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Skadden, Arps, Slate, Meagher &  
Flom LLP and Affiliates

# Report on Hong Kong-Listed Biotech Companies

June 2022

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In February 2018, the Stock Exchange of Hong Kong Limited (HKEX) published its consultation conclusions on the listing of pre-revenue biotech companies in Hong Kong, heralding a new era for the Hong Kong capital markets.

The resulting new Chapter 18A of the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited (Listing Rules) permitted the listing of pre-revenue biotech companies on HKEX, subject to certain investor protection safeguards that sought to ensure only biotech companies at a relatively advanced stage of development could list.

Our inaugural biotech report, published in March 2021, analyzed the state of Hong Kong's listed biotech companies on the third anniversary of the consultation conclusions. That inaugural report covered the 28 companies that had listed between the new rules coming into effect in 2018 and the end of calendar year 2020.

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Our second annual report includes the 20 additional biotech companies that have listed during calendar year 2021 and have raised almost US\$5 billion in new capital.

The number of successful listings alone is testament to the health of Hong Kong's listed biotech sector and demonstrates continued investor demand for IPO-stage biotech companies. This in turn should demonstrate the attractiveness of Hong Kong as a listing venue for biotech companies and their stakeholders.

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We hope that this year's report will help companies contemplating a listing on the HKEX to benchmark themselves against companies that have already listed, help listed biotech companies to benchmark their corporate governance practices and help stakeholders in the biotech ecosystem to better understand the landscape for listed biotech companies in Hong Kong.

**In particular, we focus on:**

- Key features of the biotech companies completing IPOs during 2021, including their level of maturity as measured by various data points (such as company age, level of pre-IPO financing, research and development (R&D) spending and number of pipeline products). Where relevant, we also compare the data for companies listed in 2021 with the data for companies that listed from 2018 through 2020 featured in our inaugural report.
- Corporate governance aspects of biotech companies, including board composition and demographics. The corporate governance data included in this year's report encompasses all 48 biotech companies listed on HKEX as of December 31, 2021 — the 20 companies listed during calendar year 2021 as well as the 28 companies analyzed in our inaugural report — giving readers a comprehensive overview of the market in its current state.

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# Report

## Basic Information on Listed Biotech Companies

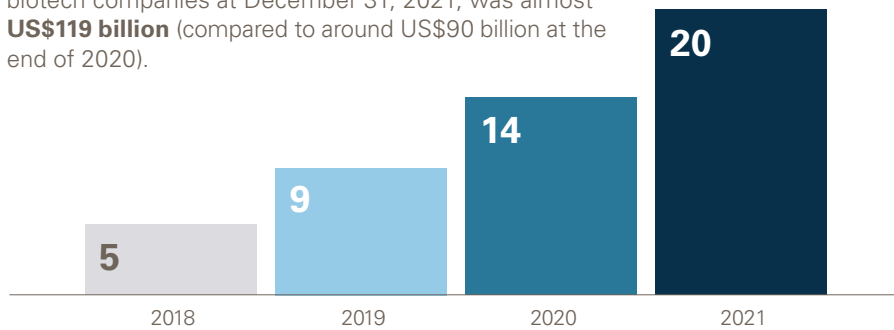
HKEX's biotech initiative has gathered momentum over the last four years, with the number of biotech company listings steadily increasing each year to reach a record of 20 such listings in 2021.

The majority of the listing vehicles for biotech companies are incorporated in the Cayman Islands, reflecting its position as the domicile of choice for the majority of companies listing on HKEX. At the same time, 2021 saw an increasing number of biotech companies incorporated in the People's Republic of China (PRC) seeking a listing in Hong Kong in the form of H shares — seven such issuers listed in 2021, more than in all previous years combined.

Meanwhile, Shanghai appears to be consolidating its position as the leading hub for China's biotech industry.

### Number of Companies Listed by Year

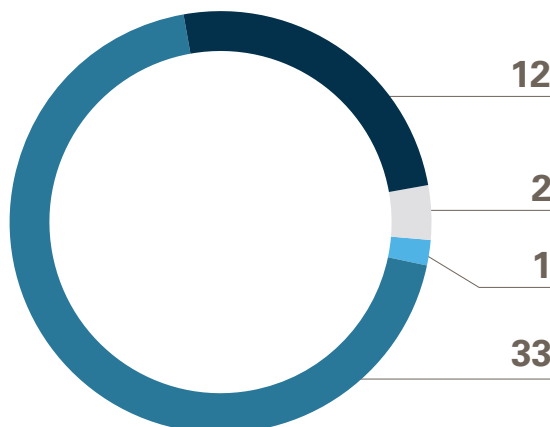
Aggregate market capitalization of all Hong Kong-listed biotech companies at December 31, 2021, was almost **US\$119 billion** (compared to around US\$90 billion at the end of 2020).



### Jurisdiction of Incorporation

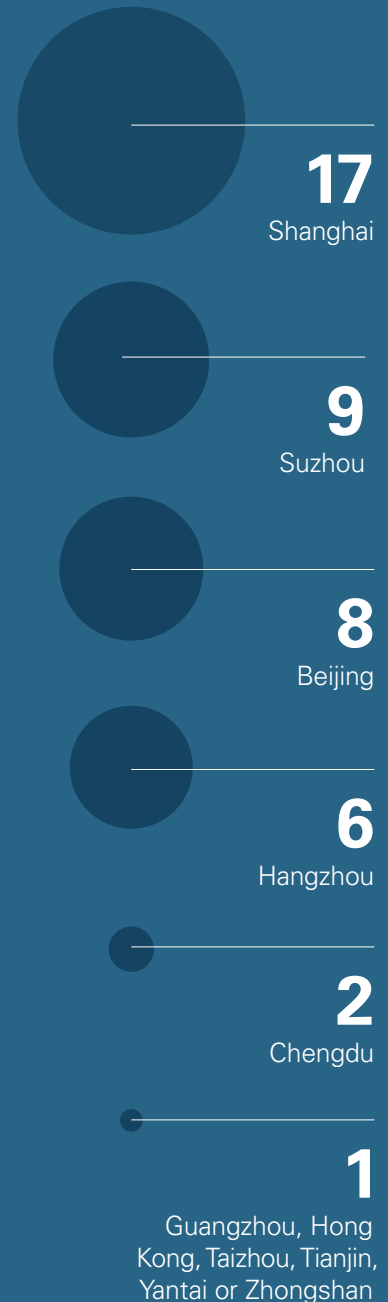
- Cayman Islands
- China
- Hong Kong
- British Virgin Islands

Data represents all 48 biotech companies listed on HKEX as of December 31, 2021.



### HQ Locations

Data represents all 48 biotech companies listed on HKEX as of December 31, 2021.



## Status and Maturity of the Business at the Time of IPO

HKEX and the Securities and Futures Commission made a deliberate policy choice to permit only pre-revenue biotech companies at a relatively advanced stage of development to list in Hong Kong. The key requirements contained in Chapter 18A and the related guidance letters issued by HKEX provide that a company must have been engaged in business for at least two full financial years and must have at least one “Core Product” that is “beyond concept stage” (see below).

The effect of these benchmarks is clearly reflected in the survey results: For 2021, the average pre-revenue biotech company listing on HKEX had been in existence for 9.1 years (for 2020: 8.6 years), conducted 4.7 rounds (for 2020: 4.5 rounds) of pre-IPO financing to raise an average of US\$216 million (for 2020: US\$229 million), spent approximately US\$44.4 million (for 2020: US\$91 million) on R&D during its IPO track record period (the two full financial years prior to IPO plus any required stub period) and has 15 (for 2020: 12) drug candidates in its pipeline, with, in the majority of cases, only one Core Product. Further information on these and other data points are set out below.

Data shown in this section represents the 20 biotech companies listed in calendar year 2021 only.

