CHAIN BRIDGE RESEARCH
f/k/a IG RESEARCH

AMERICAS MERGER REPORT

31 May 2023 – 8:50 ET

Horizon Therapeutics (HZNP)/ Amgen (AMGN)

Scheme of Arrangement - Update

Despite the long court process, the deal spread appears to be somewhat wide thus we continue to recommend a position long HZNP.

- The FTC sued to block the transaction stating that the deal would enable Amgen to stifle competition for thyroid eye disease and chronic refractory gout treatments.
- "The FTC filed a lawsuit in federal court to block the transaction, saying it would enable Amgen to use rebates on its existing blockbuster drugs to pressure insurance companies and pharmacy benefit managers (PBMs) into favoring Horizon's two monopoly products – Tepezza, used to treat thyroid eye disease, and Krystexxa, used to treat chronic refractory gout. Neither of these treatments have any competition in the pharmaceutical marketplace.
- Amgen has a history of leveraging its broad portfolio of blockbuster drugs to gain advantages over potential rivals. In particular, the company has engaged in cross-market bundling, which involves conditioning rebates (or offering incremental rebates) on products such as Enbrel in exchange for giving Amgen drugs preferred placement on the insurers' and PBMs' lists of covered medications in different product markets.
- The value of the rebates that Amgen can offer on its high-volume drugs as part of its cross-market bundles may make it difficult, if not impossible, for smaller rivals who are developing drugs to compete against Tepezza and Krystexxa to match the level of rebates that Amgen would be able to offer."

CBR comment

- The outside date is June 12, 2023 (extended outside dates are September 12, 2023, and December 12, 2023)
- As per our reading of the DMA, the outside date is automatically extended if an antitrust condition is not cleared.
- Given the FTC's arguments, we don't see the rationale for AMGN to walk away from the deal as an alternative target that would be large enough to move the needle in terms of future revenues could be blocked with a similar argument.

Competition

- AMGN stated the following in its 10-K: "We have experienced adverse effects from biosimilar competition on our originator product sales. Companies have launched biosimilar versions of EPOGEN, NEUPOGEN and Neulasta and have approved biosimilars for ENBREL. Once multiple biosimilar versions of one of our originator products have launched, competition has intensified rapidly, resulting in greater net price declines for both reference and biosimilar products and a greater effect on product sales." Abbvie has two key competitor products for Enbrel, Humira and Rinvoq, while Pfizer owns Xeljanz.
- Since 2016 Enbrel revenue dropped by 33% and a further 30% drop is estimated in the next two years. Among Amgen products Prolia, Otezla, Repatha and Kyprolis seem to face some growth in the coming years. We note that pre-announcement AMGN's expected revenue growth rate in the next 5 years was less than 3% p.a.
- Based on that we see a limited ability for AMGN to use Enbrel or other blockbuster products as part of an effective bundling strategy.
- We also note that in all product markets, Amgen's current products face significant competitive pressure from big pharma companies, therefore AMGN does not seem to be in a position to materially increase prices of its blockbuster drugs to cover higher rebates due to competition from players like Pfizer, AbbVie, Novartis, Lilly, BMY.

Comments on bundling

- If the FTC sees the illicit bundling problem, they should be able to penalize and stop companies from using anticompetitive methods and not use specific merger cases to stop such behavior.
- However, as we saw in the Regeneron / Amgen case, despite bundling of rebates, prices might eventually go down and future entrants might continue developing their products.
- We note that we don't see a huge number of trials being stopped from fear of incumbent large pharma competitors' possible future bundling behavior in markets with similar characteristics.
- This risk is there for all ongoing developments where there is an incumbent large pharma product on the market.
- Several Thyroid eye disease (Tepezza) products exist in Phase 2 and Phase 3 clinical phases. Novartis and small biotech firms are developing these assets.
- NOVN is unlikely to stop development and will be able to launch the product while smaller biotech firms are almost always bought up by bigger competitors giving the ability to compete against incumbents.
- For chronic refractory gout (Krystexxa) the number of competitors in clinical phase is limited (Selecta and SOBI develop an asset in partnership)
- We note that major PBMs are now owned by insurers, and are therefore interested in applying the lowest cost treatment. Thus, they might be reluctant to agree to rebate bundles and exclude competing treatments from their formularies in case a manufacturer can offer competitive pricing.
- In case AMGN has to agree to a remedy action not to bundle its products (note that PBMs could report such attempts) it is unlikely to meet the MAC limitation. Further, such remedy appears to be easy to monitor.

Valuation

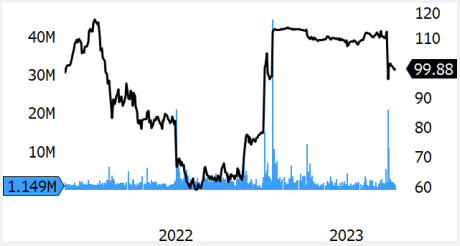
- In a deal break we see HZNP trading around 4.5x P/Sales multiple which implies a $75 standalone value.

Deal Terms

1 HZNP = $116.50

Target: Horizon Therapeutics	
Country	Ireland
Bloomberg	HZNP
Sector	Biotech
Share price ($)	99.88
Market cap ($m)	22,713
Free float (%)	~99
Acquirer: Amgen	
Country	United States
Bloomberg	AMGN
Sector	Biotech
Share price ($)	218.53
Market cap ($m)	116,766
Free float (%)	~100

HZNP Price Chart



Status

Court hearing September 11, 2023

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Key risks

REGULATORY RISKS AND TIMING

- The FTC sued to block the transaction stating that the deal would enable Amgen Inc. to stifle competition for thyroid eye disease and chronic refractory gout treatments.
- "The FTC filed a lawsuit in federal court to block the transaction, saying it would enable Amgen to use rebates on its existing blockbuster drugs to pressure insurance companies and pharmacy benefit managers (PBMs) into favoring Horizon's two monopoly products – Tepezza, used to treat thyroid eye disease, and Krystexxa, used to treat chronic refractory gout. Neither of these treatments have any competition in the pharmaceutical marketplace.
- In securities filings, Horizon has boasted that its Tepezza "has no direct approved competition," and that Krystexxa "faces limited direct competition." Because of this, Horizon charges extremely high prices for those medications – approximately $350,000 for a six-month course of treatment of Tepezza and approximately $650,000 for an annual supply of Krystexxa.
- Amgen has a history of leveraging its broad portfolio of blockbuster drugs to gain advantages over potential rivals. In particular, the company has engaged in cross-market bundling, which involves conditioning rebates (or offering incremental rebates) on products such as Enbrel in exchange for giving Amgen drugs preferred placement on the insurers' and PBMs' lists of covered medications in different product markets.
- The value of the rebates that Amgen can offer on its high-volume drugs as part of its cross-market bundles may make it difficult, if not impossible, for smaller rivals who are developing drugs to compete against Tepezza and Krystexxa to match the level of rebates that Amgen would be able to offer."

