BARCLAYS

Equity Research

Healthcare | European Pharmaceuticals

14 April 2021

Galapagos

Re-evaluating the pipeline: u/g to OW

Galapagos is currently trading at a 12% discount to its cash balance, a discount we think is unwarranted. Trial setbacks and regulatory challenges mean the late-stage pipeline is underwhelming, but the US$5.1bn cash on balance sheet should help there. Our deep dive on TYK2 gives us greater confidence in the early stage pipeline, which we believe is underappreciated. We also increase our filgotinib numbers with this report to account for the recent Europe and Japan approvals in RA (our numbers did not include Japan previously) and have increased European approval probability of approval in Crohn's/UC.

We have conducted a review of the current Galapagos pipeline with a focus on TYK2 asset GLPG3667 in psoriasis. Bristol Myers Squibb (covered by Carter Gould) has detailed data expected at AAD for its TYK2 asset, which should validate the class. It has already shown positive top-line results from its second phase 3 pivotal trial. Following a number of KOL calls, we have constructed a market model for TYK2. Our assumption is for Galapagos to achieve peak moderate plaque psoriasis market share of 7.5%, with total unrisked sales reaching €340m.

We update our forecasts to include filgotinib in Japan (in UC and Crohn's we assume 60% probability of approval). We also change our terminal growth rate from -1% to +1%, as we believe the early stage pipeline demonstrates management's ability to continue to drive growth. Note, we do not include speculative M&A or assets in our forecasts unless they are shortly to go into a pivotal stage. Our NPV-based price target goes to €80, a 4% premium to the net cash position and implying 23% share price upside.

Upcoming catalysts: Bristol TYK2 data at AAC on 23rd April, Galapagos's TYK2 asset phase 1a top-line data in 2Q21 and Toledo PoC data in 3Q21.

GLPG.AS: Financial and Valuation Metrics EPS EUR

FY Dec	2019	2020	2021	2022	2023
EPS	2.49A	-4.69A	-3.26E	-4.24E	-3.79E
Previous EPS	2.49A	-4.69A	-3.55E	-4.50E	-4.30E
Consensus EPS	2.49A	-4.69A	-4.02E	-3.51E	-3.32E
P/E	26.2	N/A	N/A	N/A	N/A

Source: Barclays Research.

Consensus numbers are from Bloomberg received on 13-Apr-2021; 12:50 GMT

PLEASE SEE ANALYST CERTIFICATION(S) AND IMPORTANT DISCLOSURES BEGINNING ON PAGE 33.

Stock Rating	OVERWEIGHT from Equal Weight
Industry View	POSITIVE Unchanged
Price Target	EUR 80.00 raised 16% from EUR 69.00

Price (13-Apr-2021)	EUR 65.12
Potential Upside/Downside	+22.9%
Tickers	GLPG NA / GLPG.AS

Market Cap (EUR mn)	4266
Shares Outstanding (mn)	65.51
Free Float (%)	64.46
52 Wk Avg Daily Volume (mn)	0.5
Dividend Yield (%)	N/A
Return on Equity TTM (%)	-11.01
Current BVPS (EUR)	40.82

Source: Bloomberg

Price Performance — Exchange-AEX

52 Week range — EUR 216.10-63.12

Source: IDC; Link to Barclays Live for interactive charting

European Pharmaceuticals

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European Pharmaceuticals **Industry View: POSITIVE**

Galapagos (GLPG.AS)

Stock Rating: OVERWEIGHT

Income statement (€mn)	2020A	2021E	2022E	2023E	CAGR
Revenue	530	663	661	726	11.0%
Gross profit	530	663	661	726	11.0%
EBITDA (adj)	-160	-168	-240	-215	N/A
EBIT (adj)	-179	-191	-262	-240	N/A
Pre-tax income (adj)	-310	-214	-280	-252	N/A
Net income (adj)	-305	-214	-280	-252	N/A
EPS (adj) (€)	-4.69	-3.26	-4.24	-3.79	N/A
Diluted shares (mn)	65	65	66	67	0.8%
DPS (€)	0.00	0.00	0.00	0.00	N/A

Margin and return data					Average
Gross margin (%)	100.0	100.0	100.0	100.0	100.0
EBIT (adj) margin (%)	-33.7	-28.7	-39.6	-33.0	-33.8
Pre-tax (adj) margin (%)	-58.4	-32.2	-42.4	-34.8	-42.0
Net (adj) margin (%)	-57.6	-32.2	-42.4	-34.8	-41.7
ROCE (%)	-3.3	-3.7	-5.6	-5.6	-4.6
ROE (%)	-10.6	-8.0	-12.2	-13.7	-11.1

Cash flow and balance sheet (€mn)					CAGR
Change in working capital	-354	-107	-189	-178	N/A
Cash flow from operations	-427	-298	-447	-406	N/A
Capital expenditure	-43	-35	-35	-38	N/A
Free cash flow	-470	-333	-482	-444	N/A
Tangible fixed assets	103	139	174	212	27.1%
Intangible fixed assets	68	68	68	68	0.0%
Cash and equivalents	5,161	4,836	4,354	3,910	-8.8%
Total assets	5,718	5,343	4,898	4,501	-7.7%
Short and long-term debt	3	3	3	3	0.0%
Other long-term liabilities	8	8	8	8	0.0%
Total liabilities	3,047	3,048	3,054	3,078	0.3%
Total invested capital	538	487	519	542	0.3%
Net debt/(funds)	-5,158	-4,833	-4,351	-3,907	N/A
Provisions	0	0	0	0	N/A
Minorities	N/A	N/A	N/A	N/A	N/A
Shareholders' equity	2,670	2,294	1,844	1,423	-18.9%

Valuation and leverage metrics					Average
P/E (adj) (x)	N/A	N/A	N/A	N/A	N/A
EV/sales (x)	-1.7	-0.8	-0.1	0.5	-0.5
EV/EBITDA (adj) (x)	5.5	3.3	0.3	-1.7	1.8
Equity FCF yield (%)	-11.1	-7.8	-11.2	-10.2	-10.1
P/FCF (x)	-9.0	-12.8	-8.9	-9.8	-10.1
P/BV (x)	1.6	1.9	2.3	3.1	2.2
Dividend yield (%)	0.0	0.0	0.0	0.0	0.0
Total debt/capital (%)	0.1	0.1	0.1	0.1	0.1
Net debt/equity (%)	-193.2	-210.7	-236.0	-274.6	-228.6

Selected operating metrics					Average
SG&A/sales (%)	34.9	38.7	48.5	53.0	43.8
R&D/sales (%)	98.8	90.8	95.6	88.9	93.5
R&D growth (%)	24.7	15.0	5.0	2.0	11.7
SG&A growth (%)	91.0	38.4	25.0	20.0	43.6

Source: Company data, Bloomberg, Barclays Research
Note: FY End Dec

Price (13-Apr-2021) **EUR 65.12**
Price Target **EUR 80.00**

Why Overweight? Why Overweight? Investors are too pessimistic on the outlook for Galapagos. The US$5.1bn cash on the balance sheet can help bolster late-stage pipeline and we believe the early stage pipeline is underappreciated. Our deep dive on TYK2 gives us greater confidence in this pipeline. Our NPV-derived price target only implies 4% upside to the cash balance.

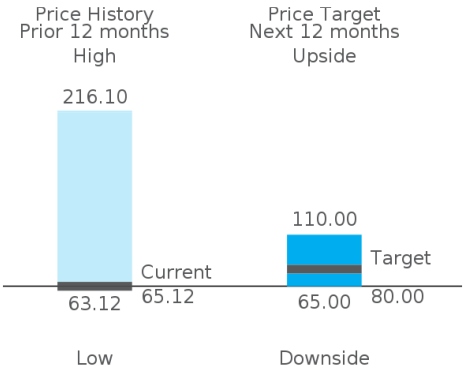
Upside case **EUR 110.00**

Upside Case: MANTA safety study reads out positively, and Gilead decide to submit filgotinib for approval in IBD in the US and subsequently gets approved (we have 40% probability of this in our model). Success in the POC Toledo trials would also help further appreciation of earlier

Downside case **EUR 65.00**

Downside Case: Any safety signals for filgotinib in MANTA or failure of the asset in the IBD ph. 3 trials. Failure of assets in the Toledo and TYK2 programmes.

Upside/Downside scenarios



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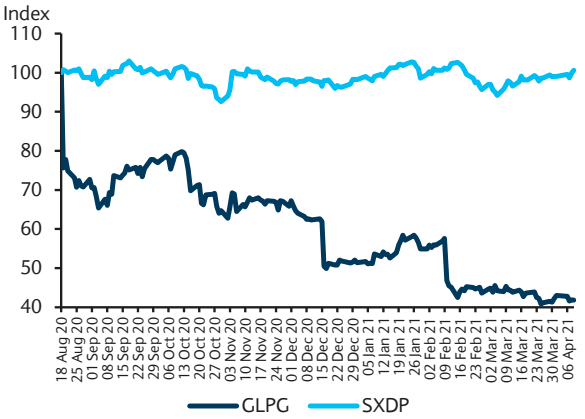
The Story in 6 Charts

FIGURE 1

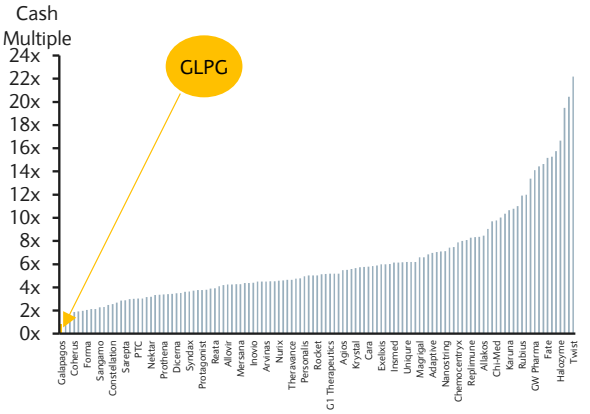
Shares have underperformed the sector post filgotinib's CRL…



Source: Barclays Research, Bloomberg

FIGURE 2

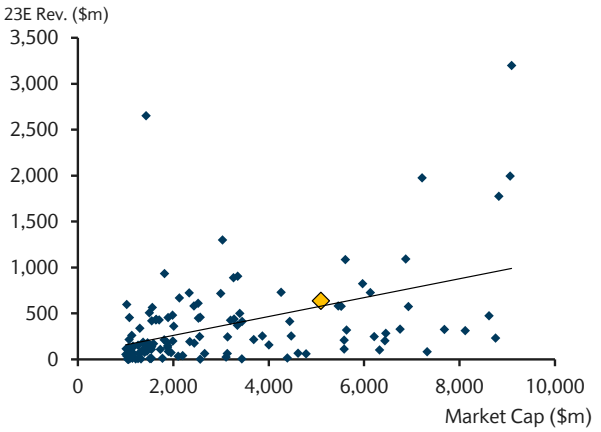
…and the stock now trades 12% below its cash position.



Source: Barclays Research, Bloomberg (NBI peers with mkt cap of $1-10bn)

FIGURE 3

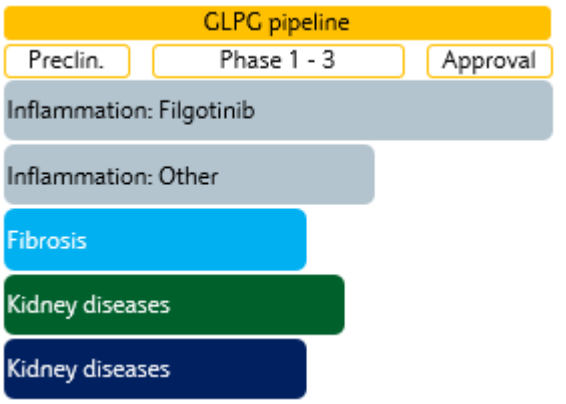
Medium-term revenue expectations are, however, better than most companies of a similar market cap…



Source: Barclays Research, Bloomberg (NBI peers with mkt cap of $1-10bn)

FIGURE 4

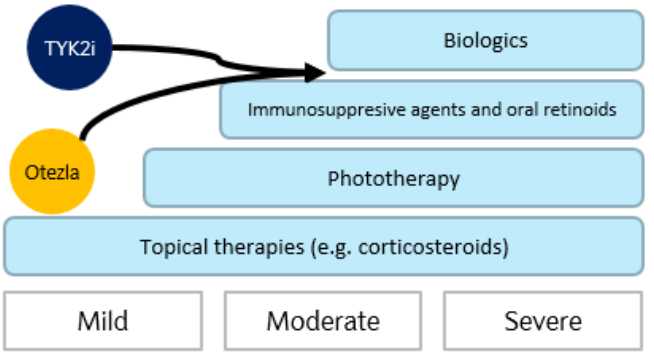
…and with a balanced pipeline between early, medium and late-stage assets, we believe the company is undervalued.



Source: Barclays Research, company presentations

FIGURE 5

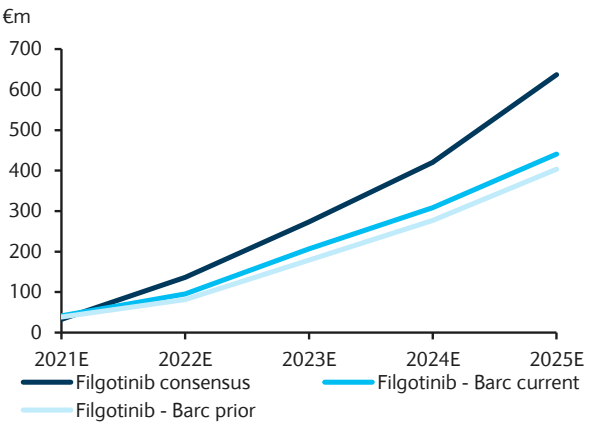
GLPG's TYK2i could challenge current psoriasis treatments…



Source: Barclays Research

FIGURE 6

…and there may be further upside to come from filgotinib



Source: Barclays Research, Bloomberg consensus

Overview

We think that investors are too pessimistic on the opportunities for the Galapagos pipeline. Yes, there have been some major setbacks (discussed in more detail below), but the company does not deserve to be trading at a discount to its cash balance, in our view.

Lead asset filgotinib (Jyseleca) is not dead. It is now approved for the treatment of RA in both Europe and Japan. It is also filed for approval in UC in Europe and we expect Japan to follow. It is currently in a Phase 3 trial in CD, which could lead to further submissions. In the US we assume 40% probability that it is filed and approved in the two IBD indications, though note that Gilead (covered by Carter Gould) has only retained responsibility for the asset in Crohn's. MANTA and MANTA-RAy safety trials are ongoing. Initial interim 13wk results in 248 randomised patients had 18 patients with a ≥50% decline in sperm concentration, with 10/120 (8.3%) patients on placebo and 8/120 (6.7%) patients on filgotinib. However, the companies have noted that the studies are not powered for statistical comparison between groups. Still this data is a very good sign.

