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# 2021 Annual BD Deals Report for China Pharmaceutical Industry

MyBioCapital

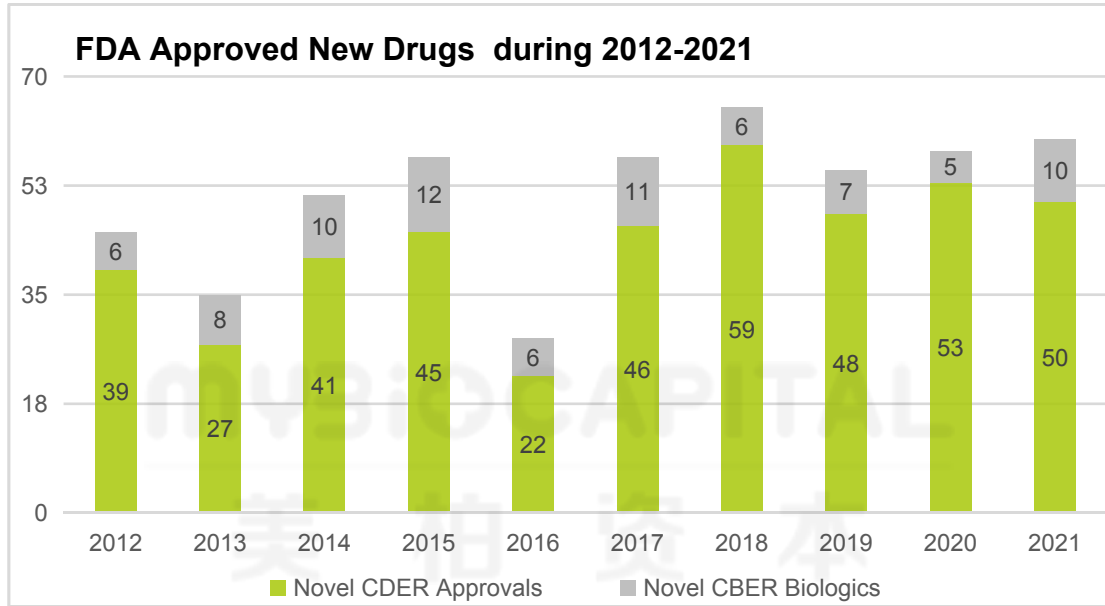
- Data source: data and info officially disclosed to public
- Data analysis: the data may be not complete, the analysis only based on the available statistics
- For purpose of reference only. For commercial purpose is not allowed
- This report does not constitute any investment advice

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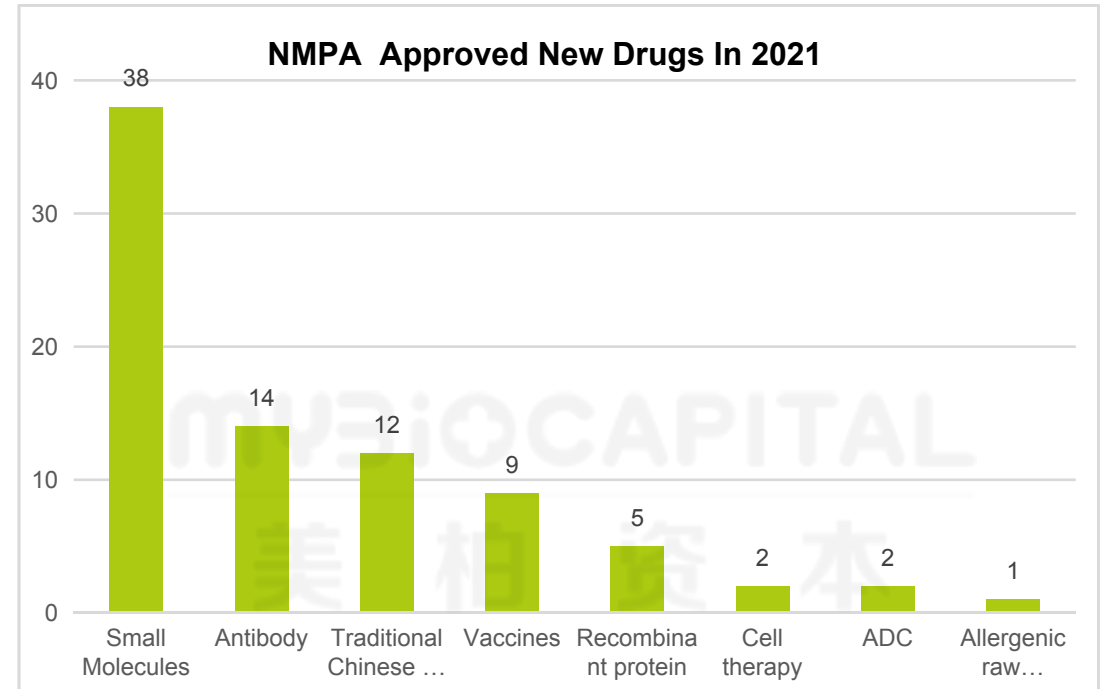
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# 2021 New Drug Approval No. / FDA-60, NMPA-83



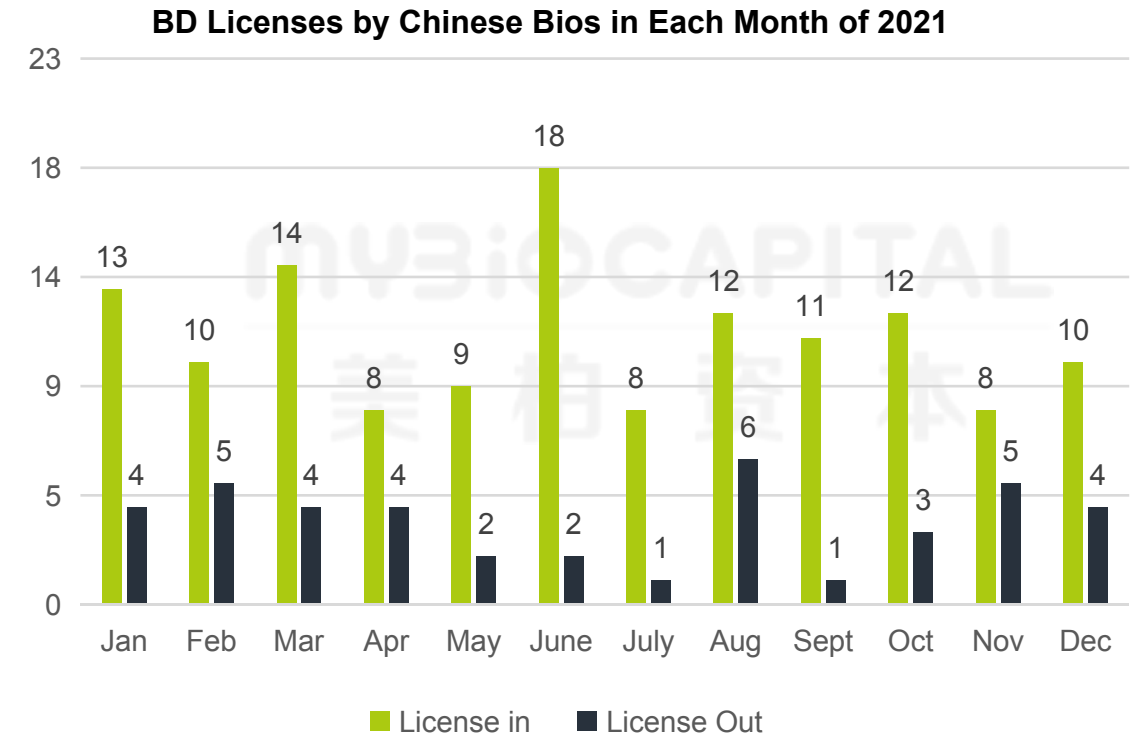
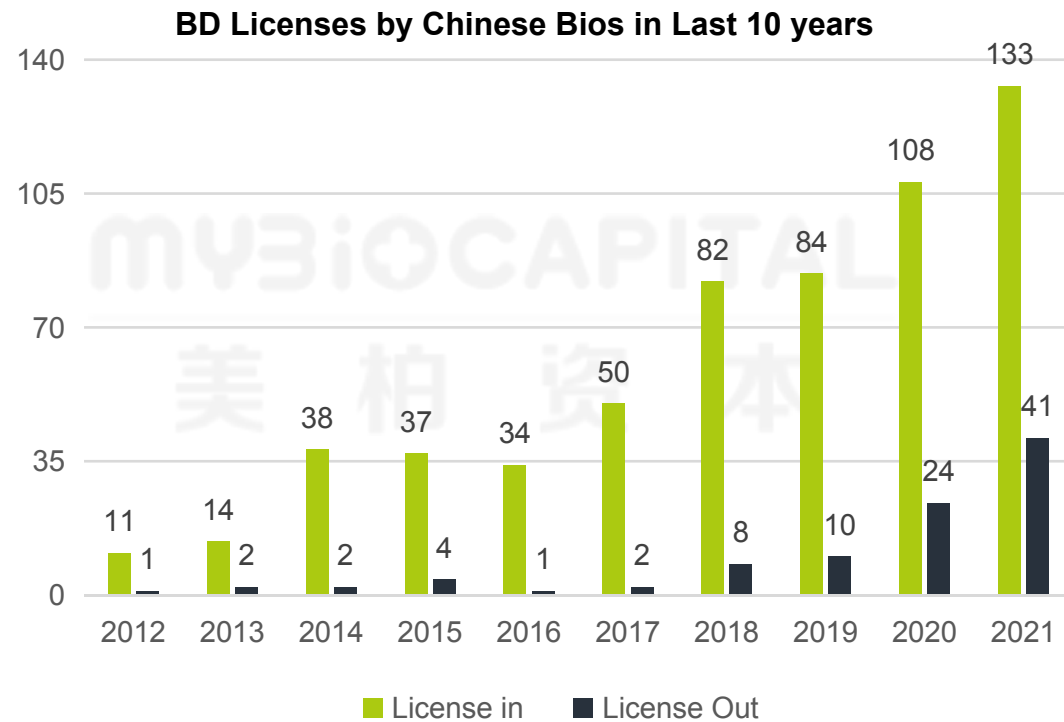
According to Informa latest statistics, 60 new drugs have been approved by FDA in 2021, with approval no. ranged from 57 to 66 in recent 5 years. Look back to the 10 years' data, 2021 has been among one of the top 3 numbers.



