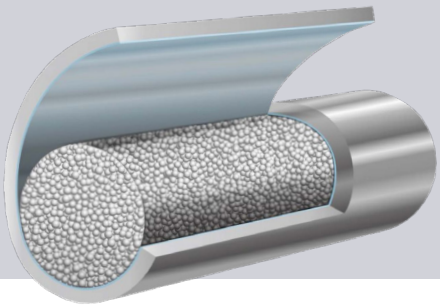
YMC-Accura Triart

Enhance your separation capabilities with the proven strength and precision of YMC-Triart phases packed in bioinert columns.

Features:

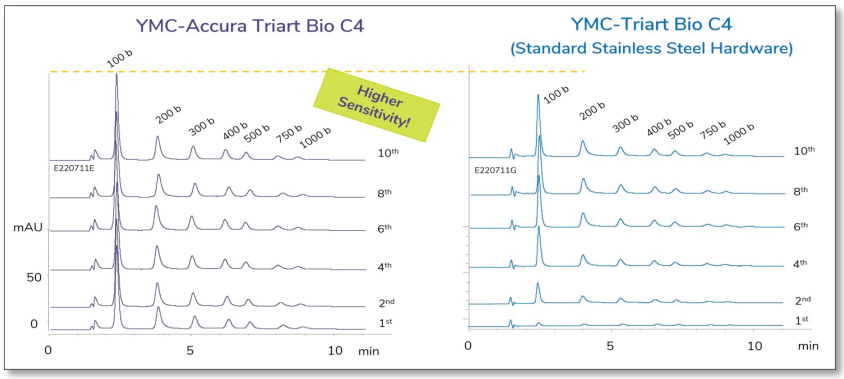
- New surface-coated hardware suppresses interaction between analytes and metals in the column inner surface and frits
- Improved peak shape and high sensitivities
- Excellent recoveries without column preconditioning
- Superior reproducibility and no carry-over effects
- Ideal for highly sensitive LC/MC analyses
- Ideal for oligonucleotides, nucleotides, peptides, proteins, and metal coordinating compounds



Product Specification:

Column Hardware	Stainless steel with bioinert coating (all wetted parts including frits)
Packing Material	YMC-Triart family of resins (all analytical chemistries and particle sizes)
Column Dimensions	2.1 mm ID x 50, 100, 150 mm length 4.6 mm ID x 50, 100. 150 mm length (3 & 5 µm)
Pressure Limit	100 MPa (or 14, 500 psi) for 1.9 µm particles 45 MPa for 3 and 5 µm particles
pH Range Temperature Range	Refer to standard YMC-Triart Care & Use guidelines
Connection	Parker-style endfittings

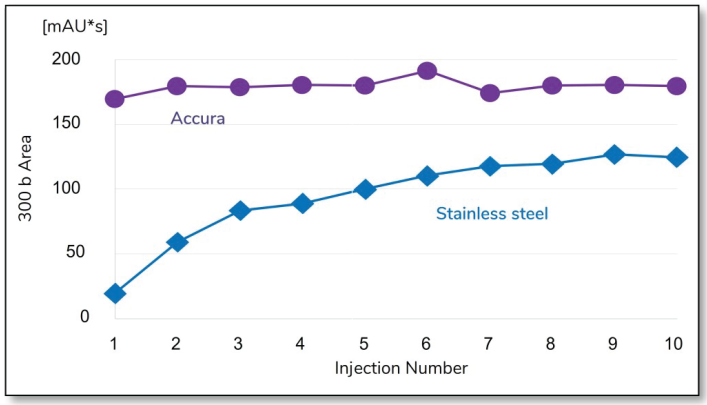
Analysis of RNA Molecular Weight Markers