Investors have been concerned given recent developments that Gilead may no longer be committed to the partnership. As of last week Gilead is committed to a full lock-up of five years for its 16.7m Galapagos shares (currently 25.5% of the company) until 22 August 2024. That's another overhang removed. Previously, there was a full lock-up of two years, followed by a three-year period during which the company would have held a minimum of 20% of outstanding shares. Gilead management compensation even has a section tied to Galapagos development, specifically raising unaided awareness targets for filgotinib in Germany and Japan (i.e. the % of a target population who are aware of a product).

With this report we are publishing for the first time a TYK2-focused market model looking at the revenue potential from US adults with moderate to severe plaque psoriasis. We not aware of any others who have looked at this from the Galapagos angle. On our numbers, which assume a conservative peak penetration for the TYK2 class at 10%, the peak revenue potential from both GLPG assets is relatively small ($339m unrisked peak / $212m risked peak). This number would likely be even smaller should Gilead exercise its right to opt in to US commercialisation of the asset (though it would receive US$150m upfront plus royalties). **Whilst this may not be a major source of earnings for Galapagos, it does show that the company has early-stage assets that we expect to be profitable, and which does not warrant a negative long-term growth rate.**

FIGURE 7

Sensitivity analysis of group NPV estimates to changes in WACC and terminal growth

	Terminal Growth Rate				
WACC	**(3.0%)**	**(1.0%)**	**1.0%**	**3.0%**	**5.0%**
9.5%	$70.96	$75.92	$83.23	$95.07	$117.53
10.0%	$70.61	$75.17	$81.76	$92.13	$110.87
10.5%	$70.31	$74.51	$80.48	$89.64	$105.53
11.0%	$70.05	$73.92	$79.35	$87.52	$101.15
11.5%	$69.81	$73.40	$78.37	$85.68	$97.52

Note: Our current WACC is 10.5%, and our current terminal growth rate is +1.0%.
Source: Barclays Research estimates

FIGURE 8

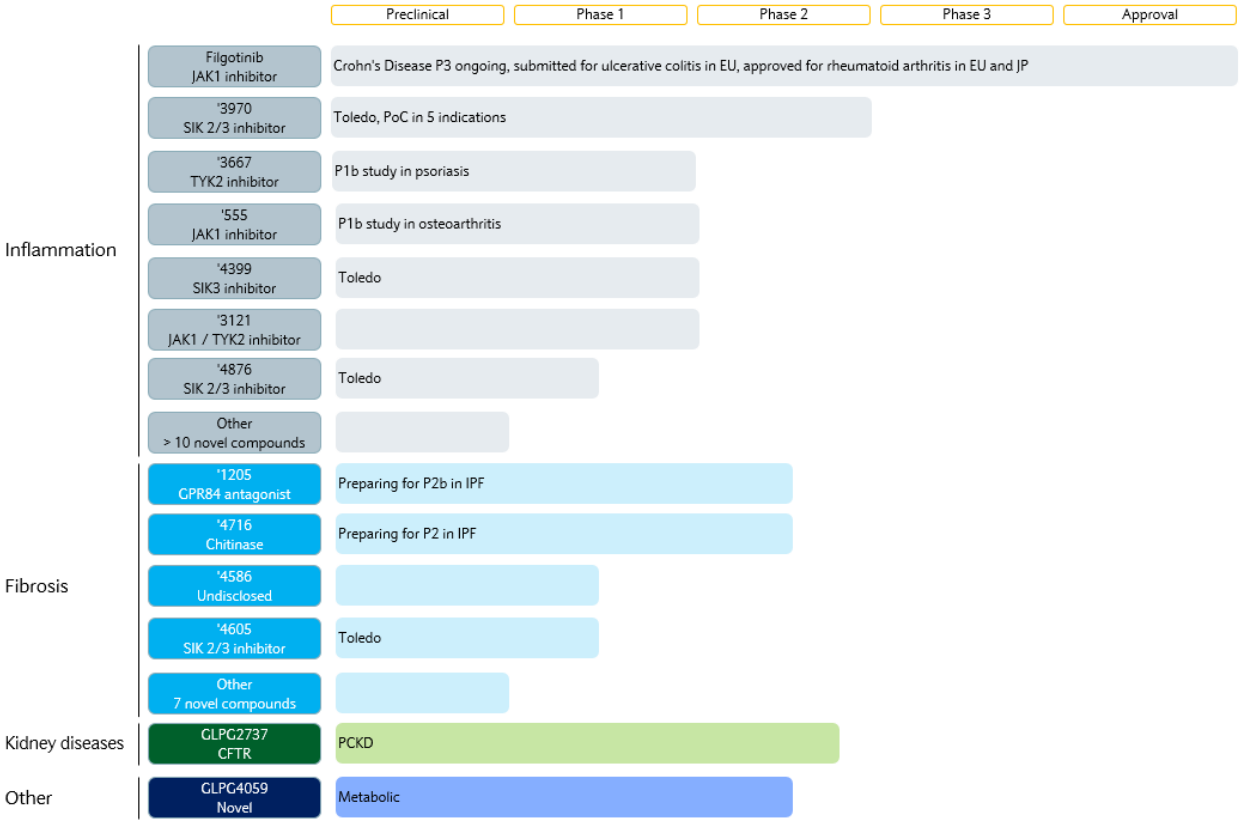
EU Pharma: Terminal Value growth rates, WACCs and NPVs

Company	TV growth	WACC	NPV/sh	Reporting ccy
EU Pharma: Large cap				
AstraZeneca	2.0%	7.4%	9,915.1	GBp
Bayer	0.0%	7.3%	54.8	EUR
GlaxoSmithKline	0.0%	8.1%	1,288.3	GBp
Novartis	2.0%	7.8%	82.0	CHF
Novo Nordisk	3.0%	7.4%	486.3	DKK
Roche	2.7%	8.0%	387.8	CHF
Sanofi	0.0%	10.0%	85.1	EUR
EU Pharma: Mid cap				
Genmab	2.0%	8.4%	2,571.1	DKK
Grifols	2.0%	8.5%	29.3	EUR
Hikma	1.0%	7.9%	2,820.1	GBp
Ipsen	1.0%	9.4%	89.1	EUR
H Lundbeck	-3.0%	9.5%	277.0	DKK
Merck KGaA	2.0%	8.7%	134.0	EUR
SOBI	1.0%	9.6%	175.3	SEK
UCB	1.0%	9.6%	110.5	EUR
Vifor	-1.0%	9.9%	124.0	CHF
EU Pharma: Smid Biotechs				
Argenx	2.0%	10.2%	251.2	EUR
Galapagos	1.0%	10.5%	80.5	EUR
Idorsia	2.2%	8.9%	37.8	CHF
MorphoSys	2.0%	8.9%	96.5	EUR

Source: Barclays Research estimates

Pipeline

FIGURE 9
Snapshot of GLPG's current R&D pipeline



Source: Barclays Research, company presentations

Background

Founded in 1999, this time a year ago it felt like two decades of R&D were finally about to bear fruit for Galapagos. The company had signed a lucrative JV with Gilead in the summer of 2019, which included an upfront payment of US$3.95bn, combined with a US$1.1bn rights issue that was sold to Gilead. The JV's first drug, filgotinib, was filed with the FDA for rheumatoid arthritis (RA) based on phase 3 data which showed filgotinib improved RA signs and symptoms and was well tolerated.

Unfortunately, it was not to be. The Gilead/Galapagos JV received a CRL from an increasingly unpredictable FDA based primarily on sperm toxicity concerns given data seen in the 200-mg dose in rats and dogs. The MANTA and MANTA-RAy studies are ongoing to assess this effect. The company had previously said, based on talks with the FDA, that it expected neither MANTA studies were needed for a successful filing in RA. Given the heightened uncertainly, and the increased lead being established in the US by key competitor Rinvoq (AbbVie), Gilead has decided not to resubmit in this indication.

Almost exactly two months later (15 October 2020), Galapagos and partner Servier announced the ROCCELLA Phase 2b trial with GLPG1972 in osteoarthritis patients showed no signal of activity. Further development of the compound was shelved. In February all clinical trials with ziritaxestat (GLPG1690), including the two Phase 3 ISABELA studies in IPF, were discontinued.

Since the initial CRL Galapagos's share price has fallen almost 60% and the company trades below its cash balance. With a new President (CFO/COO Bart Filius replaces founder Onno

van de Stolpe) and some positive MANTA/MANTA RAy data, negative events look to be in the rear-view mirror.

We formerly modelled a terminal growth value of -1%. We are now increasing this to 1% puts GLPG's terminal growth rate more in line with that of peers with similarly innovative R&D pipelines after a review of the pipeline. Also incorporating Japan revenues from filgotinib into our model increases our NPV by 16% and means our price target goes from €69/sh to €80/sh.

Pipeline

In the field of inflammation lead asset filgotinib is sold under the brand name Jyseleca in RA in Europe and Japan. Galapagos is leading commercialisation in Europe and must pay a royalty to Gilead from 2024 on sales in the region (8-15%). In Japan it is the other way round, with Gilead paying Galapagos royalties of 20-30% (notably before commercial payments to Eisai). Gilead has submitted for approval of filgotinib in UC in Europe and Japan is expected to follow. In the meantime, we await data in Chron's. Of the Jyseleca studies, this is the only one where Gilead is still taking the lead. Adding in numbers for Japan brings us slightly closer to consensus estimates, but note we are making very conservative assumptions around approval.

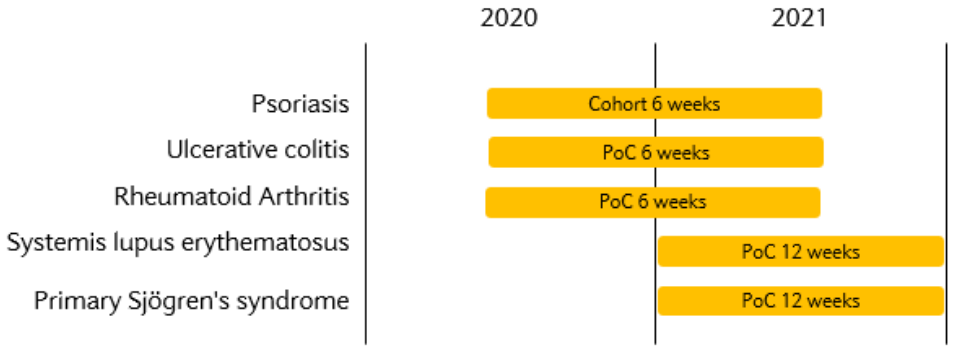
As mentioned above, MANTA and MANTA-RAy safety trials are ongoing, which should help reassure the FDA. Initial interim 13wk results in 248 randomised patients had 18 patients with a ≥50% decline in sperm concentration, with 10/120 (8.3%) patients on placebo and 8/120 (6.7%) patients on filgotinib. However, the companies have noted that the studies are not powered for statistical comparison between groups. Still this data is a very good sign.

The next major asset in the pipeline, Toledo (GLPG3970), has five PoC trials ongoing, of which three are late-stage: in psoriasis (CALOSOMA), in UC (SEA TURTLE) and in RA (LADYBUG). All three are expected in 3Q21. Pre-clinical trials in vivo have seen broad cellular activity on both innate and adaptive immune cells.

The current pipeline also includes GLPG1205, a GPR84 inhibitor, which showed positive top-line results in the IPF PINTA Phase 2 trial in 2020 and GLPG4716, a chitinase inhibitor in-licensed from OncoArendi, which will shortly enter Phase 2 in IPF. The company has also expanded the early-stage fibrosis pipeline through an expanded collaboration with Fibrocor. Plus, there is also, of course, the TYK2 program.

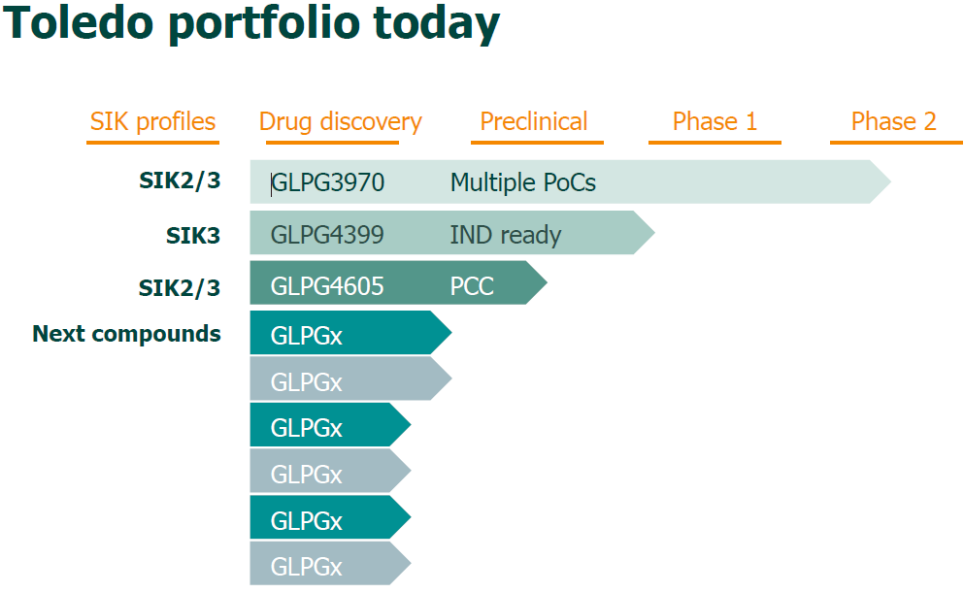
One question that we get consistently from investors is what could Galapagos do with the cash balance. The company is clear that they are considering assets in inflammation, fibrosis and broader kidney disease. Acquiring these assets would happen through in-licencing, acquisition, or even taking over development for an asset already in Gilead's pipeline (Gilead would retain US rights in this scenario, in the others they would have the option to buy-in like with all of the Galapagos assets). When considering who they might buy if that scenario were to happen, a simple keyword search of the NBI Index between US$1bn-US$2bn market throws up four companies with inflammation exposure (Cara Therapeutics, Ironwood, Inovio and BioCryst) and one with fibrosis exposure (Scholar).

FIGURE 10
Snapshot of GLPG's proof-of-concept studies in the Toledo development program



Source: Barclays Research, company presentations

FIGURE 11
Overview of GLPG's Toledo R&D pipeline



Source: Company presentations

Deep dive TYK2

Although GLPG's two TYK2 inhibitors are still in relatively early clinical development, the validated mechanism of action offers a novel way of promoting selective JAK inhibition, whilst demonstrating a side effect profile that mirrors standard-of-care treatments. As things stand, Bristol-Myers Squibb has the most advanced TYK2 development programme, with the company about to present registration data for deucravacitinib in psoriasis at AAD VMX later this month.

