



# 2020 Biopharma Market Trends and Investment Insights with Real-world Perspectives

Thursday, October 1, 2020 | 1:00 PM - 2:00 PM ET



President and CEO of LaVoieHealthScience



Marcy Graham
VP Corporate Affairs,
Poseida Therapeutics



Stacey Seltzer
Partner at Aisling Capital



David Thomas
Vice President of Industry
Analysis, Biotechnology
Innovation Organization (BIO)

# State of Emerging Therapeutic Company Investment and Deal-making

#### The State of Emerging Companies

- 1. Public Funding (IPOs, Follow-On Offerings)
- 2. Venture Funding
- 3. Licensing & Acquisitions

#### **Data Authors:**

David Thomas, Vice President, Industry Research, BIO Chad Wessel, Director, Industry Research, BIO



## **BIO Industry Analysis Home Page**



Policy

Events

News & Insights

Member

About

Emerging
Therapeutic Company
Investment and
Deal Trends

White Capit on Hald Officings, 2000 2010
Capital Capital on Hald Officings, 2000 2010
Capital Capital on Hald Officings, 2000 2010
Capital Capital Official Capital

#### **Available Reports:**

www.bio.org/iareports

#### Highly Prevalent Chronic Disease

- [2020] Volume V: Hypertension and Heart Failure [sign up required]
- [2019] Volume IV: Alzheimer's Disease Therapeutics
- [2019] Volume III: Type 2 Diabetes and Obesity Therapeutics
- [2018] Volume II: Pain and Addiction
  Therapeutics
- [2018] Volume I: Depression Therapeutics

## **Emerging Company Trends**

- [2019] Investment and Deal Trends 2009–2018
- [2018] Investment and Deal Trends 2008–2017
- [2017] Investment and Deal Trends 2007-2016
- [2016] Investment and Deal Trends 2006-2015
- [2015] Investment and Deal Trends 2005–2014

#### Clinical Success Rates

- [2016] Clinical Development Success Rates 2006-2015
- [2014] Clinical Development Success
  Rates for Investigational Drugs

**New Interactive Websites:** 

**Emerging Therapeutic Company Trends** 

www.bio.org/ETCtrends

Covid-19 Tracker

www.bio.org/covidpipelinetracker



# 1. Public Financings

NASDAQ®
BioCentury®
FACTSET®



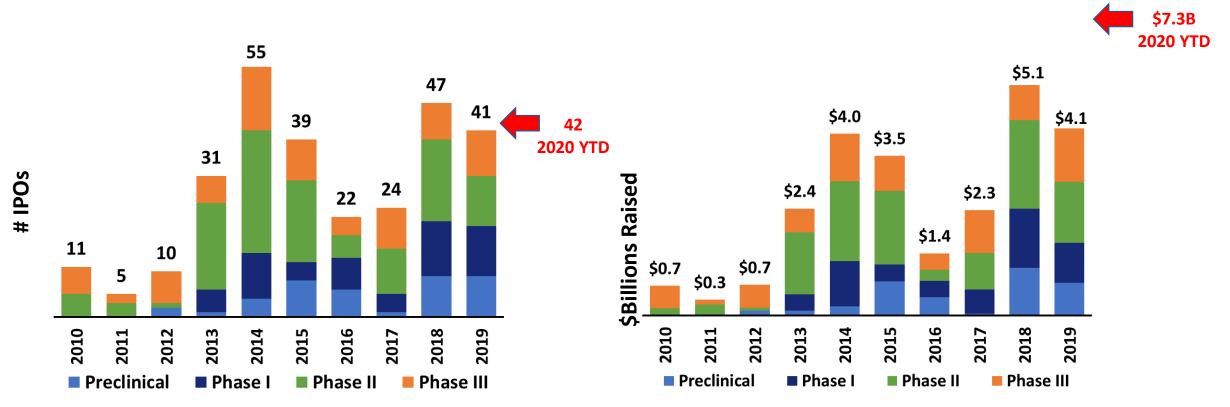
## Nasdaq Biotech Index, 10 years Back to 2015 peak in 2020





