



Outcome Capital Life Sciences Market Pulse

November 2022

Reach the Right Outcome



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Outcome Capital At A Glance...

Outcome Capital is a highly-specialized life sciences and healthcare advisory & investment banking firm providing middle-market transactional expertise underpinned by a value-added, market-aligned approach to strategy execution. Our industry-dedicated specialists leverage significant operational, strategic & scientific knowledge in sharing their insights on industry-defining transactions.

Life Sciences Verticals:

- › MedTech
- › Pharma
- › Biotech
- › Diagnostics
- › Life Sciences Services
- › Digital Health

Transaction Focus:

- › M&A
- › Management Buyouts & Roll-Ups
- › Partnering
- › Equity Financings

Expertise Across the Value Chain:

- › Scientific
- › Regulatory
- › Reimbursement
- › Legal & IP
- › Operational
- › Transactional

Outcome Capital Pulse: Monthly Insights of Life Sciences Deal Action & Drivers

Highlighted Transactions

- › Strategic analysis from Outcome Capital's life sciences-dedicated deal team

Transaction Lineup

- › Snapshot of noteworthy life sciences deals highlighting industry-defining activity

Outcome Index Tracker

- › Custom medtech, biopharma, diagnostics, services & healthtech indices benchmarked to the S&P500



Highlighted Transactions

Abiomed Acquisition Further Consolidates Cardiovascular Segment



\$18.9B
Deal Size

Johnson & Johnson
Buyer



Johnson & Johnson's (NYSE: JNJ) acquisition of Abiomed (NASDAQ: ABMD) marks a significant shift in the cardiovascular device segment. In a market with few new entrants, MedTech giants including JNJ, Boston Scientific, Medtronic and Abbott constantly battle for market share and seek to introduce novel technologies. Abiomed's breakthrough portfolio, including the Impella® heart pumps with exclusive FDA approvals, enabled them to penetrate this market with a differentiated offering which has captured the attention of JNJ. Through the acquisition, JNJ will have the opportunity to enhance its market position by adding a well-known brand with substantial market share in an adjacency to their Biosense Webster electrophysiology business. As JNJ adopts this new platform for innovation, we look forward to seeing the evolution in cardiovascular market dynamics.



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AstraZeneca Pays \$200M Upfront For Cell Therapy Entrance Fee

neogene
THERAPEUTICS

Target

\$320M

Deal Size

AstraZeneca

Buyer

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While AstraZeneca may be a late-comer to the cell therapy clutch, their acquisition of Neogene, who utilizes T-cell receptor therapies (TCR-Ts), may represent a worthwhile bet to tackle solid tumors. Having built a growing commercial oncology portfolio around products such as Enhertu, Lynparza and Tagrisso, AstraZeneca has decided the early-phase bet on a novel technology has a favorable risk-reward profile. Neogene Therapeutics sees T-cell receptor therapies (TCR-Ts) as the key to expanding the modality into solid tumors. Using its neoantigen TCR discovery and T-cell engineering platform, Neogene aims to find neoantigens, plus TCRs that target them, for each patient and then create T cells with the neoantigen-specific TCRs. Neogene's lead candidate, NT-125, is designed to contain up to five distinct neoantigen-specific TCRs per patient in a single cell product. The approach could, in theory, reduce the risk of antigen escape and trigger deep, durable clinical responses. AstraZeneca indicated that they are “most enthused by Neogene's platform and how it fits into the Big Pharma's recent attempts to move into the CAR-T space.” AZ is paying \$200M upfront, plus up to \$120M in future milestones for the experienced team at Neogene coming from the Kite background, and their manufacturing capability. The quality of Neogene's science and team combined with the horsepower of AZ were drivers for the acquisition.