TYK2 inhibition

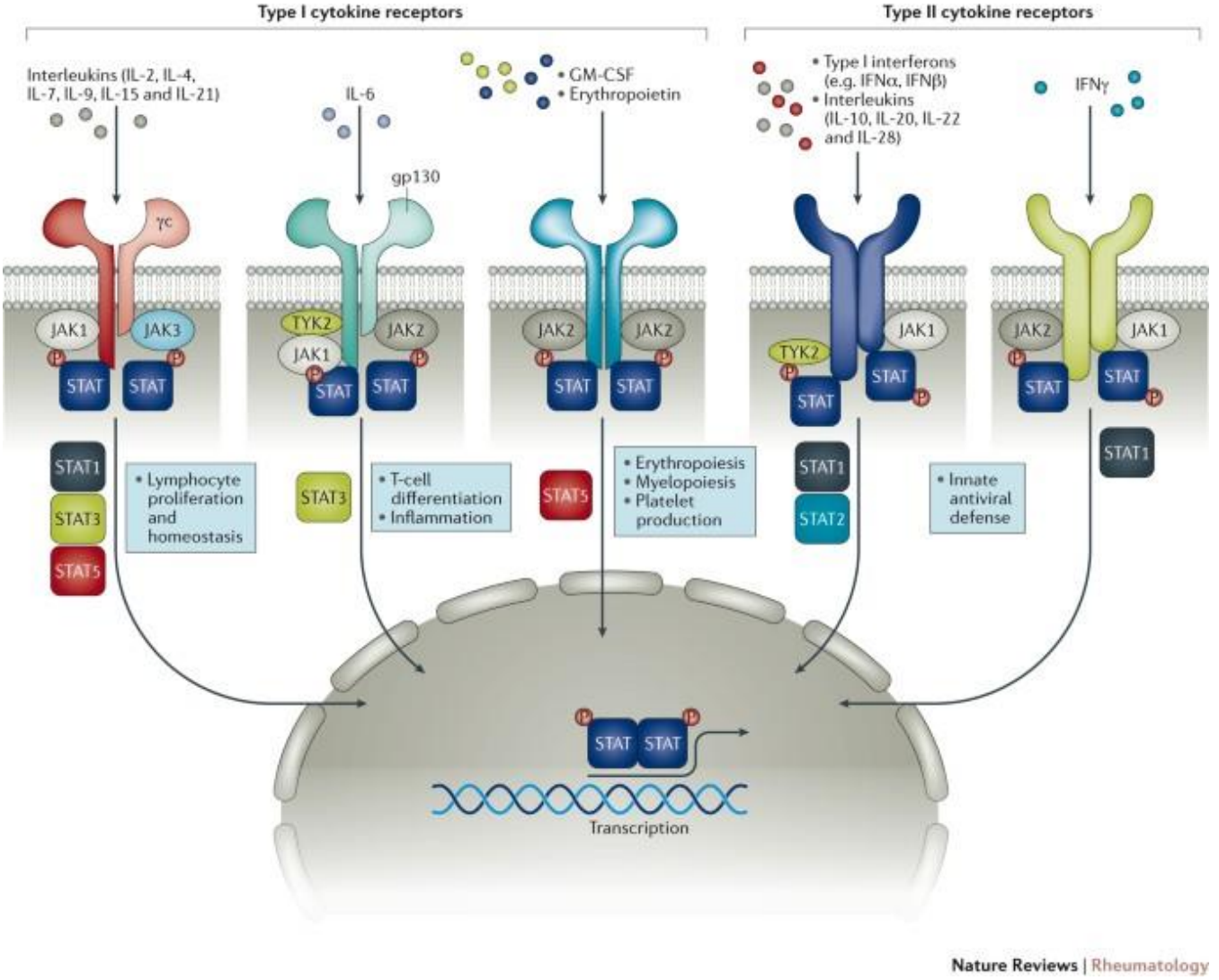
Mechanism of action

Tyrosine kinase 2 (TYK2) is a protein in the Janus kinase (JAK) family, and is present on the intracellular surface of cytokine receptors. When these receptors are activated through binding of pro-inflammatory cytokines, a combination of TYK2, JAK1, JAK2 or JAK3 enzymes

are cross-phosphorylated within the cell and lead to the further phosphorylation of STAT proteins (Signal Transducer and Activator of Transcription). These STAT proteins migrate to the nucleus to promote DNA transcription and further assembly of proteins that are involved in both the immune response and in erythropoiesis.

FIGURE 12

JAK-STAT signalling in host defence and cellular homeostasis



Source: Nature Reviews

JAK inhibition is an established mechanism for promoting anti-inflammatory effects across several rheumatology and dermatology conditions. The first approved JAK inhibitor was Incyte's Jakafi (approved in 2011 for myelofibrosis), which together with PFE's Xeljanz (tofacitinib) and Eli Lilly's Olumiant (baricitinib) are considered to be the first generation of JAK inhibitors. These are considered as first-generation JAK inhibitors due to their relative lack of selectivity across JAK protein subtypes compared to more recent JAK inhibitors, e.g. GLPG's filgotinib and ABBV's upadacitinib, with IC50 values showing across time that the newer JAK inhibitors have attempted to avoid off-target effects through inhibiting non-target JAK proteins.

The inhibition of TYK2 offers a novel mechanism of action in inhibiting the JAK pathway selectively for pathways associated with pro-inflammatory responses, whilst leaving JAK-based signalling pathways that are used in homeostatic functions unaffected.

FIGURE 13
Selective binding profiles across JAK and TYK inhibitors

Molecule	Jakafi	Xeljanz	Olumiant	Jyseleca	Rinvoq	abrocitinib	deucravacitinib	brepocitinib	PF-06826647	GLPG 3667	GLPG 3121
Other names	ruxolitinib	tofacitinib	baricitinib	filgotinib	upadacitinib	PF-04965842	BMS-986165	PF-06700841	-	-	-
Company	Incyte	Pfizer	Eli Lilly	Galapagos	AbbVie	Pfizer	Bristol-Myers	Pfizer	Pfizer	Galapagos	Galapagos
Mechanism of action	Selective JAK 1/2 inhibitor	JAK inhibitor	Selective JAK 1/2 inhibitor	Selective JAK 1 inhibitor	Selective JAK 1 inhibitor	Selective JAK 1 inhibitor	Selective TYK2 inhibitor	TYK2 / JAK1 inhibitor	Selective TYK2 inhibitor	Selective TYK2 inhibitor	TYK2 / JAK1 inhibitor
Binding site	Competitive inhibition at ATP binding site	Competitive inhibition at ATP binding site	Competitive inhibition at ATP binding site	Competitive inhibition at ATP binding site	Competitive inhibition at ATP and other binding sites	Competitive inhibition at ATP binding site	Allosteric binding to the TYK2 regulatory domain (JH2)	Competitive inhibition at ATP binding site	Competitive inhibition at JH1 binding domain	-	-
IC50 measurements (nM)											
JAK1	3.3	15	4.0	363	47	29	> 10,000	17	383	-	-
JAK2	2.8	77	7.0	2,400	120	803	> 10,000	77	74	-	-
JAK3	428	45	787	> 10,000	2,304	> 10,000	> 10,000	6,494	> 10,000	-	-
TYK2	19	489	61	2,600	4,690	1,250	-	23	17	-	-
JH1	-	-	-	-	-	-	> 10,000	-	-	-	-
JH2	-	-	-	-	-	-	0.2	-	-	-	-

Source: Barclays Research, journal publications

Whilst JAK inhibitors offer the convenience of oral administration in a landscape where moderate-to-severe patients are often treated with injectable-based regimens, the overall treatment paradigm has not shifted towards JAK inhibitors due to class safety concerns. Xeljanz, Olumiant and Rinvoq all have black-box warnings for serious infections, malignancy and thrombosis, which are not present in the labels of other established treatments, e.g. Cosentyx, Tremfya, Skyrizi and Taltz. For novel JAK inhibitors to establish meaningful levels of market share would therefore require both comparable efficacy and safety profiles to satisfy physicians that the black-box warnings applied to the class would not be shared by novel assets in development.

TYK2 assets in development

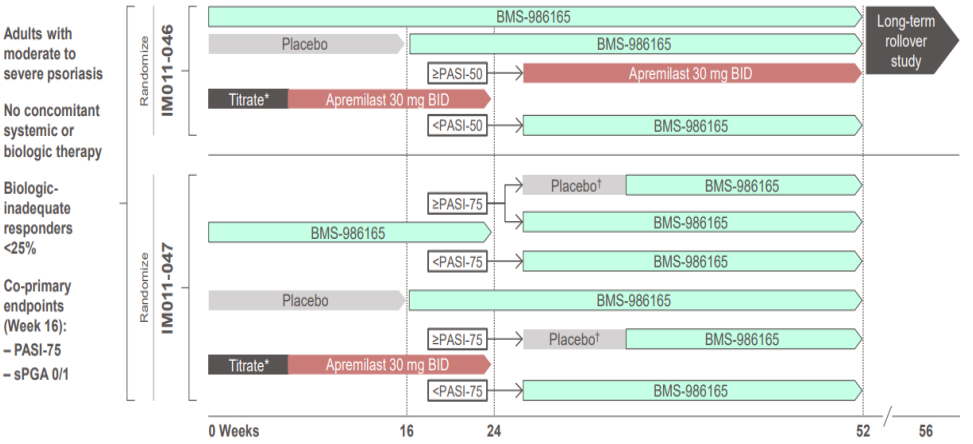
Deucravacitinib (BMS-986165)

Bristol Myers Squibb has the most advanced TYK2 inhibitor pipeline with deucravacitinib (BMS-986165) currently in clinical development across 12 phase 2 and 3 studies spanning six indications.

Unlike other TYK2 inhibitors in development, which are targeted to be competitive inhibitors at ATP-binding sites in the active domain of TYK2, deucravacitinib is an allosteric inhibitor and rather binds to the TYK2 enzyme at a regulatory pseudokinase domain away from the enzyme's active domain. This mechanism of action promotes a high level of selectivity for TYK2 whilst leaving other JAK enzymes unaffected. In vitro data has demonstrated the downstream effects of potent inhibition in cellular concentrations of IL-23, IFN-α and IL-12, whilst cellular concentration of erythropoietin is relatively unaffected.

Next data release: The next data presentation will be from the registrational P3 POETYK PSO-1 and POETYK PSO-2 studies in plaque psoriasis at AAD VMX 2021 later this month. BMY is hosting an investor day to further discuss the results on 23 April. POETYK PSO-1 and 2 are investigating the efficacy and safety of deucravacitinib vs. Otezla (Amgen) in adults with moderate to severe plaque psoriasis compared to 30mg BID Otezla.

FIGURE 14
Study designs for POETYK-1 and 2



Source: Company presentations
*Apremilast is titrated from 10 mg QD to 30 mg BID over the first 5 days of dosing. †Upon relapse (≥50% loss of Week 24 PASI percent improvement from baseline), subjects will be switched to BMS-986165.

BMY announced top-line results from PSO-1 in November 2020, stating that 6mg QD deucravacitinib met its co-primary endpoints of PASI-75 and sPGA 0/1 at week 16 vs. placebo and demonstrated superiority vs. Otezla. The safety profile was noted to be consistent with prior reported results and consistent with the mechanism of action. These top-line results are consistent with the top-line results from the PSO-2 study, which was announced in February 2021.

Phase 2 results (psoriasis): Results from NCT02931838 were published in the *New England Journal of Medicine* in 2018. This study enrolled 267 moderate to severe patients eligible for phototherapy or systemic therapy and with an affected body-surface area score of ≥ 10%, a PASI score of ≥ 12, and a static Physician Global Assessment score of ≥ 3. The main criteria for exclusion were those with non-plaque psoriasis, and a lack of response to any therapeutic agent targeting the same pathway, e.g. IL-17 or IL-23 antibodies. Baseline measurements show that around 20% of patients had previously used biologics, and the baseline BSA measurement of c.23% indicates a study enrolled a greater proportion of severe vs. moderate patients (the definition of severe psoriasis starts at 10% BSA coverage).

FIGURE 15
Baseline characteristics from deucravacitinib's P2 plaque psoriasis study

	deucravacitinib					Placebo
Dose	3mg	3mg	3mg	6mg	12mg	-
Frequency	Every other day	Daily	Twice daily	Twice daily	Daily	Matching
n	44	44	45	45	44	45
Age	46 (±12)	41 (±12)	45 (±14)	46 (±15)	43 (±13)	47 (±12)
Body weight	90 (±18)	87 (±22)	84 (±18)	84 (±19)	88 (±24)	96 (±21)
BMI	29 (±6)	29 (±5)	28 (±5)	27 (±5)	29 (±5)	30 (±6)
Mean disease duration (years)	18 (1-52)	13 (2-60)	13 (1-61)	15 (1-55)	20 (1-47)	18 (2-48)
Prior biologic use, n (%)	19 (43)	19 (43)	19 (42)	20 (44)	18 (41)	20 (44)
PASI	17 (±4)	18 (±6)	19 (±8)	18 (±6)	18 (±5)	19 (±6)
BSA, %	20 (±8)	23 (±17)	24 (±15)	25 (±13)	21 (±12)	24 (±13)
DLQI	12 (±8)	12 (±7)	13 (±5)	11 (±6)	13 (±7)	13 (±7)

Source: Barclays Research, NEJM

All doses, apart from the lowest 3mg every other day regimen, met the co-primary endpoint of showing statistically significant PASI-75 scores relative to placebo. The 3mg twice daily dose (being most comparable to the 6mg once daily used in the P3 studies) achieved a PASI-75 result of 69% in the overall population and was the only treatment group to show a

higher PASI-75 response in c.20% of patients with prior biologic usage (74%). By way of comparison, these PASI-75 responses are similar (albeit slightly lower) to the PASI-75 responses observed in phase 3 studies for bimekizumab, Cosentyx, Taltz and Skyrizi.

With a safety profile that appears comparable to the aforementioned phase 3 studies in terms of rates of overall adverse events and serious adverse events, the phase 2 data demonstrates that BMY's selective TYK2 inhibitor is capable of similar levels of efficacy and safety compared to other established plaque psoriasis treatments. Whether this translates into rapid uptake by physicians will, in our view, be determined more so by black-box warnings applied to the label and the simplicity of reimbursement, more than the overall efficacy and safety profile, despite the potential convenience of having an oral treatment that may be as good as standard injectables.

