Assessment basis

The ratings below apply to the **publicly identifiable semifinal or supporting study**, not to the confidential data package reviewed by XPRIZE or the future one-year Finals protocol.

XPRIZE required teams to submit de-identified human data, regulatory documentation, and evidence that they could execute and manufacture for clinical trials. The report also says nine funded teams submitted small randomized trials and one submitted a single-arm open-label study. Much of that underlying evidence has not been released publicly, so an apparently thin public record does not necessarily mean XPRIZE saw equally thin evidence. It does mean outsiders cannot yet reproduce the judging.

Rating scale

Design rating	Meaning
5/5	Well-designed randomized, blinded controlled study with credible endpoints and statistical handling
4/5	Sound early-phase RCT, with limitations mainly from size, duration, or exploratory endpoints
3/5	Randomized or controlled, but very small, weakly controlled, or difficult to interpret
2/5	Open-label or materially confounded comparison
1/5	Uncontrolled, opaque, retrospectively registered, or otherwise unable to support causal conclusions

I also assign a **public-evidence grade**:

- **A:** peer-reviewed numerical results with enough information for independent appraisal
- **B:** substantial numerical report or preprint, but with important limitations
- **C:** partial or sponsor-reported results
- **D:** registry and narrative only; no auditable result set

Apples-to-apples overview

Team	Finalist intervention	Best public human evidence	Design	Public evidence	Directness to Finals strategy
AgelessRx	Large drug/supplement/ exercise/coaching combination	90-day, three-arm randomized pilot; 26 enrolled, 18 analyzed	**2/5**	**C**	High
Goda Lab	Engineered regenerative extracellular vesicles	Japanese three-arm, double-blind intranasal exosome trial; results absent	**4/5**	**D**	Uncertain
Johns Hopkins–Suninflam	Anti-Galectin-3 antibody SIF001	Controlled TB006 Alzheimer trial plus early SIF001 studies	**4/5**	**C**	Medium
Longeveron	Laromestrocel/Lomecel-B mesenchymal stem cells	Phase 2b frailty RCT and Phase 2a Alzheimer RCT	**5/5**	**A−/B+**	High
Minicircle	Follistatin plus Klotho plasmid gene therapy	Open-label Follistatin study; uncontrolled FST+KL pilot	**1/5**	**B−**	Medium
NYC-Vita	Rapamycin or lamivudine plus spermidine and exercise	Small active-comparator trial; only preliminary fragments disclosed	**3/5**	**D**	High
Mitochondrial All Stars	Elamipretide	Open-label semifinal pilot; earlier randomized mechanistic study	**2/5 semifinal; 4/5 prior RCT**	**D / A−**	High
RETRO-EPIGERNA	Herbal/probiotic capsule targeting tRNA modification	Claimed 12-person double-blind RCT; no public registry or numbers	**3/5 nominally**	**D**	Low–medium
Progerinin	Progerin-degrading small molecule	Healthy-volunteer Phase 1 and tiny active-controlled progeria trial	**4/5 safety; 3/5 efficacy**	**D/C−**	Low for normal aging
TIME TRAVELER	Oral parsley-derived extracellular vesicles	Registered 40-person double-blind placebo RCT; no numerical results	**4/5**	**D**	High

1. AgelessRx

Strategy and implementation

AgelessRx is testing an unusually broad combination rather than one candidate:

- metformin
- low-dose naltrexone
- NAD+ nasal spray
- vitamin B12
- structured exercise and meditation

Its more intensive arm added:

- weekly rapamycin, titrated from 2 to 6 mg
- glutathione
- a proprietary supplement containing calcium alpha-ketoglutarate, quercetin, glucosamine, carnosine, pterostilbene, astaxanthin, and curcumin

The future Finals concept adds further components, including tirzepatide, sermorelin, resistance training, and telehealth coaching.