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Marinus Pharmaceuticals Monetizes Asian Rights To Epilepsy Drug



Target

\$266M

Deal Size

Tenacia
Biotechnology

Partner

“

As the China pharmaceutical market continues to globalize, it presents an increasingly more tangible opportunity to U.S. companies for territorial licensing deals. In November, Nasdaq-listed Marinus licensed its epilepsy drug, ganaxalone, to Shanghai-based Tenacia Biotechnology for Mainland China, Hong Kong, Macau and Taiwan. Marinus will receive \$10M in upfront cash and is eligible to receive up to an additional \$256M in contingent cash milestone payments as well as tiered royalty payments based on net sales. Partnering in China is an efficient way for Marinus to leverage an existing asset in a region that it could not otherwise address. For CNS-focused Tenacia, this deal provides a pipeline asset for development in its home market.

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OUTCOME CAPITAL | LIFE SCIENCES MARKET PULSE

Unicorn Maven Clinic Raises An Additional \$90M



Target

\$90M
Deal Size

GENERAL CATALYST
CVS Health.
LA FAMIGLIA
INTERMOUNTAIN VENTURES
ICON
SEQUOIA Investors
OAK HC/FT
LUT+
DRAGONEER

“

The New York-based – and Oprah Winfrey, Mindy Kaling, Natalie Portman and Reese Witherspoon – backed (among other investors) – Maven Clinic has raised a \$90M Series E round, to bring total funding to \$300M. The company's virtual maternal and family health services are now available in 175 countries, making it the largest global provider of such services, and Maven has recently entered the U.S. Medicaid market, to high demand. With the overturn of Roe v. Wade, and an increased focus on abortion rights, mental and maternal health and reproductive care, the employer- and payer-focused Maven has seen 5x growth – to 15M+ in its lives under management since its \$110M Series D round in August of this year. With the polarized political environment in the U.S., employers, payers and investors are increasingly turning to private companies to establish and provide access to care and similar services. Per Deena Shakir, Lux Capital partner and investor in Maven Clinic, “Women's health is population health, and reproductive rights are human rights.” The company plans to use the new funding to invest in the further personalization and localization of its “end-to-end family care platform”.

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Karl Hess

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Reaction Biology Expands Capabilities While Vyant Refocuses On Their Core



Target

\$11M

Deal Size



Buyer

“

Reaction Biology's acquisition of vivoPHARM from Vyant Bio highlights the continued consolidation in the pharma services segment. This transaction has benefits for both companies. Reaction Biology acquires additional facilities, personnel and disease models to expand their offerings and leverage for their pharma/biotech clients. Meanwhile, Vyant Bio refocuses their own neurodisorder drug discovery pipeline, hoping the public markets reward their singular business focus.

”



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Jnana Therapeutics Reaps Benefit From Market Interest In Small Molecules

jnana
Therapeutics
Target

\$107M | **\$2.1B**
Financing | Partnership
Deal Size


BainCapital
Lead Investor


Roche
Partner

Sponsors

“

With the overwhelming interest novel therapeutic modalities (gene therapies, cell therapies etc.), Jnana Therapeutics' bet on small molecules is starting to pay lucrative dividends. The company announced a series C round of \$107M to advance their Phenyl ketonuria (PKU) program in addition to advancing other first-in-class small molecules programs. The round was led by Bain Capital Life Sciences with participation from existing investors including RA Capital Management, Polaris Partners, Versant Ventures, Avalon Ventures and Pfizer Ventures. In parallel, Jnana Therapeutics also announced a collaboration with Roche for small molecule discovery for cancer, immune-mediated and neurological diseases. Jnana will receive an upfront payment of \$50M and potential future milestone payments in excess of \$2B.

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Insilico AI Platform Garner Interest From Sanofi



**Insilico
Medicine**

Target

\$1.2B

Deal Size

sanofi

Partner



As technology-enablement continues to drive early-stage drug development, biotechnology companies with AI platforms seek opportunities to fully capitalize on the value of their central asset. While the AI platform is critical to create differentiated internal programs, early-stage development companies cannot tackle all potential applications and indications where the platform has value. In order to capitalize on the value of their AI platform outside of their internal programs, Insilico Medicine has opted to partner with Sanofi (NASDAQ: SNY) to identify and develop candidates for up to six targets in a deal potentially worth up to \$1.2B. This deal marks SNY's continued investment into AI. Prior to the deal with Insilico Medicine, Sanofi partnered with Exscientia and Owkins for targets in oncology and immunology.