FIGURE 16

Efficacy measures from deucravacitinib's P2 plaque psoriasis study

	deucravacitinib					Placebo
Dose	3mg	3mg	3mg	6mg	12mg	-
Frequency	Every other day	Daily	Twice daily	Twice daily	Daily	Matching
n	44	44	45	45	44	45
Primary endpoint: PASI-75 measures, n (%) unless stated						
Overall population	4 (9%)	17 (39%)	31 (69%)	30 (67%)	33 (75%)	3 (7%)
p-value	0.49	<0.001	<0.001	<0.001	<0.001	<0.001
No prior biologic use	3/25 (12%)	12/25 (48%)	17/26 (65%)	20/25 (80%)	21/26 (81%)	1/25 (4%)
% vs. pbo	8%	44%	61%	76%	77%	-
Prior biologic use	1/19 (5%)	5/19 (26%)	14/19 (74%)	10/20 (50%)	12/18 (67%)	2/20 (10%)
% vs. pbo	-5%	16%	64%	40%	57%	-
Other efficacy measures, n (%) unless stated						
PASI-50	19 (43%)	30 (68%)	41 (91%)	35 (78%)	39 (89%)	14 (31%)
% vs. pbo	12%	37%	60%	47%	58%	-
PASI-90	3 (7%)	7 (16%)	20 (44%)	20 (44%)	19 (43%)	1 (2%)
% vs. pbo	5%	14%	42%	42%	41%	-
PASI-100	1 (2%)	0	4 (9%)	8 (18%)	11 (25%)	0
% vs. pbo	2%	0%	9%	18%	25%	-
sPGA 0 / 1	9 (20%)	17 (39%)	34 (76%)	29 (64%)	22 (75%)	3 (7%)
% vs. pbo	14%	32%	69%	58%	68%	-
DLQI 0 / 1	7 (16%)	7 (16%)	19 (42%)	27 (60%)	28 (64%)	2 (4%)
% vs. pbo	12%	12%	38%	56%	59%	-

Source: Barclays Research, NEJM

FIGURE 17

Safety measures from deucravacitinib's P2 plaque psoriasis study

	deucravacitinib					Placebo
Dose	3mg	3mg	3mg	6mg	12mg	-
Frequency	Every other day	Daily	Twice daily	Twice daily	Daily	Matching
n	44	44	45	45	44	45
Safety measures						
Death	0	0	0	0	0	0
Serious Adverse Event	1 (2%)	1 (2%)	1 (2%)	0	0	1 (2%)
Adverse Event	26 (59%)	24 (55%)	29 (64%)	36 (80%)	34 (77%)	23 (51%)
AE leading to treatment discont.	1 (2%)	2 (5%)	1 (2%)	3 (7%)	1 (2%)	2 (4%)
Frequent Adverse Events						
Nasopharyngitis	1 (2%)	4 (9%)	5 (11%)	7 (16%)	2 (5)	2 (4%)
Headache	4 (9%)	4 (9%)	3 (7%)	3 (7%)	2 (5)	2 (4%)
Diarrhea	1 (2%)	1 (2%)	2 (4%)	2 (4%)	4 (9%)	2 (4%)
Nausea	4 (9%)	0	1 (2%)	1 (2%)	2 (5%)	2 (4%)
Upper respiratory tract infection	1 (2%)	3 (7%)	1 (2%)	4 (9%)	1 (2%)	0
Pruritus	0	1 (2%)	1 (2%)	3 (7%)	2 (5%)	2 (4%)
Acne	1 (2%)	0	1 (2%)	2 (4%)	4 (9%)	0
Toothache	1 (2%)	1 (2%)	1 (2%)	3 (7%)	1 (2%)	1 (2%)
Psoriasis	1 (2%)	3 (7%)	1 (2%)	0	0	2 (4%)
Aphthous ulcer	0	0	3 (7%)	0	1 (2%)	0

Source: Barclays Research, NEJM

Whilst clinical development in moderate-to-severe plaque psoriasis is the most advanced programme for deucravacitinib (we estimate approval in 2022 based on regulatory submission of data from the POETYK PSO-1 and PSO-2 studies within this year), deucravacitinib is also under investigation in:

1. **Psoriatic arthritis (BMY expected first to market)**: BMY reported 16-wk primary endpoint results from the P2 NCT03881059 study at *AACR 2020*. The 1-year study is ongoing.
2. **Systemic lupus erythematosus (BMY leading clinical development)**: The P2 NCT03252587 study is expected to read out at the end of 2021, two years ahead of nearest competitor PFE's brepocitinib's P2 NCT03845517 study (primary completion date: August 2023).
3. **Lupus nephritis (BMY the only players TYK2i player in this space)**: The P2 NCT03943147 study is expected to read out at in 2023.
4. **Ulcerative Colitis (PFE leading clinical development)**: BMY's P2 NCT03934216 is expected to reach its primary completion date in September 2021, four months after PFE's P2 study (NCT02958865) of brepocitinib vs. the company's JAK3/TEC inhibitor ritlecitinib.
5. **Crohn's Disease (BMY leading clinical development)**: Deucravacitinib's NCT03599622 study is expected to reach its primary completion date in May 2022, six months ahead of PFE's P2 study (NCT03395184) of brepocitinib vs. ritlecitinib.

Other competitors in the psoriasis space include PFE, which is investigating topical brepocitinib in a P2 study that is expected to reach its primary completion date in April 2021 (NCT03850483), one month before GLPG's P2 study of its selective TYK2 inhibitor GLPG3667 (NCT04594928) will reach its primary completion date. BMY is the only company in the psoriasis space that is running P3 registrational-intent studies and will very likely be first to market in this space.

Key takes for Galapagos

The phase 2 data for BMY's selective TYK2 inhibitor demonstrates that this mechanism of action can provide comparable efficacy and safety measures to current moderate-to-severe plaque psoriasis treatments. This should read across positively to GLPG's TYK2 inhibitors in development, in particular the company's investigational selective TYK2 inhibitor GLPG3667.

Brepocitinib (PF-06700841)

Pfizer's TYK2 / JAK1 inhibitor is under investigation both as a topical and oral treatment across mostly the same conditions that deucravacitinib is under investigation in. Unlike deucravacitinib, brepocitinib's mechanism of action involves inhibition in the ATP binding cleft of the enzyme's catalytic domain. Unlike BMY's allosteric inhibitor, brepocitinib is a competitive inhibitor that mediates both the Th2 and Th17 pro-inflammatory immune responses through acting on TYK2 and JAK1.

Next data release: With PFE having presented P2 data in both plaque psoriasis and atopic dermatitis, we anticipate the next readout to be from the dose-ranging P2 study of topical brepocitinib in adults with mild to moderate plaque psoriasis. Study NCT03850483 is anticipated to reach its primary completion date at the end of this month. This should be

closely followed by the P2 NCT02958865 study in adults with moderate-to-severe ulcerative colitis, which is anticipated to reach its primary completion date within the next month.

Phase 2 results (psoriasis): Results from a P2a study of oral brepocitinib in moderate-to-severe plaque psoriasis were published in the *Journal of Investigative Dermatology* last year. 212 patients with BSA ≥ 10%, a PASI score ≥ 12 and PGA of 3 or 4, and who were considered to be a candidate for phototherapy or systemic therapy by their physicians were enrolled in this study. Patients who had previously been treated with Cosentyx, Taltz or have taken Otezla or been treated with Xeljanz within the first three months of being on the study drug were excluded from the study. In comparison to deucravacitinib's study, we see that the average PASI and BSA scores at baseline for brepocitinib patients were higher, indicating a higher degree of psoriasis severity in this study.

FIGURE 18

Baseline characteristics from brepocitinib's P2 plaque psoriasis study

	brepocitinib (PF-06700841)							Placebo
Induction dose	60mg	60mg	60mg	60mg	30mg	30mg	30mg	Matching
Maintenace dose	30mg	10mg	100mg	placebo	-	10mg	100mg	
Frequency	QD	QD	QW	QD	QD	QD	QW	
N	25	29	26	25	29	25	30	23
Age	49.0	44.6	45.5	48.4	44.2	44.0	43.2	50.3
BMI	32.6	31.2	32.5	32.3	32.2	29.1	32.8	32.4
PASI	21.5	19.3	20.7	20.6	19.1	23.8	21.7	19.6
BSA	27.8	23.6	28.8	22.6	23.0	32.1	29.3	23.4
DLQI	13.2	11.9	9.8	9.6	14.1	10.8	12.0	11.8
PGA	3.1	3.0	3.2	3.2	3.0	3.0	3.1	3.2
Mean duration since onset	17.4	17.6	20.1	23.0	15.1	20.5	12.1	19.5
Previous diagnosis of PsA	6 (24%)	3 (10%)	3 (12%)	2 (8%)	4 (14%)	3 (12%)	1 (3%)	4 (17%)
Prior treatments								
Antipsoriatics	5 (20%)	6 (21%)	4 (15%)	2 (8%)	4 (14%)	2 (8%)	7 (23%)	3 (13%)
Immunosuppressants	4 (16%)	3 (10%)	2 (8%)	3 (12%)	2 (7%)	2 (8%)	3 (10%)	2 (9%)
UVB phototherapy	0	0	0	2 (8%)	0	0	0	2 (9%)

Source: Barclays Research, J Invest Dermatol

The study involved several induction doses being administered for four weeks, before patients were transferred onto a maintenance dose for a further eight weeks, before undergoing eight weeks of follow-up. We observe PASI-75 scores notably differing between treatment doses, which at the highest are comparable to commonly used moderate-to-severe psoriasis treatments (and higher than observed by deucravacitinib) and at the lowest not comparable to even the relatively low PASI scores demonstrated in Otezla's studies.

On the safety front, the rate of adverse events is similar to that of deucravacitinib. However, study discontinuations appear to be higher in brepocitinib's study.

FIGURE 19

Efficacy measures from brepocitinib's P2 plaque psoriasis study

	brepocitinib (PF-06700841)							Placebo
Induction dose	60mg	60mg	60mg	60mg	30mg	30mg	30mg	Matching
Maintenace dose	30mg	10mg	100mg	placebo	-	10mg	100mg	
Frequency	QD	QD	QW	QD	QD	QD	QW	
N	25	29	26	25	29	25	30	23
Mean PASI change (wk-4)	*12*	*12*	*-14*	*-14*	*-12*	*-11.8*	*-12*	*-4*
Mean PASI change (wk-12)	*15.5*	*10.5*	*-14.2*	*-10*	*-17.3*	*-13*	*-11.5*	*-7*
PASI-75 (wk-12)	*63%*	*23%*	*60%*	*23%*	*86%*	*21%*	*38%*	*17%*
PASI-90 (wk-12)	*24%*	*16%*	*24%*	*9%*	*45%*	*10%*	*12%*	*7%*
PGA 0/1 % (wk-12)	*25%*	*28%*	*43%*	*17%*	*83%*	*24%*	*30%*	*7%*

Source: Barclays Research, J Invest Dermatol

FIGURE 20

Safety measures from brepocitinib's P2 plaque psoriasis study

	brepocitinib (PF-06700841)							Placebo
Induction dose	60mg	60mg	60mg	60mg	30mg	30mg	30mg	Matching
Maintenace dose	30mg	10mg	100mg	placebo	-	10mg	100mg	
Frequency	QD	QD	QW	QD	QD	QD	QW	
N	25	29	26	25	29	25	30	23
TEAEs	19 (76%)	21 (72%)	18 (69%)	18 (72%)	21 (72%)	16 (64%)	23 (77%)	13 (57%)
SAEs	2 (8%)	1 (3%)	1 (4%)	1 (4%)	0	0	0	0
Severe TEAEs	3 (12%)	1 (3%)	1 (4%)	2 (8%)	0	1 (4%)	2 (7%)	1 (4%)
Discont. Due to TEAEs	2 (8%)	4 (14%)	1 (4%)	2 (8%)	0	2 (8%)	2 (7%)	0
TEAEs ≥ 5% in any group								
Gastrointestinal disorders	3 (12%)	4 (14%)	4 (15%)	7 (28%)	4 (14%)	3 (12%)	5 (17%)	3 (13%)
General + admin-site conditions	2 (8%)	2 (7%)	5 (19%)	3 (12%)	1 (3%)	2 (8%)	0	2 (9%)
Infections and infestations	9 (36%)	9 (31%)	11 (42%)	10 (40%)	12 (41%)	7 (28%)	13 (43%)	5 (22%)
Injury poisioning + procedural	1 (4%)	1 (3%)	0	2 (8%)	2 (7%)	2 (8%)	3 (10%)	3 (13%)

Source: Barclays Research, J Invest Dermatol

Key takes for Galapagos

Similar to deucravacitinib, the fact that the PFE TYK2 / JAK1 inhibitor is able to demonstrate similar levels of efficacy at a range of doses is an encouraging read-across for the efficacy potential of GLPG's investigational TYK2 / JAK1 inhibitor GLPG3121.

Should the higher discontinuation rates seen in brepocotinib's P2 study also materialise in further registrational studies, we anticipate that the asset will receive a JAK inhibitor class black box warning. In this case we do not envisage that GLPG3121 (nor brepocitinib) will establish meaningful levels of market penetration.

Galapagos: GLPG3667 (selective TYK2 inhibitor) and GLPG3121 (TYK2 / JAK1 inhibitor)

Whilst Galapagos has two investigational assets with TKY2 inhibition in its mechanism of actions, there is no published clinical or preclinical data so far on either asset. Clinicaltrials lists one ongoing trial for GLPG3667 in moderate to severe psoriasis (NCT4594928), which is evaluating two doses of the selective TYK inhibitor and has co-primary endpoints of 4-week PASI change and the frequency and severity of TEAEs (and a primary completion anticipated for May 2021. Given that there will undoubtedly be the need to conduct further studies before considering regulatory submissions, we anticipate this asset will be at least the third to market in the TYK2 inhibitor space. GLPG3667 will potentially be advancing into dose-finding P2 studies across multiple indications before the end of 2021. GLPG3121 is undergoing preclinical and P1 studies to establish the potential application across inflammatory disease.

KOL feedback on market share potential for Galapagos assets

The consensus view from our KOL conversations was that being late to market in a crowded space is not likely to result in a substantial level of market share, unless these assets demonstrate a substantially differentiated efficacy and/or safety profile to other TYK2 inhibitors.

Other TYK2 inhibitors in development

PF-06826647: Pfizer's selective TYK2 inhibitor is under investigation in a P2 study in Hidradenitis Suppurativa (NCT04092452), although the company anticipates advancing the treatment into a P2 study in psoriasis. *Phase 1* data from 69 healthy participants was published last month, with the treatment showing no cases of serious adverse events from both single and multiple ascending dose cohorts.

OST-122: Oncostellae's (not covered) oral JAK3 / TYK2 / ARK5 inhibitor completed a single-site P1 study in May 2019, with the company noting that the treatment was well-tolerated in all dosing groups up to 1200mg during 5 days of treatment where no significant adverse events were reported. The treatment was advanced into a multicentre PoC clinical study (NCT04353791) investigating the safety and tolerability of the treatment in patients with moderate-to-severe ulcerative colitis over a 28-day treatment period. Interim data from the low dose (400mg) group was expected at the end of 2020, and data from the second cohort (800mg) is expected within 2021.