The semifinal study was a decentralized, 90-day, three-arm randomized pilot. Twenty-six participants enrolled and 18 were included in the final analysis. The groups were approximately:

- control: **n=5**
- multi-therapy: **n=7**
- comprehensive therapy: **n=6**

The control received vitamins, general exercise advice, and neutral audio material. The active groups received both drugs and substantially more structured behavioral intervention. The prespecified protocol explicitly said the study was underpowered and would emphasize confidence intervals, effect sizes and minimum clinically important differences rather than formal hypothesis testing. (cdn.clinicaltrials.gov)

Publicly reported findings

The sponsor reports:

- PhenoAge fell in all three groups; the multi-therapy mean change was approximately **−1.84 years**
- participants with any improvement in Sleep Quality Scale (SQS) score: **2/5 control, 6/7 multi-therapy, 5/6 comprehensive**
- energy/fatigue scores rose approximately **10.2, 22 and 28 points**, respectively
- lean mass changed approximately **−1.75 kg, +0.11 kg and −0.03 kg**
- quality-of-life domains generally favored the active arms
- immune-age abnormalities reportedly normalized in active participants who began outside the desired range

These are sponsor summaries rather than a complete statistical report. Exact values for several groups, individual-level data, adverse-event tables and a multiplicity-controlled analysis have not been posted. (agelessrx.com)

Math check

Pooling the two active arms gives **11 of 13 completers with any improvement in SQS**, versus **2 of 5 controls**.

- proportions with any improvement: 84.6% versus 40.0%
- risk ratio: **2.12**
- approximate 95% confidence interval: **0.71–6.34**
- two-sided Fisher exact P value: **0.099**

Because this is simply **any favorable movement in SQS**, rather than a prespecified clinically meaningful responder threshold, the Fisher test is less informative than the term “responder” implied. The difference is not statistically persuasive. The study also lost 8 of 26 enrollees from the final analysis, an attrition rate of **30.8%**.

Appraisal

The randomization is useful, but it does not answer which component worked. The active arms differ from control in medications, exercise structure, meditation, coaching intensity and participant expectations. The study also measured many outcomes in only 18 completers. With no adequate power and no formal multiplicity control, favorable findings can readily emerge by chance or selective emphasis.

Design: 2/5
Public evidence: C
Conclusion: Useful feasibility work for a decentralized combination protocol, but almost no candidate-specific efficacy information.

2. Goda Lab

Strategy and implementation

Goda Lab's principal innovation is an extracellular-vesicle platform using engineered surface targeting—described as **super homotypic targeting**—to improve delivery of regenerative proteins and microRNAs to muscle, neural and immune tissues. The XPRIZE profile emphasizes preclinical reductions in p16, p21 and inflammation, and reports slowed frailty progression in aged mice.

The relevant Japanese registry record is **jRCT1033250410**:

> *Double-blind randomized controlled trial of intranasal exosomes in middle-aged and older adults.*

The design specifies:

- target enrollment: **45**
- age: **50–80**
- mild cognitive impairment
- high-dose iPS-cell-derived exosomes
- low-dose exosomes
- saline placebo
- daily intranasal administration for four weeks
- follow-up at six weeks
- co-primary outcomes: MMSE and Japanese MoCA
- secondary outcomes: grip strength, gait speed, immune-cell and inflammatory markers, safety and laboratory measures

The current Japanese portal lists the trial as completed, but actual enrollment, participant flow, group results and adverse events remain blank. An earlier version of the record indicated a temporary suspension, which has not been publicly explained in the result fields. (rctportal.mhlw.go.jp)

Important mismatch

The public trial record describes **iPS-cell-derived intranasal exosomes**, but it does not clearly establish that these were the same SHT-engineered vesicles highlighted in the XPRIZE application. The report may be joining related stages of the platform, but the public documents do not let us verify that.

Appraisal

The registered trial design is respectable for an exploratory study: randomization, dose comparison, placebo, blinding and clinically recognizable outcomes. Forty-five participants are still too few for a definitive cognitive trial, especially with two cognitive primary outcomes and numerous biological secondary endpoints. No public sample-size calculation or analysis plan was located.

Design: 4/5
Public evidence: D
Conclusion: One of the better semifinal designs on paper, but there are no public results and the connection between the tested exosome product and the advertised engineered platform remains unclear.

