BofA SECURITIES

US Biopharmaceuticals

Day 2 conference takeaways

Industry Overview

Top takeaways from the ongoing HC conference

With the January HC conference underway, we've highlighted below the most meaningful updates and takeaways from today's presentations. See our takeaways from yesterday's Day 1 sessions; updates/takeaways from SMids beginning on page 2.

Eli Lilly – Lilly's presentation focused on the long-term picture for its commercial and clinical portfolios, highlighting its best-in-class growth potential. The company indicated it intends to grow R&D through internal investments / external innovation and while aiming to be an early adopter for new modalities. On BD, management stated that they intend to pursue BD by acquiring people + technologies which are conducive differentiated innovation. See our Lilly takeaways here

Royalty Pharma – After beating portfolio receipt guidance earlier this week, Royalty's presentation focused on their shift to synthetic royalties, guidance on reaching $1.2B in annual portfolio receipts by 2025, and risks pressuring Royalty shares today. See our Royalty takeaways here

In person takeaways

Regeneron (REGN): new programs interesting, but early

Regeneron hosted an event after yesterday's conference presentation (see our Regeneron conference presentation note) further discussing the company's new programs and reiterating points made during the company's investor presentation. Takeaways from the meeting include: 1) primary endpoints for the obesity program currently uncertain, and 2) management is confident in the mechanism of action combining Dupixent + linvoseltamab for the severe allergy program. In conjunction with additional programs launching in 2024, management expects a step-up in R&D spend. Separately, if approved, we would also anticipate a step-up in SG&A spend related to the commercialization of linvoseltamab for multiple myeloma and odronextamab for B-cell lymphoma. That said, we await further details from Regeneron's 4Q call on February 2nd. Maintain Underperform, $700 PO.

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SMid cap updates

Kymera – Kymera provided incremental color in their presentation, as CEO Nello Mainofi reiterated management's case for investing in immunology from their R&D day last week (see our thoughts on the R&D day). Mainofi said the company expects phase 1 data from their KT-333 and KT-253 oncology products in 2024, while there won't be any data readouts from its I&I portfolio (KT-474, KT-621, and KT-294) until 2025. Although we maintain that protein degraders are a differentiated approach in I&I, we think data is early and that there is much wood to chop clinically to achieve a commercially competitive profile. Overall, Kymera's immunology pipeline updates today are within our expectations that meaningful catalysts are more in the 2025+ timeframe. Notably, Topline KT-474 (IRAK4) data will be reported in 1H25, which would be the next significant clinical data update. Maintain Neutral, $30 PO.

Sana – Sana provided more color on its T1D & regenerative medicine program use HIP during its presentation. Indeed, the company believes that over 13.1 million patients may benefit from their HIP tech across T1D, B-cell mediated autoimmune diseases, and blood cancers. Overall, Sana expects to enroll 40 patients across 4 programs and 7 indications this year. Management noted continued enrollment growth in its ARDENT SC291 trial in NHL and CLL, with 6 patients currently dosed and 2 patients with a complete response. The company announced it expects data from its SC291 GLEAM trial across multiple indications (refractory lupus, extraneal SLE, and AAV) with data expected in 2024. Overall, we see a strong setup for Sana in 2024 as it advances programs in a range of therapeutic areas including oncology and type 1 diabetes. We maintain our Buy rating and $10 PO based on Sana's unique platform which we argue has the potential to generate best-in-class assets in multiple indications.

CRISPR – CRISPR's presentation focused on their class leading pipeline and technology platform with assets across multiple indications. The company announced it activated 9 ATCs across the US & Europe to administer CASGEVY, with plans to activate 50 / 25 in the US & EU respectively. Turning to oncology, CRISPR's CTX131 Anti-CD70 allogenic CAR-T therapy is currently in phase 1 testing against solid tumors in RCC, with an expectation to expand into hematologic malignancies as well. In cardiology, management demonstrated the value of CTX310 / CTX320 in reducing ASCVD occurrences while noting the convince & compliance benefits of a gene editing approach VS the siRNA SoC. Looking to T1D, the company announced Vertex opted out of the agreement ViaCyte and CRISPR entered prior to Vertex's acquisition of the company in 2022. As a result, CRISPR now fully owns the IP for its CTX211 candidate and pre-clinical deviceless pancreatic progenitor cell candidates. CRISPR is expected to pay up $160M to vertex in additional R&D milestones and royalties on future products for use of Vertex's gene-edited hypoimune IP in T1D. On BD, CRISPR indicated it's looking to enter licensing agreements with other biotech firms to expand the company's bandwidth (noting they may become capacity constrained if all 7 of their drugs pass clinical trials). Maintain Buy rating & $100 PO.

