

# DNA OLIGOS AND ULTRAMER™ DNA OLIGOS

Generate reliable data from high-quality oligos



**Confidence** in oligos that are quality controlled using ESI-mass spectrometry



**Quick delivery** with >90% of orders shipped within 24 hours\*



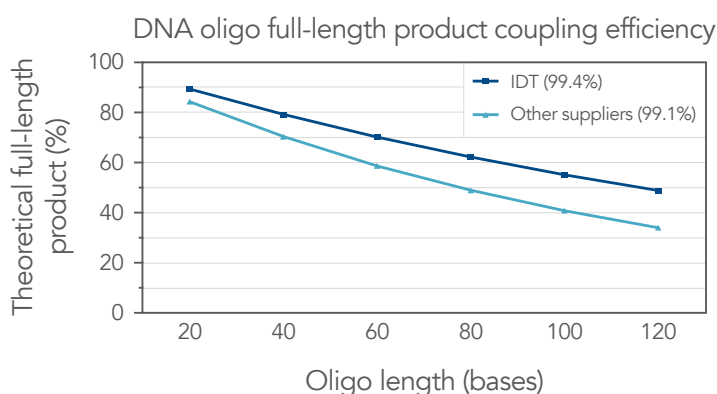
**Extensive control of oligo specifications** with custom formulation and mixing options

\*standard, small scale, desalted oligos

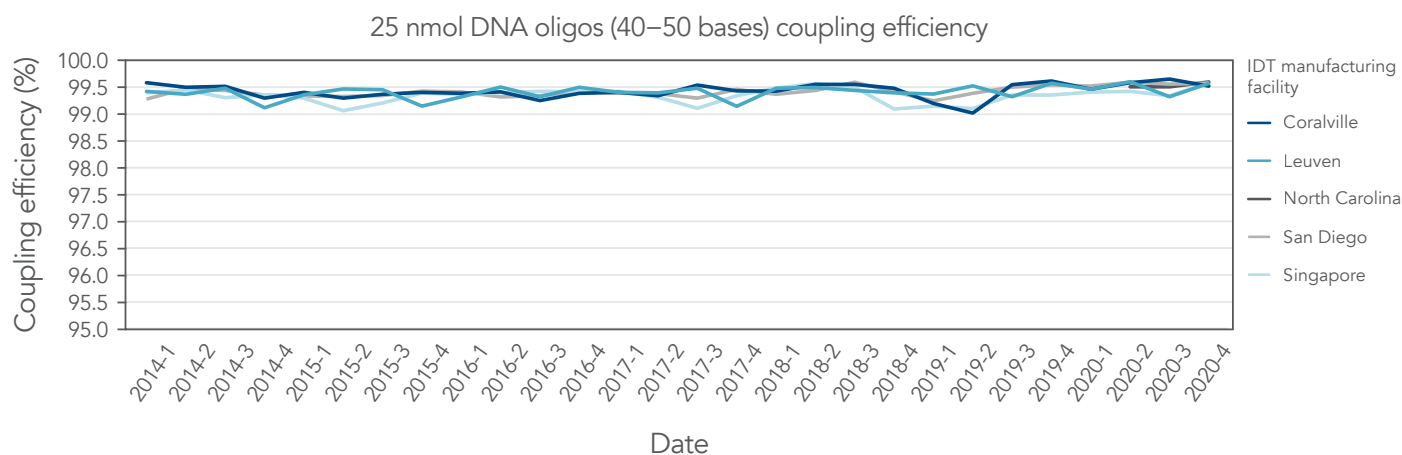
All single-stranded and duplexed sequences are produced with high coupling efficiencies, resulting in high-quality DNA products. Our proprietary technologies allow us to produce top quality Ultramer DNA Oligos, up to 200 bases long. (Figures 1–2).

To push the limits of oligo synthesis, we developed specialized platforms that allow us to deliver exemplary PCR primers, dual-labelled probes for qPCR, indexed adapters for NGS, long biotinylated oligos for NGS target capture, and other advanced and custom products.

Each oligo undergoes extensive quality analysis, including evaluation by ESI-mass spectrometry\*. Our manufacturing processes are standardized at every production site, so you consistently receive the high-grade oligo.



**Figure 1. IDT proprietary platforms have a better coupling efficiency than other suppliers, which provides more full-length oligonucleotides in your order.** Small increases in coupling efficiency ( $\leq 1\%$ ) result in measurable increases in full-length product yield. The curves represent the theoretical yield for different lengths of oligos based on a coupling efficiency of 99.4% (IDT oligos,  $n = 126$ ) and 99.1% (other suppliers,  $n = 134$  from three different suppliers) using the formula, percent full length product =  $(\text{eff})^{(n-1)} * 100$  where,  $\text{eff} = \text{coupling efficiency}$  (for example,  $99.4\% = 0.994$ ) and  $(n-1)$  is the number of coupling reactions needed to make an oligo of length  $n$ .



