

Oligo Pools

Oligo pools, high diversity collections of oligonucleotides, are utilized in many applications, including generation of CRISPR single guide RNA (sgRNA) libraries and high-throughput reporter assays. Accuracy and uniformity of oligo synthesis are critical to ensure the oligo pools that are generated precisely match the design. Oligo pools for CRISPR screens cloned into expression vectors generate sgRNA libraries targeting loci of interest. Twist Bioscience's industry-leading low synthesis error rate and uniform sequence representation result in high quality libraries that enable the most efficient CRISPR screens.

OLIGO POOLS SPECS

- Unamplified pools, ssDNA
- Pools from 2k to 696k sequences (contact us for > 696k sequences)
- > 0.1 fmol per oligo
- Up to 150 nt sequences
- 5 to 7 business day turnaround time

KEY BENEFITS

Precision Editing of Target Loci

- Accurate synthesis for specific targeting
- Industry-leading 1:1,000 error rate

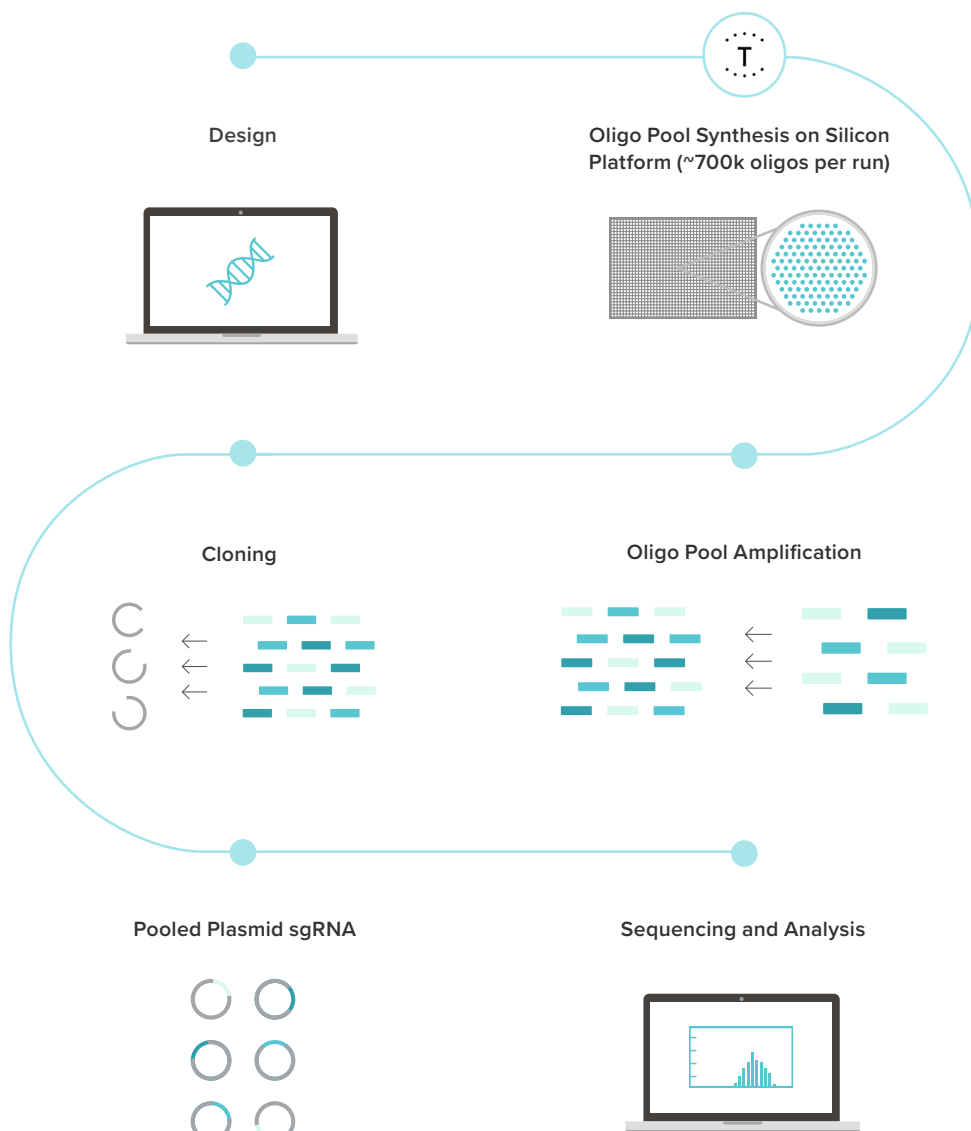
Maximized Screening Efficiency

- Uniform synthesis ensures 100% oligo representation
- >90% of oligos represented within 4X of the mean

Library Designs Made Easy

- CRISPR library design services with Desktop Genetics
- Optimized algorithms for high activity & specificity

Design. Build. Test.



