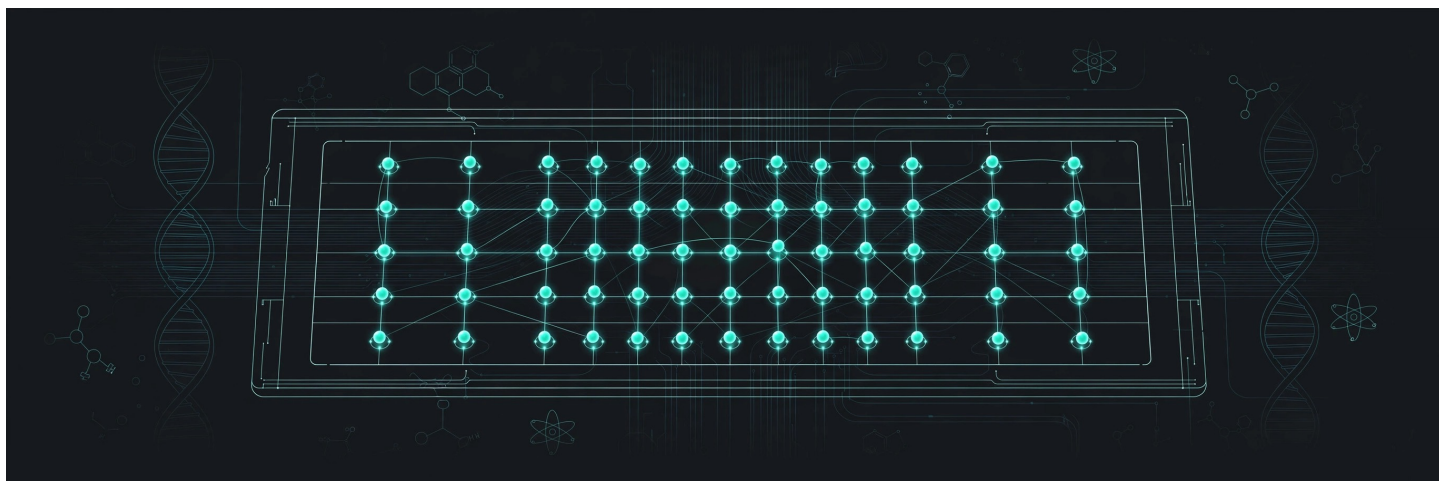




Nautilus Biotechnology Investment Report

Single-molecule proteoforms with digital counting, no direct competitor, against a two-year cash clock and a \$125M ATM overhang.

DalalBytes Research · October 7, 2026 · Reference price \$1.965 (October 7, 2026 close) · NASDAQ: NAUT

DALALBYTES VERDICT

Speculative Positive, with a funding watch · 62/100

A genuinely differentiated single-molecule proteomics platform, peer-reviewed in September 2026, still pre-commercial: \$0.19M of first-ever quarterly revenue, a \$55-60M annual burn, \$129.2M of cash. This is option value on a mid-2027 launch, not an investment in a business. FY2029 targets: bear \$0.50, base \$3.50, bull \$9.00.

The verdict

Nautilus Biotechnology spent nine years building something no competitor does: a platform that reads intact single protein molecules, including which modifications co-occur on the same physical molecule, and counts them digitally. The September 2026 Nature Methods paper proves the physics on tau proteoforms. The entire investment case is the gap between that proof and a commercial business: Voyager pre-orders open early 2027, instrument shipments begin mid-2027, and between now and then the company burns \$55-60M a year with \$129.2M in the bank and a \$125M ATM filed in September 2026.

The bull case is scarcity value in a consolidating tools landscape: Illumina paid \$350M plus milestones for SomaLogic in June 2025, Thermo Fisher owns Olink, and the only intact-proteoform lane would be a takeout candidate if Voyager ships on spec. The September 2026 sell-side initiations (Leerink Outperform, \$4.00; Roth

Buy, \$3.50) are context, not endorsement: both were published into a stock already up triple digits off the August low.

The bear case is the funding clock. A \$1M instrument at 4-12 samples per day must displace mass-spec budgets or create a new buyer, sold by a three-person sales team, with about \$10K of early-access service revenue to date. The broadscale program lost its 2027 timetable in July 2026 with no replacement given. If the launch slips again, the ATM funds the company by diluting holders at weak prices. The stock traded below cash at ~\$0.90 in August 2026: that is the market's preview of the bear case.

DalalBytes score: 62/100. Verdict: Speculative Positive, with a funding watch. FY2029 targets (DalalBytes estimates): bear \$0.50 (-75%), base \$3.50 (+78%), bull \$9.00 (+358%).