A “**Core Product**” is a biotech product that is required by applicable laws to be evaluated and approved by the U.S. Food and Drug Administration, the China Food and Drug Administration, the European Medicines Agency or an equivalent authority approved by HKEX (a Competent Authority) based on data derived from clinical trials (*i.e.*, on human subjects) before the product can be marketed and sold in the market regulated by that Competent Authority.

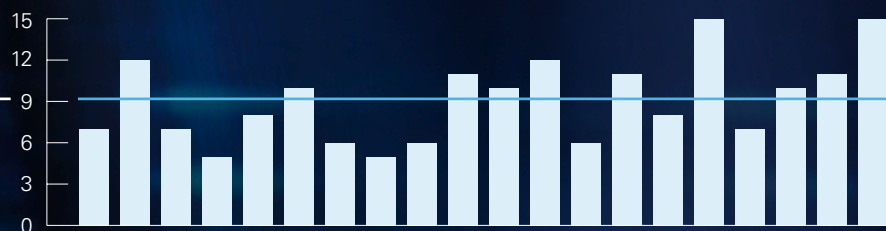
“**Beyond the concept stage**” means that Phase 1 clinical trials have been completed and the relevant Competent Authority has no objection to the commencement of Phase II clinical trials.

A biotech company must have engaged in R&D of its Core Product(s) for a minimum of 12 months prior to listing.

**Years From Founding to IPO**  
(inclusive of both year of founding and IPO)

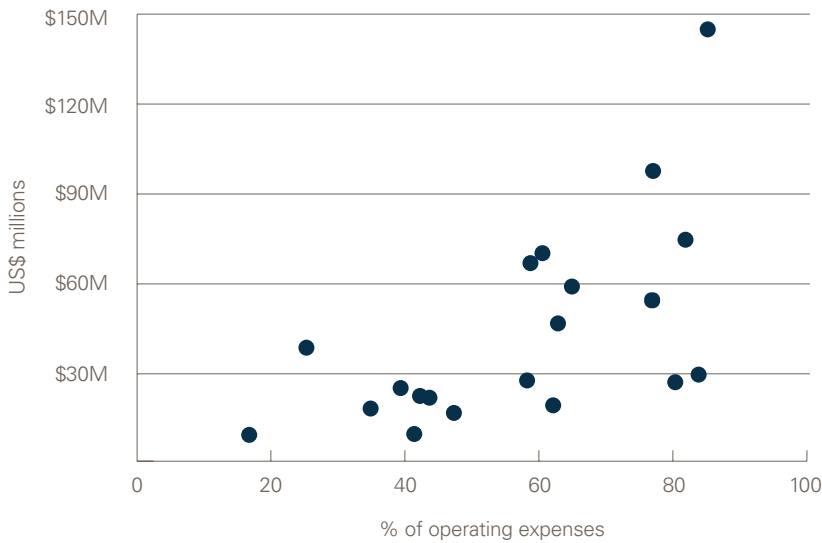
**9.1**

Average years from founding to IPO



Biotech companies that listed on HKEX in 2021

## R&D Spend Across Track Record Period



Biotech companies that listed on HKEX in 2021

**US\$44.4 million**

Average R&D spend during track record period

The Listing Rules require a company to include two full financial years of financial information in its prospectus, together with a stub period if the prospectus is issued more than six months after the end of the most recent financial year. Due to this requirement, the R&D expenditures shown in this chart may not be directly comparable with one another — for example, for some companies, the amounts cover only two financial years, while for others they cover two financial years and a six-month stub period. R&D amounts may also not be directly comparable to one another due to differences in accounting practices and the judgments made by management when categorizing expenses.

## Percentage of Board/Management Ownership Immediately Prior to IPO

**45.7%**

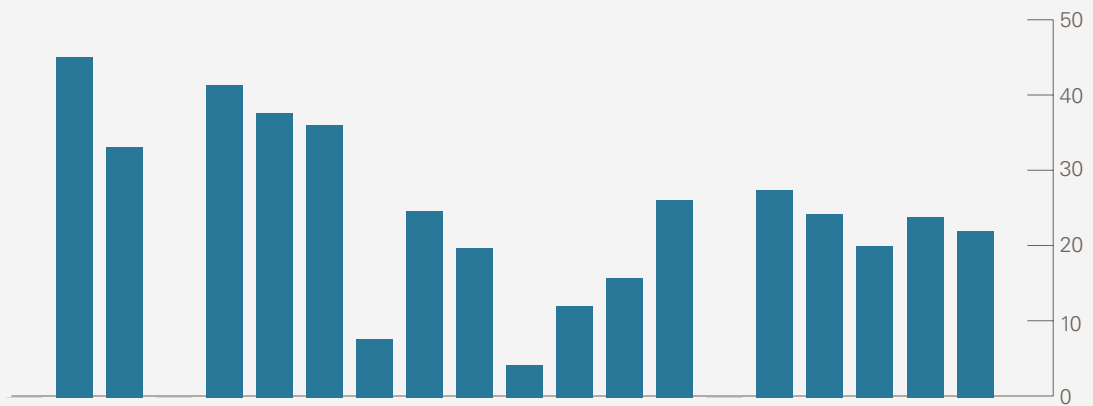
High

**21.4%**

Average

**0%**

Low



Biotech companies that listed on HKEX in 2021

Figures reflect the percentage of issued share capital held by founders and other individuals named in the prospectus, excluding employee share plan holding vehicles. The actual percentage of interests held by these individuals may be higher in some cases due to their being grantees of restricted stock units, options or other equity-based awards that have not yet vested or been exercised.



