

AI Learns to Reverse Aging

Billionaires Are Betting Billions That We Can Live Forever



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)

\$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+

20+

10

Total Raised

Candidates

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

NEJM

DME

Lead Asset

Published 2025

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+ \$238M 50 yrs

Total Raised

IPO Proceeds

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 Millions IVP
& Recovery Users Lead Investor

FUNCTION HEALTH — \$53M SERIES A

100+ a16z Prevention
Biomarkers Backed Focus

NEKO HEALTH — 100K+ WAITLIST

Full Body Sweden
AI Scans 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

Follow for more AI & Tech insights

bit.ly/jjshay