Abbreviations:
IND: Investigational New Drug Application
PK/PD: pharmacokinetic/pharmacodynamic modeling
CD: cluster of differentiation
CAR-T: chimeric antigen receptor T-cell
BCMA: B-cell maturation antigen
NHL: non-Hodgkin lymphoma
ALL: acute lymphoblastic leukemia
CLL: chronic lymphocytic leukemia
CNS: central nervous system

siRNA: short interfering ribonucleic acid
BD: business development
SOC: Standard of Care
SLE: Systemic lupus erythematosus
AAV: ANCA-associated vasculitis
T1D: type 1 diabetes
RCC: Renal Cell Carcinoma
ASCVD: Atherosclerotic cardiovascular disease
IP: Intellectual property

Stocks mentioned

Prices and ratings for stocks mentioned in this report

BofA Ticker	Bloomberg ticker	Company name	Price	Rating
CRSP	CRSP US	CRISPR Therapeutics	US$ 62.63	C-1-9
KYMR	KYMR US	Kymera Therapeutics	US$ 28.48	C-2-9
REGN	REGN US	Regeneron Pharmaceuticals	US$ 902.69	B-3-9
SANA	SANA US	Sana Biotechnology	US$ 5.155	C-1-9

Source: BofA Global Research

Price objective basis & risk

CRISPR Therapeutics (CRSP)

Our $100 price objective for CRISPR Therapeutics is based on a probability adjusted (35-80%) net present value (NPV) sum-of-the-parts analysis of its four primary programs under development. We use a weighted-average cost of capital (WACC) of 12%, similar to other early-stage companies in our coverage universe, and a 2% terminal growth rate given the long patent life (2033 at earliest) and difficulty of replication. Given these assumptions, our $100 PO includes $44/share for CTX001, $3/share for CTX112, $2/share for CTX121, $4/share for CTX131, $22/share in net cash, and $25/share for the technology platform.

Downside risks: 1) failure of early clinical trials, 2) dangerous safety signals, 3) superior competitor data, and 4) soft market uptake.

Kymera Therapeutics (KYMR)

We use a sum of the parts NPV model to value Kymera shares based on our risk-adjusted revenue forecasts and estimated margin assumptions. Our $30 price objective gives credit to the company's two lead programs, KT-474 and STAT3, through 2039 and uses an 15% WACC for both programs.

Downside risks to our PO are: 1) unanticipated safety concerns in initial clinical studies, 2) clinical trial failures / limited efficacy results given preclinical nature of current data, 3) greater than expected competitive threats, 4) delays in pipeline development timelines, and 5) financial risks due to cash availability.

Upside risks to our PO are: 1) positive initial data sooner than expected, 2) additional pipeline partnerships that help de-risk the TPD mechanism, 3) more rapid advancement through the clinic and thus earlier commercial launch timelines, and 4) positive clinical data from other TPD companies that help de-risk the technology.

Regeneron Pharmaceuticals Inc. (REGN)

Our $700 price objective is based on a probability-adjusted net present value (NPV) analysis of Eylea, including outside of US (OUS) revenues from the Bayer collaboration ($164/share), Sanofi collaboration revenue including Dupixent and other product revenues ($329/share), Libtayo ($56/share), early pipeline assets ($60/share), and the

rest from net cash. We use a weighted-average cost of capital (WACC) ranging from 7% for approved products to 10% for pipeline products and terminal growth ranging from -3 to 3%. Upside risks to our price objective are 1) better-than-expected Eylea growth trajectory, 2) a larger contribution of Dupixent to Regeneron's topline from commercial uptake in new indications, and 3) better-than-expected economics realized by Regeneron from joint ventures. Downside risks to our price objective are 1) slower-than-expected growth from product sales, particularly Eylea and Dupixent, 2) failure to obtain approval for additional indications for Dupixent, and 3) pipeline setbacks.