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Bonum Raises Series A To Advance Allosterically Regulated Therapy Pipeline

BONUM

THERAPEUTICS

Target

\$93M

Deal Size

VIVO CAPITAL RIVERVEST[®] CC CODON CAPITAL

Roche Venture Fund
Connecting Innovation to Value

DIGITALIS

3x5
PARTNERS

Investors

“

Bonum Therapeutics, a spin out of Good Therapeutics, announced a \$93M financing to support development of their spatially regulated, context dependent immunomodulators. They are seeking to leverage the success of this modality demonstrated by the \$250M acquisition of Good Therapeutics by Roche for their PD-1-regulated IL-2 program. Additionally, they seek to unlock the utility of cytokines as a viable therapy by limiting potent side effects that accompany exogenous use of these compounds. Their adaptable compounds employ a sensor domain, that when bound to a defined target, unleash the therapeutic effect of the molecule. In this way, the company can achieve a high degree of selection as to where that therapy will be active. The potential & effectiveness of interleukins are well known, and many companies are seeking to unlock the utility of these molecules through various targeting strategies (i.e., nanoparticles, ADCs, exosomes, etc.). The funding syndicate behind Bonum Therapeutics has chosen to back a context- and spatially dependent platform as their preferred therapeutic modality in the race to safely deliver interleukins and other highly potent.

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Clarion

A LIFE SCIENCES
CONSULTANCY

Target

Undisclosed

Deal Size



Lumanity

Buyer



Arsenal Capital Partners made its eighth acquisition for the Lumanity platform with the addition of Clarion Healthcare Partners. This is another example of the overwhelming consolidation that continues across the life sciences services sector—from specialized consultancies to CROs. For the most part, buyers in these transactions are seeking either capability or geographic expansion. In this case, Lumanity's acquisition of Clarion addresses both, adding capabilities throughout the product lifecycle as well as scaling its U.S. operations. Through its previous recap by Svoboda Capital in 2020, Clarion created a leading life sciences commercialization consultancy with a strong client base, making it an attractive target for one of the largest platforms in the space.



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OUTCOME CAPITAL | LIFE SCIENCES MARKET PULSE

Strategics Employ Synergistic M&A Policies Amid Market Woes



\$615M
Deal Size



Boston Scientific's (NYSE: BSX) acquisition of Apollo Endosurgery (NASDAQ: APEN) marks the company's fourth M&A transaction of 2022. Reinforcing management guidance from earlier this year when Dan Brennan, EVP, CFO stated, "Our top priority for capital allocation remains high-quality tuck-in M&A, and we'll continue to assess opportunities in conjunction with our financial goals". Apollo Endosurgery's product portfolio enables Boston Scientific to expand upon current endoluminal surgery capabilities, a core focus for their Endoscopy business. Endoluminal surgery is gaining traction as an alternative to open and laproscopic operations, providing patients with minimally invasive solutions and reduced likelihood of surgical complications. Furthermore, the transaction provides Boston Scientific with innovative devices for endobariatric procedures, advancing the firms endoscopy business into new markets.



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November 2022 | Transaction Lineup

