

# AI Learns to **Reverse Aging**

Billionaires Are Betting Billions That We Can Live Forever

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OpenAI + Retro Biosciences achieved **50x improvement** in cell reprogramming efficiency



Longevity funding hit **\$8.49B in 2024** — up 220% from 2023



Bezos, Altman, and Armstrong are racing to add **10 healthy years** to human life

# The Market Opportunity

# \$610B

Projected Longevity Tech Market (2025)

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**\$8.49B**

2024 Funding

**331**

Deals Closed

**220%**

YoY Growth

**57%**

US Companies

# AI Is **Accelerating** Everything



**18 months vs 4-6 years:** Insilico Medicine's AI discovered drug candidates in record time at just \$150K cost



**50x efficiency gain:** OpenAI's GPT-4b micro redesigned Yamanaka factors for stem cell reprogramming



**20+ candidates in 3 years:** AI platforms generating drug pipelines at unprecedented speed



**60-200 molecules tested:** vs thousands in traditional pharma R&D per program

# Billionaires Are **All In**



**Jeff Bezos — Altos Labs: \$3B to reverse aging through cellular rejuvenation**



**Sam Altman — Retro Bio: \$180M seed, now chasing \$5B valuation and \$1B raise**



**Brian Armstrong — NewLimit: \$130M Series B for epigenetic reprogramming**



**Larry Page — Calico: \$3.5B+ invested over 11 years (AbbVie partnership ended Nov 2025)**

# The Science Is **Finally Working**



**Cellular reprogramming:** Altos Labs extended mouse lifespan through partial reprogramming (2024)



**Senolytics working:** Unity's UBX1325 showed vision improvements in diabetic patients (NEJM 2025)



**Alzheimer's trial launching:** Retro Bio's autophagy-restoring drug enters clinic end of 2025



**Aging happens in phases:** Stanford found accelerated aging at ages 44 and 60 — targetable intervals

# Expert Perspective

*"Biology is too complicated for humans to figure out alone. The AI models showing traction lately work on sequential data types, like protein sequences."*

— Joe Betts-LaCroix, CEO Retro Biosciences



**Key insight:** Discovery platforms raised \$2.65B in 2024 — investors betting on AI infrastructure over single drugs



**Market shift:** Later-stage VC now 31% of funding — sector moving from hype to execution phase

**If you could add 10  
healthy years to your  
life, what would you do  
with them?**

Share in the comments 📌

# Numbers That **Matter**

**\$3B**

Altos Labs — largest longevity funding round in history

**50x**

OpenAI-Retro improvement in stem cell reprogramming efficiency

**12-18 mo**

Insilico's AI drug discovery timeline (vs 4-6 years traditional)

**10 years**



# Altos Labs

The \$3B Cellular Rejuvenation Giant

**BACKED BY JEFF BEZOS & YURI MILNER**

**\$3B**

Series A (2022)

**300+**

Scientists

**4**

Global Sites

**TECH**

Yamanaka factor partial reprogramming

**2024**

Mouse lifespan extension published

**2025**

Human trials initiated (neuro, immune)

**M&A**

Acquired Dorian Therapeutics (May 2025)

# Retro Biosciences

OpenAI's Partner in Longevity

FOUNDED BY SAM ALTMAN (\$180M SEED)

**\$1B+**

Raising Now

**\$5B**

Target Valuation

**10 yrs**

Lifespan Goal

**AI**

GPT-4b micro protein engineering partnership

**50X**

Reprogramming efficiency improvement

**2025**

Alzheimer's trial launching (autophagy)

**GOAL**

"First drug prescribable by end of 2020s"

# Insilico Medicine

AI Drug Discovery Pioneer

**PHARMA.AI PLATFORM — END-TO-END  
DISCOVERY**

**\$400M+**

Total Raised

**20+**

Candidates

**10**

IND Cleared

**SPEED**

12-18 months target-to-candidate (vs 4-6 yrs)