VTX-958: Ventyx Biosciences (not covered) announced last month that the first patient was dosed in a phase 1 study of the company's allosteric TYK2 inhibitor. The first part of the P1 study will assess safety, tolerability and PK measures in healthy volunteers. Ventyx intends to investigate the treatment in a broad range of autoimmune diseases, including psoriasis and inflammatory bowel disease. This asset has a similar mechanism of action to BMY's deucravacitinib.

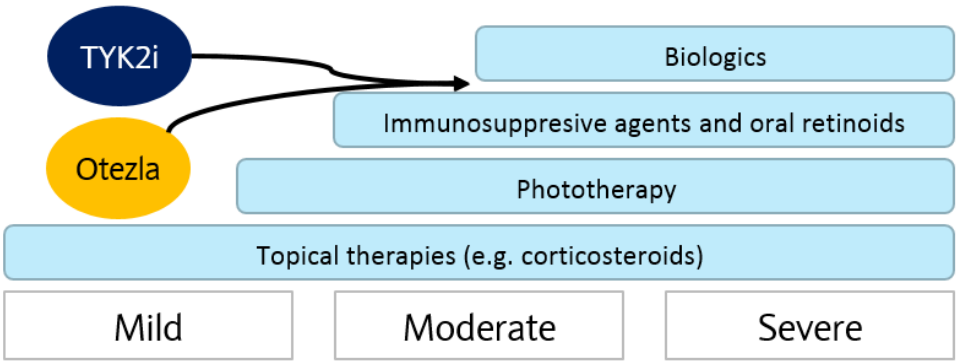
Where will TYK2 inhibitors fit in the psoriasis treatment paradigm?

The competitive positioning of oral TYK2 inhibitors can be demonstrated from deucravacitinib's registrational P3 studies. In POETYK PSO-1 and 2 enrolled patients with moderate to severe plaque psoriasis and included non-responders to biologic therapies. With the treatment being compared to Otezla, it is likely that deucravacitinib is being positioned as an early intervention for moderate-to-severe patients.

With Otezla being used in moderate-to-severe patients prior to biologics, it is likely that TYK2 will be positioned as a pre-biologic therapy that can provide comparable efficacy and safety levels to biologics. Since the POETYK studies also have enrolled a degree of biologic non-responders, it can also be inferred that some moderate-to-severe non-respondent patients who are treated with biologics may switch to TYK2 inhibitors. This would represent a small upside to the number of patients that we model as the treatment-eligible population (we do not assume any biologic non-responders re-enter the treatment paradigm at the TYK2 level).

FIGURE 21

Treatment paradigm across plaque psoriasis



Source: Barclays Research, adapted from Canadian Medical Association Journal

KOL feedback

As part of our due diligence, we spoke to three US-based leading dermatologists to gather expert opinions about treatment dynamics in psoriasis, and whether they believed in the potential for TYK2 inhibitors to gain significant market share in the space.

Feedback summary

KOL1: Positive on the TYK2 class and would prescribe deucravacitinib ahead of Otezla.

KOL2: Likely that TYK2 class will gain a JAK inhibitor black-box warning and not establish meaningful levels of market share.

KOL3: Constructive on the TYK2 class though questions if there is room for three TYK2 inhibitors; believes uptake will largely depend on any black-box warning for the class.

TYK2 market model

We publish for the first time a TYK2 class model focusing on US adults with moderate-to-severe plaque psoriasis, which we incorporate into our GLPG model to derive product revenue and royalty estimates for GLPG's selective TYK2 inhibitor GLPG3667 and TYK2 / JAK1 inhibitor GLGP3121.

Our market model assumes a US prevalence of psoriasis among the adult population of 3.2%, of which 85% have plaque psoriasis. We assume 21% have moderate and 7% have severe psoriasis, and 30% / 60% of the moderate / severe populations are eligible for systemic therapy. We model a peak penetration for the TYK2 class across moderate-to-severe patients collectively at 8%, with more usage anticipated in moderate patients (9% peak) vs. the severe population (6% peak). In terms of pricing, we anticipate that TYK2 inhibitors will command a slight premium price to Otezla (10% in our model) and anticipate treatment duration to be chronic.

With regards to market share, we model BMY as taking most market share available to the TYK2 class in both moderate and severe spaces due to both the competitive efficacy and safety profile of deucravacitinib, and the first-mover advantage in this market. We model PFE's two assets as establishing a market share of between 20% to 30% across moderate and severe spaces, with minimal (3-5%) market share remaining for GLPG's assets, due to its late timing of entry into the market.

FIGURE 22

Moderate-to-severe plaque psoriasis market model: product revenues and royalties to GLPG

BARCLAYS

TYK2 plaque psoriasis market model

US Market Model	2019	2020	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Revenues / Royalties to GLPG												
Unrisked revenues ($m)	2019	2020	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
GLPG3667	0	0	0	0	0	0	39	81	135	204	263	307
GLPG3121	0	0	0	0	0	0	0	0	18	19	31	33
Total	0	0	0	0	0	0	39	81	152	223	293	339
POS												
GLPG3667	65%											
GLPG3121	40%											
Risked revenues ($m)	2019	2020	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
GLPG3667	0	0	0	0	0	0	26	53	87	133	171	199
GLPG3121	0	0	0	0	0	0	0	0	7	8	12	13
Total	0	0	0	0	0	0	26	53	95	140	183	212
GILD opt-in	Yes											
GILD royalty rate	0%	20%	21%	22%	23%	24%	25%	26%	27%	28%	29%	30%
Revenues booked by GLPG	0	0	0	0	0	0	0	0	0	0	0	0
Royalties booked by GLPG	0	0	0	0	0	0	6	14	26	39	53	64
Revenues booked by GILD	*0*	*0*	*0*	*0*	*0*	*0*	*26*	*53*	*95*	*140*	*183*	*212*

Source: Company data, Barclays Research

FIGURE 23

Moderate-to-severe plaque psoriasis market model: market size, pricing and duration

BARCLAYS

TYK2 plaque psoriasis market model

US Market Model	2019	2020	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Prevalence												
US population ('000s)	2019	2020	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Total population	328,240	330,025	331,820	333,625	335,439	337,264	339,098	340,943	342,797	344,661	346,536	348,421
3y CAGR	*0.5%*	*0.5%*	*0.5%*	*0.5%*	*0.5%*	*0.5%*	*0.5%*	*0.5%*	*0.5%*	*0.5%*	*0.5%*	*0.5%*
Adult population (> 20 years)	246,614	248,571	250,544	252,532	254,536	256,556	258,592	260,644	262,713	264,798	266,899	269,017
3y CAGR	*0.8%*	*0.8%*	*0.8%*	*0.8%*	*0.8%*	*0.8%*	*0.8%*	*0.8%*	*0.8%*	*0.8%*	*0.8%*	*0.8%*
Plaque psoriasis prevalence by age ('000s)												
Adults	3.2%											
% plaque psoriasis patients	85%											
Prevalence in adults	6,708	6,761	6,815	6,869	6,923	6,978	7,034	7,090	7,146	7,202	7,260	7,317
y/y (%)	*0.7%*	*0.8%*	*0.8%*	*0.8%*	*0.8%*	*0.8%*	*0.8%*	*0.8%*	*0.8%*	*0.8%*	*0.8%*	*0.8%*
Plaque psoriasis prevalence by severity ('000s)												
Moderate	2019	2020	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
22.5%	1,509	1,521	1,533	1,545	1,558	1,570	1,583	1,595	1,608	1,621	1,633	1,646
Severe	2019	2020	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
7.5%	503	507	511	515	519	523	528	532	536	540	544	549
Pricing and duration												
TYK2 pricing	2019	2020	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
TYK2 premium to Average	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
Net annual price	39,540	40,330	41,137	41,960	42,799	43,655	44,528	45,419	46,327	47,254	48,199	49,163
Premium to Otezla	*10%*	*10%*	*10%*	*10%*	*10%*	*10%*	*10%*	*10%*	*10%*	*10%*	*10%*	*10%*
Duration of TYK2i treatment (y)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Source: Company data, Barclays Research

FIGURE 24

Moderate-to-severe plaque psoriasis market model: penetration and unrisked revenues

BARCLAYS

TYK2 plaque psoriasis market model

US Market Model	2019	2020	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Market shares and product revenues												
Market shares												
Adults with moderate plaque psoriasis	2019	2020	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
deucravacitinib			0%	100.0%	100.0%	75.0%	75.5%	76.0%	75.2%	74.2%	73.7%	73.7%
brepocitinib			0%	0%	0%	25.0%	22.5%	21.0%	20.0%	20.0%	20.0%	20.0%
PF-06826647			0%	0%	0%	0%	0%	0%	1.0%	1.5%	2.0%	2.0%
GLPG3667			0%	0%	0%	0%	2.0%	3.0%	4.5%	6.0%	7.0%	7.5%
GLPG3121			0%	0%	0%	0%	0%	0%	0.5%	0.5%	0.5%	0.5%
Other			0%	0%	0%	0%	0%	0%	-1%	-2%	-3%	-4%
Adults with severe plaque psoriasis	2019	2020	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
deucravacitinib			0%	100.0%	100.0%	85.0%	83.5%	82.00%	80.0%	78.0%	76.0%	74.0%
brepocitinib			0%	0%	0%	15.0%	15.5%	16.0%	16.0%	16.0%	16.0%	16.0%
PF-06826647			0%	0%	0%	0%	0%	0%	0.5%	1.0%	1.5%	1.5%
GLPG3667			0%	0%	0%	0%	1.0%	2.0%	3.0%	4.5%	5.5%	6.0%
GLPG3121			0%	0%	0%	0%	0%	0%	0.5%	0.5%	1.0%	1.0%
Other			0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Product revenues												
Adults with moderate plaque psoriasis	2019	2020	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
deucravacitinib			0	185	490	763	1,030	1,313	1,420	1,526	1,645	1,781
brepocitinib			0	0	0	254	307	363	378	411	446	483
PF-06826647			0	0	0	0	0	0	19	31	45	48
GLPG3667			0	0	0	0	27	52	85	123	156	181
GLPG3121			0	0	0	0	0	0	9	10	11	12
Other			0	0	0	0	0	0	-23	-45	-71	-89
Adults with severe plaque psoriasis	2019	2020	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
deucravacitinib			0	123	233	379	500	600	661	699	736	773
brepocitinib			0	0	0	67	93	117	132	143	155	167
PF-06826647			0	0	0	0	0	0	4	9	15	16
GLPG3667			0	0	0	0	6	15	25	40	53	63
GLPG3121			0	0	0	0	0	0	4	4	10	10
Other			0	0	0	0	0	0	0	0	0	16
Market share as % of TYK2 market	2019	2020	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
deucravacitinib			-	100%	100%	78%	78%	78%	77%	75%	74%	74%
brepocitinib			-	0%	0%	22%	20%	20%	19%	19%	19%	19%
PF-06826647			-	0%	0%	0%	0%	0%	1%	1%	2%	2%
GLPG3667			-	0%	0%	0%	2%	3%	4%	6%	7%	7%
GLPG3121			-	0%	0%	0%	0%	0%	1%	1%	1%	1%
Other			-	0%	0%	0%	0%	0%	-1%	-2%	-2%	-2%

Source: Barclays Research

FORECASTS & CHANGES

Price target change

We increase our price target for Galapagos from €69.00/sh to €80.00/sh, in line with adjustments to our NPV, which now assumes a terminal growth rate of +1% (previously -1%). We also incorporate revenues from filgotinib in Japan into our model.

Forecasts & changes

FIGURE 25

Galapagos – forecasts & changes

EURm	2021E	2022E	2023E	2024E	2025E
Sales OLD	644	629	679	781	692
Sales NEW	663	661	726	831	897
CHANGE	**3%**	**5%**	**7%**	**6%**	**30%**
OLD sales growth	**11%**	**-2%**	**8%**	**15%**	**-11%**
NEW sales growth	25%	0%	10%	15%	8%
Recurring EBIT OLD	(210)	(295)	(289)	(215)	(274)
Recurring EBIT NEW	(191)	(262)	(240)	(164)	(67)
CHANGE	**9%**	**11%**	**17%**	**24%**	**75%**
OLD growth	**-31%**	**-40%**	**2%**	**26%**	**-27%**
NEW growth	-7%	-38%	9%	32%	59%
OLD margin	-32.7%	-46.9%	-42.6%	-27.6%	-39.5%
NEW margin	-28.7%	-39.6%	-33.0%	-19.7%	-7.5%
Adj EPS OLD	(3.55)	(4.50)	(4.30)	(3.15)	(3.83)
Adj EPS NEW	(3.26)	(4.24)	(3.79)	(2.55)	(0.96)
CHANGE	**8%**	**6%**	**12%**	**19%**	**75%**
OLD EPS growth	**24%**	**-27%**	**4%**	**27%**	**-22%**
NEW EPS growth	30%	-30%	11%	33%	62%
FCF OLD	(294)	(526)	(499)	(394)	(397)
FCF NEW	(333)	(482)	(444)	(359)	(259)
CHANGE	**-13%**	**8%**	**11%**	**9%**	**35%**
Net (debt)/cash OLD	4,872	4,346	3,847	3,453	3,057
Net (debt)/cash NEW	4,833	4,351	3,907	3,547	3,288
CHANGE	**-1%**	**0%**	**2%**	**3%**	**0%**
NPV old	68.52				
NPV new	80.48				
CHANGE	**17%**				
PT old	69.00				
PT new	80.00				
CHANGE	**16%**				

Source: Barclays Research estimates

NPV OUTPUT

NPV output

FIGURE 26

Galapagos – Barclays NPV output

GLPG NA (EURmm, Dec)			
NPV Summary (EUR)			
	Risk Weight	**PV/ share**	**PV bn**
			-
Disclosed assets		**-**	**-**
filgotinib - RA		25.10	1.65
filgotinib - CD	40%	6.75	0.44
filgotinib - UC	40%	6.06	0.40
GLPG 1690	0%	-	-
GLPG 1972	0%	-	-
Pipeline		**37.91**	**2.49**
Other & R&D terminal		**45.24**	**2.98**
Total portfolio		**83.15**	**5.47**
Restructuring (net)		-	-
R&D (net)		(72.41)	(4.76)
Capex		(3.76)	(0.25)
EV (Healthcare)		**6.98**	**0.46**
Associates & Investments			
Net cash position		73.49	4.83
Pensions		-	-
Minorities		-	-
Debt and other		**73.49**	**4.83**
Group MV		**80.48**	**5.29**

Source: Barclays Research estimates

DETAILED FORECASTS

Revenue model

FIGURE 27

Revenue model (Third party revenues)

