



BUREAU VAN DIJK

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Biotech M&A Review March 2018

The following report details mergers and acquisitions activity in the biotech sector in March 2018 using data from the Zephyr database.

It focuses on global deals activity by target company within the cleantech sector.

Click [here](#) to access the raw data in an Excel spreadsheet.

Biotech PE, VC and DC value jumps in March

The value of private equity, venture capital and development capital (PE, VC and DC) investment in biotech companies increased both month-on-month and year-on-year in March, representing the second consecutive increase following three months of declines in the second half of 2017. In total, there were 63 deals worth a combined USD 1,257 million in the four weeks under review, representing a 38 per cent increase by value and a 47 per cent increase by volume from 43 deals worth USD 912 million in February.

On a 12-month comparison, volume increased at a slower rate of 11 per cent, while value was almost three times larger year-on-year from 57 deals worth a combined USD 476 million in March 2017. The increase by value can be attributed to five of the top 20 deals by value exceeding USD 100 million in March.

Private equity, venture capital and development capital deals by volume and value

Announced date	No of deals	Total deal value (mil USD)
Mar-18	63	1,257
Feb-18	43	912
Jan-18	52	576
Dec-17	43	960
Nov-17	63	971
Oct-17	40	3,197
Sep-17	47	623
Aug-17	48	723
Jul-17	44	513
Jun-17	47	5,986
May-17	49	963
Apr-17	27	173
Mar-17	57	476



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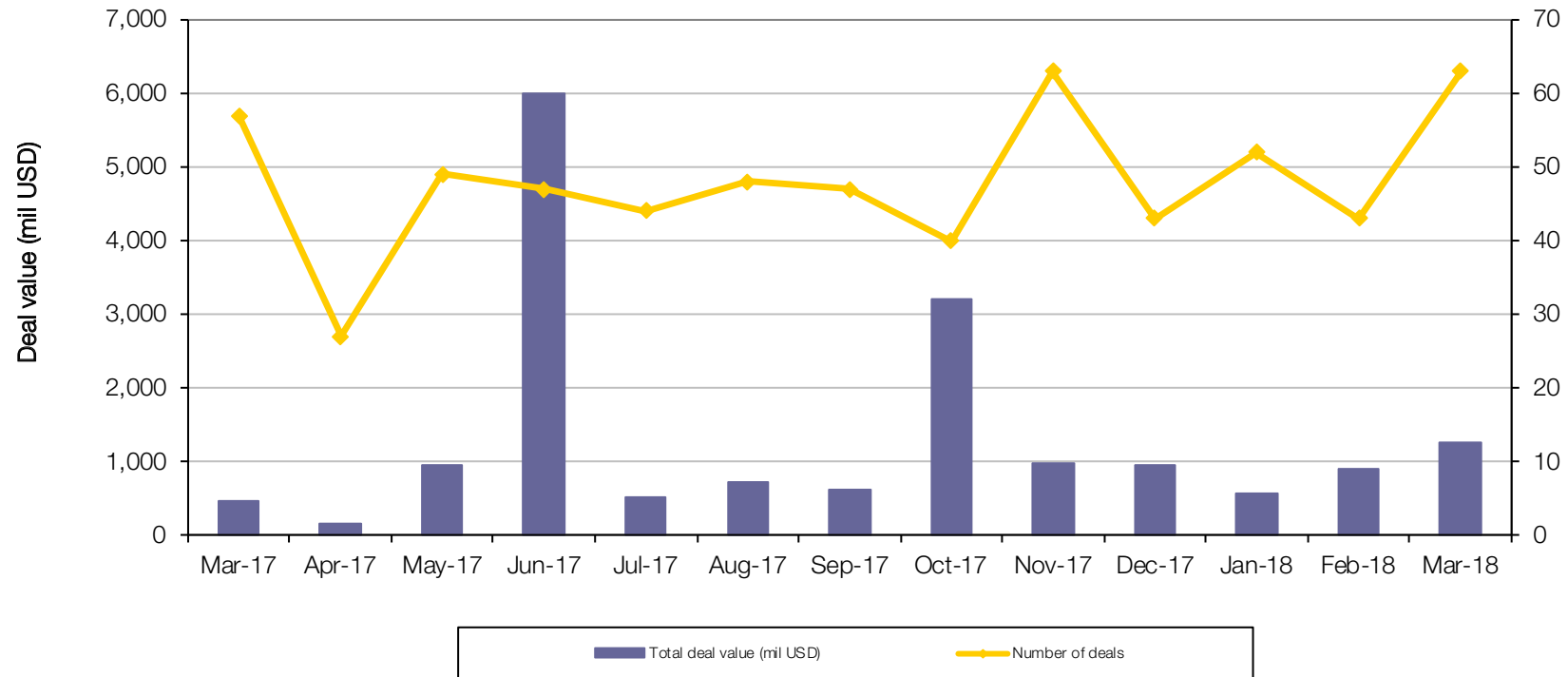
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Private equity, venture capital and development capital deals by volume and value



