THE MCLEAN SYNDICATE

Anti-aging Industry Snapshot

Nov 2025

Key Terms & Abbreviations

Acronym	Full Term
HA	Hyaluronic Acid
WSRS	Wrinkle Severity Rating Scale, 5-point
GAIS	Global Aesthetic Improvement Scale, 5-point
PRP	Platelet-Rich Plasma
TAME	Targeting Aging with Metformin Trial
NR	Nicotinamide Riboside
NMN	Nicotinamide Mononucleotide
FFC	Foods with Function Claims

Industry Overview

The anti-aging space has expanded from cosmetics into medical aesthetics, biotech, and data-driven longevity. Aging demographics + normalization of minimally invasive care + faster science create durable, multi-year demand.

Industry Trend

1. **Demographics → structural demand**
   By 2030, 1 in 6 people worldwide will be 60+; by 2050, ~2.1B people will be 60+ → a persistent tailwind for healthspan and appearance solutions.

2. **Normalization & volume at scale**
   ~38M aesthetic procedures were performed globally in 2024 (≈17M surgical; ≈21M non-surgical) → mainstream acceptance and procedure-led funnels into higher-acuity care.

3. **Science & data push the frontier**
   Advances in genetics/epigenetics, regenerative medicine, and biomarkers are accelerating precision treatments; the personalized-medicine/biomarker market itself is a fast-growing enabler.

4. **Premiumization & personalization**
   Consumer spend is shifting toward clinical-grade and personalized regimens (injectables, Rx topicals, testing-guided protocols), with digital journeys improving access and adherence (telehealth, subscriptions).

5. **Capital & ecosystem momentum**
   Longevity investment rebounded in 2024 to ~$8.5B across ~330 deals → renewed investor confidence in platform biotechs, tools, and services

Market Segmentation

Segments		Scope	2024 Global (USD)	Growth
Biotech				
	Medical Aesthetics	Toxins / fillers	$22–28B	$28–56B (2033E)
	Therapeutics / Longevity Biotech	Rx drugs / cell & gene	$5.68B	$34.57B (2035E)
	Diagnostics & Biomarkers	Epigenetic clocks / multi-omics	$1.28–1.47B	$3.63B(2030E)
Non-biotech				
	Consumer Products	Retinoids / antioxidants / peptides; derm-cosmetics	$52.44B	$80.61B (2030E) 7.7% CAGR
	Supplements & NAD^+	NR / NMN / longevity nutraceuticals	$0.252B	$0.884B (2034E) ~6–8% CAGR

Longivity Biotech is still in the early stage: 2024 longevity financing **$8.49B / 331 deals**; **Q1 $3.74B**; **USA 57% companies / 84% deals**; **later-stage VC ≈31%**

Biotech Side: Medical Aesthetics

State of the science & progress

- **Modalities in play:**
  - Neurotoxins (BoNT-A injectables)
    - Blocking acetylcholine release to temporarily reduce facial muscle activity
    - Traditional products: 12–16 weeks of effect.
    - Newer peptide-stabilized, long-acting formulations (e.g., Daxxify®): median duration of ~24 weeks in clinical studies (SAKURA trials).
  - Fillers
    - HA: medium-term; typical 6–18 mo
    - Biostimulator (CaHA, PLLA): collagen stimulator; effects 12–24+ mo as neocollagenesis develops.
  - Autologous (cell/PRP): devices are 510(k)-cleared for preparing PRP (e.g., for mixing with bone grafts); direct injection uses are off-label in many indications.
- **Clinical endpoints:**
  - WSRS : widely used in HA/CaHA trials.
  - GAIS: standard in filler trials.
  - Toxin trials: reduction in glabellar-line severity, measured on validated IGA-FWS–type wrinkle severity scales.

Treatment modality matrix (Indication × Modality × Durability)

Indication / Modality	BoNT (3–4 mo, standard)	Long-acting BoNT (~6 mo)	HA fillers (6–18 mo)	Biostimulators (CaHA/PLLA, 12–24+ mo)
Lines: glabellar/crow's feet/forehead	● (high volume, price-sensitive)	● (fewer injections per year)	-	-
Volume: NLF/midface/lips/tear trough	-	-	● (deep SKU, broad anatomic coverage)	○ (selected sites)
Contour: jawline/chin/temples/hands	-	-	○ (selected sites)	● (volume + collagen "tail")
Skin quality/diffuse refresh	-	-	○ (texture)	● (collagen remodeling, durability)

● Primary, ○ Optional, - Not preferred

Competitive Key

- Edge #1: Duration × Reach — long-acting toxins trade the "fewer annual injections" story for ASP uplift, contingent on injector adoption/education.
- Edge #2: Combo play (HA immediate shaping + CaHA/PLLA long-run quality) drives higher ticket sizes and repeat visits.
- Edge #3: Broader SKU × site coverage lets brands capture more injection-chair share

Differentiation

- BoNT (3–4 mo): price-driven, highly commoditized
- Long-acting BoNT (~6 mo): fewer injections and higher ASP; adoption depends on evidence + injector education.
- HA: deep SKU and texture option; high correlation with discounting & bundling
- CaHA/PLLA: long collagen tail; operator-sensitive; substantial combo value with HA.