Revenues	2018	2019	2020	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
filgotinib - sales booked by GLPG	0.0	0.0	0.0	38.8	84.3	183.5	292.8	407.4	485.2	540.6	580.5	632.6	684.3
filgotinib - royalties from GILD	0.0	0.0	0.0	2.3	12.1	24.6	17.5	37.1	58.7	65.2	61.3	63.2	64.8
filgotinib - milestones		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total filgotinib	**0.0**	**0.0**	**0.0**	**41.1**	**96.4**	**208.1**	**310.3**	**444.6**	**543.8**	**605.8**	**641.8**	**695.7**	**749.1**
GLPG 1690 US	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLPG 1690 ex US	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLPG 1690 - milestones					0.0								
Total GLPG 1690	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
GLPG 1972 - US/int'l royalty		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total GLPG 1972	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
MOR 106 - royalty	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total MOR 106	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Gilead - filgo upfront on change	0.0	667.0	0.0	110.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gilead - filgo deferred revenues		62.6	181.8	163.7	163.7	163.7	163.7	163.7	0.0	0.0	0.0	0.0	0.0
Gilead - platform		80.9	229.6	221.6	221.6	221.6	221.6	221.6	221.6	221.6	221.6	221.6	0.0
Novartis payment	47.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Other Third Party Revenues	241.3	24.4	66.6	72.0	72.0	72.0	72.0	0.0	0.0	0.0	0.0	0.0	
Third Party Revenues	**288.8**	**834.9**	**478.1**	**567.3**	**507.3**	**457.3**	**457.3**	**385.3**	**221.6**	**221.6**	**221.6**	**221.6**	**0.0**
Total Revenue	**288.8**	**834.9**	**478.1**	**608.4**	**603.7**	**665.4**	**767.6**	**829.9**	**765.4**	**827.4**	**863.4**	**917.3**	**749.1**
growth	***127%***	***189%***	***-43%***	***27%***	***-1%***	***10%***	***15%***	***8%***	***-8%***	***8%***	***4%***	***6%***	***-18%***

Source: Company reports, Barclays Research estimates

Income Statement

FIGURE 28

Income statement

	2018	2019	2020	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
INCOME STATEMENT													
Revenue	**317.8**	**885.8**	**530.3**	**663.2**	**661.2**	**725.8**	**831.1**	**896.5**	**835.3**	**900.8**	**940.5**	**998.3**	**834.1**
Growth (% yoy)	103.9%	178.7%	-40.1%	25.1%	-0.3%	9.8%	14.5%	7.9%	-6.8%	7.8%	4.4%	6.1%	-16.4%
COGS	-	-	-	-	-	-	-	-	-	-	-	-	-
Gross Profit	**317.8**	**885.8**	**530.3**	**663.2**	**661.2**	**725.8**	**831.1**	**896.5**	**835.3**	**900.8**	**940.5**	**998.3**	**834.1**
Growth (% yoy)	103.9%	178.7%	-40.1%	25.1%	-0.3%	9.8%	14.5%	7.9%	-6.8%	7.8%	4.4%	6.1%	-16.4%
Gross margin (%)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
SG&A	**(39.8)**	**(97.0)**	**(185.2)**	**(256.4)**	**(320.5)**	**(384.6)**	**(452.2)**	**(461.3)**	**(375.9)**	**(405.4)**	**(423.2)**	**(449.2)**	**(375.4)**
Growth (% yoy)	46.1%	143.8%	91.0%	38.4%	25.0%	20.0%	17.6%	2.0%	-18.5%	7.8%	4.4%	6.1%	-16.4%
% of sales	12.5%	10.9%	34.9%	38.7%	48.5%	53.0%	54.4%	51.5%	45.0%	45.0%	45.0%	45.0%	45.0%
R&D	**(322.9)**	**(420.1)**	**(523.7)**	**(602.2)**	**(632.3)**	**(645.0)**	**(645.0)**	**(645.0)**	**(677.1)**	**(720.7)**	**(752.4)**	**(798.6)**	**(667.3)**
Growth (% yoy)	47.8%	30.1%	24.7%	15.0%	5.0%	2.0%	0.0%	0.0%	5.0%	6.4%	4.4%	6.1%	-16.4%
% of sales	101.6%	47.4%	98.8%	90.8%	95.6%	88.9%	77.6%	71.9%	81.1%	80.0%	80.0%	80.0%	80.0%
Combined SG&A & R&D	(362.7)	(517.0)	(708.9)	(858.6)	(952.9)	(1,029.6)	(1,097.2)	(1,106.2)	(1,053.0)	(1,126.0)	(1,175.6)	(1,247.9)	(1,042.6)
Growth	47.59%	42.57%	37.10%	21.12%	10.97%	8.05%	6.56%	0.82%	-4.82%	6.94%	4.41%	6.14%	-16.45%
IFRS EBIT	(44.8)	368.7	(178.6)	(190.5)	(262.1)	(239.6)	(163.7)	(67.1)	(47.8)	(36.0)	(31.9)	(28.2)	31.0
Growth (% yoy)	-50.1%	-922.9%	-148.4%	6.7%	37.6%	-8.6%	-31.7%	-59.0%	-28.8%	-24.8%	-11.2%	-11.8%	-210.0%
Other (income)/deductions--net	15.6	(220.2)	(131.1)	(23.1)	(18.2)	(12.9)	(8.1)	(0.5)	(0.2)	0.2	(0.3)	(1.2)	(1.7)
Growth (% yoy)	-160.7%	-1511.8%							-57.4%	-190.5%	-248.6%	343.7%	41.3%
Income before provision for taxes	**(29.2)**	**148.5**	**(309.8)**	**(213.6)**	**(280.4)**	**(252.4)**	**(171.7)**	**(67.6)**	**(48.0)**	**(35.8)**	**(32.2)**	**(29.4)**	**29.3**
Income Tax Expense	(0.0)	0.2	(1.2)	-	-	-	-	2.5	1.8	1.3	1.2	2.9	(2.9)
Tax rate	-0.2%	-0.1%	-0.4%	0.0%	0.0%	0.0%	0.0%	3.8%	3.8%	3.8%	3.8%	10.0%	10.0%
Minority Interest	-	-	-	-	-	-	-	-	-	-	-	-	-
Net profit from discontinued operations, net of tax		1.2	5.6	-	-	-	-	-	-	-	-	-	-
Reported Net Profit	**(29.3)**	**149.8**	**(305.4)**	**(213.6)**	**(280.4)**	**(252.4)**	**(171.7)**	**(65.1)**	**(46.2)**	**(34.5)**	**(31.0)**	**(26.4)**	**26.3**
Shares outstanding average -- diluted	52.2	60.2	65.1	65.5	66.1	66.7	67.3	67.9	68.5	69.1	69.7	70.3	70.9
Growth (% yoy)	5.6%	15.2%	8.2%	0.5%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%
Reported EPS (diluted)	**(0.56)**	**2.49**	**(4.69)**	**(3.26)**	**(4.24)**	**(3.79)**	**(2.55)**	**(0.96)**	**(0.68)**	**(0.50)**	**(0.45)**	**(0.38)**	**0.37**
Growth (% yoy)	-76.1%	-544.6%	-288.4%	-30.4%	30.0%	-10.8%	-32.6%	-62.4%	-29.6%	-26.1%	-10.8%	-15.5%	-198.8%
Number of shares issued (period end)	52.2	64.7	65.2	65.8	66.4	67.0	67.6	68.2	68.5	69.4	70.0	70.6	71.2
Growth (% yoy)													
Regular D&A	**6.8**	**12.4**	**18.7**	**22.3**	**22.3**	**24.4**	**28.0**	**30.2**	**28.1**	**30.3**	**31.7**	**33.6**	**28.1**
% of sales	2.1%	1.4%	3.5%	3.4%	3.4%	3.4%	3.4%	3.4%	3.4%	3.4%	3.4%	3.4%	3.4%
EBITDA	**(38.0)**	**381.2**	**(160.0)**	**(168.2)**	**(239.9)**	**(215.1)**	**(135.7)**	**(36.9)**	**(19.7)**	**(5.6)**	**(0.3)**	**5.4**	**59.1**
Growth (% yoy)	-55.6%	-1103.3%	-142.0%	5.2%	42.6%	-10.3%	-36.9%	-72.8%	-46.7%	-71.3%	-95.2%	-2101.4%	984.0%
% of sales	-12.0%	43.0%	-30.2%	-25.4%	-36.3%	-29.6%	-16.3%	-4.1%	-2.4%	-0.6%	0.0%	0.5%	7.1%

Source: Company reports, Barclays Research estimates

Balance Sheet

FIGURE 29

Balance sheet

	2018	2019	2020	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
BALANCE SHEET													
Assets													
Cash and Cash Equivalents	1,290.8	1,861.6	2,135.2	1,810.1	1,327.8	883.7	524.4	265.3	113.8	(5.9)	(126.8)	(238.8)	(225.3)
Current financial investments		3,919.2	3,026.3	3,026.3	3,026.3	3,026.3	3,026.3	3,026.3	3,026.3	3,026.3	3,026.3	3,026.3	3,026.3
Inventories	-	-	-	-	-	-	-	-	-	-	-	-	-
Accounts Receivable	18.6	54.0	148.4	63.4	65.5	74.1	86.2	95.4	92.0	99.6	104.2	110.9	97.0
R&D incentive receivables	11.2	21.9	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1
Restricted Cash	-	-	-	-	-	-	-	-	-	-	-	-	-
Assets held for sale	-	-	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4
Other current assets	8.2	9.1	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Total Current Assets	**1,328.9**	**5,865.9**	**5,369.3**	**4,959.2**	**4,479.0**	**4,043.5**	**3,696.3**	**3,446.4**	**3,291.6**	**3,179.5**	**3,063.1**	**2,957.9**	**2,957.4**
Intangible Assets	3.6	24.9	67.6	67.6	67.6	67.6	67.6	67.6	67.6	67.6	67.6	67.6	67.6
Property, Plant & Equipment, net	23.1	66.1	103.4	138.5	173.6	212.0	256.1	303.6	320.3	338.3	357.1	377.1	393.8
Deferred Tax Assets	2.5	4.2	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Non-current R&D incentive receivables	73.4	93.4	111.6	111.6	111.6	111.6	111.6	111.6	111.6	111.6	111.6	111.6	111.6
Non-current restricted cash	-	-	-	-	-	-	-	-	-	-	-	-	-
Other non-current assets	7.9	14.1	61.3	61.3	61.3	61.3	61.3	61.3	61.3	61.3	61.3	61.3	61.3
Total Assets	**1,439.5**	**6,068.6**	**5,717.7**	**5,342.7**	**4,897.6**	**4,500.5**	**4,197.4**	**3,995.0**	**3,856.9**	**3,762.8**	**3,665.3**	**3,580.0**	**3,596.2**
Liabilities													
Provisions	-	-	-	-	-	-	-	-	-	-	-	-	-
Finance Lease Liabilities	-	5.8	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Accounts Payable	68.9	142.5	172.4	173.5	179.1	202.6	236.0	261.1	251.9	272.6	285.2	303.6	265.3
Current Tax Payable	1.2	2.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Accrued Charges	-	0.9	-	-	-	-	-	-	-	-	-	-	-
Deferred Income	149.8	414.3	443.2	443.2	443.2	443.2	443.2	443.2	443.2	443.2	443.2	443.2	443.2
Current Financial liabilities	-	6.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Liabilities directly associated with assets classified as held for s	-	-	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9
Other current liabilities	-	-	-	-	-	-	-	-	-	-	-	-	-
Current liabilities	**219.9**	**571.8**	**635.3**	**636.3**	**642.0**	**665.5**	**698.8**	**724.0**	**714.7**	**735.5**	**748.1**	**766.5**	**728.2**
Pension Liabilities	3.8	8.3	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Provisions	-	-	-	-	-	-	-	-	-	-	-	-	-
Finance Lease Liabilities	-	19.6	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
Other non-current liabilities	1.6	7.0	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
Non-current deferred income	-	2,586.3	2,366.0	2,366.0	2,366.0	2,366.0	2,366.0	2,366.0	2,366.0	2,366.0	2,366.0	2,366.0	2,366.0
Non-current financial liabilities	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Liabilities	**225.2**	**3,193.0**	**3,047.4**	**3,048.5**	**3,054.1**	**3,077.6**	**3,110.9**	**3,136.1**	**3,126.8**	**3,147.6**	**3,160.2**	**3,178.6**	**3,140.3**
Equity capital	236.5	287.3	291.3	290.9	291.3	290.9	291.3	290.9	291.3	290.9	291.3	290.9	291.3
Share Premium	1,277.8	2,703.6	2,727.8	2,727.8	2,727.8	2,727.8	2,727.8	2,727.8	2,727.8	2,727.8	2,727.8	2,727.8	2,727.8
`	(0.7)	(4.8)	(10.9)	(424.2)	(837.7)	(1,295.6)	(1,594.8)	(1,859.5)	(1,951.2)	(2,103.3)	(2,176.2)	(2,317.0)	(2,225.4)
Treasury Stock	-	-	-	-	-	-	-	-	-	-	-	-	-
Translation differences	(1.6)	(1.1)	(3.2)	(3.2)	(3.2)	(3.2)	(3.2)	(3.2)	(3.2)	(3.2)	(3.2)	(3.2)	(3.2)
Accumulated losses	(297.8)	(109.2)	(334.7)	(297.1)	(334.7)	(297.1)	(334.7)	(297.1)	(334.7)	(297.1)	(334.7)	(297.1)	(334.7)
Total Shareholders' Equity	**1,214.2**	**2,875.7**	**2,670.4**	**2,294.3**	**1,843.5**	**1,422.9**	**1,086.5**	**858.9**	**730.1**	**615.2**	**505.1**	**401.5**	**455.9**
Total Liabilities and Shareholders' Equity	**1,439.5**	**6,068.6**	**5,717.7**	**5,342.7**	**4,897.6**	**4,500.5**	**4,197.4**	**3,995.0**	**3,856.9**	**3,762.8**	**3,665.3**	**3,580.0**	**3,596.2**