OUTCOME CAPITAL | LIFE SCIENCES MARKET PULSE

November 2022 Transaction Lineup



Date	Target	Buyer/ Investor	Target Description	Deal Type	Deal Value (\$M)	Up-Front Payment (\$M)	Vertical
11/1/22	ABIOMED <small>Recovering hearts. Saving lives.</small>		Leading developer of breakthrough technologies that provide circulatory support & oxygenation.	M&A	18,977	17,362	MedTech
11/1/22	HI-BIO		Clinical-stage biotech company developing targeted therapies for patients with severe immune-mediated diseases.	Financing	120	N/A	Biotech / Pharma
11/1/22	Gateway Genomics		Personal genomics company developing consumer genetic tests including leading early gender DNA test.	M&A	101	68	Diagnostics
11/3/22	VIVOPHARM <small>a VANT Company</small>		Subsidiary of Vyant Bio providing <i>in vivo</i> , <i>in vitro</i> & cell line capabilities, laboratory facilities & equipment for drug discovery.	M&A	11	6	Services
11/3/22			Late-stage developer of new drug class targeting the D1 receptor for patients with Tourette Syndrome & other CNS disorders.	Financing	250	N/A	Biotech / Pharma
11/7/22	FULGENT PHARMA		Clinical-stage therapeutics development company focused on the development of innovative cancer treatments.	M&A	99	99	Biotech / Pharma

OUTCOME CAPITAL | LIFE SCIENCES MARKET PULSE

November 2022 Transaction Lineup



Date	Target	Buyer/ Investor	Target Description	Deal Type	Deal Value (\$M)	Up-Front Payment (\$M)	Vertical
11/7/22	Zenas BioPharma	Longitude CAPITAL ENAVATE VIVO	Global biopharma company developing immune-based therapies in areas of high unmet clinical need.	Financing	118	N/A	Biotech / Pharma
11/8/22	Clarion	Lumarity	Life sciences consultancy providing commercialization & product lifecycle solutions to biopharma companies.	M&A	Undisclosed	Undisclosed	Services
11/8/22	Insilico Medicine	sanofi	AI platform used to advance drug development candidates for up to 6 new targets.	Partnership	1,222	22	Biotech / Pharma
11/8/22	SPERO THERAPEUTICS	GSK	Investigational drug being developed as the potentially first oral carbapenem antibiotic for complicated urinary tract infections.	Partnership	591	66	Biotech / Pharma
11/14/22	MAVEN	ICON VENTURES LA FAMIGLIA CVS Health SEQUOIA DRAGONSEER INTERMOUNTAIN VENTURES GENERAL CATALYST	Virtual clinic for women's & family health offering continuous, holistic care for fertility & family building.	Financing	90	N/A	HealthTech
11/15/22	BONUM	RIVERVEST CC CODON CAPITAL 3VS Roche Roche Venture Fund DIGITALIS VENTURES VIVO	Biopharma company using allosteric regulation to create conditionally active & less toxic medicines.	Financing	93	N/A	Biotech / Pharma

OUTCOME CAPITAL | LIFE SCIENCES MARKET PULSE

November 2022 Transaction Lineup



Date	Target	Buyer/ Investor	Target Description	Deal Type	Deal Value (\$M)	Up-Front Payment (\$M)	Vertical
11/15/22		polarispartners 	Biotech company leveraging next-generation chemoproteomics platform to discover medicines for challenging-to-drug targets.	Financing	107	N/A	Biotech / Pharma
11/15/22			Next-generation chemoproteomics platform for discovery of small molecule drugs for cancer, immune-mediated & neurological diseases.	Partnership	2,050	50	Biotech / Pharma
11/17/22		Tenacia Biotechnology	Biopharma company dedicated to the development of innovative therapeutics to treat seizure disorders.	Partnership	266	10	Biotech / Pharma
11/17/22		 	Biotech company developing an integrated approach to drug discovery using multiple approaches to map molecular disease networks.	Financing	78	N/A	Biotech / Pharma
11/21/22			Clinical-stage biopharma company focusing on development of new therapies for bone marrow ailments.	M&A	1,345	1,345	Biotech / Pharma
11/21/22		 	Biopharma company pioneering new class of precision medicines for broad range of therapeutic targets.	Financing	178	N/A	Biotech / Pharma

[Hyperlinked to Press Release](#)

MedTech

Biotech/Pharma

HealthTech

Diagnostics

Life Science Tools

Services

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November 2022 Transaction Lineup