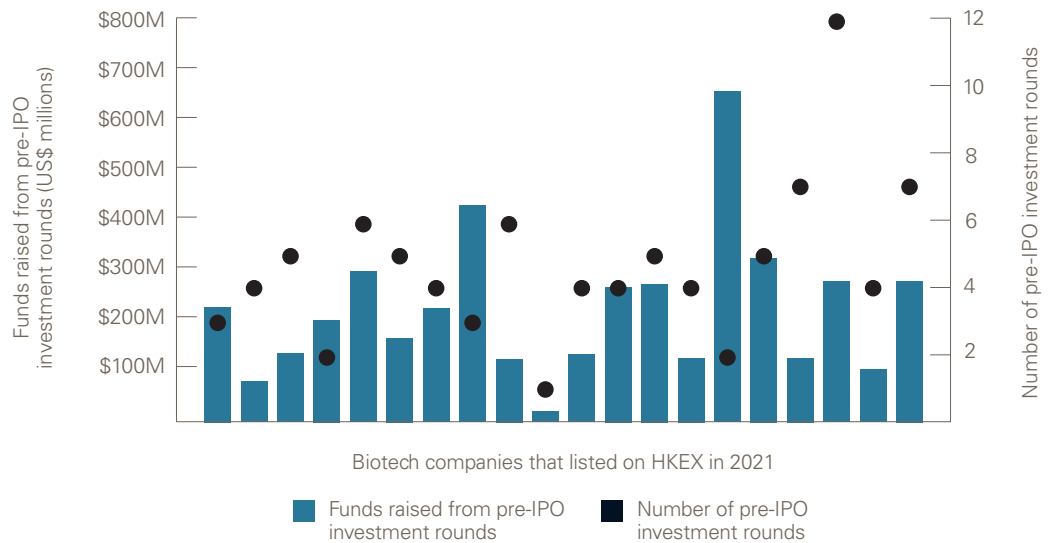
## Pre-IPO Funding Rounds

**4.5**

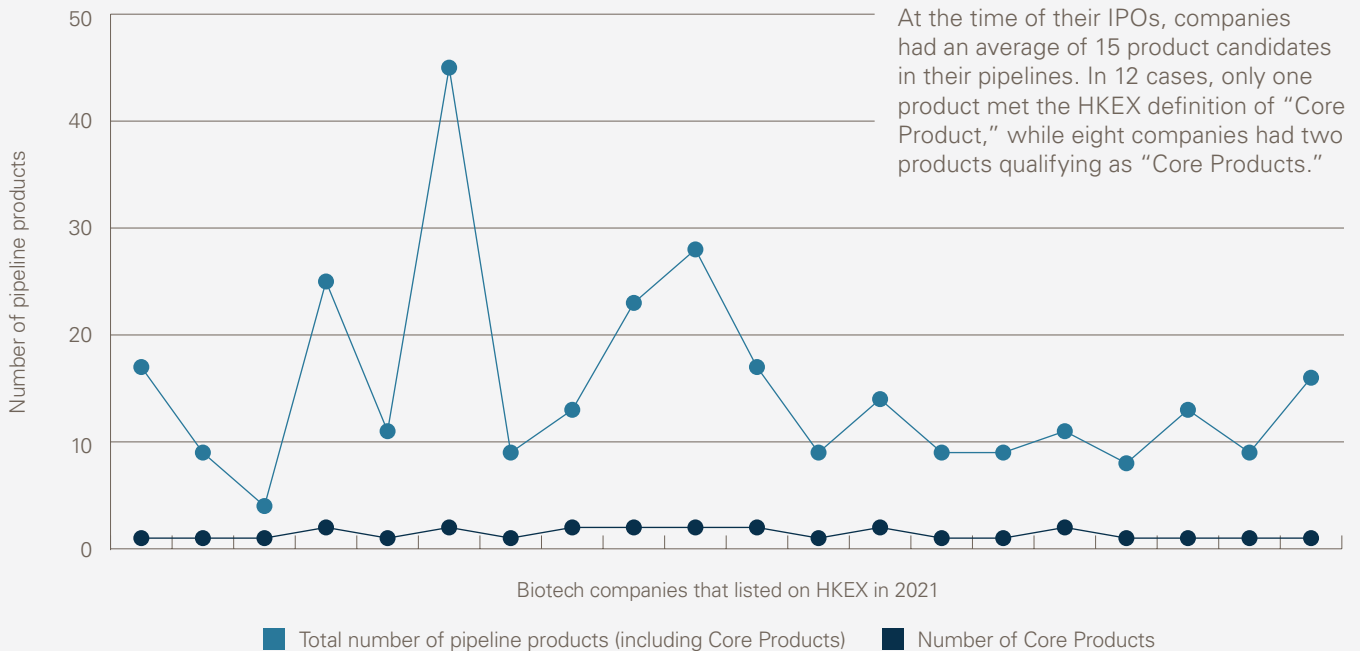
Average number of pre-IPO investment rounds

**US\$216 million**

Average funds raised from pre-IPO investment rounds



## Product Development Status at IPO



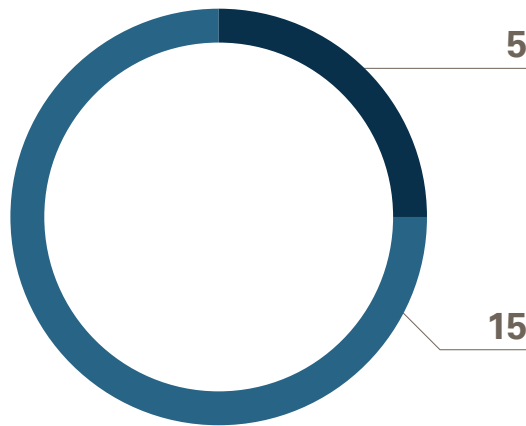
## In-Licensing and Collaboration

HKEX permits companies to rely on an in-licensed product to meet the “Core Product” requirement, provided that the company has conducted 12 months of further R&D on the product. However, only 25% of those companies listed in 2021 had a Core Product that was in-licensed or the product of collaboration. Half the companies analyzed engaged in some form of in-licensing or collaboration for their other products.

### Companies With Core Products In-Licensed/Product of Collaboration

**0.4**

Average number of Core  
Products in-licensed



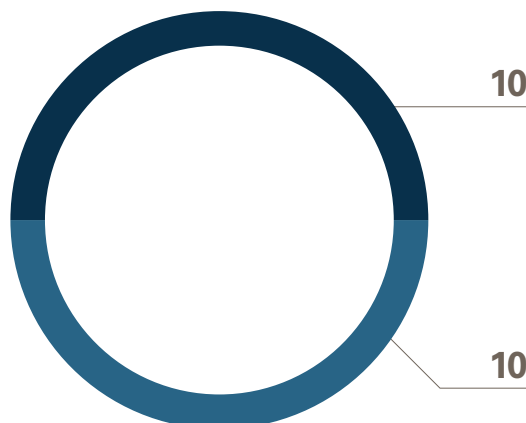
- Number of companies with Core Products in-licensed/products of collaboration
- Number of companies without Core Products in-licensed/products of collaboration

Biotech companies that listed on HKEX in 2021

### Companies With Other Products In-Licensed/Product of Collaboration

**2.8**

Average number of other  
products in-licensed

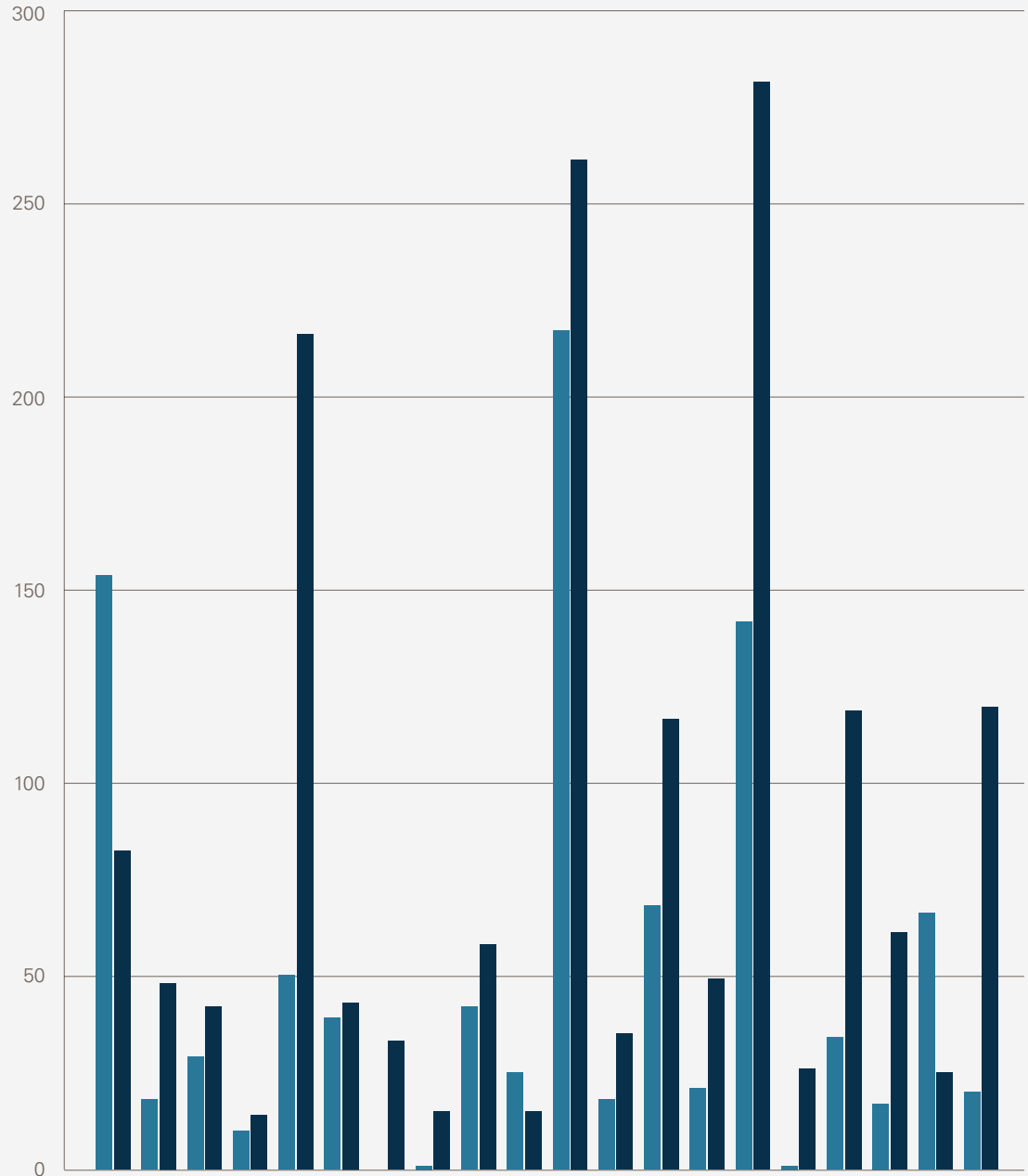


- Number of companies with other products in-licensed/product of collaboration
- Number of companies without other products in-licensed/product of collaboration

