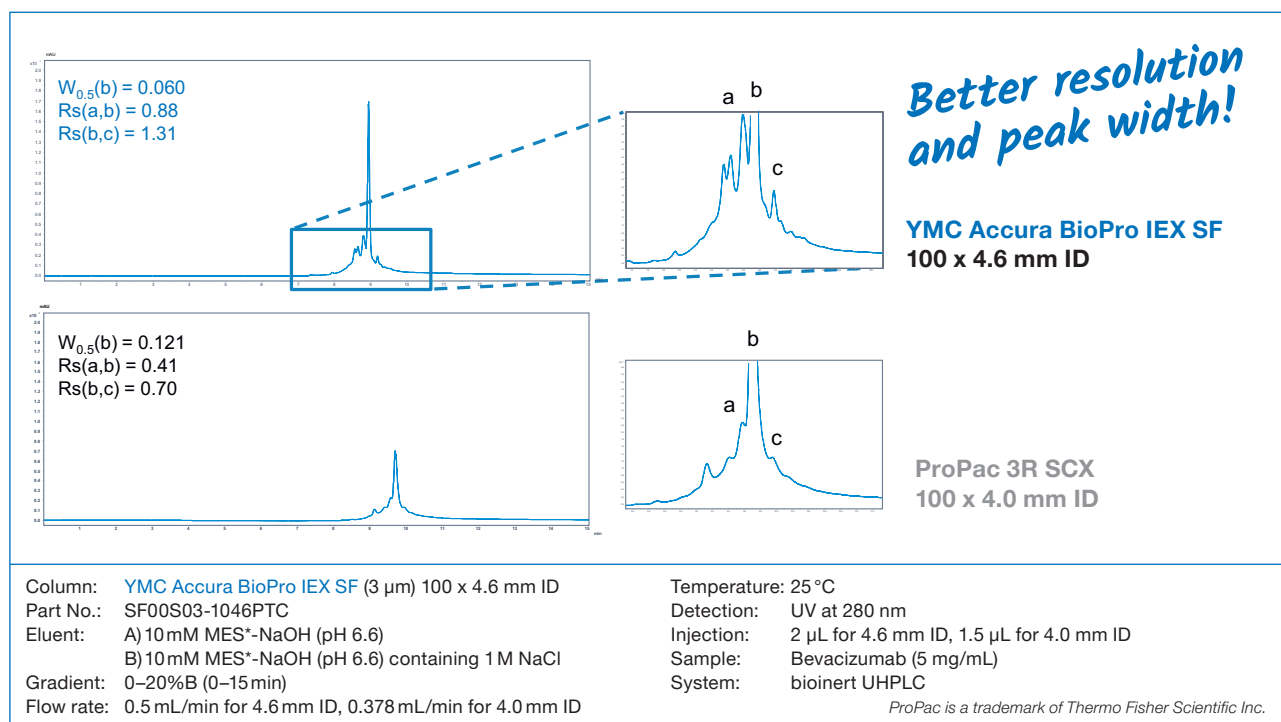
## High temperature stability



## Analysis of topological isomers of plasmids



## Higher resolution for monoclonal antibody analyses



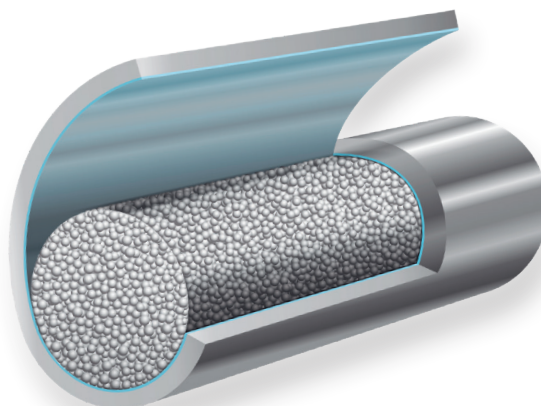
\*2-(N-morpholino) ethanesulfonic acid

## 3 µm non-porous analytical columns, bioinert coated hardware (max. pressure 15–20 MPa)

Phase	Column ID (mm)	Column length (mm)		
		50 (15 MPa)	100 (15 MPa)	150 (20 MPa)
YMC Accura BioPro IEX QF	2.1	QF00S03-05Q1PTC	QF00S03-10Q1PTC	QF00S03-15Q1PTC
	4.6	QF00S03-0546PTC	QF00S03-1046PTC	QF00S03-1546PTC
YMC Accura BioPro IEX SF	2.1	SF00S03-05Q1PTC	SF00S03-10Q1PTC	SF00S03-15Q1PTC
	4.6	SF00S03-0546PTC	SF00S03-1046PTC	SF00S03-1546PTC

## 5 µm non-porous analytical columns, bioinert coated hardware (max. pressure 10–30 MPa)

Phase	Column ID (mm)	Column length (mm)			
		50 (10 MPa)	100 (12 MPa)	150 (18 MPa)	250 (30 MPa)
YMC Accura BioPro IEX QF	2.1	QF00S05-05Q1PTC	QF00S05-10Q1PTC	QF00S05-15Q1PTC	–
	4.6	QF00S05-0546PTC	QF00S05-1046PTC	QF00S05-1546PTC	QF00S05-2546PTC
YMC Accura BioPro IEX SF	2.1	SF00S05-05Q1PTC	SF00S05-10Q1PTC	SF00S05-15Q1PTC	–
	4.6	SF00S05-0546PTC	SF00S05-1046PTC	SF00S05-1546PTC	SF00S05-2546PTC



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