CYPHER AI

CASE STUDY · FLOCK BIO

One platform where scientists and AI agents work in the same loop

At Flock Bio, Claude Science drives pipeline iterations in Cypher AI. Scientists make the final calls, and the team can trace, review and rerun the work from one shared record.

"I only do NGS pipeline work on Cypher now. I need the durability and traceability."
Matthew Youngblut, Co-founder and CSO, Flock Bio

THE CHALLENGE

Fast iterations need a record the team can reuse

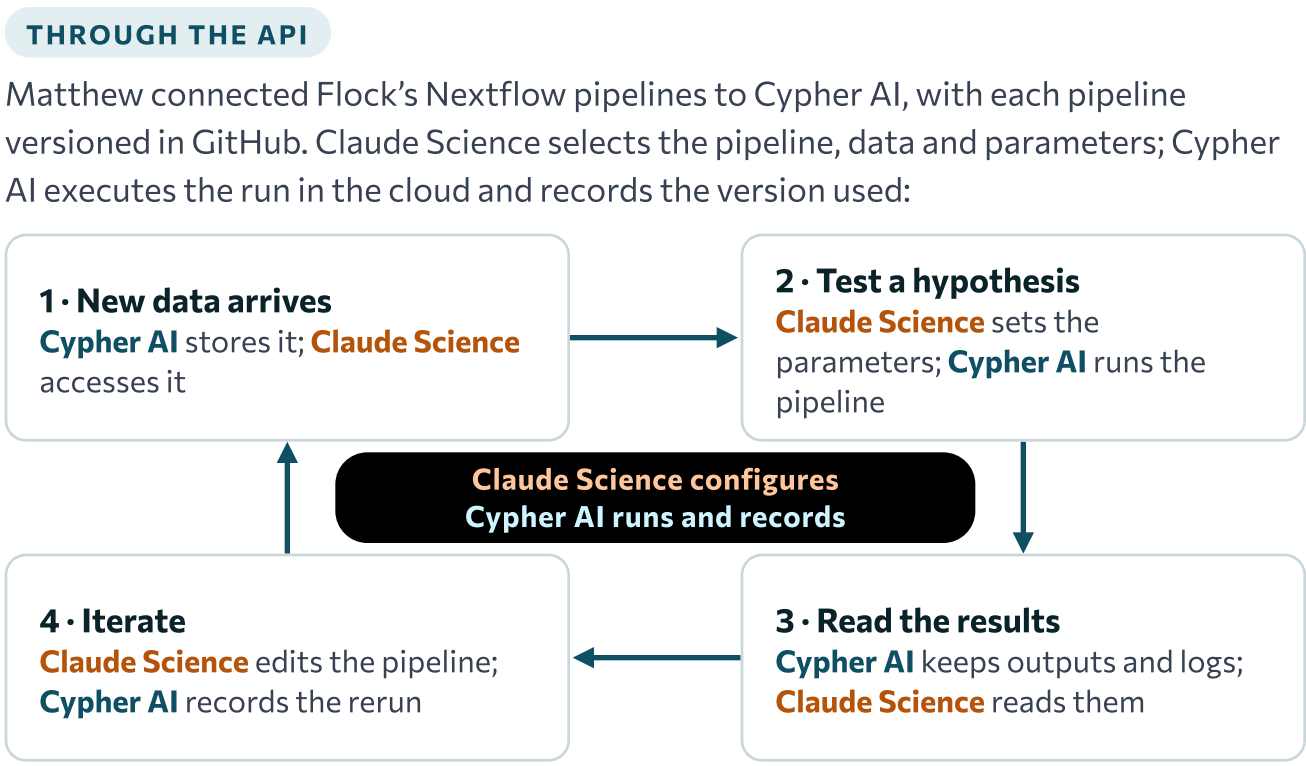
Flock Bio builds complex pooled DNA libraries. When AI runs the iterations from one person's terminal, the work has no shared history: colleagues can't review earlier runs, reproduce results or share outputs with clients.