Biotech companies that listed on HKEX in 2021

## Intellectual Property Ownership at IPO

■ Number of registered patents  
 ■ Number of patents under application



**82.7**

Average applications

**48.5**

Average registrations

Biotech companies that listed on HKEX in 2021

## IPO Information

Biotech companies undertaking IPOs in Hong Kong during 2021 had raised an average of US\$243 million in gross funds. This was slightly lower than in our inaugural report, in which the 28 companies listing from 2018 through 2020 raised average gross funds of US\$345 million. This decrease suggests that smaller biotech companies may now be pursuing listings and that more challenging market conditions may be resulting in reduced deal sizes.

Data shown in this section represents the 20 biotech companies listed in calendar year 2021 only.

### IPO Size and Percentage of Share Capital Issued

**US\$243  
million**

Average gross  
funds raised



Figures include funds raised from any sale shares and are based on initial number of shares offered, excluding any shares that may have subsequently been issued pursuant to any over-allotment option.

## Market Capitalization at IPO

**\$5.3 billion**

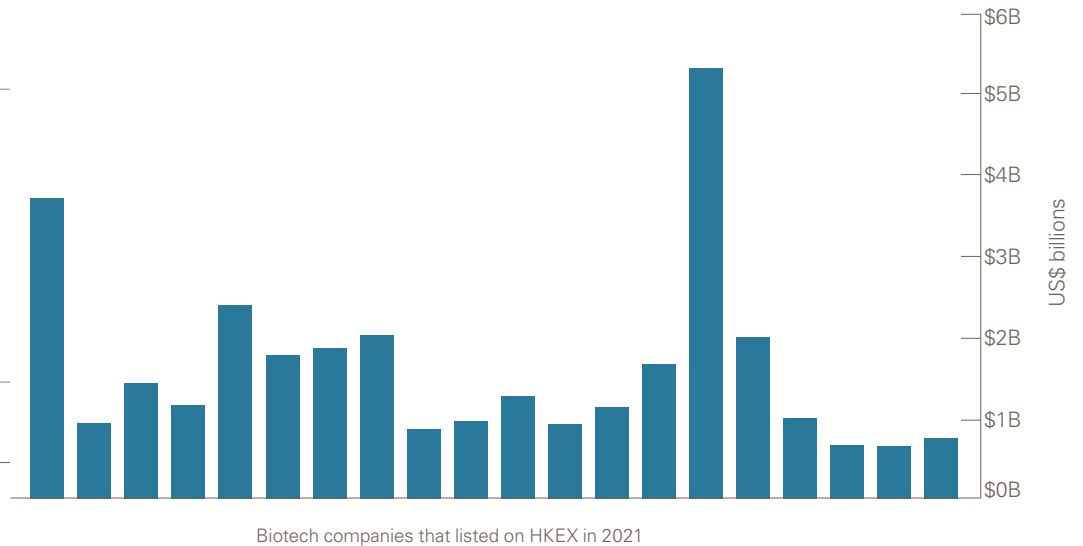
High

**\$1.6 billion**

Average

**\$652 million**

Low



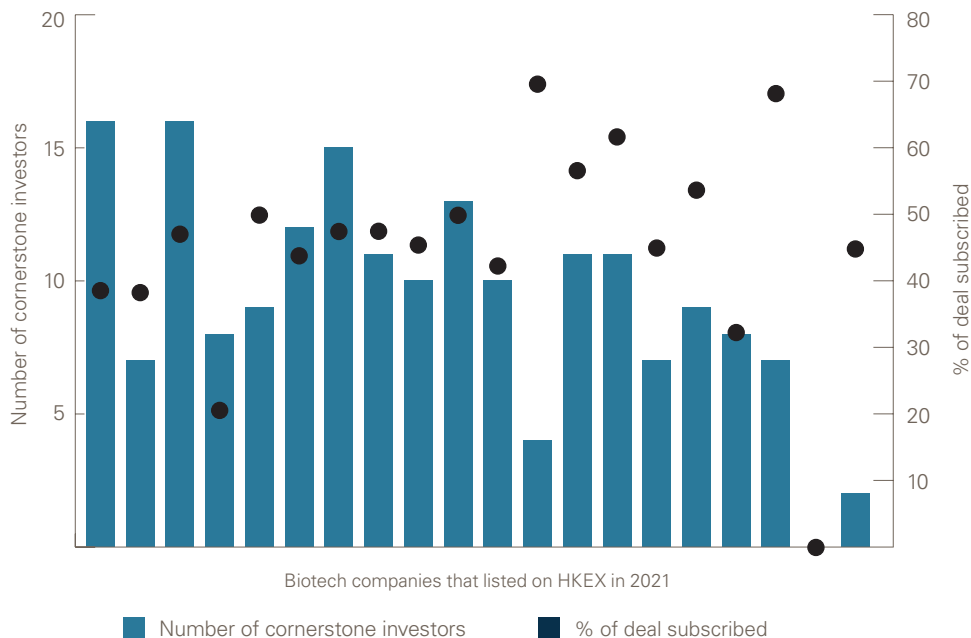
## Number of Cornerstone Investors and Percentage of Deal Subscribed

**48%**

Average percentage of deal subscribed

**9**

Average number of cornerstone investors



**17**

companies with existing shareholders as cornerstone investors

HKEX will grant waivers to biotech companies to permit their existing shareholders to subscribe as cornerstone investors in the IPO, a special concession not normally available to other companies listing on HKEX. Of the 20 biotech companies listed in 2021, 17 obtained this waiver.

