

Nucleate Activator

Category:

Best Incubator, Accelerator, Equity

Program/Fund Name:

Nucleate Activator

Corporate Name:

Nucleate Bio, Inc.

Date of Creation:

2021-04-28

Indications:

Rather than selecting for specific diseases, Nucleate focuses on:

Platform technologies with broad therapeutic applications

- Cutting-edge modalities (e.g., RNA therapeutics, cell therapy, synthetic biology)
- Founders with promising academic IP and high translational intent
- Ideas that address unmet needs in human health

This flexible, open-access model is part of what makes Nucleate unique-it enables a diversity of indications, technologies, and founder backgrounds to thrive.

Therapeutic Areas:

While Nucleate does not limit participation by therapeutic area, it has become a magnet for cutting-edge ventures addressing high-need and high-opportunity spaces in human health. Based on past Activator cohorts, here are the most prominent therapeutic areas represented:

Oncology

- Most represented area by number of teams.
- Includes biologics, precision medicine platforms, tumor-targeting cell therapies, and novel diagnostics.
- Notable example: Manifold Bio - developing multiplexed protein therapeutics for

cancer.

Genetic & Rare Diseases

- Strong presence of gene editing, RNA therapeutics, and platform technologies for rare monogenic conditions.
- Notable example: Apertura - advancing targeted gene regulation for precision genetic therapies.

Immunology & Autoimmune Diseases

- Teams are building novel immunomodulators, engineered immune cells, and biologics to reset immune balance.

Neurology & CNS Disorders

- Teams developing delivery systems for crossing the blood-brain barrier, neurodegenerative disease therapies, and neural interface technologies.

Microbiome-Based Therapeutics

- Engineering microbial consortia or precision-targeting host-microbiome interactions. Notable example: Concerto Biosciences - developing microbial cocktails to restore healthy function.

Infectious Diseases & Vaccines

- Includes antimicrobial resistance (AMR) solutions, rapid diagnostics, and next-gen vaccine platforms.

Regenerative Medicine

- Includes stem cell-based therapies, tissue engineering, and exosome-based regeneration platforms.

Cardiovascular & Metabolic Diseases

- Fewer in number, but growing interest in targeted delivery systems, early diagnostics,

and metabolic interventions.

Women's Health & Reproductive Health

- Growing representation in recent cohorts: fertility preservation, hormone-responsive therapeutics, and diagnostics for underfunded indications.

Emerging Modalities Across Areas

Regardless of therapeutic area, Nucleate ventures frequently pursue:

- RNA therapeutics (coding and non-coding)
- Gene and cell therapies
- Microbiome therapeutics
- Synthetic biology platforms
- AI/ML-based drug discovery
- Next-gen biologics and protein engineering

FUND & SERVICE File Document upload:

N/A

History of the development of the fund / Incubators:

Nucleate was founded in 2019 by a group of academic trainees who identified a critical gap: while groundbreaking biotech research thrived within academia, there was a lack of structured support to help scientific founders translate discoveries into life-saving health solutions. From this need, The Activator-Nucleate's flagship accelerator program was created.

Unlike traditional accelerators, The Activator was designed by and for scientists. It offers a unique, equity-free, open-access program focused specifically on empowering early-career academic founders to bring their innovations from bench to bedside. Built on a foundation of community, mentorship, and rigorous educational programming, The Activator bridges the divide between academia and industry-enabling translation of academic research into high-impact therapeutics, diagnostics, and enabling technologies for human health.

The program launched in Boston but quickly gained momentum across the U.S. and beyond. Between 2019 and 2023, The Activator scaled to over 21 chapters in 6 countries, making it the largest trainee-led biotech accelerator in the world. More than 255 teams have participated to date, working on cutting-edge technologies in gene and

cell therapy, biologics, small molecules, diagnostics, and enabling platforms. 101 ventures have been incorporated by Activator alumni, collectively raising \$550 million to advance novel solutions to some of the most pressing challenges in human health.

Nucleate's model empowers local student leaders through a chapter-based system, enabling adaptation to local ecosystems while maintaining centralized coordination. Core chapters run full accelerator cohorts, supported by a global HQ team comprising full-time staff and a volunteer executive board. Together, they deliver a structured curriculum covering team formation, IP and licensing, clinical translation, fundraising, and strategic partnerships-with a final pitch showcase that connects ventures directly to top-tier investors and industry stakeholders.