CBR comment

- The outside date is June 12, 2023 (extended outside dates are September 12, 2023, and December 12, 2023).
- As per our reading of the DMA, the outside date is automatically extended if an antitrust condition is not cleared.
- Given the FTC's arguments, we don't see the rationale for AMGN to walk away from the deal as an alternative target that would be large enough to move the needle in terms of future revenues could be blocked with a similar argument.

Competitors

- AMGN stated the following in its 10-K: "We have experienced adverse effects from biosimilar competition on our originator product sales. **Companies have launched biosimilar versions of EPOGEN, NEUPOGEN and Neulasta** and have approved **biosimilars for ENBREL**. Once multiple biosimilar versions of one of our originator products have launched, **competition has intensified rapidly, resulting in greater net price declines for both reference and biosimilar products** and a greater effect on product sales." Abbvie has two key competitor products for Enbrel, Humira and Rinvoq, while Pfizer owns Xeljanz.
    - "In the United States, the FDA has approved numerous biosimilars, including biosimilar versions of Neulasta, EPOGEN and ENBREL, and a growing number of companies have announced that they are also developing biosimilar versions of our products. For example, six biosimilar versions of Neulasta are now approved in the United States, and we expect that other biosimilar versions of Neulasta may be marketed or receive approval in the future. Impact to our Neulasta sales has accelerated as additional competitors have launched."
- Since 2016 Enbrel revenue dropped by 33% and a further 30% drop is estimated in the next two years. Among Amgen products Prolia Otezla, Repatha and Kyprolis seem to face some growth in the coming years. We note that pre-announcement AMGN's expected revenue growth rate in the coming 5 years was less than 3% p.a.
- Based on that we see a limited ability for AMGN to use Enbrel or other blockbuster products as part of an effective bundling strategy.
- We also note that in all product markets, Amgen's current products face significant competitive pressure from big pharma companies, therefore AMGN does not seem to be in a position to materially increase prices of its blockbuster drugs to cover higher rebates due to competition from players like Pfizer, AbbVie, Novartis, Lilly, BMY.

Product	Territory	Competitor-marketed product	Competitors
ENBREL	U.S. & Canada	HUMIRA	AbbVie
	U.S.	Xeljanz	Pfizer Inc.
	U.S. & Canada	RINVOQ	AbbVie
Prolia	U.S., Europe & Asia Pacific	Alendronate, raloxifene and zoledronate generics	Various
Otezla	U.S. & Europe	HUMIRA†	AbbVie
	U.S. & Europe	Cosentyx	Novartis
	U.S. & Europe	Taltz	Lilly
	U.S. & Europe	Tremfya	Janssen(1)
	U.S. & Europe	Skyrizi	AbbVie
	U.S. & Europe	Methotrexate generics	Various
XGEVA	U.S. & Europe	Zoledronate generics	Various
Aranesp	U.S.	PROCRIT(2)	Janssen(1)
	U.S. & Europe	Epoetin alfa biosimilars	Various
Nplate	U.S. & Europe	PROMACTA/REVOLADE	Novartis
Repatha	U.S., Europe & Asia Pacific	PRALUENT	Regeneron Pharmaceuticals, Inc. Sanofi
KYPROLIS	U.S.	VELCADE	Millennium Pharmaceuticals, Inc.(4)
	U.S. & Europe	REVLIMID(3)	Various
	U.S. & Europe	POMALYST/IMNOVID	Celgene(5)
	U.S. & Europe	DARZALEX	Janssen(1)
Neulasta(6)	U.S. & Europe	UDENYCA	Coherus BioSciences, Inc.
	U.S. & Europe	Fulphila	Mylan Institutional Inc.
	U.S. & Europe	Filgrastim biosimilars	Various
EVENITY	U.S.	Alendronate, raloxifene and zoledronate generics	Various
	Japan	Teribone	Asahi Kasei Pharma

Bundling

- We note that there is no precedent for a pharma deal being blocked based on possible future bundling. Last time FTC intervened in a pharma deal in court was in 2008 (Barr Pharma/Teva).
- Regeneron Pharmaceuticals has accused Amgen, in a civil antitrust complaint filed in a federal court in Delaware, of using bundling to pressure pharmacy-benefit managers, the intermediaries who oversee prescription-drug benefits for employers and insurers, to stop covering a Regeneron cholesterol drug in exchange for greater discounts on Amgen's competing cholesterol drug and other products.
- We note that during their fight for market share, both REGN and AMGN cut their prices by 60%, making customers better off at the end of the day. In addition, Medicines Company (bought by Novartis in 2019) was not deterred by AMGN's bundling from developing its competing product, which also started to capture market share from the companies in recent years.
- Last June, the Khan-led FTC launched an inquiry into intermediaries in the prescription drug industry. They asked the six largest pharmacy benefit managers, which negotiate fees and rebates with drug manufacturers, to share information on their business practices. Within 10 days, the FTC said it would intensify enforcement against illicit rebate plans or bribes to prescription drug intermediaries that block consumers' access to low-cost drugs.
    - FTC stated in the complaint that "A complaint pending in federal court, which recently survived a motion to dismiss, alleges that these cross-market bundles foreclosed competition and entrenched Repatha's monopoly position".

CBR comment

- If the FTC sees the illicit bundling problem, they should be able to penalize and stop companies from using anticompetitive methods and not use specific merger cases to stop such behavior.
- Based on their own statement in mid-2022 FTC has the ability and the willingness to step up against any illegal rebate schemes, bribes to prescription drug middleman that block cheaper drugs, in our view, without blocking a deal.
- However, as we saw in the Regeneron / Amgen case, despite bundling of rebates, prices might eventually go down and future entrants might continue developing their products.
- We note that we don't see a huge number of trials being stopped from fear of incumbent large pharma competitors' possible future bundling behavior in markets with similar characteristics.
- This risk is there for all ongoing developments where there is an incumbent large pharma product on the market.
- Several Thyroid eye disease (Tepezza) products exist in Phase 2 and Phase 3 clinical phases. Novartis and small biotech firms are developing these assets.
    - NOVN is unlikely to stop development and will be able to launch the product while smaller biotech firms are almost always bought up by bigger competitors giving the ability to compete against incumbents.
    - Other than NOVN Viridian Therapeutics, Immunovant, Acelyrin (earlier ValenzaBio), Argenx and Sling Therapeutics are in development phase for the treatment of TED.
- For chronic refractory gout (Krystexxa) the number of competitors in clinical phase is limited (Selecta and SOBI together develops)
- AMGN does not seem to be in a position to materially increase prices of its blockbuster drugs to cover higher rebates due to competition from players like Pfizer, AbbVie, Novartis, Lilly, BMY.
- We note that major PBMs are now owned by insurers, therefore interested in applying the lowest cost treatment. Thus, they might be reluctant to agree to rebate bundles and exclude competing treatments from their formularies in case a manufacturer can offer competitive pricing.
    - FTC states "the nation's largest PBMs and payers are now vertically integrated. In turn, these entities are increasingly employing cross-benefit management strategies that involve integrated management of drugs under the pharmacy benefit".
- In case AMGN has to agree to a remedy action not to bundle its products (note that PBMs could report such attempts) it is unlikely to meet the MAC limitation. Further, such remedy appears to be easy to monitor.

