

CMO360°

Chief Medical Officer Summit

THE **conference** FORUM

MICHAEL MEYERS
VICE CHAIRMAN
HEAD OF M&A AND STRATEGIC ADVISORY SERVICES
H.C. WAINWRIGHT & CO.

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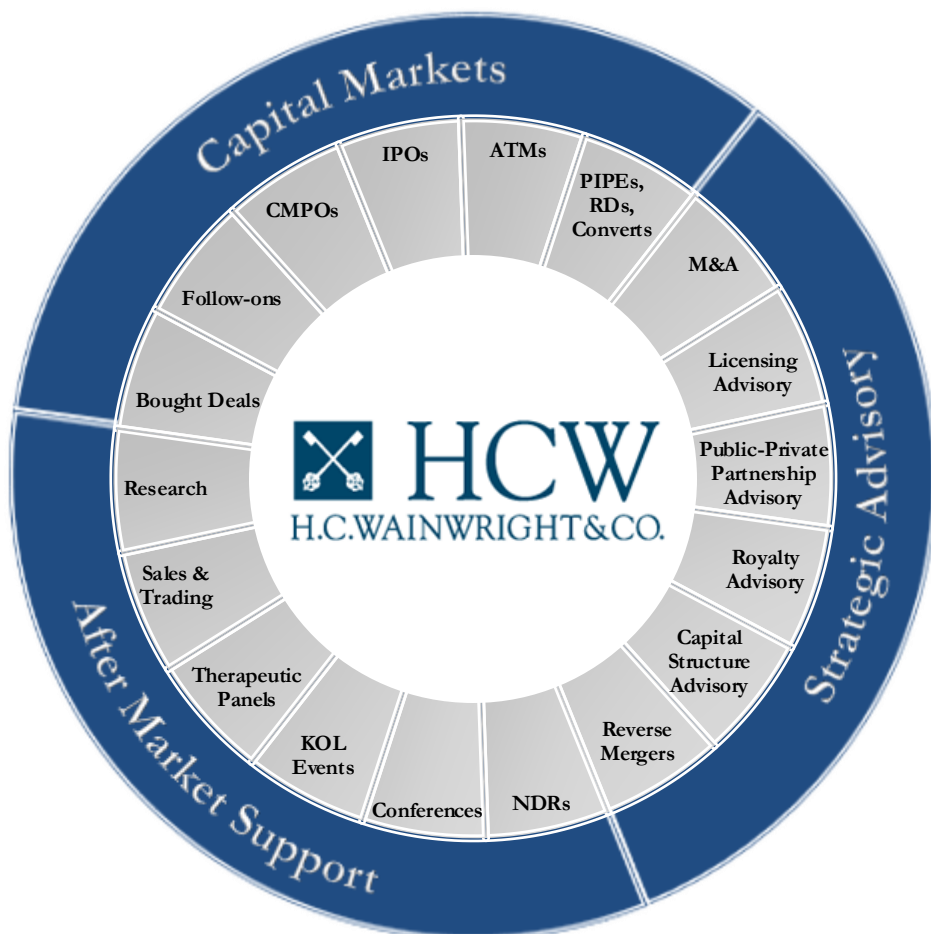
HOW DO INVESTORS & CORPORATES EVALUATE CMOs?

The CMO role is critical to the success of innovative life sciences companies. Certain elements are scrutinized by investors and corporates such as,

- ✓ Demonstrable track record of clinical and regulatory experience
- ✓ Protocol design capabilities
- ✓ Familiarity / experience with basket studies, RWE, 21st Century Cures Act considerations
- ✓ Relationships with relevant staff or division directors at FDA
- ✓ Prior regulatory body meeting experience
- ✓ Management of biostats design and consultants
- ✓ Relationships with PIs and KOLs

H.C. WAINWRIGHT OVERVIEW

H.C. WAINWRIGHT & CO. (“HCW”) OVERVIEW



H.C. Wainwright & Co. Highlights

- **Established and growing Life Sciences Investment Bank with prolific activity**
 - 62 transactions in 2025 YTD, representing \$2.2B in capital raised for our clients⁽¹⁾
 - 305 transactions in 2024, representing \$13.0B in capital raised for our clients⁽¹⁾
 - 248 transactions in 2023, representing \$9.1B in capital raised for our clients⁽¹⁾
 - 187 transactions in 2022, representing \$11.5B in capital raised for our clients⁽¹⁾
- **Leading Equity Research platform**
 - 20 publishing research analysts covering 494 life sciences companies, backed by a team of 17 supporting analysts
- **Deep scientific expertise on both Research and Investment Banking teams**
 - Five Ph.D.'s on banking team; sixteen Ph.D.'s on research team
- **Recognized investor events and conferences**
 - London, New York, Tel Aviv, Miami, Monaco
- **Corporate and Institutionally focused – providing:**
 - Financing advice solutions across the capital structure
 - Superior execution
 - Leading strategic advisory services
- **HCW is an employee-owned firm, which fosters long-term retention and focus**

LIFE SCIENCES TEAM OVERVIEW (CONT'D)

Fundamental Equity Research



Equity Research

David Lenchus, *Director of Research*

- Ed Arce
- Vernon Bernardino
- Stephen Bersey
- Emily Bodnar
- Joseph Brusca
- Robert Burns
- Matthew Caufield
- Li Chen, Ph.D.
- Yi Chen, Ph.D., CFA
- Lander Egana Gorrano, Ph.D.
- Andrew Fein
- Ananda Ghosh, Ph.D.
- Abigail Gray
- Arthur (Yu) He, Ph.D.
- Mitchell Kapoor
- Matthew Keller, Ph.D.
- Joshua Korsen, Ph.D.
- Lucy Lai
- Sean Lee
- Oren Livnat, CFA
- Douglas MacPherson
- Andres Maldonado, Ph.D.
- Eduardo Martinez-Montes, Ph.D.
- Jade Montgomery, Ph.D.
- Sara Nik, Ph.D.
- Joseph Pantginis, Ph.D.
- Swayampakula Ramakanth, Ph.D.
- Luis Santos, Ph.D.
- Raghuram Selvaraju, Ph.D.
- Daniel Smith
- Patrick Trucchio, CFA
- Doug Tsao
- Edward White
- Thomas Yip
- Sumaira Zamurrad, Ph.D.

H.C. WAINWRIGHT CORPORATE ACCESS

NON-DEAL ROADSHOWS

- NDR operation led by seasoned professionals with a wealth of industry knowledge, networks, and expertise
 - Logistic and consultative services bringing together institutional investors and corporate clients
 - Analytics and in-depth intelligence on prospective investors
 - Long-standing relationships with top institutions, family offices, and high net worth individuals
- HCW supports more than 220 non-deal roadshows worldwide annually
- Strong presence in Life Sciences strongholds such as Boston, New York, San Diego, and the San Francisco Bay Area

KOL EVENTS

- HCW hosts meaningful KOL events, which have been attended by more than 300 investors over the last 12 months
- Primarily hosted in New York, Boston, San Francisco, and virtually
- HCW also hosts conference calls, providing a convenient and expedient medium to interface with KOLS
- Select recent events and calls hosted experts across various indications, including but not limited to non-small cell lung cancer (NSCLC), cystic fibrosis (CF) and pulmonary arterial hypertension (PAH), immuno-oncology (IO), stimulator of interferon genes (STING), sickle cell disease (SCD), nonalcoholic fatty liver disease (NASH), Ophthalmology, Psychedelics, Hepatitis B Virus (HBV), Precision Oncology, Gene Therapy and others

CONFERENCES

- Several annual conferences that are internationally recognized in the Life Sciences community and consistently well attended:
 - 25th Annual Global Investment Conference
New York – September 11-13, 2023
 - 2nd Annual BioConnect Investor Conference at Nasdaq
New York – May 20, 2024
 - 26th Annual Global Investment Conference
New York – September 9-11, 2024
 - 3rd Annual Private Company Showcase
South Carolina – March 16-18, 2025
- Sponsorship of several conferences, including BIO Investor Forum in San Francisco, BIO CEO in New York, and MIXiii BIOMED in Tel Aviv



In the last twelve months, HCW hosted over 1,500 investors at conferences, non-deal roadshows, KOL events, and one-on-one meetings across Life Sciences hubs in the United States and Western Europe

H.C. WAINWRIGHT ANNUAL CONFERENCES

BioConnect SF: Networking Opportunities & More Annual Conference

In-Person | San Francisco, CA
January

AI-Based Drug Discovery & Development Annual Conference

Virtual
March

BioConnect Miami: Investing in Innovation Under the Palms Annual Conference

In-Person | Miami, FL
March

Cell Therapy Annual Conference

Virtual
March

Autoimmune & Inflammatory Disease Annual Conference

Virtual
March

BioConnect NYC: Investing in Innovation at NASDAQ Annual Conference

In-Person | New York, NY
May

 H.C.WAINWRIGHT&CO.

27th Annual Global Investment Conference

In-Person | New York City
September 2025

Immune Cell Engager Annual Conference

Virtual
June

Neuro Perspectives Annual Conference

Virtual
June

Kidney Annual Conference

Virtual
July

Ophthalmology Annual Conference

Virtual
August

Biotech On Tap Annual Conference

In-Person | Munich, Germany
September

MASH Investor Annual Conference

Virtual
October

Hepatitis B Annual Conference

Virtual
October

Precision Oncology Annual Conference

Virtual
December

LIFE SCIENCES CAPITAL MARKETS ACTIVITY

U.S. EQUITY CAPITAL MARKETS – CURRENT ENVIRONMENT

Macroeconomic Considerations

**Inflation Worries Persist as the Impact of
Tariff Wars Remain Unclear – Even as
Growth is Slowing**

**Sensitivity to Labor Market Conditions and
Consumer Behavior**

Small- and Mid-Cap is Oversold

**As the Year Began, Animal Spirits Ruled
In March, a More Sober View Emerged
Given Policy and Regulatory Uncertainty**

Life Sciences Specific Considerations

**M&A Activity is Expected to Increase with
some nervousness regarding Policy and
Implementation**

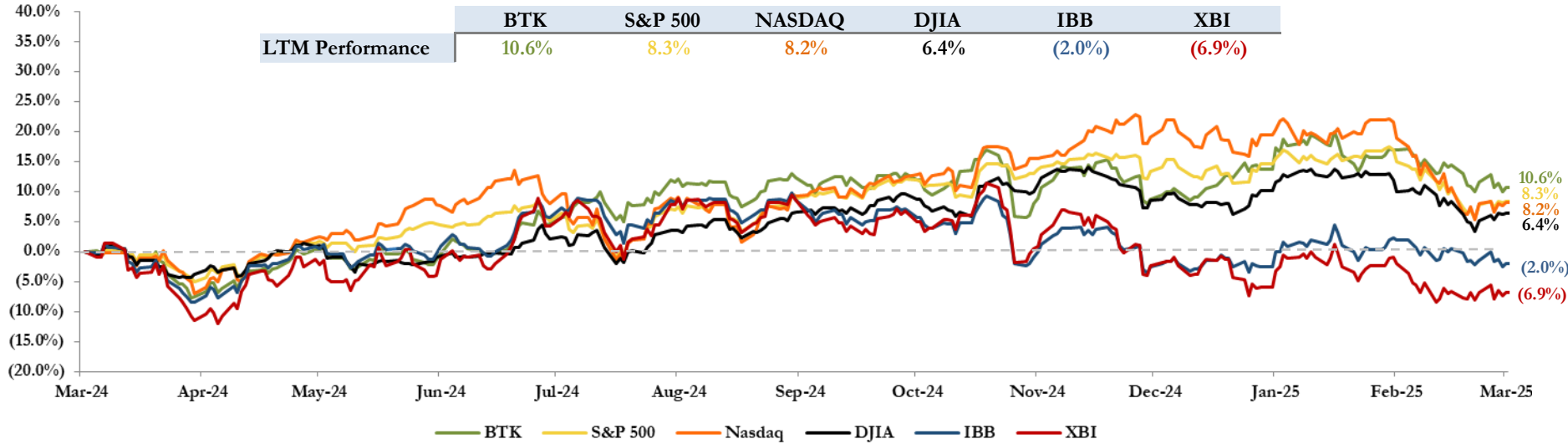
**Mixed / Negative Investor Sentiment
We are in a Stock Picker's Market
Buy Side is Flush with Cash**