Conditions

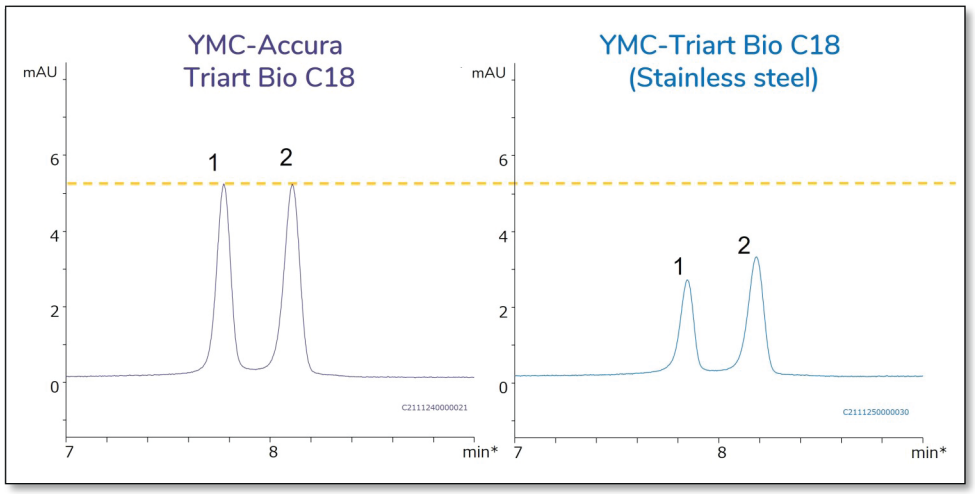
Column:	YMC-Accura Triart Bio C4 (1.9 µm, 30nm), 100 x 2.1 mm ID YMC-Triart Bio C4 (1.9 µm, 30 nm), 100 x 2.1 mm ID (Standard stainless steel column)
Eluent:	A) 50 mM TEAA (pH 7.0) I acetonitrile (95/5) B) 50 mM TEAA (pH 7.0) / acetonitrile (50/50) 9-14% B (0-10 min), 80% B (10-15 min)
Flow rate:	0.2 mL/min
Detection:	UV at 254 nm
Temperature:	80 °C

Sample: CenturyTM - Plus RNA Markers
(100-1,000 bases)



YMC-Accura Triart Bio C4 shows stable peak area from the first injection, while the standard stainless steel column provides only 1/10 of the peak area at the first injection. Even after the tenth injection, the peak area of the stainless steel column is considerably less than that of the Accura column.

High sensitivity and recovery



		Accura	Stainless Steel
Peak height (mAU)	1	5.0	2.5
	2	5.1	3.1
Area (mAU*s)	1	26.1	12.8
	2	29.0	18.3

1. All PS RNA 20mer
2. All PS RNA 21mer

Conditions

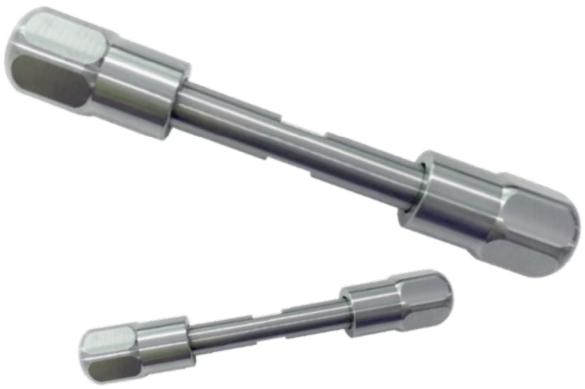
Column:	YMC-Accura Triart Bio CIS (1.9 µm, 30 nm). 50 x 2.1 mm ID YMC-Triart Bio C18 (1.9 µm, 30 nm), 50 x 2.1 mm ID (Standard stainless steel column)
Eluent:	A) 15 mM TEA - 400 mM HFIP 8) Methanol 8-18% 8 (0-10 min)
Flow rate:	0.42 mL/min
Detection:	UV at 260 nm
Temperature:	65 °C
Injection:	1.0 µL