Timing

- The Federal Trade Commission lawsuit to block Amgen's planned purchase of Horizon Therapeutics is set for a hearing on September 11.
- The judge said he would likely take about four weeks after the hearing ends to make a ruling, according to a Reuters report.
- Amgen agreed not to close its $28 billion purchase of Horizon before September 15 or the second business day after the court rules on the Federal Trade Commission's request to block the deal.
- Horizon expects that its planned sale to Amgen can close by the end of Q3 or early in Q4 if the FTC's request for a preliminary injunction is denied by the federal court, according to an 8-K filing.
- AMGN: "We firmly believe in the benefits of this acquisition and intend to work with the court on a schedule that would allow the transaction to close by mid-December".

Downside

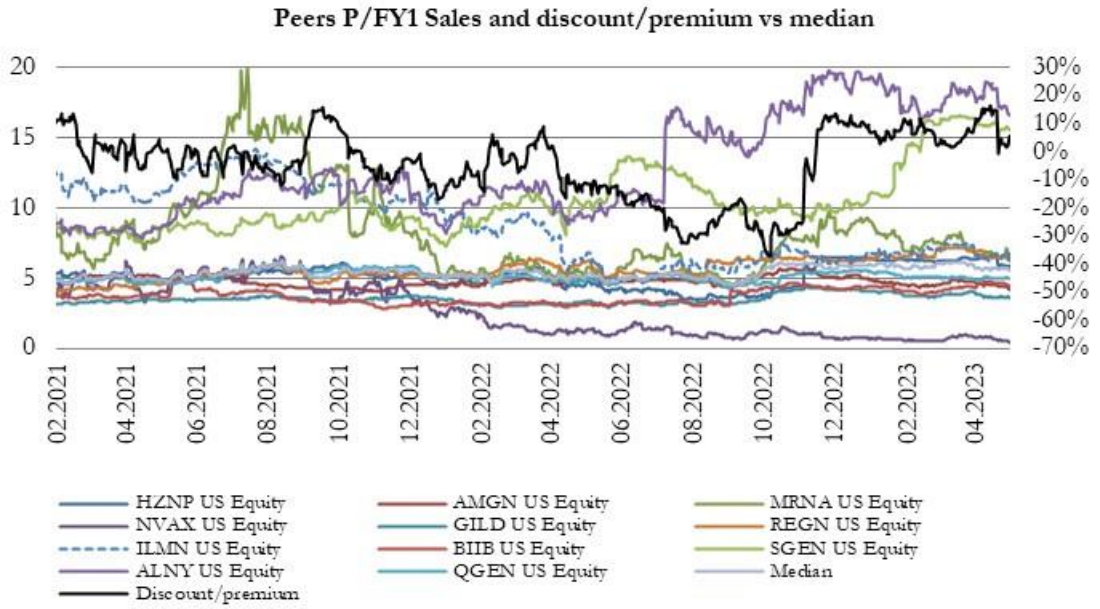
- In a deal break we see HZNP trading around 4.5x P/Sales multiple which implies a $75 standalone value.
- We believe that the one-time earnings miss is not enough to jeopardize the deal rationale (Tepezza underperformed while Krystexxa outperformed)

Valuation

STANDALONE VALUE

- In recent years HZNP was trading at a significant discount end of the FY1 P/Sales range.
- The paid premium takes HZNP just around the higher end of the discount/premium range.
- In a deal break we see HZNP trading around 4.5x P/Sales multiple which implies a $75 standalone value.

Company	Price	Mkt Cap (mn)	FY1 EV/ EBITDA	FY2 EV/ EBITDA	EBITDA CAGR	FY1 EBITDA Margin	FY1 PE	FY2 PE	EPS CAGR
HORIZON THERAPEU	113.00	25 808	19.8x	17.6x	12.9%	36.9%	24.0x	21.0x	13.0%
AMGEN INC	256.54	136 884	10.9x	10.4x	1.1%	57.2%	14.5x	13.8x	6.4%
MODERNA INC	193.07	74 174	6.6x	51.0x	-	53.0%	9.1x	62.9x	-
NOVAVAX INC	11.11	944	-	-	-	-	-	-	-
GILEAD SCIENCES	84.07	105 444	9.6x	10.0x	-7.9%	48.8%	11.8x	12.6x	-4.2%
REGENERON PHARM	741.18	80 716	11.2x	11.1x	-12.5%	52.7%	17.5x	17.9x	-13.2%
ILLUMINA INC	211.04	33 197	51.3x	47.3x	-4.6%	14.8%	89.8x	84.5x	-10.4%
BIOGEN INC	292.34	42 097	11.7x	13.0x	-8.6%	36.4%	17.1x	18.3x	-5.4%
SEAGEN INC	138.01	25 624	-	-	-	-	-	-	-
ALNYLAM PHARMACE	229.02	28 176	-	-	-	-	-	-	-
QIAGEN NV	50.35	11 595	15.1x	15.7x	-0.9%	37.1%	22.0x	23.9x	-2.4%
Average			**16.6x**	**22.7x**	**-5.6%**	**42.9%**	**26.0x**	**33.4x**	**-4.9%**



Key terms of the merger

Transaction Details	
Announcement Date	**December 12, 2022**
Offer terms	1 HZNP = $116.50
% owned by HZNP stockholders	0%
Deal Size (Market Value)	$26.6bn
Offer structure	Scheme of arrangement
Target's Board Recommendation	Yes
Voting Agreement	No
Target Incorporation	Ireland
Transaction agreement	Click here for the Transaction agreement

Indicated Closing Date

- The Transaction is expected to be completed in the first half of 2023

Dividends

- HZNP shall not pay a dividend

Financing

- Amgen Inc. has borrowed about $4 billion through a term-loan agreement, which may allow the company to raise less cash in the bond market to help fund its purchase of Horizon Therapeutics Plc.
- The biotechnology firm used proceeds from the new loan to reduce a bridge facility, originally valued at $28.5 billion that it borrowed earlier this year to help buy Horizon, according to a Thursday filing with the US Securities and Exchange Commission.
- Bridge loans provided by banks are typically replaced with permanent financing such as bonds, which are sold to institutional investors. By drawing down the bridge loan, even at small amounts, Amgen may be reducing its reliance among investors as a recession and even higher costs of funding loom going into the new year.