## **R&D-Stage IPOs**







## R&D-Stage IPOs – 2020 YTD

#### 2020 R&D-stage IPOs

US: 42 IPOs

US: \$7.3B raised

### Top 15 Raises for U.S. Companies in 2020 YTD

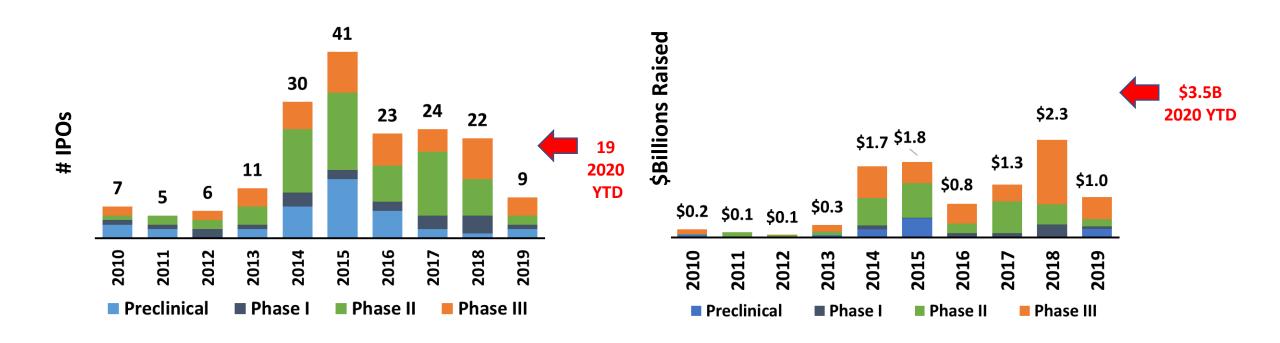
Company	Phase	Area	Covid?	Raised (\$M)	MCAP (\$M)
Relay Therapeutics (RLAY)	P1	Oncology/Platform	No	\$400	\$3,597
Forma Therapeutics (FMTX)	P2	Oncology	No	\$278	\$2,038
Allovir (ALVR)	P2	Infectious	Yes	\$275	\$1,753
Dyne Therapeutics (DYN)	PC	Muscle (rare)	No	\$268	\$908
Avidity Bioscience (RNA)	PC	Muscle (rare)	No	\$259	\$1,084
Nkarta (NKTX)	PC	Oncology	No	\$252	\$992
Annexon (ANNX)	P1	Inflammation (rare)	No	\$251	\$1,070
Vaxcyte (PCVX)	PC	Infectious	No	\$250	\$2,623
Revolution Medicine (RVMD)	P1	Oncology	No	\$238	\$2,240
Poseida Therapeutics (PSTX)	P2	Oncology	No	\$224	\$556
Repare Therapeutics (RPTX)	PC	Oncology	No	\$220	\$1,164
Passage Bio (PASG)	PC	Oncology	No	\$216	\$594
Fusion Pharmaceuticals (FUSN)	P1	Oncology	No	\$213	\$492
Akouos (AKUS)	PC	Hearing loss (rare)	No	\$213	\$795
PMV Pharmaceuticals (PMVP)	PC	Oncology	No	\$212	\$1,634



U.S. Average Raise: \$175M

## **R&D-Stage IPOs**

### **Ex-U.S.** Companies





# R&D-Stage IPOs - 2020 YTD

#### 2020 R&D-stage IPOs

US: 42 IPOs Ex-US: 19 IPOs

US: \$7.3B raised Ex-US: \$3.5B raised

### Top 15 Raises for Ex-U.S. Companies in 2020 YTD:

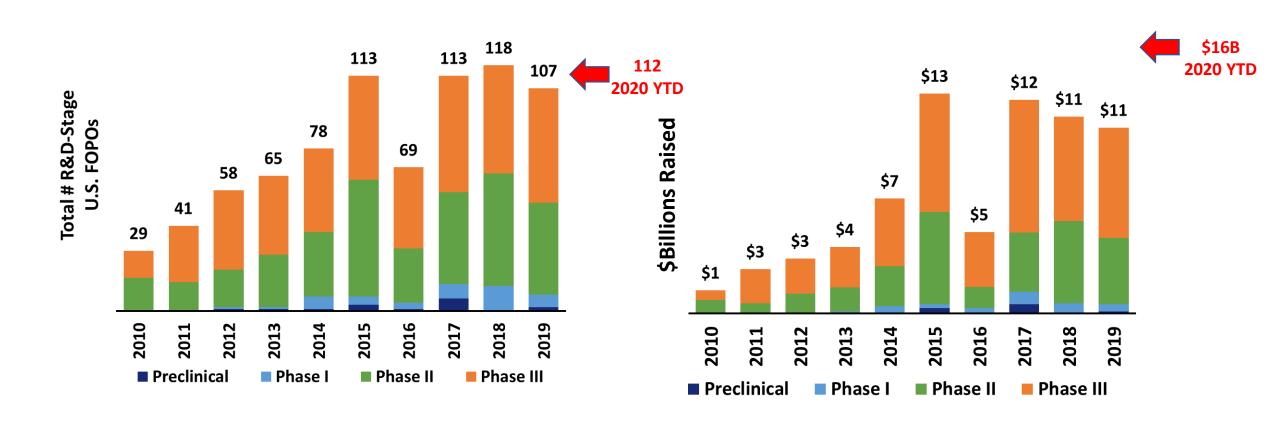
Company	Phase	Area	Covid?	Raised (\$M)	MCAP (\$M)	Country
Legend Biotech (LEGN)	P3	Oncology	No	\$423	\$4,075	Cayman Isl.
Akeso (HK-9926)	P1	Oncology	No	\$333	\$2,742	China
InnoCare (HK-9969)	P2	Oncology	No	\$289	\$1,648	China
Bio-Thera Solutions (688177)	P3	Oncology	Yes	\$281	\$2,656	China
Repare Therapeutics (RPTX)	PC	Oncology	No	\$253	\$1,164	Canada
Kintor (HK-9939)	P3	Oncology	No	\$240	\$442	China
ADC (ADCT)	PC	Oncology	No	\$233	\$2,522	Switzerland
iTeos Therapeutics (ITOS)	P1	Oncology	No	\$230	\$841	Belgium
CureVac N.V. (CVAC)	P1	Infectious	Yes	\$213	\$8,130	Germany
Fusion Pharmaceuticals (FUSN)	P1	Oncology	No	\$213	\$492	Canada
ALX Oncology (ALXO)	P1	Oncology	No	\$186	\$1,414	Ireland
Freeline Therapeutics (FRLN)	P1	Hematology	No	\$159	\$537	UK
Compass Pathways (CMPS)	P1	Psychiatry	No	\$147	\$1,239	UK
Immunotech Biopharm	P2	Oncology	No	\$142	\$675	China
I-MAB Biopharma (IMAB)	P3	Oncology	No	\$104	\$2,706	China

Ex-U.S. Average Raise: \$189M



## **R&D-stage Follow-On Offerings**

### **U.S.** Companies





## **R&D-Stage Follow-On Offerings – 2020 YTD**

#### R&D-stage Follow-On Offerings

US: 112 Follow-Ons (>\$10M)