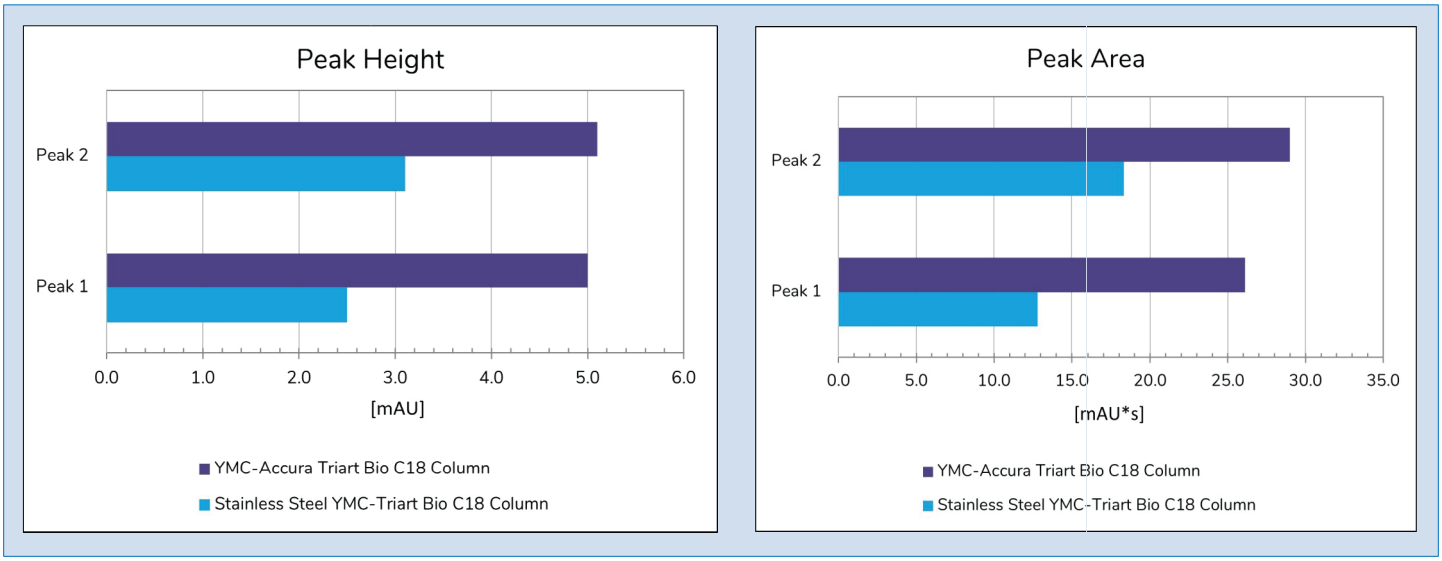
Sample:

- eOligo All PS RNA 20mer:
  (5'-U^C^A^U^C^A^C^A^C^U^G^A^A^U^A^C^C^A^A^U-3')
- Oligo All PS RNA 21mer:
  (5'-G^U^C^A^U^C^A^C^A^C^U^G^A^A^U^A^C^C^A^A^U-3')

^= Phosphorothioated

YMC-Accura Triart Bio C4 shows stable peak area from the first injection, while the standard stainless steel column provides only 1/10 of the peak area at the first injection. Even after the tenth injection, the peak area of the stainless steel column is considerably less than that of the Accura column.

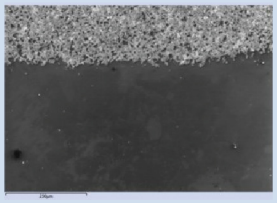




Durable coating

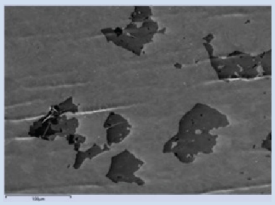
The robust bioinert coating used on YMC-Accura hardware remains on the column wall even after multiple packings.

(The top area was vapor blasted to remove coating for EDS analysis: bare steel)

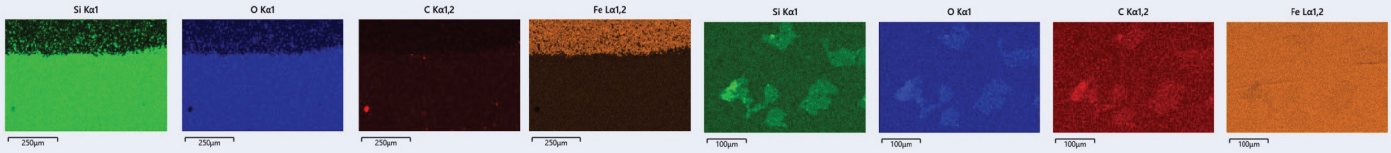


On competing coated hardware, most of the coating is delaminated after unpacking the column.

(The dark spots are the remaining coating)



These EDS analyses show the elemental makeup of the SEMs above.



Accura hardware inertness test

Test Method

1. Accura hardware with no material packed inside is connected to an HPLC system.
   Column dimensions: 50 x 2.1 mm ID
2. Various buffers* are run into the column hardware.
3. An oligonucleotide sample is injected 20 times.
4. Recovery of the oligonucleotide is estimated by peak area. Area obtained without any column hardware is used as the reference (the value is assumed as 100 % recovery).