HZNP capitalization

HZNP Equity	(i) The authorized capital of the Company consists of 600,000,000 Company Shares, and 40,000 Company Deferred Shares. As of December 9, 2022 (the "Company Capitalization Date"), there were outstanding (A) 226,962,593 Company Shares, (B) 40,000 Company Deferred Shares, (C) Company Options to purchase an aggregate of 4,997,294 Company Shares, (D) Company RSU Awards (other than the Company PSU Awards) providing for the issuance of up to an aggregate of 3,581,805 Company Shares and (E) Company PSU Awards providing for the issuance of up to an aggregate of 1,909,313 Company Shares, determined assuming the maximum number of shares to be issued under the Company PSU Awards. As of December 9, 2022, (X) 21,101,438 additional Company Shares were reserved for issuance pursuant to the Company Share Plans (excluding the Company ESPP), and (Y) 2,046,575 additional Company Shares were reserved for issuance pursuant to the Company ESPP.
HZNP Debt	As of December 31, 2021, HZNP had $2.6 billion book value, or $2.6 billion aggregate principal amount of indebtedness, including $2.0 billion in secured indebtedness.
HZNP Net Leverage	

Timetable

Confidentiality Agreement	November 18, 2022
Date of the Merger Agreement (T)	December 11, 2022
Deal Announcement	December 12, 2022
HSR filing	December 29, 2022
Preliminary proxy filed	December 30, 2022
Italian FDI filing	January 3, 2023
German FDI filing	January 4, 2023
Danish FDI filing	January 11, 2023
German antitrust filing	January 13, 2023
Austrian antitrust filing	January 16, 2023
French FDI filing	January 16, 2023
Definitive proxy filed	January 23, 2023
Italian FDI waiting period ends 30 CD	February 2, 2023
Expiration of German and Austrian antitrust waiting periods	February 13, 2023
HZNP shareholder meeting	February 24, 2023

French FDI waiting period ends 30 BD	February 27, 2023
German FDI waiting period 2 months	March 4, 2023
Danish FDI waiting period ends 60 BD	April 5, 2023
Outside date	June 12, 2023
Extended outside date	September 12, 2023
Settlement (CBR est.)	By mid-October 2023
Further extended outside date	December 12, 2023

Deal close definition

- Completion shall take place remotely at 9:00 a.m., New York City time, on a date to be selected by Parent in consultation with the Company as promptly as reasonably practicable following, but not later than the third Business Day (or such shorter period of time as remains before 5:00 p.m., New York City time, on the End Date) after, the satisfaction or, in the sole discretion of the applicable Party, waiver (where applicable) of all of the Conditions ("Completion Date") (other than those Conditions that by their nature are to be satisfied at the Completion Date, but subject to the satisfaction or waiver of such Conditions at the Completion Date).

Key conditions to the merger

Shareholder approvals	the approval of the Scheme by a majority in number of members of each class of the Company Shareholders (including as may be directed by the Irish High Court pursuant to Section 450(5) of the Irish Companies Act) representing, at the relevant voting record time, at least 75% in value of the Company Shares of that class held by the Company Shareholders who are members of that class and that are present and voting either in person or by proxy, at the Scheme Meeting
No injunctions	Yes
No legal prohibition	Yes
Regulatory Approvals	Yes Antitrust US, Germany Austria Foreign Investment Denmark, Italy, France Germany.
Reps and warranties	Yes
Covenants fulfilled	Yes
No Company MAC	Yes

HZNP MAC Definition

- "Company Material Adverse Effect" means any event, change, effect, development or occurrence that, individually or together with any other event, change, effect, development or occurrence,
- (a) would prevent, materially delay or materially impair the ability of the Company to consummate the Acquisition or
- (b) has had or would reasonably be expected to have a material adverse effect on the condition (financial or otherwise), business, assets, liabilities or results of operations of the Company Group, taken as a whole;

HZNP MAC Carve-outs

Provided,

- provided that, solely for the purposes of clause (b), no event, change, effect, development or occurrence to the extent resulting from or arising out of any of the following shall be deemed to constitute a Company Material Adverse Effect or shall be taken into account in determining whether there has been, or would reasonably be expected to be, a Company Material Adverse Effect:
- (i) any decline in the market price or change in trading volume of the Company Shares;
- (ii) any event, change, effect, development or occurrence directly resulting from the announcement or pendency of the Transactions (other than for purposes of any representation or warranty contained in Section 6.1(u)(ii) and Section 6.1(v) but subject to corresponding disclosures in the Company Disclosure Schedule);
- (iii) any event, change, effect, development or occurrence in the industries and jurisdictions in which the Company Group operates or in the U.S. or global economy generally or other general business, financial or market conditions in the U.S. or globally, except in each case to the extent that the Company Group, taken as a whole, is adversely affected disproportionately relative to the other participants in such industries or the U.S. or the global economy generally, as applicable, and then only to the extent of such disproportionate impact;
- (iv) any event, change, effect, development or occurrence arising directly or indirectly from or otherwise relating to fluctuations in the value of any currency, except to the extent that the Company Group, taken as a whole, is adversely affected disproportionately relative to the other participants in such industries or the economy generally, as applicable, and then only to the extent of such disproportionate impact;
- (v) any event, change, effect, development or occurrence arising directly or indirectly from or otherwise relating to any act of terrorism, war, national or international calamity or any other similar event (other than cyberattacks), except to the extent that such event, circumstance, change or effect disproportionately affects the Company Group, taken as a whole, relative to other participants in the industries in which the Company Group operates or in the U.S or global economy generally, as applicable, and then only to the extent of such disproportionate impact;
- (vi) any epidemic, pandemic (including COVID-19), disease outbreak or other public health-related event, hurricane, tornado, flood, earthquake, tsunamis, tornadoes, mudslides, fires or other natural disaster or other force majeure event, or the escalation or worsening thereof, except to the extent that the Company Group, taken as a whole, is adversely affected disproportionately relative to other participants in the industries in which the Company Group operates or in the U.S. or global economy generally, as applicable, and then only to the extent of such disproportionate impact;

- (vii) the failure of any member of the Company Group to meet internal or analysts' expectations or projections of the results of operations of the Company Group;
- (viii) any adverse effect arising directly from or otherwise directly relating to any action taken by the Company Group at the written direction of Parent or any action specifically required pursuant to the terms of this Agreement to be taken by the Company (except for any obligation to operate in the ordinary course of business);
- (ix) any event, change, effect, development or occurrence arising directly or indirectly from or otherwise relating to any change in, or any compliance with, any applicable Laws or GAAP (or interpretations of any applicable Laws or GAAP), except to the extent that the Company Group, taken as a whole, is adversely affected disproportionately relative to the other participants in such industries or the U.S. or global economy generally, as applicable, and then only to the extent of such disproportionate impact; or
- **(x) any FDA or similar (in the U.S. or globally) regulatory, manufacturing, safety or clinical event, change, effect, development or occurrence relating to any Company Product (but excluding the loss of any manufacturing license or the loss of marketing authorization for any Company Product);**
- it being understood that the exceptions in clauses **(i) and (vii)** shall not prevent or otherwise affect a determination that the underlying cause of any such decline or failure referred to therein (if not otherwise expressly excluded under any of the exceptions provided by clauses (ii) through (vi) or (viii) through (x) hereof) is a Company Material Adverse Effect.

