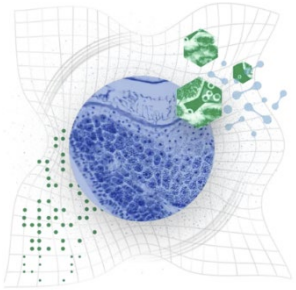
OCTANT



Designing molecules through an **iterative process** to design, build, and test **hundreds of thousands of custom compounds**

→ enables more **rapid drug design**

Case Study

Synthetic Biology-driven Small Molecule Discovery

Goal:

- Conversion from Sanger to NGS for high-throughput construct sequencing
- Transition from outsourcing to in-house, automated NGS workflow

Outcome:

- OCTOPUS (open source): An optimized, highly streamlined NGS library prep workflow
- Colony to sequence data in 24 hours

seqWell

Sequence Verification of Genetic Barcodes

Cost-effective, scalable, full-plasmid sequencing

Needs:

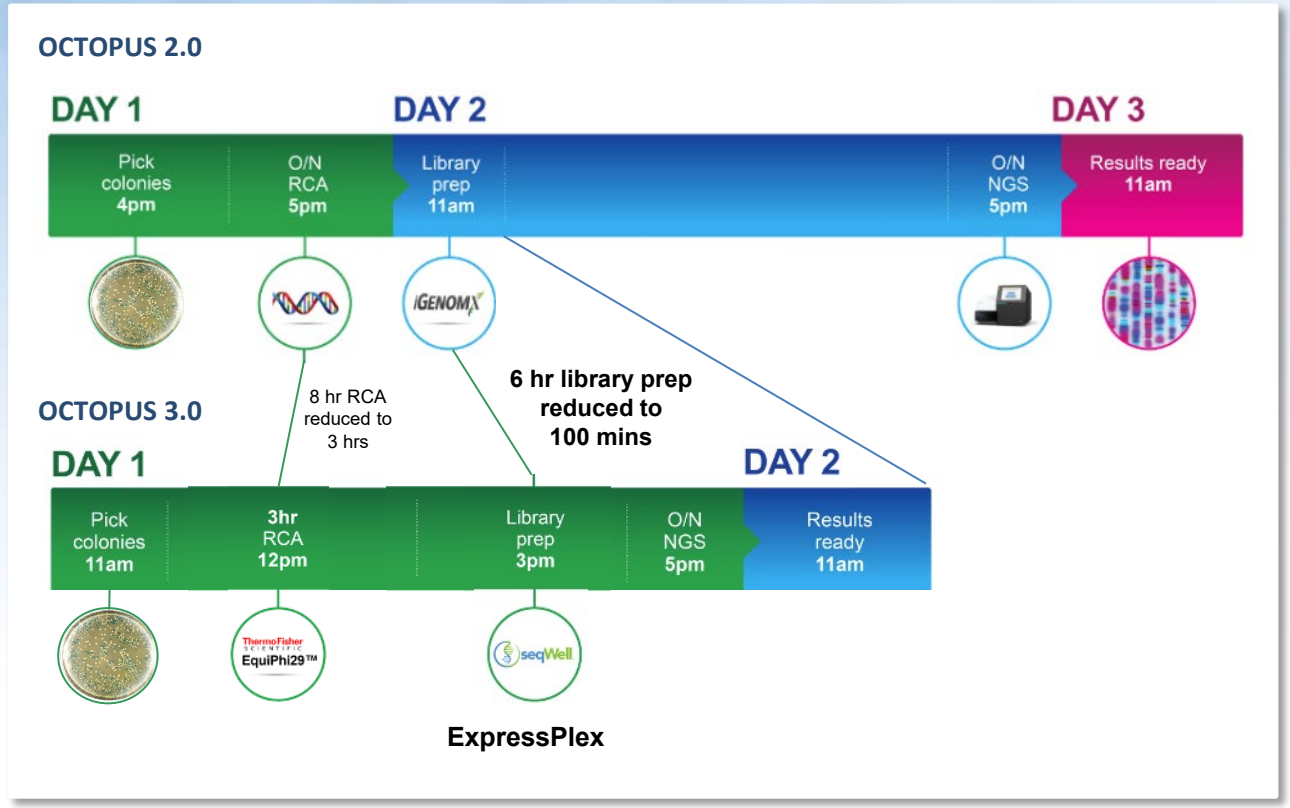
- Lower per/sample sequencing cost
- Increase the number of experimental synthetic biology cycles/week
  - Outsourced Sanger = 1-week turnaround, limiting Octant to 1 testing cycle/week
- Incorporate automation due to small staff
- Low reliance on trained staff
  - Small staff with few molecular biologist

Webinar available

seqWell

Addressing Bottlenecks in Original OCTOPUS

*From Colonies to Sequence Data in **24 Hours***



"It's as simple as stamping and thermocycling…"

- **Able to prepare DNA, make libraries, and sequence** their samples ***in 24 hours***
- Enabled dramatic reduction in time, labor and expertise requirements

seqWell

Outcome

In-house NGS harnessing ExpressPlex creates faster & cheaper method than Sanger sequencing

See https://www.octant.bio/contact to get more information about Octant's OCTOPUS 3.0 methods (OPEN ACCESS)

"… colonies picked [in the] morning have their ***plasmids fully sequenced 24 hours later***, a ***faster turnaround than Sanger*** service from the same input! For us, this often means the difference between starting an experiment that same week vs. waiting until the next for ***mission critical data***."

"…OCTOPUS has *fundamentally changed how we approach molecular and synthetic biology*. The ***ease and scale with which we can sequence verify full plasmids directly from colonies, coupled with the low cost*** (about the price of a single Sanger reaction per sample) means that *we can take riskier but more rewarding approaches* to molecular cloning. Conservative estimates suggest OCTOPUS has ***saved Octant at least a million dollars*** in Sanger costs alone…"

seqWell