**COST**

60-200 molecules tested per program

**DEAL**

Eli Lilly partnership (\$100M+ potential)

**TRIAL**

Phase 2a results for IPF drug (ISM001-055)

# NewLimit

## Coinbase CEO's Epigenetic Bet

**BRIAN ARMSTRONG CO-FOUNDER**

**\$130M**

Series B (May 2025)

**Kleiner**

Lead Investor

**Liver**

First Target

**TECH**

mRNA delivery to aged liver cells

**TARGET**

Alcohol-related liver disease

**BACKERS**

Founders Fund, Khosla Ventures

**MISSION**

Reprogram aged cells to younger states

# Calico Life Sciences

Google's Aging Moonshot (Pivoting)

**ALPHABET SUBSIDIARY — FOUNDED 2013**

**\$3.5B+**

Total Investment

**5**

Clinical Assets

**20**

Preclinical

## UPDATE

AbbVie ended 11-year partnership (Nov 2025)

## SETBACK

Fosigotifator failed Phase 2/3 ALS trial

## PIVOT

Now independent, focusing on I-O assets

## LESSON

Fundamental aging research takes decades

# Unity Biotechnology

Senolytic Pioneer (Cautionary Tale)

**BACKED BY BEZOS & THIEL**

**UBX1325**

Lead Asset

**NEJM**

Published 2025

**DME**

Target Disease

**WIN**

Vision improvements in diabetic patients

**MISS**

Phase 2b ASPIRE missed primary endpoint

**2025**

Stockholders approved liquidation (Sept)

**LESSON**

Local delivery may not address systemic aging

# BioAge Labs

AI + Human Aging Data

IPO'D ON NASDAQ (OCT 2024)

**\$297M+**

Total Raised

**\$238M**

IPO Proceeds

**50 yrs**

Aging Cohorts

**DATA**

Proprietary human longevity datasets

**DEAL**

Novartis \$550M milestone deal (Dec 2024)

**SETBACK**

Azelaprag discontinued (liver issues)

**STOCK**

Down ~80% since IPO — high risk space

# Bryan Johnson

## Blueprint Protocol — The Human Guinea Pig

**\$60M RAISED (NOV 2024) — KIM K & PARIS  
HILTON INVESTED**

**\$2M/yr**

Personal Spend

**40+**

Daily Supps

**70+**

Organs Measured

### CLAIM

Biological age 5.1 years younger

### PACE

0.66 years aging per chronological year

### CAVEAT

Experts dispute 31-year reversal claim

### MODEL

Blueprint products now commercial



# Consumer Longevity

## Wearables & Prevention Platforms

ŌURA — \$200M SERIES D (OCT 2024)

**Sleep**

& Recovery

**Millions**

Users

**IVP**

Lead Investor

FUNCTION HEALTH — \$53M SERIES A

**100+**

Biomarkers

**a16z**

Backed

**Prevention**

Focus

NEKO HEALTH — 100K+ WAITLIST

**Full Body**

AI Scans

**Sweden**

HQ

# Emerging Players



**Loyal — \$125M raised:** First FDA dog lifespan drug, paving human pathway



**Rubedo Life Sciences — \$52M:** AI-driven senolytic discovery (ALEMBIC platform)



**Juvenescence — \$76M:** AI-enabled therapeutics for healthy lifespan



**Shift Bioscience — \$18M:** AI cell simulation platform for aging interventions

# Key Takeaways

## 01

**AI is the unlock:** 50x efficiency gains, 18-month drug discovery — biology is now a data problem

## 02

**Billionaire conviction:** \$8.49B in 2024 funding — Bezos, Altman, Armstrong betting personal fortunes

## 03

**Execution phase:** Clinical trials launching, real data coming — hype becoming reality

# JJ SHAY

AI STRATEGY • M&A EXECUTIVE •  
THOUGHT LEADER

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