Technology deep dive: Iterative Mapping

Nautilus calls its method Iterative Mapping: instrument, consumables, and software built over 9+ years. Four steps, as described by the company and in its published materials:

Step 1: protein-nanoparticle conjugation. Target proteins are enriched (in the Tau assay, tau from cell and tissue extracts via bead-immobilized monoclonal antibodies), derivatized for click chemistry, and conjugated to proprietary nanoparticles while still bead-bound, then gently eluted. Each protein molecule attaches to exactly one nanoparticle: one-to-one stoichiometry. (Source: Nautilus blog, September 2026.)

Step 2: self-assembly onto the flow cell. Nanoparticles are engineered to match landing pads on a semiconductor-fabricated flow cell. Flowed over the chip, they self-assemble into ordered arrays of billions of individually addressable single molecules. The flow cells are designed for up to 10 billion intact protein molecules per run: a design specification, not a demonstrated routine output.

Step 3: iterative probing. Fluorescently labeled multi-affinity probes flow over the array in cycles, each binding features of protein or proteoform identity (isoform-defining regions, site-specific post-translational modifications). Image, remove, repeat for tens to hundreds of cycles. Every molecule is tracked across all cycles, accumulating a unique probe-binding fingerprint.

Step 4: ML decoding and digital counting. Machine-learning algorithms convert each binding pattern into a protein or proteoform identification; molecules sharing an identity are tallied. Output is absolute single-molecule counts. The instrument is a benchtop box roughly the size of a large genomic sequencer, guided touchscreen UI, standard lab placement, results via cloud.

The probes are the hidden nine-year project. CEO Sujal Patel has said the platform required a brand-new class of antibodies. Unlike a conventional antibody answering one yes/no question, each probe's binding pattern contributes partial information, and the combination across hundreds of cycles resolves identity. Probes qualified as assay-compatible nearly tripled during Q1 2026 (earnings call, April 28, 2026). The probe library is the core IP and the gating factor for the assay menu: each new assay (Tau, then AKT1, then oncology) requires newly qualified probe sets.

What single-molecule buys. First, intact proteoforms: one gene can produce dozens to hundreds of proteoforms via splicing and modifications (phosphorylation, acetylation, ubiquitination, truncation). Mass spec digests proteins into peptides, destroying co-occurrence information. Voyager interrogates full proteins as single units; the Tau assay maps up to 768 distinct tau proteoform groups (March 2026). Nothing else does

this at scale. Second, digital counting and dynamic range: absolute molecular counts rather than relative signal intensity, addressing the proteome's 10-to-12 orders of magnitude of concentration range. Third, low-input sensitivity: one microgram of mouse brain extract diluted 100-fold still yielded on-platform detection (September 2026), suggesting rare-cell, small-biopsy, and CSF applications.

Claims vs reality: 10 billion molecules per flow cell is a design spec, not a demonstrated routine output. Throughput of 4-12 samples/day is low versus cohort platforms (Olink/SomaScan do hundreds to thousands): a throughput story working against Nautilus. The September 2026 Nature Methods paper is the first peer-reviewed validation, but one paper is a proof point, not platform validation, and independent non-collaborator replication is undisclosed. The broadscale whole-proteome program was deprioritized in July 2026 after missing its 2027 timetable; the commercial story is now proteoform assays only.

Product and commercialization

Razor/razorblade: Voyager instrument around \$1M (Patel: similar to high-end mass spec systems), consumable kit at a few thousand dollars per sample (final pricing not announced), internal expectation of roughly \$500,000 per year of consumable pull-through per instrument as utilization ramps (Patel, March 2026).

Launch curve: Early Access Program launched January 2026 as a service model (Nautilus analyzes customer samples in-house), starting with Tau proteoforms. First named EAP customer: Baylor College of Medicine. Buck Institute for Research on Aging is an active development/validation site. Current guidance (Q2 2026 call, July 2026): AKT1 assay enters early access late 2026; Voyager pre-orders early 2027; shipments mid-2027; initial menu Tau, AKT1, plus one oncology assay; target ~20 proteoform assays by mid-2028 (February 2026 disclosure).

Note the slippage: February-March 2026 guided commercial launch in late 2026; by July 2026 this became pre-orders early 2027 and shipments mid-2027. The commercial org is being built from scratch: Amber Faust hired as VP Global Sales March 2026 (nearly two decades in proteomics); the sales team was three people as of September 2026. EAP service revenue to date: about \$10K.

