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Playground Global's on-ramp for first-time founders

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As Playground Global grows the life sciences arm of its “deep tech” thesis, the firm has focused on bringing first-time scientific founders enough capital to de-risk their platform technologies, and helping them identify best-in-class opportunities.

Launched in 2015 with a \$300 million fund and a focus on hardware and software, about 25-30% of the firm’s 2016 \$500 million second fund has been directed toward life sciences companies, General Partner Jory Bell told BioCentury.

Playground’s growing life sciences team also includes Operating Partner Nate Chang, formerly of Andreessen Horowitz, who is helping the firm “transition its cap tables to biotech,” Venture Partner Phyllis Whiteley, and Principal Benjamin Kim.

According to Bell, Playground takes early positions via \$5-\$10 million investments that enable first-time scientific founders to advance their technologies to a stage where traditional series A investors are more comfortable getting involved.

The VC “wraps support” around these founders, helping them to hire key roles such as CBOs and independent board directors, and to home in on lead programs that are de-risked, yet differentiated.

“We are biased toward reducing biological risk with well-validated targets, and finding the match of target, modality and indication where there is some white space, and room for improvement over standard of care,” Bell said. “You can’t have a first asset without sufficient differentiation. It needs to be good enough to be best in that space.”

He said second and third programs are the place to take more risks that highlight a technology’s fuller potential — for example, by combining multiple types of engineering in the same construct — situations in which, “if you can make all this work, you are definitely the winner.”

Playground has led or co-led investments in at least three companies focused on RNA: RNA editing company Amber Bio Inc., RNA-targeting small molecule company Atomic AI Inc., and conditional RNA delivery company Strand Therapeutics Inc. (see Table).

Another key theme is next-generation sequencing (NGS)-based innovation, ranging from the low-cost whole genome sequencing company Ultima Genomics Inc. to the NGS-driven compound discovery strategies pioneered by Atomic AI and Manifold Biotechnologies Inc. Playground participated

in a \$600 million equity round for the former, and led early investments in the latter two.

“We kept finding companies leveraging NGS in creative ways,” by advancing instrumentation and analysis technologies, Bell said. “Our leitmotif is companies that figure out creative ways to generate data.”

Sequenced discovery

Bell said Atomic AI’s NGS-based RNA structure prediction technology, developed by founder and CEO Raphael Townshend, is a major leap forward from prior methods, which were limited in their ability to probe tertiary structures. “It’s a method to chemically probe RNA, and read it out as NGS,” Bell said. Described in a 2021 Science study, the approach enables single-angstrom resolution of RNA structures, and identifies sites on those structures where a small molecule could modulate RNA stability or splicing efficiency, at scale.

Manifold is similarly applying NGS to candidate discovery, this time for biologics. The company is “moving animal testing

to the very beginning” of the discovery process by using NGS-based barcoding to track hundreds of biologics candidates in vivo at the same time, Playground’s Kim said. “The beauty of this platform is that it turns protein measurements in vivo into NGS counts.”

Manifold has thousands of stable peptide barcodes, developed by co-founder and CSO Pierce Ogden, that don’t affect a biologic compound’s activity.

These peptide tags are transformed into DNA sequences, read out by NGS, and converted into absolute protein levels that reveal each candidate’s biodistribution, plasma half-life, and capacity for blood-brain barrier crossing and off-target binding in vivo. That data is fed back into machine learning algorithms that predict new structures with desired in vivo behavior.

The approach also works for multispecifics and conditionally active biologics. “No one knows enough about the complexity of how those work in natural environments. They’re generating data on what happens,” Kim said.

Select life sciences investments by Playground Global

Company	Technology	Rounds participated	Date latest investment
Amber Bio	RNA editing platform that can make multi-kilobase edits	\$26M series A (co-lead with Andreessen Horowitz)	8/3/2023
Outpace Bio	Protein design to engineer modular controls for T cell therapies	\$25M series A-1 (lead); \$30M series A	3/23/2023
Atomic AI	Map RNA 3D structures to identify small molecule binding sites	\$35M series A (lead)	1/25/2023
Infinimmune	Human-derived antibody therapeutics	\$12M seed (lead)	12/6/2022
Strand Therapeutics	Long-acting, nanoparticle-delivered mRNA technology with cell type-selective expression	\$45M series A-1; \$52M series A; \$6M seed (lead)	11/28/2022
Manifold Biotechnologies	Protein barcoding that enables in vivo biologics design and screening	\$40M series A; \$5.4M seed (lead)	7/14/2022
Ultima Genomics	Whole genome sequencing for \$100 using spinning circular wafers and an open substrate instead of flow cells	\$600M uncategorized equity round	5/31/2022
1910 Genetics	AI- and automation-driven design of small molecule and protein therapies	\$22M (co-lead with Microsoft Corp.)	3/23/2021
Lassogen	Engineered lasso peptides to overcome limitations of antibodies and small molecules	\$4.5M seed (lead)	10/13/2020

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