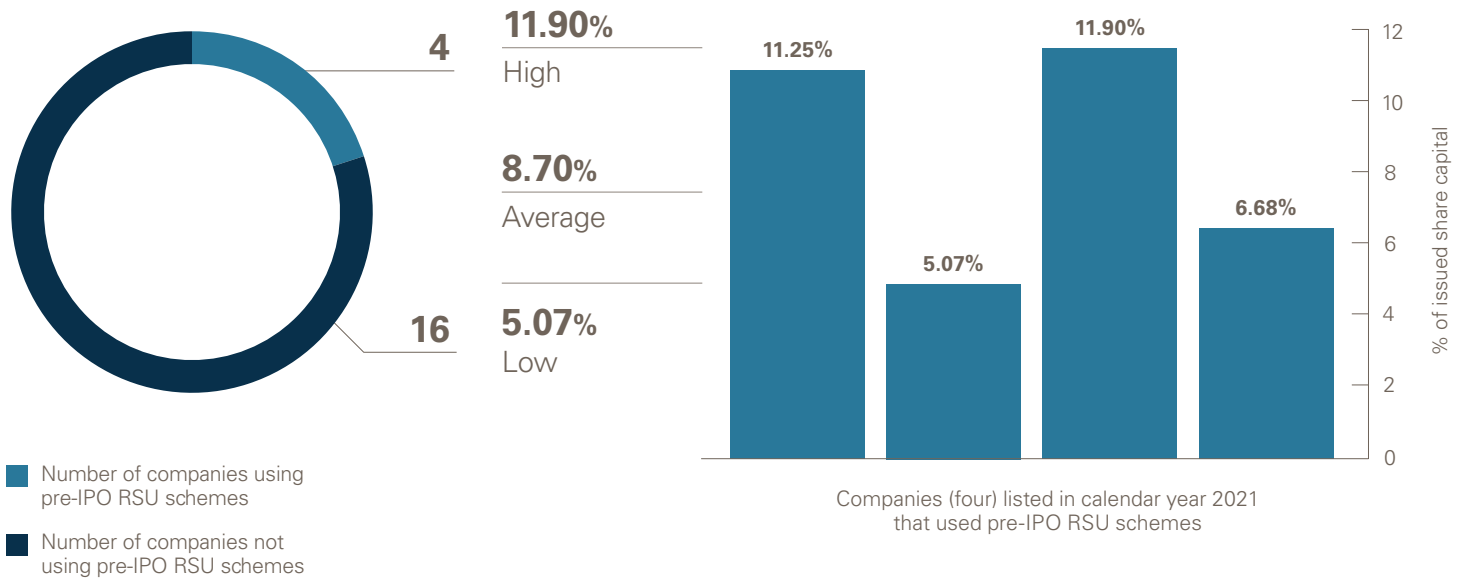
## Employee Equity Compensation Schemes

Employee equity schemes play a key role for biotech companies. By their nature, pre-revenue biotech companies, which must focus the majority of their spending on advancing the development and commercialization of drug candidates, have no revenue available to bolster employee compensation. This makes equity-based incentives a vital component of the remuneration packages of senior management and other employees of biotech companies. If a company is able to achieve a successful IPO, the value of these equity awards can be significant for their grantees — providing a powerful retention tool and incentive to further the interests of the company. The most common forms of incentive schemes are share award or restricted stock unit (RSU) schemes and share option schemes.

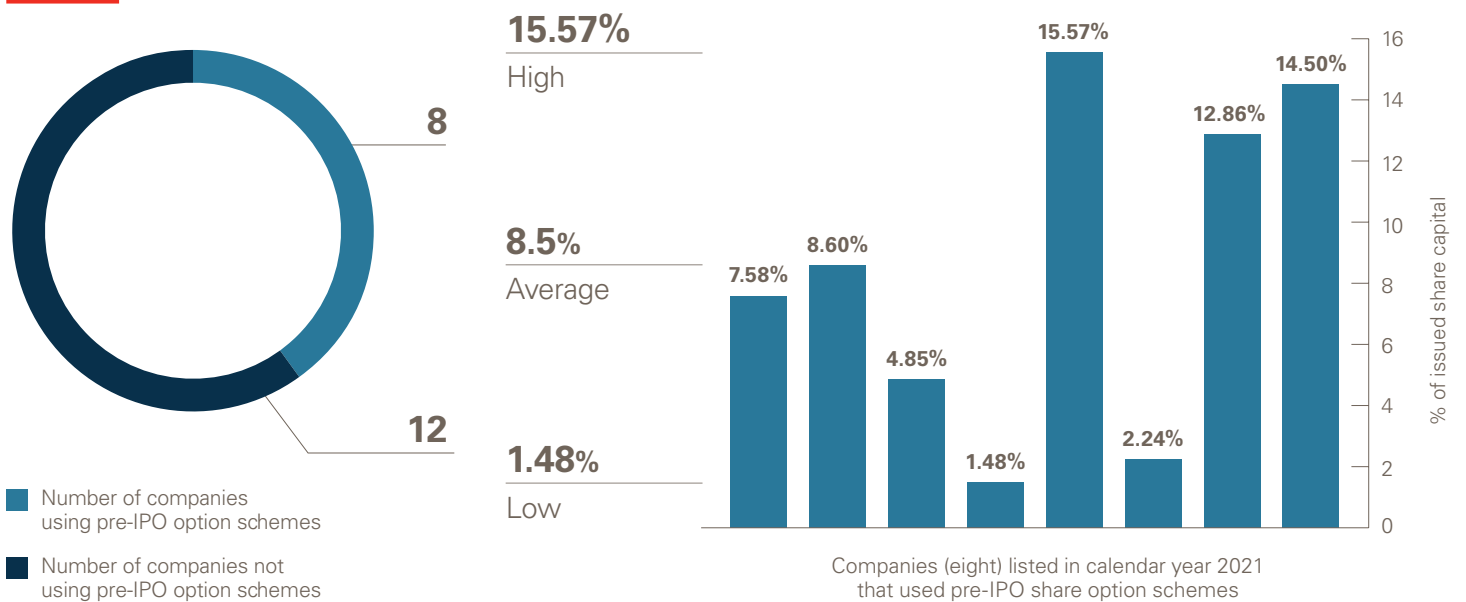
Of the 20 companies that listed in 2021, 14 used some form of equity incentive scheme — either a pre-IPO RSU or share option scheme, post-IPO RSU or share option scheme or a combination of these.

Of the six companies that did not have any formal equity scheme, all were incorporated in the PRC, where regulatory requirements constrain the ability of companies to implement such schemes, and all but one of these six companies used some other form of employee equity share holding platform. (For example, the company or its founders may establish a special purpose vehicle or other nominee shareholder entity to hold shares for the benefit of employees.) The figures reported in this section do not reflect these other forms of equity share holding platforms or incentives.