3. Johns Hopkins–Suninflam

Strategy and implementation

The finalist candidate, **SIF001**, is a second-generation monoclonal antibody against Galectin-3. The proposed biological effects include:

- suppressing chronic Galectin-3-mediated inflammation
- preventing Galectin-3 oligomerization and possibly amyloid aggregation
- reducing monocyte/macrophage activation
- relieving regulatory T-cell suppression

The planned Finals population is older adults with mild cognitive impairment or subclinical Alzheimer pathology.

The strongest controlled public evidence comes from the first-generation antibody **TB006**, ClinicalTrials.gov **NCT05074498**, rather than SIF001 itself. That trial used:

- randomized, double-blind, placebo-controlled treatment
- five weekly intravenous doses
- moderate-to-severe Alzheimer disease
- primary endpoint: change in Clinical Dementia Rating–Sum of Boxes, or CDR-SB, through day 104
- secondary measures including MMSE, neuropsychiatric symptoms and responder analyses

The protocol and statistical-analysis plan are publicly available. (clinicaltrials.gov)

TB006 findings

The sponsor reports approximately:

- TB006: **n=67**
- placebo: **n=72**
- day-104 CDR-SB worsening: approximately **+0.26** with TB006 versus **+0.70** with placebo
- treatment difference: **0.44 CDR-SB points**
- P value: approximately **0.08**

Thus, the primary endpoint did **not** meet the conventional P<0.05 criterion.

The company described this as a **63% treatment difference**. The calculation is arithmetically correct:

```
(0.70-0.26)/0.70 = 62.9%
```

But the wording is easy to misread. It represents approximately **63% less worsening relative to the placebo group's small mean worsening**, not 63% restoration of cognitive function.

A day-36 responder analysis—at least a one-point CDR-SB improvement—showed:

- TB006: **17/67 = 25.4%**
- placebo: **7/72 = 9.7%**

My unadjusted checks give:

- risk ratio: **2.61**
- approximate 95% CI: **1.16–5.90**
- two-sided Fisher exact P: **0.023**

The sponsor reports an adjusted P value of 0.016. That secondary finding is credible enough to justify another trial, but the primary endpoint miss and multiplicity of secondary analyses prevent treating it as confirmed efficacy. (biospace.com)

Evidence for SIF001 itself

ClinicalTrials.gov **NCT07051629** is a randomized, double-blind, placebo-controlled dose-escalation study in healthy volunteers and people with drug-resistant epilepsy, primarily assessing safety, pharmacokinetics and pharmacodynamics. The XPRIZE

report additionally cites a small Chinese open-label series—nine at one month and six at three months—with claimed cognitive, neuropsychiatric and seizure improvements. Detailed public numbers were not found. (clinicaltrials.gov)

Appraisal

The TB006 study is a real, reasonably designed controlled trial, but it did not achieve its primary endpoint. The most favorable result comes from an earlier secondary responder analysis. Furthermore, SIF001 is a related but different antibody, so the clinical bridge is incomplete.

Design: 4/5
Public evidence: C
Conclusion: Plausible and worthy of further testing, but public claims run ahead of the primary result, and SIF001-specific efficacy remains essentially unproven.

4. Longeveron

Strategy and implementation

Longeveron's **laromestrocel**, formerly Lomecel-B, is an allogeneic bone-marrow-derived mesenchymal stem-cell product. Its proposed effects are primarily paracrine:

- anti-inflammatory and immune-modulating signaling
- vascular support
- tissue repair
- extracellular-vesicle and protein secretion
- possible mitochondrial transfer to injured cells

The company has completed multiple U.S. trials in frailty, Alzheimer disease and immune response.

Phase 2b aging-related frailty trial

ClinicalTrials.gov **NCT03169231** enrolled adults aged 70–85 with frailty and impaired mobility. It was randomized, double-blind and placebo-controlled, testing one intravenous dose of:

- placebo
- 25 million cells
- 50 million cells
- 100 million cells
- 200 million cells

A total of 148 were infused; the modified intention-to-treat population was 143, and 137 completed follow-up.

The primary endpoint was six-minute walk distance at month 6. (clinicaltrials.gov)

Results

For the 200-million-cell dose versus placebo:

- month 6 difference: **+41.3 metres**
- 95% CI: **−2.4 to +84.9**
- P=**0.0635**

This missed conventional significance at the primary time point.