Break fees

Break fee	No
Reverse break fee	$974,415,054

Antitrust related clauses

Jurisdictions	US, Germany, Austria, Denmark, Italy, France
Divestiture obligation	Yes limited by MAC neither Parent nor any of its Affiliates shall be required to proffer, consent to or agree to or effect any Remedy Action (x) with respect to any assets, categories of assets or portions of any business of the Company or any of its Subsidiaries if, in each case, any such Remedy Action would, individually or in the aggregate, reasonably be expected to be material to the business, assets or financial condition of the Company and its Subsidiaries, taken as a whole or (y) with respect to the items listed on Section 7.2(c) of the Company Disclosure Schedule or (z) for the avoidance of doubt, with respect to any assets, categories of assets or portions of any business of Parent or its Affiliates (such effect referred to in clauses **(x), (y), or (z), a "Burdensome Condition"**
Litigation obligation	No
Reverse break fee (regulatory)	$974,415,054

Specific Performance

Yes

Governing Law

Ireland and Delaware

Key HZNP shareholders

Shareholders	**%**
Vanguard Group Inc/The	9.3
BlackRock Inc	6.5
Capital Group Cos Inc/The	3.7
Avoro Capital Advisors LLC	3.1
JPMorgan Chase & Co	2.5
HBK Investments LP	2.4
Farallon Capital Management LLC	2.4
State Street Corp	2.3
T Rowe Price Group Inc	2.0
Millennium Management LLC/NY	1.9
Others	**63.9**

Source: Bloomberg

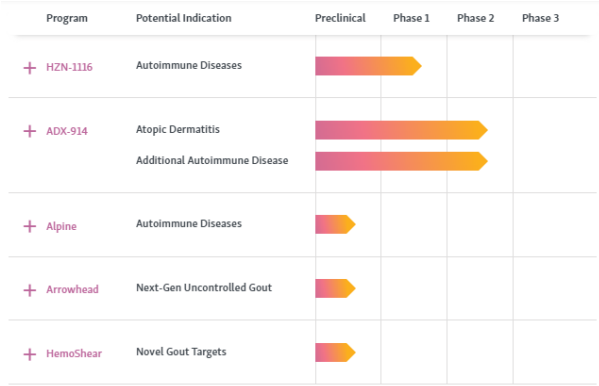
Company descriptions & rationale for the merger

HZNP DESCRIPTION

- Horizon is a global biotechnology company focused on the discovery, development and commercialization of medicines that address critical needs for people impacted by rare, autoimmune and severe inflammatory diseases.
- They are focused on the discovery, development and commercialization of medicines that address critical needs for people impacted by rare, autoimmune and severe inflammatory diseases. Their pipeline is purposeful: they apply scientific expertise and courage to bring clinically meaningful therapies to patients. Horizon believes science and compassion must work together to transform lives.
- Horizon is a leading high-growth, innovation-driven, profitable biotech company. They are focused on the discovery, development and commercialization of medicines that address critical needs for people impacted by rare, autoimmune and severe inflammatory diseases.
- Horizon produces medicines in two segments: Orphan and Inflammation segment.
- The orphan segment consists of medicines TEPEZZA, KRYSTEXXA, RAVICTI, PROCYSBI, ACTIMMUNE, UPLIZNA, BUPHENYL and QUINSAIR.
- TEPEZZA is a fully human monoclonal antibody and a targeted inhibitor of the insulin-like growth factor-1 receptor, or IGF-1R, that is the first and only FDA-approved medicine for the treatment of TED. TED is a serious, progressive and vision-threatening rare autoimmune condition. While TED often occurs in people living with hyperthyroidism or Graves' disease, it is a distinct disease that is caused by autoantibodies activating an IGF-1R-mediated signaling complex on cells within the retro-orbital space.
- KRYSTEXXA is the first and only FDA approved medicine for the treatment of uncontrolled gout. Uncontrolled gout occurs in patients who have failed to normalize serum uric acid, or sUA, and whose signs and symptoms are inadequately controlled with conventional therapies, such as xanthine oxidase inhibitors, or XOIs, at the maximum medically appropriate dose, or for whom these drugs are contraindicated.
- RAVICTI is indicated for use as a nitrogen-binding agent for chronic management of adult and pediatric patients (beginning at birth) with urea cycle disorders, or UCDs, that cannot be managed by dietary protein restriction and/or amino acid supplementation alone. UCDs are rare, life-threatening genetic disorders. RAVICTI must be used with dietary protein restriction and, in some cases, dietary supplements.
- PROCYSBI is indicated for nephropathic cystinosis, or NC, a rare lysosomal storage disorder that results in the amino acid cystine accumulating inside the lysosomes of nearly every cell. Cystine accumulation results in the formation of crystals that lead to cell damage and death in tissues and organs throughout the body. PROCYSBI (cysteamine bitartrate) delayed-release capsules and delayed-release oral granules is the first and only FDA-approved treatment for NC with 12-hour dosing. PROCYSBI uses proprietary technology that releases cysteamine gradually, providing 12-hour continuous cystine control in adults and children 1 year of age and older. PROCYSBI granules, also called "microbeads," are composed of cysteamine bitartrate surrounded by an acid-resistant enteric coating.
- ACTIMMUNE is indicated for chronic granulomatous disease, or CGD, and severe, malignant osteopetrosis, or SMO. It is a biologically manufactured protein called interferon gamma-1b that is similar to a protein the human body makes naturally. Interferon gamma helps prevent infection in CGD patients and enhances osteoclast function in SMO patients. ACTIMMUNE is the only medicine approved by the FDA to reduce the frequency and severity of serious infections associated with CGD and for delaying disease progression in patients with SMO. ACTIMMUNE is believed to work by modifying the cellular function of various cells, including those in the immune system and those that help form bones.
- UPLIZNA is a humanized monoclonal antibody that works by binding to CD19, a cell-surface molecule broadly expressed on the surface of B cells, including plasmablasts and some plasma cells. In some autoimmune diseases, autoantibodies secreted by plasmablasts and plasma cells attack native tissues as opposed to foreign pathogens. UPLIZNA depletes these plasmablasts that may produce pathogenic autoantibodies
- BUPHENYL tablets and BUPHENYL powder are made from granules that contain sodium phenylbutyrate as the active (chemically synthesized) ingredient and microcrystalline cellulose as a diluent. BUPHENYL tablets for oral administration and BUPHENYL powder for oral, nasogastric, or gastrostomy tube administration are indicated as adjunctive therapy in the chronic management of patients with UCDs involving deficiencies of carbamoyl phosphate synthetase, ornithine transcarbamylase or argininosuccinic acid synthetase.
- QUINSAIR is a formulation of the antibiotic drug levofloxacin, suitable for inhalation via a nebulizer and indicated for the management of chronic pulmonary infections due to Pseudomonas aeruginosa in adult patients with cystic fibrosis, or CF. CF is a rare, life-threatening genetic disease affecting approximately 70,000 people worldwide, and results in build-up of abnormally thick secretions that can cause chronic lung infections and progressive lung damage in many patients that eventually leads to death o The inflammation segment includes PENNSAID 2% w/w, or PENNSAID 2%, DUEXIS, RAYOS and VIMOVO.
- PENNSAID 2% is indicated for the treatment of pain of osteoarthritis, or OA, of the knee(s). OA is a type of arthritis that is caused by the breakdown and eventual loss of the cartilage of one or more joints.
- DUEXIS is indicated for the relief of signs and symptoms of rheumatoid arthritis, or RA, and OA and to decrease the risk of developing uppergastrointestinal, or upper-GI, ulcers in patients who are taking ibuprofen for these indications. RA is a chronic disease that causes pain, stiffness and swelling, primarily in the joints.
- RAYOS is a corticosteroid indicated for the treatment of multiple conditions: RA; ankylosing spondylitis, or AS; polymyalgia rheumatica, or PMR; systemic lupus erythematosus, or SLE; and a number of other conditions. HZNP focuses promotion of RAYOS on rheumatology indications, including RA and PMR.

