GCAJ

Advancing life science with Synbio innovation

Ultra-pure Oligos

The Ultra-pure oligo synthesis platform has been developed to provide the best oligos up to 120 bases long with unparalleled quality (purity ≥ 95%) and low-cross contamination. This process relies on a proprietary synthesizer called mMPS (microchip-based Massive in Parallel Synthesis) with optimized HPLC purification.

The mMPS oligo synthesis platform provides a one-stop solution for all of your oligonucleotide needs, including cDNA construction, gene synthesis, in vitro diagnostics, nucleic acid drug discovery, NGS, and cloning. GCATbio's rigorous synthesis standards and QC system ensures robust quality and consistent batch-to-batch performance to meet all of your research needs.

KEY BENEFITS



Higher purity Ultra HPLC achieves more than 95% purity, up to 99%, meeting the requirements of ultra-high purity applications



Consistent high quality

Superior lot-to-lot consistency, precise synthesis with MS molecular weight deviation less than 0.05%



Flexible custom options A wide selection of synthesis scales, formulations, and delivery formats

PERFORMANCE



Stringent QC standards



High Purity



Compared to oligos purified by desalting, PAGE and HPLC methods, ultra-pure oligos synthesized and purified by GCATbio's platform has higher purity close to 100%

Low Cross Contamination



Three different batches (5 oligos per batch) are analyzed and compared. Cross contamination rate between the batches is lower than 0.02%

Consistent Quality Between Batches



Same oligo product synthesized from three batches shows consistent purity

CASE

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High-throughput Sequencing Adaptors

GCATbio's ultra-pure sequencing adaptors have been cross-validated on multiple commonly-used sequencing platforms, and have demonstrated industry-leading performance as shown in the table below.

Parameters	Q30%	SplitRate%	ESR%	MappingRate%	AvgErrorRate%	CV%
Performance	93.21	97.58	88.28	99.48	0.15	0.04

ORDER INFORMATION

Product Specifications:

Product Name	Length	Purity	Applications
Ultra-pure Oligos	≤120 nt	≥95%	NGS probes, barcodes, sequencing primers, etc.
Highly-pure Oligos	≤120 nt	≥90%	Multiplex PCR, qPCR, sanger sequencing, etc.
Regular Oligos	≤120 nt	≥85%	Regular PCR, gene synthesis, etc.

Modification/Labeling:

Fluorophores	Dark Quenchers	Dual-labeled Modifications	Spacers	Chemistry Modifications	Modified Bases
CY3	BHQ1	VIC-MGB	C6 Spacer	Amino(C6-NH2)	Phosphorylation
CY5	BHQ2	FAM-MGB	Spacer18	DBCO	Phosphorothioate
FAM	BHQ3	ROX-BHQ2	Spacer12	DBCO-TEG	ddC
HEX	MGB	HEX-BHQ2	Spacer C3	SMCC	dl
TAMRA		HEX-BHQ1	dSpacer	Biotin	dU
JOE		CY5-CY3		Biotin-TEG	2F-RNA-A/G/C/T
VIC		HEX-MGB		Int Biotin dT	2-OMe RNA-A/G/C/U
ROX		JOE-MGB		P+ Int Biotin	LNA-A/G/C/T
Alexa Fluor 532		VIC-BHQ1		Azide(N3)	5-Methyl dC
Alexa Fluor 488		FAM-BHQ1		Cholesterol	Inverted dA/dG/dC/dT
Alexa Fluor 647		JOE-BHQ1		Dig	
		TAMRA-BHQ2		Maleimide	
		CY5-BHQ2		CHCH	
		CY5-BHQ3		СНО	
		FAM-Dabcyl		СООН	
		VIC-Dabcyl		SH/HS-SH/Thiol	
		HEX-Dabcyl		SH C6	
		JOE-Dabcyl		Hexynyl	

Deliverables: Oligonucleotides can be delivered in tube or plates (96-or 384-well), and include a certificate of analysis (COA). If applicable, a Mass Spectrometry (MS) or HPLC report will also be provided.

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