Biotech Side: Medical Aesthetics

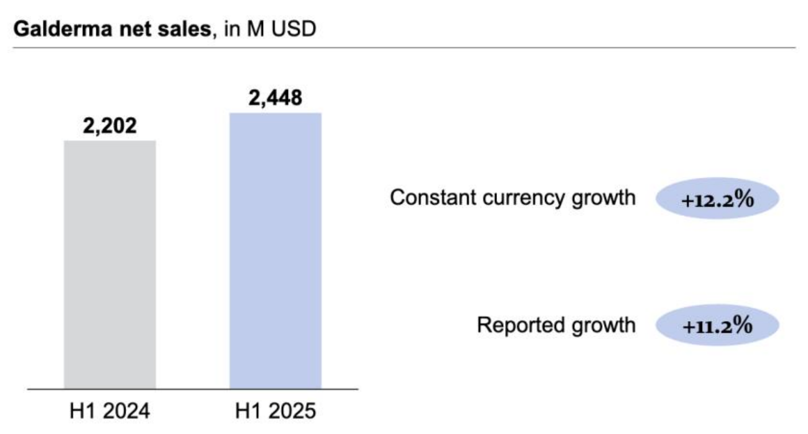
Valuation lens

- Mix of mature cash flows + high GM% → typically valued on EV/Sales within diversified dermatology/aesthetics; Integrated derm players (e.g., Galderma) also trade on Core EBITDA..
- Pipeline adders: probability-adjusted NPVs for line extensions (new facial areas, combo treatments, durability claims, biosimilar entry timing).
- Risk flags: price competition (regional toxins/HA, biosimilars), AE headlines (vascular occlusion with fillers; toxin safety), operator dependency (injector training), litigation (e.g., AbbVie vs Revance patent case) .

AbbVie EBITDA Margin

Competitive Landscape

- **AbbVie** — Allergan Aesthetics (BOTOX® Cosmetic, JUVÉDERM® family)
  - Q2-2025 Aesthetics revenue: $1.279B (-8.1% YoY).
    - BOTOX Cosmetic: $692M (-5% YoY).
    - JUVÉDERM: $260M (-24% YoY).
  - Context (FY-2024 Q4 print): management flagged -5.2% YoY in aesthetics for FY-2024.
  - 12-mo catalysts: toxin/filler indication maintenance studies; competitive pricing dynamics vs long-acting toxin.
- **Galderma** — Dysport®, Restylane®
  - FY-2024 Net sales: $4.41B, +9.3% cc; record Core EBITDA $1.031B post-IPO (Mar-2024). Strength in Injectable Aesthetics.
- **Revance** (now under Crown Laboratories) — DAXXIFY® (longer-acting toxin), RHA® fillers (US distribution)
  - Q2-2024: total net revenue $65.4M (+20% YoY); DAXXIFY net product $28.7M (+27% YoY). Company guided for ≥$280M 2024 product revenue; strategic pricing reset to match Botox after initial premium.
  - Clinical edge: median toxin effect ≈ 24 weeks (glabellar); marketing angle “~2 treatments/yr”.



Biotech Side: Longevity Biotech

State of the science & progress

- **Modalities (what's on the table):**
  - **Senolytics / senomorphics**: early human signals in small trials.
  - **mTOR / AMPK modulation**: human evidence mostly indirect; TAME planned.
  - **Immunosenescence**: early clinical exploration; no broad aging approvals.
  - **Fibrosis / ECM remodeling:** progress remains disease-specific.
  - **Partial epigenetic reprogramming:** strong preclinical; first-in-human expected.
  - **Cell & gene therapies:** initial programs in age-related diseases.
- **Stage reality (2025):**
  - Majority Preclinical → Phase 2; limited/no commercial revenue.
  - Value creation via milestones and BD/licensing, not product sales.

Evidence maturity map

Modality	Preclinical	PoC human	Pivotal
Senolytics	-	●	-
mTOR/AMPK	-	▲	-
Immunosenescence	○	-	-
Fibrosis/ECM	-	●	-
Partial reprogramming	○	-	-
Cell & gene	-	●	-

● Human Signal, ▲ Limited/indirect human, ○ Very Early Stage

As of October 2025, no longevity/anti-aging biology programs have entered pivotal (Phase 3) trials.

Biotech Side: Longevity Biotech

Capital flows

- VC & private rounds (directional 2024→2025):
  - Life sciences checks got bigger: in 2024, deals >$100M ≈ ~50% of total LS deal value (vs <40% in 2023).
  - Longevity funding rebounded: report cites ~$8.5B in 2024 longevity investment (fewer deals, larger checks).