Deals and partnerships

No pharma licensing deal or strategic equity investment has been disclosed. The roster is research collaborations and grants: Genentech pilot on tau proteoforms (December 2020); Buck Institute multi-project tau collaboration (February 2025); Allen Institute tau/Alzheimer's agreement (July 2025); Michael J. Fox Foundation plus Weill Cornell Medicine-Qatar \$1.6M grant for an alpha-synuclein assay (January 2026), which is also essentially all recognized revenue to date (\$0.18M in Q2 2026; ~\$0.5M expected full-year 2026). Baylor College of Medicine is the first named EAP customer.

Financing history: Series B \$76M in 2020 (Vulcan Capital led; Perceptive Advisors, Bezos Expeditions, Defy Partners new; a16z, Madrona, AME, Bolt participating). SPAC merger June 2021 via Arya Sciences Acquisition Corp III (Perceptive-sponsored): ~\$345M raised at ~\$900M valuation. \$125M ATM filed September 18, 2026 (Form 424B5); no disclosed sales through October 2, 2026.

Financials: the runway math

All figures reported unless noted. Fiscal year ends December 31.

Quarter	Revenue	Total opex	Net loss	Cash + inv.
Q3 2025	\$0	\$15.5M	\$13.6M	~\$168.5M
Q4 2025	\$0	n/d	\$13.8M	n/d
Q1 2026	\$0	\$16.1M	\$14.7M	\$143.4M
Q2 2026	\$0.19M	\$15.9M	\$14.5M	\$129.2M

Quarterly cash burn runs \$13-15M (Q1 2026 operating cash burn \$13.1M; Q2 2026 free cash flow approximately -\$14.2M, computed), annualizing to \$55-60M. Against \$129.2M at June 30, 2026: roughly two years of runway; the company guides "through 2027." Management guides 2026 expenses up 15-20% over 2025 as the launch ramps, which would accelerate burn toward \$75-80M annualized (secondary estimate, not company guidance). No material debt disclosed in reviewed filings. Basic shares 126.3M (Q3 2025) to 126.9M (Q2 2026); 17.3M options/ESPP equivalents excluded as antidilutive. The \$125M ATM, fully drawn at \$1.00-1.50, means 80M+ new shares: 60%+ dilution.

Leadership

Sujal Patel (co-founder, CEO): co-founded Isilon Systems (2001), IPO, sold to EMC for \$2.25B in 2010 (per GeekWire), ran the division to 2012, then Madrona venture partner. No prior life-sciences operating role: the asterisk on the management pillar. Personally buying stock: ~200K shares at \$0.67-0.68 (September 2025), 25K at \$2.61 (March 2026), per Form 4s. Parag Mallick (co-founder): Stanford associate professor, the scientific founder, noted insider buyer. CFO Anna Mowry (ex-Isilon); Amber Faust, VP Global Sales (March 2026). Cost discipline is real: opex down 14-19% YoY, RIF executed Q1 2025. Insiders ~32-41% (sources vary); Patel ~8%; institutions ~50.7%. Perceptive Advisors (SPAC sponsor) remains largest holder at 11.6M shares (~9.2%) despite trimming ~8% in Q2 2026; a16z holds 9.1M after trimming 49%.

Competition

Thermo Fisher owns Olink (antibody-pair proximity extension, DNA-barcoded NGS readout) and the Orbitrap Astral mass-spec line; PRECISE-SG100K (October 2026) quantified ~8,800 protein groups across 10,000 plasma samples. Illumina acquired SomaLogic (June 2025, \$350M + \$75M milestones) to pair aptamer proteomics (~11K plex) with its NGS installed base. Seer's Proteograph boosts MS depth 7-10x as an MS front end. Mass spec remains the unbiased deep-discovery standard but digests proteins (destroying intact-proteoform co-occurrence) and needs expert operators. Quantum-Si is the closest conceptual comp and the cautionary tale: true single-molecule protein analysis that has struggled commercially (\$223K revenue Q3 2023, ~\$100K backlog, continued burn).

Net: Nautilus holds the only intact single-molecule proteoform lane. Every competitor has something Nautilus lacks: scale (Olink, SomaScan), unbiased discovery (mass spec), or commercial proof (all of them). And the

Illumina-adjacent dynamic is structural: the largest genomics installed base is being trained to buy proteomics from Illumina, so the \$1M Voyager must displace or complement MS budgets owned by core-lab directors.

Valuation: three scenarios

No revenue multiple is meaningful (TTM revenue \$0.19M). Valuation is entirely option value on the platform. Reference: \$1.965 (October 7, 2026), ~\$249.4M market cap, ~127M shares, \$129.2M cash implying ~\$120M enterprise value. At the August 2026 low (~\$0.90) the stock traded below cash.