**Data-Driven Stories Command Attention
Opportunistic Financings Will Continue**

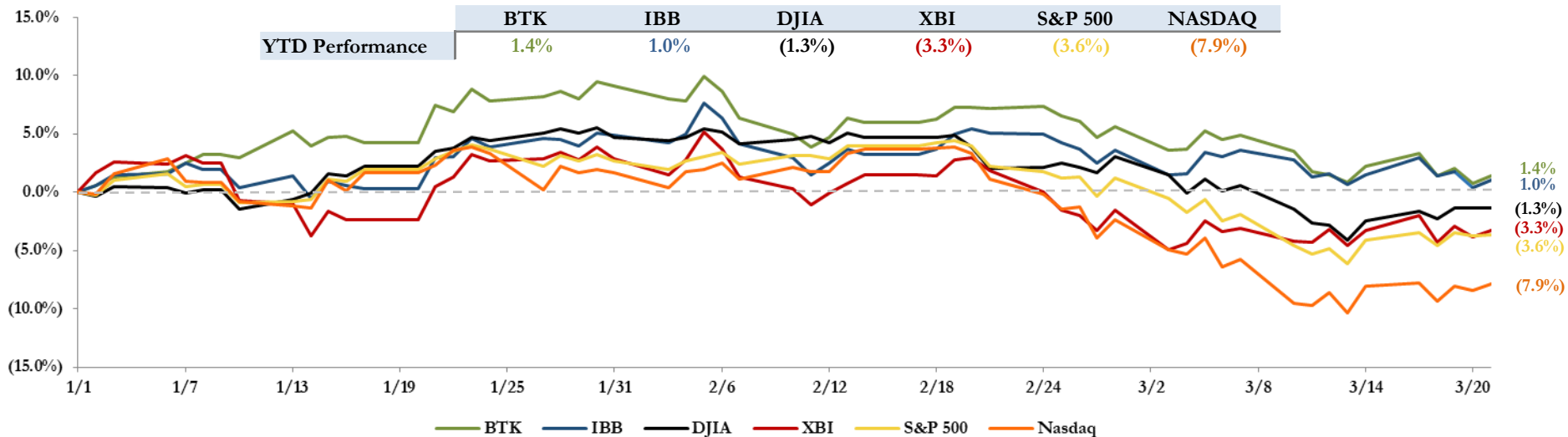
**FDA Career Leadership Concerns
Drug Approval Trends Not Expected to be
Impacted Materially**

EQUITY MARKET OVERVIEW

LTM INDEXED MARKET PERFORMANCE



2025 YTD INDEXED MARKET PERFORMANCE



IBB CONSTITUENTS HEAT MAP

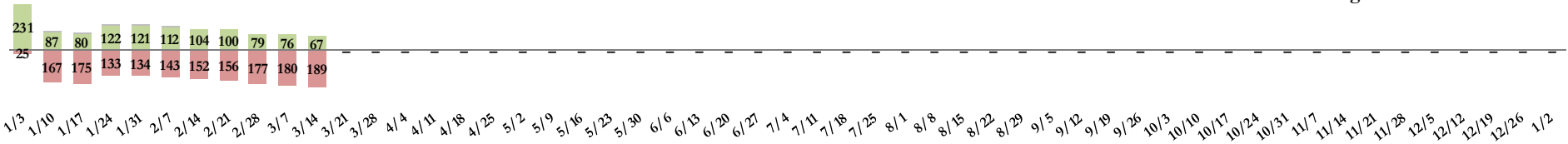
Component companies of IBB sorted by 2025 TD performance, with accompanying market caps

SANA Sana Bio \$654.2 79.8%	TSVT Zveventy Bio \$255.4 68.4%	GRAL Grail \$1,008.0 66.6%	TRVI Trevi \$63.2 63.8%	PGEN Precigen \$827.2 60.7%	AKRO Akero \$3,315.2 58.7%	ITCI Intra Cellular \$13,956.6 57.2%	KALV KalVista \$626.4 48.8%	ZLAB Zai Labs \$4,118.7 45.9%	AXSM Assome \$5,945.0 44.3%	SAGE Sage \$4716.6 42.2%	PTGX Protagonist \$3,362.6 41.9%	SWTX Springworks \$3,832.2 41.5%	ONC Beigene \$28,312.0 40.3%	TEM Tempus AI \$7,885.4 39.7%	VRNA Verona \$5,216.9 32.2%	HALO Halozyme \$7,668.7 30.2%	CRMD Cormedis \$635.3 29.3%	MGTX MeiraGTx \$614.3 27.9%
SLDB Solid Bio \$394.4 27.3%	ANAB AnapayaBio \$513.1 26.4%	VRTX Vertex \$129,619.8 21.9%	ADPT Adaptive Bio \$1,081.7 21.4%	PTCT PTC Therapeutics \$4,298.4 20.7%	GILD Gilead Sciences \$138,781.4 20.6%	AMGN Amgen \$168,526.6 20.4%	BBIO BridgeBio \$6,270.5 20.2%	ABSI Absci \$360.6 19.8%	RIGL Rigel Pharma \$359.6 19.2%	OPK OPKO Health \$1,168.5 18.4%	ALKS Alkermes \$5,533.8 18.3%	SMMT Summit \$15,336.4 16.5%	MLYS Minerals \$894.7 15.8%	ENTA Enanta Pharma \$141.9 15.7%	EDIT Editas Medicine \$121.1 15.0%	KRYV Krystal Biotech \$5,167.2 14.5%	LEGN Legend \$6,831.7 14.3%	TVGN Tevogen Bio \$204.8 13.6%
TVTX Travere \$1,750.8 13.3%	NBTX Nanobiotix \$151.1 13.1%	MDGL Madrigal \$7,691.7 12.9%	SPRY ARS Pharma \$1,153.6 12.5%	IBRX ImmunityBio \$2,449.4 12.1%	MRUS Merus \$3,254.2 11.4%	ASND Ascendis \$9,284.3 11.1%	INSM Insmed \$13,855.5 10.9%	EXEL Exelixis \$10,257.7 10.1%	DVAX Dynavax \$1,720.9 8.6%	ETNB Eterna \$1,236.5 8.3%	ADMA Adma Bio \$4,356.7 7.5%	GRFS Grifols \$6,409.8 7.3%	MIRM Mirum Pharma \$2,170.3 7.1%	CRSP CRISPR \$3,612.8 7.0%	RNA RNA Avidity Bio \$3,739.8 7.0%	VERV Verve \$530.1 5.9%	BMRN BioMarin \$13,247.6 5.6%	ARQT Arcutis Bio \$1,734.5 5.0%
RGEN Repligen \$8,438.7 4.6%	VNDA Vanda \$290.4 4.0%	URGN Urogen \$510.3 3.9%	ALNY Alnylam \$31,446.7 2.7%	BPMC Blueprint Medicines \$5,724.7 2.7%	BCRX BioCryst Pharma \$1,609.0 2.4%	CNTA Centessa Pharma \$2,259.8 2.3%	WAT Waters \$22,406.8 2.3%	ABUS Arbutus Bio \$625.3 1.7%	MTD Mettler Toledo \$25,732.5 1.5%	ZVRA Zenva \$449.7 (0.4%)	TSHA Taysha Gene \$352.6 (0.6%)	NVAX Novavax \$13,285.1 (0.8%)	PRTA Prothena \$739.6 (0.8%)	NUVL Nuvalent \$5,095.2 (1.6%)	ARGX Argenx \$36,400.4 (1.7%)	GMAB Genmab \$13,640.3 (1.7%)	INCY Incyte \$13,132.6 (1.9%)	TBPH Theravance \$456.6 (1.9%)
SNDX Syndax \$1,114.4 (2.0%)	MEDP Medpace \$2,419.1 (2.3%)	BEAM Beam \$1,442.0 (2.4%)	IMCR Immunocore \$980.6 (2.6%)	VIR Vir Bio \$986.6 (2.6%)	CGON CG Oncology \$2,135.9 (3.1%)	ORIC ORIC Pharma \$553.3 (3.5%)	REPL Replimune \$897.6 (3.8%)	EWTX Edgewise \$2,443.9 (3.9%)	AMLX Amlyx \$321.2 (4.1%)	ACAD Acadia \$2,918.8 (4.6%)	ITOS Iteos \$279.6 (4.7%)	GLPG Galapagos \$1,713.8 (5.4%)	FOLD Amicus \$2,734.4 (5.7%)	CYTK Cytokinetics \$5,252.7 (5.7%)	IONS Ionis Pharma \$5,239.5 (5.7%)	IQV Iqvia Holdings \$32,651.8 (5.9%)	AGIO Agios \$1,772.2 (5.9%)	RXRK Recursion \$2,568.7 (6.1%)
FHTX Foghorn \$246.4 (6.1%)	NTRA Natera \$20,037.3 (6.4%)	REGN Regeneron \$71,693.6 (6.5%)	RARE Ultragenyx \$3,639.0 (6.5%)	ACLY AcelRx \$3,938.4 (6.5%)	FLGT Fulgent Genetics \$531.5 (6.7%)	ADCT ADC Therapeutics \$178.9 (7.0%)	TRML Tourmaline \$482.9 (7.3%)	CRL Charles River \$8,747.3 (7.3%)	ELVN Enliven \$1,016.4 (7.8%)	CMPX Compass Pathways \$322.5 (7.9%)	AVIR Atca Pharma \$263.4 (8.1%)	STVN Stevanato Group \$993.6 (8.1%)	INBX Inhixx \$204.1 (8.5%)	COGT Cogent Bio \$812.9 (8.5%)	LYEL Lylell \$812.9 (8.5%)	BIIB Biogen \$20,410.5 (8.9%)	ALLO Allogene \$421.5 (8.9%)	RYTM Rhythm Pharma \$3,222.5 (8.9%)
NAMS New Amsterdam \$2,566.4 (9.1%)	AUPH Aurinia Pharma \$1,120.7 (9.1%)	PCVX Vaccinex \$9,576.0 (9.5%)	ACRV Acrivon \$169.4 (9.6%)	GLUE Monte Rosa \$385.2 (9.7%)	ROIV Roivant Sciences \$7,606.4 (9.9%)	XENE Xenon \$2,703.5 (9.9%)	RVMC Revolution \$7,272.9 (10.6%)	AURA Aura Bio \$367.1 (10.6%)	RLAY Relay \$620.4 (11.2%)	CDNA CareDx \$1,047.5 (11.7%)	CVAC CareVac \$675.2 (11.8%)	RNAC Cartesian \$409.3 (11.8%)	APGE Apogee \$1,837.9 (11.8%)	LENZ Lenz \$699.9 (11.8%)	AVXL Anavex \$802.2 (12.4%)	SLRN Acelyn \$276.9 (12.4%)	BNTX BioNTech \$23,869.9 (12.7%)	UTHR United \$13,798.8 (12.9%)
RGNX Regeneron \$336.6 (13.1%)	TARS Tarsus \$1,980.6 (13.1%)	TECH Bio Techne \$9,826.7 (13.7%)	ABCL Abcellera Bio \$750.9 (14.0%)	TWST Twist Bio \$2,383.7 (14.0%)	CVBN Cybin \$1.3 (14.2%)	KYMR Kymera \$2,232.1 (14.6%)	ALVO Alvotech \$3,406.7 (14.6%)	SVRA Savara \$447.9 (15.0%)	ACIU AC Immune \$228.3 (15.2%)	CRVS Corvus Pharma \$290.4 (15.5%)	EVO Evoenc \$1,224.4 (15.6%)	ZYME Zymeworks \$852.3 (16.3%)	MRNA Moderna \$13,356.9 (16.7%)	ARCT Acturax \$381.8 (17.0%)	TYRA Tyrus Bio \$581.9 (17.3%)	VCBL Vericel \$2,267.6 (17.4%)	WVE Wave \$1,568.6 (17.4%)	ALT Altimmune \$455.9 (17.9%)
IMMP Immupet \$321.1 (18.0%)	KURA Kura Oncology \$576.5 (18.0%)	ARWR Arrowhead \$2,109.2 (18.3%)	CATX Perspective \$175.1 (18.8%)	NBIX Neurocrine \$1,042.2 (18.9%)	MNKD Mankinik \$1,978.7 (19.1%)	IRON Dic Medicine \$1,767.7 (19.5%)	NUVB Novation Bio \$722.6 (19.5%)	QURE unQure \$1,967.9 (19.6%)	SRRK Scholar Rock \$3,275.8 (19.9%)	SRPT Sarepta \$9,430.5 (20.1%)	AUTL Autolus \$497.6 (20.4%)	VCYT Veracyte \$2,456.0 (20.4%)	MXCT Maxcyte \$714.3 (20.9%)	AVBP Arvint Bio \$3,315.7 (21.2%)	IMVT Immuvant \$3,315.7 (21.2%)	BRKR Bruker \$6,973.1 (21.6%)	NTLA Intellia \$946.1 (21.6%)	BHVN Biohaven \$2,974.9 (22.0%)
STOK Stoke \$455.5 (22.0%)	GPCR Structure \$1,207.1 (22.4%)	SYRE Syrry \$1,087.0 (22.5%)	APLS Apellis \$3,095.2 (22.7%)	ALEC Alector \$145.7 (23.3%)	DSGN Design \$267.1 (23.7%)	OLMA Olema \$301.3 (24.4%)	CLYM Climb Bio \$90.9 (25.0%)	DNLI Denali \$2,200.0 (26.2%)	FDMT 4D Molecular \$190.3 (26.2%)	MYGN Myriad Genetics \$919.5 (26.5%)	KROS Keros \$469.7 (26.8%)	NGNE Neuregen \$350.4 (26.9%)	CSTL Castle Bio \$550.0 (27.6%)	IDYA Ideaya Bio \$1,626.4 (27.7%)	CGEM Cullinan \$514.3 (27.9%)	ATXS Astria \$364.0 (27.9%)	NRIX Nurix \$1,031.3 (27.9%)	TXG 10X Genomics \$1,119.3 (28.0%)
PYXS Pxyxis Oncology \$66.0 (28.8%)	DNA Ginkgo Bio \$319.3 (29.0%)	RCKT Rocker Pharma \$934.1 (30.3%)	BCVC Bicycle \$462.3 (30.8%)	VYGR Voyager \$215.5 (31.2%)	MESO Mesoblast \$1,661.4 (31.6%)	MGNX Macrogenics \$139.3 (31.7%)	CRNX Crinetics Pharma \$3,207.4 (32.6%)	LRMR Larimar \$107.9 (33.1%)	KYTX Kyvera \$107.9 (33.2%)	TKNO Alpha Teknova \$298.2 (33.2%)	PACB PacBio \$363.4 (33.3%)	NKTX Nkarta \$117.1 (33.3%)	QTRX Quanterix \$272.0 (33.6%)	VERA Vera \$1,784.3 (33.8%)	BMEA Biomea Fusion \$92.0 (34.6%)	NVCR Novocure \$2,142.3 (34.9%)	LAB Standard BioTools \$432.0 (35.3%)	CTBK Cytok Bio \$538.0 (35.3%)
DAWN Day One \$823.0 (35.9%)	ILMN Illumina \$13,559.0 (35.9%)	PEPG PeppGen \$78.3 (36.8%)	TNGX Tango \$320.8 (37.2%)	PSNL Personalis \$144.1 (37.2%)	RCUS Arcus Bio \$988.6 (37.3%)	TRDA Entrada \$406.4 (37.5%)	PRME Prime Medicine \$234.8 (38.7%)	HUMA Humacyte \$391.2 (39.8%)	APLT Applied \$59.7 (40.0%)	EBS Emergent Bio \$310.3 (40.3%)	YMAB Y Mabs \$211.2 (40.4%)	RAPP Rapport \$383.6 (40.8%)	CDXS Codexis \$230.3 (41.9%)	ALMS Alumis \$215.8 (41.9%)	QTTB Q32 Bio \$24.4 (41.9%)	TERN Terns \$270.1 (42.6%)	ERAS Erasca \$407.1 (42.6%)	JANX Janux \$1,813.3 (42.7%)
TCRX Tscan \$911.0 (42.8%)	ORKA Oruka \$415.2 (42.8%)	FATE Fate \$107.9 (42.9%)	SLN Silence \$182.4 (43.2%)	CCCC C4 Therapeutics \$144.1 (43.6%)	XNCR Xencor \$899.1 (44.5%)	TECX Tectonic \$472.7 (44.5%)	PHAT Phathom \$307.1 (45.7%)	OKUR Onkure \$58.8 (46.4%)	FTRE Fortrea Holdings \$1,363.1 (48.2%)	DYN Dyne \$1,363.1 (48.9%)	ANNX Annexon \$285.2 (49.3%)	ARTV Artiva Bio \$771.8 (49.4%)	PRAX Praxis \$1,177.1 (50.3%)	IOVA Iovance Bio \$1,177.1 (51.5%)	LXEO Lexco \$101.5 (53.3%)	GERN Geron \$1,044.5 (53.7%)	MRVI Maravi \$347.5 (55.0%)	STRO Sutro Bio \$67.9 (56.0%)
				ARVN Arvinas \$579.7 (56.0%)	INZY Inozyme \$64.2 (63.9%)	IRWD Ironwood Pharma \$238.4 (66.4%)	THRD Third Harmonic \$154.6 (66.7%)	MRSN Mersana \$57.9 (67.5%)	CRGX Cargo \$193.9 (70.8%)	IGMS IGM Bio \$42.5 (70.8%)	NMRA Neumora \$207.3 (87.9%)	PLRX Pliant \$94.3 (88.3%)						