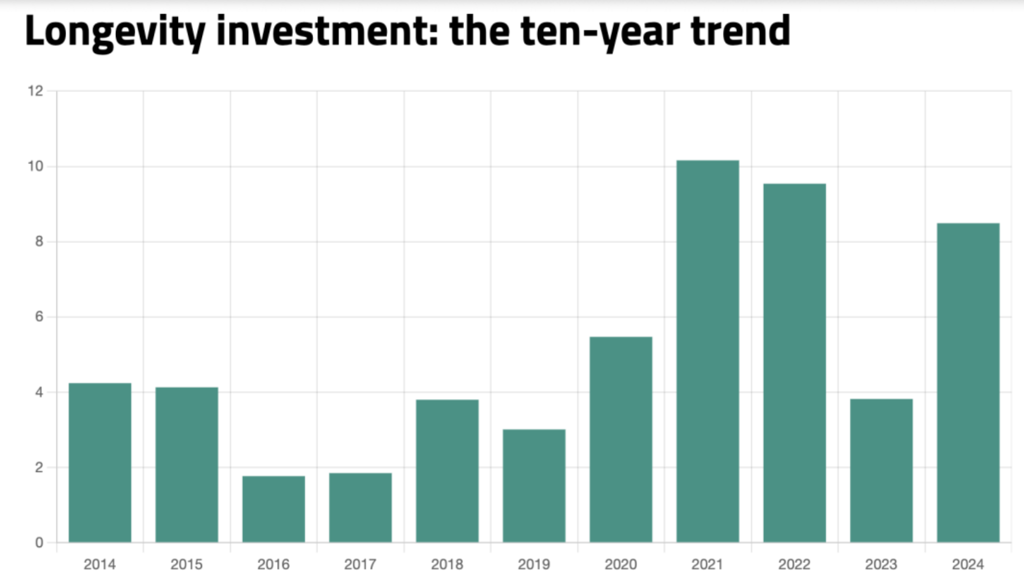


Fig 2. Longevity companies financing activity by total financing in 2014-2024 in $bn. Deal types included in the analysis are: Accelerator/Incubator, Angel, Corporate, Early Stage VC, Later Stage VC, Equity Crowdfunding, IPO, PE Growth/Expansion, PIPE, Public Investment 2nd Offering, and Seed Round. Analysis by Longevity.Technology, according to Pitchbook data as of the 01st of February 2025, based on 1415 companies.

Representative Companies

- **Unity Biotechnology** - Senolytics (ophthalmology)
  - Lead: UBX1325 (BCL-xL inhibitor), intravitreal for DME
  - Data (ASPIRE P2b): non-inferior vs aflibercept at 9/10 timepoints; ~+5 letters at weeks 24 and 36; 36-week non-inferiority confirmed
  - Next: regulatory interactions and Phase 3 planning
- **Life Biosciences** - Partial epigenetic reprogramming
  - Modality: OSK-based partial reprogramming
  - Programs: optic neuropathies; liver (preclinical; animal MASH biomarkers improved)
  - Next: first-in-human optic-nerve study targeted H2 2025 pending FDA
- **Retro Biosciences** - Multi-program longevity
  - Programs: autophagy-activating small molecule RTR242 for Alzheimer’s (Australia FIH planned by end-2025); additional cell therapy / reprogramming efforts
  - Capital: founded with $180M; currently raising ~$1B to scale

Biotech Side: Diagnostics & Biomarkers

State of the science & progress

- **Modalities**
  - Proteins: neuro markers (e.g., NfL, p-tau), inflammation (IL-6/CRP), cardiometabolic (ApoB). Mostly plasma-based.
  - DNA methylation (Horvath, GrimAge): strong epidemiology links to morbidity and mortality.
  - Multi-omics/proteomics (high-plex RUO): discovery of clinical signatures; growing use in longitudinal trials.
- **Representative human evidence**
  - Inflammaging/cardiometabolic: multiplex inflammatory markers; ApoB/CRP have strongest clinical evidence today.
  - Neuro-degeneration: blood NfL and p-tau correlate with disease activity and improve AD vs non-AD classification
  - Biological age: methylation clocks predict mortality and disease risk at population level; individual change is still challenging.
- **Endpoints and performance**
  - Analytical: sensitivity (LoD/LoQ) and precision (%CV).
  - Clinical: AUC, sensitivity/specificity vs reference standards; test-retest reliability for longitudinal use.

