Custom DNA oligonucleotides for scalable PCR and qPCR supply

High performance primers and probes manufactured to specification for reliable large scale supply, high purity and on-time delivery

When PCR assays move from low-throughput to high-throughput, oligo supply is critical

Reliable repeat supply of oligonucleotides and batch consistency become essential as assays transition from routine small-scale use to higher volumes. Delays in supply or variability in quality directly impact downstream timelines.

Don't let oligo supply become a bottleneck

Requirements change as up-scaled PCR and qPCR workflows move beyond assay design and initial testing. Challenges arise with scale, consistency and reliable delivery of primers and probes.

Overcome oligo supply challenges with:

- Manufacturing capability that scales without requalification
- Repeatable and consistent quality across batches
- Predictable delivery aligned with internal timelines

High-purity DNA oligonucleotides manufactured to customer specifications

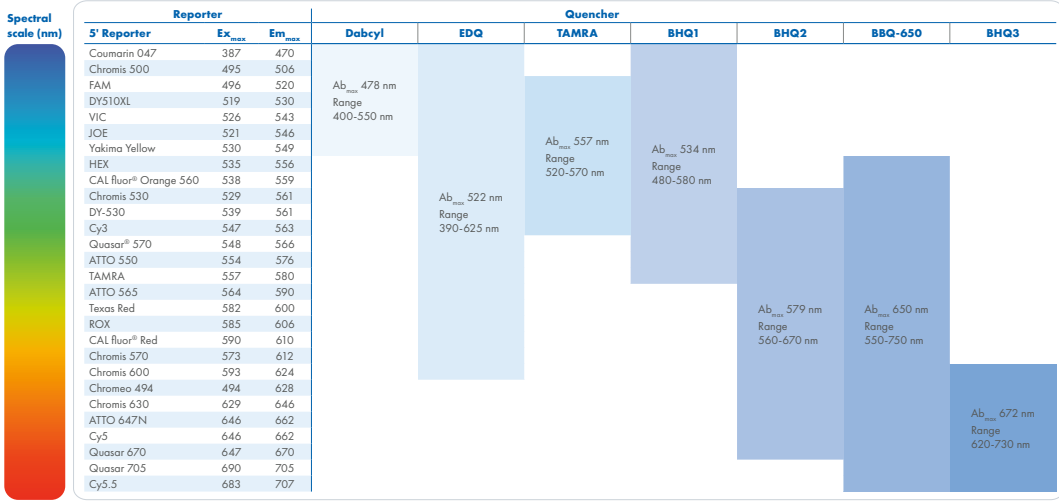
QIAGEN custom DNA oligos are manufactured to defined customer specifications for workflows that require reliable performance at scale. High-purity primers and probes support PCR, qPCR and dPCR applications with a wide range of sequences, formats and production volumes.

Large selection of modifications for various oligonucleotides

We support a wide range of reporter and quencher combinations, including dual labeled and double quenched probe designs for qPCR. We can guide you with assay design and dye assignment to match your target nucleic acid and controls.

Table 1. Dual-labeled probes

Reporter			Quencher						
5' Reporter	Ex_{max}	Em_{max}	Dabcyl	EDQ	TAMRA	BHQ1	BHQ2	BBQ-650	BHQ3
Coumarin 047	387	470							
Chromis 500	495	506							
FAM	496	520							
DY510XL	519	530							
VIC	526	543							
JOE	521	546							
Yakima Yellow	530	549							
HEX	535	556							
CAL fluor® Orange 560	538	559							
Chromis 530	529	561							
DY-530	539	561							
Cy3	547	563							
Quasar® 570	548	566							
ATTO 550	554	576							
TAMRA	557	580							
ATTO 565	564	590							
Texas Red	582	600							
ROX	585	606							
CAL fluor® Red	590	610							
Chromis 570	573	612							
Chromis 600	593	624							
Chromeo 494	494	628							
Chromis 630	629	646							
ATTO 647N	646	662							
Cy5	646	662							
Quasar 670	647	670							
Quasar 705	690	705							
Cy5.5	683	707							



More than synthesis: Person-to-person support throughout your project

How we support your project

- **Dedicated ordering process** with specification and feasibility review
- **Project management support** coordinating manufacturing, quality and logistics
- **Direct technical support** for assay design, modifications and troubleshooting
- **Reliable timelines** with on time delivery against confirmed dates

Flexible supply for ongoing demand

For customers with ongoing demand, oligonucleotides can be manufactured for stock and stored under defined conditions. Orders can then be released as needed, supporting flexible usage.

Table 2. Quality levels to match your PCR, qPCR and dPCR application

	Non-GMP*	GMP†
Quality Management System compliance	ISO 9001	ISO 13485: 2016 and 21 CFR part 820
Purification method	Desalted or HPLC	Desalted or HPLC
Traceability	Standard	Full
HPLC column	Standard	Dedicated
Clean room	Nondedicated	Dedicated
Documentation‡	Product batch record	Product batch record with full traceability

* Oligonucleotides are considered raw materials or components intended for further use by the end customer. They are not considered finished products and cannot be used as finished products.
† GMP-grade oligonucleotides in this context means that they are manufactured and released in alignment with established quality requirements under ISO 13485 and US QSR (21 CFR 820). They have not been manufactured under the applicable Current Good Manufacturing Practice (cGMP) regulations for pharmaceuticals. [AS2.1]
‡ Available upon audit/request.

Do you want more information on oligo specifications, scale, timelines and supply models? **Talk to our custom oligonucleotide team**

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