- VIMOVO is indicated for the relief of signs and symptoms of OA, RA and AS and to decrease the risk of developing gastric ulcers in patients at risk of developing NSAID-associated gastric ulcers. It is a proprietary, fixed-dose, delayed-release tablet that combines enteric-coated naproxen, an NSAID, surrounded by a layer of immediate-release esomeprazole magnesium. Naproxen has proven anti-inflammatory and analgesic properties, and esomeprazole magnesium reduces the stomach acid secretions that can cause upper-GI ulcers.

Horizon's Pipeline:



- HZNP faces significant competition from other biotechnology and pharmaceutical companies, including those marketing generic medicines and operating results will suffer if it fails to compete effectively.
- Although TEPEZZA does not face direct competition, other therapies, such as corticosteroids, have been used on an off-label basis to alleviate some of the symptoms of TED. While these therapies have not proved effective in treating the underlying disease, and carry with them significant side effects, their off-label use could reduce or delay treatment in the addressable patient population for TEPEZZA. **Immunovant** Inc., or Immunovant, is conducting Phase 2 clinical trials of a fully human anti-FcRn monoclonal antibody candidate for the treatment of active TED, also referred to as Graves' ophthalmopathy. On February 2, 2021, Immunovant announced a voluntary pause in the clinical dosing of the candidate due to elevated total cholesterol and low-density lipoprotein levels in patients treated with the candidate. Immunovant has indicated it intends to continue developing the candidate but did not provide an estimate of when the dosing might resume. Viridian Therapeutics, Inc. is pursuing development of two anti-IGF-1R monoclonal antibodies for TED and has initiated a Phase 1/2 trial in the fourth quarter of 2021.
- While KRYSTEXXA faces limited direct competition, a number of competitors have medicines in clinical trials, including Selecta Biosciences Inc., or Selecta, which has initiated a Phase 3 clinical program of a candidate for the treatment of chronic refractory gout. In September 2020, Selecta announced topline clinical data that did not meet the primary endpoint or demonstrate statistical superiority for its Phase 2 trial that compared its candidate, which includes an immunomodulator, to KRYSTEXXA alone. In July 2020, **Selecta and Swedish Orphan Biovitrum AB, or Sobi,** entered into a strategic licensing agreement under which Sobi will assume responsibility for certain development, regulatory, and commercial activities for this candidate. In December 2021, Selecta and Sobi announced the completion of enrollment for DISSOLVE I, the first of two clinical studies of the Phase 3 DISSOLVE development program of SEL-212 for chronic refractory gout. SEL-212 is a combination of Selecta's ImmTOR immune tolerance platform and a therapeutic uricase enzyme (pegadricase).
- RAVICTI could face competition from a few alternative medicine and treatment options that are in development, including a gene-therapy candidate by Ultragenyx Pharmaceutical Inc., a generic taste-masked formulation option of sodium phenylbutyrate by ACER Therapeutics Inc., an enzyme replacement for a specific UCD subtype (ARG) by **Aeglea Bio Therapeutics** Inc. and a mRNA-based therapeutic for a specific UCD subtype (OTC) by **Arcturus Therapeutics Holdings** Inc.
- PROCYSBI faces competition from Cystagon® (immediate-release cysteamine bitartrate capsules) for the treatment of cystinosis, Cystadrops® (cysteamine ophthalmic solution) for the treatment of corneal cystine crystal deposits and CystaranTM (cysteamine ophthalmic solution) for treatment of corneal crystal accumulation in patients with cystinosis. Additionally, HZNP is also aware that **AVROBIO, Inc**. has a gene therapy candidate in development for the treatment of cystinosis.

