

15 Jan 2024 | News

In Vivo's Deals Of The Year: Cast Your Vote!

by [Lucie Ellis-Taitt](#)

It is time for *In Vivo's* 16th annual Deals of the Year contest. We've selected 12 nominees across three categories – Top M&A, Top Alliance and Top Financing – and you get to pick the winners.

In Vivo's editors, along with experts from the wider Citeline team, have selected our top four picks for the most significant M&A, alliance and financing deals of 2023. Vote now in the polls below.

Top M&A Of 2023

[Top M&A Deals Of 2023](#)

1 Pfizer/Seagen (\$43bn)

Facing a significant patent cliff, [Pfizer Inc.](#) acquired both revenue-generating products and new R&D capabilities with its proposed acquisition of Seagen Inc. Seagen's four approved drugs – the antibody-drug conjugates (ADCs) Adcetris (brentuximab vedotin) for hematological malignancies, Tivdak (tisotumab vedotin-tftv) for cervical cancer and Padcev (enfortumab vedotin-ejfv) for bladder cancer – along with the breast cancer drug Tukysa (tucatinib) are projected to bring Pfizer \$10bn in revenue by 2030. If those projections prove accurate, the proceeds will help Pfizer significantly in reaching the \$25bn in new product revenue it hoped to gain to offset the impact of patent expirations of products like the breast cancer drug Ibrance (palbociclib) and the prostate cancer therapy partnered with Astellas, Xtandi (enzalutamide). (Also see "[Pfizer Pays \\$43bn For Seagen With Goal Of Rapidly, Globally Advancing ADCs](#)" - Scrip, 13 Mar, 2023.)

2 Biogen/Reata (\$7.3bn)

Biogen, Inc., which has posted revenue declines three years in a row due to generic competition to Tecfidera (dimethyl fumarate) and the flop of Alzheimer's disease drug Aduhelm (aducanumab-avwa), is focusing on both "resetting" and "recalibrating" its internal R&D and revitalizing its portfolio through deal-making, the company said in 2023. It paid \$7.3bn to acquire Reata Pharmaceuticals, Inc. and its recently approved Friedrich's ataxia drug Skyclarys (omaveloxolone). Biogen highlighted when announcing the deal that commercializing Skyclarys will often involve the same physicians in the same centers as those who treat spinal muscular atrophy patients with the company's Ionis-partnered antisense drug Spinraza (nusinersen). (Also see "[*Biogen Buys Time For Leqembi Ramp-Up With Reata Acquisition*](#)" - Scrip, 28 Jul, 2023.)

3 Merck/Prometheus (\$10.8bn)

In April 2023, *Merck & Co., Inc.*, Inc. announced plans to acquire autoimmune disease-focused Prometheus Biosciences, Inc. for \$10.8bn. The New Jersey pharma company agreed to pay \$200 per share for Prometheus – an 80% premium to the San Diego-based firm's 10-day average trading price – and the transaction closed on 16 June 2023. Merck sought to reduce its reliance on oncology and specifically its blockbuster anti-PD-1 drug Keytruda (pembrolizumab), which generated around 40% of the pharma's 2022 sales revenue, about five years ahead of expected biosimilar competition. The high price tag partly reflected the near-term earning potential of Prometheus's PRA023 (now MK-7240), an anti-TL1A agent nearing Phase III in multiple inflammatory bowel disease indications. Prometheus's R&D engine was also expected to enhance Merck's target discovery and precision medicine capabilities in autoimmune disease. Merck's buyout of Prometheus may have been driven in part by a failed attempt to acquire Seagen.

4 Syneos Buyout (\$7.1bn)

Syneos Health, a provider of biopharma solutions that include contract research and commercialization services, announced on 10 May 2023 that it was being acquired by a consortium of private equity investors composed of Elliott Investment Management, Patient Square Capital and Veritas Capital for \$43 per share, or \$7.1bn in total transaction value. Morrisville, North Carolina-based Syneos reported \$1.36bn in first quarter 2023 revenue, up 1.5% from Q1 of 2022. Revenue from its clinical solutions business fell 0.5% to \$1.01bn and revenue from commercial solutions grew 7.9% to \$343.1m within that time frame. Q1 2023 may be the last quarter for which the company reports its sales and earnings, since its buyers plan to take the company private. Patient Square Capital filled its investment coffers earlier this year to make such investments, raising \$3.9bn for its first-ever private equity fund.