Biotech Side: Diagnostics & Biomarkers

Valuation lens

- **Cash-flow profile & multiples**
    - Assay/instrument model: EV/Sales–driven; recurring consumables/services drive margins and repeat revenue via installed base.
    - Service / CLIA labs: value tied to throughput, payer coverage, and biopharma contracts.
- **What drives the multiple now:**
    - Installed base × menu depth (proteins, methylation).
    - Clinical adjacency (trial use; real-world care integration).
    - Biopharma footprint (cohorts, repeat studies).
    - Gross-margin mix: consumables/services > hardware.
- Pipeline adders:
    - Neuro / inflammatory signatures: proteomic and neurodegenerative markers (e.g., NfL, p-tau).
    - Multi-omic panels: higher-plex scores and methylation “pace-of-aging” endpoints for mechanism-level readouts.
- Upside levers: RUO → CLIA LDT → IVD migration as clinical matures
- **Risk flags:**
    - Payer skepticism without hard utility evidence; Commoditization pressure in basic methylation assays; Regulatory tightening (LDT → IVD); Pre-analytical variability impacting repeatability.

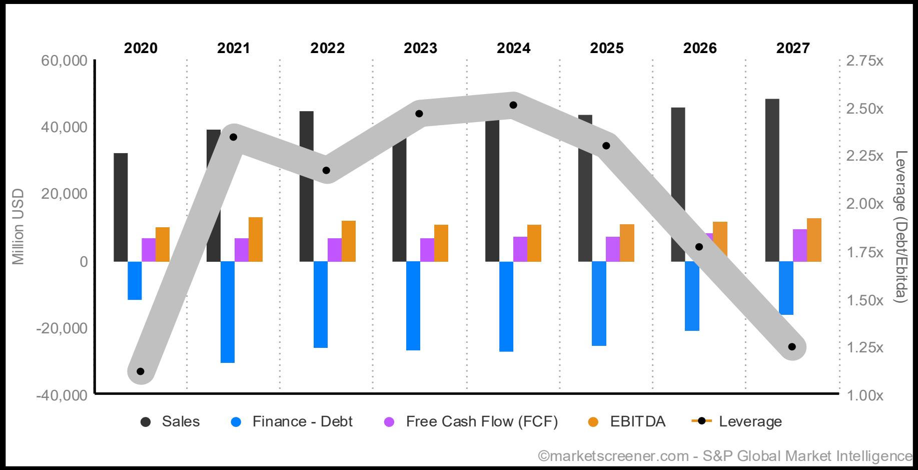
Biotech Side: Diagnostics & Biomarkers

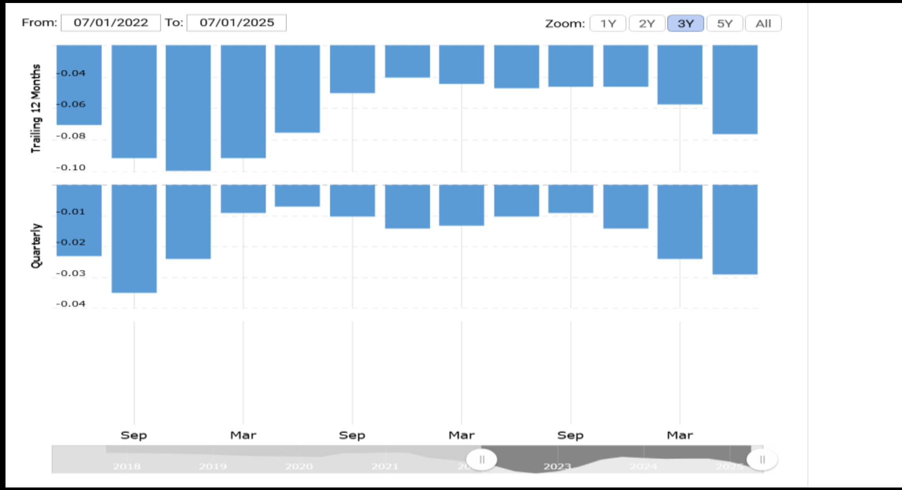
Competitive Landscape

- **Olink (Thermo Fisher)** - High-plex proteomics (RUO, NGS readout)
  - **Scale**: FY2023 revenue ≈ $170M; acquired by Thermo Fisher in 2024 at ≈ $3.1B EV.
  - **Positioning**: High-plex proteomics platform with thousands of protein targets; strong in biobanks and pharma cohorts.
  - **Model**: High consumables/services mix and NGS-based panels support recurring revenue.
  - **Angle**: Key engine for signature discovery and pharma partnerships; recurring kit pull-through drives valuation.

- **Quanterix (Simoa)** - Ultrasensitive protein assays (neuro, inflammation)
  - Scale: FY2023 revenue ≈ $126M; gross margin ~60%.
  - **Positioning**: Sub-pg/mL detection powering blood-based neuro and inflammation markers (e.g., NfL, p-tau).
  - **Model**: Instruments + kits + services with some CLIA LDT availability.
  - **Angle**: As clinical utility for neuro markers solidifies, expect coverage momentum and higher consumables pull-through.

