

Synthesis scale vs Guaranteed yield

The **synthesis scale** refers to the **amount of raw material** used to start the synthesis of oligonucleotides. The **yield** corresponds to the amount of **final product**

recovered at the end of the synthesis and purification processes. The length, the sequence, the type/number of modifications and the purification, strongly influence the

reaction yield. Based on that, Eurogentec defined a minimum guaranteed yield in nmoles for all product categories (see table below).

The minimum guaranteed yields represent only a reference because the delivered quantities may vary.

			Synthesis scale (nmol)												Minimum Guaranteed Yield (nmol) ⁴																				
			10 ¹		40		200		1000		2500		5000			10000		20000																	
Range	Product	Length	SePOP	RP-Cartridge•Gold™ HPLC (RP or EX) ²	SePOP	RP-Cartridge•Gold™ HPLC (RP or EX) ²	Dual HPLC ²	PAGE	SePOP	RP-Cartridge•Gold™ HPLC (RP or EX) ²	Dual HPLC ²	PAGE	SePOP	RP-Cartridge•Gold™ HPLC (RP or EX) ²		Dual HPLC ²	PAGE	SePOP	RP-Cartridge•Gold™ HPLC (RP or EX) ²	Dual HPLC ²	PAGE														
Custom Oligonucleotides	DNA, 2'-O-Me RNA, 2'-O-MOE RNA	5-39	5	4	3	20	15	12	6	-	70	60	50	25	-	200	140	100	50	-	500	250	150	-	2000	1200	700	-	4200	2200	1100				
	Phosphorothioate linkages	40-59	5	4	3	20	13	12	6	4	50	35	25	12	15	150	90	50	25	30	300	120	60	70	600	240	120	180	1200	600	240	300	2500	1400	700
	Max. 5 incorporations (total): Wobbles, dU, dI, 5-Me-dC	60-79	3 ³	2	-	10 ³	7	-	-	3	40 ³	35	-	-	9	125 ³	85	-	-	14	250	-	-	40	500	-	-	90	1000	-	-	180	-	-	-
	No other modification	80-99	-	-	-	-	-	-	2	-	-	-	-	4	-	-	-	-	9	-	-	-	30	-	-	40	-	-	-	80	-	-	-		
		100-139	-	-	-	-	-	-	1	-	-	-	-	3	-	-	-	-	6	-	-	-	10	-	-	20	-	-	-	40	-	-	-		
Modified and unmodified RNA, LNA [®] , 2'F, and other chemistries		5-39	-	-	-	12	7	6	3	-	50	30	17	8	-	150	90	35	17	-	450	100	50	-	900	275	135	-	1800	550	275	-	3600	1100	550
		40-59	-	-	-	8	6	5	3	2	30	25	15	7	10	100	80	30	15	20	200	70	35	40	400	140	70	80	900	280	140	150	1800	560	280
		60-79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-	-	35	-	-	-	70	-	-	-	
Real-Time qPCR Probes	DNA, 2'-O-Me RNA, 2'-O-MOE RNA with: ≥1 modification, or >5 incorporations of Wobbles, dU, dI, 5-Me-dC [®]	80-139	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Double-Dye probes ⁵	8-45	-	-	2 ⁶	-	-	6	-	-	-	-	12	-	-	-	-	37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Molecular Beacons	28-50	-	-	2 ⁶	-	-	6	-	-	-	12	-	-	-	-	37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	MGB Probes	8-30	Delivered quantity: 6, 20 or 50 nmol and more on request																																
			Delivered Quantity (nmol)												On Request																				
RNAi Oligonucleotides	siRNA Duplexes	15-27	7	-	3	22	-	12	-	-	60	-	40	-	200	-	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
NGS Oligonucleotides	RP-Cartridge purified RP-HPLC purified	20-85	Minimum delivered quantity: 10 nmol																																
Universal Primers	-	15-38	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Unique Oligonucleotides	-	2-225	On request - please contact us at unique@eurogentec.com																																

Yield may be impacted by strong secondary structures.

Post-synthesis modifications may reduce yields by up to 50% (≈ one third with double manual coupling) and are incompatible with SePOP and RP-Cartridge•Gold™ purification.

Notes

- [1] 10 nmol scale available for DNA sequences only.
- [2] Please be aware that all purifications containing an IEX-HPLC are limited to a length up to 39 bases.
- [3] For >59-base oligonucleotides, values apply only to DNA sequences.
- [4] Except for oligonucleotides with GC-rich regions.
- [5] Double-Dye probes only result from the combination of a 5' fluorescent dye and a 3' quencher.
- [6] Only available for Double-Dye FAM-TAMRA 10 nmol and FAM-BHQ1* 10 nmol.

List of commonly used post-synthesis modifications

5' Alexa Fluor [®] (350, 430, 488, 500, 514, 532, 546, 555, 568, 594, 610, 633, 647, 660, 680, 700 and 750)	dR and dT HEX
5' ATTO (390, 425, 465, 488, 495, 520, 532, 550, 565, 590, 594, 610, 620, 633, 635, 647N, 655, 680, 700, 725 and 740)	5' HiLyte™ Fluor (405, 488, 555, 594, 647, 680 and 750)
5' BODIPY [®] (530/550, FL and TR)	3', dR and dT JOE
3', 5' and dT Cascade Blue [®]	5' Marina Blue [®]
3' and dT Cy [®] (3, 3.5, 5 and 5.5)	5' Oregon Green [®] (488 and 488 X)
3', 5', dR and dT Digoxigenin	5' Pacific Blue™
5' Dragonfly Orange [®]	3' QXL [®]
5' DY [®] (681, 781 and 782)	3', 5', dR and dT Rhodamine 6G
dR 6-FAM	3', 5', dR and dT ROX
	5' TAMRA
	dR and dT TET
	3', 5', dR and dT Texas Red [®]