US companies dominate top 20 deals, including four of the top five

Biotech companies based in the US proved to be popular PE, VC and DC targets in March, having featured in 15 of the top 20 deals by value during the month. Five such transactions exceeded USD 100 million, with four of these companies based in the US.

The largest such deal involved Aimmune Therapeutics, a Californian healthcare company, raising USD 157 million in a round of funding. This was followed by TCR2 Therapeutics, a Massachusetts-based immune-oncology therapy developer, raising USD 125 million in its second round of financing led by 6 Dimensions Capital and Creative Ventures, with Hillhouse Capital Management, Leerink Partners and Cathay Capital Private Equity among those that also invested.

The third largest transaction was the only top five deal to not feature a US business as China-based diabetes-focused biopharmaceutical firm Hua Medicine secured a series D and E round of funding worth USD 117 million from investors including GIC, 6 Dimensions Capital and Ping An Ventures Capital.

In fact, 6 Dimensions Capital featured in a total of three transactions in March, the third being a USD 94 million funding round by US-based Ideaya Biosciences.

Ancient Nutrition and Generation Bio were the other two US-based companies to raise USD 103 million and USD 100 million, respectively, in the four weeks under review.

Investment in China, Poland, Ireland, Israel and Switzerland significantly higher in March

Unsurprisingly, having featured in 15 of the top 20 deals, biotech companies based in the US were top by volume and value once again with 47 deals worth USD 985 million in March. Both volume and value kept in line with the overall trend so far and increased month-on-month and year-on-year from 39 deals worth USD 878 million in February and 41 deals worth USD 291 million in March 2017.

However, companies based in China, Poland, Ireland, Israel and Switzerland recorded impressive increases in the month under review as each country significantly improved by value over the four weeks, with China recording USD 117 million in March from USD 11 million in February 2018.

Poland (USD 51 million), Ireland (USD 50 million), Israel (USD 23 million) and Switzerland (USD 21 million) each recorded sizable values in March, representing a significant improvement from the USD 0 million each recorded in February. Most of these countries also improved from USD 0 million year-on-year, with the exception of Israel which notched up USD 6 million in March 2017.

