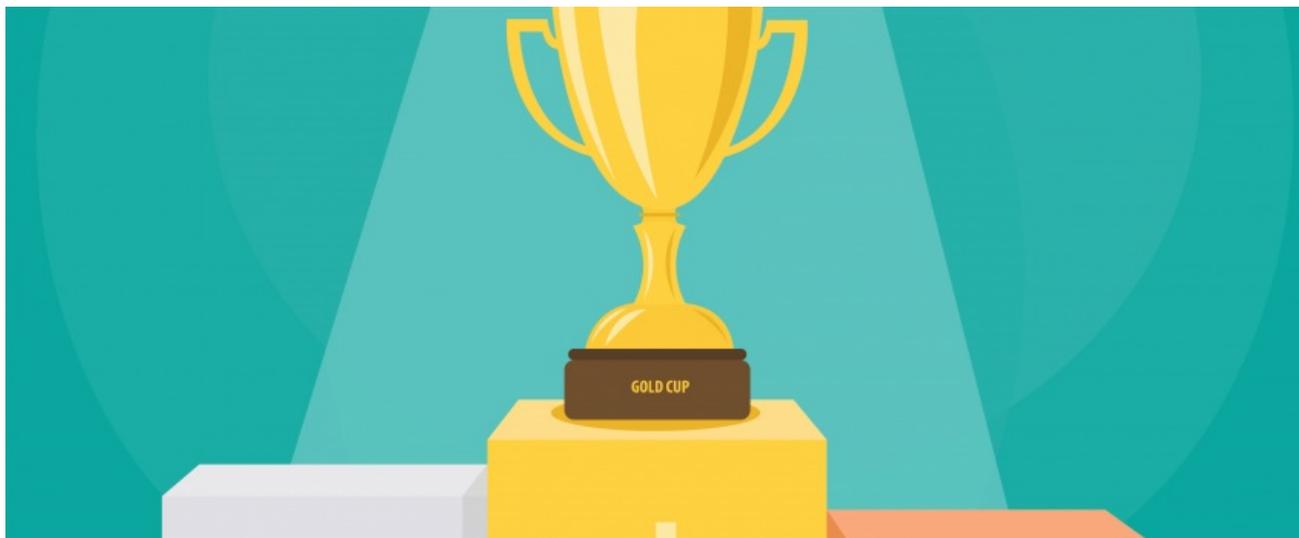


Biogen's Alzheimer's hope tops the sector's most valuable pipeline projects



Amy Brown



The lack of clinical progress in Alzheimer's has not put analysts off valuing aducanumab at \$10bn.

Is it telling of some frothiness in the market that the industry's most valuable late-stage asset is thought to be Biogen's Alzheimer's antibody aducanumab? This is the opinion of the sellside, which values the project at a cool \$10.3bn, according to *EvaluatePharma*, ahead of more validated and arguably lower-risk compounds.

Of course Alzheimer's remains a huge unmet need, and if aducanumab succeeds in arresting cognitive decline that net present value estimate will look low. But the area remains incredibly speculative, and a look at biopharma's other highly rated projects reveals some that look more likely to live up to hopes (see tables below).

Lilly's abemaciclib is one such example. The breast cancer therapy will be third to market in its class, but data in a front-line setting, from a trial called Monarch 3, could set it apart. The study will be a huge draw at the Esmo cancer conference next month. Similarly, Gilead's new HIV triple therapy is also thought to represent a big challenge to Glaxosmithkline's blockbuster Triumeq.

Clearly risks remain to both of these assets; highly motivated, entrenched competitors arguably represent the biggest threat to the lofty valuations.

The list of the most highly rated biopharma assets awaiting approval also shows how valuable the CAR-T therapies are considered, relative to other pipeline projects. These NPVs are calculated by *EvaluatePharma*, based on a consensus of sellside analysts' forecasts.

The industry's most valuable projects awaiting regulatory approval

Product	Company	Project type/indication	Today's NPV (\$bn)	Event
Abemaciclib	Lilly	CDK 4 & 6 inhibitor; breast cancer	9.13	US approval expected Q1'18
Axicabtagene ciloleucel	Kite Pharma	Anti-CD19 CAR-T therapy; NHL	7.81	PDUFA 29 Nov '17
Bictegravir/F/TAF	Gilead Sciences	HIV triple therapy	7.23	PDUFA 12 Feb '18
Semaglutide	Novo Nordisk	Weekly GLP 1 agonist; type II diabetes	5.12	PDUFA 5 Dec '17
CTL019	Novartis	Anti-CD19 CAR-T therapy; ALL	4.90	PDUFA 3 Oct '17

Source: EvaluatePharma

The failure rate in Alzheimer's has not deterred Biogen from heavy pursuit of this therapy area, and aducanumab is its biggest bet to date. The company hopes that the antibody's ability to bind to more insoluble forms of amyloid beta than other similarly targeted antibodies will make a difference. But with data some years away the project remains an unknown quantity.