The program's therapeutic impact is already visible through ventures like Apertura (\$67M raised for targeted gene regulation), NextRNA (\$56M for non-coding RNA therapeutics), Manifold Bio (\$45M for multiplexed biologics), and Concerto Biosciences (\$26M for microbiome-based therapeutics). These companies and others emerging from The Activator pipeline are pioneering novel modalities and ushering in the next era of precision medicine.

Nucleate also plays a vital role in workforce development for the biotech industry. Through its 2,000+ member global network of mentors and alumni, the program provides unparalleled exposure to pharma, venture capital, and translational research environments. Many participants go on to become founders, investors, or strategic leaders-further multiplying the program's long-term impact on the health innovation landscape.

Crucially, The Activator remains fully nonprofit and equity-free, supported by leading sponsors like Eli Lilly, Alnylam, and MilliporeSigma. Its mission-to democratize biotech innovation and equip the next generation of biotech leaders-is rooted in the belief that the most promising solutions in human health will come from within academia itself, if given the right tools and community.

In just five years, The Activator has grown from a local initiative to a global force accelerating the future of human health innovation.

History of the development of the fund / Incubators:

See above

HISTORY & FOCUS File Document upload:

[5 Years of Nucleate_ 20192023 Impact Report.pdf](#)

How do you address your portfolio needs:

Nucleate supports its portfolio of emerging biotech ventures through a deeply tailored, founder-first model that addresses the unique needs of academic scientists transitioning into entrepreneurship. As a nonprofit, equity-free accelerator, our approach is specifically designed to meet ventures at their earliest stage-often before they are even companies-and guide them through the critical process of team formation, venture development, and early fundraising.

Support begins with technology sourcing and team-building. We help founders identify high-potential academic IP and match them with co-founders who bring complementary business, legal, and translational experience. By pairing PhD scientists with MBA, MD, or JD trainees from leading institutions, we ensure teams are balanced and equipped from the outset to make strategic decisions.

Throughout our Activator program, we offer a structured, milestone-driven curriculum that addresses the core challenges first-time biotech founders face. Participants receive practical guidance on intellectual property and licensing, company formation, equity splits, and business model development. Because many founders have no prior experience working with technology transfer offices, we provide support on university negotiations and licensing pathways. We also help teams articulate the clinical relevance of their technologies and develop strategies for regulatory planning, preclinical validation, and eventual FDA engagement.

Crucially, every team is paired with a curated group of mentors from our global network of more than 2,000 professionals across venture capital, pharma, biotech, and law. These mentors are selected based on the therapeutic area and modality of each team, offering high-touch, domain-specific guidance throughout the program. In addition to weekly working sessions, mentors often stay connected with teams long after graduation, serving as early investors, advisors, or connectors.

To accelerate visibility and fundraising, we connect teams directly with top-tier venture firms and strategic partners. Our final pitch showcase, as well as events like the Nucleate Summit, provide direct access to decision-makers in the life sciences ecosystem. Many teams secure pre-seed or seed funding shortly after completing the program, often through relationships seeded during their Activator experience. We also leverage partnerships with organizations like Eli Lilly, Alnylam, and MilliporeSigma, giving teams access to technical expertise and potential collaboration opportunities.

While we focus heavily on scientific and strategic readiness, we also invest in the founders themselves. We offer professional development through initiatives like our Innovation Fellowship, Business Development 101 course in partnership with Genentech, and our Entrepreneurial Scientist Playbooks. These programs build core leadership, communication, and translational thinking skills that prepare scientists not

just to start companies, but to run them.

Support does not end when the program concludes. Our alumni join a thriving, global community of biotech founders and leaders who continue to receive guidance, hiring support, and partnership introductions. Many return to mentor new teams, creating a sustainable and growing support network.

By addressing the full spectrum of early venture needs—from team formation and technical validation to investor engagement and founder development—Nucleate equips its portfolio companies to translate science into real-world solutions that improve human health.

Impact / Metrics to measure Success:

Venture & Startup Outcomes:

- 101 companies incorporated to date, with many translating academic research directly into commercial ventures.
- 500+ biotech jobs created by alumni companies.
- \$550 million raised in cumulative venture funding by Activator alumni companies.

