

1Q18—the risk-capital roll continues

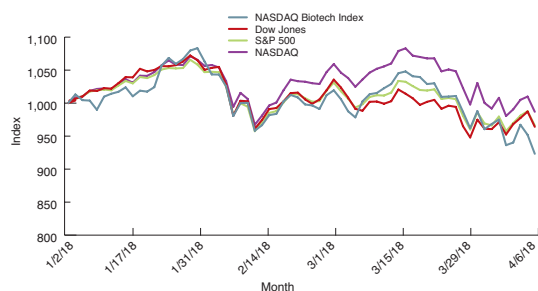
Laura DeFrancesco

The biotech sector took in record amounts of venture capital last quarter—the largest amount of venture capital in a single quarter since data provider BioCentury started tracking it in 1994. Partnerships, debt and follow-on offerings were also all up, whereas funding from

initial public offerings (IPOs) fell, especially outside the United States. Immuno-oncology continues to feature in major deals, with Celgene acquiring Juno, and Nektar signing a multibillion-dollar licensing deal with Bristol-Myers Squibb.

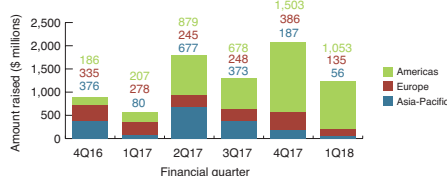
Stock market performance

Volatility in the biotech sector followed trends in stocks generally.



Global biotech initial public offerings

IPO funding was down globally, especially (over 70%) in Europe and Asia.



Number of IPOs

	4Q16	1Q17	2Q17	3Q17	4Q17	1Q18
Asia-Pacific	7	4	5	5	3	4
Europe	5	8	7	5	6	2
Americas	3	3	10	8	12	11

Source: BCIQ: BioCentury Online Intelligence.

Global biotech venture capital investment

Biotech venture capital continued on its march, growing 5% globally over 4Q17.



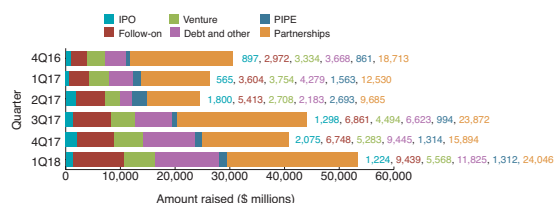
Number of rounds

	4Q16	1Q17	2Q17	3Q17	4Q17	1Q18
Asia-Pacific	10	10	11	8	14	14
Europe	16	22	24	26	32	30
Americas	51	85	73	88	94	103

Source: BCIQ: BioCentury Online Intelligence.

Global biotech industry financing

All financing sources continued to grow, except IPOs.



PIPEs, private investment in public equity. Source: BCIQ: BioCentury Online Intelligence.

Notable 1Q18 deals

Company (lead underwriters)	Amount raised (\$ millions)	Date completed	Change in stock price since offer (as of 5/4/2018)
Homology Medicines (Cowen, BTIG, Bank of America Merrill Lynch, Evercore ISI)	166.6	27-Mar	15.2%
Armo Biosciences (Leerink Partners, BMO Capital Markets, Baird, Jefferies)	147.2	25-Jan	-5.9%
Solid Biosciences (JP Morgan, Goldman Sachs, Leerink Partners, Nomura, Chardan Capital Markets)	143.8	25-Jan	-16.5%
Arcus Biosciences (Goldman Sachs, Leerink Partners)	138	14-Mar	-4.2%
Menlo Therapeutics (JMP Securities, Jefferies, Guggenheim Securities, Piper Jaffray)	136.9	24-Jan	-69.5%
resTOR Bio (Evercore ISI, Bank of America Merrill Lynch, Leerink Partners, Wedbush)	97.8	25-Jan	-43.1%

Venture capital rounds

Company (lead investors)	Amount raised (\$ millions)	Round number	Date closed
Moderna Therapeutics (Fidelity, Julius Baer, Pictet Funds, Viking Global Investors and others)	500	Beyond E	1-Feb
BioNTech (Invus, Fidelity, Redmile Group and others)	270	A	4-Jan
SomaLogic (Nan Fung, iCarbonX, Madryn Asset)	200	Not disclosed	4-Jan
Oxford Nanopore (GIC-Singapore, China Construction Bank, Hostplus)	139	Not disclosed	20-Mar
TCR2 Therapeutics (6 Dimensions Capital, Curative Ventures, Redmile Group, Arrowmark Partners and others)	125	B	21-Mar
Gossamerbio (ARCH, Omega Funds)	100	A	4-Jan
Generation Bio (Fidelity, Invus, Casdin Capital, Foresite Capital Management, Leerink Partners)	100	B	27-Feb

Mergers and acquisitions

Target	Acquirer	Value (\$ millions)	Date announced
bioerativ	Sanofi	11,600	22-Jan
Juno	Celgene	9,000	22-Jan
Impact Biomedicines	Celgene	7,000	8-Jan
Ablynx	Sanofi	4,800	29-Jan
Flatiron	Roche	1,900	15-Feb

Licensing/collaboration

Researcher	Investor	Value (\$ millions)	Deal description
Eisai	Merck	6,235	Eisai partners with Merck to develop and commercialize worldwide Eisai's small-molecule pan-kinase vascular endothelial growth factor 1, 2 and 3 inhibitor Lenvima (lenvatinib) as monotherapy and in combination with Merck's PD-1 inhibitor Keytruda (pembrolizumab)
Nektar Therapeutics	Bristol-Myers Squibb (BMS)	3,650	Nektar Therapeutics partners with BMS to develop and commercialize Nektar's PEGylated engineered interleukin-2 (NKTR-214) in combination with BMS's PD1 inhibitor Opdivo (nivolumab) and Opdivo plus CTLA-4 inhibitor Yervoy (ipilimumab) in select solid tumors
Sangamo	Gilead Pharmaceuticals	3,150	Sangamo partners with Gilead's Kite Pharma to use Sangamo's zinc finger nuclease and adeno-associated virus technology to develop next-generation autologous and allogeneic cell therapies to treat cancer
Ionis Pharmaceuticals	Akcea Therapeutics	1,740	Ionis grants its subsidiary Akcea exclusive worldwide rights to 2'-O-(2-methoxyethyl)-modified antisense oligo intersen to treat hereditary transthyretin amyloidosis
Pieris Pharmaceuticals	Seattle Genetics	1,230	Seattle Genetics partners with Pieris Pharmaceuticals to develop undisclosed bispecific mAb drug conjugates against solid tumors and blood cancers
Denali Therapeutics	Takeda	1,173	Denali Therapeutics grants Takeda options to co-develop/co-commercialize a bispecific mAb containing a transferrin receptor binding region within the constant region and CDRs specific for BACE1 and Tau, another transferrin-binding mAb against TREM2 and an undisclosed discovery-stage program
Theravance Biopharma	Johnson & Johnson	1,000	Theravance partners with Janssen, a Johnson & Johnson subsidiary, to co-develop and commercialize Theravance's oral small-molecule pan-JAK inhibitor TD-1473 and related compounds in inflammatory intestinal diseases

mAb, monoclonal antibody. Source: BCIQ: BioCentury Online Intelligence.

Laura DeFrancesco is a Senior Editor at Nature Biotechnology.