Writing the Future

Corporate Overview – March 2022

Marc Bruyninx
Scientific Development Manager, Europe

@TwistBioscience #WeMakeDNA

Twist DNA Writing on Silicon Platform
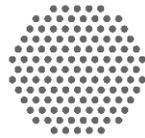
Everyone Else

1 Oligo per well

96 WELL PLATE
makes **1 gene**

TWIST BIOSCIENCE

1M Oligos per chip

Up to **10,000x** more scale & throughput

TWIST SILICON PLATFORM
can make **9,600 genes**

+

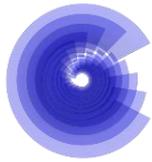**State of the art commercial infrastructure**

Proprietary software

Robotics

Integrated ecommerce platform

Manufacturing execution system

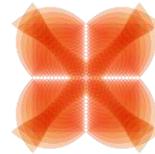# Synthetic Bio Largest Selection of DNA Offered

Genes

Clonal

Non-clonal fragments

Clonal-ready gene fragments

Oligo Pools

Clonal

Variant Libraries

Site saturation

Combinatorial

Pharma / Biotech Solutions

DNA preps

IgG

Data Storage

Preserving Heritage

Twist Genes **Specifications**

Gene Fragments

- Linear, double-stranded DNA
  0.3kb - 1.8kb
- 100 ng - 1 ug
- Available with or without Adapters
- Fixed price/bp regardless
  of gene length
- Compatible with all downstream cloning methods
- No minimum or maximum
  order limits

Clonal Genes

- Double-stranded circular plasmid DNA
  - **0.3kb - 5kb**
- NGS verified clonal-perfect
- Multiple DNA prep yield options
  - **50 ng - 2 ug | 2 ug - 10 ug | 10 ug - 100 ug | 100 ug - 1 mg**
- No hidden subcloning or complexity fees
- Multiple Twist vectors to choose from or use your own
- No order limits
- Options for endotoxin free and normalization available

Large Scale Silicon-based DNA Synthesis

Custom Designed Libraries

- ✔ Base-by-Base synthesis – Precise matching of the design
- ✔ Lack of bias
- ✔ Full control over the design
- ✔ Ratio-controlled amino acid distribution
- ✔ Codon usage control
- ✔ Avoid restriction sites and unwanted motifs
- ✔ Length variation
- ✔ Library validation by Next Generation Sequencing

Twist Libraries Portfolio Overview

Site (Saturation) Variant Libraries (SSVLs)
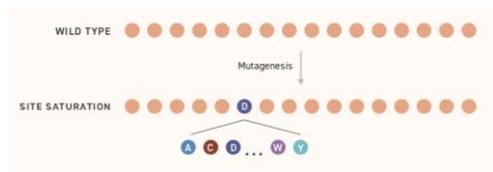
- ✔ Change one position at a time to any number of desired codons
- ✔ Variation via precise single codon substitutions
- ✔ Introduce single site deletions

Combinatorial Variant Libraries (CVLs)

- ✔ Variants differ by precise codon substitutions combined in all positions in each domain
- ✔ Variants confined to one or more domains
- ✔ Define unique ratios of variants at each position, or define total number of changes from WT per domain
- ✔ Total diversity of up to 10^{10} final variants

Spread out Low Diversity (SOLD) Libraries

- ✔ A subtype of combinatorial variant library designed for enzyme evolution projects
- ✔ Variants differ by precise codon substitutions combined at single positions scattered along a WT sequence
- ✔ Completely synthetic design, no template required
- ✔ Total diversity of up to 10^{8} final variants

Powering the Synthetic Biology Revolution

Thank you!

@TwistBioscience #WeMakeDNA