Based on PharmaGo database statistics, 83 new drugs have been approved by NMPA in 2021, among which 51 from China and 32 from overseas. From therapeutic category aspects, 38 chemical drugs, 33 biologicals (including antibodies, recombinant proteins, ADCs, vaccines, cell therapies, allergenic products, etc.), 12 Traditional Chinese Medicines have been approved in 2021.

# Cross-border BD deals increasing YOY, High no. in 2021, Deals available in each month

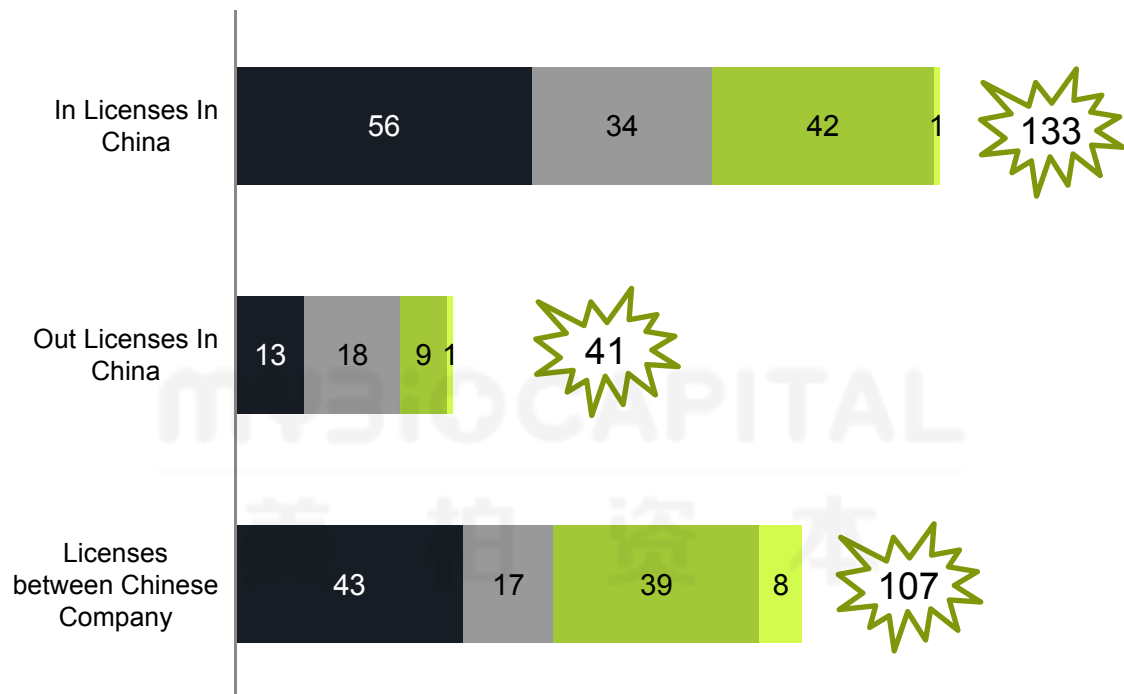
With fast development and improvement of the Chinese pharmaceutical market, the BD deals by Chinese Bios have jumped from very junior phase into now rapid growing stage. The license-in deal numbers have been in continuous increase since 2016. License-out deal numbers also increased significantly since 2019. The no. of License-in and License-out deals in 2021 is 133 and 41, respectively. Both License-in and License-out deals are available in each month of the year,



\* 2017~2020 data based on Pharmacodia report, 2021 data based on MyBio statistics

# Ranking on No. of Licenses in 2021 by Chinese Bios

According to MyBio data statistics, totally 281 BD licensing deals occurred in 2021 in China pharmaceutical industry.



1. The 281 deals include 174 cross-boarder licenses and 107 licenses between Chinese bios.
2. The 174 cross-boarder licenses include 133 License-in deals and 41 License-out deals.
3. There're totally 107 licenses between Chinese bios. Co-development has been the major collaboration model.

Note: the data may be not so complete, for reference only  
 Data source: MyBio data  
 Data collected till: Dec-31-2021

| Ranking on No. of Licenses in 2021 by Chinese Bios (Table 1/3) |                         |                          |                           |                                 |                                  |       |
|--|-------------------------|--------------------------|---------------------------|---------------------------------|----------------------------------|-------|
| Ranking  | Chinese Bios            | Cross-boarder License-in | Cross-boarder License-out | License-in Between Chinese Bios | License-out Between Chinese Bios | Total |
| 1  | Fosun Pharma            | 3                        |                           | 4                               | 2                                | 9     |
| 2  | Innovent Bio            | 3                        | 1                         | 2                               | 3                                | 9     |
| 3  | Beigene                 | 3                        | 2                         | 3                               |                                  | 8     |
| 4  | Zai Lab                 | 7                        |                           | 1                               |                                  | 8     |
| 5  | Hengrui Pharma          | 2                        |                           | 5                               |                                  | 7     |
| 6  | Huadong Medicine        | 5                        |                           |                                 | 2                                | 7     |
| 7  | XtalPi Inc.             |                          |                           |                                 | 7                                | 7     |
| 8  | Bio-Thera               | 1                        | 4                         |                                 | 1                                | 6     |
| 9  | CSPC Pharma             |                          | 1                         | 4                               |                                  | 5     |
| 10   | Hansoh Pharma           | 3                        |                           | 1                               | 1                                | 5     |
| 11   | JingXin Pharma          | 2                        |                           | 3                               |                                  | 5     |
| 12   | Junshi Biosciences      | 1                        | 2                         | 1                               | 1                                | 5     |
| 13   | Kintor Pharmaceutical   |                          | 1                         | 2                               | 2                                | 5     |
| 14   | LianBio                 | 5                        |                           |                                 |                                  | 5     |
| 15   | Luye Pharma             |                          | 3                         |                                 | 2                                | 5     |
| 16   | Sino Biopharmaceutical  | 1                        | 1                         | 2                               | 1                                | 5     |
| 17   | HitGen Inc.             | 1                        | 1                         |                                 | 2                                | 4     |
| 18   | Antengene Corp.         | 2                        |                           |                                 | 2                                | 4     |
| 19   | Genetron Holdings       |                          |                           |                                 | 4                                | 4     |
| 20   | Sinopharm Group         |                          |                           | 4                               |                                  | 4     |
| 21   | Haisco Pharmaceutical   | 2                        | 1                         | 1                               |                                  | 4     |
| 22   | Cstone Pharmaceuticals  | 1                        |                           |                                 | 3                                | 4     |
| 23   | Shanghai Pharmaceutical |                          |                           | 4                               |                                  | 4     |
| 24   | Asieris                 | 1                        |                           |                                 | 3                                | 4     |
| 25   | Biocytogen              |                          |                           |                                 | 3                                | 3     |

# Ranking on No. of Licenses in 2021 by Chinese Bios

Ranking on No. of Licenses in 2021 by Chinese Bios (Table 2/3)

| Ranking | Company              | Cross-boarder License-in | Cross-boarder License-out | License-in Between Chinese Bios | License-out Between Chinese Bios | Total |
|---------|----------------------|--------------------------|---------------------------|---------------------------------|----------------------------------|-------|
| 26      | CANbridge Pharma     | 3                        |                           |                                 |                                  | 3     |
| 27      | BrightGene           | 1                        |                           | 2                               |                                  | 3     |
| 28      | Inmagene Bio         | 2                        |                           | 1                               |                                  | 3     |
| 29      | Nhwa Pharma          | 3                        |                           |                                 |                                  | 3     |
| 30      | Henlius Pharma       | 1                        |                           |                                 | 2                                | 3     |
| 31      | JI XING Pharma       | 3                        |                           |                                 |                                  | 3     |
| 32      | Arctic Vision        | 3                        |                           |                                 |                                  | 3     |
| 33      | Alphamab Oncology    |                          |                           |                                 | 3                                | 3     |
| 34      | China Medical System |                          |                           | 3                               |                                  | 3     |
| 35      | Sperogenix           |                          |                           | 1                               | 2                                | 3     |
| 36      | StoneWise            |                          |                           | 3                               |                                  | 3     |
| 37      | Winhealth Pharma     | 3                        |                           |                                 |                                  | 3     |
| 38      | Simcere Pharma       | 3                        |                           |                                 |                                  | 3     |
| 39      | EVEREST MEDICINES    | 2                        |                           |                                 | 1                                | 3     |
| 40      | Fukang Pharma        |                          |                           |                                 | 3                                | 3     |
| 41      | Allist Pharma        |                          | 1                         | 1                               |                                  | 2     |
| 42      | Thousand Oaks Bio    |                          |                           | 2                               |                                  | 2     |
| 43      | Baidu                |                          | 1                         | 1                               |                                  | 2     |
| 44      | Boan Biotech         | 1                        | 1                         |                                 |                                  | 2     |
| 45      | Tennorx              |                          | 1                         |                                 | 1                                | 2     |
| 46      | TOT BIOPHARM         |                          |                           |                                 | 2                                | 2     |
| 47      | HiFiBiO              |                          | 2                         |                                 |                                  | 2     |
| 48      | Ascletis Pharma      |                          |                           | 1                               | 1                                | 2     |
| 49      | STA Pharmaceutical   |                          |                           | 2                               |                                  | 2     |
| 50      | Hutchison Pharma     | 1                        |                           |                                 | 1                                | 2     |