Weekly Historical Component Performance 2025 TD:

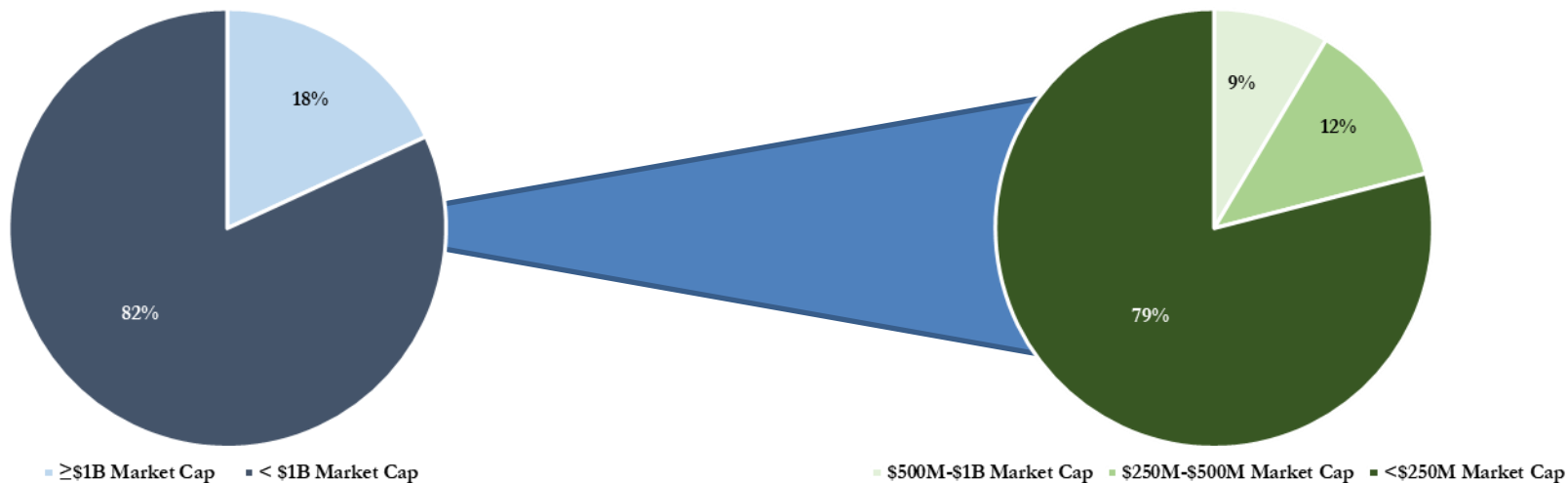
■ Positive YTD Performance

■ Negative YTD Performance

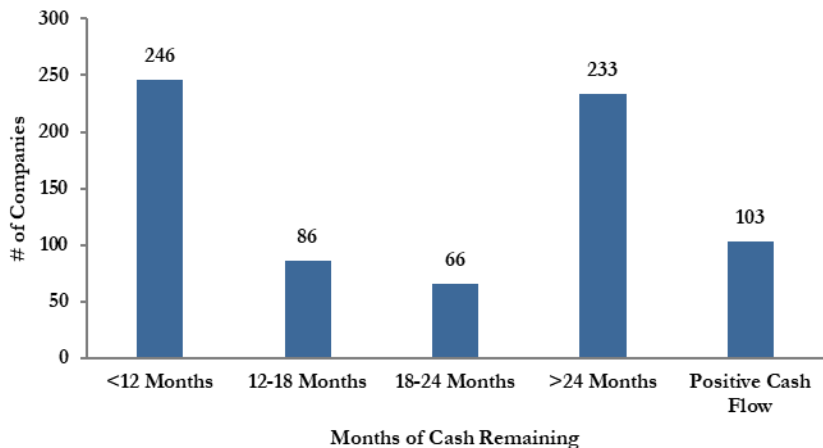


LIFE SCIENCES PUBLIC COMPANY LANDSCAPE

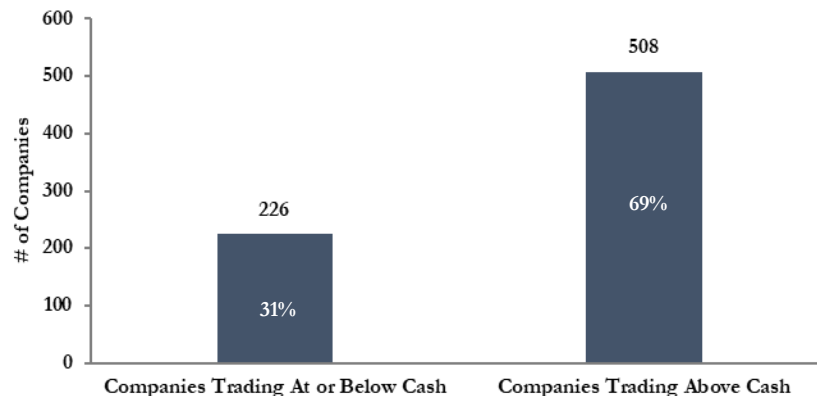
LIFE SCIENCES UNIVERSE BREAKDOWN BY MARKET CAP: ~735 PUBLICLY TRADED LIFE SCIENCES COMPANIES⁽¹⁾



MONTHS OF CASH REMAINING ANALYSIS⁽²⁾



COMPANIES TRADING AT OR BELOW CASH ANALYSIS



Source: FactSet; Market data as of 3/21/2025 market close

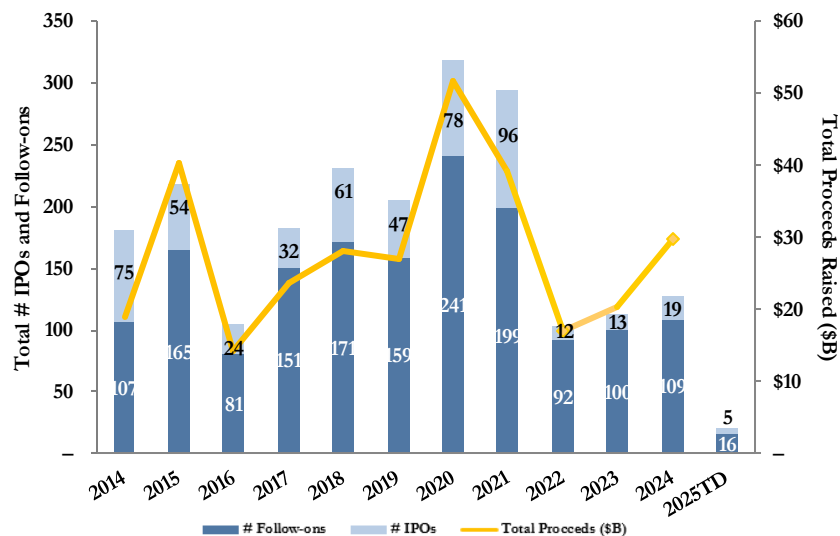
Note: Life sciences includes biotech & biopharma; not included are tools & diagnostics, animal health and medical devices

(1) Excludes companies that have not reported financials to the SEC within the last 12 months