**Figure 2. IDT tracks coupling efficiency at our manufacturing sites to ensure consistent quality.** Many variables can lead to reduced oligo quality, including ambient temperature, humidity, and input reagents. Monitoring of coupling efficiency at IDT manufacturing sites ensures that we provide our customers with high quality products. A quarterly average is shown ( $n = 16$  per manufacturing site).

\* Except for mixed base oligos, which could potentially represent multiple sequences and therefore, cannot be accurately evaluated by ESI-mass spectrometry.

For Research Use Only. Not for use in diagnostic procedures.

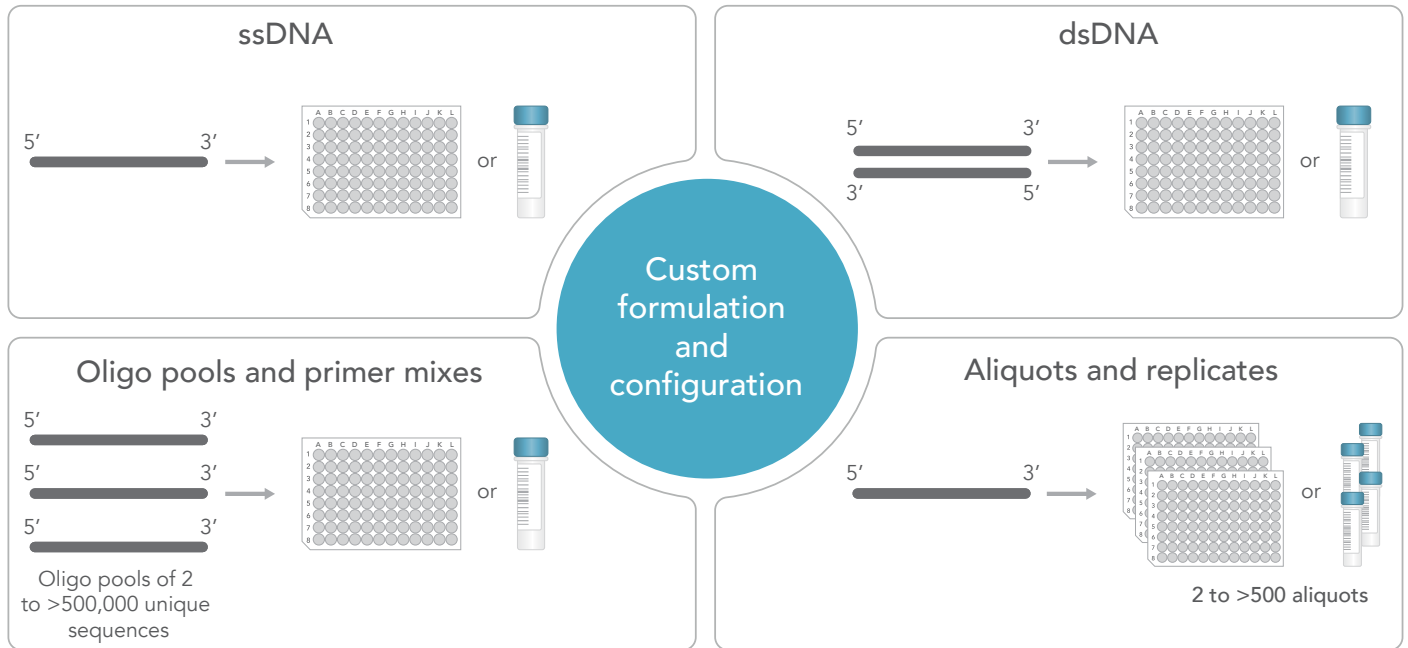
[WWW.IDTDNA.COM](http://WWW.IDTDNA.COM)

## MODIFICATIONS AND MODIFIED BASES

Select from our extensive modifications list including quenchers, spacers, linkers, modified bases, fluorophores, and modifications for click chemistry. Our technical support team can provide guidance on which modifications are best suited to your specific application. Learn more at [www.idtdna.com/mods](http://www.idtdna.com/mods).

## CUSTOM FORMULATION AND PACKAGING

Customized services from primer mixes and oligo duplexes to pools of tens of thousands of unique oligos in equal or varying quantities are available. Learn more at [www.idtdna.com/formulations](http://www.idtdna.com/formulations).



## SCITOOLS™ WEB TOOLS

Plan your experiments and design oligos that perform optimally for your conditions with our online software tools. The OligoAnalyzer™ and UNAFold tools allow you to determine GC content, sequence complement, and secondary structure characteristics such as melting temp ( $T_m$ ) and self-complementarity. The PrimerQuest™ Tool can be used to design primers and probes for PCR-based applications. Learn more about these tools, and additional applications at [www.idtdna.com/SciTools](http://www.idtdna.com/SciTools).

> FOR MORE INFORMATION, VISIT [WWW.IDTDNA.COM/DNA](http://WWW.IDTDNA.COM/DNA)

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