Private equity, venture capital and development capital deals by value

	Deal value (mil USD)	Deal type	Target	Target business description	Target country	General Partner/Fund Manager	Deal status
1.	157	Minority stake	Aimmune Therapeutics Inc.	Clinical-stage biopharmaceutical desensitisation treatments developer, Clinical-stage biopharmaceutical desensitisation treatments manufacturer	US		Completed
2.	125	Minority stake	TCR2 Therapeutics Inc.	Immune-oncology therapies developer	US	MPM Capital LP; Redmile Group LLC; Cathay Capital Private Equity SAS; F2 Ventures LLC; Mirae Asset Financial Group; Leerink Partners LLC; Syno Capital LLC; Creative Ventures; ArrowMark Colorado Holdings LLC; Alexandria Venture Investments LLC; Hillhouse Capital Management Ltd; Lucion Venture Capital Group Co., Ltd; Haitong International Securities Group Ltd; 6 Dimensions Capital; Sirona Capital Holdings Pty Ltd	Completed
3.	117	Minority stake	Hua Medicine Ltd	Diabetes and CNS disorders focused biopharmaceutical developer	CN	ARCH Venture Partners LLC; Mirae Asset Financial Group; Ally Bridge Group (HK) Ltd; Impresa Management LLC; VR Management LLC; Blue Pool Capital Ltd; Ping An Dingchuang Equity Investment Management (Shanghai) Co., Ltd; Eight Roads Ventures China; Harvest Investments Management Co., Ltd; 6 Dimensions Capital; K11 Investment	Completed
4.	103	Minority stake	Ancient Nutrition LLC	Protein supplement and nutritional products manufacturer	US	VMG Partners LLC; Hillhouse Capital Management Ltd; ICONIQ Capital LLC; Ancient Pioneers	Completed
5.	100	Minority stake	Generation Bio Co	Biotechnology	US		Completed
6.	94	Minority stake	IDEAYA Biosciences Inc.	Synthetic lethality DNA damage and repair medicines developer	US	Canaan Management Inc.; Alexandria Real Estate Equities Inc.; Tavistock Life Sciences Inc.; Celgene Corporation; 5am Venture Management LLC; BVF Partners LP; Roche Holding AG; Perceptive Advisors LLC; Driehaus Capital Management LLC; Nextech Invest AG; Novartis Institute for Biomedical Research Inc.; Google Inc.; 6 Dimensions Capital; WXHV LLC	Completed
7.	75	Minority stake	Prevail Therapeutics Inc.	Neurodegenerative disease gene therapies developer	US	OrbiMed Advisors LLC; BVF Partners LP; Pontifax Ltd; Adage Capital Management LP; RA Capital Management LLC; EcoR1 Capital LLC; Omega Fund Management LLC; Alexandria Venture Investments LLC; Boxer Capital LLC	Completed
8.	60	Minority stake	Rheos Medicines Inc.	Metabolic pathways in immune cells pharmaceuticals manufacturer, Metabolic pathways in immune cells research and development services	US	Third Rock Ventures LLC	Completed
9.	51	Minority stake 16%	Mabion SA	Biotechnology medicines manufacturer, Biotechnology medicines research and development services	PL	European Bank for Reconstruction and Development; Polski Fundusz Rozwoju SA	Completed
10.	50	Minority stake	Prothena Corp plc	Biotechnology	IE		Completed

Private equity, venture capital and development capital deals by value (Cont'd)

	Deal value (mil USD)	Deal type	Target	Target business description	Target country	General Partner/Fund Manager	Deal status
11.	36	Minority stake	Finch Therapeutics Group Inc.	Biotechnology	US		Completed
12.	35	Minority stake	ViewPoint Therapeutics Inc.	Cataracts and protein misfolding therapies developer	US	Mission Bay Capital LLC; The University of Michigan; TPG Capital Advisors LLC; Novo Holdings A/S; BVF Partners LP; Lagunita BioSciences LLC	Completed
13.	29	Minority stake	Cyteir Therapeutics Inc.	DNA repair and synthetic lethality therapies developer	US	Celgene Corporation; LSV Capital Management LLC; DROIA SA/NV; VR Management LLC	Completed
14.	25	Minority stake	Pairwise Plants LLC	Agricultural crops gene editing and leveraging natural diversity services	US	Deerfield Management Company LP; Monsanto Growth Ventures	Completed
15.	21	Minority stake	Abionic SA	Allergies and sepsis detection vitro diagnostic device developer	CH	Zurcher Kantonalbank; Verve Capital Partners AG	Completed
16.	20	Minority stake	Quentis Therapeutics Inc.	Biotechnology	US		Completed
17.	18	Minority stake	Accera Inc.	Neurodegenerative diseases therapeutics biotechnology research and development services	US		Completed
18.	16	Minority stake	Atox Bio Inc.	Biotechnology	IL		Completed
19.	15	Minority stake	EdenRoc Sciences LLC	Biotechnology	US		Completed
20.	12	Minority stake	OncoNano Medicine Inc.	Biotechnology	US		Completed

Target countries by volume - private equity, venture capital and development capital deals

Target country	Mar-17	Feb-18	Mar-18
US	41	39	47
China	0	1	4
UK	2	1	4
Israel	1	0	2
Ireland	0	0	1
Canada	3	0	1
France	0	1	1
Finland	0	0	1
Poland	0	0	1
Switzerland	0	0	1

Target countries by value - private equity, venture capital and development capital deals

Target country	Mar-17 (mil USD)	Feb-18 (mil USD)	Mar-18 (mil USD)
US	291	878	985
China	0	11	117
Poland	0	0	51
Ireland	0	0	50
Israel	6	0	23
Switzerland	0	0	21
France	0	18	5
Finland	0	0	2
UK	35	3	2