Sana Biotechnology (SANA)
Our $10 PO is based on a probability-adjusted NPV of Sana's pipeline (12% likelihood of success), including its in vivo and ex vivo platform programs. We apply a 15% WACC and a terminal growth of -30% (we project revenues out through 2035), in-line with other biotech companies of similar size and stage of clinical development. We also include approximately $2/share from Sana's current cash position.

Downside risks to our PO are: 1) clinical trial failures, 2) better than expected data from competitors, 3) dilution from cash raises.

Analyst Certification

I, Geoff Meacham, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

US - Biopharmaceuticals Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	89bio, Inc	ETNB	ETNB US	Geoff Meacham
	Acumen Pharma	ABOS	ABOS US	Geoff Meacham
	Agios Pharmaceuticals	AGIO	AGIO US	Greg Harrison, CFA
	Amylyx Pharmaceuticals	AMLX	AMLX US	Geoff Meacham
	BioMarin	BMRN	BMRN US	Geoff Meacham
	BioXcel Therapeutics	BTAI	BTAI US	Greg Harrison, CFA
	BridgeBio Pharma	BBIO	BBIO US	Greg Harrison, CFA
	Caribou	CRBU	CRBU US	Geoff Meacham
	CRISPR Therapeutics	CRSP	CRSP US	Geoff Meacham
	Eli Lilly and Company	LLY	LLY US	Geoff Meacham
	Gilead Sciences Inc.	GILD	GILD US	Geoff Meacham
	HUTCHMED	HCM	HCM US	Alec W. Stranahan
	Immatics	IMTX	IMTX US	Alec W. Stranahan
	Insmed Incorporated	INSM	INSM US	Jason Zemansky
	Intellia Therapeutics	NTLA	NTLA US	Greg Harrison, CFA
	Janux Therapeutics	JANX	JANX US	Geoff Meacham
	Keros	KROS	KROS US	Greg Harrison, CFA
	Kiniksa Pharmaceuticals, Ltd.	KNSA	KNSA US	Geoff Meacham
	Krystal Biotech	KRYS	KRYS US	Alec W. Stranahan
	Kura Oncology	KURA	KURA US	Jason Zemansky
	Liquidia Corporation	LQDA	LQDA US	Greg Harrison, CFA
	Lyell Immunopharma	LYEL	LYEL US	Geoff Meacham
	MeiraGTx	MGTX	MGTX US	Alec W. Stranahan
	Merck & Co.	MRK	MRK US	Geoff Meacham
	Mineralys Therapeutics	MLYS	MLYS US	Greg Harrison, CFA
	Neumora Therapeutics	NMRA	NMRA US	Geoff Meacham
	Rani Therapeutics	RANI	RANI US	Geoff Meacham
	Regenxbio, Inc.	RGNX	RGNX US	Alec W. Stranahan
	Revolution Medicines	RVMD	RVMD US	Alec W. Stranahan
	Rocket Pharmaceuticals, Inc.	RCKT	RCKT US	Greg Harrison, CFA
	Royalty Pharma	RPRX	RPRX US	Geoff Meacham
	Sana Biotechnology	SANA	SANA US	Geoff Meacham
	SpringWorks	SWTX	SWTX US	Alec W. Stranahan
	Syndax Pharmaceuticals	SNDX	SNDX US	Jason Zemansky
	Travere Therapeutics Inc	TVTX	TVTX US	Greg Harrison, CFA
	Turnstone Biologics	TSBX	TSBX US	Geoff Meacham
	Vertex Pharmaceuticals Inc.	VRTX	VRTX US	Geoff Meacham
	Werewolf Therapeutics	HOWL	HOWL US	Jason Zemansky
	Xencor	XNCR	XNCR US	Alec W. Stranahan
NEUTRAL				
	AbbVie	ABBV	ABBV US	Geoff Meacham
	Alector, Inc	ALEC	ALEC US	Greg Harrison, CFA
	Amgen Inc.	AMGN	AMGN US	Geoff Meacham
	Arcus Biosciences	RCUS	RCUS US	Jason Zemansky
	Beam Therapeutics	BEAM	BEAM US	Greg Harrison, CFA
	Biogen Inc.	BIIB	BIIB US	Geoff Meacham
	Bristol-Myers Squibb	BMY	BMY US	Geoff Meacham
	Cytokinetics, Incorporated	CYTK	CYTK US	Jason Zemansky
	Editas Medicine	EDIT	EDIT US	Greg Harrison, CFA
	Erasca	ERAS	ERAS US	Alec W. Stranahan
	Esperion	ESPR	ESPR US	Jason Zemansky
	Exscientia	EXAI	EXAI US	Alec W. Stranahan
	IGM Biosciences	IGMS	IGMS US	Greg Harrison, CFA
	Johnson & Johnson	JNJ	JNJ US	Geoff Meacham
	Kymera Therapeutics	KYMR	KYMR US	Geoff Meacham
	Moderna	MRNA	MRNA US	Geoff Meacham
	Pfizer	PFE	PFE US	Geoff Meacham
	Recursion Pharmaceuticals, Inc.	RXRX	RXRX US	Alec W. Stranahan
	Tyra Biosciences	TYRA	TYRA US	Greg Harrison, CFA
	Vir	VIR	VIR US	Geoff Meacham
	Y-mAbs Therapeutics, Inc	YMAB	YMAB US	Alec W. Stranahan
UNDERPERFORM				
	AlloVir, Inc.	ALVR	ALVR US	Jason Zemansky