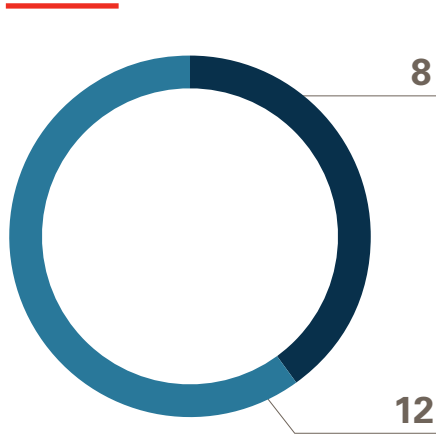
## Pre-IPO RSU Schemes



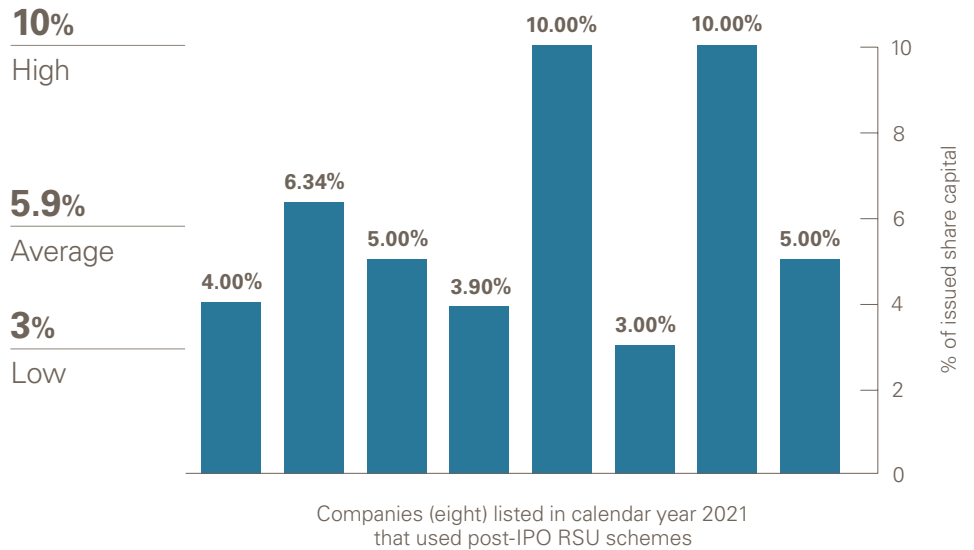
## Pre-IPO Option Schemes



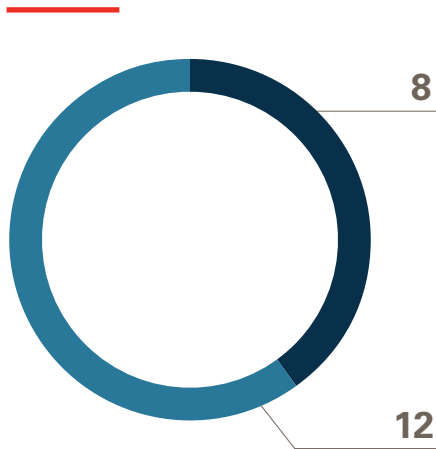
## Post-IPO RSU Schemes



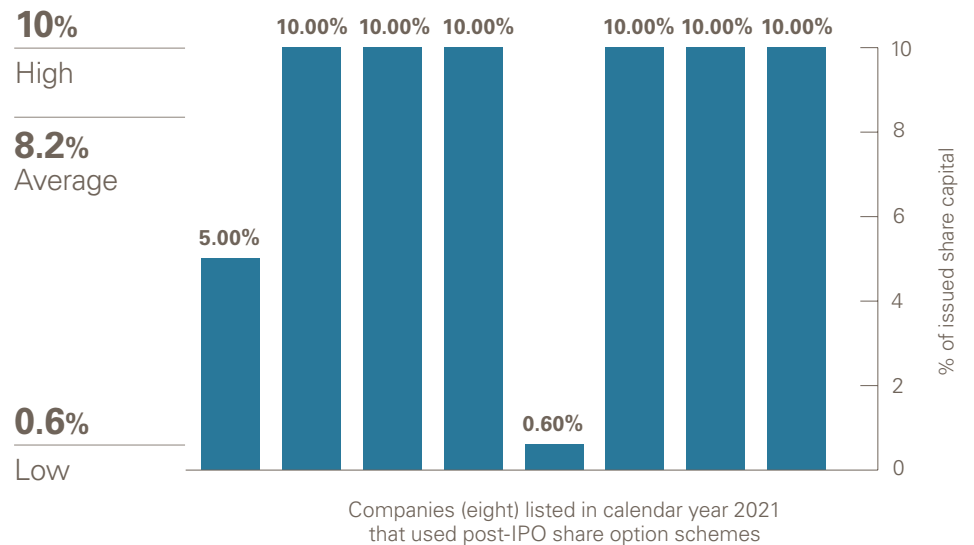
- Number of companies using post-IPO RSU schemes
- Number of companies not using post-IPO RSU schemes



## Post-IPO Option Schemes



- Number of companies using post-IPO option schemes
- Number of companies not using post-IPO option schemes





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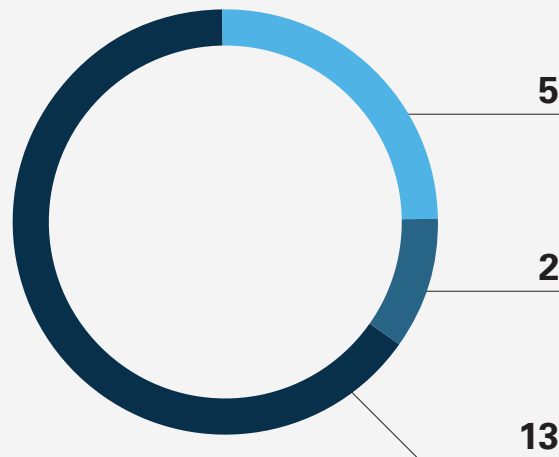
## Commercialization Plans

The Listing Rules do not mandate that biotech companies themselves need to manufacture drugs once the products have been approved for sale: Companies can choose to build their own manufacturing capabilities, outsource to a contract manufacturing organization (CMO) or use a combination of both approaches.

We found that 13 of the 20 companies listed in 2021 had stated intentions to build their own manufacturing capabilities, five stated an intention both to build internal capabilities as well as rely on outsourced manufacturing, and only two proposed an entirely outsourced manufacturing approach. These proportions were broadly comparable to those of the companies analyzed in our inaugural report.

### Manufacturing Approaches

- Number of companies building in-house manufacturing capabilities
- Number of companies outsourcing manufacturing
- Number of companies using a combined approach to manufacturing



Data represents biotech companies listed on HKEX in 2021.

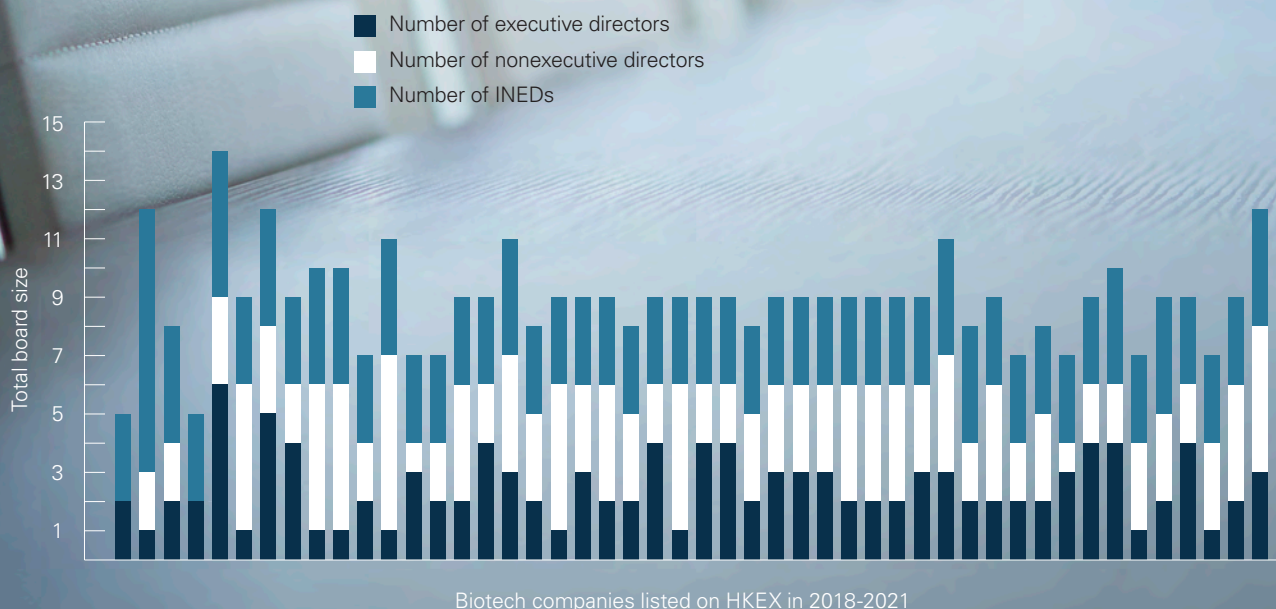
## Corporate Governance

When investing in pre-revenue biotech companies, investors rely on the ability of the senior management team and the board of directors overseeing the activities of the senior management team to identify promising drugs and make wise decisions about research and development and commercialization. Corporate governance therefore plays an especially crucial role in determining the success of these companies, and the loss of investor faith in the board or senior management team could significantly impair a biotech company.

This corporate governance review in our second annual report reflects data from all 48 biotech companies listed on HKEX as of December 31, 2021, unless otherwise noted.

## Board Size and Composition

The Listing Rules require that independent nonexecutive directors (INEDs) comprise no less than one-third of a company's board, subject to a minimum of three INEDs. Of the 48 companies reviewed, all but four have appointed the minimum number of INEDs.

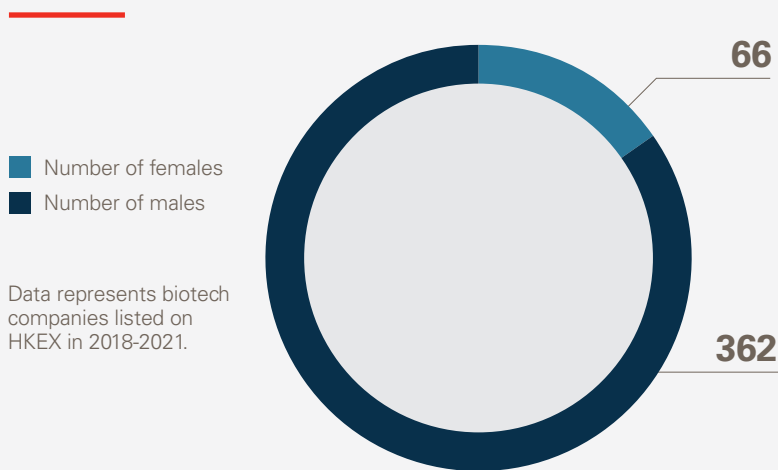


## Board Diversity

Diversity has become a key focus for regulators, investors, listed companies and their stakeholders.