Note: the data may be not so complete, for reference only

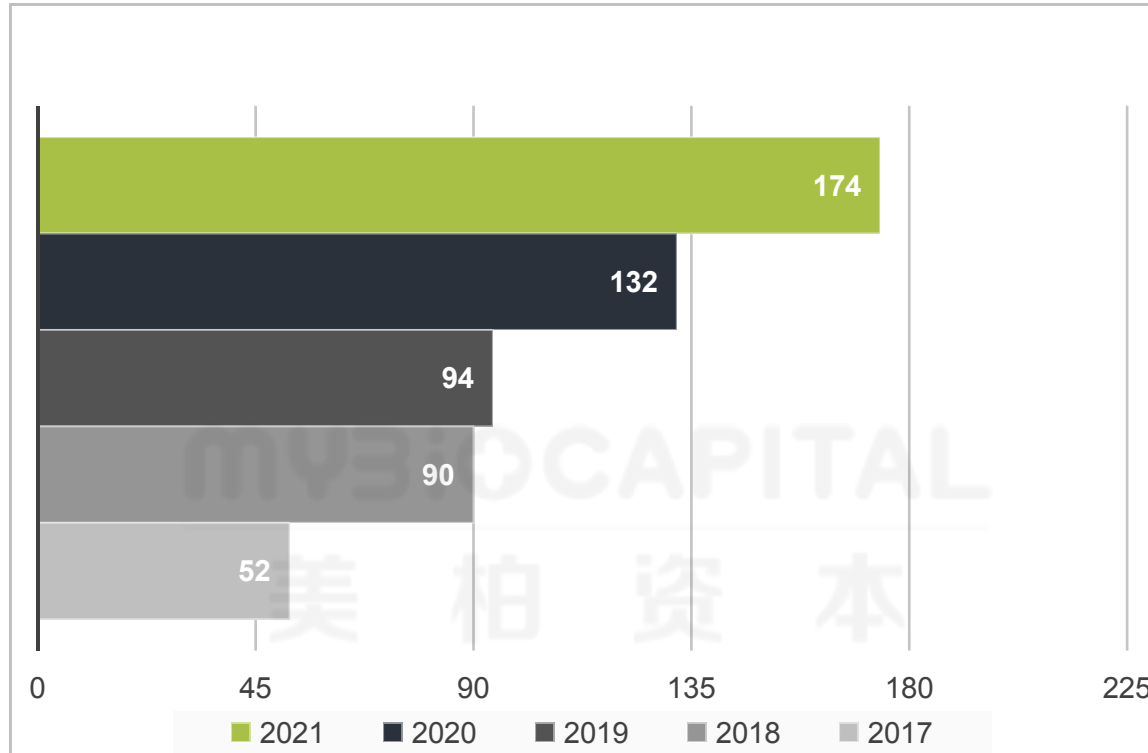
Data source: MyBio data

Data collected till: Dec-31-2021

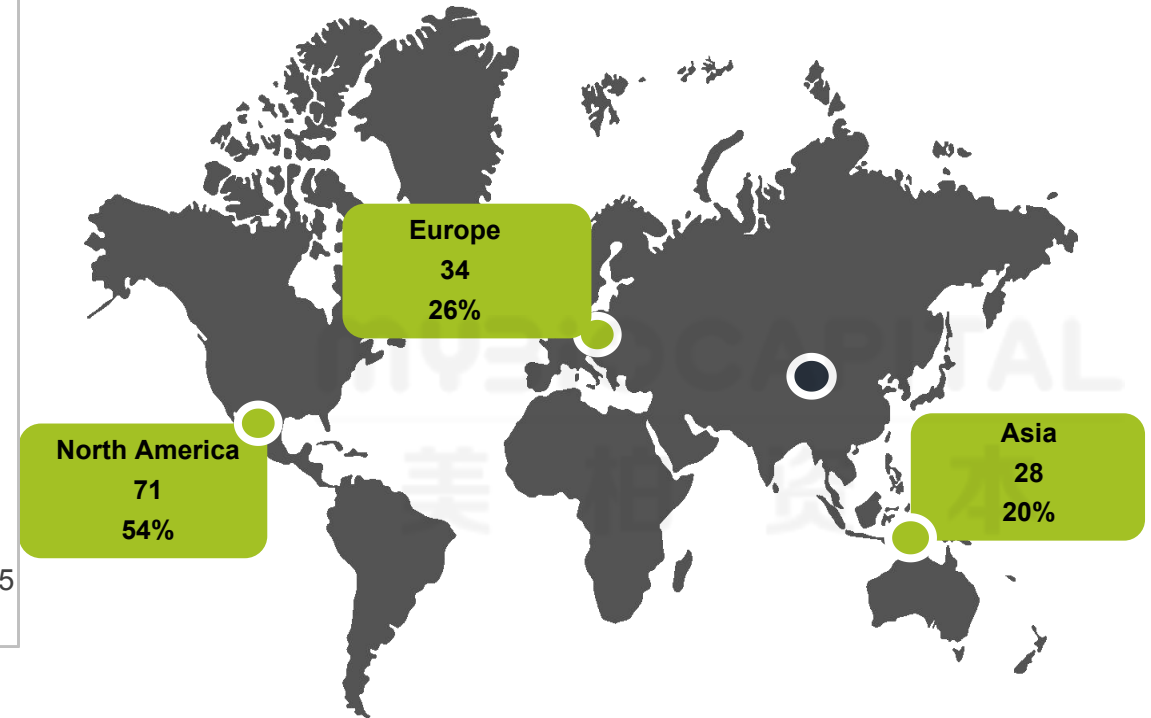
Ranking on No. of Licenses in 2021 by Chinese Bios (Table 3/3)

| Ranking | Company                   | Cross-boarder License-in | Cross-boarder License-out | License-in Between Chinese Bios | License-out Between Chinese Bios | Total |
|---------|---------------------------|--------------------------|---------------------------|---------------------------------|----------------------------------|-------|
| 51      | Abbisko Therapeutics      |                          |                           |                                 | 2                                | 2     |
| 52      | Prophetgenomics           |                          |                           |                                 | 2                                | 2     |
| 53      | CR-DOUBLE CRANE           | 2                        |                           |                                 |                                  | 2     |
| 54      | Jemincare                 |                          | 1                         |                                 | 1                                | 2     |
| 55      | Jacobio Pharmaceuticals   |                          | 1                         | 1                               |                                  | 2     |
| 56      | GenFleet Therapeutics     |                          |                           |                                 | 2                                | 2     |
| 57      | Keymed Biosciences        |                          |                           |                                 | 2                                | 2     |
| 58      | Luoxin Pharma             | 2                        |                           |                                 |                                  | 2     |
| 59      | InnoCare Pharma           | 1                        | 1                         |                                 |                                  | 2     |
| 60      | OcuMension                | 2                        |                           |                                 |                                  | 2     |
| 61      | Qilu Pharma               | 2                        |                           |                                 |                                  | 2     |
| 62      | Burning Rock Dx           |                          |                           | 1                               | 1                                | 2     |
| 63      | SciNeuro Pharmaceuticals  | 2                        |                           |                                 |                                  | 2     |
| 64      | SciClone Pharmaceuticals  | 1                        |                           |                                 | 1                                | 2     |
| 65      | Sunshine Guojian Pharma   |                          |                           | 1                               | 1                                | 2     |
| 66      | SHANGHAI PHARMA           |                          | 1                         | 1                               |                                  | 2     |
| 67      | Trinomab Biotechnology    |                          |                           |                                 | 2                                | 2     |
| 68      | IMAB Biopharma            |                          |                           |                                 | 2                                | 2     |
| 69      | Walvax Biotechnology      | 1                        | 1                         |                                 |                                  | 2     |
| 70      | NeoCura Bio-Medical       | 1                        |                           | 1                               |                                  | 2     |
| 71      | Xuanzhu Biopharm          | 2                        |                           |                                 |                                  | 2     |
| 72      | Ascentage Pharma          |                          |                           | 1                               | 1                                | 2     |
| 73      | BioNova Pharma            |                          |                           |                                 | 2                                | 2     |
| 74      | Yipinhong Pharma          | 2                        |                           |                                 |                                  | 2     |
| 75      | ImmuneOnco                |                          |                           | 1                               | 1                                | 2     |
| 76      | IMPACT Therapeutics       |                          |                           | 2                               |                                  | 2     |
| 77      | Nuance Pharma             | 2                        |                           |                                 |                                  | 2     |
| 78      | Grandpharma               | 2                        |                           |                                 |                                  | 2     |
| 79      | Maxinovel Pharmaceuticals |                          |                           | 2                               |                                  | 2     |
| 80      | Zelgen Biopharmaceuticals |                          |                           |                                 | 2                                | 2     |

# In-house Dev. “Following” Model → New Era of “License-in + In-house Dev.”



## 2021 License-in Geographical Distribution



- Totally 542 Licensing deals occurred in recent 5 years (as per disclosed). 174 deals happened in 2021, which accounted 32.2% of the total number.

- North America and Europe have been the major geographies for 2021 License-in deals.
- The deals are shifting gradually from same language or nearby regions, to the cradle areas of pharmaceutical innovation.