***Buffers**

1. 8 mM TEA - 200 mM HFIP / methanol (82/18)
2. I00 mM TEAA** I methanol (82/18)
3. 20 mM Tris-HCI buffer (pH 8.1)

** TEAA = Triethylamine-acetic acid

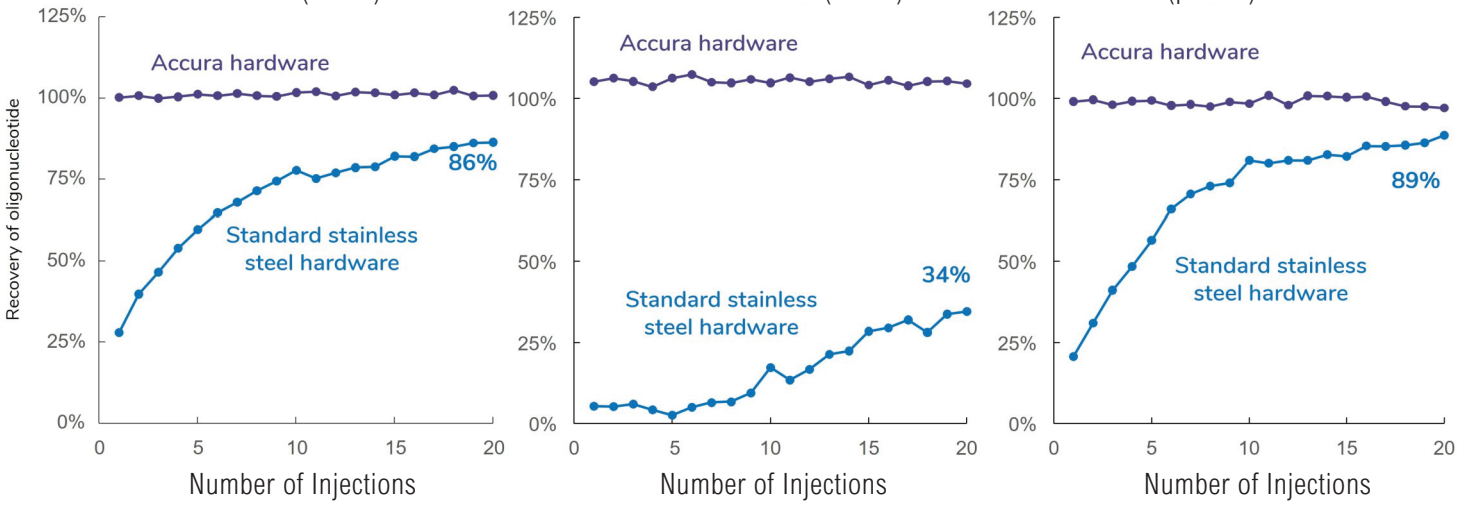
Sample

- Oligo All PS RNA {20 mer)
  (5'-U^C^A^U^C^A^C^A^C^U^G^A^A^U^A^C^C^A^A^U-3')
  ^= Phosphorothioated

1) 8 mM TEA - 200 mM HFIP / methanol (82/18)

2) 100 mM TEAA / methanol (82/18)

3) 20 mM Tris-HCI buffer (pH 8.1)



The YMC-Accura hardware with its inert column surface prevents adsorption of oligonucleotides regardless of buffer type. Conditioning injections of sample are not required, ensuring high recovery and reproducibility from the very first use. In addition, YMC-Accura columns provide significantly higher recoveries and sensitivities that cannot be achieved with standard stainless steel columns - even after conditioning the standard columns with 20 sample injections.

Ordering Information

YMC-Accura Triart Part Numbers

If you need assistance determining which column is right for your method, please reach out to your local rep or our customer service team.