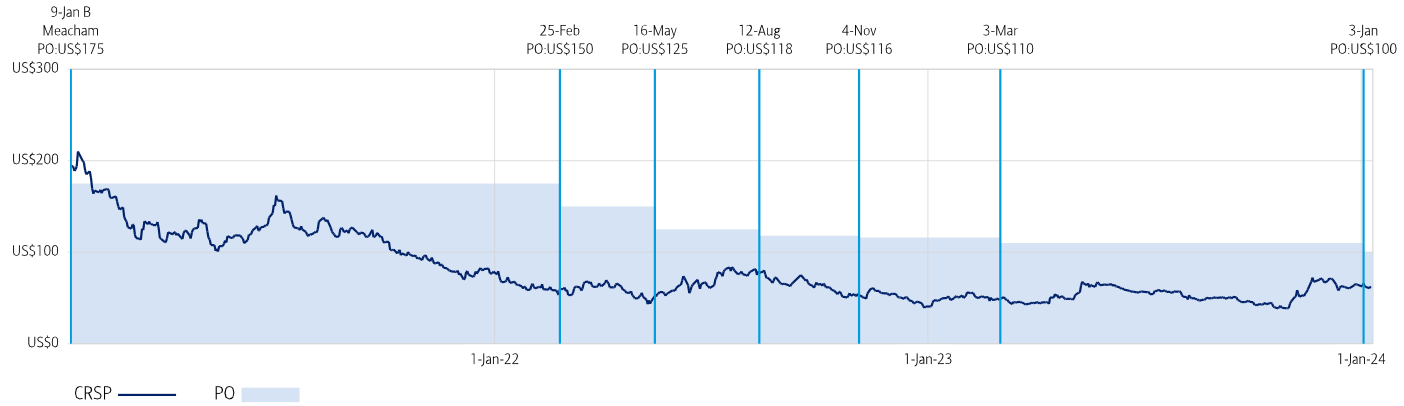
US - Biopharmaceuticals Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	CureVac	CVAC	CVAC US	Geoff Meacham
	Day One Biopharmaceuticals	DAWN	DAWN US	Alec W. Stranahan
	LianBio	LIAN	LIAN US	Geoff Meacham
	Novavax	NVAX	NVAX US	Alec W. Stranahan
	Regeneron Pharmaceuticals Inc.	REGN	REGN US	Geoff Meacham
	Reneo Pharmaceuticals	RPHM	RPHM US	Jason Zemansky
	TG Therapeutics	TGTX	TGTX US	Alec W. Stranahan
	United Therapeutics Corporation	UTHR	UTHR US	Greg Harrison, CFA