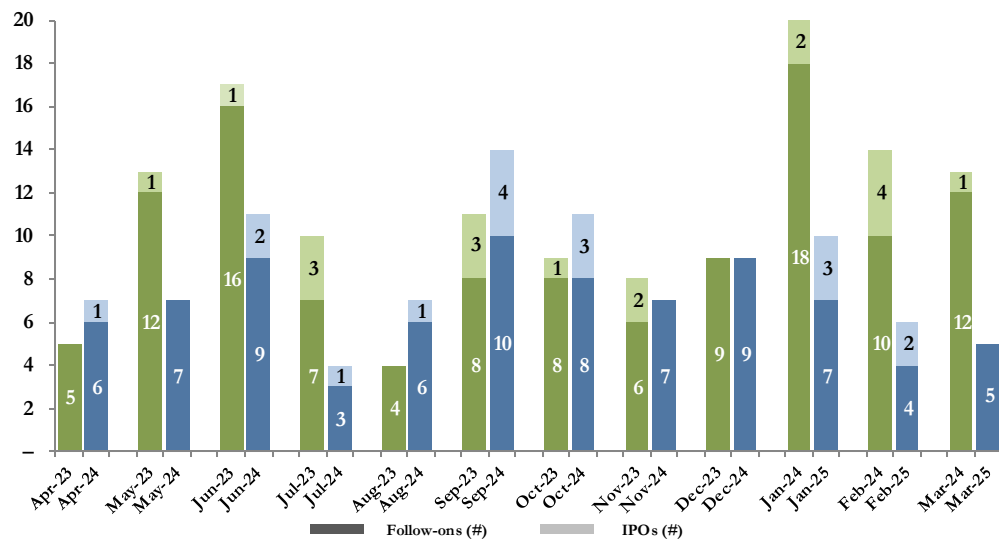
(2) Cash burn approximated by estimated operating cash flow or net income (as available); otherwise, represents annualized MRQ operating cash flow of MRQ net income; does not represent entire biopharma universe due to availability of information

BIOTECHNOLOGY EQUITY ISSUE MARKET

HISTORICAL IPO & FOLLOW-ON ACTIVITY



YEAR OVER YEAR EQUITY ISSUE COMPARISON



FOLLOW-ON OFFERING STATISTICS

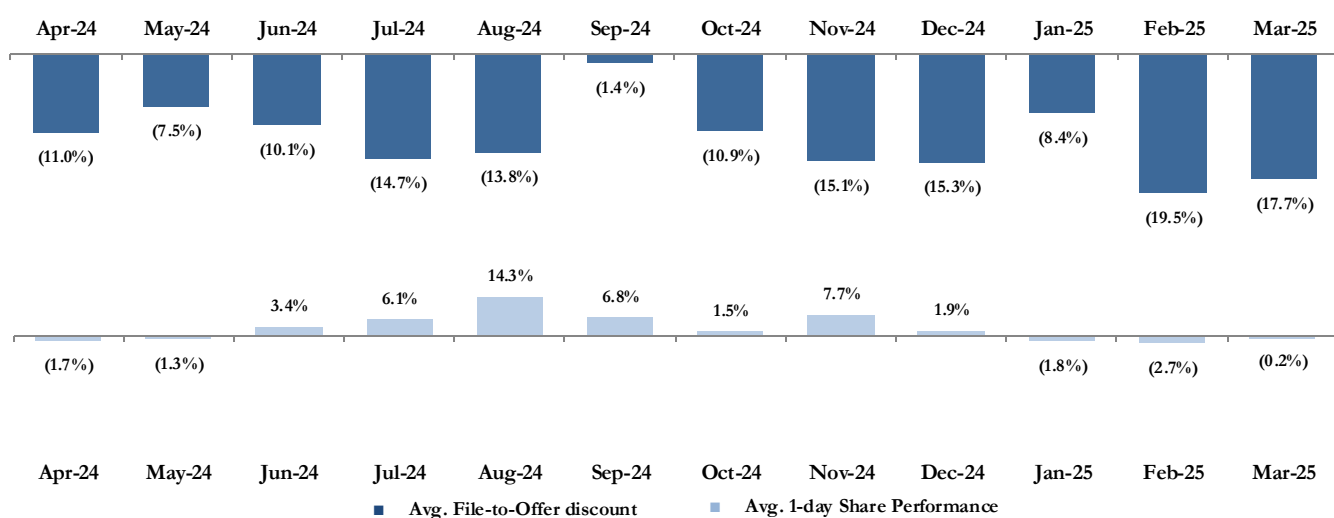
Number of Deals		
Market Cap	2024	2025TD
< \$100M	5	4
\$100M - \$500M	28	3
\$500M - \$1B	18	5
\$1B - \$5B	46	4
> \$5B	12	-
Total	109	16

Deals

File-to-Offer Discount		
Market Cap	2024	2025TD
< \$100M	(24.4%)	(18.4%)
\$100M - \$500M	(14.9%)	(16.9%)
\$500M - \$1B	(6.6%)	(15.3%)
\$1B - \$5B	(8.3%)	(6.1%)
> \$5B	(4.3%)	n/a
Average	(10.0%)	(14.1%)

Average

FOLLOW-ON OFFERINGS – LTM MONTHLY DETAIL



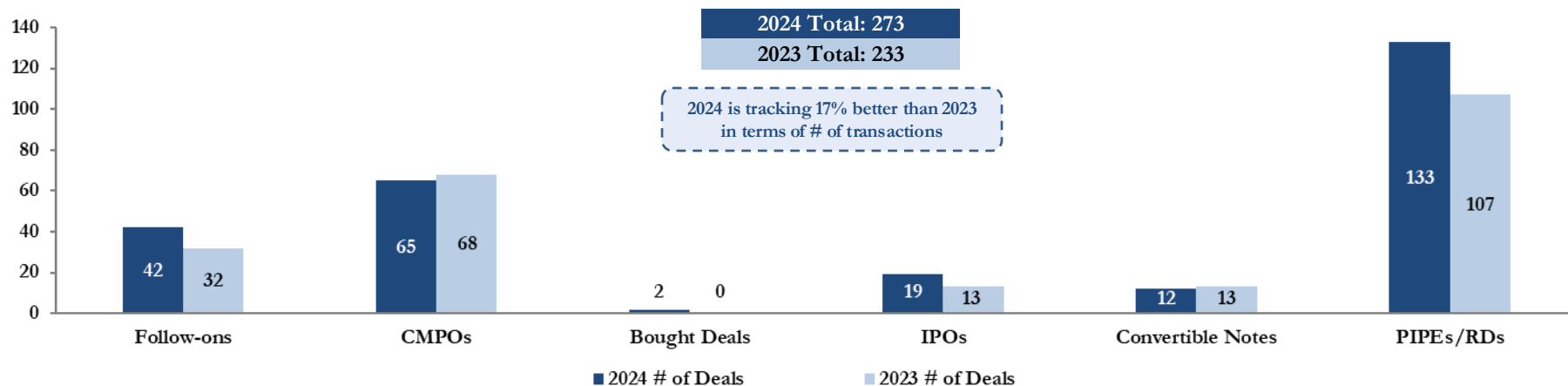
Source: FactSet
Includes follow-ons with gross proceeds exceeding \$20M; excludes PIPEs and RDs
Market data as of 3/21/2025 market close

2023-2024 EQUITY AND EQUITY-LINKED FINANCING SNAPSHOT

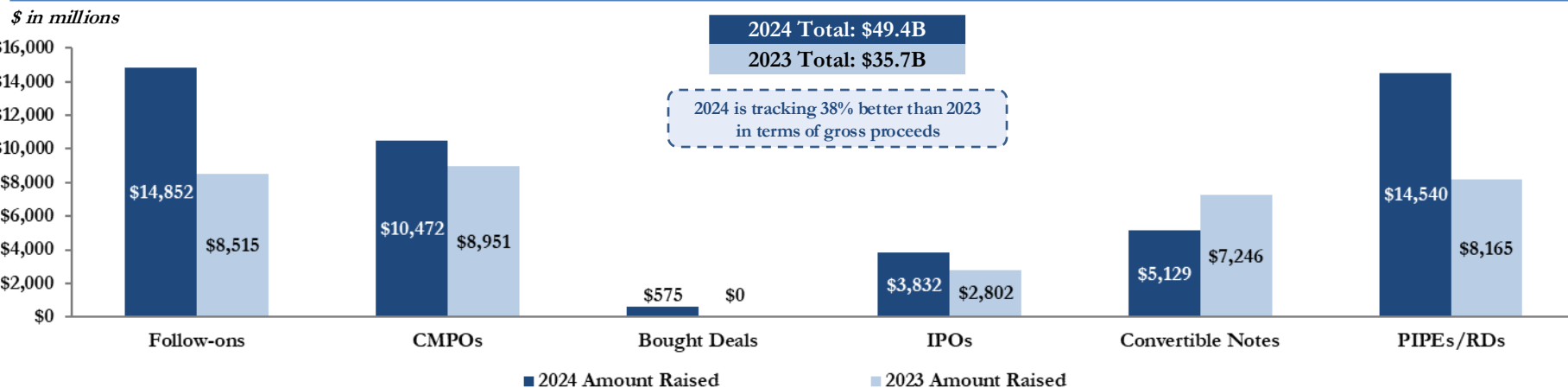
In 2024, life sciences companies raised ~\$49.4 billion across 273 transactions (deal sizes ≥\$20 million)

In 2023, life sciences companies raised ~\$35.7 billion across 233 transactions (deal sizes ≥\$20 million)

2023 VS 2024 COMPARISON ON NUMBER OF TRANSACTIONS (ALL NUMBERS THROUGH DECEMBER 31ST OF CORRESPONDING YEAR)



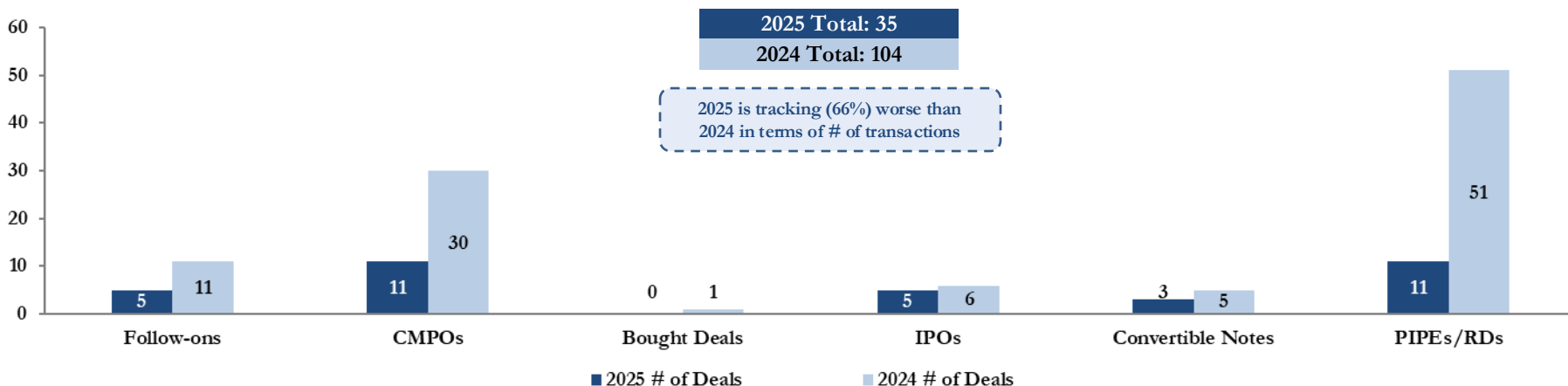
2023 VS 2024 COMPARISON ON AMOUNT RAISED (ALL NUMBERS THROUGH DECEMBER 31ST OF CORRESPONDING YEAR)



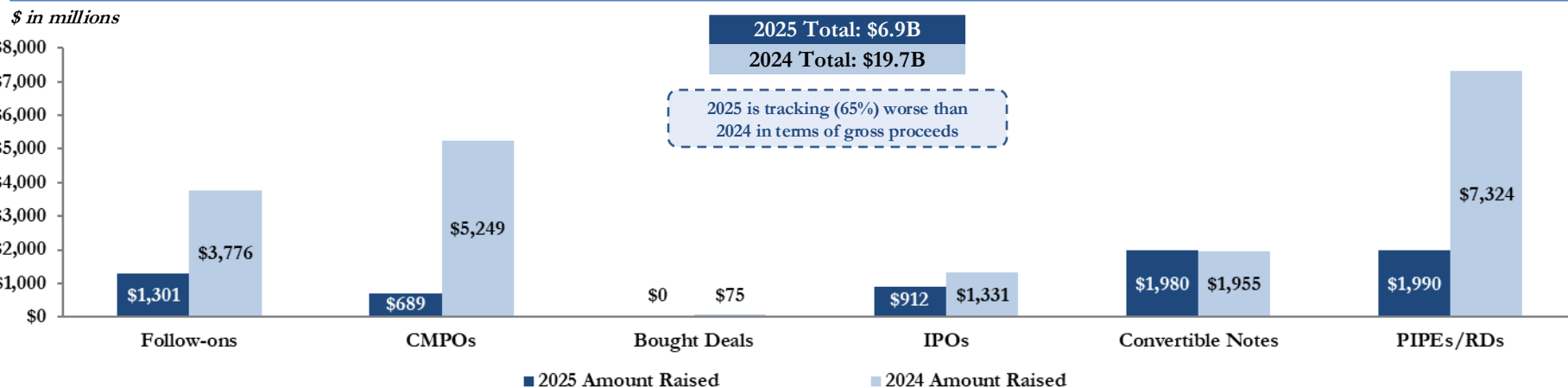
2025 YTD EQUITY AND EQUITY-LINKED FINANCING SNAPSHOT