- UPLIZNA faces competition from eculizumab, marketed as Soliris® by **AstraZeneca** plc, or AstraZeneca, and satralizumab, marketed as EnspryngTM by **Chugai Pharmaceuticals** Co., Ltd., a subsidiary of **F. Hoffmann-La Roche Ltd**., each for the treatment of patients with NMOSD. AstraZeneca is also conducting a Phase 3 trial with Ultomiris® (ravulizumab) in NMOSD and, if approved for this indication, UPLIZNA could face additional competition. UPLIZNA also faces competition from rituximab, an off-label treatment that has been used for years to treat NMOSD given the lack of an approved medicine for this disease prior to 2019.
- PENNSAID 2% faces competition from generic versions of diclofenac sodium topical solutions that are priced significantly less than the price HZNP charges for PENNSAID 2%. The generic version of Voltaren Gel is the market leader in the topical NSAID category. Legislation enacted in most states in the United States allows, or in some instances mandates, that a pharmacist dispense an available generic equivalent when filling a prescription for a branded medicine, in the absence of specific instructions from the prescribing physician. Because pharmacists often have economic and other incentives to prescribe lower-cost generics, if physicians prescribe PENNSAID 2%, those prescriptions may not result in sales. If physicians do not complete prescriptions through HorizonCares program or otherwise provide prescribing instructions prohibiting generic diclofenac sodium topical solutions as a substitute for PENNSAID 2%, sales of PENNSAID 2% may suffer despite any success it may have in promoting PENNSAID 2% to physicians.
- HZNP has also entered into settlement and license agreements that may allow certain of competitors to sell generic versions of certain of medicines in the United States, subject to the terms of such agreements. It granted (i) non-exclusive licenses to manufacture and commercialize generic versions of PENNSAID 2% in the United States after October 17, 2027, (ii) a non-exclusive license to manufacture and commercialize a generic version of RAYOS tablets in the United States after December 23, 2022, (iii) non-exclusive licenses to manufacture and commercialize generic versions of RAVICTI in the United States after July 1, 2025 and (iv) non-exclusive license to manufacture and commercialize a generic version of PROCYSBI in the United States after March 31, 2030. Under certain circumstances, each of these licenses could become effective on an earlier date.
- ACTIMMUNE is the only medicine currently approved by the FDA specifically for the treatment of CGD and SMO. While there are additional or alternative approaches used to treat patients with CGD and SMO, there are currently no medicines on the market that compete directly with ACTIMMUNE. A widely accepted protocol to treat CGD in the United States is the use of concomitant "triple prophylactic therapy" comprising ACTIMMUNE, an oral antibiotic agent and an oral antifungal agent. However, the FDA-approved labeling for ACTIMMUNE does not discuss this "triple prophylactic therapy," and physicians may choose to prescribe one or both of the other modalities in the absence of ACTIMMUNE. Because of the immediate and life-threatening nature of SMO, the preferred treatment option for SMO is often to have the patient undergo a bone marrow transplant which, if successful, will likely obviate the need for further use of ACTIMMUNE in that patient. Likewise, the use of bone marrow transplants in the treatment of patients with CGD is becoming more prevalent, which could have a material adverse effect on sales of ACTIMMUNE and its profitability. HZNP is aware of a number of research programs investigating the potential of gene therapy as a possible cure for CGD. Additionally, other companies may be pursuing the development of medicines and treatments that target the same diseases and conditions which ACTIMMUNE is currently approved to treat. As a result, it is possible that competitors may develop new medicines that manage CGD or SMO more effectively, cost less or possibly even cure CGD or SMO. In addition, the U.S. patents covering ACTIMMUNE expire in August 2022, and although HZNP is not currently aware of any biosimilar to ACTIMMUNE under development, the development and commercialization of any competing medicines or the discovery of any new alternative treatment for CGD or SMO could have a material adverse effect on sales of ACTIMMUNE and its profitability.
- BUPHENYL's composition of matter patent protection and orphan drug exclusivity have expired. Because BUPHENYL has no regulatory exclusivity or listed patents, there is nothing to prevent a competitor from submitting an ANDA for a generic version of BUPHENYL and receiving FDA approval. Generic versions of BUPHENYL to date have been priced at a discount relative to RAVICTI, and physicians, patients, or payers may decide that this less expensive alternative is preferable to RAVICTI. If this occurs, sales of RAVICTI could be materially reduced, but it would nevertheless be required to make royalty payments to Bausch Health Companies Inc. (formerly Ucyclyd Pharma, Inc.), or Bausch, and another external party, at the same royalty rates. While Bausch and its affiliates are generally contractually prohibited from developing or commercializing new medicines, anywhere in the world, for the treatment of UCD or hepatic encephalopathy, or HE, which are chemically similar to RAVICTI, they may still develop and commercialize medicines that compete with RAVICTI. For example, medicines approved for indications other than UCD and HE may still compete with RAVICTI if physicians prescribe such medicines off-label for UCD or HE. HZNP is also aware that Recordati S.p.A (formerly known as Orphan Europe SARL), or Recordati, received FDA approval in January 2021 for carglumic acid for the treatment of acute hyperammonemia due to propionic acidemia or methylmalonic acidemia. Carglumic acid, sold under the name Carbaglu, is also approved for chronic and acute hyperammonemia due to N-acetylglutamate synthase deficiency, a rare UCD subtype. RAVICTI may face additional competition from this compound.

AMGEN DESCRIPTION

- Amgen Inc. is a biotechnology company committed to unlocking the potential of biology for patients suffering from serious illnesses by discovering, developing, manufacturing and delivering innovative human therapeutics. This approach begins by using tools like advanced human genetics to unravel the complexities of disease and understand the fundamentals of human biology.
- Amgen focuses on areas of high unmet medical need and leverages its expertise to strive for solutions that improve health outcomes and dramatically improve people's lives. A biotechnology pioneer, Amgen has grown to be one of the world's leading independent

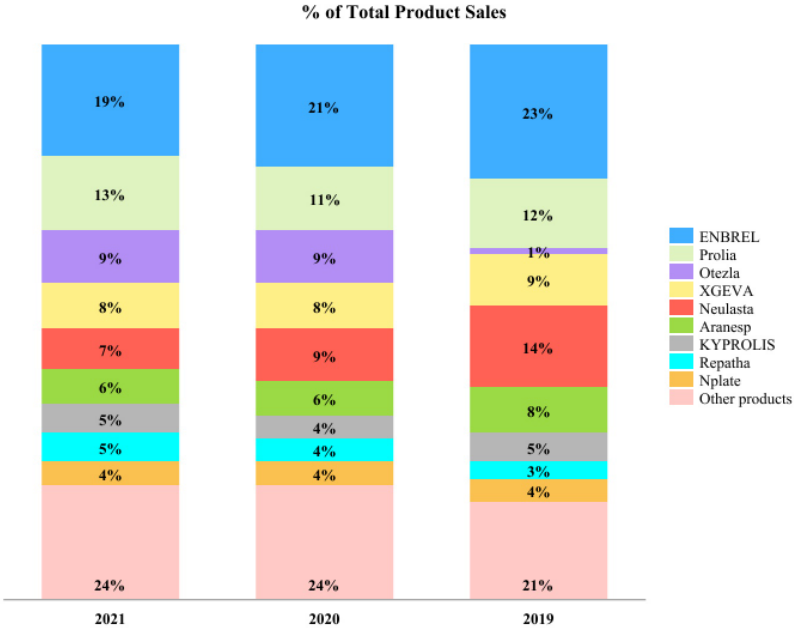
biotechnology companies, has reached millions of patients around the world and is developing a pipeline of medicines with breakaway potential.

