

Pumpkinseed Raises \$20 Million Series A to Unlock Biology's Most Valuable Hidden Data Layer

Round co-led by NfX and Future Ventures will accelerate the build-out of deSIPHR, a nanophotonic chip platform mining the functional layer of biology at scale.

PALO ALTO, CA, UNITED STATES, May 5, 2026 /EINPresswire.com/ -- [Pumpkinseed, The Biology Mining Company](#), today announced a \$20 million Series A funding round to scale its protein sequencing platform, mining biological functional data at a resolution and scale that simply hasn't existed before.



We founded Pumpkinseed on a single conviction: biology's biggest bottleneck isn't wet lab capability or compute — it's actionable information density per cell per dollar.”

Jen Dionne

The Series A round was co-led by NfX and Future Ventures, with participation from Base4, ADVentures (CVC of Analog Devices), and Stanford, among others. The funding will accelerate Pumpkinseed's proprietary [deSIPHR](#) platform from peptide to full-length protein sequencing, expand biopharma and biosecurity partnerships, and advance the

AI models being built on its proteomic datasets.

Proteins are biology in action — every drug, every disease, every threat. And until now, we have been largely blind to them. Existing platforms are catalog-dependent, leaving novel, modified, and low-abundance proteins invisible, including the very proteins that matter most in drug discovery, diagnostics, and personalized medicine. As AI accelerates the engineering of novel proteins, that blind spot is no longer just a scientific limitation — it is a strategic one.

Pumpkinseed's nanophotonic chip platform rapidly reads any protein, known or unknown, at single-molecule resolution, without reference catalogs. The result is direct proteomic data at a scale and fidelity that medicine and science have been waiting for.

Pumpkinseed has secured over \$12 million in committed near-term revenue through active contracts with Genentech, DARPA and BARDA, with projects across immunology, precision medicine, and rapid biothreat detection and mitigation. The company is expanding its team in Palo Alto as it scales the platform toward large-scale novel data generation.

“We founded Pumpkinseed on a single conviction: biology's biggest bottleneck isn't wet lab capability or compute — it's actionable information density per cell per dollar,” co-founder Jen Dionne said. “deSIPHR is built to remove that bottleneck, reading protein sequence and structure directly from molecular vibrations.”

Investors share that conviction.

“Pumpkinseed is defining a category-creating moment for biology,” said Omri Amirav-Drory, General Partner at NFX. “Pumpkinseed can close the measurement gap between what a real-world biological sample contains and the digital input needed for AI models.”

Steve Jurvetson and Maryanna Saenko at Future Ventures see the same inflection point: “When the proteome becomes fully legible at scale, the consequences ripple across medicine, biology, and AI in ways we are only beginning to map.”

About deSIPHR

deSIPHR (de novo Sequencing and Identification of Proteins with High-throughput Raman spectroscopy) is Pumpkinseed's proprietary nanophotonic chip platform, fabricated with semiconducting manufacturing. With over 100 million sensors per square centimeter, it reads proteins, known or unknown, letter by letter — amino acid by amino acid — without a reference catalog, and at high-throughput. The result is direct, high-resolution proteomic data, including post-translational modifications, non-canonical amino acids, and single-cell detail, that mass spectrometry-based approaches cannot match.

About Pumpkinseed

Pumpkinseed is The Biology Mining Company, extracting the molecular intelligence embedded in every cell and tissue at a resolution and scale the field has never had before. Its proprietary deSIPHR platform enables fully de novo sequencing, serving partners across biopharma and biosecurity while generating the proteomic datasets that the next generation of AI biology and virtual cell models require. Pumpkinseed was co-founded by Professor Jen Dionne (Stanford Engineering, CZ Biohub), Dr. Jack Hu (Forbes 30 Under 30), and Dr. Nhat Vu (fmr. Google, Nest). The company's vision is a world where the molecular signatures driving disease, aging, and



Pumpkinseed Logo

ecosystem health are fully legible — and where medicine shifts from reactive to proactive.

About NfX

NFX is an early-stage venture firm based in San Francisco backing founders building category-defining companies. With more than \$1B under management, NFX has invested in over 300 companies across AI, biotech, and deep tech.

About Future Ventures

Future Ventures is a deep technology venture firm co-founded by Steve Jurvetson and Maryanna Saenko, backing founders working on transformative science at the frontier of biology, space, energy, and AI. The firm invests at the earliest stages in companies whose technologies have the potential to reshape entire industries and improve the human condition.

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