2025 YTD, life sciences companies raised ~\$6.9 billion across 35 transactions (deal sizes ≥\$20 million)

2024 vs 2025 COMPARISON ON NUMBER OF TRANSACTIONS (ALL NUMBERS THROUGH MARCH 21ST OF CORRESPONDING YEAR)

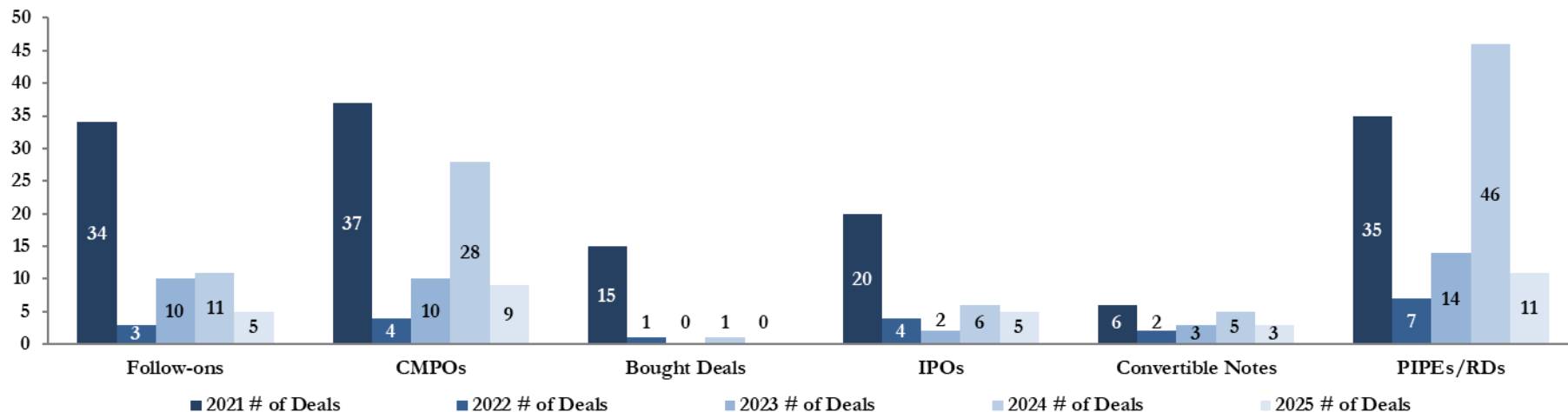


2024 vs 2025 COMPARISON ON AMOUNT RAISED (ALL NUMBERS THROUGH MARCH 21ST OF CORRESPONDING YEAR)



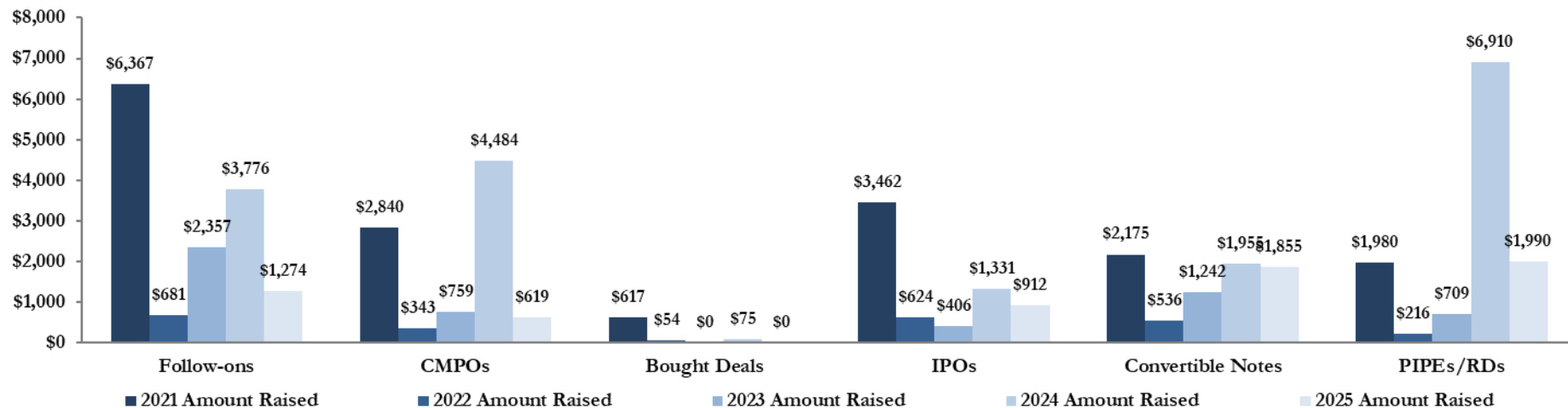
EQUITY AND EQUITY-LINKED FINANCING COMPARISON: 2021 TO CURRENT

COMPARISON ON NUMBER OF TRANSACTIONS (ALL NUMBERS THROUGH MARCH 14TH OF CORRESPONDING YEAR)

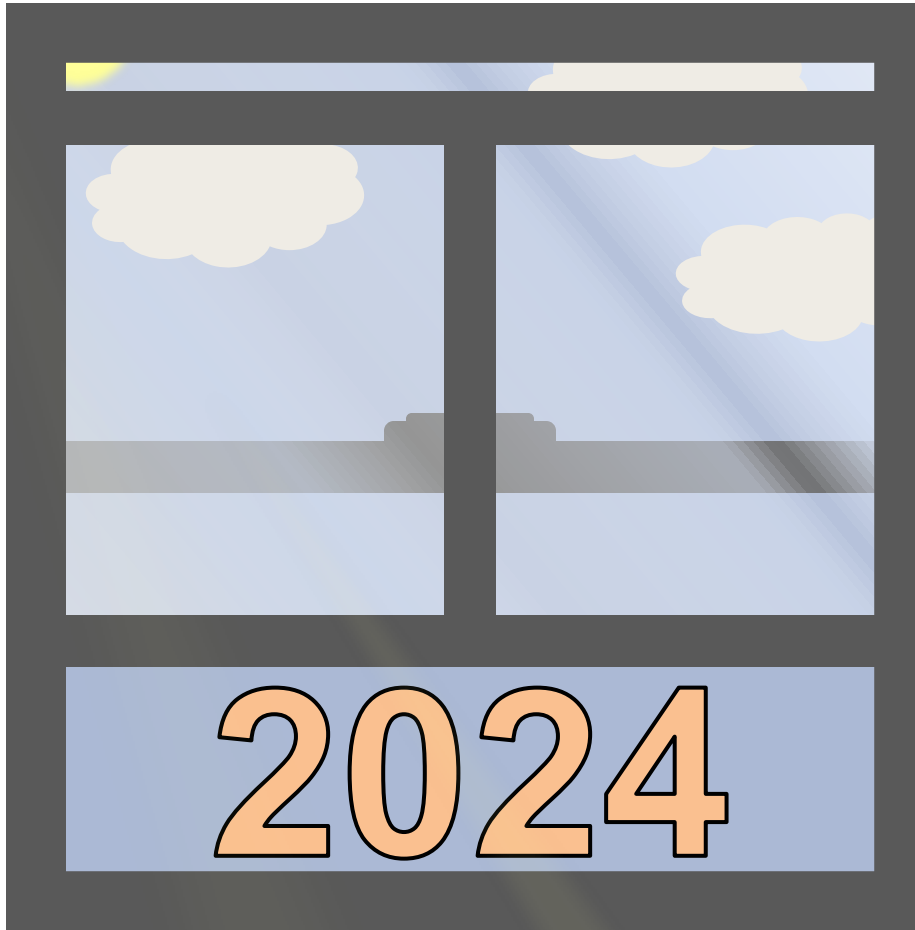


COMPARISON ON AMOUNT RAISED (ALL NUMBERS THROUGH MARCH 14TH OF CORRESPONDING YEAR)

\$ in millions



LIFE SCIENCES IPO WINDOW MODESTLY IMPROVED IN 2024



Nineteen (19) IPOs priced in 2024

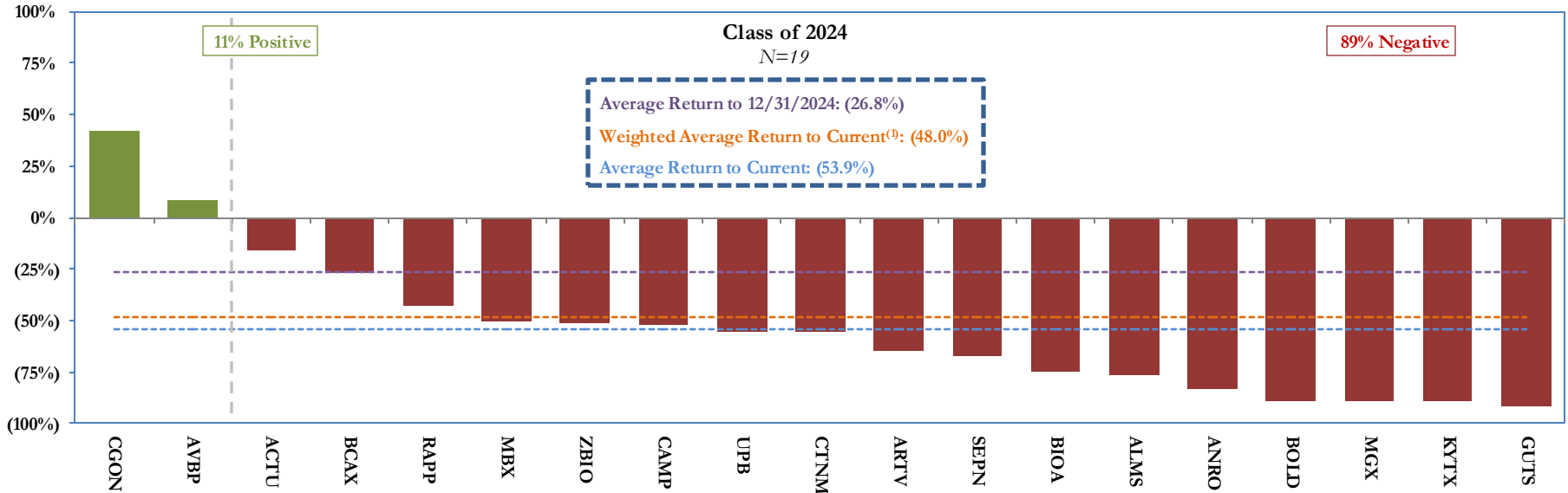
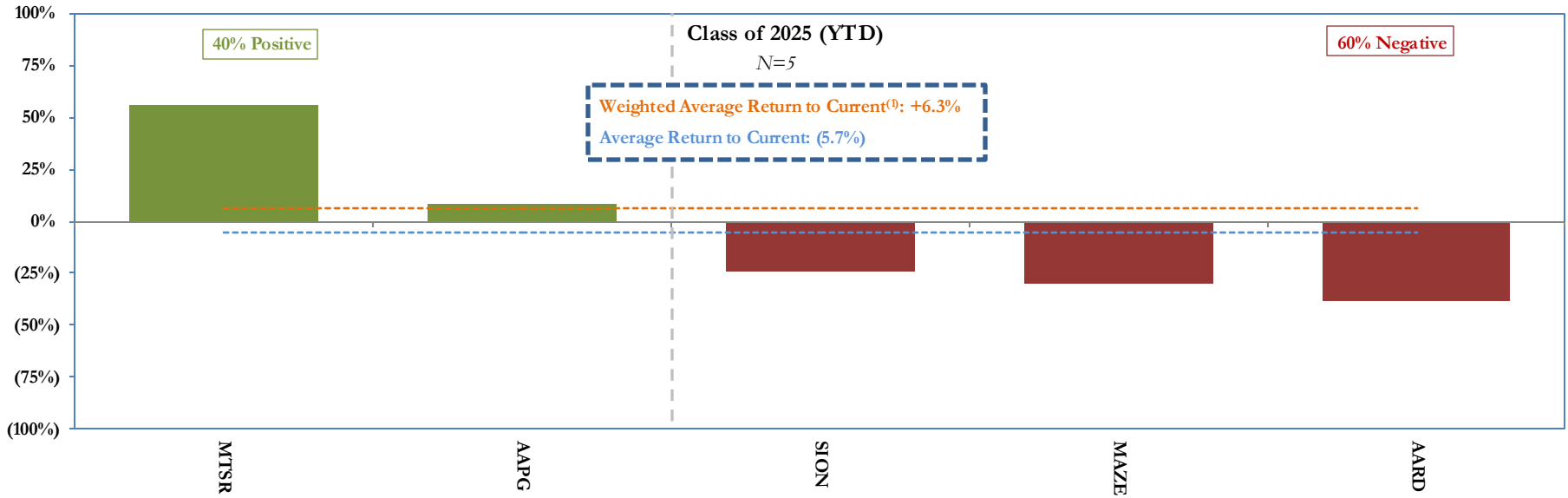
Specialist buy-side risk appetite was receptive to new issuance stories; insider support was essential