Data source: public data  
Data collected till: Dec-31-2021



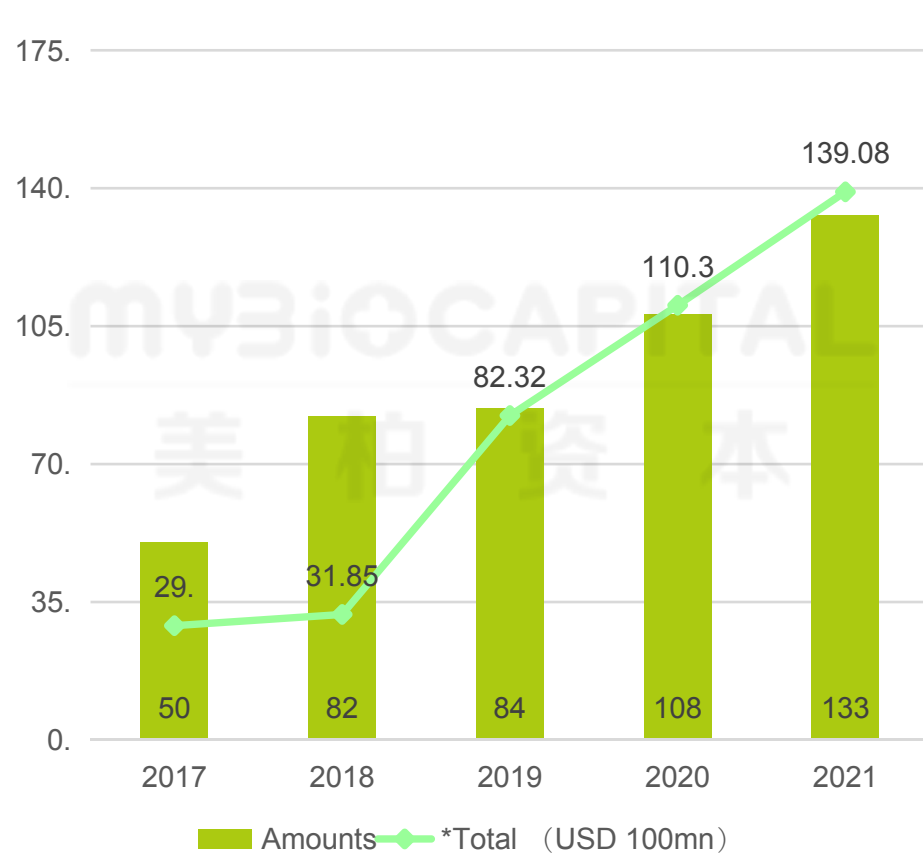
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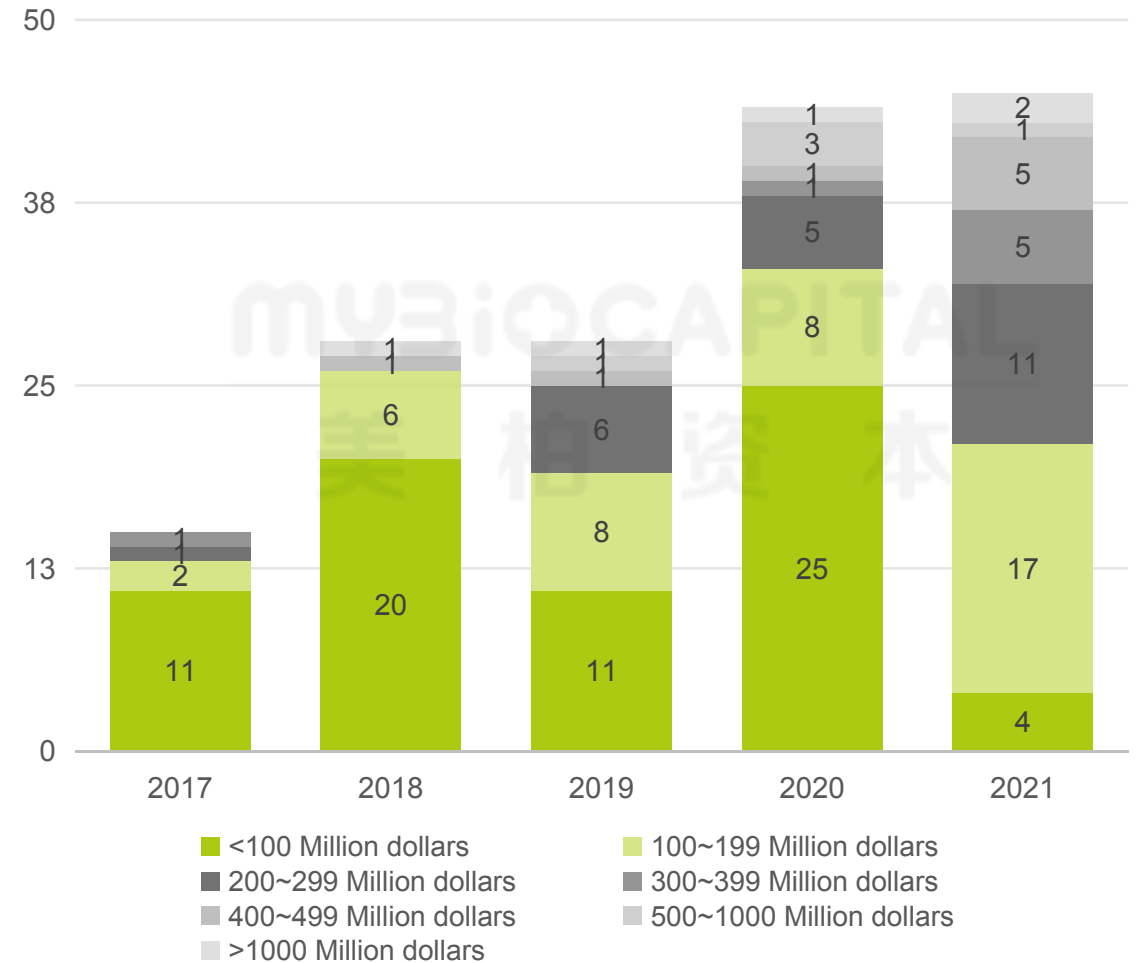
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# Increasing Trend of Cross-border License-in Deals

The total deal values have been in continuous increase in recent 5 years. In 2021, the total deal value has reached amount of 13.9 billion USD. The increase on deal numbers, and rise on deal value for a single deal, have resulted in the increase of the total deal value. There're 2 deals with deal value expanding one Billion USD. Majority of the deal values have been ranged between 100 Million USD and 300 Million USD.



\*The deal values are from public data disclosed.  
Deal values not disclosed are not included.

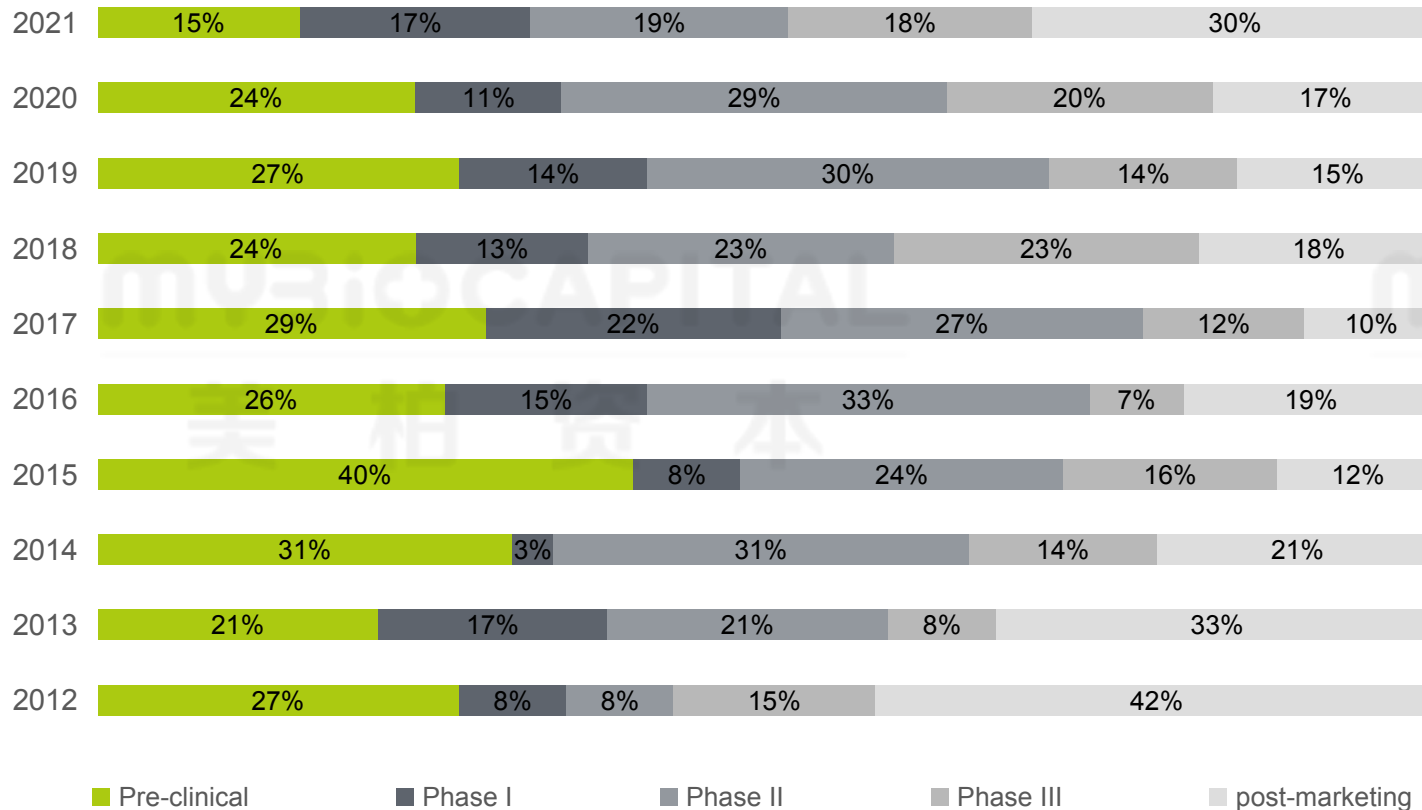


# Top 10 Cross-border License-in Deals in 2021

| No. | Time        | Licensor                           | Licensee          | Projects  | Total Deal Value (Million USD) | Upfront (Million USD) | Indication                 |
|-----|-------------|------------------------------------|-------------------|---|--------------------------------|-----------------------|----------------------------|
| 1   | 2021-Nov-9  | Macrogenics                        | Zai Lab           | 4 bispecific antibodies (CD3, etc.)                   | 1,400                          | 55                    | Oncology                   |
| 2   | 2021-Mar-31 | Silence Therapeutics               | Hansoh Pharma     | 3 siRNA drugs based on mRNAi GOLD™ platform           | 1,316                          | 16                    | Liver Diseases             |
| 3   | 2021-Dec-27 | ITM Isotope Technologies Munich SE | Grandpharma       | 3 RDC drugs: TOCscan, ITM-11, ITM-41                  | 591                            | NA                    | Oncology                   |
| 4   | 2021-Nov-9  | Blue print Medicines               | Zai Lab           | BLU-945, BLU-701                                      | 590                            | 25                    | NSCLC                      |
| 5   | 2021-Jun-29 | Vivoryon Therapeutics              | Simcere           | Varoglutamstat, PBD-C06                               | 565                            | not disclosed         | AD                         |
| 6   | 2021-Feb-8  | LogicBio Therapeutics              | CANbridge         | AAV sL65, LB-001                                      | 564                            | 10                    | Gene editing               |
| 7   | 2021-Aug-17 | ImmuneOncia Therapeutics           | 3D Medicines      | IMC-002 (CD47)  | 462                            | 8                     | Oncology                   |
| 8   | 2021-Mar-31 | OliX Pharmaceuticals               | Hansoh Pharma     | siRNA   | 456                            | 6.5                   | CVD, metabolism and others |
| 9   | 2021-Feb-18 | TWI Biotech                        | Inmagene Bio      | AC-1101 (JAK)   | 421                            | NA                    | Dermatology                |
| 10  | 2021-Oct-25 | Providence Therapeutics            | EVEREST MEDICINES | mRNA COVID vaccine candidate +mRNA technical platform | 500                            | 100                   | mRNA vaccine (COVID)       |