US: \$15.9B raised

### **Top 15 Raises for U.S. Companies in 2020 YTD**

Company	Phase Area		Covid?	Raised (\$M)	MCAP (\$M)
Moderna (MRNA) (2 FOPOs)	P2	Infectious	Yes	\$1,838	\$26,390
Iovance Biotherap. (IOVA)	P3	Oncology	No	\$604	\$5,231
MyoKardia (MYOK)	P3	Cardio	No	\$551	\$6,734
Allogene (ALLO)	P1	Oncology	No	\$550	\$4,960
bluebird bio (BLUE)	Р3	Hematology	No	\$500	\$3,524
Turning Point (TPTX)	P2	Oncology	No	\$374	\$3,324
Apellis (APLS)	P3	Ophthalmology	No	\$352	\$2,359
ChemoCentryx (CCXI)	Р3	Immunology	No	\$347	\$3,649
Mirati (MRTX)	P3	Oncology	No	\$345	\$7,022
Vir Biotechnology (VIR)	P2	Infectious	Yes	\$345	\$3,915
Turning Point (TPTX)	P2	Oncology	No	\$325	\$3,324
Arena Pharma (ARNA)	Р3	GI	No	\$316	\$3,992
Arcus Biosciences (RCUS)	P2	Oncology	No	\$303	\$1,377
Seres Therapeutics (MCRB)	Р3	Infectious	No	\$260	\$2,396
Alector (ALEC)	P2	Neurology	No	\$240	\$1,112

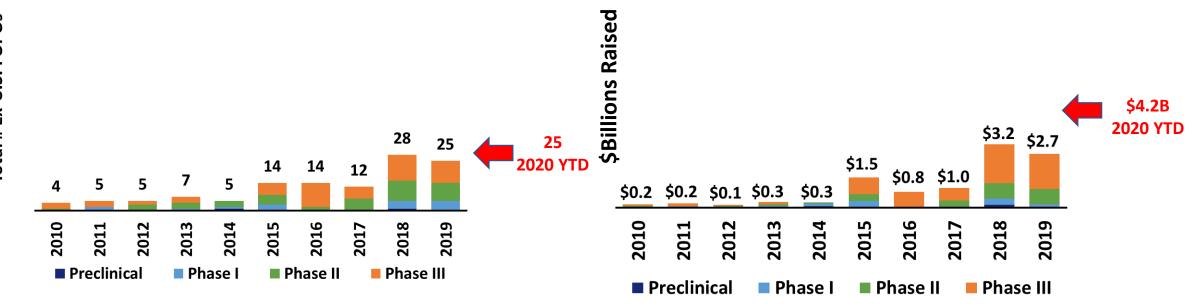
U.S. Average Raise: \$142M As of Aug 31, 2020



Source: Nasdaq, BCIQ, BIO Industry Analysis, 2020

# Follow-On Offerings for R&D-stage Companies

### **Ex-U.S.** Companies





## **R&D-Stage Follow-On Offerings – 2020 YTD**

#### R&D-stage Follow-On Offerings

US: 112 Follow-Ons (>\$10M) Ex-US: 25 Follow-Ons (>\$10M)

US: \$15.9B raised Ex-US: \$4.2B raised

### Top 15 Raises for Ex-U.S. Companies in 2020 YTD

Company	Phase Area		Covid?	Raised (\$M)	MCAP (\$M)
Argenx (ARGX)	Р3	Immunology (rare)	No	\$642	\$10,966
Ascendis Pharma (ASND)	P3	Endocrine	No	\$600	\$7,530
BioNTech (BNTX)	P1	Oncology/Covid	Yes	\$512	\$15,939
CRISPR Therapeutics (CRSP)	P2	Hematology (rare)	No	\$450	\$5,960
Zymeworks (ZYME)	P2	Oncology	No	\$321	\$1,869
Adaptimmune (ADAP) 2FOPOs	P2	Oncology	No	\$356	\$1,559
Aurinia (AUPH)	P3	Immunology (rare)	No	\$200	\$1,882
Trillium (TRIL-ca)	P1	Oncology	No	\$117	\$1,452
Inventiva (IVA)	P2	Endocrine (rare)	No	\$108	\$434
Immunic (IMUX)	P2	GI/MS/Covid	Yes	\$104	\$371
DBV Technologies (DBVT)	Р3	Immunology/Allergy	No	\$100	\$215
Autolus (AUTL)	P2	Oncology	No	\$80	\$722
Compugen (CGEN-israel)	P1	Oncology	No	\$75	\$1,440
Axovant Gene Therapies (AXGT)	P2	Neurology (rare)	No	\$75	\$153
Xenon Pharmaceuticals (XENE)	P2	Neurology (rare)	No	\$69	\$385