Thermo Fisher Scientific, Inc.: Financial Data





Quanterix (Simoa)

Non-Biotech Side: Consumer Products

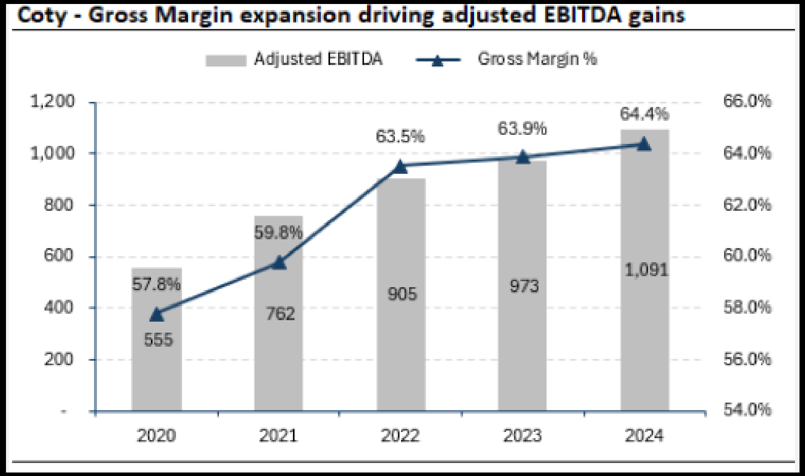
State of the market, evidence & implications

- **Modalities**
  - Actives: retinoids, vitamin C, niacinamide, peptides, AHAs/BHAs, ceramides; daily broad-spectrum SPF as foundation.
  - Formats: serums/creams across physician-dispensed and retail/DTC skincare.
- **Representative human evidence**
  - Retinoids: RCTs show ↑ procollagen & epidermal thickness, ↓ fine lines in ~8–24 weeks.
  - Antioxidants/niacinamide/peptides: improvements in tone, redness, barrier, and texture; SPF amplifies outcomes.
- **Market context:** dermocosmetics is large and growing with strong physician and retail momentum.
- **Endpoints used**
  - Clinical grading: WSRS, GAIS, photonumeric wrinkle/texture scales.
  - Instrumental: 3D profilometry, elasticity/hydration metrics, VISIA.
  - Patient-reported: FACE-Q, Skindex, DLQI

Non-Biotech Side: Consumer Products

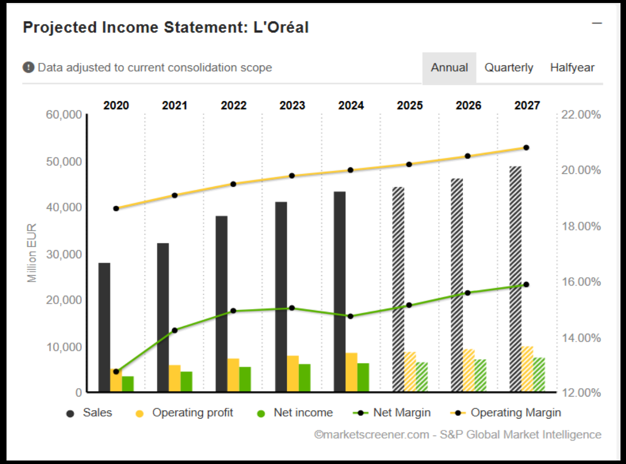
Valuation lens

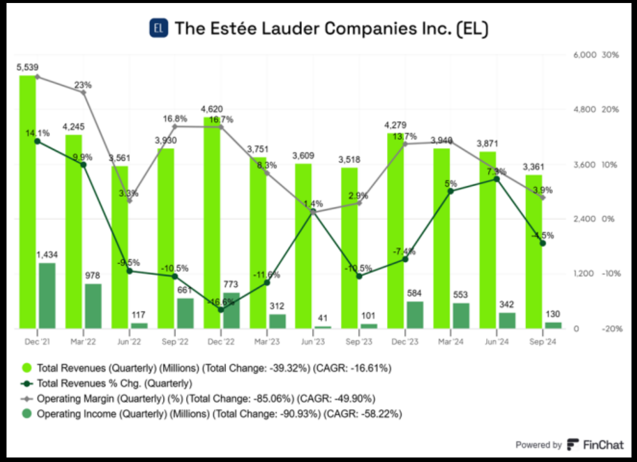
- **Cash-flow profile & multiples**: Large beauty houses deliver high gross margins and resilient cash flow; typically valued on EV/Sales and EV/EBIT, with premiums driven by brand portfolios, scale, and channel power.
- **What drives the multiple now:** Channel mix (Amazon/DTC vs. retail), pricing/mix discipline, and evidence-backed claims that keep ads live and returns low.
- **Pipeline adders**: new actives/formulations, regimen ladders, and marketplace roll-outs
- **Risk flags**: claim/advertising enforcement (FTC), MoCRA documentation gaps with retailers, marketplace take-rate + ads inflation, review/ratings volatility, China/travel-retail recovery pacing.



