Evaluate Vantage

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JP Morgan 2022 – day one sees healthy deal flow from biopharma

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But transactions are small, and mostly involve licensing rather than takeouts, with cancer and gene editing featuring heavily.

Over the years many large biopharma deals have been unveiled to coincide with the JP Morgan healthcare conference, a week when the eyes of the sector are squarely focused on San Francisco. Day one of this year's meeting certainly delivered plenty of transaction news, but the absence of any billion-dollar buyouts will disappoint those hoping for a big opener.

The meeting having gone virtual once again, the motivation to grab attendees' attention is understandably waning. Perhaps the flurry of bigger moves announced in late December would, in other years, have been held back. Instead, biopharma watchers must make do with a collaboration between Beam and Pfizer for $300m up front – the largest cheque written today – and several other licensing deals in cancer and gene editing.

One notable exception to this theme was the exercise of an option by Novartis over Molecular Partners' Covid-19 antiviral ensovibep. This appears to have been triggered by encouraging phase 2 data from the Empathy trial, also announced today, showing a 78% reduction in the risk of events.

Ensovibep is delivered via a single intravenous dose so would not be as convenient as the oral antivirals from Pfizer and Merck & Co. Novartis has apparently seen enough to sign on the dotted line, however, with the press release talking up the project's "pan-variant activity". It is also notable that Empathy allowed vaccinated subjects and made no mention of focusing on high-risk patients, features that have undone other Covid-19 antiviral trials.

Elsewhere, it is clear that in vivo gene editing is a big focus for developers, with Beam Therapeutics and Mammoth benefitting from the attentions of Pfizer and Bayer. While Beam claims greater precision than the conventional Crispr/Cas9 approach, Mammoth boasts an "ultra-small" Crispr system (*JP Morgan 2022 – Beam and Mammoth hook big pharma partners, January 10, 2022*).

JP Morgan 2022: selected day one deals		
Company	**Partner/Aquirer**	**Details**
Beam Therapeutics	Pfizer	Four-year research collaboration focused on in vivo base editing for rare genetic diseases of the liver, muscle and central nervous system; $300m up front
Molecular Partners	Novartis	Novartis exercises its option to license ensovibep, a DARPin-based Covid-19 antiviral, for SFr150 million ($162m); follows previous SFr60m payment
Stoke Therapeutics	Acadia Pharmaceuticals	Research collaboration to develop RNA-based medicines for rare genetic CNS disorders including SYNGAP1 and Rett syndrome; $60m up front
Century Therapeutics	Bristol Myers Squibb	Research collaboration and licensing agreement for up to four iPSC-derived allogenic cell therapies for haematological and solid tumours; $100m up-front cash, $50m equity investment
Carisma Therapeutics	Moderna	Research collaboration to develop up to 12 in vivo engineered chimaeric antigen receptor monocyte (Car-M) therapeutics for cancer; $45m up-front cash, $35m convertible debt
Crescendo Biologics	Biontech	Research collaboration based on Crescendo's Humabody VH tech to develop mRNA-based antibodies and engineered cell therapies; $40 million up front, comprising cash and equity
Mammoth Biosciences	Bayer	Research collaboration and option agreement for the use of Mammoth's Crispr systems to develop in vivo gene editing therapies; $40m up front
Shanghai Junshi Biosciences	Coherus Biosciences	Coherus exercises option to license JS006, Junshi's anti-Tigit MAb, in the US and Canada; deal expands initial 2021 agreement; $35 million up front
Adaptate Biotherapeutics	Takeda	Takeda exercises option to buy Adaptate to obtain Adaptate's antibody-based γδ T-cell engager tech, including a preclinical candidate and discovery pipeline programmes; no terms disclosed
Novavita Thera	Castle Creek	Acquisition of Novavita, a privately-held preclinical gene therapy company focused on rare liver and metabolic diseases, via in vivo approaches; terms undisclosed
Source: company releases.		

Several of the transactions also involved cell therapies, a field that continues to attract a lot of research dollars. While the Biontech/Cresendo and Bristol/Century deals concern work with T cells, the Takeda and Moderna transactions are focused on more novel approaches.

After the success of Car-T, work on adaptive cell therapies moved into Car-NK, Car-Treg and Car-γδ T cells. The last of those delivered a takeover last year, with Takeda buying out the UK's Gammadelta, and today the Japanese group followed this by acquiring Adaptate Biotherapeutics, a business Gammadelta had earlier spun out.

Adaptate works not on Car-based therapeutics but on antibodies, specifically those that engage γδ T cells. The γδ T-cell field was given a boost last month by the first reports of efficacy from an Adicet project.

A Car-engineered approach involving yet another cell type recorded a separate deal today, with Moderna teaming up with Carisma for development of Car-M therapies. The M in this case stands for monocytes (Carisma separately works on Car-macrophages), and interestingly the deal focuses on in vivo editing, thanks to Moderna's mRNA and LNP knowhow.

Monocytes are a type of white blood cell, but unlike B and T cells they are part of the myeloid not the lymphoid lineage; they can further differentiate into macrophages, and are associated with innate immunity. Directing them at a specific target using a Car could add a further approach to the anticancer armoury.

It is also apparent from today's business development moves that cancer remains high on biopharma's shopping list. In this area Coherus's collaboration with Junshi in particular is notable; the partners already have an anti-PD-1 MAb filed with the FDA, although whether this will win approval on the back of trials conducted in

China is a matter of much debate, as with other projects like it (*Days of reckoning for immune checkpoint blockers, January 4, 2022*).

The transactions highlighted above involved more than half a billion dollars in up-front fees, though of course this is little more than spare change for biopharma. Meanwhile biotech investors have seen the US bear market deepen further in the opening days of 2022.

To make the sector more appealing they will need M&A activity to pick up substantially. With Fed interest rate hike fears causing a global selloff perhaps it was too much to ask for the JP Morgan conference to reverse sentiment.

This story has been updated to include Castle Creek's acquisition of Novavita.