Ten of the 48 companies surveyed did not have a female director on their boards at the time of this report. (Notably, of the eight companies in our inaugural report that did not have a female director, three have since appointed at least one female director.) Women made up just 66 (15.5%) of the total 427 directors. While this is a slight increase in female representation as compared to the 13.7% representation in our inaugural report, we expect to see this proportion increase further in the coming years, as HKEX has introduced a new listing rule regarding board diversity requiring all current listed companies to have at least one female director as soon as practicable and not later than December 31, 2024. New listing applicants must comply with the requirement as of their time of listing.

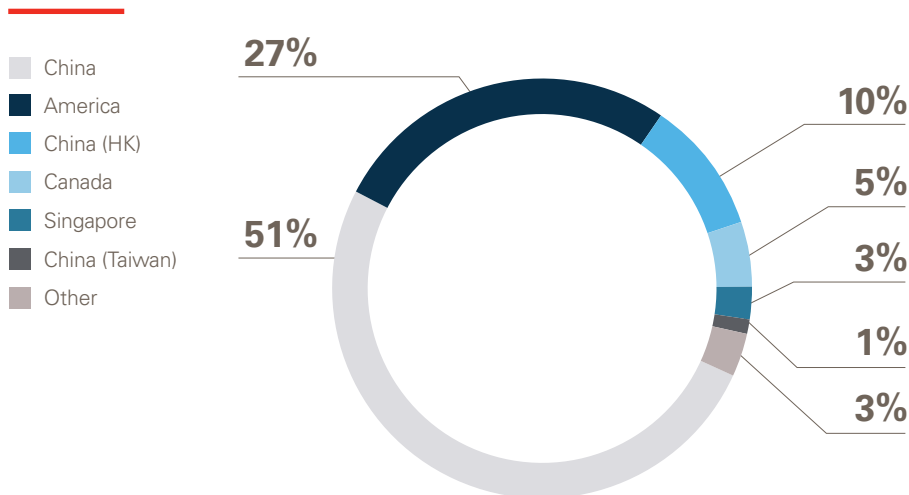
### Gender Representation on Surveyed Boards



### Number of Women on Surveyed Boards



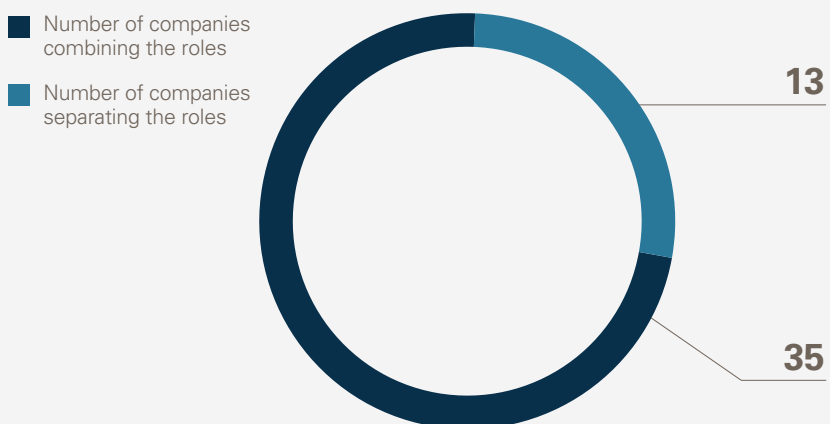
## Board Nationality



Data represents 20 biotech companies listed in calendar year 2021.

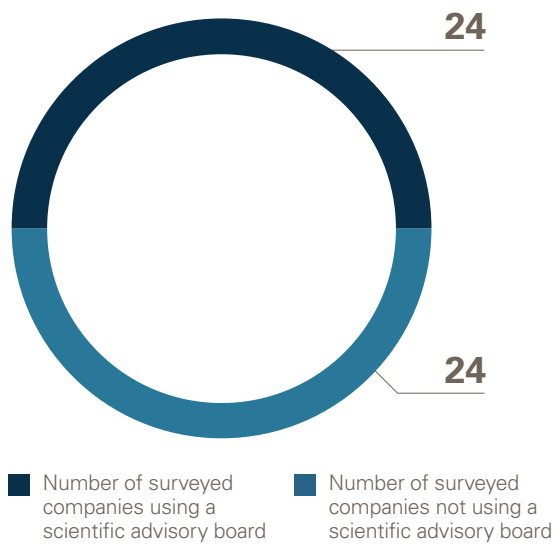
## Combined CEO/Chair

The Listing Rules recommend that the roles of chairperson and CEO be performed by separate individuals but permits companies to combine the roles provided firms articulate the rationale for doing so. Perhaps owing to the critical role played by a key founder in a biotech company, the same individual served as both chairman and CEO at 35 of the 48 companies listed between 2018 and 2021.



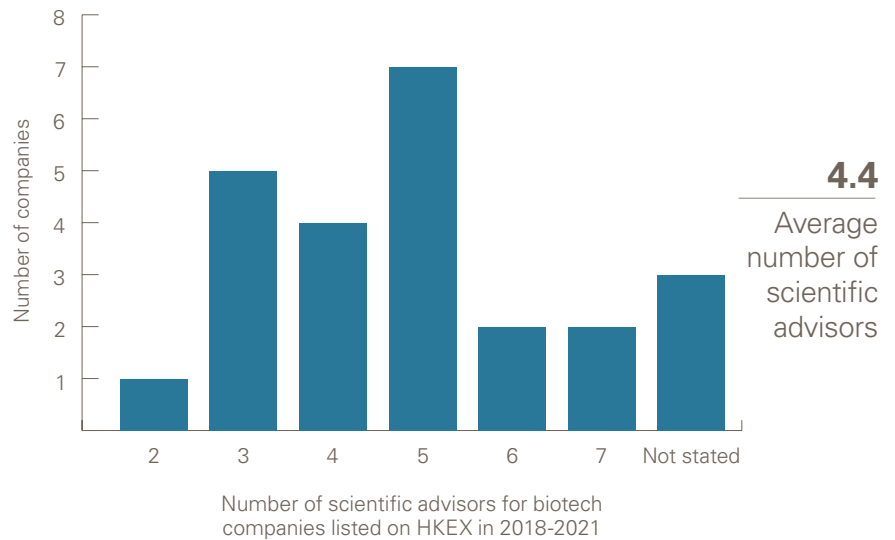
## Scientific Advisory Boards

Half of the 48 biotech companies listed on HKEX at December 31, 2021, had established a scientific advisory board at the time of their respective IPOs.



## Scientific Board Size

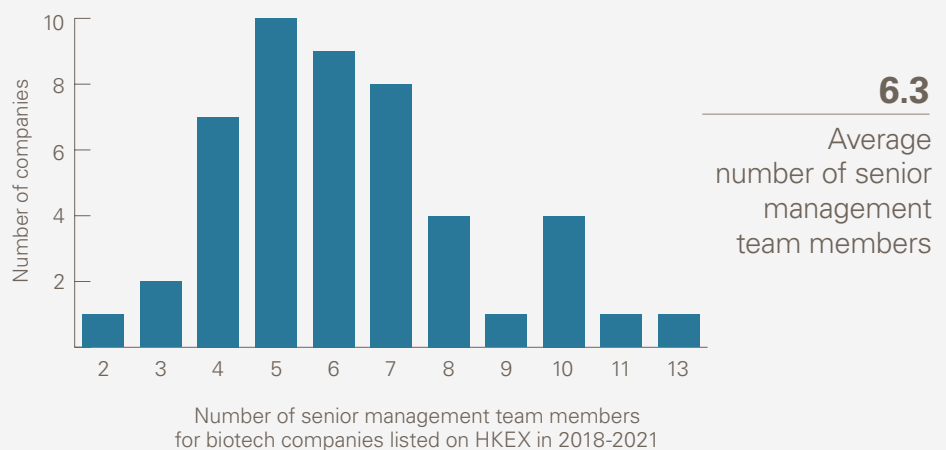
The average scientific board size is 4.4 members (with three companies not reporting the size of their scientific boards).