Notable companies include:

- Apertura (\$67M, gene regulation therapies)
- NextRNA (\$56M, non-coding RNA therapeutics)
- Manifold Bio (\$45M, multiplexed biologics)
- Concerto Biosciences (\$26M, microbiome therapeutics)

Founder & Talent Development

- Over 800 volunteer leaders, most of whom are PhD, MD, MBA, or postdoc trainees.
- 2,000+ advisors, mentors, and alumni in the Nucleate network.
- Nucleate alumni are now working in venture capital, biotech startups, pharma, policy, and consulting—with many becoming repeat founders or investors.

Global Reach

- Active presence on four continents with structured chapter types: Core, Associate, and Emerging.
- Founders hail from 200+ universities including Harvard, MIT, Stanford, Oxford, Berkeley, ETH Zurich, and UCSF.
- Virtual programming ensures accessibility in regions without a physical chapter.

Educational Programming

- The Activator curriculum spans from team formation to final pitch, tailored for

scientists with little prior startup experience.

- Open-access resources like the Entrepreneurial Scientist Playbooks (e.g., partnering with pharma, licensing from universities).

Supplementary programs:

- Business Development 101 (in partnership with Genentech)
- Innovation Fellowship (in collaboration with VC firms and academic centers)
- Dojo and Genesis (early biotech exposure for undergrads and pre-accelerator founders)

Why your model is innovative, \and/or how it will improve the human condition:

Nucleate's model is fundamentally reimagining what it means to be a biotech accelerator-by shifting the center of gravity to where innovation begins: the academic lab. While traditional accelerators focus on founders with fully formed companies and often take equity, Nucleate meets scientists at the earliest and most vulnerable stage of translation. We are trainee-led, nonprofit, equity-free, and globally accessible-delivering transformative impact in a way that no other accelerator does.

Our innovation lies in the structure and philosophy of The Activator, our flagship program. It is designed specifically to address the challenges academic founders face: lack of business training, limited access to networks, and difficulty navigating the translational and regulatory landscape. Instead of extracting value, we provide it-through a comprehensive curriculum, deep mentorship, and direct access to the life science ecosystem. Importantly, The Activator is entirely free and open-access, ensuring that promising technologies aren't held back by a founder's background or resources.

By removing financial and structural barriers, Nucleate enables a more diverse generation of scientists to translate their discoveries into real-world therapies. Our participants come from labs pioneering the future of medicine: cell and gene therapy, RNA medicines, microbiome engineering, AI-powered drug discovery, and next-gen diagnostics. We help these founders form teams, refine their business models, develop regulatory and IP strategies, and connect with top-tier partners in pharma, venture capital, and academia.

Already, Nucleate-supported ventures are addressing urgent health challenges-from novel therapies for rare genetic diseases, to new tools for precision oncology, to platform technologies that accelerate the discovery of life-saving treatments. Many of these startups would not exist without Nucleate. Alumni companies like Apertura, NextRNA, Manifold Bio, and Concerto Biosciences are proof: translating cutting-edge science into tangible health solutions, faster.

Our model is also scalable and self-reinforcing. Because Nucleate is student-led, we tap into the boundless energy and insight of the next generation of biotech leaders. Our global chapter structure enables local adaptability while maintaining global cohesion. And our alumni often return as mentors, investors, and speakers-building a virtuous cycle of innovation and support.

Beyond startup creation, we are building a new talent pipeline for biotech. Our 2,000+ member network of mentors and industry partners guides participants toward high-impact careers-not just as founders, but as business leaders, investors, scientists, and policymakers. By supporting professional development in business development, venture capital, and translational research, we're empowering future leaders who will shape human health at every level of the bioeconomy.

In short, Nucleate is creating the infrastructure and community that enables the full potential of academic science to benefit humanity. We believe the most powerful health innovations are locked in labs around the world-and that by giving scientists the tools, knowledge, and support to become founders, we are accelerating the next wave of cures, diagnostics, and breakthroughs in human health.

This is not just an accelerator. It's a movement-and it's already improving the human condition.

Please provide appropriate references (PubMed, Abstract, Website):

Nucleate website: <https://nucleate.org/>

Impact report:

<https://drive.google.com/file/d/1EPuB1cBn6U7rYYqRHgQTMhTMXGVeGFtH/view>

Press releases:

STAT news:

<https://www.statnews.com/2021/09/28/students-launch-entrepreneurship-program-to-bring-new-faces-to-biotech/>

Longevity technology:

<https://longevity.technology/news/nucleate-launch-means-biotech-the-next-generation/>

Boston Business Journals:

<https://www.bizjournals.com/boston/news/2021/10/12/nucleate-biotech-launch-activators-partners.html>