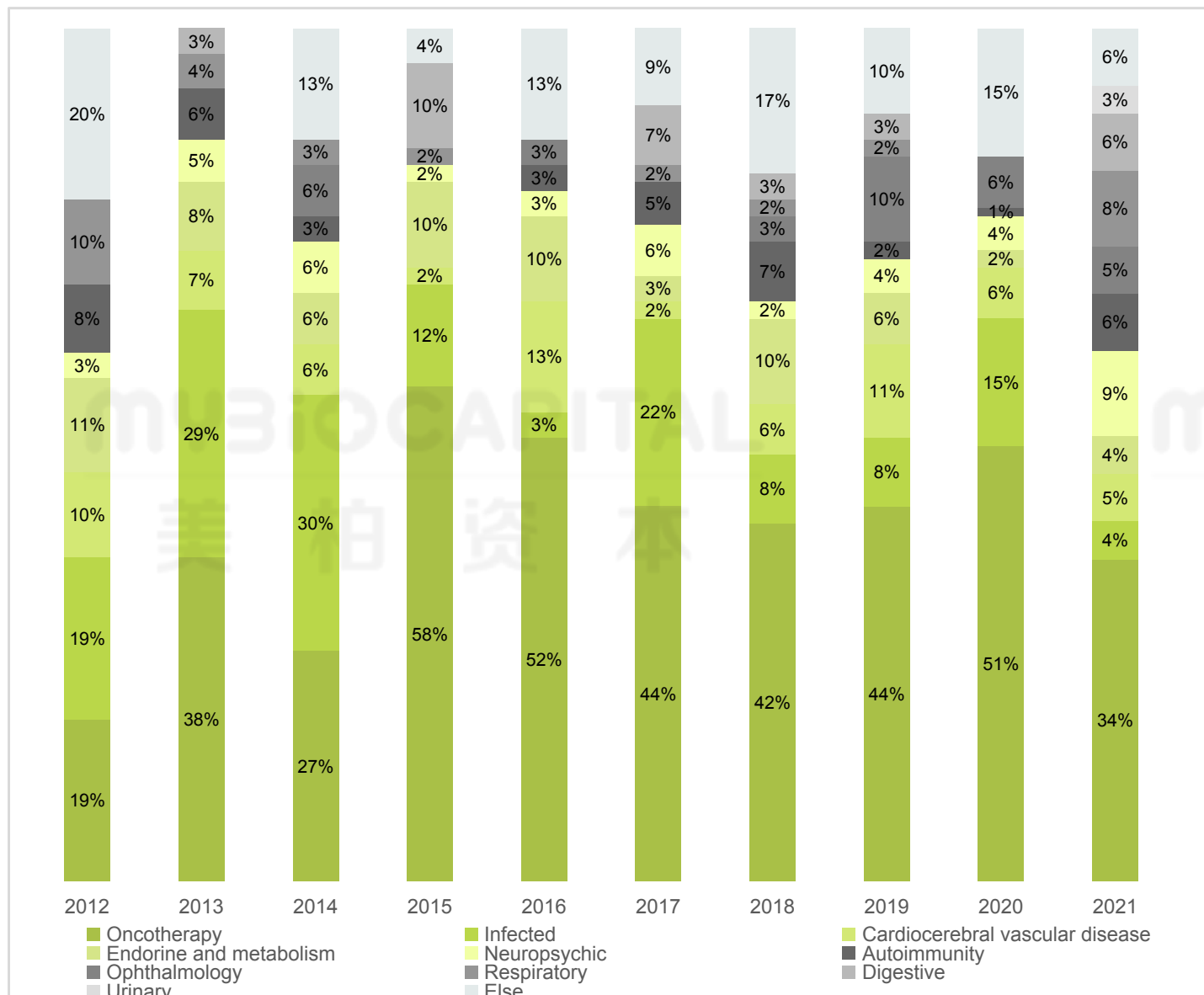
# Change on Clinical Phases for Recent 10 Years' License-in Deals

**Clinical Phases of License-in Projects by Chinese Bios in Last 10 Years**



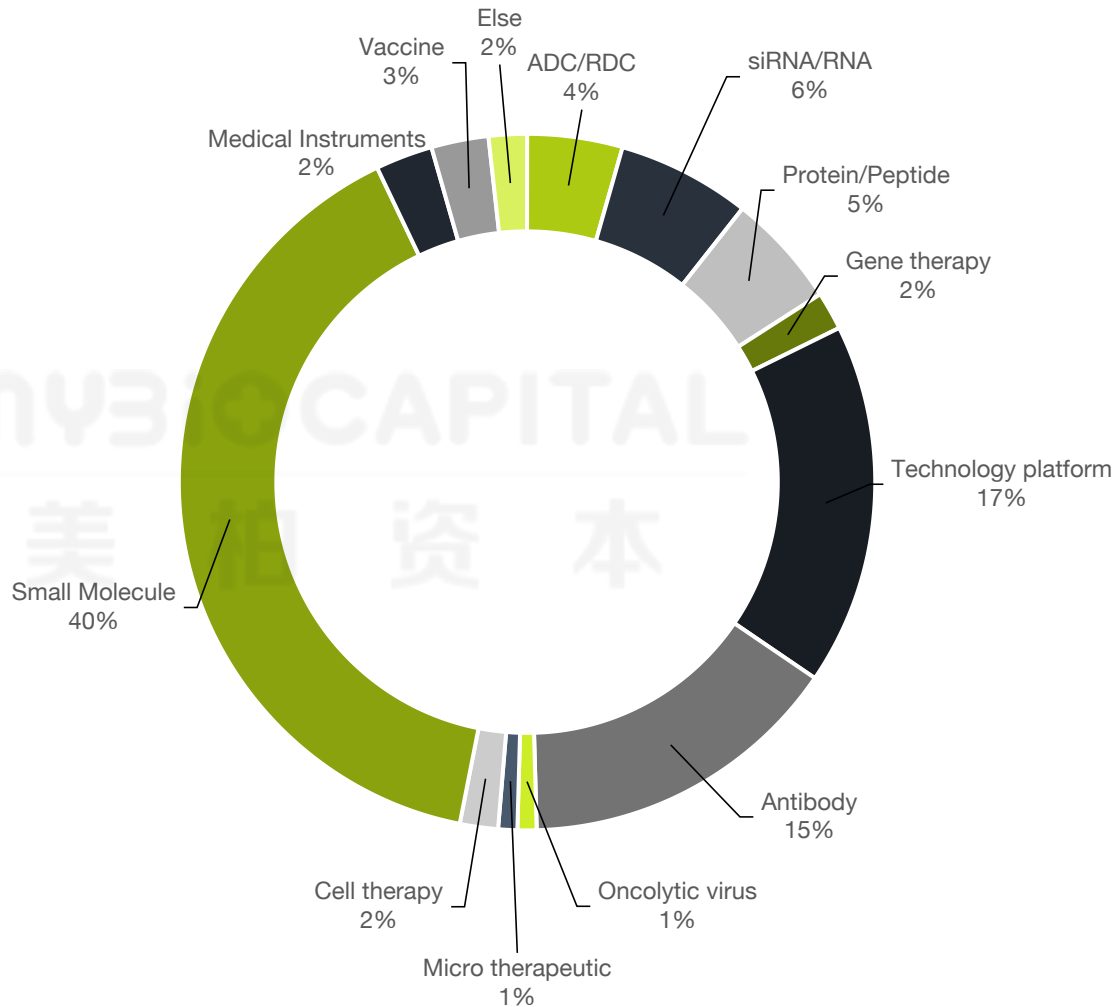
- Compared with 2020, the number of deals on post-marketing projects has increased significantly in 2021.
- In comparison with last years, clinical phases of deals in 2021 presented balanced distribution, and deals are active in each phase from pre-clinical to phase III stage.

# Change on Therapeutic Fields for Recent 10 Years' License-in Deals



- Overview with the change on therapeutic fields for recent 10 years' License-in deals, oncology has always been the most heated field for the deals.
- Besides oncology in continuous heat, deals are active in the other therapeutic fields as well in 2021, and the deal numbers are balanced in different fields. Deal number in CNS field has significantly increased. COVID related deals has been active. GI, Autoimmune, CVD, Ophthalmology all are in heat trend. Deals begin arising in Urology and Endocrinology as well.

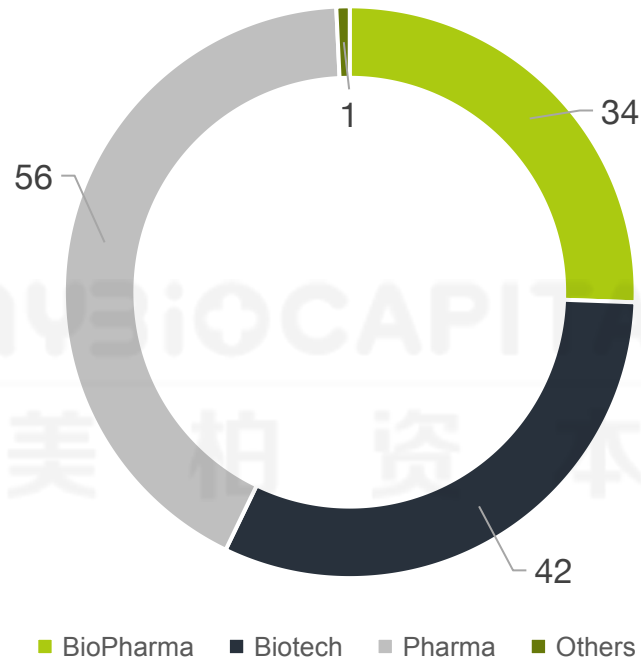
# Therapeutic Categories Overview on 2021 Cross-border License-in Deals



- Small molecules, as the major deal projects, have amounted 40% among all of the deals. The deal number has maintained in 1<sup>st</sup> place.
- The deal number of antibodies has been in the 2<sup>nd</sup> just behind small molecules.
- Number of deals on technology platforms has been increasing. There appears a trend that the Chinese bios not only license in a single project, but also begin licensing in technology platforms with several projects for one deal.
- Deals begin arising in cell therapy, gene therapy, siRNA/RNA as well.