IPO performance was encouraging throughout 2024, however, the IPO class traded off during the last six weeks of the year
Only five of the 19 IPOs traded above IPO price by year-end

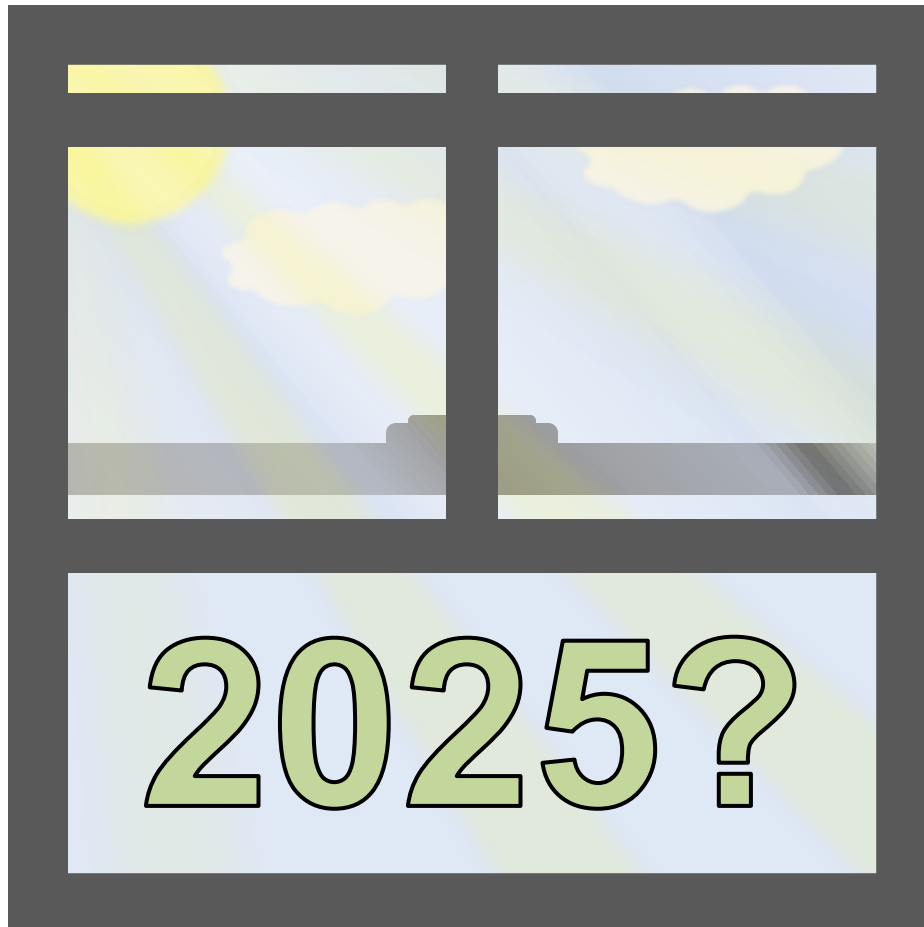
- Three IPOs priced above the range and 12 were upsized
- Average 2024 pre-money valuations was \$399M
 - Average 2024 step-ups was 1.34x

LIFE SCIENCES IPO CLASS PERFORMANCE

Returns through 3/21/2025



THE LIFE SCIENCES IPO WINDOW FOR 2025?



Five IPOs priced in 2025
Two IPOs are trading above IPO price
Six publicly filed IPOs



XBI outperforms on a sustained basis



Pace of secondary offerings and deal performance is waning versus 2024



A reallocation by fund managers (generalists) into life sciences equities



Investors are rewarded for positive milestones (e.g., data, partnerships)



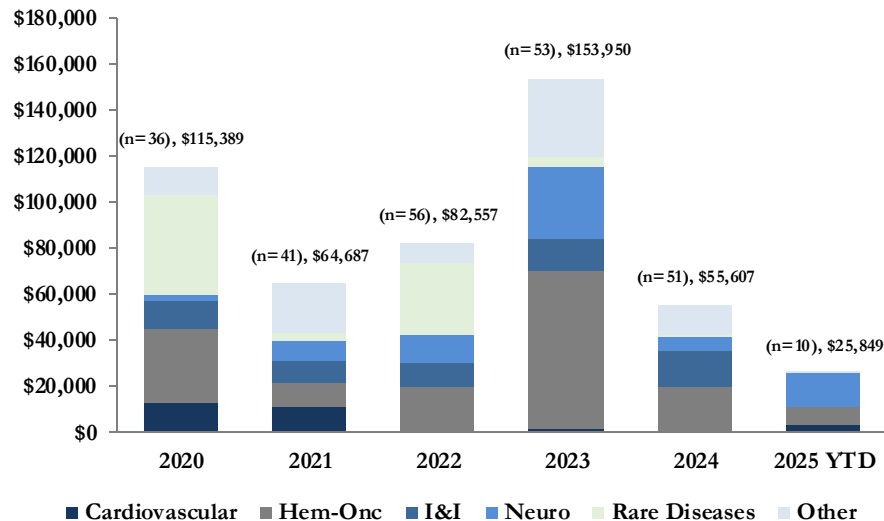
LIFE SCIENCES M&A ACTIVITY

LIFE SCIENCES M&A ACTIVITY BY THERAPEUTIC AREA (2020 – 2025 YTD)⁽¹⁾

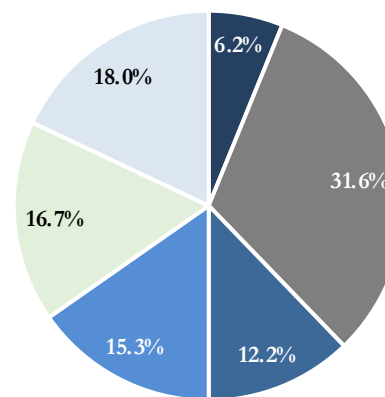
\$ in millions

Life Sciences M&A Activity 2022 - 2025 YTD by Therapeutic Area										
Indication	2022		2023		2024		2025		Total	
	Deal Value	Number of Transactions	Deal Value	Number of Transactions	Deal Value	Number of Transactions	Deal Value	Number of Transactions	Deal Value	Number of Transactions
Cardiovascular	\$53	1	\$1,826	2	\$1,120	2	\$3,075	1	\$6,074	6
Cell/Gene Therapy	\$1,039	5	\$2,981	7	\$133	1	\$0	0	\$4,153	13
Dermatology	\$483	2	\$0	0	\$3,390	4	\$0	0	\$3,873	6
Gastrointestinal	\$0	0	\$15,144	6	\$3,200	1	\$0	0	\$18,344	7
Hem-Onc	\$19,535	19	\$68,514	14	\$19,423	18	\$8,039	7	\$115,510	58
I&I	\$10,465	6	\$14,028	3	\$14,838	11	\$0	0	\$39,331	20
Infectious Diseases	\$4,087	4	\$3,720	4	\$21	1	\$0	0	\$7,828	9
Neuro	\$12,600	2	\$31,210	6	\$6,230	5	\$14,600	1	\$64,640	14
Ophthalmology	\$1,465	3	\$5,900	1	\$1,681	2	\$0	0	\$9,046	6
Rare Diseases	\$30,831	6	\$3,954	6	\$1,088	2	\$0	0	\$35,873	14
Platform	\$0	0	\$174	1	\$50	1	\$0	0	\$224	2
Other	\$1,998	8	\$6,500	3	\$4,435	3	\$135	1	\$13,068	15
All	\$82,877	57	\$153,950	53	\$55,607	51	\$25,849	10	\$318,284	171

YEAR OVER YEAR M&A MARKET VALUE BY THERAPEUTIC AREA



BREAKDOWN OF M&A MARKET VALUE BY THERAPEUTIC AREA



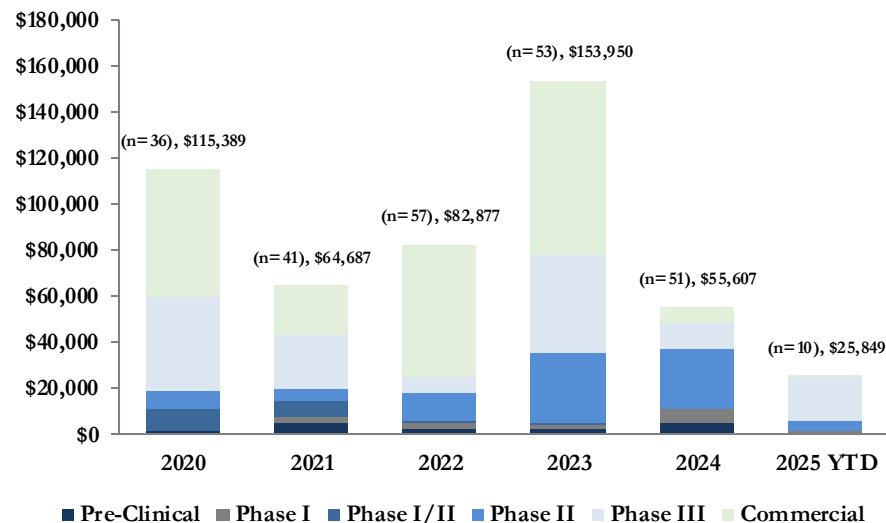
■ Cardiovascular ■ Hem-Onc ■ I&I ■ Neuro ■ Rare Diseases ■ Other

LIFE SCIENCES M&A ACTIVITY BY LEAD ASSET STAGE (2020 – 2025 YTD)⁽¹⁾

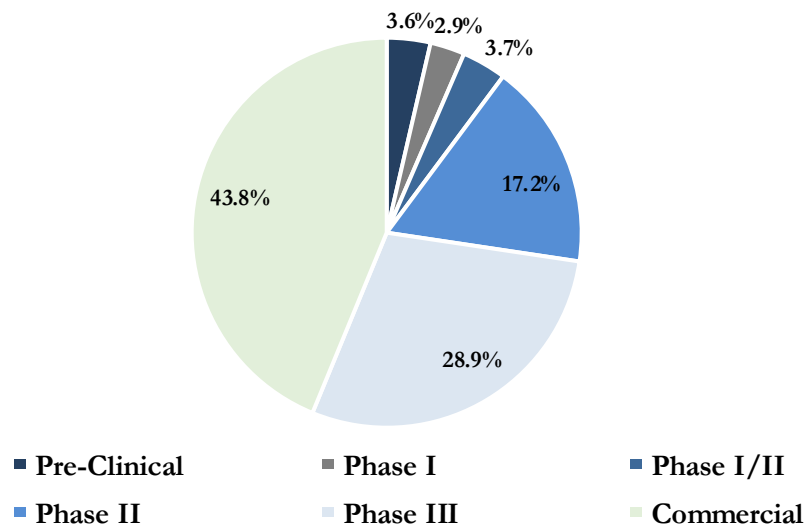
\$ in millions

Life Sciences M&A Activity 2022 - 2025 YTD by Lead Asset Stage										
Stage	2022		2023		2024		2025		Total	
	Deal Value	Number of Transactions	Deal Value	Number of Transactions	Deal Value	Number of Transactions	Deal Value	Number of Transactions	Deal Value	Number of Transactions
Pre-Clinical	\$2,674	13	\$2,436	7	\$5,235	6	\$1,003	1	\$11,348	27
Phase I	\$2,691	4	\$1,915	3	\$5,673	7	\$1,000	1	\$11,279	15
Phase I/II	\$239	1	\$793	2	\$680	1	\$0	0	\$1,711	4
Phase II	\$12,320	12	\$30,218	13	\$26,108	17	\$4,400	2	\$73,045	44
Phase III	\$7,213	4	\$42,780	13	\$10,828	5	\$18,610	3	\$79,431	25
Commercial	\$57,668	22	\$75,669	14	\$7,084	15	\$837	3	\$141,258	54
All	\$82,877	57	\$153,950	53	\$55,607	51	\$25,849	10	\$318,284	171

YEAR OVER YEAR M&A MARKET VALUE BY LEAD ASSET STAGE









BREAKDOWN OF M&A MARKET VALUE BY LEAD ASSET STAGE



INADVERTENT CASH ANALYSIS – \$25B+ IN TAKE-OUTS LTM⁽¹⁾ (1/2)