Top Alliances Of 2023

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1 Jazz/Autifony

In November, [*Jazz Pharmaceuticals plc*](#) and [*Autifony Therapeutics Limited*](#) signed a global licensing agreement to discover and develop drugs targeting two ion channel targets associated with neurological disorders. Autifony will receive an upfront payment and development, regulatory and commercial milestones from Jazz totalling up to \$770.5m, plus royalties on future net sales. Jazz is tapping into Autifony's research on ion channels, membrane proteins that act as gated pathways for the movement of ions across cell membranes. Defects in ion channels have increasingly been connected to a number of diseases, which often result from mutations in the genes that encode ion channel proteins and are thus known as channelopathies. Under the partnership, Autifony will lead drug discovery and preclinical development for the two targets and, assuming successful completion of preclinical development, Jazz will lead clinical development, manufacturing, regulatory activities and commercialization. Autifony emerged in September 2011 as a spinout from GSK plc after the British drug maker exited neurosciences-related R&D. (Also see "[*Autifony Tunes In To Jazz With Neurology-Focused Deal*](#)" - Scrip, 14 Nov, 2023.)

2 Merck/Daiichi

In a big endorsement of its proprietary R&D platform, [*Daiichi Sankyo Co., Ltd.*](#) announced in October 2023 a huge global deal for three ADC candidates with Merck & Co. worth \$4bn upfront (\$3bn immediately upon execution) and up to \$22bn in total. The agreement covers the Japanese firm's anti-HER3 ADC patritumab deruxtecan (HER3-DXd/U3-1402), anti-B7-H3 ADC ifinatamab deruxtecan (I-DXd/DS-7300) and CDH6-targeting ADC raludotatug deruxtecan (R-DXd/DS_6000), which will be jointly developed and commercialized worldwide except in Japan, where Daiichi retains exclusive rights. In addition to the \$4bn upfront and up to \$1.5bn in continuation payments over the next 24 months, the agreement is worth up to \$16.5bn in total contingent future sales milestones, with an additional refundable upfront payment of \$1bn to Daiichi for future R&D expenses. Daiichi notes Merck will be responsible for up to the first \$1.5bn in R&D expenses including \$500,000 each for patritumab and ifinatamab, and 75% of the R&D costs for raludotatug. (Also see "[*Daiichi In Massive \\$22bn Global Deal With Merck & Co For Three ADCs*](#)" - Scrip, 20 Oct, 2023.)

3 Seagen/Nurix

[*Seagen Inc.*](#) teamed up with [*Nurix Therapeutics, Inc.*](#) in 2023 on a broad multi-year, multi-target collaboration that aims to bring to market degrader-antibody conjugates, a new class of medicines for cancer. The companies announced the partnership on 7 September 2023, with

Seagen offering to pay Nurix \$60m up front and potentially \$3.4bn in milestone payments across multiple programs. The partnership will combine Seagen's expertise in the field of ADCs with Nurix's work in the area of targeted protein degradation (TPD). The goal is to develop drugs with new mechanisms of action that combine the tumor specificity of antibodies with the targeted degradation of cancer-driving proteins.

4 Genentech/Orionis

In September, [*Genentech, Inc.*](#) announced a collaboration with [*Orionis Biosciences Inc.*](#) to discover and develop new 'molecular glue' medicines, a field which is already attracting immense big pharma investment. The Massachusetts-based biotech will receive \$47m upfront from the Roche subsidiary to leverage its Allo-Glue platform to discover novel small-molecule drugs for challenging targets in major disease areas, including oncology and neurodegeneration. The deal could be worth up to \$2bn based on potential future R&D and commercialization milestones. Molecular glue drugs are part of the TPD class, and work by binding disease-causing proteins to regulatory proteins called ligases. This marks the disease-causing protein out for destruction via the proteasome, which functions like the body's waste disposal system. (Also see "[*Genentech Joins Hunt For 'Molecular Glue' Drugs With Orionis*](#)" - Scrip, 21 Sep, 2023.)