Much nearer on the horizon are data from the Spartan study of J&J's Zytiga follow-on, apalutamide, one of the company's most important potential new growth drivers. According to clinicaltrials.gov the primary completion date was in June, a date that has already been pushed back.

Abbvie is also gearing up to release pivotal data on its expensively acquired antibody-drug conjugate Rova-T ([Event - Abbvie's long shot at proving Rova-T doubters wrong, 24 July 2017](#)). And by the end of the year Roche expects to release data from two trials of lampalizumab in geographic atrophy. There is no treatment for this degenerative condition, also known as advanced dry age-related macular degeneration, so while the project is risky the rewards could be high.

Biopharma's most valuable phase III assets

Product	Company	Project type/indication	Today's NPV (\$bn)	Event
Aducanumab	Biogen	Anti-A-beta Alzheimer's antibody	10.33	Phase III data 2019/2020
Apalutamide	Johnson & Johnson	Anti-androgen; prostate cancer	9.97	Phase III data due H2'17
Ozanimod	Celgene	S1P 1 & 5 modulator; MS	8.29	US filing due by YE
Rova-T	Abbvie	Anti-DLL 3 antibody-drug conjugate; lung cancer	7.14	Phase III data due H2'17
Lampalizumab	Roche	Anti-complement factor D MAb; geographic atrophy	6.01	Phase III data due by YE

Source: EvaluatePharma

Predictably, of the filed and phase III assets in these analyses, all apart from Kite's CAR-T therapy are in the hands of big biopharma. A look at what the sellside considers high value in phase II reveals more small company names – however, here valuations are much more arbitrary, and of course the risks much greater.

Leading the pack is Juno's lead CAR-T therapy, which has some big partner endorsement from Celgene, owner of ex-US and China marketing rights. The NPV in this table relates entirely to Juno – Celgene analysts have yet to put a value on the asset.

Most definitely wholly owned are lovance's LN-144 and Kura's tipifarnib; the former was until recently known as Lion Biotechnologies. Both have attracted very bullish sales forecasts for their cancer projects, although investors do not share this optimism. lovance's market cap stands at \$315m, while Kura's is \$174m.

Biopharma's most valuable phase II assets

Product	Company	Project type/indication	Today's NPV (\$bn)	Event
JCAR017	Juno Therapeutics	Anti-CD19 CAR-T therapy; DLBCL	3.40	Pivotal study in DLBCL to start in H2'17
Neladenoson bialanate	Bayer	Adenosine A1 receptor agonist; heart failure	1.81	Phase II data 2018
LN-144	Iovance Biotherapeutics	Tumour infiltrating lymphocyte infusion; melanoma	1.76	Interim data due by YE
ABL001	Novartis	BCR-ABL inhibitor; CML	1.71	Phase I data due 2018; phase III due to start this year
Tipifarnib	Kura Oncology	Farnesyl transferase inhibitor; SCCHN	1.65	Phase II data H2'17; phase III due to start 2018

Source: EvaluatePharma

Among the big pharma names, Bayer's neladenoson bialanate is one of several heart failure projects being pursued by the German conglomerate. And ABL001 is Novartis's attempt to retain a presence in chronic myeloid leukaemia in the wake of Gleevec's patent expiry.

The follow-on asset is primarily being tested in patients refractory to existing TKIs, but the Swiss company has a larger prize in sight. The compound binds to a different site on the aberrant BCR-ABL protein than existing therapies, so when used in combination it could help to prevent resistance mechanisms that lead to treatment failure with drugs like Gleevec.

The usual caveat with drug development holds for all of these examples here, of course - not all these assets will reach the market, or proceed as quickly as assumed. For example, only a few weeks ago J&J's RA asset sirukumab would have made the top five filed projects, but a surprise negative adcom vote caused it to be knocked out.

Sentiment towards the biopharma sector has been buoyant this year, boosted by an encouraging regulatory trends and several big pipeline wins. Progress or not for the high-profile assets in this analysis will help determine whether the good mood prevails.

Valuing the industry's pipeline	
Stage	NPV Aug 2017 (\$bn)
Filed	115.81
Phase III	299.67
Phase II	78.97
Phase I	25.08
Preclinical	6.79
Research project	0.21
Total	526.33

Source: EvaluatePharma

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