\$ in millions

	 VERTEX ALPINE IMMUNOTHERAPEUTICS	 CNO PHARMA deciphera	 Lilly MORPHIC	 Lombard LONGBOARD	 Roche POSEIDA	 Johnson & Johnson Intra Cellular THERAPEUTICS		
Announcement Date:	4/10/2024	4/29/2024	7/8/2024	10/14/2024	11/26/2024	1/13/2025		
Purchase Price per Share:	\$65.00	\$25.60	\$57.00	\$60.00	\$9.00	\$132.00		
Cash / Equity:	100% Cash	100% Cash	100% Cash	100% Cash	100% Cash	100% Cash		
Investors ⁽²⁾ Equity Value (\$M):	\$4,900	\$2,400	\$3,200	\$2,600	\$1,000	\$14,600		Total
Fidelity Management & Research Co. LLC	\$16	\$0	\$428	\$265	\$131	\$928		\$1,768
The Vanguard Group, Inc.	\$145	\$113	\$129	\$116	\$33	\$805		\$1,340
BlackRock Advisors LLC	\$199	\$151	\$186	\$142	\$46	\$512		\$1,236
Brightstar Associates LLC	–	\$590	–	–	–	–		\$590
Decheng Capital LLC	\$541	–	–	–	–	–		\$541
State Street Global Advisors Ltd.	\$93	\$65	\$155	\$51	\$16	\$157		\$537
RA Capital Management LP	\$319	–	–	\$197	–	–		\$516
T. Rowe Price Investment Management, Inc.	\$110	\$0	\$155	\$151	\$0	\$87		\$503
JPMorgan Chase Bank	\$2	\$2	\$2	\$36	\$1	\$442		\$485
Wellington Management Co. LLP	\$7	\$1	\$229	\$107	\$3	\$85		\$432
Alafi Capital Co. LLC	–	–	–	–	–	\$396		\$396
Franklin Templeton LLC	\$79	–	\$1	–	–	\$290		\$370
Point72 Asset Management LP	\$1	\$3	\$267	\$62	–	\$12		\$345
Comorant Asset Management LP	\$166	–	–	\$167	–	–		\$333
Geode Capital Management LLC	\$50	\$31	\$51	\$41	\$15	\$143		\$330
Wasatch Advisors, Inc.	–	–	–	–	–	\$321		\$321
Invesco Advisers, Inc.	\$16	\$1	\$1	\$1	\$0	\$250		\$268
Lynx1 Capital Management LP	\$248	–	–	\$10	–	–		\$258
Pictet Asset Management Ltd.	–	–	\$68	\$55	–	\$135		\$258
Avoro Capital Advisor LLC	–	–	–	–	–	\$255		\$255
Great Point Partners LLC	\$241	–	–	–	–	–		\$241
Frazier Life Sciences Management LP	\$204	\$26	–	–	–	–		\$230
Bellevue Asset Management LLC	–	–	–	–	–	\$208		\$208
Paradigm BioCapital Advisors LP	\$206	–	–	–	–	–		\$206
OrbiMed Advisors LLC	\$174	–	\$32	–	–	–		\$206
Farallon Capital Management LLC	–	–	–	\$176	–	–		\$176
EcoR1 Capital, LLC	–	–	\$172	–	–	–		\$172
Norges Bank Investment Management	–	\$9	–	–	–	\$162		\$171
Alpine Bioventures, GP, LLC	\$171	–	–	–	–	–		\$171
Morgan Stanley & Co. LLC	\$43	\$54	\$12	\$4	\$3	\$51		\$166
Goldman Sachs & Co. LLC	\$13	\$59	\$31	\$19	\$5	\$38		\$166
Tas Partners LLC	–	–	\$158	–	–	–		\$158
Perceptive Advisors LLC	–	–	\$16	–	–	\$135		\$152
Deerfield Management Co. LP	–	\$148	–	–	–	–		\$148
Marshall Wace LLP	\$14	–	\$3	\$28	\$0	\$97		\$142
Charles Schwab Investment Management, Inc.	\$19	\$13	\$19	\$5	\$5	\$76		\$137
Deep Track Capital LP	–	–	–	–	–	\$134		\$134
Armistice Capital LLC	–	\$133	–	–	–	–		\$133
Invus Public Equities Advisors LLC	\$3	–	\$126	–	–	–		\$129
Polar Capital LLP	–	\$47	–	\$81	–	–		\$129

Note: Market value of investors' ownership calculated by taking number of shares owned and multiplying them by the cash component of the offer price per share






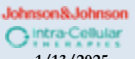
Source: FactSet/Market Data as of 3/19/2025

(1) Deals listed limited to those with transaction values greater than approximately \$1 billion

(2) Excludes retail and insider investors

INADVERTENT CASH ANALYSIS – \$25B+ IN TAKE-OUTS LTM⁽¹⁾ (2/2)

\$ in millions

	 VERTEX ALPHINE Immunotherapeutics	 CNO PHARMA deciphera	 Lilly MORPHIC	 Lonboard	 Roche POSEIDA	 Johnson & Johnson Intra Cellular Therapeutics		
Announcement Date:	4/10/2024	4/29/2024	7/8/2024	10/14/2024	11/26/2024	1/13/2025		
Purchase Price per Share:	\$65.00	\$25.60	\$57.00	\$60.00	\$9.00	\$132.00		
Cash / Equity:	100% Cash	100% Cash	100% Cash	100% Cash	100% Cash	100% Cash		
Investors ⁽²⁾ Equity Value (\$M):	\$4,900	\$2,400	\$3,200	\$2,600	\$1,000	\$14,600		Total
Redmile Group LLC	–	\$123	–	–	–	–	–	\$123
Emerald Advisers LLC	–	\$31	–	\$25	–	–	\$65	\$120
Suvretta Capital Management LLC	–	–	–	–	–	–	\$120	\$120
GW&K Investment Management LLC	–	–	–	–	–	–	\$116	\$116
Holocene Advisors, LP	–	–	–	–	–	–	\$114	\$114
Polaris Growth Management LLC	–	–	\$113	–	–	–	–	\$113
AllianceBernstein LP	\$2	\$1	\$6	\$2	\$0	\$101	\$101	\$113
Citadel Advisors LLC	\$57	\$7	\$49	–	–	–	–	\$113
Northern Trust Global Investments Ltd.	\$19	\$13	\$19	\$13	\$5	\$41	\$41	\$111
Malin Corp. Plc	–	–	–	–	\$107	–	–	\$107
Millennium Management LLC	\$18	\$17	–	\$10	\$20	\$42	\$42	\$106
Two Sigma Advisers LP	\$42	\$22	\$37	\$3	\$0	\$2	\$2	\$105
Viking Global Investors LP	–	–	–	\$105	–	–	–	\$105
Commodore Capital LP	\$105	–	–	–	–	–	–	\$105
SilverArc Capital Management LLC	\$19	–	\$28	\$7	\$33	\$14	\$14	\$101
Westfield Capital Management Co. LP	–	–	–	–	–	\$97	\$97	\$97
DWS Investment	\$8	\$12	\$1	\$1	\$0	\$72	\$72	\$96
Alyeska Investment Group LP	–	–	–	\$13	–	\$78	\$78	\$91
Woodline Partners LP	\$65	\$10	\$6	\$4	\$4	–	–	\$89
Dimensional Fund Advisors Ltd.	\$16	\$42	\$12	\$1	\$5	\$7	\$7	\$83
Octagon Capital Advisors LP	\$81	–	–	–	–	–	–	\$81
Lord, Abbett & Co. LLC	–	–	–	\$28	–	\$53	\$53	\$80
UBS Securities LLC	\$7	\$17	\$11	\$8	\$1	\$34	\$34	\$79
Schroder Investment Management Ltd.	–	–	–	–	–	\$77	\$77	\$77
Parkman Healthcare Partners LLC	–	\$14	–	\$42	–	\$20	\$20	\$76
Astellas Pharma, Inc.	–	–	–	–	\$75	–	–	\$75
D. E. Shaw & Co. LP	\$19	\$10	\$12	–	–	\$31	\$31	\$72
Candriam SCA	\$31	–	\$14	\$14	–	\$14	\$14	\$72
Jennison Associates LLC	\$9	–	–	\$57	–	–	–	\$66
Integral Health Asset Management LLC	–	–	–	\$66	–	–	–	\$66
Teachers Advisors LLC	\$7	\$18	\$6	\$7	\$2	\$25	\$25	\$65
Adage Capital Management LP	\$46	–	–	–	–	\$15	\$15	\$62
Driehaus Capital Management LLC	\$2	–	–	\$29	–	\$29	\$29	\$60
Macquarie Investment Management Ltd.	–	–	–	–	–	\$59	\$59	\$59
First Trust Advisors LP	–	–	–	–	–	\$57	\$57	\$57
Federated MDTA LLC	\$0	–	\$57	–	–	–	–	\$57
Walleye Capital LLC	\$25	\$9	–	–	–	\$21	\$21	\$55
The Bank of New York Mellon Corp.	\$7	\$5	\$7	\$6	\$1	\$29	\$29	\$55
Pentwater Capital Management LP	–	–	–	–	\$54	–	–	\$54
Vivo Capital LLC	\$53	–	–	–	–	–	–	\$53
Top 80 Institutional Investors	\$3,717	\$1,798	\$2,620	\$2,154	\$567	\$7,052	\$17,909	
Share of Equity Value	75.9%	74.9%	81.9%	82.9%	56.7%	48.3%		

Note: Market value of investors' ownership calculated by taking number of shares owned and multiplying them by the cash component of the offer price per share





Source: FactSet/Market Data as of 3/19/2025

(1) Deals listed limited to those with transaction values greater than approximately \$1 billion

(2) Excludes retail and insider investors

TOP TEN PHARMA ACQUIRORS BY DEAL VALUE (2020 – 2025 YTD)⁽¹⁾

\$ in millions

Company	Business Development Focus Areas	# of Deals	Aggregate Deal Value ⁽²⁾
 Pfizer	Hem-Onc, Neuro, I&I, Infectious Diseases	6	\$69,485
 AstraZeneca	Hem-Onc, Cell / Gene Therapy, Cardiovascular, Infectious Diseases, Rare Diseases	9	\$50,283
 Bristol Myers Squibb	Hem-Onc, Cardiovascular, Neuro	6	\$41,386
 AMGEN	Hem-Onc, I&I, Rare Diseases, Platform	5	\$34,721
 MERCK	Hem-Onc, Cardiovascular, Infectious Diseases, I&I, Rare Diseases, Ophthalmology	9	\$31,384
 GILEAD	Hem-Onc, I&I	5	\$30,172
 Johnson & Johnson	Hem-Onc, Neuro, I&I	5	\$24,800
 abbvie	Hem-Onc, Cell / Gene Therapy, I&I	8	\$22,118
 sanofi	Hem-Onc, Cell / Gene Therapy, Neuro, I&I, GI, Platform	9	\$17,870
 Lilly	Hem-Onc, Neuro, I&I	11	\$16,501
Total		73	\$338,719

Source: PitchBook, Company Websites, SEC Edgar as of 3/21/2025

(1) Includes life sciences M&A deals that exceed \$20M in deal value since 1/1/2020