At month 9:

- 200 million: **+63.4 metres**
- 95% CI: **17.1 to 109.6**
- P=**0.0077**

The 50-million-cell group also showed a month-9 difference of about **49.2 metres**, P=0.0122. A prespecified dose-response test at month 6 was significant at P=0.0321. The investigators used Hochberg adjustment for multiple primary pairwise comparisons. (waltersport.com)

Math validation

Using the confidence interval to reconstruct the standard error:

- month 6 SE ≈ 22.27 metres
- Z ≈ 41.3/22.27 = 1.85
- two-sided P ≈ 0.064

That agrees with the reported 0.0635.

At month 9:

- SE ≈ 23.60

- Z ≈ 2.69
- two-sided P ≈ 0.0072

That is also consistent with the reported 0.0077.

Caveat

The 200-million-cell arm was added after 92 participants had already entered, when additional funding became available. Randomization procedures consequently changed, although treatment masking was maintained. That creates some possibility of calendar, site or cohort differences. The paper discloses the amendment, conflicts and sponsor involvement, and makes analysis code available. (waltersport.com)

CLEAR-MIND Alzheimer trial

ClinicalTrials.gov **NCT05233774** randomized 49 people with mild Alzheimer disease to placebo or different laromestrocel dosing regimens. The study was primarily a Phase 2a safety trial.

Findings included:

- acceptable safety
- no infusion reactions or amyloid-related imaging abnormalities
- an exploratory composite Alzheimer score difference of approximately **0.38**, 95% CI **−0.06 to 0.82**, therefore not conventionally significant
- reported slowing of whole-brain volume loss by **48.4%**, P=0.005
- slowing of left hippocampal volume loss by **61.9%**, P=0.021

The imaging findings are interesting but arose among numerous exploratory outcomes without a definitive efficacy-powered design. (nature.com)

Appraisal

This is clearly the strongest publicly documented package among the ten. It contains properly conducted RCTs, reasonable retention, clinical endpoints, transparent caveats and peer-reviewed numerical reports. The correct reading is still more modest than the XPRIZE profile's "improvements in muscle, immune and cognitive function versus placebo": the frailty primary comparison missed at six months, and the Alzheimer trial was small and exploratory.

Design: 5/5
Public evidence: A−/B+
Conclusion: Genuine efficacy signals supported by the best trial architecture in the group, but not yet definitive Phase 3 evidence.

5. Minicircle

Strategy and implementation

Minicircle delivers nonviral episomal plasmid DNA with a transfection reagent by subcutaneous injection.

- **Follistatin-344** inhibits myostatin and activin signaling, aiming to increase muscle mass and reduce inflammation.
- **Klotho** is intended to influence FGF23 signaling, systemic aging and neuroprotection.

The combined semifinal pilot enrolled 14 healthy adults aged 50–80, of whom 10 completed follow-up. It was single-arm and uncontrolled.

Follistatin-only study

ClinicalTrials.gov **NCT06411366** describes an open-label, single-dose study involving 43 adults, with pre/post assessment around three months. There was:

- no placebo
- no masking
- no randomized comparator
- a broad age range
- retrospective registration after the study had taken place

The sponsor-associated report gives approximately:

- serum Follistatin: **8.58 to 24.03 ng/mL**
- fat-free mass: approximately **+1.9 pounds**
- body-fat percentage: approximately **−0.87 percentage points**
- one extrinsic epigenetic-age estimate: approximately **−8.2 years**

The Follistatin change is:

```
24.03/8.58 = 2.80
```

or an increase of approximately **180% over baseline**.

The report also contains internal inconsistencies in lean-mass values, units and presentation of significant and nonsignificant outcomes. Multiple aging clocks and body-composition measures were examined, increasing false-positive risk. (clinicaltrials.gov)

Combined Follistatin–Klotho program

ClinicalTrials.gov **NCT07285629** is an early Phase 1, non-placebo-controlled study targeting approximately 30 participants. No results are posted. The company is already offering versions of its gene therapy commercially in jurisdictions outside the normal U.S. FDA approval pathway while acknowledging that it is investigational and not FDA-approved. (clinicaltrials.gov)

Appraisal

The biochemical rise in circulating Follistatin suggests that the plasmid expressed something. It does not establish that the therapy caused beneficial changes in body composition or epigenetic aging. Exercise, diet, measurement variation, regression to the mean and selective endpoint reporting are uncontrolled.