# Dealers Analysis on 2021 Cross-border License-in Deals

## Buyers Company Types



Data source: MyBio analysis  
Data collected till: Dec-31-2021

## Buyers Ranking

| Company                  | BioPharma | Biotech | Pharma | Total |
|--------------------------|-----------|---------|--------|-------|
| Zai Lab                  | 7         |         |        | 7     |
| Huadong Medicine         |           |         | 5      | 5     |
| LianBio                  | 5         |         |        | 5     |
| Beigene                  | 3         |         |        | 3     |
| CANbridge                |           | 3       |        | 3     |
| Nhwa Pharma              |           |         | 3      | 3     |
| Fosun Pharma             |           |         | 3      | 3     |
| Hansoh Pharma            |           |         | 3      | 3     |
| JI XING Pharma           |           | 3       |        | 3     |
| Arctic Vision            |           | 3       |        | 3     |
| Winhealth Pharma         |           |         | 3      | 3     |
| Simcere Pharma           |           |         | 3      | 3     |
| Innovent Bio             | 3         |         |        | 3     |
| Inmagene Bio             |           | 2       |        | 2     |
| Antengene                | 2         |         |        | 2     |
| Haisco Pharmaceutical    |           |         | 2      | 2     |
| Hengrui Pharma           |           |         | 2      | 2     |
| CR-DOUBLE CRANE          |           |         | 2      | 2     |
| JingXin Pharma           |           |         | 2      | 2     |
| Luoxin Pharma            |           |         | 2      | 2     |
| OcuMension               | 2         |         |        | 2     |
| Qilu Pharma              |           |         | 2      | 2     |
| SciNeuro Pharmaceuticals |           | 2       |        | 2     |
| Xuanzhu Biopharm         |           | 2       |        | 2     |
| Yipinhong Pharma         |           |         | 2      | 2     |
| Nuance Pharma            |           | 2       |        | 2     |
| Grandpharma              |           |         | 2      | 2     |
| EVEREST MEDICINES        | 2         |         |        | 2     |

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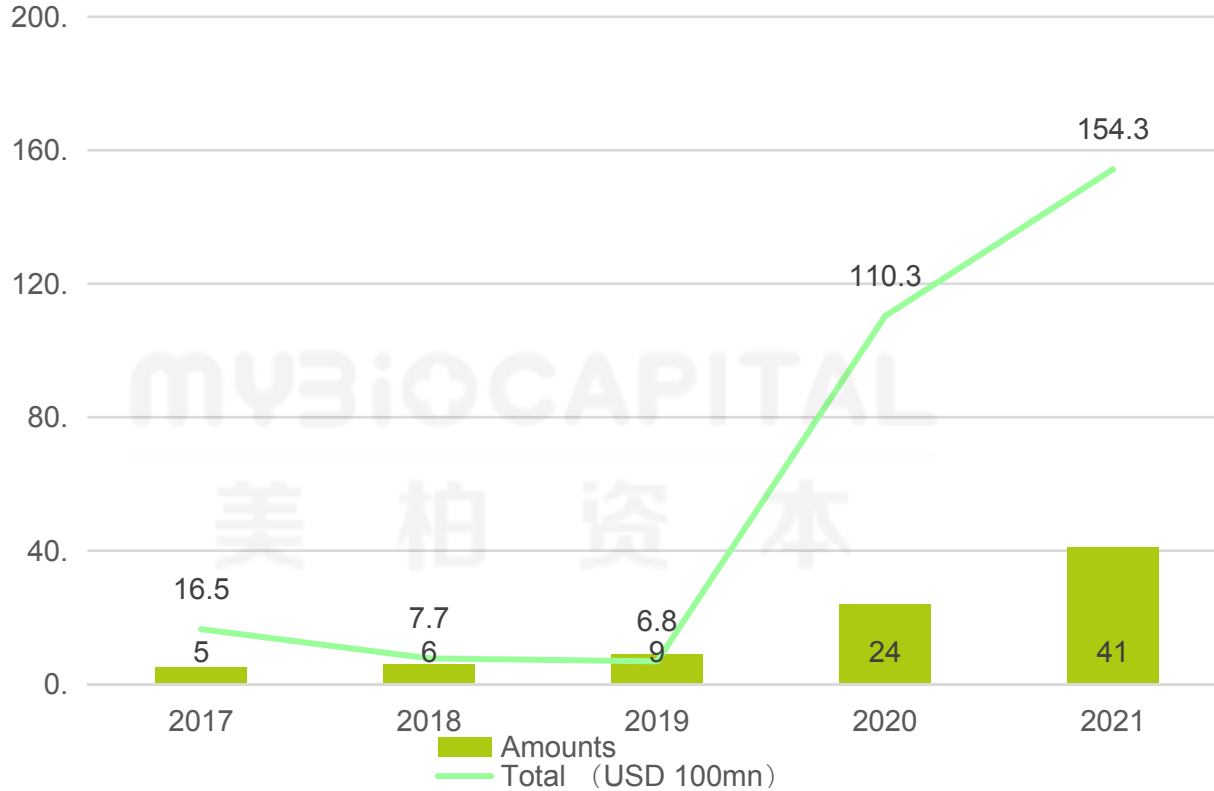
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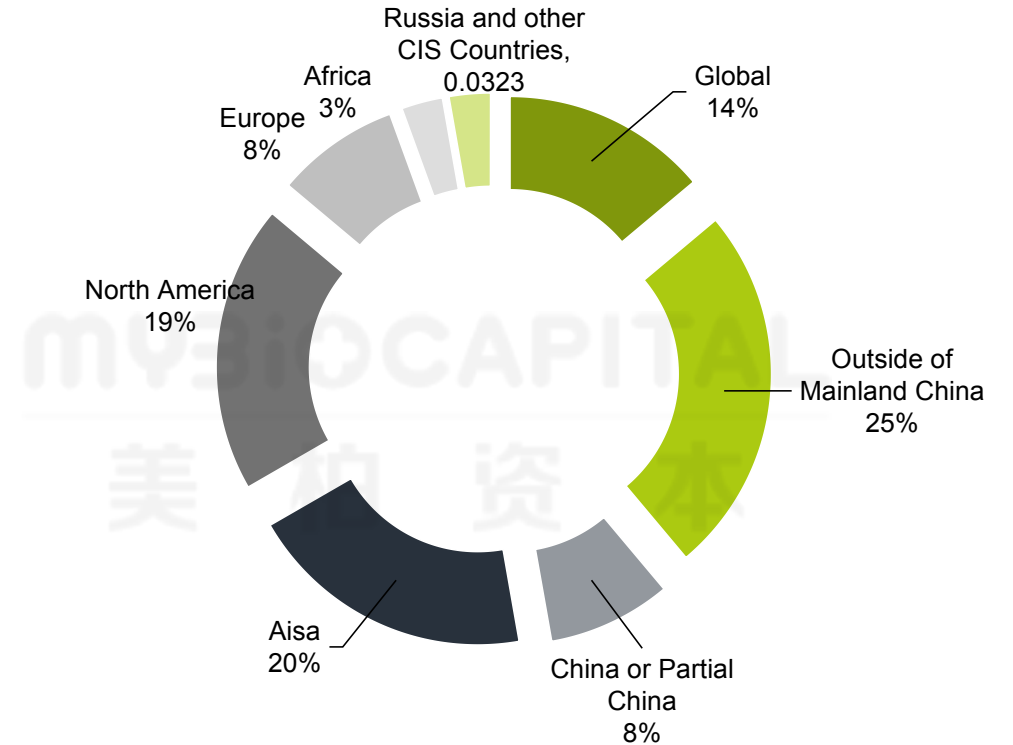
# Increasing Trend of Cross-border License-out Deals

## 2021 License-out Deal Numbers & Total Values



- The License-out deal numbers have been increasing in each year in recent 5 years. The total License-out deal value has reached amount of 15.4 Billion USD.

## 2021 License-out Geographical Distribution



- The deals License-out to regions outside Greater China have the most number for 2021. Deals in Asia Pacific region are active, and North American region is in next.
- Deals are also available in regions of Africa, Europe, Russia, etc.