(2) Includes upfront and milestone payments

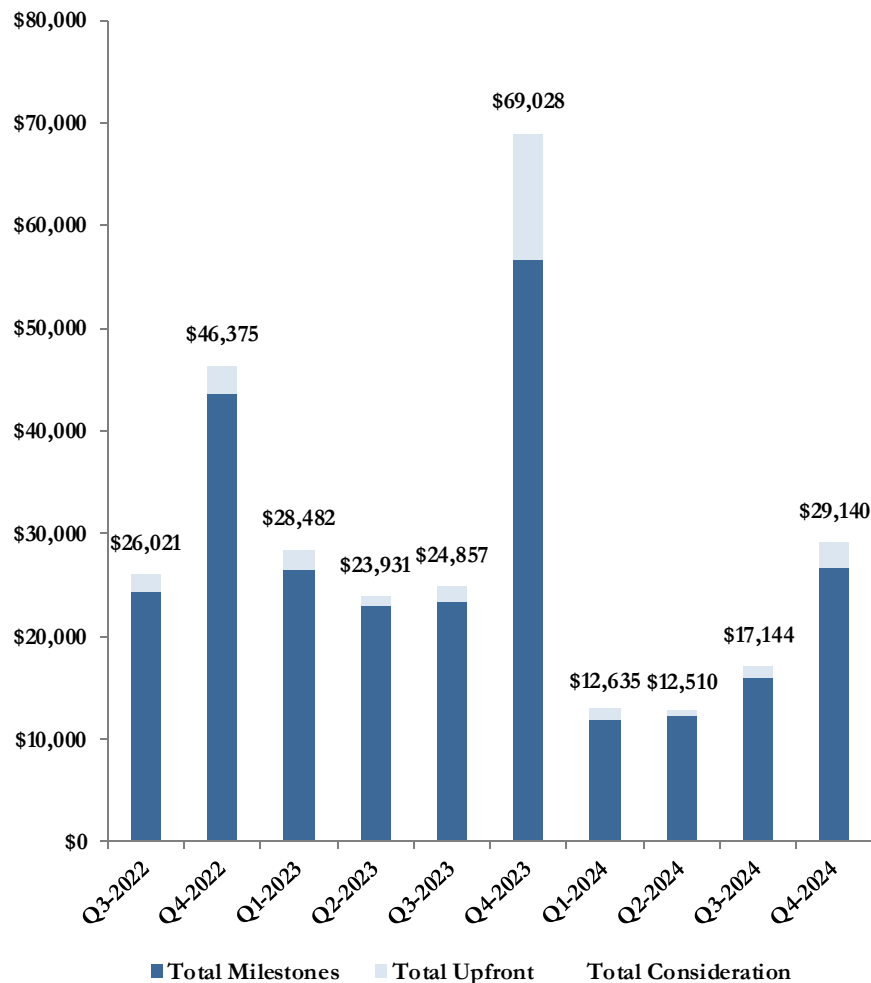
LIFE SCIENCES LICENSING ACTIVITY

RECENT LIFE SCIENCES LICENSING ACTIVITY (1/2)

\$ in millions

Licensing and strategic collaboration deal activity was rampant in the last quarter of 2023, driven by strategic sponsors' burgeoning demand for later stage assets in the hematology-oncology and immune-inflammatory spaces

QOQ LICENSING DEAL AGGREGATE CONSIDERATION



TOP LICENSEES BY TOTAL CONSIDERATION

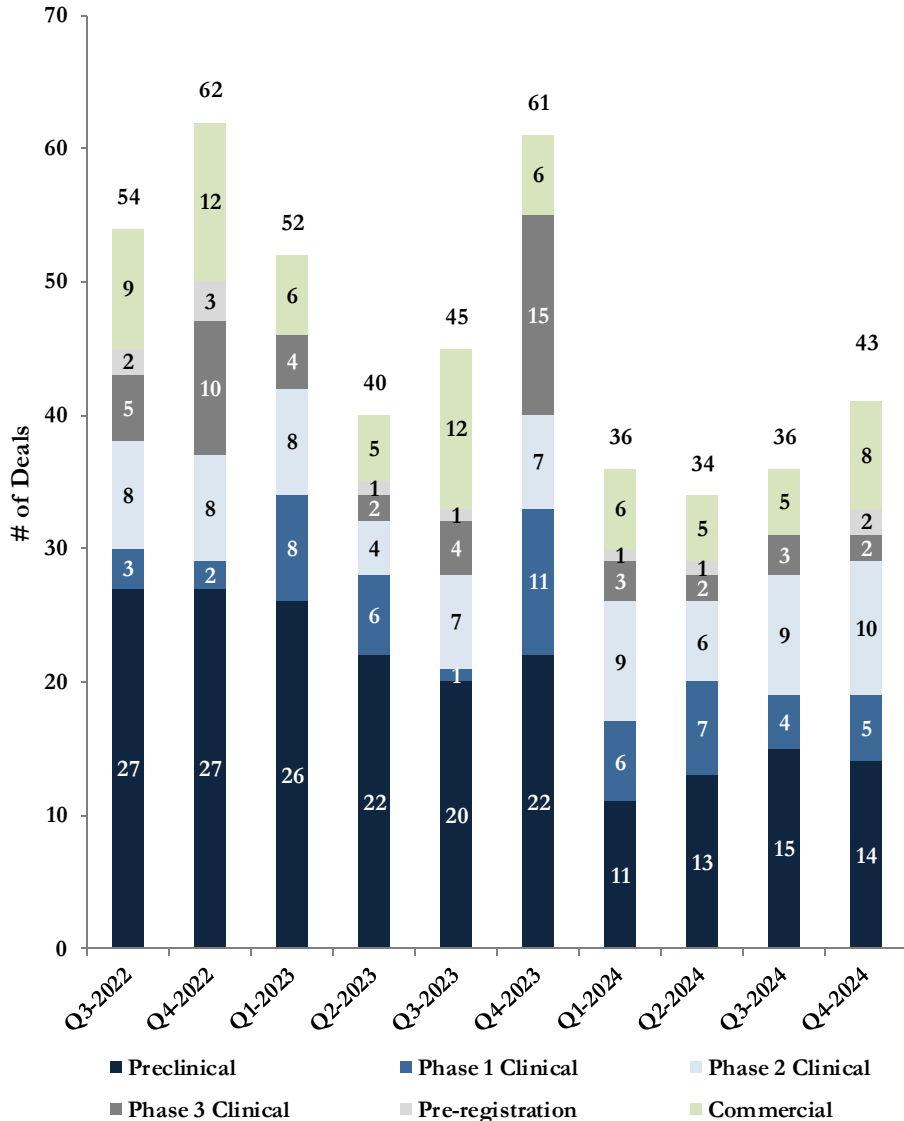
Company	Therapeutic Areas of Focus	# of Deals	Total Consideration Committed
MERCK	Hem-Onc, Neuro, Infectious Diseases, Endocrine/Metabolic	21	\$57,807
Bristol Myers Squibb	Hem-Onc, Gastrointestinal, Cardiovascular, I&I	9	\$22,738
sanofi	Hem-Onc, Neuro, I&I, Endocrine/Metabolic, Gastrointestinal, Infectious Diseases	17	\$17,432
NOVARTIS	Hem-Onc, Neuro, Cardiovascular	13	\$12,770
Roche	Hem-Onc, Infectious Diseases	12	\$12,643

RECENT LICENSING ACTIVITY SUMMARY STATISTICS

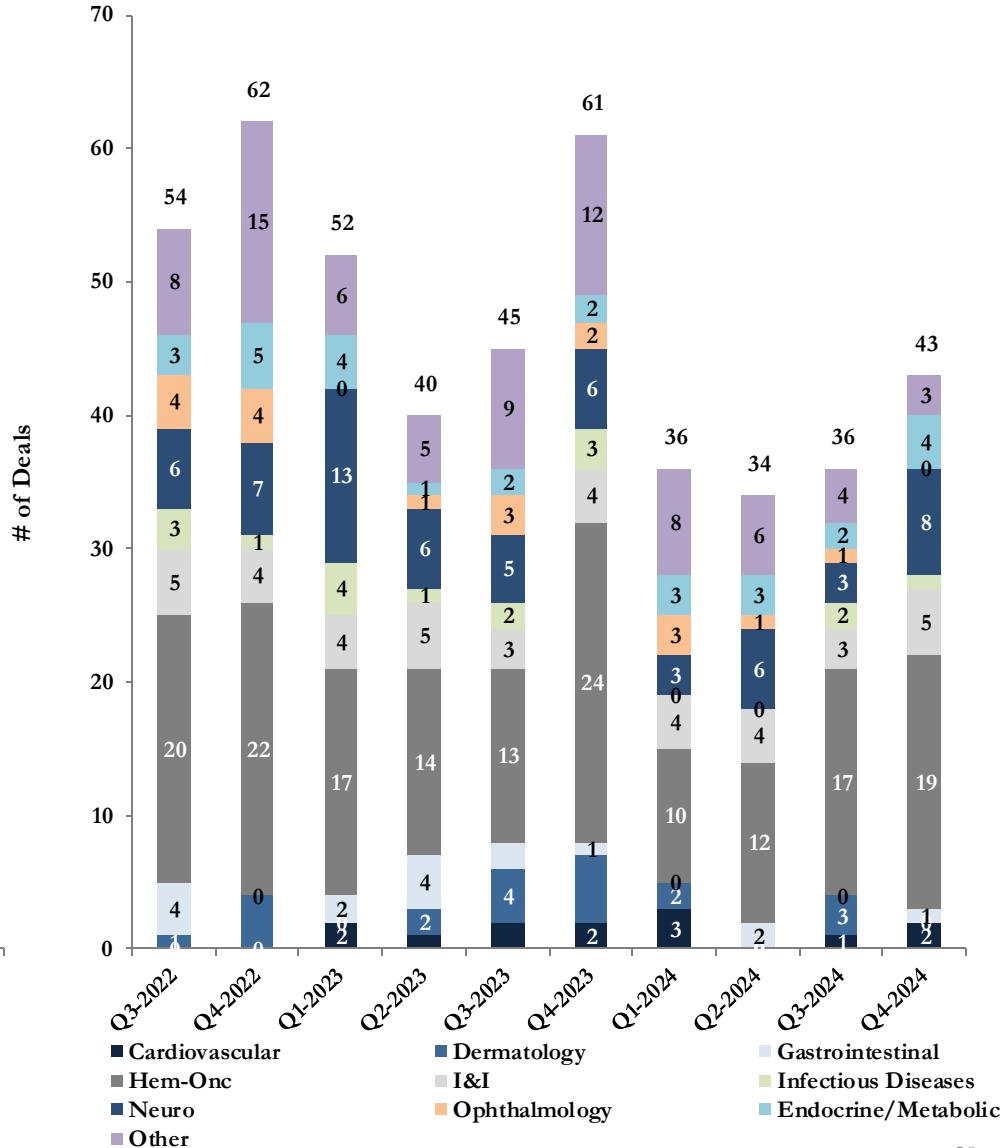
Quarter	Total Consideration	Total Upfront	Total Milestones	# of Deals	Average Total Consideration	Average Upfront
Q4-2024	\$29,140	\$2,382	\$26,759	43	\$678	\$66
Q3-2024	\$17,144	\$1,140	\$16,004	36	\$476	\$46
Q2-2024	\$12,510	\$666	\$12,185	34	\$404	\$29
Q1-2024	\$12,635	\$1,069	\$11,951	36	\$395	\$36
Q4-2023	\$69,028	\$12,302	\$56,726	61	\$1,132	\$267
Q3-2023	\$24,857	\$1,585	\$23,272	45	\$552	\$45
Q2-2023	\$23,931	\$867	\$23,064	40	\$598	\$30
Q1-2023	\$28,482	\$2,057	\$26,425	52	\$548	\$43
Q4-2022	\$46,375	\$2,844	\$43,531	62	\$748	\$51
Q3-2022	\$26,021	\$1,612	\$24,409	54	\$482	\$34

RECENT LIFE SCIENCES LICENSING ACTIVITY (2/2)

QOQ LICENSING DEAL VOLUME BY ASSET STAGE



QOQ LICENSING DEAL VOLUME BY THERAPEUTIC AREA



LIFE SCIENCES BD&L OUTLOOK

WHAT TO WATCH FOR: TRENDS AT THE FOREFRONT OF BD&L ACTIVITY

Large pharma buying power, SMID-Cap biotech innovation with relatively low valuations and looming patent cliffs position the sector for an active M&A market. Underlying macro, regulatory and political risks could hamper activity



Large Pharma Patent Cliffs

- ❑ By 2030, >190 drugs will lose patent exclusivity, including 69 blockbusters, putting at risk ~\$236B in sales
- ❑ In 2024, patent expiry totaled ~\$16B



Large Pharma Buying Power

- ❑ We estimate that big pharma has \$500+ billion in deployable capital for BD&L transactions
- ❑ Given the rapid pace of patent expirations over the next several years, large pharma should be motivated to deploy capital in attempt to mitigate looming revenue shortfalls



Accelerating Innovation in Biotech

- ❑ New modalities in I&I, Oncology, CV, Endocrine & Metabolic and Neuroscience, among other areas, are rapidly gaining traction with researchers and clinicians across the globe, with recent emphasis on China innovation
- ❑ Pharma BD teams will look to augment their R&D pipelines via in-licensing and M&A activity



Political and Regulatory Uncertainty

- ❑ The U.S. Election leading to a sonic level of Executive policy implementation has caused some pause in BD&L activity as HHS-related, IRA and other variables weigh on decision making
- ❑ The FTC should be more hospitable to all transaction types

CMO360°

Chief Medical Officer Summit

THE **conference** FORUM

THANK YOU!

MICHAEL MEYERS
VICE CHAIRMAN
HEAD OF M&A AND STRATEGIC ADVISORY SERVICES
H.C. WAINWRIGHT & Co.

April 8, 2025