HOW FLOCK WORKS IN CYPHER AI

Run through code or the interface. Keep one shared record.

THROUGH THE API

Matthew connected Flock's Nextflow pipelines to Cypher AI, with each pipeline versioned in GitHub. Claude Science selects the pipeline, data and parameters; Cypher AI executes the run in the cloud and records the version used:



INTERFACE AND CYPHER AI AGENT

Rerun in Cypher AI
Pre-configured pipelines launch from the interface, with no code.

Ask the Cypher AI agent
Get answers about runs and files from the shared record.

Keep client projects separate
The Cypher AI agent stays inside one client's project.

Share large deliverables
Send sequencing files to clients through secure download links.

Why Cypher AI, if Flock has Claude Science? Cypher AI gives those workflows a shared, traceable record: it runs the pipelines and keeps every run's data and context, so months later people and agents can find old work and build on it.

"The combined 8 of us between Flock and Cypher are doing things a 250-person company in 2023 couldn't do."
Matthew Youngblut, Co-founder and CSO, Flock Bio

AT A GLANCE

COMPANY
Flock Bio, San Francisco Bay Area

BUILDS
Pooled DNA libraries for CRISPR screens, enzyme evolution and massively parallel reporter assays (MPRAs). Also on the Cypher AI Marketplace.

DESIGNS
Up to three variable regions and linked barcodes, with a misassembly rate below 1%

TEAM
A group of founders with 50+ years of experience making DNA/RNA libraries at Affymetrix, Invitae, Twist, Circularis, Roche, and Ginkgo.

CUSTOMER SINCE
October 2025

BY THE NUMBERS

1,000+
pipeline runs on record

7
tools built on the API in one day

13+ TB
of pipeline data stored

Figures as of Oct. 2026.

"This is the platform I've wanted my entire career."



Matthew Youngblut
Co-founder and CSO, Flock Bio

What's in Flock Bio's Cypher AI setup

A FORMAL SYSTEM OF RECORD

Every run recorded, whether launched by a scientist or an agent

Claude Science configures each run; Cypher AI executes the Nextflow pipeline and records it like any scientist's run:

Who and when
Who launched it, start and end times, status and exit code

What ran
The pipeline's exact GitHub commit, container image, command and parameters

Files, logs and resource use
Input and output files, full logs, CPU hours and peak memory

So anyone on the team can trace a result to the exact run behind it, or rerun it. As run data ages, it moves to cheaper archive storage, and the run stays on the record.

FOR FLOCK'S CLIENTS

Every library's QC report has its run on the record

Flock sequences every library before it ships, using Element AVITI, Illumina NovaSeq or PacBio Revio, as appropriate, and each one comes with a QC report on quality and diversity. With Flock's NGS pipeline work in Cypher AI, the run behind each report stays on the record for the team, and for the client who asks.



"It lets our team focus on delivering the highest-quality libraries while giving our customers a level of visibility and reproducibility we simply couldn't achieve before."

Matthew Youngblut, Co-founder and CSO, Flock Bio

Enterprise data security

- Flock's own single-tenant instance, in its own AWS account in US West
- Cypher AI is SOC 2 Type II compliant
- The Cypher AI agent uses Claude on Amazon Bedrock with zero data retention
- Scoped API keys with optional automatic rotation, and share links that expire

A flexible electronic lab notebook (ELN)

- Rich-text entries with tables, formulas and protocols, with every version kept
- Opens Flock's Google Docs and Drive files directly
- DNA maps, GenBank and FASTA, with a version saved on every change

Reusable analysis tools

- The Cypher AI agent turns an analysis into a reusable tool, such as Flock's Barcode Counter
- The team reruns the saved code without another AI call
- Runs automatically when a pipeline finishes or a new file arrives
- Other common ones: variant read counts, skew plots and QC summaries

Want your team and your AI working together toward one goal?

1. Get a demo **2.** Bring a task your team repeats **3.** See it run in Cypher AI

cypherbio.ai/schedule-demo