Private equity, venture capital and development capital investors

	Company name	Number of deals	Number with consideration	Total deal value (mil USD)	Average deal value (mil USD)
1	6 Dimensions Capital	3	3	336	112
2	Mirae Asset Financial Group	2	2	242	121
3	Hillhouse Capital Management Ltd	2	2	228	114
4	BVF Partners LP	3	3	204	68
5	Alexandria Venture Investments LLC	2	2	200	100
6	VR Management LLC	2	2	146	73
7	Lucion Venture Capital Group Co., Ltd	1	1	125	125
8	Cathay Capital Private Equity SAS	1	1	125	125
9	F2 Ventures LLC	1	1	125	125
10	MPM Capital LP	1	1	125	125
11	Leerink Partners LLC	1	1	125	125
12	ArrowMark Colorado Holdings LLC	1	1	125	125
13	Haitong International Securities Group Ltd	1	1	125	125
14	Redmile Group LLC	1	1	125	125
15	Sirona Capital Holdings Pty Ltd	1	1	125	125
16	Syno Capital LLC	1	1	125	125
17	Creative Ventures	1	1	125	125
18	Celgene Corporation	2	2	123	62
19	Impresa Management LLC	1	1	117	117
20	Eight Roads Ventures China	1	1	117	117
21	Harvest Investments Management Co., Ltd	1	1	117	117
22	Ally Bridge Group (HK) Ltd	1	1	117	117
23	ARCH Venture Partners LLC	1	1	117	117
24	Ping An Dingchuang Equity Investment Management (Shanghai) Co., Ltd	1	1	117	117
25	Blue Pool Capital Ltd	1	1	117	117



M&A value in line with PE, VC and DC trend

Both the volume and value of mergers and acquisitions (M&A) targeting biotech companies increased month-on-month to 117 deals worth USD 4,746 million in March. This represents a 26 per cent increase by volume, a significant improvement by value and reverses declines recorded in February when 93 deals worth USD 2,150 million were signed off (January: 118 deals worth USD 3,642 million).

Year-on-year value increased 68 per cent, against a 19 per cent decline by volume from 145 deals worth an aggregate USD 2,819 million.

The increase by value can be largely attributable to two deals which exceeded USD 500 million in the four weeks under review. The largest transaction was the only deal worth more than USD 1,000 million and involved H Lundbeck agreeing to acquire Prexton Therapeutics, a Netherlands-based central nervous system biopharmaceuticals developer, for USD 1,114 million. This was followed by China's Shenzhen Neptunus Bioengineering raising funds worth USD 789 million. Twelve of the top 20 deals by value were worth in excess of USD 100 million in March and featured five US-based companies, with other countries such as South Korea, Japan and Australia also being targeted.