YMC-Triart Phase	Pore Size	Particle Size	ID (mm)	YMC-Accura Part Number		
				50 mm Length	100 mm Length	150 mm Length
C18	120Å	l.9 µm	2.1	TA12SP9-05QIPTC	TA12SP9-10Q1PTC	TA12SP9-15Q1PTC
		3 µm	2.1	TA12S03-05QIPTC	TA12S03-10Q1PTC	TA12S03-15Q1PTC
			4.6	TA12S03-0546PTC	TA12S03-1046PTC	TA12S03-1546PTC
		5 µm	2.1	TA12S05-05Q1PTC	TA12S05-10Q1PTC	TA12S05-15Q1PTC
			4.6	TA12S05-0546PTC	TA12S05-1046PTC	TA12S05-1546PTC
C18 ExRS	8OÅ	l.9 µm	2.1	TAR08SP9-05QIPTC	TAR08SP9-10QIPTC	TAR08SP9-15Q1PTC
		3 µm	2.1	TAR08S03-05Q1PTC	TAR08S03-10Q1PTC	TAR08S03-15QIPTC
			4.6	TAR08S03-0546PTC	TAR08S03-1046PTC	TAR08S03-1546PTC
		5 µm	2.1	TAR08S05-05Q1PTC	TAR08S05-10Q1PTC	TAR08S05-15QIPTC
			4.6	TAR08S05-0546PTC	TAR08S05-1046PTC	TAR08S05-1546PTC
Bio C18	300Å	l.9 µm	2.1	TA30SP9-05QIPTC	TA30SP9-10Q1PTC	TA30SP9-15Q1PTC
		3 µm	2.1	TA30S03-05QIPTC	TA30S03-10QIPTC	TA30S03-15Q1PTC
			4.6	TA30S03-0546PTC	TA30S03-1046PTC	TA30S03-1546PTC
		5 µm	2.1	TA30S05-05QIPTC	TA30S05-10QIPTC	TA30S05-15Q1PTC
			4.6	TA30S05-0546PTC	TA30S05-1046PTC	TA30S05-1546PTC
C8	120Å	l.9 µm	2.1	TO12SP9-05Q1PTC	TO12SP9-10Q1PTC	TO12SP9-15Q1PTC
		3 µm	2.1	TO12S03-05Q1PTC	T012S03-10Q1PTC	T012S03-15Q1PTC
			4.6	TO 12S03-0546PTC	TO 12S03-1046PTC	TO12S03-1546PTC
		5 µm	2.1	TO12S05-05Q1PTC	TO12S05-10Q1PTC	TO12S05-15Q1PTC
			4.6	TO 12S05-0546PTC	TO 12S05-1046PTC	TO12S05-1546PTC
Bio C4	300Å	l.9 µm	2.1	TA12SP9-05QIPTC	TA12SP9-10Q1PTC	TA12SP9-15Q1PTC
		3 µm	2.1	TB30S03-05Q IPTC	TB30S03-10Q IPTC	TB30S03-15Q1PTC
			4.6	TB30S03-0546PTC	TB30S03-1046PTC	TB30S03-1546PTC
		5 µm	2.1	TB30S05-05Q IPTC	TB30S05-10Q IPTC	TB30S05-15Q1PTC
			4.6	TB30S05-0546PTC	TB30S05-1046PTC	TB30S05-1546PTC
Phenyl	120Å	l.9 µm	2.1	TPH12SP9-05Q1PTC	TPH12SP9-10Q1PTC	TPH12SP9-15Q1PTC
		3 µm	2.1	TPH 12S03-05Q IPTC	TPH 12S03-l0Q IPTC	TPH12S03-15Q1PTC
			4.6	TPH12S03-0546PTC	TPH 12S03-1046PTC	TPH12S03-1546PTC
		5 µm	2.1	TPH 12S05-05Q IPTC	TPH 12S05-lOQ IPTC	TPH12S05-15Q1PTC
			4.6	TPH12S05-0546PTC	TPH 12S05-1046PTC	TPH12S05-1546PTC
PFP	120Å	l.9 µm	2.1	TPF12SP9-05Q1PTC	TA12SP9-10Q1PTC	TA12SP9-15Q1PTC
		3 µm	2.1	TPF12S03-05Q1PTC	TPF12S03-10Q1PTC	TPF12S03-15Q1PTC
			4.6	TPF12S03-0546PTC	TPF12S03-1046PTC	TPF12S03-1546PTC
		5 µm	2.1	TPF12S05-05Q IPTC	TPF12S05-10Q IPTC	TPF12S05-15Q1PTC
			4.6	TPF12S05-0546PTC	TPF12S05-1046PTC	TPF12S05-1546PTC
Diol-HILIC	120Å	l.9 µm	2.1	TDH12SP9-05Q1PTC	TDH12SP9-10Q1PTC	TDH12SP9-15Q1PTC
		3 µm	2.1	TDH 12S03-05Q1PTC	TDH 12S03-l0QIPTC	TDH12S03-15Q1PTC
			4.6	TDH 12S03-0546PTC	TDH 12S03-1046PTC	TDH12S03-1546PTC
		5 µm	2.1	TDH12S05-05Q1PTC	TDH12S05-10Q1PTC	TDH 12S05-15Q1PTC
			4.6	TDH12S05-0546PTC	TDH 12S05-1046PTC	TDH 12S05-1546PTC

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