Top Financings Of 2023

[*Top Financings Of 2023*](#)

1 J&J Launches Kenvue

[*Johnson & Johnson*](#) separated Kenvue Inc. from its remaining pharmaceutical and medical device businesses in May 2023. Kenvue grossed \$3.8bn from the sale of 172.8 million shares at \$22 each on 3 May 2023. J&J remains Kenvue's majority shareholder. The Kenvue offering is the largest IPO in the US for any industry since Rivian, a US electric vehicle manufacturer, raised \$11.9bn in November 2021. (Also see "[*J&J Has Kenvue IPO Roadshow In One Lane, Potentially Long Road For Talc Litigation In Other*](#)" - HBW Insight, 1 May, 2023.)

2 Aiolos' \$245m Series A

Aiolos Bio Inc. launched with a \$245m series A round in October 2023. The company was able to emerge from stealth mode with such a large VC round – the biggest one in the Q4 2023 – because its lead drug candidate has a proven mechanism of action. AIO-001 is a thymic stromal lymphopoietin inhibitor moving into Phase II for the treatment of moderate-to-severe asthma. It is a monoclonal antibody treatment with the potential to be administered only two times per

year. The San Francisco-based company's co-founder and CEO is Khurem Farooq, who was most recently CEO of Gyroscope Therapeutics Limited and previously senior vice president and head of the immunology and ophthalmology business unit at Genentech. Former Gilead Sciences, Inc. president and CEO John Milligan is chairman of the Aiolos board of directors. (Also see "[Finance Watch: Aiolos Launches With \\$245m Series A; OrbiMed's New Funds Total \\$4.3bn](#)" - Scrip, 24 Oct, 2023.)

3 MapLight's \$225m Series C

[MapLight Therapeutics](#) closed its second VC financing at the end of October 2023. Its \$225m series C round was a marked step up from prior financings, according to US Securities and Exchange Commission disclosures – \$5m in March 2019, \$16m in September 2019, \$30m in March 2021 and \$12m in November 2022. MapLight is developing novel targeted therapeutics for neuropsychiatric and neurological conditions, including lead drug candidate ML-007C-MA, an M1/M4 muscarinic agonist combined with a precision-matched peripheral muscarinic antagonist that is moving into Phase II for schizophrenia and Alzheimer's disease psychosis. Its pipeline also includes clinical-stage drug candidates for dyskinesia and autism spectrum disorder. It has preclinical candidates for Parkinson's disease and depression as well as hyperactivity and impulsivity.

4 RayzeBio Raises Significant IPO

In September, [RayzeBio, Inc.](#) grossed \$311m from the sale of 17.3 million shares at \$18 each, upsized from a proposed offering of 13.2 million shares at \$16 to \$18 each. RayzeBio's lead radiopharmaceutical candidate RYZ101, which delivers the alpha-emitting radioisotope Actinium-225, began enrolling patients into a Phase III clinical trial in neuroendocrine tumors in late 2023. At the end last year, however, Bristol-Myers Squibb Company (BMS) announced it would pay \$4.1bn to acquire RayzeBio. The field of radiopharmaceuticals is becoming increasingly competitive, and one big pharma company has already established a beachhead – Novartis AG with its prostate cancer treatment Lutathera (lutetium Lu 177 dotatate). In addition to studies for RYZ101, a Phase Ib trial is under way in patients with extensive-stage small-cell lung cancer for RYZ801, a novel proprietary peptide targeting glypican-3 for the delivery of actinium-based radioactivity in the treatment of hepatocellular carcinoma. The drug is in investigational new drug (IND) application-enabling studies. A second program at the IND-enabling study stage targets CA9 for renal cell cancer. BMS said RayzeBio has a "robust" IND engine with several preclinical solid tumor programs and noted that actinium-based radiopharmaceuticals have potential advantages over other radiopharmaceuticals since the high potency and short firing range of the alpha-emitter make it possible to provide stronger efficacy and more targeted delivery. RayzeBio is in the process of building state-of-the-art radiopharmaceutical manufacturing capabilities in Indianapolis, where production is expected to begin during the first half of 2024. (Also see "[BMS Makes Second Big Buy Of December, Pays \\$4.1bn](#)")

For RayzeBio" - Scrip, 27 Dec, 2023.)