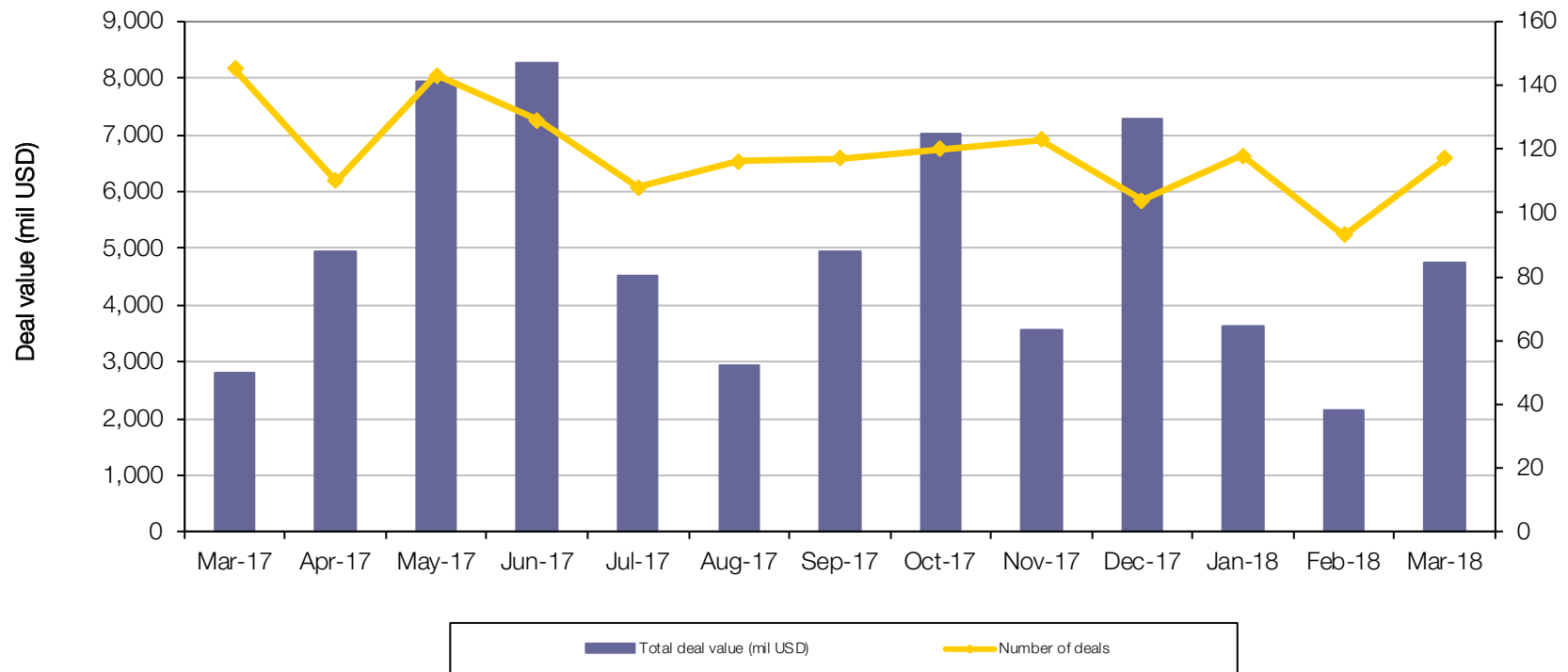
Three countries each raised more than USD 1,000 million in the month under review with US-based businesses taking the number one position with USD 1,525 million, followed by the Netherlands with USD 1,114 million, all of which can be attributable to the Prexton Therapeutics deal, while China was third with USD 1,026 million.

Deals by volume and value

Announced date	No of deals	Total deal value (mil USD)
Mar-18	117	4,746
Feb-18	93	2,150
Jan-18	118	3,642
Dec-17	104	7,275
Nov-17	123	3,564
Oct-17	120	7,002
Sep-17	117	4,955
Aug-17	116	2,951
Jul-17	108	4,509
Jun-17	129	8,281
May-17	143	7,954
Apr-17	110	4,945
Mar-17	145	2,819



Deals by volume and value





Top 20 deals by value

	Deal value (mil USD)	Deal type	Target	Target business description	Target country	Acquiror	Announced date
1.	1,114	Acquisition 100%	Prexton Therapeutics BV	Central nervous system (CNS) conditions biopharmaceuticals developer holding company	NL	H Lundbeck A/S	16/03/2018
2.	789	Capital Increase 23%	Shenzhen Neptunus Bioengineering Co., Ltd	Biotechnology research services, Pharmaceutical drugs manufacturer	CN		21/03/2018
3.	302	Minority stake 2%	Celltrion Healthcare Co., Ltd	Biosimilar antibody therapeutics and biopharmaceuticals research and development services	KR		06/03/2018
4.	226	Capital Increase 16%	Xencor Inc.	Clinical-stage antibody and protein biotherapeutics manufacturer, Clinical-stage antibody and protein biotherapeutics research and development services	US		20/03/2018
5.	169	Minority stake 49%	KM Biologics Co., Ltd	Biological pharmaceuticals developer, Biological pharmaceuticals manufacturer	JP	Meiji group, Kumamoto prefecture companies group and Government of Kumamoto City's new joint venture company	13/03/2018
6.	157	Minority stake	Aimmune Therapeutics Inc.	Clinical-stage biopharmaceutical desensitisation treatments developer, Clinical-stage biopharmaceutical desensitisation treatments manufacturer	US		15/03/2018
7.	125	Minority stake	TCR2 Therapeutics Inc.	Immune-oncology therapies developer	US	MPM Capital LP; Redmile Group LLC; Cathay Capital Private Equity SAS; F2 Ventures LLC; Mirae Asset Financial Group; Leerink Partners LLC; Syno Capital LLC; Creative Ventures; ArrowMark Colorado Holdings LLC; Alexandria Venture Investments LLC; Hillhouse Capital Management Ltd; Lucion Venture Capital Group Co., Ltd; Haitong International Securities Group Ltd; 6 Dimensions Capital; Sirona Capital Holdings Pty Ltd	21/03/2018
8.	117	Minority stake	Hua Medicine Ltd	Diabetes and CNS disorders focused biopharmaceutical developer	CN	ARCH Venture Partners LLC; Mirae Asset Financial Group; Ally Bridge Group (HK) Ltd; WuXi AppTec Co., Ltd; Impresa Management LLC; AVICT Global Holdings Ltd; VR Management LLC; Blue Pool Capital Ltd; GIC Pte Ltd; Ping An Ventures Capital; Eight Roads Ventures China; Harvest Investments Management Co., Ltd; 6 Dimensions Capital; K11 Investment; Founders; Management; Investors	27/03/2018



