CERNAL

COMPILER-LIKE ENGINE FOR RNA LOGIC

B2B RNA logic design for programmable cells

A world of computed biology: programmable cells and precise control.

THE PROBLEM

Intracellular biological circuit design remains complex, manual, and highly context-dependent.
Today, there is no generic, automated solution that can accelerate the full design process across different biological systems.

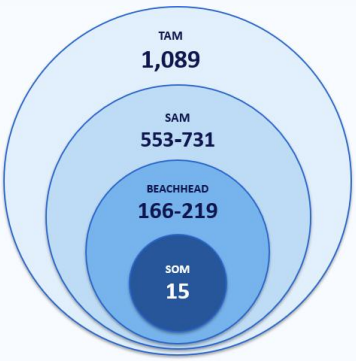
WHAT CERNAL DO

CERNAL is a B2B company developing a compiler-like engine for RNA logic.

We help biotech and research teams translate cell-state transcriptomic data into designed RNA logic circuits with defined outputs.

RNA SEQ → C → LOGIC

THE MARKET



TAM	Commercial cell & gene therapy developers worldwide.
SAM	Developers using genetic modification, where a circuit has something to act on.
BEACH HEAD	HEK293 / 293T programs that design constructs in-house.
SOM	5-year paying customer target. Commercial target for early B2B adoption.

HOW IT WORKS

1. **Cell State** — Target + control RNA-seq
2. **CERNAL** — Selects discriminating signals
3. **CERNAL RNA Logic** — Designs host-adapted circuit logic
4. **Defined Output** — Activate, repress, or report

PROOF-OF-CONCEPT & IP

3 systems | **Provisional patent**

Proof-of-concept work spans E. coli, S. cerevisiae, and HEK293T.

CERNAL BUSINESS MODEL

Paid design-partner engagements first.

CERNAL works with B2B partners to turn RNA-seq and a desired output into a circuit design ready for experimental validation.

Long term: milestone-based payments and licensing agreements.

WHY CERNAL?

- **Gates fitted to each host**
- **Reproducible design**
- **Automated circuit design**

WHO WE SERVE

- Cell & gene therapy R&D teams
- Synthetic biology and construct-design teams
- Biotech partners seeking state-specific control

Initial commercial focus: cell & gene therapy R&D.

LET'S BUILD WITH PARTNERS

We are looking for B2B design partners to test CERNAL on real cell-state problems.

Biotech R&D teams · Synthetic biology partners · Strategic collaborators

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