Source: Company reports, Barclays Research estimates

Statement of Cash Flows

FIGURE 30

Cash flow statement

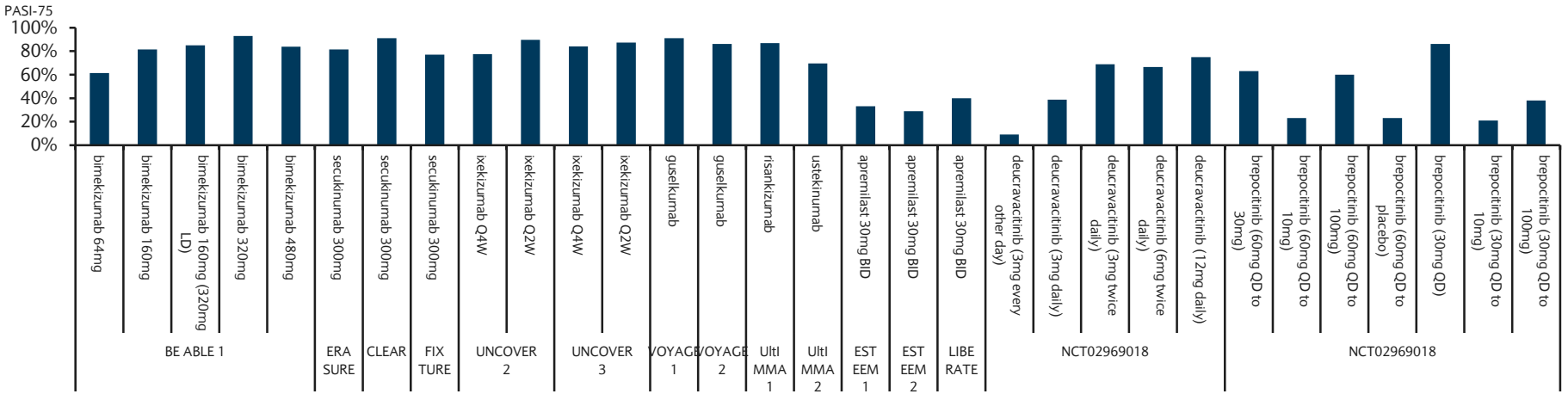
	2018	2019	2020	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
CASH FLOW STATEMENT													
Operating Activities													
Net income / loss	-29.3	149.8	-305.4	-213.6	-280.4	-252.4	-171.7	-65.1	-46.2	-34.5	-31.0	-26.4	26.3
Tax Expense	-0.3	0.2	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other net financial expenses	-9.0	-7.9	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FV re-measurement of subscription share agreeme	0.0	181.6	-3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Depreciation	3.8	12.4	18.7	22.3	22.3	24.4	28.0	30.2	28.1	30.3	31.7	33.6	28.1
Amortization and Inventories write-off	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net realized loss on FX	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Share based comp.	19.4	38.3	80.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Decrease in provisions	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Increase in pension liabilities	0.2	-0.2	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Discounting effect of deferred income		6.9	16.3										
Unrealized exchange gains/losses	0.0	11.2	105.1										
Fair value adjustment	0.0	-2.3	13.5										
Gain on sale of business/ fixed assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adjustment for items under investing/financing CF	0.0	-5.1	-2.5										
Interest paid	-1.1	-1.2	-9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Interest received	4.6	7.9	10.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Taxes paid	-0.1	-0.1	-1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Working capital													
Inventory	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Accounts receivable	-20.0	-67.3	-177.2	85.0	-2.1	-8.6	-12.2	-9.2	3.4	-7.6	-4.6	-6.7	14.0
Trade & Other Payables	39.9	79.9	31.2	1.1	5.6	23.5	33.3	25.1	-9.2	20.8	12.6	18.3	-38.3
Deferred Income and Others	-153.3	2,804.2	-207.8	-192.6	-192.6	-192.6	-192.6	-192.6	-110.8	-110.8	-110.8	-110.8	0.0
Total change in working capital	**-133.4**	**2,816.9**	**-353.9**	**-106.6**	**-189.1**	**-177.7**	**-171.5**	**-176.7**	**-116.6**	**-97.6**	**-102.8**	**-99.1**	**-24.3**
Net cash from operations	**-142.463**	**3,208.6**	**-427.334**	**-297.9**	**-447.2**	**-405.7**	**-315.3**	**-211.6**	**-134.7**	**-101.7**	**-102.1**	**-92.0**	**30.2**
From Investing Activity													
Acquisitions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Disposals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Purchases of PP&E	-10.4	-22.4	-42.5	-35.2	-35.0	-38.5	-44.0	-47.5	-16.7	-18.0	-18.8	-20.0	-16.7
Disposals of PP&E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
R&D and other intangibles	-3.3	-23.3	-48.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Decrease in restricted cash	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acquisition/Proceeds - financial assets	-2.2	-3,724.0	848.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Others	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Cash from Investing	**-15.914**	**-3,764.7**	**757.289**	**-35.2**	**-35.0**	**-38.5**	**-44.0**	**-47.5**	**-16.7**	**-18.0**	**-18.8**	**-20.0**	**-16.7**
From Financing Activity													
Net change in financial liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proceeds from capital increases	296.2	955.6	28.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Repayment of obligations under leases	-0.1	-5.1	-6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dividend (paid)/ received	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	-8.3	385.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Cash from Financing	**287.9**	**1,335.8**	**22.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Other cash flows	0.0	-198.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exchange	10.1	-10.0	-70.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash/Equiv Balance (BOY)	1,151.2	1,290.8	1,861.6	2,143.1	1,810.1	1,327.8	883.7	524.4	265.3	113.8	-5.9	-126.8	-238.8
Net Cash Flow	139.6	570.8	281.5	-333.0	-482.2	-444.2	-359.3	-259.1	-151.4	-119.7	-120.9	-111.9	13.5
Cash/Equiv Balance (EOY)	1,290.8	1,861.6	2,143.1	1,810.1	1,327.8	883.7	524.4	265.3	113.8	-5.9	-126.8	-238.8	-225.3
Free Cash Flow	-152.9	3,186.2	-469.9	-333.0	-482.2	-444.2	-359.3	-259.1	-151.4	-119.7	-120.9	-111.9	13.5
Growth (% yoy)	0.3%	-2184.5%	-114.7%	-29.1%	44.8%	-7.9%	-19.1%	-27.9%	-41.5%	-20.9%	1.0%	-7.4%	-112.0%
Per share	(2.93)	52.95	(7.21)	(5.09)	(7.30)	(6.66)	(5.34)	(3.82)	(2.21)	(1.73)	(1.74)	(1.59)	0.19
% of NI	522%	2126%	154%	156%	172%	176%	209%	398%	328%	348%	390%	423%	51%

Source: Company reports, Barclays Research estimates

APPENDIX 1: COMPARATIVE EFFICACY AND SAFETY DATA IN PSORIASIS

FIGURE 31

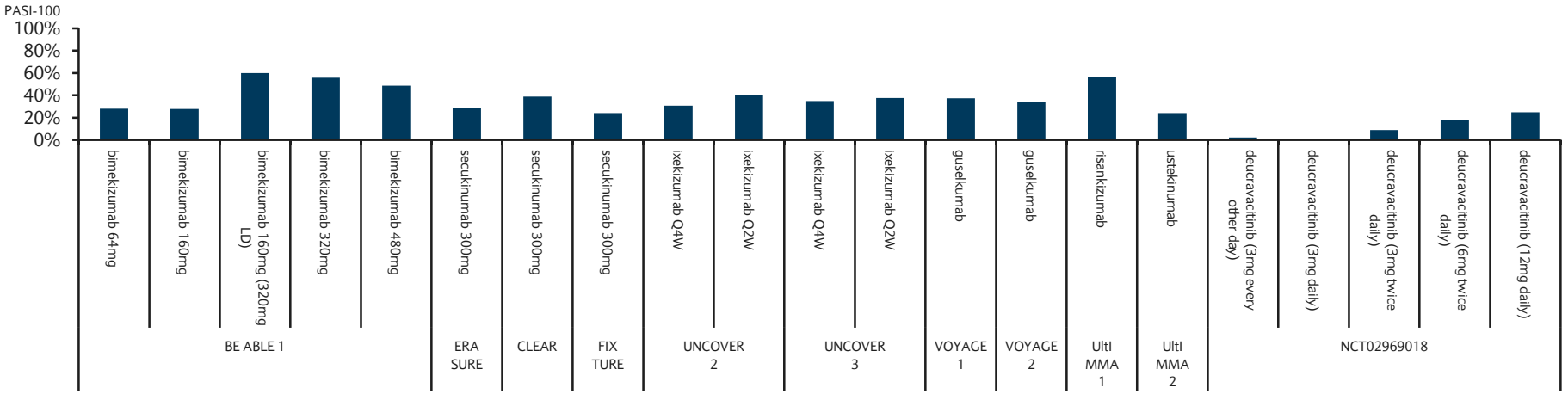
PASI-75 measures across moderate-to-severe plaque psoriasis studies



Source: Barclays Research, clinicaltrials. Deucravacitinib and brepocitinib studies are P2 studies.

FIGURE 32

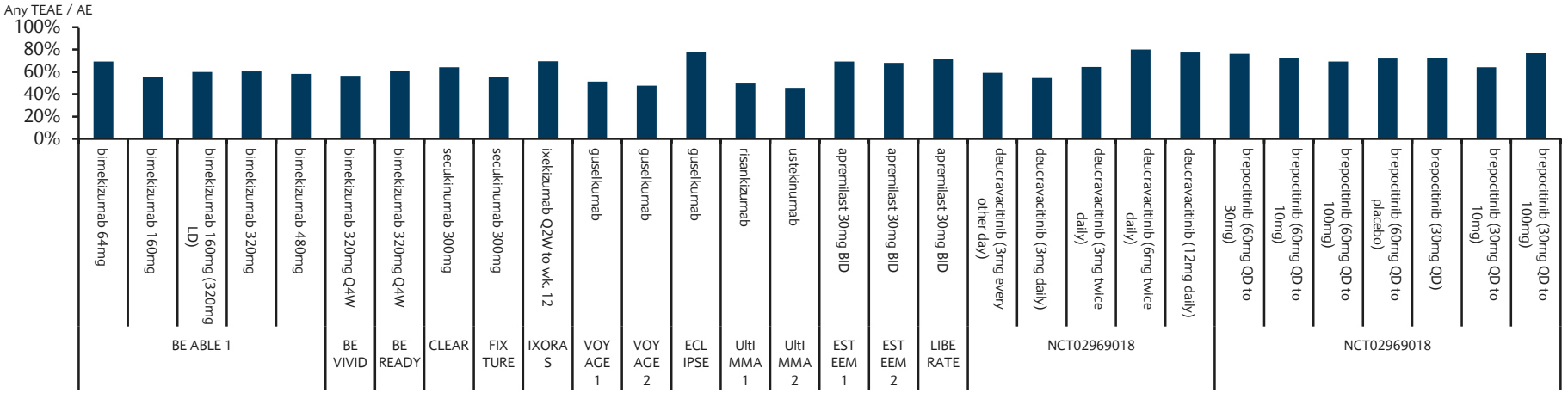
PASI-100 measures across moderate-to-severe plaque psoriasis studies



Source: Barclays Research, clinicaltrials. Deucravacitinib and brepocitinib studies are P2 studies.

FIGURE 33

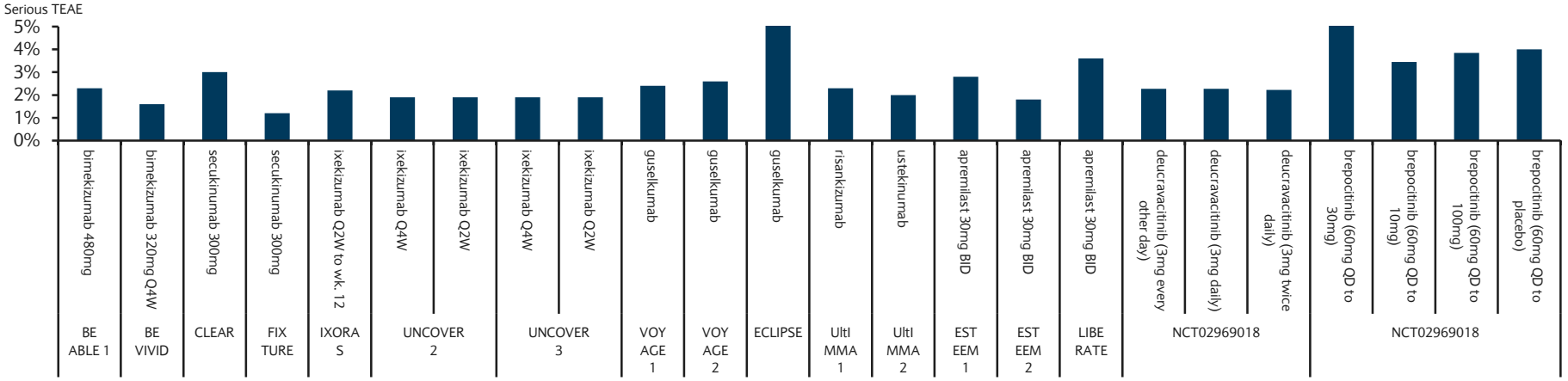
AE / TEAE incidence across moderate-to-severe plaque psoriasis studies



Source: Barclays Research, clinicaltrials. Deucravacitinib and brepocitinib studies are P2 studies.

FIGURE 34

Serious AE / TEAE incidence across moderate-to-severe plaque psoriasis studies



Source: Barclays Research, clinicaltrials. Deucravacitinib and brepocitinib studies are P2 studies.