Competitive Landscape

- **L'Oréal Group** — global category leader
  - 2024 sales €43.48B; 20% operating margin
  - Pricing + mix drove record profitability.
  - Scale + brand system = best-in-class consumer beauty efficiency.
- **Estée Lauder (ELC)** — prestige portfolio shifting channels
  - FY25: net sales −8%; gross margin ~74% (+230bps).
  - Amazon & TikTok Shop expansion improving mix.
  - Marketplace/DTC lift margins; channel is core to turnaround.
- **Coty** — mass + prestige blend
  - 1H-FY25 adjusted operating margin: 19.1% (+90bps).
  - Diversified brand/channel mix delivering margin expansion.
  - Improved cash generation.





Non-Biotech Side: Supplements & NAD^+

State of the market, evidence & implications

- **Modalities in play**
  - Precursors: NR and NMN aim to raise NAD^+; multiple human RCTs and meta-analyses show consistent blood NAD^+ increases over weeks to months.
  - Formats & channels: Mostly capsules/powders sold via Amazon/DTC; HCP/clinic channels add credibility and higher willingness to pay.
- **Representative human evidence (2023–2025)**
  - NAD^+: RCTs consistently show significant blood NAD^+ increases with NR/NMN.
  - Functional signals: Early/mixed findings in small trials; many endpoints remain underpowered.
  - Safety: Good short-term tolerability across RCTs and meta-analyses.
- **“Anti-aging” positioning**
  - Lead with biomarker claims (e.g., “raises NAD^+”) and specific validated endpoints used in trials; avoid disease/longevity promises.
  - Pair with habit drivers (Subscribe & Save, bundles), since effects are subtle and long-horizon.

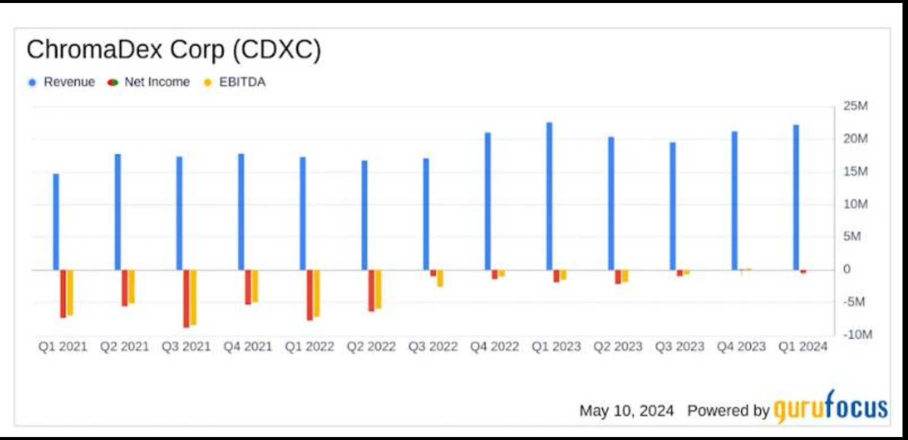
Non-Biotech Side: Supplements & NAD$^+$

Valuation lens

- **Cash-flow profile & multiples**
  - Gross margin: ingestibles can hold ~55–65%
  - Scale vs beauty houses: smaller, so EV/Sales lower; profitability ramps fast with Amazon/DTC repeat.
- **What drives the multiple**
  - Repeat and retention (Subscribe-and-Save, reorder cycle, 12/24-month LTV)
  - Unit economics (CAC/LTV, ad spend %, marketplace take-rate)
  - Go-to-market mix (Amazon vs DTC vs HCP/clinic) and reviews velocity
  - Menu depth and biomarker-backed claims (e.g., “raises NAD$^+$”)
- **Risk flags**
  - Short, variable RCT evidence; platform dependence (take-rate, ads inflation); sensitivity to ratings/reviews and discretionary-spend pullbacks.

Competitive Landscape

- **ChromaDex** — Tru Niagen / Niagen® (NR)
  - 2024 results: net sales $99.6M; gross margin 61.8%; positive NI/Adj. EBITDA.
  - Model: mixed B2B ingredient licensing (Niagen®) + DTC brand (Tru Niagen); peer-reviewed human data concentrates on raising blood/whole-blood NAD$^+$.
  - Read-through: the cleanest public benchmark for NAD$^+$ ingestibles economics (GM ~62%); evidence/claims discipline and ingredient ownership enable better retailer & platform compliance.
- **Elysium Health** (Basis — NR + pterostilbene)
  - Positioning: long-running NR formulation with antioxidant cofactor; DTC + Amazon Premium Beauty presence; heavy use of consumer-friendly science comms and 3rd-party testing.
  - Read-through: plays the cellular health / biomarker lane suited to FTC-safe claims; success hinges on review density and subscriptions rather than discounting.



Recent Deals & IPOs

Crown Laboratories → Revance Therapeutics

- Closed Feb-2025
- Take private of toxin/filler platform (DAXXIFY®, RHA® US) to build a scaled injectables franchise under Crown.