# Top 10 Cross-border License-out Deals in 2021

| No. | Time   | Licensor                 | Licensee                        | Projects                                    | Indication         | Phase           | Total Deal Value (Million USD) | Upfront (Million USD) |
|-----|--------|--------------------------|---------------------------------|---|--------------------|-----------------|--------------------------------|-----------------------|
| 1   | Dec-2  | Beigene                  | Novartis                        | Ociperlimab (TIGIT)                         | Oncology           | NA              | 2,900                          | 300                   |
| 2   | Aug-8  | RemeGen                  | Seagen                          | Disitamab Vedotin                           | Oncology           | Approved        | 2,600                          | 200                   |
| 3   | Jan-12 | Beigene                  | Novartis                        | Tislelizumab (PD1)                          | Oncology           | Approved        | 2,200                          | 650                   |
| 4   | Dec-10 | Nuance Pharma            | Eli Lilly                       | Research collaboration and patent licensing | Metabolic diseases | NA              | 1,500                          | 50                    |
| 5   | Feb-1  | Junshi Biosciences       | Coherus BioSciences             | Toripalimab(PD-1)+JS006+JS018-1             | Oncology           | BLA Application | 1,100                          | 150                   |
| 6   | Jun-17 | HiFiBiO Therapeutics     | FibroGen                        | Galectin-9,CXCR5,CCR8                       | Tumor immunology   | NA              | 1,100                          | 25                    |
| 7   | Jul-13 | InnoCare Pharma          | Biogen                          | Orelabrutinib (BTKi)                        | Autoimmune         | Approved        | 938                            | 125                   |
| 8   | Jun-3  | Allist Pharma            | ArriVent                        | Furmonertinib                               | Oncology           | Approved        | 765                            | 40                    |
| 9   | Aug-17 | NovaRock Biotherapeutics | Flame Biosciences               | NBL-015 (Claudin 18.2)                      | Oncology           | NA              | 600                            | 7.5                   |
| 10  | Feb-24 | Sino Biopharmaceutical   | Graviton Bioscience Corporation | TDI01                                       | Pulmonary fibrosis | Phase 1         | 578                            | NA                    |

# Top 10 Cross-border License-out Deals in 2020 and 2019

## Top 10 License-out Deals in 2020

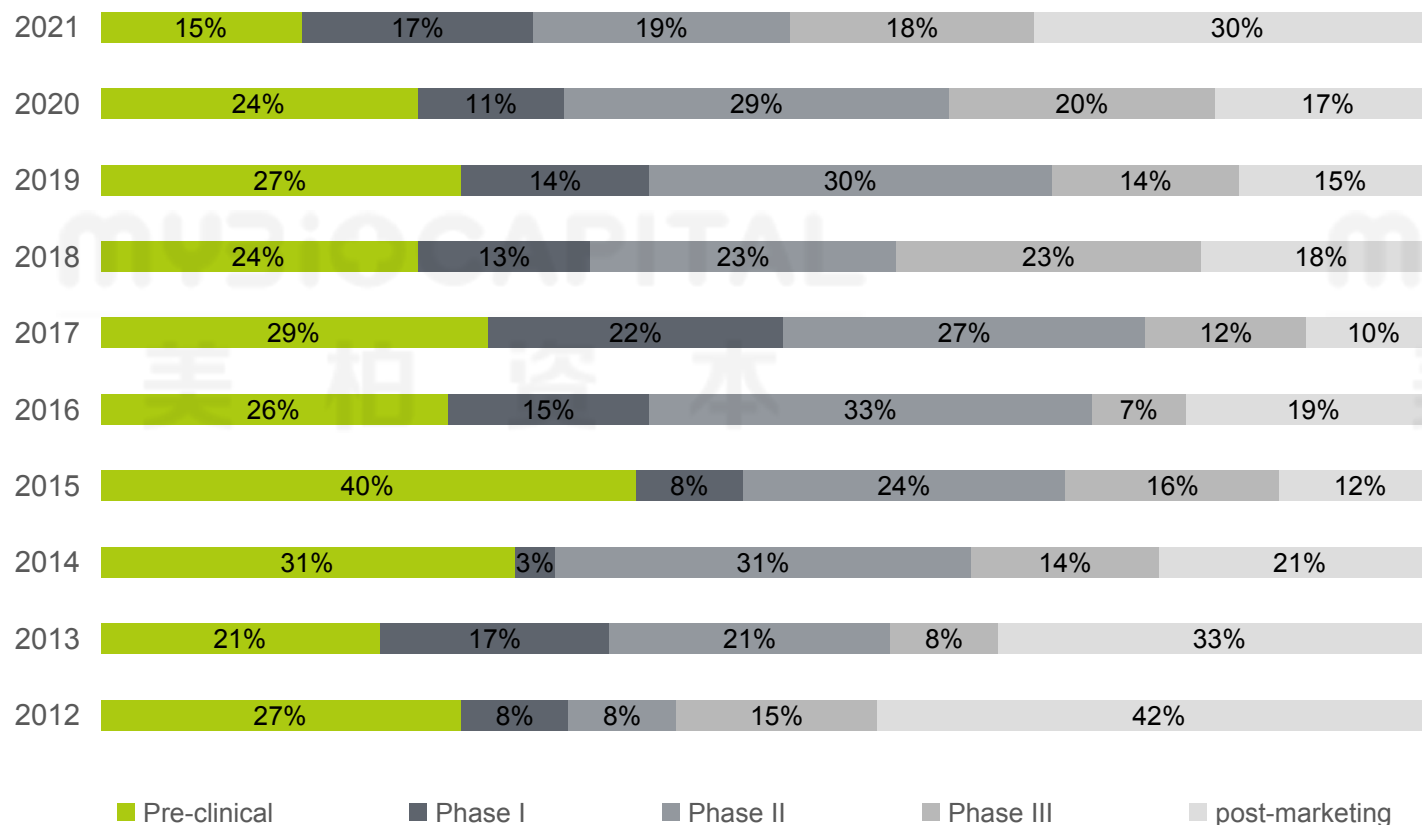
| Time        | Licensor                          | Licensee  | Projects                         | Indication | Total Deal Value (Million USD) | Upfront (Million USD) |
|-------------|-----------------------------------|---|----------------------------------|------------|--------------------------------|-----------------------|
| 2020-Sep-4  | I-MAB                             | Abbvie  | Lemzoparlimab (TJC4) (CD47)      | Oncology   | 2,900                          | 180                   |
| 2020-Jun-9  | Innovent Bio                      | Roche   | Bispecific antibodies            | Oncology   | 2,000                          | NA                    |
| 2020-Oct-27 | Cstone Pharma                     | EQRx  | CS1001;CS1003 PD-L1;PD-1         | Oncology   | 1,300                          | 150                   |
| 2020-Aug-18 | Innovent Bio                      | Lilly   | Sintilimab (PD-1)                | Oncology   | 1,000                          | NA                    |
| 2020-Jun-1  | Jacobio                           | Abbvie  | JAB-3068/3312 SHP2;KRAS/MAPK/SH2 | Oncology   | 810                            | 45                    |
| 2020-Nov-25 | Henlius Pharma                    | Binacea   | HLX35 EGRR/4-1BB                 | Oncology   | 760                            | NA                    |
| 2020-Apr-17 | Microbio Shanghai Oneness Biotech | LEO Pharma                                      | FB825 (first anti-CemX antibody) | Immunology | 570                            | 40                    |
| 2020-Oct-29 | Fosun Pharma                      | Lilly (Loxo)                                    | FCN-338 (Bcl-2)                  | Oncology   | 440                            | 40                    |
| 2020-Aug-22 | TransThera                        | LG Chem Ltd                                     | TT-01025 SSAO/VAP-1              | NASH       | 350                            | NA                    |
| 2020-Mar-30 | I-MAB                             | Kalbe Farma (Indonesia); Genexine (South Korea) | TJD5 (CD73)                      | Oncology   | 340                            | NA                    |

## Top 10 License-out Deals in 2019

| No. | Time     | Transferor             | Transferee            | Projects                          | Indication                |
|-----|----------|------------------------|-----------------------|-----------------------------------|---------------------------|
| 1   | 2020-Aug | GENSUN                 | Kintor Pharmaceutical | Bispecific antibody (PD-L1*TGF-β) | Oncology                  |
| 2   | 2020-Jun | Alphamab               | Sanofi                | KN026                             | Oncology                  |
| 3   | 2020-Jun | Jacobio                | Abbvie                | JAB-3068, JA53312                 | Oncology                  |
| 4   | 2020-May | Junshi Biosciences     | Lilly                 | COVID Neutralizing Antibody       | Pneumonia caused by COVID |
| 5   | 2020-Apr | Hengrui Pharma         | Crystal Genomics      | Camrelizumab                      | Oncology                  |
| 6   | 2020-Apr | Oneness Biotech        | LEO Pharma            | FB825                             | Atopic Dermatitis         |
| 7   | 2020-Mar | Henlius Pharma         | Mabxience             | HLX02                             | Oncology                  |
| 8   | 2020-Jan | Innovent Bio           | Coherus BioSciences   | IBI305                            | Oncology                  |
| 9   | 2019-Dec | Alphamab /3D Medicines | Tracon                | KN035                             | Oncology                  |
| 10  | 2019-Sep | Henlius Pharma         | Kalbe Genexine        | HLX10                             | Oncology                  |

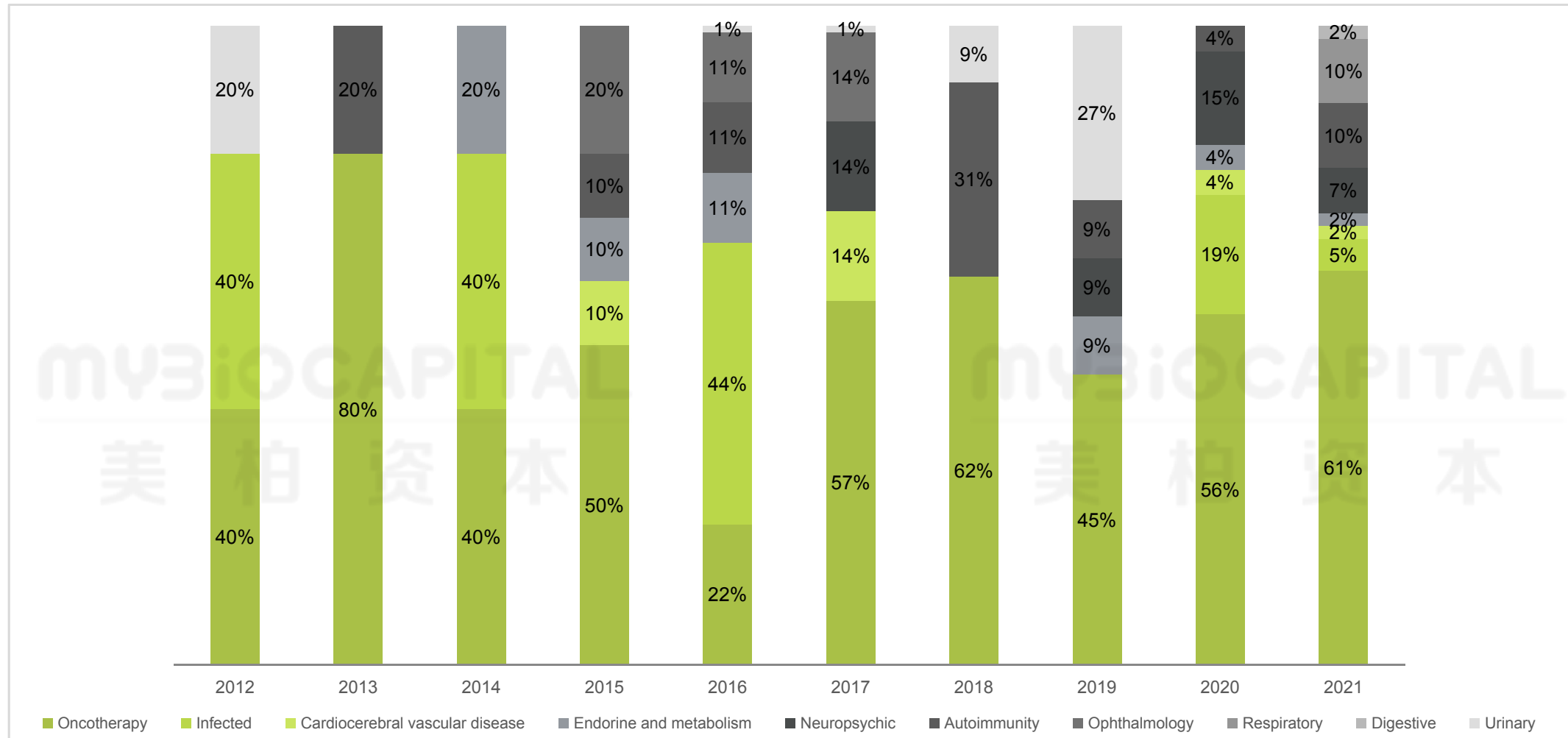
# Change on Clinical Phases for Recent 10 Years' License-out Deals