Ex-U.S. Average Raise: \$165M As of Aug 31, 2020



# 2. Venture Capital



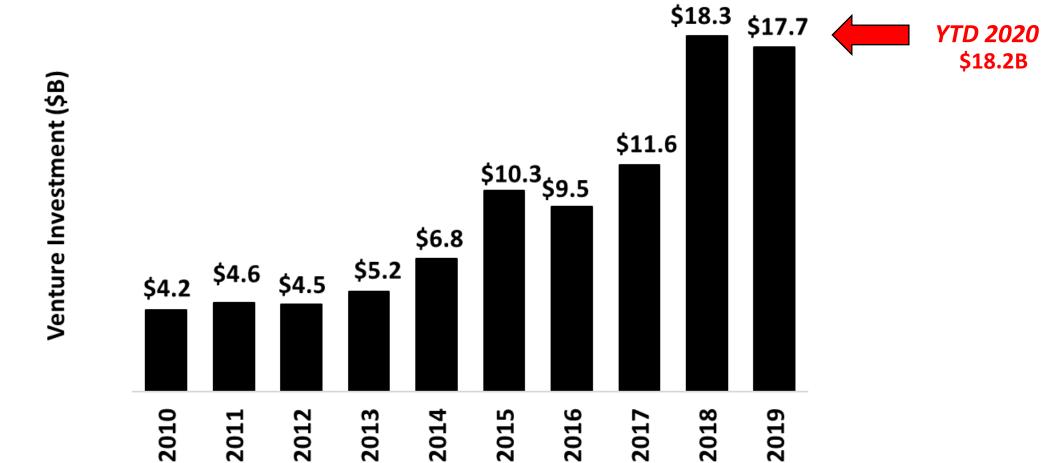


**BioCentury**<sup>®</sup>



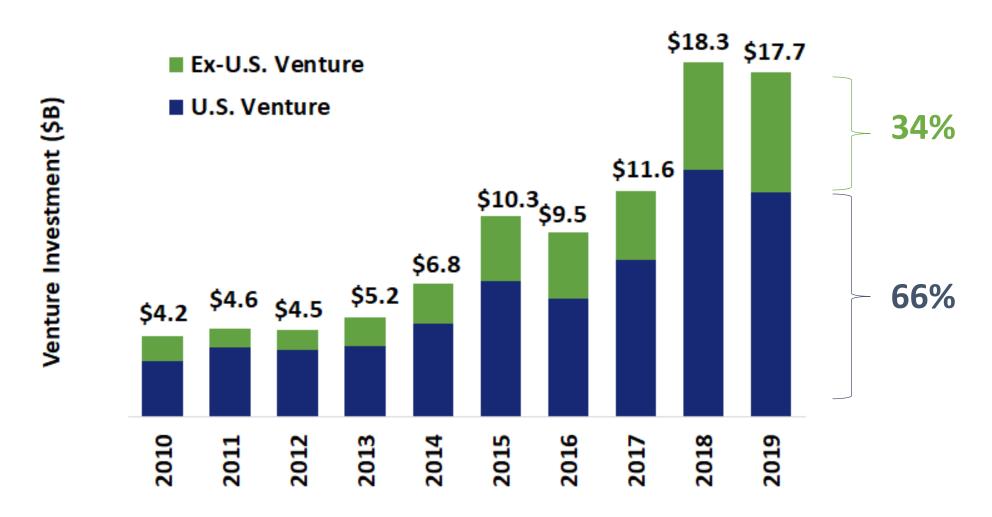


## **Venture Capital – Worldwide**



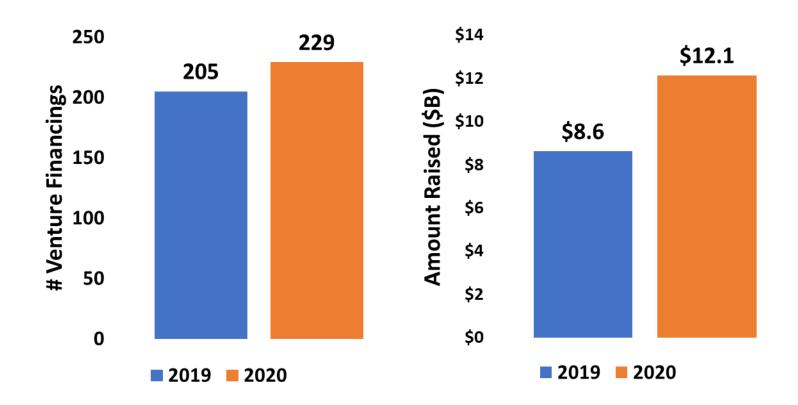


## **Venture Capital – Worldwide**



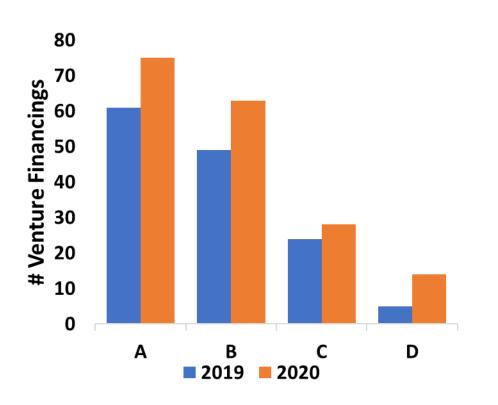


# Venture Funding YTD 2019 1Q-3Q vs 2020 1Q-3Q





# Venture Funding YTD 2019 1Q-3Q vs 2020 1Q-3Q



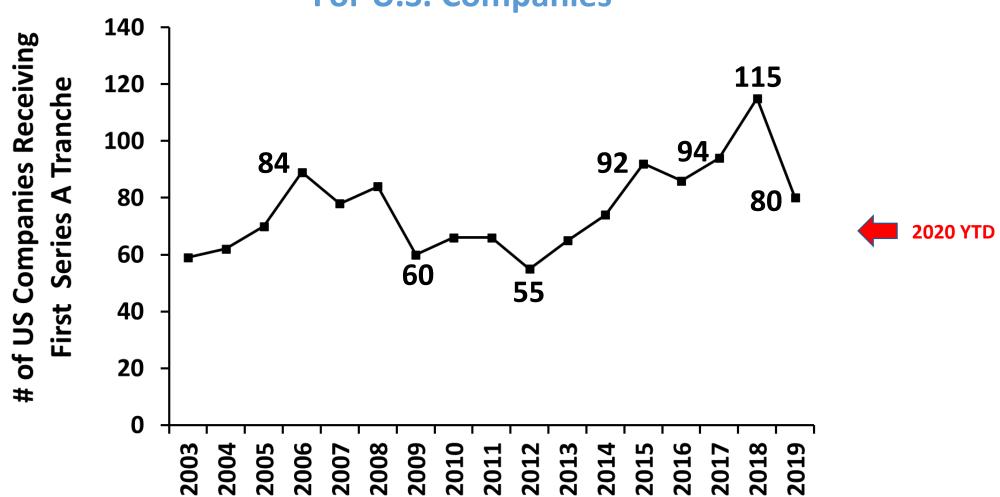




## **Top 20 Venture Raises in 2020 YTD**

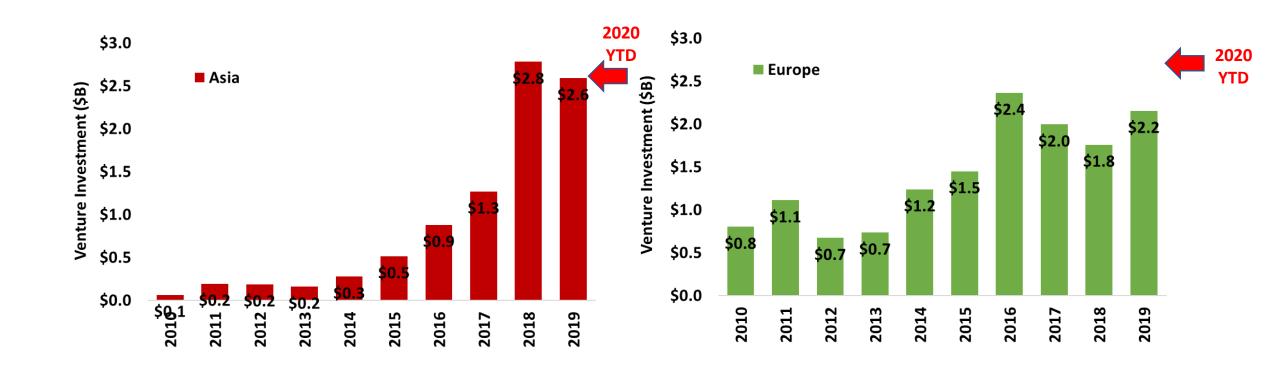
Company	Series	\$M Raised	Phase	Focus	Rare?	Covid?
Sana Biotechnology Inc.	А	\$700	PC	Platform	No	No
Lyell Immunopharma Inc.	С	\$493	PC	Platform	No	No
Recursion Pharmaceuticals Inc.	D	\$239	P1	Oncology	No	No