Bear \$0.50 (-75%, DalalBytes estimate). Platform stalls or launch slips again; \$125M ATM fully drawn at \$1.00-1.50: 80M+ new shares, 60%+ dilution, ~210M shares. Equity converges toward cash-minus-burn: ~\$100M on ~210M shares is roughly \$0.48, rounded to \$0.50.

Base \$3.50 (+78%, DalalBytes estimate). Voyager ships mid-2027 per guide; Tau then AKT1 validate in customer hands; assay menu builds toward ~20 by mid-2028. 2029 revenue ~\$60M (DalalBytes estimate: instruments at ~\$1M plus pull-through ramping toward \$500K/instrument/yr) at 8x EV/Sales gives ~\$480M EV; plus ~\$40M residual cash is ~\$520M on ~150M shares after partial ATM draw: ~\$3.47, rounded to \$3.50. Near the September 2026 sell-side initiations (Leerink \$4.00, Roth \$3.50, consensus \$3.83), but anchored to fundamentals. Treat those initiations as context, not endorsement.

Bull \$9.00 (+358%, DalalBytes estimate). Commercial proof lands early; assay menu and pull-through ramp faster than guided; strategic scarcity value in a consolidating tools landscape makes NAUT a takeout candidate. 2029 revenue ~\$150M (DalalBytes estimate) at 10x EV/Sales is \$1.5B EV, ~\$9.38 on ~160M shares, rounded to \$9.00. An acquisition at 3-4x current enterprise value lands in the same band.

The bear case is a funding spiral; the base case is a validated platform worth roughly what the sell side already implies, earned through a 2027 launch; the bull case is strategic scarcity. This is a binary name with a wide distribution and a funding clock as the constraint: hence Speculative Positive, with a funding watch.

Risks

Binary technology risk. Core method proven in one peer-reviewed tau study; commercial specs (throughput, cost/sample, reproducibility across customer labs) unproven. Broadscale deprioritization narrows upside to targeted assays.

Funding and dilution. ~\$55-60M burn, ~\$129M cash, \$125M ATM. Weak prices plus full ATM draw is the dilution spiral; sub-\$1.00 trading in Aug-Sep 2026 previewed it.

Adoption curve. \$1M instrument, 4-12 samples/day, three-person sales team, ~\$10K EAP revenue to date.

Incumbent competition. Illumina and Thermo Fisher own the channels; Nautilus must sell a new category, not a better box.

Concentration of proof. Everything hinges on Tau, then AKT1, then ~20 assays by mid-2028; slow probe qualification delays the menu.

Market structure. Momentum ownership after +117% in a month, unusual October 5 options activity: violent moves on no news are the norm here.

What would change the verdict

To the upside: EAP customers converting to pre-orders with named placements; independent non-collaborator peer-reviewed replication; customer-disclosed throughput or cost-per-sample at commercial spec; a strategic equity investment or partnership with a scaled tools player; AKT1 entering early access on schedule late 2026. Any two upgrade the moat pillar and the verdict.

To the downside: further launch delay beyond mid-2027; heavy ATM draws at sub-\$1.50; quarterly burn past \$20M without EAP traction; return to Nasdaq bid-price non-compliance; assay menu stalling at Tau. Any one turns the funding watch into the thesis.

Sources

Nautilus Biotechnology Q3 2025 10-Q and press release (October 28, 2025)

Nautilus Q4/FY2025 results (February 26, 2026)

Nautilus Q1 2026 results and earnings call (April 28, 2026)

Nautilus Q2 2026 results and earnings call (July 27, 2026)

Nautilus Form 424B5 ATM filing (September 18, 2026)

Nautilus blog: Large-scale single-molecule analysis of tau proteoforms (September 2026)

Joly et al., Nature Methods (September 4, 2026)

Nautilus YouTube explainer on Iterative Mapping

US HUPO 2026 platform unveiling (February 24, 2026)

Patel interview via themarketsdaily.com (March 2026)

GlobeNewswire: MJFF/Weill Cornell Medicine-Qatar (January 2026), Buck Institute (February 2025), Allen Institute (July 2025)

SomaLogic acquisition 8-K (June 2025)

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Leerink Partners initiation (September 9, 2026); Roth Capital initiation (September 29, 2026); MarketBeat consensus (September 30, 2026)

Price and market data: FintHub (October 7, 2026)

All figures DalalBytes research estimates unless attributed; market data as of October 7, 2026.

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