The lack of prospective registration, comparator, blinding and a clear statistical hierarchy is a serious problem, particularly for a gene intervention being sold commercially.

Design: 1/5
Public evidence: B−
Conclusion: Biological activity is plausible, but the public clinical evidence is the weakest and most difficult to trust causally among the ten.

6. NYC-Vita

Strategy and implementation

NYC-Vita combines:

- low-dose rapamycin or lamivudine
- spermidine
- home-based high-intensity interval and resistance exercise
- deep immune, proteomic, cognitive and imaging phenotyping

The rationale is to suppress mTOR/SASP activity, promote autophagy, alter aging macrophages and support muscle repair.

ClinicalTrials.gov **NCT07058974** is a small randomized active-comparator study in smokers and former smokers aged 65–80 with elevated BMI. Target enrollment is approximately 22, with six months of treatment.

The two groups are broadly:

1. exercise + spermidine + rapamycin
2. exercise + spermidine + lamivudine

There is no:

- placebo arm
- exercise-plus-spermidine-only arm
- no-treatment comparator

Thus, the design can compare rapamycin with lamivudine in the context of a common program, but cannot establish the absolute effect of the whole program. (mountsinai.org)

The XPRIZE report says 20 entered the semifinal trial, while preliminary analysis used only four participants per arm. It also mentions a separate spermidine dose-escalation substudy with changes in NULISA brain-aging biomarkers. No actual effect sizes, uncertainty intervals or adverse-event tables have been released.

Appraisal

The design is sensible as an early pharmacodynamic comparison but inadequate for broad claims of healthspan improvement. The enriched smoking population may make inflammatory changes easier to detect while reducing applicability to generally healthy older adults. Four analyzed subjects per arm cannot support meaningful efficacy conclusions.

Design: 3/5
Public evidence: D
Conclusion: Interesting mechanistic platform; almost no public outcome evidence yet.

7. Mitochondrial All Stars

Strategy and implementation

The intervention is **elamipretide**, a mitochondria-targeting peptide that binds cardiolipin in the inner mitochondrial membrane. The intended effect is improved electron transport, ATP production and mitochondrial efficiency.

The drug already has a large safety database from disease-development programs, including older participants.

SHAPE semifinal study

ClinicalTrials.gov **NCT07275424** describes:

- Phase 2a
- approximately 30 adults aged 65–80
- selected for lower mitochondrial function
- daily subcutaneous treatment for four weeks
- open-label, single-arm
- primary emphasis on safety and feasibility
- secondary muscle, cognitive, inflammatory and proteomic endpoints

XPRIZE reports 23 treated and “encouraging trends” in muscle function, cognition and plasma proteomics, but no numerical results are public. (patlynk.com)

Without a control, improvements can arise from test familiarity, effort, regression to the mean or expectation.

Earlier randomized mechanistic study

A separate peer-reviewed study randomized 39 older adults with impaired mitochondrial function to a single two-hour elamipretide or placebo infusion.

The immediate change in maximal mitochondrial ATP production was:

- borderline by absolute change, P=0.055
- significant by percentage change, P=0.045

The effect was absent at day 7. There was no convincing improvement in mitochondrial coupling or fatigue resistance. The data and supporting files were included with the paper. (journals.plos.org)

Appraisal

The earlier RCT provides legitimate evidence of short-lived mitochondrial target engagement. It does not show durable restoration of physical or cognitive function. The actual semifinal study is substantially weaker because it lacks a comparator.

Semifinal design: 2/5
Prior mechanistic RCT: 4/5
Public evidence: D for semifinal; A− for mechanistic study
Conclusion: Strong biological rationale and established safety, but the key question—durable functional benefit in healthy older adults—remains unanswered.