Business Development

- Five Prime Therapeutics acquisition - On April 16, 2021, Amgen completed its acquisition of Five Prime, a public clinical-stage biotechnology company focused on developing immuno-oncology and targeted cancer therapies, for approximately $1.6 billion in cash, net of cash acquired.
    - In April 2021, the FDA granted Breakthrough Therapy designation for bemarituzumab as first-line treatment for patients with FGFR2b overexpressing and HER2-negative metastatic and locally advanced gastric and gastroesophageal adenocarcinoma in combination with fluoropyrimidine, leucovorin and oxaliplatin based on an FDA-approved companion diagnostic assay showing at least 10% of tumor cells overexpressing FGFR2b.
- KKC collaboration - Amgen and KKC entered into an agreement, effective July 30, 2021, to jointly develop and commercialize KKC's potential first-in-class, phase 3-ready anti-OX40 fully human monoclonal antibody in development for the treatment of atopic dermatitis, with potential in other autoimmune diseases.
- Teneobio acquisition - On October 19, 2021, Amgen completed its acquisition of Teneobio, a privately held, clinical-stage biotechnology company developing a new class of biologics called human heavy-chain antibodies, which are single-chain antibodies composed of the human heavy-chain domain, for $900 million as well as future contingent milestone payments potentially worth up to an additional $1.6 billion upon the achievement of certain developmental and regulatory events.

Products/Pipeline

- Inflammation
    - Otezla - In December 2021, AMGN announced that the FDA had approved the expanded indication for Otezla for the treatment of adult patients with plaque psoriasis, who are candidates for phototherapy or systemic therapy, across all severities.
    - TEZSPIRE - In December 2021, AMGN and AstraZeneca announced that the FDA had approved TEZSPIRE for the add-on maintenance treatment of adult and pediatric patients aged 12 years and older with severe asthma.
- Oncology/Hematology -
    - LUMAKRAS/LUMYKRAS - In May 2021, AMGN announced that the FDA had approved LUMAKRAS for the treatment of adult patients with KRAS G12C–mutated locally advanced or metastatic NSCLC, as determined by an FDA-approved test, who have received at least one prior systemic therapy. LUMAKRAS received accelerated approval based on ORR and DoR. Continued approval for this indication may be contingent upon verification and description of clinical benefit in a confirmatory trial or trials.
        - In January 2022, AMGN announced that the EC had granted conditional marketing authorization for LUMYKRAS for the treatment of adults with advanced NSCLC with KRAS G12C mutation and who have progressed after at least one prior line of systemic therapy. AMGN also announced that LUMAKRAS had been approved in Japan for the treatment of KRAS G12C-mutated positive, unresectable, advanced and/or recurrent NSCLC that has progressed after systemic anticancer therapy.
    - KYPROLIS - In December 2021, AMGN announced that the FDA had approved the expansion of the KYPROLIS prescribing information to include its use in combination with DARZALEX FASPRO (daratumumab and hyaluronidase-fihj) and dexamethasone for the treatment of adult patients with relapsed or refractory multiple myeloma who have received one to three lines of therapy.



The following table reflects our significant competitors and is not exhaustive.

Product	Territory	Competitor-marketed product	Competitors
ENBREL	U.S. & Canada	HUMIRA	AbbVie
	U.S.	Xeljanz	Pfizer Inc.
	U.S. & Canada	RINVOQ	AbbVie
Prolia	U.S. & Europe	Alendronate, raloxifene and zoledronate generics	Various
Otezla	U.S. & Europe	HUMIRA[T]	AbbVie
	U.S. & Europe	Cosentyx	Novartis
	U.S. & Europe	Taltz	Lilly
	U.S. & Europe	Tremfya	Janssen[1]
	U.S. & Europe	Skyrizi[2]	AbbVie
	U.S. & Europe	Methotrexate generics	Various
XGEVA	U.S. & Europe	Zoledronate generics	Various
Neulasta[3]	U.S.	UDENYCA	Coherus BioSciences, Inc.
	U.S.	Fulphila	Mylan Institutional Inc.
	U.S. & Europe	Filgrastim biosimilars	Various
Aranesp	U.S.	PROCRIT[4]	Janssen[1]
	U.S. & Europe	Epoetin alfa biosimilars	Various
Repatha	U.S. & Europe	PRALUENT	Regeneron Pharmaceuticals, Inc. Sanofi
KYPROLIS[5]	U.S.	VELCADE	Millennium Pharmaceuticals, Inc.[6]
	U.S. & Europe	REVLIMID	Celgene[7]
	U.S. & Europe	POMALYST/IMNOVID	Celgene[7]
	U.S. & Europe	DARZALEX	Janssen[1]
Nplate	U.S. & Europe	PROMACTA/REVOLADE	Novartis

Amgen inflammation pipeline

MOLECULE NAME	THERAPEUTIC AREA	INVESTIGATIONAL INDICATION	MODALITY	PHASE
AMJEVITA™ (adalimumab-atto)	Inflammation	Interchangeability	Monoclonal Antibody	3
OTEZLA® (apremilast)	Inflammation	Pediatric Plaque Psoriasis	Small Molecule	3
	Inflammation	Genital Psoriasis	Small Molecule	3
	Inflammation	Juvenile Psoriatic Arthritis	Small Molecule	3
	Inflammation	Pediatric Behcet's Disease	Small Molecule	3
	Inflammation	Palmoplantar Pustulosis	Small Molecule	3
ROCATINLIMAB (formerly AMG 451 / KHK4083)	Inflammation	Atopic Dermatitis	Monoclonal Antibody	3
TEZSPIRE® (tezepelumab-ekko)	Inflammation	Severe Asthma	Monoclonal Antibody	3
	Inflammation	Chronic Rhinosinusitis with Nasal Polyps	Monoclonal Antibody	3
	Inflammation	Chronic Obstructive Pulmonary Disease	Monoclonal Antibody	2
	Inflammation	Chronic Spontaneous Urticaria	Monoclonal Antibody	2
ABP 654 (Investigational biosimilar to STELARA® (ustekinumab))	Inflammation	Investigational Biosimilar	Monoclonal Antibody	3
ABP 938 (Investigational biosimilar to EYLEA® (aflibercept))	Inflammation	Investigational Biosimilar	Fusion Protein	3
EFAVALEUKIN ALFA (formerly AMG 592)	Inflammation	Systemic Lupus Erythematosus	Fusion Protein	2
	Inflammation	Ulcerative Colitis	Fusion Protein	2
ORDESEKIMAB (formerly AMG 714 / PRV-015)	Inflammation	Celiac Disease	Monoclonal Antibody	2
ROZIBAFUSP ALFA (formerly AMG 570)	Inflammation	Systemic Lupus Erythematosus	Antibody-Peptide Conjugate	2
AMG 104	Inflammation	Asthma	Monoclonal Antibody	1

STRATEGIC RATIONALE FOR THE MERGER

- The Transaction adds first-in-class and best-in-class innovative medicines that fit well with Amgen's portfolio and strategic vision
- Amgen's global scale and 20-year history in commercializing inflammation therapies can accelerate growth of Horizon's portfolio
- Horizon's platform strategies in R&D and manufacturing can be strengthened by Amgen's 40-year history in biologics, development and manufacturing
- Strong financial profile with non-GAAP EPS accretion from 2024 and significant cash flow generation enabling continued attractive shareholder payouts and investment in innovation

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