Top 20 deals by value (Cont'd)

	Deal value (mil USD)	Deal type	Target	Target business description	Target country	Acquiror	Announced date
9.	117	Capital Increase 16%	Clean TeQ Holdings Ltd	Air and water purification technology development holding company, Air purification facilities construction services holding company, Biological air purification technology development services holding company, Clean energy technology research and development services holding company, Resource recovery services holding company, Sewage treatment services holding company, Water purification facilities construction services holding company	AU	Sophisticated, institutional, accredited, and professional investors	08/03/2018
10.	108	Minority stake increased from 3% to 5%	Liaoning Chengda Co., Ltd	Biological pharmacy manufacturer, General trading services, Investment services	CN	Macrolink Holdings Co., Ltd	30/03/2018
11.	103	Minority stake	Ancient Nutrition LLC	Protein supplement and nutritional products manufacturer	US	VMG Partners LLC; Hillhouse Capital Management Ltd; ICONIQ Capital LLC; Ancient Pioneers	08/03/2018
12.	100	Minority stake	Generation Bio Co	Biotechnology	US		05/03/2018
13.	94	Minority stake	IDEAYA Biosciences Inc.	Synthetic lethality DNA damage and repair medicines developer	US	Canaan Management Inc.; Alexandria Real Estate Equities Inc.; Tavistock Life Sciences Inc.; Celgene Corporation; Sam Venture Management LLC; BVF Partners LP; Roche Venture Fund; Perceptive Advisors LLC; Driehaus Capital Management LLC; Nextech Invest AG; Novartis Institute for Biomedical Research Inc.; GV; 6 Dimensions Capital; WXHV LLC	15/03/2018
14.	94	Capital Increase 11%	Vanda Pharmaceuticals Inc.	Biopharmaceuticals for central nervous system disorders manufacturer, Biopharmaceuticals for central nervous system disorders research and development services	US		15/03/2018
15.	85	Capital Increase 21%	Clearside Biomedical Inc.	Clinical-stage eye disease biopharmaceuticals developer, Clinical-stage eye disease biopharmaceuticals manufacturer	US		06/03/2018
16.	75	Minority stake	Prevail Therapeutics Inc.	Neurodegenerative disease gene therapies developer	US	OrbiMed Advisors LLC; BVF Partners LP; Pontifax Ltd; Adage Capital Management LP; RA Capital Management LLC; EcoR1 Capital LLC; Omega Fund Management LLC; Alexandria Venture Investments LLC; Boxer Capital LLC	08/03/2018



Top 20 deals by value (Cont'd)

	Deal value (mil USD)	Deal type	Target	Target business description	Target country	Acquiror	Announced date
17.	70	Capital Increase 10%	Clean TeQ Holdings Ltd	Air and water purification technology development holding company, Air purification facilities construction services holding company, Biological air purification technology development services holding company, Clean energy technology research and development services holding company, Resource recovery services holding company, Sewage treatment services holding company, Water purification facilities construction services holding company	AU		08/03/2018
18.	64	Capital Increase 11%	Clean TeQ Holdings Ltd	Air and water purification technology development holding company, Air purification facilities construction services holding company, Biological air purification technology development services holding company, Clean energy technology research and development services holding company, Resource recovery services holding company, Sewage treatment services holding company, Water purification facilities construction services holding company	AU	Pengxin International Group Ltd	10/03/2018
19.	60	Minority stake	Rheos Medicines Inc.	Metabolic pathways in immune cells pharmaceuticals manufacturer, Metabolic pathways in immune cells research and development services	US	Third Rock Ventures LLC	22/03/2018
20.	51	Minority stake 16%	Mabion SA	Biotechnology medicines manufacturer, Biotechnology medicines research and development services	PL	European Bank for Reconstruction and Development; PFR Life Science Sp zoo; Institutional investors	22/03/2018