8. RETRO-EPIGERNA

Strategy and implementation

RETRO-EPIGERNA proposes a capsule of medicinal/edible Chinese herbs and probiotics intended to restore an age-associated transfer-RNA modification, described as mannosyl-queuosine. The proposed downstream effects include:

- improved translational fidelity
- proteostasis
- mitochondrial function
- immune resilience

The XPRIZE report describes a one-month, randomized, double-blind, placebo-controlled study:

- total **N=12**
- six active, six placebo
- age 50–80
- improved muscle and immune measures
- unchanged MoCA in both groups

No endpoint numbers, variance estimates, P values, adverse events or participant-level information are supplied.

Despite searches of the Chinese Clinical Trial Registry, WHO ICTRP, traditional-medicine trial registries and Chinese drug-development platforms, I did not locate the trial registration.

Preclinical basis

A 2026 preprint reports that queuine availability declines with age and that supplementation produced:

- approximately **47% longer median lifespan in Drosophila**
- approximately **15.3% longer mean lifespan in mice**
- favorable cognitive, motor, inflammatory and metabolic findings

This is preclinical, not peer reviewed, and appears to involve queuine supplementation more directly than the multicomponent herbal/probiotic human capsule. (biorxiv.org)

Appraisal

Randomization and blinding would be strengths, but six people per group cannot provide reliable evidence across muscle, cognition and immune biomarkers. More importantly, the trial is not publicly auditable, and it is not clear that the capsule raised the proposed tRNA modification in humans.

Design: 3/5 nominally
Public evidence: D
Conclusion: Novel mechanism with interesting animal data; human evidence is currently too small and opaque to assess.

9. RPRGAON / PRG S&Tech — Progerinin

Strategy and implementation

Progerinin is intended to interfere with the interaction of progerin and lamin A, promote selective degradation of progerin, restore nuclear architecture, and reduce senescence and genomic instability.

The immediate development target is Hutchinson-Gilford progeria syndrome. The proposed bridge to ordinary aging is that lower-level progerin accumulation may also occur in normal arteries, muscle and adipose tissue.

Healthy-volunteer Phase 1

ClinicalTrials.gov **NCT04512963** was a randomized, double-blind, placebo-controlled single- and multiple-dose study in approximately 64 healthy adults aged 18–45. Its purposes were safety, tolerability, pharmacokinetics and pharmacodynamics. It is an appropriate early drug-development design, but no public result tables are posted. (clinicaltrials.gov)

Progeria Phase 2a

ClinicalTrials.gov **NCT06775041** tests Progerinin plus lonafarnib against lonafarnib in approximately ten people with progeria:

- randomized approximately 4:1
- open-label
- active-controlled
- dose titration

Ten participants is understandable for an ultra-rare disorder, but it greatly limits statistical precision. Open-label outcome assessment is another issue unless outcomes are highly objective. (clinicaltrials.gov)

Topical skin study

XPRIZE cites a four-week trial of 1% topical Progerinin with a **23.6% increase in dermal density**. I did not locate an independently accessible controlled numerical report. Even if correct, dermal density after topical use does not demonstrate that oral systemic treatment will improve muscle, cognition or immunity.

Appraisal

The progeria development program is scientifically coherent and follows recognizable Phase 1–2 steps. Its relevance to ordinary aging is much more speculative. A treatment can work in a disease driven by extreme mutant-protein accumulation without producing meaningful effects in normal aging.

Phase 1 design: 4/5
Progeria efficacy design: 3/5
Public evidence: D/C−
Directness to ordinary healthspan: Low

10. TIME TRAVELER — Plant-EVs

Strategy and implementation

TIME TRAVELER screened extracellular vesicles from more than 140 edible plants and selected parsley-derived EVs for oral use. The product uses a proprietary low-stress extraction process and is already sold in Japan as a functional-food product.