Date	Target	Buyer/ Investor	Target Description	Deal Type	Deal Value (\$M)	Up-Front Payment (\$M)	Vertical
11/28/22			Clinical-stage company advancing novel small molecule therapeutics for treating a broad range of neurosensory-inflammatory disorders.	Financing	120	N/A	Biotech / Pharma
11/28/22	C 4 X D		NRF2 Activator program to develop oral therapy for treatment of inflammatory & respiratory diseases with a lead focus on COPD.	Partnership	402	2	Biotech / Pharma
11/29/22			Developer of product portfolio for devices used during endoluminal surgery procedures.	M&A	615	615	MedTech
11/29/22			Clinical-stage biotech company pioneering next-generation T-cell receptor therapies targeting cancer.	M&A	320	200	Biotech / Pharma
11/29/22			Specialist pharmacovigilance service provider for both clinical & post-marketed medical products.	M&A	Undisclosed	Undisclosed	Services
11/30/22			STING agonist portfolio for development of multiple small molecule programs directed at exclusive targets.	Partnership	41	41	Biotech / Pharma

[Hyperlinked to Press Release](#)

MedTech

Biotech/Pharma

HealthTech

Diagnostics

Life Science Tools

Services

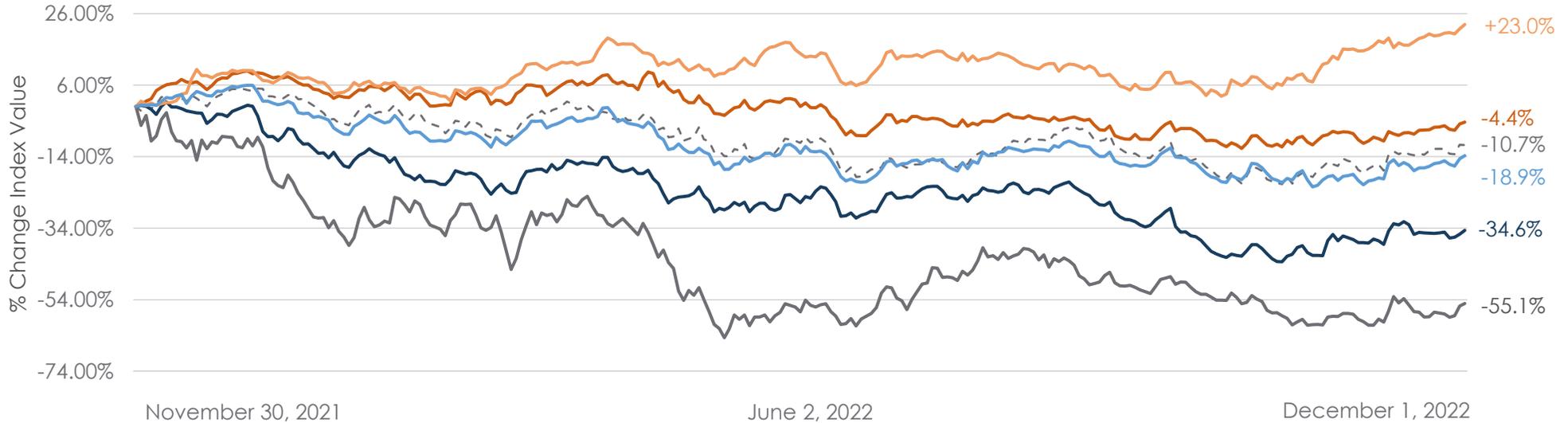


Outcome Index Tracker

OUTCOME CAPITAL | LIFE SCIENCES MARKET PULSE



Outcome Capital Index Tracker (LTM)



Legend	-- S&P500	— Outcome Capital MedTech Index	— Outcome Capital Biotech/Pharma Index	— Outcome Capital HealthTech Index	— Outcome Capital Dx Index	— Outcome Capital Services Index
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Outcome Capital MedTech Index

Outcome Capital Biotech/Pharma Index

Outcome Capital HealthTech Index

Outcome Capital Diagnostics Index

Outcome Capital Services Index



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PULSE



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