Target countries by volume

Target country	Mar-17	Feb-18	Mar-18
US	66	53	54
China	14	11	15
Australia	4	2	9
UK	10	5	8
Japan	2	3	4
Canada	10	5	3
Israel	3	0	3
Taiwan	1	0	2
Switzerland	1	1	2
Italy	1	1	2
Sweden	8	1	2
South Korea	2	0	2

Target countries by value

Target country	Mar-17 (mil USD)	Feb-18 (mil USD)	Mar-18 (mil USD)
US	1,289	1,851	1,525
Netherlands	46	15	1,114
China	253	90	1,026
South Korea	29	0	308
Australia	47	2	282
Japan	6	62	172
UK	203	20	67
Poland	0	0	51
Ireland	155	0	50
Canada	102	23	46
Switzerland	32	42	39
Israel	12	0	24
Taiwan	17	0	17
Sweden	66	20	10
Germany	10	0	5
France	27	18	5
Finland	0	0	2
Italy	6	5	2
British Virgin Islands	0	0	1



IPOs by volume and value

Announced date	No of deals	Total deal value (mil USD)
Mar-18	2	182
Feb-18	4	189
Jan-18	3	86
Dec-17	5	334
Nov-17	2	314
Oct-17	11	515
Sep-17	2	189
Aug-17	5	143
Jul-17	6	36
Jun-17	8	672
May-17	4	313
Apr-17	4	180
Mar-17	4	210



March IPOs

	Deal value (mil USD)	Deal type	Target	Target business description	Target country	Deal status	Announced date
1.	107	Planned IPO 20% on Nasdaq	Homology Medicines Inc.	Rare diseases gene therapy treatments developer	US	Announced	02/03/2018
2.	75	Planned IPO 33% on Nasdaq	Alzheon Inc.	Alzheimer's disease and other neurodegenerative disorders biotechnology researching and developing services, Alzheimer's disease and other neurodegenerative disorders pharmaceuticals manufacturer	US	Announced	16/03/2018

Notes to editors

The search criteria uses a key word system based on the targets' business description

The key words and phrases are: "biotechnology" OR "antimicrobial" OR "CNS" OR "neurotransmitter" OR "cardiovascular" OR "blood system agent" OR "cell control agent" OR "dermatological" OR "genetic" OR "hormone" OR "immunomodulator" OR "Ion Channel" OR "modulat" OR "metabolic" OR "musculoskeletal" OR "renal system" OR "reproductive" OR "respiratory" OR "diagnostic" OR "gastrointestinal" OR "degeneration" OR "endocrine" OR "growth disorder" OR "gynecology" OR "obstetrics" OR "haematological" OR "neurological" OR "neoplasm" OR "neurological" OR "nutritional" OR "psychiatric" OR "toxicity" OR "ulcer" OR "genitourinary" OR "oncology" OR "biological" OR "clinical" OR "biomedical" OR "bioinformatics" OR "cheminformatics" OR "biologicgenerics" OR "genetics" OR "genomics" OR "transgenic" OR "protein" OR "RNA" OR "DNA" OR "enzyme" OR "fermentation" OR "oncogenomics" OR "proteomics" OR "nanobiotechnology" OR "Gene" OR "Central nervous system" OR "Cloning" OR "genome" OR "genotyping" OR "molecular" OR "microbiology" OR "animal cell culture" OR "biochemistry" OR "embryology" OR "cell biology" OR "Tissue Engineering" OR "Stem Cell" OR "Pharmacogenomics" OR "Escherichia Coli" OR "E. Coli" OR "Embryos" OR "molecule" OR "transgenic" OR "biotechnology" OR "biotech" OR "bio tech" OR "biopharmaceuticals" OR "micropropagation" OR "biobased products" OR "biopharming" OR "biotechnology-derived" OR "bt corn" OR "chromosomes" OR "embryonic stem cells" OR "fibroblast" OR "molecular biology" OR "mutation" OR "nucleotide" OR "organic agriculture" OR "phenotype" OR "plant-incorporated protectants" OR "pollen" OR "tissue culture" OR "transfection" OR "virus" OR "vitamin" OR "xenotransplantation" OR "zygote"

Activity is based on the activity of the target company

Deal status is announced, completed, pending or unconditional