APPENDIX 2: CURRENT TYK2 DEVELOPMENT PIPELINE

FIGURE 35

Clinical trials involving TYK2 inhibitors

Company	Molecule name	Other names	MoA	Administration	Indication	Study ID	Study population	Treatment regimen	Phase	Primary completion	Primary endpoint	Other measures	Main inclusion criteria	Main exclusion criteria	Status
Psoriasis															
Bristol Myers	deucravacitinib	BMS-986165	Selective TYK2 inhibitor	Oral	Psoriasis	POETYK PSO-1 / NCT03624127	Adults with mod / sev plaque psoriasis	Monotherapy vs. pbo vs. apremilast	3	Sep-20	- sPGA 0/1 - PASI-75	- PASI 90 / 100 - sPGA 0 - QoL	- Plaque psoriasis for ≥ 6m - Moderate / severe disease - Phototherapy / systemic therapy candidate	- Other forms of psoriasis	Completed Topline: announced 03/11/20
Bristol Myers	deucravacitinib	BMS-986165	Selective TYK2 inhibitor	Oral	Psoriasis	POETYK-PSO-4 / NCT03924427	Japanese adults with mod / sev plaque psoriasis	Single arm	3	Nov-20	- sPGA 0/1 - PASI-75	- sPGA 0/1 - PASI-75 / 90 / 100 - ACR 20 - PSSD and PGD	- Stable plaque psoriasis - Moderate to severe disease - Phototherapy / systemic therapy candidate	- Other forms of psoriasis	Active, not recruiting
Bristol Myers	deucravacitinib	BMS-986165	Selective TYK2 inhibitor	Oral	Psoriasis	POETYK-PSO-2 / NCT03611751	Adults with mod / sev plaque psoriasis	Monotherapy vs. pbo vs. apremilast	3	Dec-20	- sPGA 0/1 - PASI-75	- PASI 90 / 100 - PSSD - sPGA 0 - QoL	- Plaque psoriasis for ≥ 6m - Moderate / severe disease - Phototherapy / systemic therapy candidate	- Other forms of psoriasis	Topline: announced 04/02/21
Pfizer	brepocitinib	PF-06700841	TYK2 / JAK1 inhibitor	Topical	Psoriasis	NCT03850483	Adults with mild / mod plaque psoriasis	4 concentrations, 3 regimens vs. vehicle	2	Apr-21	- wk-12 PASI change	- PGA - PASI - Pruritus NRS - PSIS - AE / SAE	- Plaque psoriasis for ≥ 6m - PGA score mild to overate - BSA from 2% to 15%	- Other skin conditions affecting psoriasis evaluation - History of herpes zoster or simplex - TB	Recruiting
Galapagos	GLPG3667	-	Selective TYK2 inhibitor	Oral	Psoriasis	NCT04594928	Adults with mild / mod plaque psoriasis	2 oral doses vs. pbo	2	May-21	- 4-wk PASI - TEAE	- IL-17 levels - PK/PD	- Diagnosis of stable plaque psoriasis for >=6m - PASI ≥ 12, BSA ≥ 10%, PGA 3 or 4	- Other forms of psoriasis - Unable to discontinue prohibited therapies - Immunosuppressive pre-condition	Recruiting
Bristol Myers	deucravacitinib	BMS-986165	Selective TYK2 inhibitor	Oral	Psoriasis	POETYK-PSO-3 / NCT04167462	Mainland China, Taiwan, and South Korea adults with plaque psoriasis	Monotherapy vs. pbo	3	Jan-22	- sPGA 0/1 - PASI-75	- PASI 90 / 100 - PSSD - s-PGA 0 - QoL	- Plaque psoriasis for ≥ 6m - Moderate / severe disease - Phototherapy / systemic therapy candidate	- Other forms of psoriasis	Recruiting
Bristol Myers	deucravacitinib	BMS-986165	Selective TYK2 inhibitor	Oral	Psoriasis	POETYK PSO-LTE / NCT04036435	Adults and children	Single arm	3	Jan-24	- SAE	- sPGA 0/1 - PASI-75	- Moderate / severe disease - Completed another deucravacitinib study	- Other forms of psoriasis	Recruiting
Bristol Myers	deucravacitinib	BMS-986165	Selective TYK2 inhibitor	Oral	Psoriasis	NCT04772079	Adolescents with mod / sev plaque psoriasis	Standard vs. half dose deucravacitinib vs. pbo	3	Apr-24	- sPGA 0/1 - PASI-75 - PK	- AE / SAEs - PASI 75 / 90 - sPGA 0/1	- Plaque psoriasis for ≥ 6m - Moderate / severe disease - Phototherapy / systemic therapy candidate	- Other forms of psoriasis	Not yet recruiting
Pfizer	PF-06826647	-	Selective TYK2 inhibitor	Oral	Psoriasis	-	-	Monotherapy	2	In PFE pipeline (23/03/2021), not yet on Clinicaltrials					
Psoriatic arthritis															
Bristol Myers	deucravacitinib	BMS-986165	Selective TYK2 inhibitor	Oral	Psoriatic arthritis	NCT03881059	Adults with active psoriatic arthritis	Part A: two doses Part B: two doses + Stelara vs. pbo	2	Jan-21	- ACR20 % at wk-16	- HAQ-DI - PASI-75 in BSA ≥ 3% - PCS score	- Meet the CASPAR screening criteria at baseline - Biologic-naïve or intolerant to ≥1 TNFi	- Non-plaque psoriasis - Presence of other autoimmune conditions - Presence of fibromyalgia and/or other infections	Active, not recruiting

Pfizer	brepocitinib	PF-06700841	TYK2 / JAK1 inhibitor	Oral	Psoriatic arthritis	-	-	Monotherapy	2	In PFE pipeline (23/03/2021), not yet on Clinicaltrials					
Lupus: SLE & LN															
Bristol Myers	deucravacitinib	BMS-986165	Selective TYK2 inhibitor	Oral	Systemic lupus erythematosus	NCT03252587	Adults	3 oral doses vs. pbo	2	Dec-21	- SRI4	- CLASI activity - AEs / SAEs - PK / PD	- Meets SLICC diagnosis criteria - antinuclear antibody ≥ 1:80 or +ve anti-dsDNA or +ve anti-Sm - SLEDAI-2K) score ≥ 6 points - Clinical SLEDAI-2K score ≥ 4 points	- Severe lupus nephritis - Autoimmune disease - SLE overlap syndromes	Recruiting
Bristol Myers	deucravacitinib	BMS-986165	Selective TYK2 inhibitor	Oral	Systemic lupus erythematosus	NCT03920267	Adults	3 oral doses	2	Jan-23	- AE / SAEs	-	- Completion of NCT03252587	-	Recruiting
Bristol Myers	deucravacitinib	BMS-986165	Selective TYK2 inhibitor	Oral	Lupus nephritis	NCT03943147	Adults	2 oral doses vs. pbo	2	Jan-23	- PRR - AEs	- CRR / PRR - UPCR - SLEDAI-2K - eGFR - Serum measurements	- Meets SLICC diagnosis criteria - UPCR ≥1.5 mg/mg - LN confirmed by renal biopsy	- Pure ISN/RPS Class V membranous LN - eGFR ≤30 mL/min/1.73 m^2	Recruiting
Pfizer	brepocitinib	PF-06700841	TYK2 / JAK1 inhibitor	Oral	Systemic lupus erythematosus	NCT03845517	Adults with mod / sev active, generalized SLE	15mg vs. 30mg vs. 45mg vs. pbo	2	Aug-23	- % achieving SRI-4	- Time to first severe flare - LLDAS - % reduction in steroids - ≥50% CLASI-A reduction - AE and QoL	- Moderate to severe active Lupus - Stable dose of methotrexate, azathioprine, leflunomide, mizoribine, mycophenolate / mycophenolic acid, anti-malarials or corticosteroids.	- Active renal lupus - Severe active central nervous system (CNS) lupus	Recruiting
Ulcerative Colitis and Crohn's															
Pfizer	brepocitinib	PF-06700841	TYK2 / JAK1 inhibitor	Oral	Ulcerative Colitis	NCT02958865	Adults with mod / sev UC	Monotherapy vs. ritlecitinib (JAK3/TECi). 3 different doses of each vs. pbo	2	May-21	- Total Mayo score - AE / SAE - Infections / abnormalities	- Remission (Mayo score) - Improvement in endoscopic appearance - Responses / remissions % - QoL measures	- Diagnosis of mod / sev ulcerative colitis for ≥ 3 months - Inadequate response, loss of response, or intolerance to one or more conventional therapies	- Findings suggestive of Crohn's Disease - Bowel surgery within 6 months	Active, not recruiting
Bristol Myers	deucravacitinib	BMS-986165	Selective TYK2 inhibitor	Oral	Ulcerative Colitis	NCT03934216	Adults with mod / sev UC	Monotherapy vs. pbo	2	Sep-21	- % clinical remission	- % clinical response - % endoscopic remission - % endoscopic response	- Active UC for ≥ 3m prior to screening - Mayo score of 5 to 9 (mod / sev) - Inadequate response to one of: 5-ASAs, CS, immunosuppressants / immunomodulators, anti-TNF, integrin inhibitor, anti-IL-12, anti-IL-23	-	Recruiting

Oncostellae	OST-122	-	JAK3 / TYK2 / ARK5 inhibitor	Oral	Ulcerative Colitis	NCT04353791	Adults with mod / sev UC	2 oral doses vs. pbo	1/2	Feb-22	- AE - Lab measurements	- PK / PD - Endoscopic Mayo score - Biopsy measurements - PRO-2 measurements	- Diagnosis of UC, UP, extensive/pancolitis - Inadequate response to one of ASAs, CS, immunosuppressants, TNF-a agents, integrin inhibitors or IL-12/23 agents - Mayo subscore of ≥ 2 and a total score of 5-10	- On: JAKi's within 60d of BL, IV VS within 14d, cyclosporine or tacrolimus or mycophenolate or thalidomide or adalimumab within 30d, infliximab, golimumab, etanercept, vedolizumab, ustekinumab or certolizumab within 60d - Inadequate or loss of response to tofacitinib or other JAKi - Has other forms of colitis or Crohn's	Recruiting
Bristol Myers	deucravacitinib	BMS-986165	Selective TYK2 inhibitor	Oral	Ulcerative Colitis	NCT04613518	Adults with mod / sev UC	2 oral doses vs. pbo	2	Jun-22	- % clinical response	- AEs	- Active UC for ≥ 3m prior to screening - Mayo score of 5 to 9 (mod / sev) - Inadequate response to one of: 5-ASAs, CS, immunosuppressants / immunomodulators, anti-TNF, integrin inhibitor, anti-IL-12, anti-IL-23	-	Recruiting
Bristol Myers	deucravacitinib	BMS-986165	Selective TYK2 inhibitor	Oral	Crohn's Disease	NCT03599622	Adults with mod / sev Crohn's	2 oral doses vs. pbo	2	May-22	- CDAI remission - SES-CD endoscopic response	- PRO2 - Further endoscopic response measurements	- Moderate / severe disease	-	Recruiting
Pfizer	brepocitinib	PF-06700841	TYK2 / JAK1 inhibitor	Oral	Crohn's Disease	NCT03395184	Adults with mod / sev Crohn's	Monotherapy vs. ritlecitinib (JAK3/TECi)	2	Nov-22	- SES-CD reduction of ≥ 3pts - AE / SAE - Withdrawals	- SES-CD measures - Endoscopic remission - CMEI response - Other AE / SAE	- SES CD total score of at least 7 - Minimum disease duration of 3 months - Inadequate response to ≥ one conventional therapy	- Findings suggestive of Ulcerative Colitis - Bowel surgery within 6 months	Recruiting
Pfizer	brepocitinib	PF-06700841	TYK2 / JAK1 inhibitor	Oral	Ulcerative Colitis	-	-	vs. ritlecitinib (JAK3/TECi)	2	In PFE pipeline (23/03/2021), not yet on Clinicaltrials					
Pfizer	brepocitinib	PF-06700841	TYK2 / JAK1 inhibitor	Oral	Crohn's Disease	-	-	vs. ritlecitinib (JAK3/TECi)	2	In PFE pipeline (23/03/2021), not yet on Clinicaltrials					
Other															
Pfizer	brepocitinib PF-06650833 PF-06826647	PF-06700841	TYK2 / JAK1 inhibitor	Oral	Hidradenitis Suppurativa	NCT04092452	Adults with mod / sev Hidradenitis Suppurativa	Monotherapy vs. PF-06650833 (IRAKi) vs. PF-06826647 (TYK2i) vs. pbo	2	Nov-21	- % HiSCR response	- Abscess and AN count of 0/1/2 - PGA and NRS reduction - NRS change - Erythema score of 0 / 1 - PK / PD - AE / SAE	- Diagnosis of moderate to severe Hidradenitis Suppurativa	-	Recruiting
Pfizer	brepocitinib	PF-06700841	TYK2 / JAK1 inhibitor	Oral	Alopecia Areata	-	-	Monotherapy	2	In PFE pipeline (23/03/2021), not yet on Clinicaltrials					
Pfizer	brepocitinib	PF-06700841	TYK2 / JAK1 inhibitor	Topical	Atopic dermatitis	-	-	Monotherapy	2	In PFE pipeline (23/03/2021), not yet on Clinicaltrials					

Pfizer	brepocitinib	PF-06700841	TYK2 / JAK1 inhibitor	Oral	Vitiligo	-	-	vs. ritlecitinib (JAK3/TECi)	2	In PFE pipeline (23/03/2021), not yet on Clinicaltrials

Source: Barclays Research, clinicaltrials, company presentations

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Primary Stocks (Ticker, Date, Price)

Galapagos (GLPG.AS, 13-Apr-2021, EUR 65.12), Overweight/Positive, FC/J

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Galapagos (GLPG.AS)	Genmab A/S (GMAB.CO)	GlaxoSmithKline (GSK.L)
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Idorsia (IDIA.S)	Ipsen SA (IPN.PA)	Merck KGaA (MRCG.DE)
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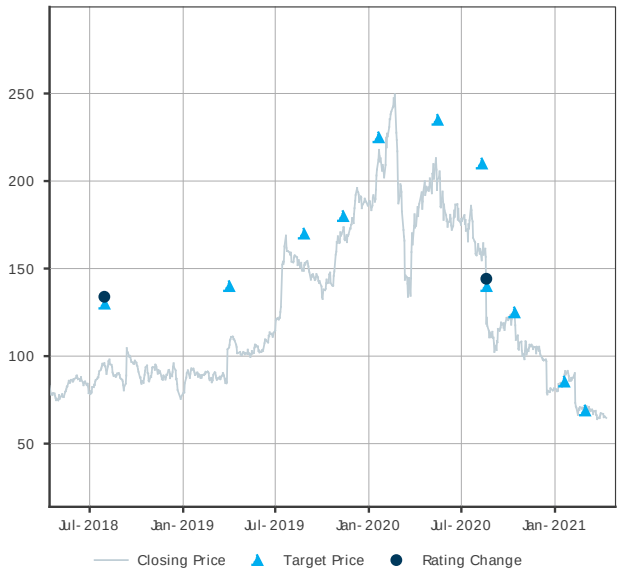
Galapagos (GLPG NA / GLPG.AS)

EUR 65.12 (13-Apr-2021)

Stock Rating	Industry View
OVERWEIGHT	**POSITIVE**

Rating and Price Target Chart - EUR (as of 13-Apr-2021) — **Currency=EUR**



Publication Date	Closing Price	Rating	Adjusted Price Target
01-Mar-2021	69.92		69.00
19-Jan-2021	87.66		85.50
13-Oct-2020	124.65		125.00
19-Aug-2020	118.55	Equal Weight	140.00
10-Aug-2020	154.75		210.00
15-May-2020	200.90		235.00
20-Jan-2020	212.20		225.00
11-Nov-2019	171.60		180.00
26-Aug-2019	148.80		170.00
01-Apr-2019	104.95		140.00
30-Jul-2018	96.00	Overweight	130.00

Source: Bloomberg, Barclays Research

Historical stock prices and price targets may have been adjusted for stock splits and dividends.

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Valuation Methodology: Given that we do not expect Galapagos to be profitable until 2028, we employ an NPV-based methodology to derive our price target. Using a 10.5% WACC and +1% terminal growth rate, we arrive at a price target for GLPG of EUR 80.00

Risks which May Impede the Achievement of the Barclays Research Valuation and Price Target: Upside Case: MANTA safety study reads out positively, and Gilead decide to submit filgotinib for approval in IBD in the US and subsequently gets approved (we have 40% probability of this in our model). Success in the POC Toledo trials would also help further appreciation of earlier stage assets, as would validation of novel MoAs in the pipeline, e.g. TYK2.

Downside Case: Any safety signals for filgotinib in MANTA or failure of the asset in the IBD ph. 3 trials. Failure of assets in the Toledo and TYK2 programmes.

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