Atea Pharmaceuticals Inc.	D	\$215	P2	Antiviral	No	Yes
EQRx Inc.	Α	\$200	PC	Multiple	No	No
Erasca Inc.	В	\$200	PC	Oncology	No	No
Orca Biosystems Inc.	D	\$192	P1	Oncology	No	No
ElevateBio LLC	В	\$170	PC	Genetic Disorders	Yes	No
C4 Therapeutics Inc.	В	\$150	PC	Oncology	No	No
Rallybio LLC	В	\$145	PC	Hematology	Yes	No
VelosBio Inc.	В	\$137	P1	Oncology	No	No
Encoded Therapeutics Inc.	D	\$135	PC	Neurology	Yes	No
Aligos Therapeutics Inc.	В	\$125	P1	Infect. Dis.	No	Yes
Apexigen Inc.	С	\$123	P2	Oncology	No	No
Affinivax Inc.	В	\$120	P2	Infect. Dis.	No	No
Nurix Therapeutics Inc.	С	\$120	PC	Oncology	No	No
Shattuck Labs Inc.	В	\$118	P1	Oncology	No	No
Dyne Therapeutics Inc.	В	\$116	PC	Genetic Disorders, DMD	Yes	No
Kallyope Inc.	С	\$112	PC	Metabolic	No	No
Imvax Inc.	С	\$112	P1	Oncology	No	No