The Japanese trial is **UMIN000059942**:

- prospective registration
- randomized
- double-blind
- placebo-controlled
- target N=40
- adults aged 55–69
- sedentary, at risk of physical decline or prefrail
- one capsule daily for eight weeks

The record lists **13 co-primary outcomes** and no secondary outcomes, including:

- VO2max
- exercise heart rate and perceived exertion
- muscle mass
- grip and leg strength
- timed up-and-go
- natural-killer-cell activity
- IL-6
- GDF-15
- lipopolysaccharide
- computerized cognition
- insomnia score

The registry now lists the study as complete. Results have not been posted. (center6.umin.ac.jp)

XPRIZE reports that 40 enrolled and 39 completed, and says the product showed potential to improve muscle strength and physical performance. No numerical effects or P values are disclosed.

Multiplicity check

With 13 independent outcomes tested at α=0.05 and no correction, the probability of at least one false-positive result would be:

```
1-(0.95)^13=48.7%
```

The outcomes are correlated, so 48.7% is not the exact study-specific probability. It nevertheless illustrates the problem: declaring 13 measures “primary” gives a substantial opportunity to find something favorable unless a prespecified correction or global decision rule is used. I did not locate such a plan.

Appraisal

The fundamental architecture—prospective registration, randomization, double blinding and placebo—is good. The endpoint strategy is weak. A small study cannot support 13 co-primary outcomes without clear multiplicity handling. Public efficacy claims should await numerical disclosure.

Design: 4/5
Public evidence: D
Conclusion: Credible exploratory trial structure, but the apparent result cannot be assessed and may be vulnerable to endpoint selection.

Overall conclusions

Public evidence hierarchy

Strongest

1. Longeveron

It has the only clearly mature, peer-reviewed package with sizable randomized trials, transparent numerical results, confidence intervals, multiplicity procedures and disclosed limitations. Even here, the frailty primary comparison missed at six months and the Alzheimer results remain exploratory.

Credible but incomplete

2. Johns Hopkins–Suninflam

The first-generation antibody produced an interesting responder signal, but the primary endpoint missed, and the finalist candidate is a newer antibody.

3. Mitochondrial All Stars

Elamipretide has a legitimate mechanistic RCT and a large safety record. Durable functional efficacy has not been shown, and the semifinal study was uncontrolled.

Reasonable RCT designs with withheld or unavailable results

4. Goda Lab
5. TIME TRAVELER

Both have identifiable randomized, double-blind, placebo-controlled trials. Their central problem is no public numerical outcome report. Goda also has uncertainty over whether the registered exosomes were the actual engineered finalist product; TIME TRAVELER has excessive co-primary outcomes.

Highly preliminary or confounded

6. AgelessRx

Randomized, but underpowered, high attrition, many endpoints and inseparable drug/behavioral components.

7. NYC-Vita

Randomized active comparison, but no untreated control and only fragmentary preliminary analysis.

8. RETRO-EPIGERNA

Nominally blinded and randomized, but only six per group and no auditable registration or results.

Weak evidence bridge

9. Progerinin

A rational rare-disease drug program, but little evidence that the mechanism will translate from progeria to ordinary aging.

Weakest public clinical case

10. Minicircle

No controlled efficacy evidence, retrospective registration, substantial endpoint multiplicity and commercial use ahead of conventional regulatory validation.

What is still missing across most teams

The most consequential omissions are:

1. **Participant-level or complete group-level results**, including denominators and missing data.

2. **Adverse-event tables**, especially for rapamycin combinations, gene interventions, antibodies, cells and EVs.
3. **Prespecified statistical analysis plans**, including multiplicity correction.
4. **Clear product identity**, showing that the semifinal-tested product is the same product intended for the Finals.
5. **Effect sizes in clinically interpretable units**, rather than statements that a biomarker “improved.”
6. **Durability**, since several interventions were tested for only four to twelve weeks.
7. **Independent replication**, which none appears to have for the exact healthspan application.

Your explanation for the sparse public record is plausible. Some studies have only recently completed, registry results are often delayed, and companies may be preserving intellectual property or financing narratives. That does not necessarily impugn the XPRIZE selection. It does mean that, except for Longeveron and portions of the Suninflam and elamipretide programs, the award decision cannot presently be independently validated from public evidence.

Confidence: high for trial designs, registry status and arithmetic checks; medium for sponsor-reported outcome summaries; low for the efficacy of programs whose underlying results remain unpublished.