

RNA based therapeutics represent a powerful new tool for gene therapy. In RNA production, impurities such as nucleotide triphosphates, abortive transcripts, and DNA template can affect down-stream applications by triggering immune responses. Gel-based methods of purification, such as preparative denaturing polyacrylamide gel electrophoresis (PAGE) and agarose gels, are limited by poor resolution of RNA size and potential chemical modifications from reagents such as formaldehyde.

To date, high performance liquid chromatography (HPLC) remains a staple method for purification of messenger RNA (mRNA) and RNA oligonucleotides. Presented here are two HPLC methods, a size exclusion-based method for the purification of long mRNA, and a reverse-phase method for the purification of long mRNA, and a reverse-phase method for the purification.

HPLC Purification of mRNA with Size Exclusion Chromatography



COSMOSIL Application Data



Analysis of Nucleotides by Reverse-Phase Chromatography

Application of ΦX174 HaeIII digest fragments using wide pore C18 column

COSMOSIL Application Data

Column: Column size:	COSMOSII 4.6 mmI.D	RNA-RP1 100 mm		
Mobile phase:	A; 100 mmol/L Triethylamine, 100 mmol/L Acetic Acid B; Acetonitrile			
Flow rate: Temperature:	B conc. 12– 1.0 ml/min 40 °C	→17 % (0→20 min), 17 % (20-25 min)		
Detection: Sample: φX174-Hae II	UV260 nm II digest	136 1353 bp 13 1078 13 1078 13 1078 13 1078 13 1078 13 1078 13 1078 13 104		
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Ordering Information

COSMOSIL RNA-SEC

Product	Coulum Size	Product Number
COSMOSIL RNA-SEC-1000 Guard Column	7.5 mm l.D. x 50 mm	27085-91
COSMOSIL RNA-SEC-1000 Packed Column	4.6 mm I.D. x 250 mm	21088-01
COSMOSIL RNA-SEC-1000 Packed Column	7.5 mm I.D. x 300 mm	19380-21
COSMOSIL RNA-SEC-2000 Packed Column	7.5 mm I.D. x 50 mm	21096-91
COSMOSIL RNA-SEC-2000 Packed Column	4.6 mm I.D. x 250 mm	21095-01
COSMOSIL RNA-SEC-2000 Packed Column	7.5 mm I.D. x 300 mm	19381-11

COSMOSIL RNA-RP1

Product	Coulum Size	Product Number
COSMOSIL RNA-RP1 Packed Column	2.0 mm I.D. x 100 mm	21078-31
COSMOSIL RNA-RP1 Packed Column	4.6 mm I.D. x 100 mm	21079-21
COSMOSIL RNA-RP1 Packed Column	10 mm I.D. x 100 mm	21080-81



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