Clinical Phases of License-out Projects by Chinese Bios in Recent 10 Years



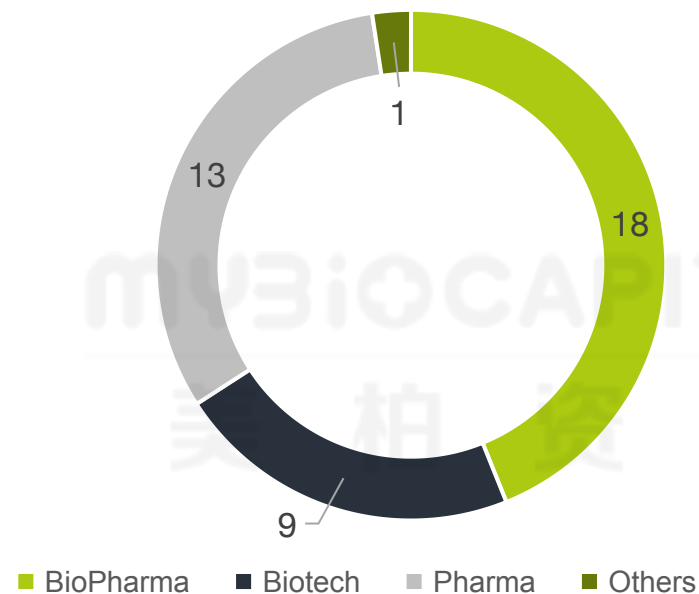
- Compared with 2020, the number of deals on post-marketing projects has increased significantly in 2021.
- In comparison with last years, clinical phases of deals in 2021 presented balanced distribution, and deals are active in each phase from pre-clinical to phase III stage.

# Change on Therapeutic Fields for Recent 10 Years' License-out Deals



The License-out deals in 2021 are centralized in Onco-therapies, then following with Respiratory and Autoimmune fields.

# Dealers Analysis on 2021 Cross-border License-out Deals



Data source: MyBio analysis  
Data collected till: Dec-31-2021

| Company                 | Ranking of Sellers |         |        |        | Total |
|-------------------------|--------------------|---------|--------|--------|-------|
|                         | BioPharma          | Biotech | Pharma | Others |       |
| BIO-THERA               | 4                  |         |        |        | 4     |
| Luye Pharma             |                    |         | 3      |        | 3     |
| Beigene                 | 2                  |         |        |        | 2     |
| HiFiBiO Therapeutics    |                    | 2       |        |        | 2     |
| Junshi Biosciences      | 2                  |         |        |        | 2     |
| CARsgen Therapeutics    | 1                  |         |        |        | 1     |
| CSPC Pharma             |                    |         | 1      |        | 1     |
| Allist Pharma           | 1                  |         |        |        | 1     |
| Baidu                   |                    |         |        | 1      | 1     |
| Boan Biotech            |                    |         | 1      |        | 1     |
| HitGen Inc.             | 1                  |         |        |        | 1     |
| Tennorx                 |                    | 1       |        |        | 1     |
| Haisco Pharmaceutical   |                    |         | 1      |        | 1     |
| Jemincare Pharma        |                    |         | 1      |        | 1     |
| Jacobio Pharmaeuticals  | 1                  |         |        |        | 1     |
| Skyline Therapeutics    |                    | 1       |        |        | 1     |
| Kintor Pharmaceutical   | 1                  |         |        |        | 1     |
| Kelun Pharmaceutical    |                    |         | 1      |        | 1     |
| CureGenetics            |                    | 1       |        |        | 1     |
| LIVZON                  |                    |         | 1      |        | 1     |
| InnoCare Pharma         | 1                  |         |        |        | 1     |
| Ranok Therapeutics      |                    | 1       |        |        | 1     |
| RemeGen                 | 1                  |         |        |        | 1     |
| Ruige Pharmaceutical    |                    | 1       |        |        | 1     |
| Shanghai Pharmaceutical |                    |         | 1      |        | 1     |
| Adagene                 | 1                  |         |        |        | 1     |
| Walvax Biotechnology    |                    |         | 1      |        | 1     |
| Innovent Bio            | 1                  |         |        |        | 1     |
| Eucure Biopharma        |                    | 1       |        |        | 1     |

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# Deals Between Chinese Bios

The deals between Chinese Bios have occurred frequently in 2021, with total number of 107 deals, among which 14 deals' total values and upfronts have been disclosed. Most of the deals occurred in 2<sup>nd</sup> half of 2021. The business models have been much more diversified.

| No. | Time   | Buyer                        | Seller                | Projects                             | Business Model                                      | Indication                | Total Deal Value (Million USD) | Upfront (Million USD) |
|-----|--------|------------------------------|-----------------------|--------------------------------------|---|---------------------------|--------------------------------|-----------------------|
| 1   | Jan-11 | Inmagene Bio                 | Hutchison Pharma      | NA                                   | Co-dev.+ Commercialization collaboration            | Immunology                | 135 / project                  | 95 / Project          |
| 2   | Feb-9  | Hengrui Pharma               | Yingli Pharma         | YY-20394                             | Equity investment + Commercialization collaboration | Oncology                  | 20                             | NA                    |
| 3   | Jun-1  | Innovent Bio                 | AnHeart Therapeutics  | Taletrectinib (ROS1/NTRK)            | Licensing   | Oncology                  | 189                            | NA                    |
| 4   | Jul-14 | Ascentage Pharma             | Innovent Bio          | HQP1351, Rituximab, IBI188, APG-2575 | Equity + Co-dev.+ Commercialization collaboration   | Oncology                  | 145                            | 30                    |
| 5   | Jul-15 | Fosun Pharma                 | Kintor Pharmaceutical | Proxalutamide                        | Commercialization collaboration                     | Pneumonia caused by COVID | 450 Million RMB                | 110 Million RMB       |
| 6   | Aug-23 | CSPC Pharma                  | Alphamab              | KN026                                | Licensing   | Oncology                  | 1 Billion RMB                  | 150 Million RMB       |
| 7   | Aug-26 | Hengrui Pharma               | BeyondSpring          | Plinabulin                           | Equity investment + Licensing                       | Oncology                  | 1.3 Billion RMB                | 200 Million RMB       |
| 8   | Sep-2  | Innovent Bio                 | GenFleet Therapeutics | GFH925                               | Licensing   | Oncology                  | 262                            | 22                    |
| 9   | Sep-17 | Sinovent, SinoMab Bioscience | EVEREST MEDICINES     | XNW1011                              | Licensing   | Nephropathy               | 549                            | 12                    |
| 10  | Nov-10 | Jumpan Pharmaceutical        | I-MAB                 | TJ101                                | Licensing   | Endocrinology             | 2 Billion RMB                  | 224 Million RMB       |
| 11  | Nov-11 | Shanghai Ruier Bio           | Kaichuan Pharma       | KC1701                               | Equity + Co-dev.                                    | Rare disease              | 60 Million RMB                 | NA                    |
| 12  | Dec-14 | Beigene                      | Leads Biolabs         | LBL-007                              | Licensing   | Oncology                  | 742                            | 30                    |
| 13  | Dec-15 | JingXin Pharma               | Shaxi Pharma          | Chinese Medicine                     | Equity investment                                   | NA                        | 205 Million RMB                | NA                    |
| 14  | Dec-22 | GeneScience Pharmaceuticals  | Luye Pharma           | Rivastigmine patch                   | Licensing   | CNS                       | 216 Million RMB                | 70 Million RMB        |



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## Deal Numbers Create New High

Deals are active during the whole year. Both License-in and License-out deal numbers created new high. The numbers are expected to even go higher in 2022.



## The Average Deal Value Rises

The average deal value in 2021 is generally higher than previous years. The cost becomes higher and higher to obtain the high-quality deal targets. It is anticipated the cost will keep rising in 2022.



## Deals Available in All Dimensions in the Industry

Deals have been available in almost each therapeutic field, in each drug category, in each clinical phase and in each type of company. It has become a consensus in the industry that to seek development through BD deals.



## Innovation Drives Cross-regional Deals

License-in deals have been centralized in the innovation cradle regions like the US, Europe, etc. While License-out deals have been reached with different regions of the world. Chinese Bios have begun with innovation output. Brilliant future can be foreseen in the industry.



## Linking China to Overseas Healthcare Innovation



China

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