# Series A-1 Rounds for U.S. companies Was 2018 an Outlier?



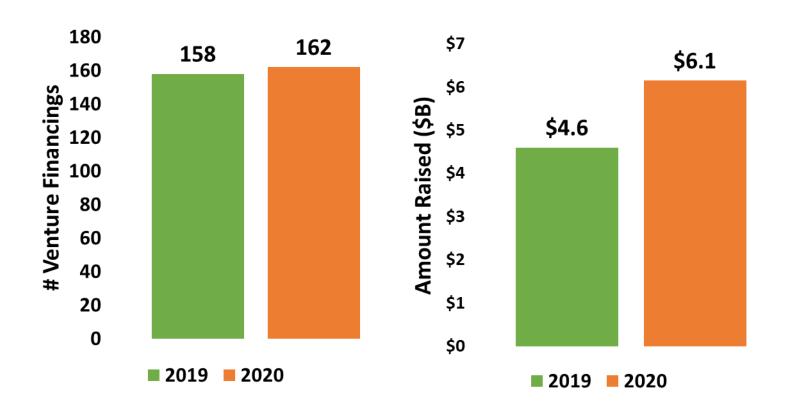


# **Venture Capital – Ex-US** *Europe setting Records*



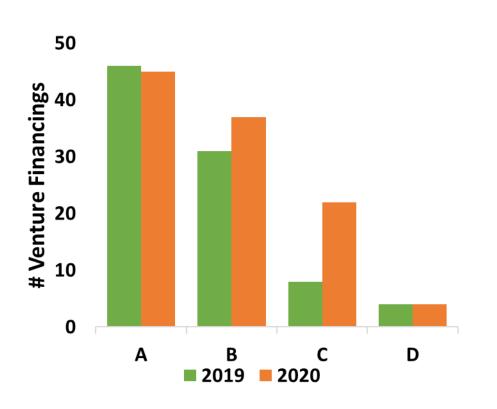


# Venture Funding YTD 2019 1Q-3Q vs 2020 1Q-3Q





# Venture Funding YTD 2019 1Q-3Q vs 2020 1Q-3Q





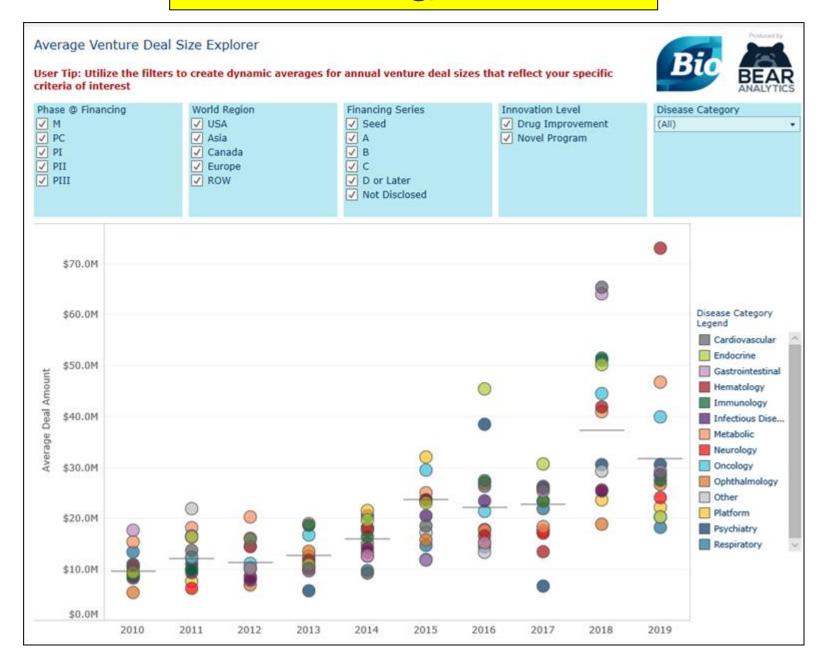


## **Top 20 Venture Raises in 2020 YTD**

Company	Series	\$M Raised	Phase	Focus of Lead Program	Rare?	Covid?	Country
CureVac AG	E+	\$634	Р3	Oncology/Infect. Dis.	No	Yes	Germany
Mabwell Biotechnology Co. Ltd.	Α	\$279	Р3	Oncology/Immuno	No	No	China
Everest Medicines Ltd.	С	\$260	P3/M	Oncology/Infect. Dis.	No	No	China
Haihe Biopharma Co. Ltd.	В	\$172	М	Oncology	No	No	China
Genor Biopharma Co. Ltd.	В	\$160	Р3	Oncology	No	No	China
Mabworks Biotech Co. Ltd.	С	\$160	Р3	Oncology	No	No	China
Legend Biotechnology Co. Ltd.	Α	\$151	Р3	Oncology	No	No	China
Immunocore Ltd.	В	\$130	Р3	Oncology	No	No	United Kingdom
iTeos Therapeutics S.A.	B-2	\$125	P1	Oncology	No	No	Belgium
Connect Biopharmaceuticals Ltd.	С	\$115	P2	Immuno/Derm	No	No	China
ALX Oncology Ltd.	С	\$105	P1	Oncology	No	No	Ireland
AbCellera Biologics Inc.	В	\$105	P1	Platform/Infect. Dis.	No	Yes	Canada
Harbour BioMed	С	\$103	Р3	Multiple (Ophthal.)	No	No	China
Dizal Pharmaceutical	ND (A)	\$100	P2	Oncology	No	No	China
JW Therapeutics Co. Ltd.	В	\$100	Р3	Oncology	No	No	China
Remegen Co. Ltd.	ND (A)	\$100	Р3	Immuno/Oncology	No	No	China
Transcenta Holding Ltd.	В	\$100	P2	Oncology	No	No	China
Canbridge Pharmaceuticals Inc.	D	\$98	М	Oncology/Multiple	Yes	No	China
Antengene Corp.	С	\$97	М	Oncology/Multiple	No	No	China
Lava Therapeutics B.V.	С	\$84	P1	Oncology	No	No	Netherlands