ARCHIMED → Jeisys Medical (announced 2024)

- Take-private ≈ ₩990B / ~$742M
- PE buyout of a leading energy-based device maker (RF/laser/ultrasound) used for rejuvenation and body contouring; delisting process in Korea

Galderma (SIX: GALD) — IPO (Mar 22, 2024)

- CHF 53 offer price; ~CHF 12.6B market cap at listing.
- Opened at CHF 61 and closed at CHF 64 — strongest Swiss IPO since 2017 with broad demand.
- Portfolio spans consumer dermatology (Cetaphil), aesthetics injectables (Restylane/Sculptra), and prescription derm.

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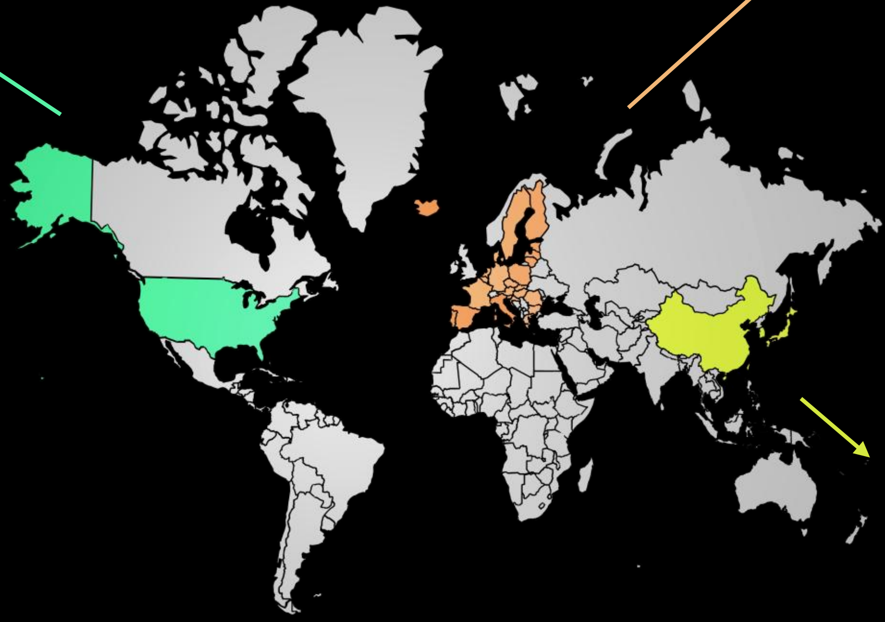
Regulatory

United States (FDA)

- **Medical Aesthetics**: BoNT = biologic (BLA); fillers = Class III (PMA); energy devices = 510(k)/PMA. On-label promotion only.
- **Therapeutics / Longevity Biotech**: No “aging” indication; trials anchored to age-related diseases (IND → Ph1–3).
- **Diagnostics / Biomarkers**: CLIA LDTs; marketed tests = IVDs (510(k)/De Novo/PMA). Many “clocks” remain RUO.
- **Consumer Products**: Cosmetic vs drug depends on intended use; anti-aging = high claim risk. MoCRA requires facility registration, product listing, safety.
- **Supplements / NAD$^+$**: DSHEA rules; substantiated structure/function claims only; NDIs reviewed closely.



European Union

- **Medical Aesthetics:** Fillers/energy devices regulated as medical devices (MDR); toxins treated as medicinal products (CE mark).
- **Therapeutics / Longevity Biotech:** CTA → Ph1–3; cell/gene products follow ATMP rules; disease-specific indications only.
- **Diagnostics / Biomarkers:** IVDR increases oversight; many assays reclassified; consumer clocks not diagnostic.
- **Consumer Products:** Claims must be truthful and evidence-based.
- **Supplements:** Novel Food route; only nutrition/health claims allowed (no disease claims).

Asia (selected markets)

China:

- Medical Aesthetics: BoNT/fillers = Class III; strict control of imported injectables; energy devices require NMPA registration.
- Therapeutics: CDE/NMPA pathway; indications must be disease-based.
- Diagnostics: IVDs require NMPA approval; multi-omics often higher risk class.
- Consumer Products: CSAR; efficacy claims require filing.
- Supplements: “Blue Hat” approval/filing with strict ingredient and claim rules.

Japan: PMD Act; quasi-drugs allow limited functional claims; FFC via evidence-backed notification.

South Korea: MFDS: functional cosmetics require evaluation; aesthetic energy devices regulated as medical devices; supplements follow health-functional food rules.