Highly Uniform and Accurate Synthesis for Specific and Efficient Targeting

Twist Bioscience's innovative silicon-based DNA writing technology is transforming DNA synthesis. Our proprietary oligonucleotide synthesis platform enables the massively parallel production of hundreds of thousands of high quality, highly accurate oligos per run, allowing the generation of complex and diverse CRISPR screening sgRNA libraries for precision gene editing and maximized screening efficiency.

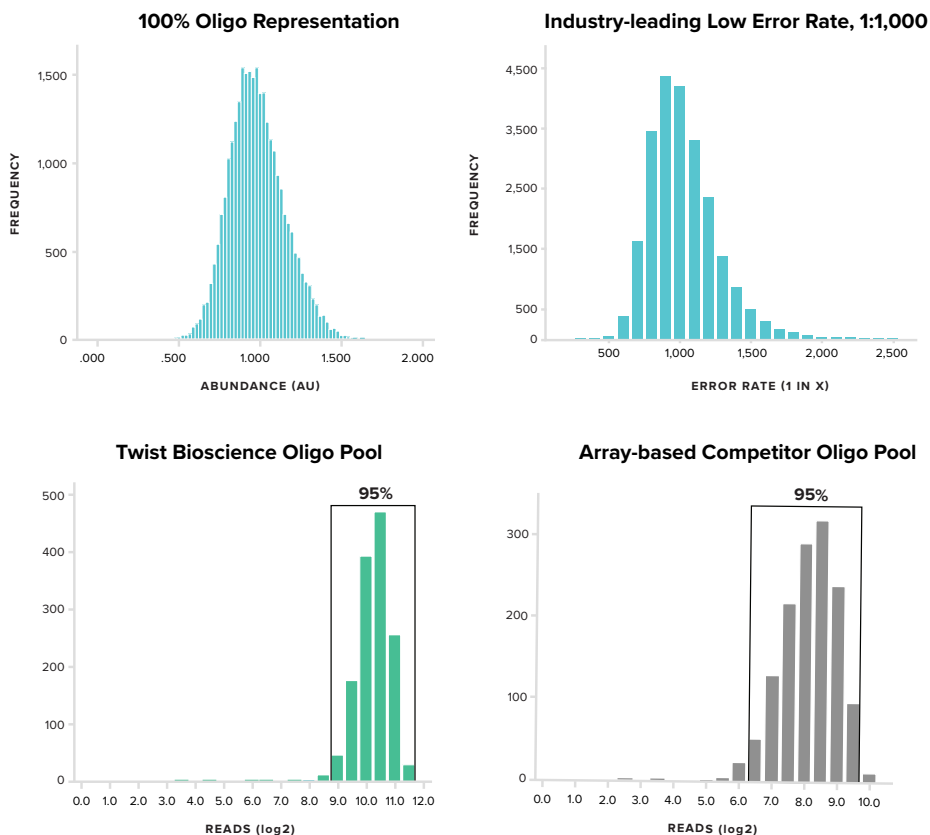


Figure A. Twist oligo pools are synthesized at high uniformity, 90% of sequences are present at signals within 4x of the mean, ensuring 100% representation [left]. Industry-leading error rate of 1:1,000 ensures high target specificity [right].

Figure B. Oligo pools synthesized by Twist Bioscience [left] and an array-based competitor [right] were amplified, cloned, electroporated, and sequenced to investigate oligo sequence representation. NGS-based validation of clones generated from each pool demonstrate that the sequences in the Twist Bioscience pool have more uniform sequence representation.

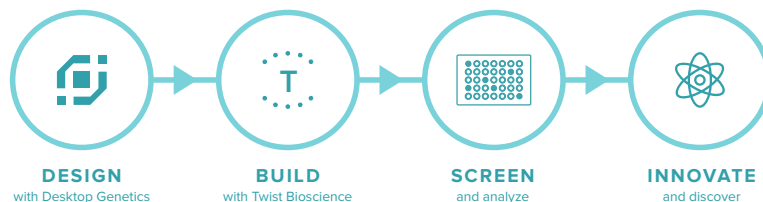
SEQUENCING ANALYSIS OF OLIGO POOLS

Twist Bioscience Oligo Pool	Array-Based Competitor Oligo Pool	
100%	>99.5%	sgRNA Recovered
~87%	>~74%	% correct sequence (MiSeq)
~100%	>~70%	% correct sequence (Sanger, 10 clones)

Sequencing analysis of oligo pools generated by Twist Bioscience and an array-based competitor demonstrate that the Twist pools contain 100% of the expected sequences and a higher percentage of correct sequences than the competitor pool.

Libraries Made Easy from Design to Build

Think big, screen once. Let Twist build for you.



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