### www.bio.org/ETCtrends





## 3. Deal-Making

#### **Acquisitions**

- R&D-stage companies
- Market-stage companies <\$1B sales</li>

#### **Out-Licensing**

R&D-Stage Drug Asset Deals



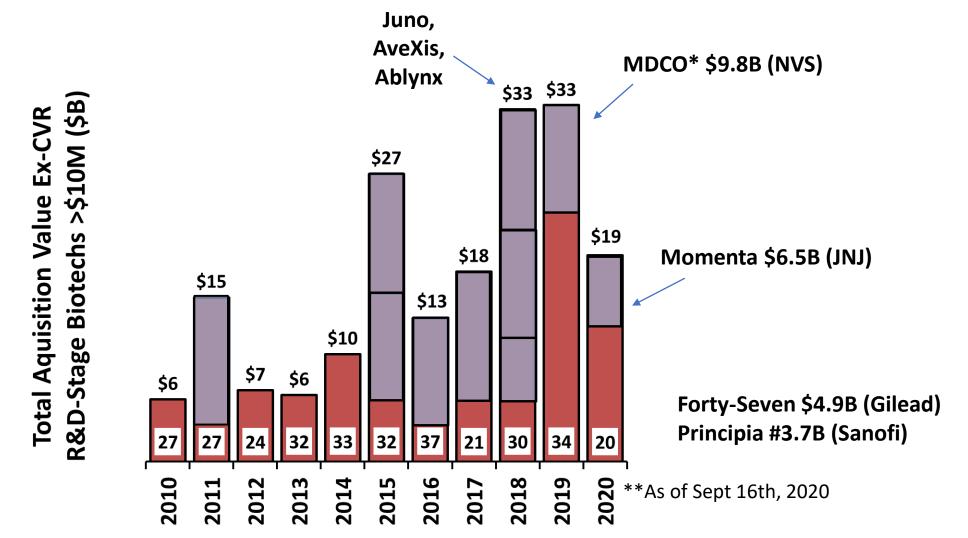
**BioCentury**®





# **Emerging Company Acquisitions R&D-Stage Targets**



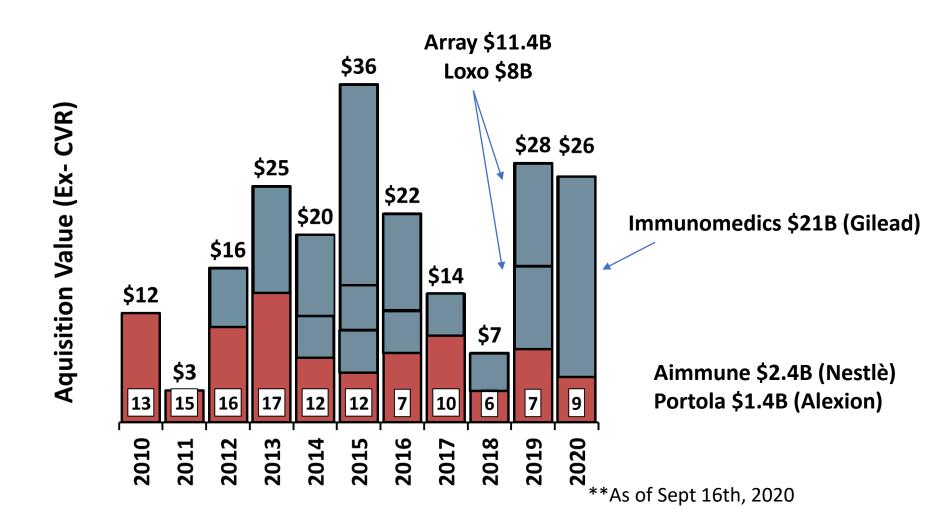


Therapeutic companies acquired for minimum \$10M deal value



# **Emerging Company Acquisitions Market-Stage Targets with <\$1B Sales**





Therapeutic companies acquired for minimum \$10M deal value



# R&D-stage Out-Licensing (<u>Upfront</u> Payments)

>\$1B upfront

TOTAL UPFRONTS (\$B)

\$5.0B Gilead/Galapagos \$1.1B Roche/Sarepta \$13.2 \$12.7 \$1.6B Merck/Seattle Genetics \$1.0B Biogen/Denali \$1.8B BMS/Nektar \$1.0B Biogen/Ionis \$9.4 \$7.1 \$5.5 \$4.5 \$3.7 \$3.4 \$3.8 \$2.2 \$2.6 98 129 186 109 108 129 145 157 191 2015 2016 2018 2019 2020 2017 2013 \*\*As of Sep29, 2020 ■ Clinical ■ Preclinical

Global therapeutic companies acquired for minimum \$10M deal value





October 13-15, 2020

To register, visit bio.org/investorforum

#### **Definitions**

**Emerging Therapeutic Company definition:** All companies analyzed for this report are "Emerging Therapeutic" companies that are either developing therapeutics with a lead drug in R&D or have a drug on the market, but have less than \$1 billion in sales at the time of the transaction. Generics, distribution, and pharmacy companies are excluded.

**Phase and Disease categories:** Each transaction was tagged by the company's lead program phase of development as of the date of investment or deal. For programs at the NDA/BLA stage, we grouped them as Phase III.

**Novel vs. Improvement R&D:** Company lead programs are assessed for two categories of innovation: novel R&D pursuing a new chemical entity, and R&D that expands the properties, availability, patient experience, etc. of an already-approved chemical entity. In the first category, novel R&D, we included in-licensed assets with prior data, such as spin-outs from big pharmaceutical companies. The lead drug for the novel category cannot have had a prior approval for any indication. The second category, drug improvement, included delivery technologies such as nanotechnology, lipids (micelles), new adjuvants for approved vaccines, extended release and prolonged half-life chemical modifications (conjugates and linkers, including pegylated variants), patches, topical creams, implanted delivery devices, needle-less injections, as well as reformulation of an approved drug, repurposing of an approved drug, and nutraceuticals.

**Countries/Regions:** For **Europe** the following countries were included: Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Italy, Ireland, Malta, Netherlands, Norway, Poland, Spain, Sweden, Switzerland, United Kingdom. For **Asia**, the Pacific region is included: Australia, China, India, Hong Kong, Japan, Malaysia, New Zealand, Singapore, South Korea, Taiwan. For **ROW**: Bermuda, Cayman Islands, Chile, Israel, Russia.

#### **Definitions**

**Disease Categorizing:** Each year of funding, for each round, investment was labeled by one of 14 major categories (13 diseases plus platform technologies). Vaccines include both bacterial and viral vaccines. Thus, all other infectious disease categories are for small molecule or large molecule approaches ex-vaccine. Oncology vaccines are tagged as vaccines if a true antigen (often peptides) is being utilized and will have the modality tagged with vaccine instead of large molecule. Thus, oncology vaccines do not show up under vaccines within infectious disease. This allows us to sort vaccines across all disease areas. "Other" in Infectious Disease refers mainly to anti-parasitic medicines and head lice treatments.

Wound healing was placed under dermatology if directly related to skin injury, but if directly affecting the immune system it is labeled under immunology. Immunology is ex-GI diseases. This is significant as some databases will place IBD under inflammation, but we chose to place it under gastrointestinal.