About McLean Syndicate

Services

- Captial raising
- Mergers & Acquisitions
- Project Finance
- Business Development
- Market Entry
- Risk Advisory

Our unique approach incorporates well established networks and technology-driven market research to efficiently raise capital for innovative firms and projects

Highly leveraged, ring-fenced financing for specialized investments helps to preserve corporate equity and optimize risk sharing

We support clients in developing new business, entering new markets and assessing risks

Sector Experience

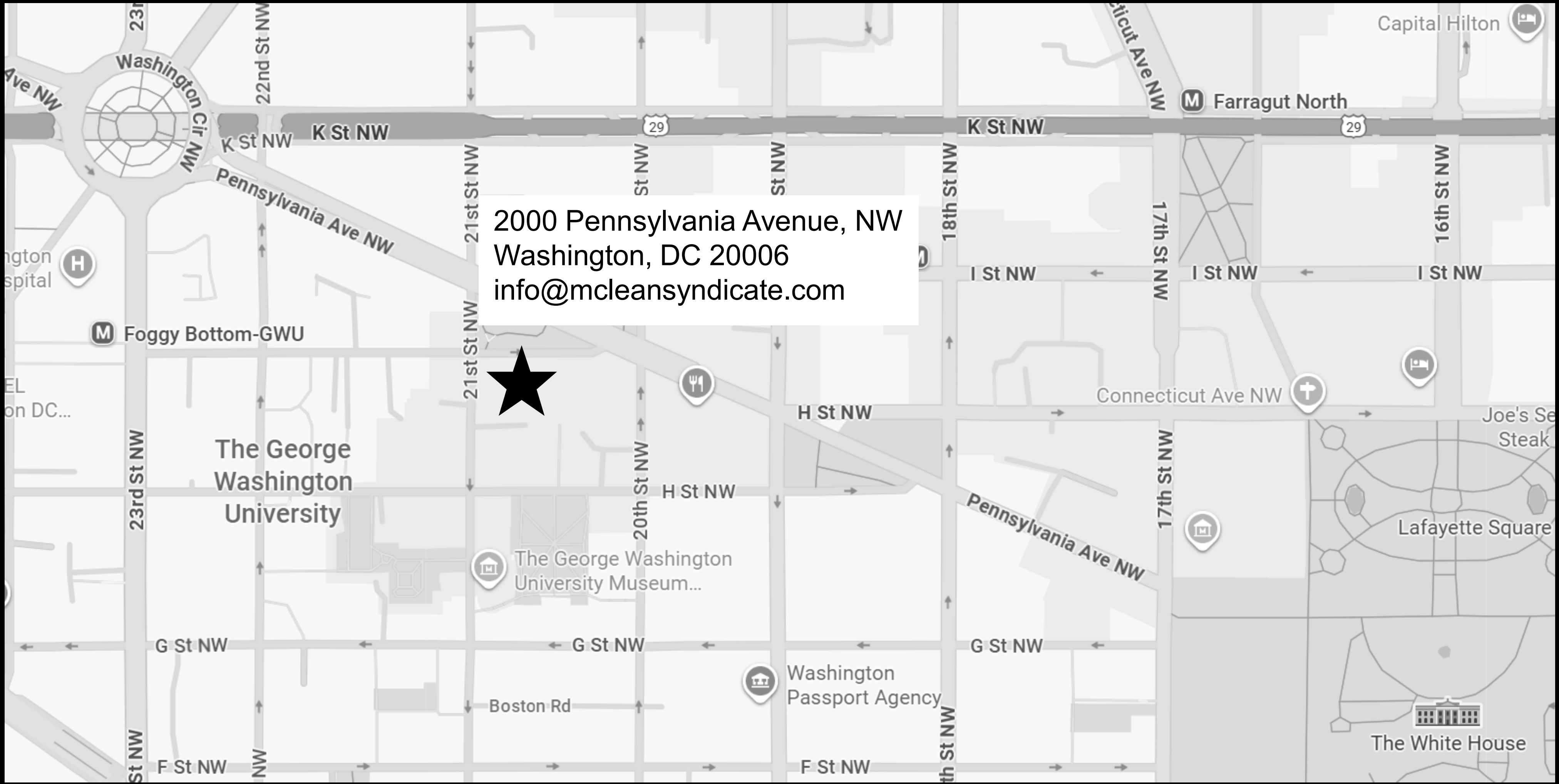
- Real Estate
- Infrastructure
- Financial Services
- Agriculture
- Emerging & Frontier Markets
- Technology
- Healthcare

Leadership

Brien Desilets is an investment banker with more than 20 years of experience across several sectors and financing types, including public, project, corporate and venture capital. He has raised capital for everything from early stage startups to multi-billion-dollar infrastructure programs. Brien is an expert in infrastructure finance and Public-Private Partnerships (P3). He has advised real estate clients in nearly every asset class and has raised capital for innovative food and agriculture technology firms.

Previously, Brien was an investment banker with DelMorgan & Co. and Aeon Capital. He was Head of Infrastructure Advisory at Grant Thornton, LLP, and a Senior Managing Consultant with Public Financial Management, Inc. He grew his previous firm, Claret Consulting, into a leading international financial advisory shop before exiting to Grant Thornton. Brien has led multidisciplinary and multinational teams on advisory engagements in the US, Latin America, Europe, Middle East and Africa. He holds FINRA Series 7, 63 & 79 investment banking licenses. He is a member of the Cosmos Club in Washington, DC.

Contact



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