Disclosures

Important Disclosures

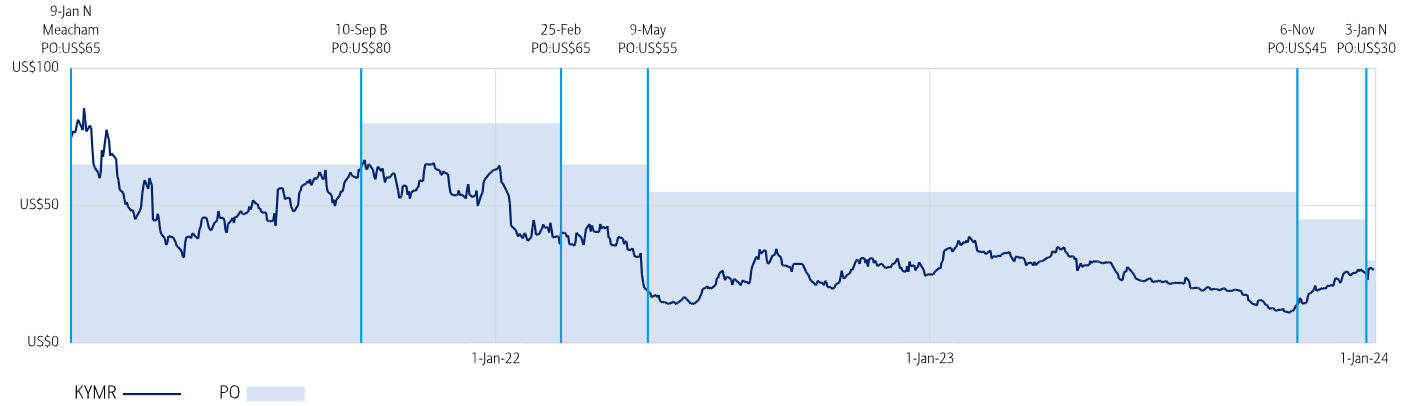
CRISPR Therapeutics (CRSP) Price Chart



B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

The Investment Opinion System is contained at the end of the report under the heading "Fundamental Equity Opinion Key". Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of a date no more than one trading day prior to the date of the report.

Kymera Therapeutics (KYMR) Price Chart



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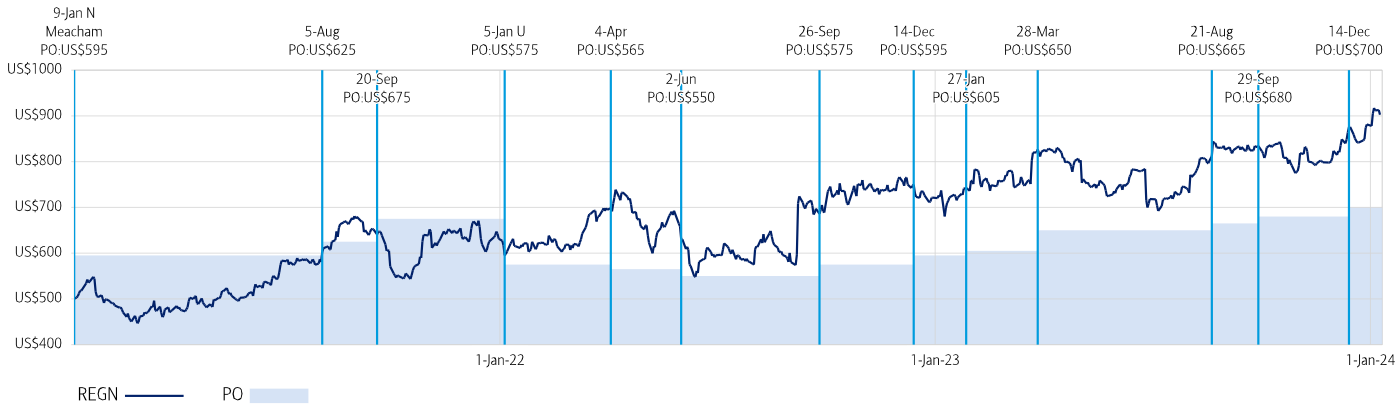
Regeneron Pharmaceut (REGN) Price Chart



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Sana Biotechnology (SANA) Price Chart

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Equity Investment Rating Distribution: Health Care Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships [R1]	Count	Percent
Buy	234	60.94%	Buy	115	49.15%
Hold	80	20.83%	Hold	36	45.00%
Sell	70	18.23%	Sell	29	41.43%

Equity Investment Rating Distribution: Global Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships [R1]	Count	Percent
Buy	1895	53.62%	Buy	1083	57.15%
Hold	832	23.54%	Hold	454	54.57%
Sell	807	22.84%	Sell	383	47.46%

[R1] Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster[R2]
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

[R2]Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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