Platform refers to molecular platforms only, not target- or hypothesis-driven platforms. For example, a company focused on the mTOR pathway would not be a platform company, but a company designing bispecific Fab fragments would count as platform. Strokes involving the brain are classified under neurology, but if designed for heart stroke in patients they are labeled as cardiovascular. Osteoporosis falls under endocrine, and Osteoarthritis was placed under "Other." Also under "Other" are dermatology, allergy, musculoskeletal diseases, otology (ear diseases), periodontitis, urology/genitourinary, non-viral liver diseases, fertility drugs, and treatments for side effects of chemotherapy or radiation.

#### **Venture Capital**

**Sources for Venture Capital transactions:** For U.S. venture capital, the primary data source used was the Cortellis Competitive Intelligence database. This was supplemented with three others: EvaluatePharma, Informa's Strategic Transactions, and BioCentury's BCIQ database. Ex-U.S. venture capital was sourced primarily from EvaluatePharma and BioCentury's BCIQ database. Further investigation of company R&D and financings was complemented with Factset and SEC filings as well as Fierce Biotech, Xconomy, BiotechGate, and company press releases.

**Investments included:** Equity investments in this study are predominantly venture in nature, with some exceptions at the Seed stage where angel investors, family offices, and other non-venture capital investors have an impact and are included. Cases where private money was raised for the sole purpose of acquiring an existing company were excluded. Additionally, debt financing, bridge loans, government grants, and disease/patient foundation grants were excluded. Equity investments were aggregated, and duplicates and non-drug company financing events were removed.

Treatment of tranches: As mentioned above, the tagging is based on the date of actual funding, not commitment to future tranches. For example, large Series A rounds can be spread out into payments stretching beyond a single year when press releases and major media outlets report a financing event. For example, a Series A round can have the sequence of A1, A2, A3 tranched rounds within the same year or in different years. These were accounted for by year such that the accounting is for companies financed per year, not payments/tranches per year. For example, a company with A1, A2, and A3 payments in 2012 would be treated as a single company financing in 2012, not three separate Series A round financings. If the A1, A2, and A3 rounds occurred in 2011, 2012, and 2013, then these would be counted as one Series A round investment per year. This enables an accurate accounting of breadth of funding on a yearly basis.

#### **Methodology - Venture Capital**

**Sources for Venture Capital transactions:** For U.S. venture capital, the primary data source used was the Cortellis Competitive Intelligence database. This was supplemented with three others: EvaluatePharma, Informa's Strategic Transactions, and BioCentury's BCIQ database. Ex-U.S. venture capital was sourced primarily from EvaluatePharma and BioCentury's BCIQ database. Further investigation of company R&D and financings was complemented with Factset and SEC filings as well as Fierce Biotech, Xconomy, BiotechGate, and company press releases.

**Investments included:** Equity investments in this study are predominantly venture in nature, with some exceptions at the Seed stage where angel investors, family offices, and other non-venture capital investors have an impact and are included. Cases where private money was raised for the sole purpose of acquiring an existing company were excluded. Additionally, debt financing, bridge loans, government grants, and disease/patient foundation grants were excluded. Equity investments were aggregated, and duplicates and non-drug company financing events were removed.

Treatment of tranches: As mentioned above, the tagging is based on the date of actual funding, not commitment to future tranches. For example, large Series A rounds can be spread out into payments stretching beyond a single year when press releases and major media outlets report a financing event. For example, a Series A round can have the sequence of A1, A2, A3 tranched rounds within the same year or in different years. These were accounted for by year such that the accounting is for companies financed per year, not payments/tranches per year. For example, a company with A1, A2, and A3 payments in 2012 would be treated as a single company financing in 2012, not three separate Series A round financings. If the A1, A2, and A3 rounds occurred in 2011, 2012, and 2013, then these would be counted as one Series A round investment per year. This enables an accurate accounting of breadth of funding on a yearly basis.

#### **Methodology - Public Funding, Alliances and Acquisitions**

**IPOs:** BIO Industry Analysis uses IPO amounts reported on the Nasdaq.com website, S-1 filings with the SEC. IPOs are tracked from a variety of news feeds including EndPoints, Biocentury, BioWorld, FierceBiotech. Disease areas and phase were tagged according to lead product in R&D at the time of investment.

**Follow-on offerings:** Biocentury was the primary data source for follow-on offerings. Only new shares issued in a follow-on offering valued at more than \$10 million were included. Values exclude sales of shares by inside investors. Disease areas and phase were tagged according to lead product in R&D at the time of investment.

**Licensing:** Informa's Strategic Transactions database, the Cortellis Deals Intelligence database (formerly Recap), and Biocentury were the primary data sources for licensing. Disease areas and phase were tagged according to lead product in R&D at the time of the deal.

Acquisitions: The primary data source for acquisitions was the Informa Strategic Transactions database. This was supplemented with the Cortellis Deals Intelligence (formerly Recap), EvaluatePharma, and Biocentury. Disease areas and phase were tagged according to lead product in R&D at the time of the deal. For global acquisition data, we report upfront payments to more accurately reflect the actual money flow into small company investors. Although Contingent Value Rights (CVRs) structures are now being used extensively in emerging company acquisitions (66% of acquisitions in our dataset), the upfront dollars are an immediate, guaranteed commitment from the partner or acquirer. The data presented for acquisitions includes both R&D-stage emerging companies (with a lead product in Preclinical, Phase II, or Phase III testing), and market-stage emerging companies (with an approved product but with under \$1 billion in product sales). By focusing only on emerging companies, this data may differ from other currently available reports that often include large company acquisitions.