## Number of Senior Management Team Members Named in Prospectus

HKEX does not prescribe a minimum number of senior management members or define who constitutes "senior management." Determining which individuals will be listed as "senior management" in a company's prospectus is a matter for the company's discretion. This results in significant variation in the number of senior management team members reported from company to company, ranging from as low as two members to as many as 13, with a median of six members and mode of five members.

These figures include executive directors but exclude individuals serving solely as company secretaries.



## Post-IPO

### Post-IPO Share Price Performance

Out of the 48 companies listed between 2018 and 2021, only 23, or less than half, were trading above their IPO prices at December 31, 2021. However, these levels were measured during a significant downturn in the broader market during 2021. (The Hang Seng Index fell almost 24% from its peak in mid-February 2021 through December 31, 2021.)

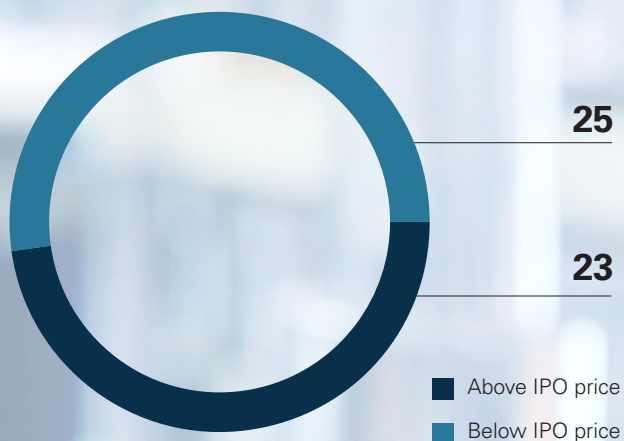
At the same time, the average share price change since IPO for all 48 companies was a gain of 33.5%.

### Number of Companies With a Share Price Above IPO Price

**+33.5%**

Average share price change from IPO through December 31, 2021, of biotech companies listed between 2018 and 2021

Data represents 48 biotech companies listed on HKEX at December 31, 2021.



## Follow-On Fundraising

One of the most important reasons for conducting an IPO and becoming a public company is to create a platform for future fundraising activities. This is particularly important for companies in the biotech space, which have an ongoing need for new capital to fund research and development activities prior to drug candidates being commercialized. However, the Listing Rules restrict new share issuances by newly listed companies for a period of six months after listing in order to avoid undue dilution to IPO investors.

As of December 31, 2021, 33 biotech companies had been listed on HKEX for more than six months. Of these companies, 14 had conducted one or more equity capital raisings subsequent to their IPOs, as of December 31, 2021. Those follow-on offerings raised an aggregate of almost US\$15 billion (an average of approximately US\$1.05 billion) — although a significant amount of this (almost US\$8.4 billion) was raised by BeiGene, Inc. which is also listed on the Nasdaq, raised further capital and undertook a listing on Shanghai’s STAR Market in 2021.

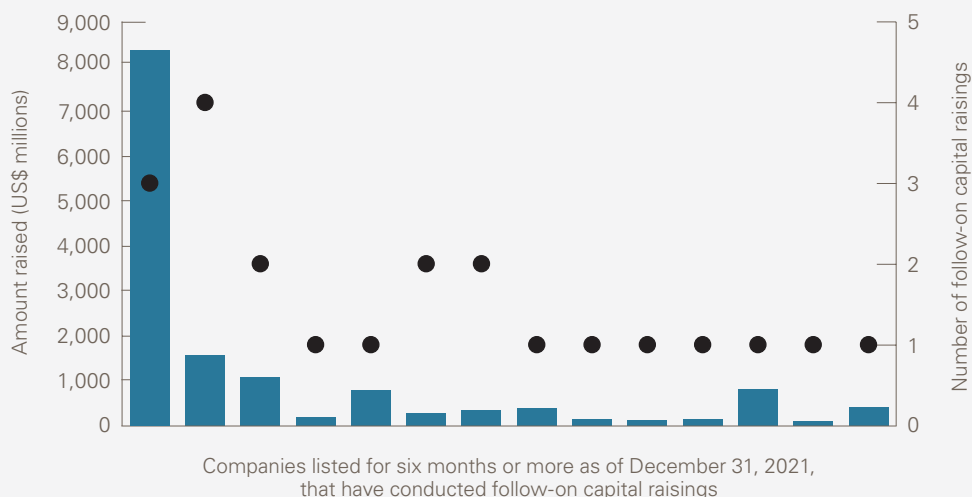
Of the 14 companies that had conducted post-IPO capital raisings as of December 31, 2021, 12 of them were among the companies that featured a share price trading above the IPO price as of such date, highlighting the strong correlation between positive post-IPO share price performance and the decision — and/or ability — to raise further capital.

### Follow-On Fundraising

**US\$1.05B**

Average funds raised from follow-on capital raisings

- Funds raised from post-IPO investment rounds
- Number of post-IPO investment rounds



## “B” Marker Status

Companies listing pursuant to Chapter 18A of the Listing Rules must include a “B” marker next to their stock name to signify their status to investors as a pre-revenue biotech company.

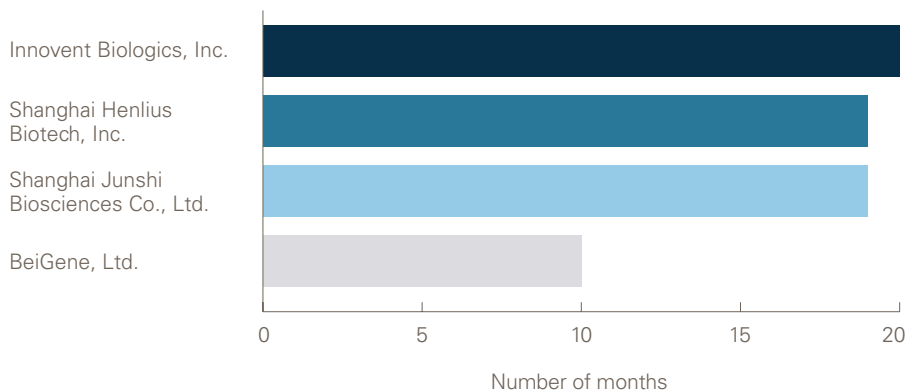
Under Listing Rule 18A.11, after a company begins to generate revenues such that it meets one of the three financial tests in Listing Rule 8.05, it can apply to HKEX to have the “B” marker removed. Removal of the “B” marker has the effect of disapplying certain requirements of Chapter 18A of the Listing Rules, such as the requirement to consult HKEX if there is a fundamental change to the principal business activities of the company.

### The three financial tests are as follows:

- 1 Profits test:** A company must report a profit of no less than HK\$35 million in the most recent fiscal year and an aggregate profit of no less than HK\$45 million in the two years prior to that.
- 2 Market cap/revenue/cash flow test:** A company must report a market capitalization of no less than HK\$2 billion, revenues of at least HK\$500 million in the most recent financial year and positive cash flow from operating activities of no less than an aggregate of HK\$100 million over the three preceding financial years.
- 3 Market cap/revenue test:** A company must report a market capitalization of no less than HK\$4 billion and revenues of at least HK\$500 million in the most recent financial year.

As of the date of this report, four companies (BeiGene, Inc., Innovent Biologics, Inc., Shanghai Junshi Biosciences Co., Ltd. and Shanghai Henlius Biotech, Inc.) had successfully applied to have the “B” marker removed as a result of meeting one or more of the financial tests. This was achieved between 10 and 20 months after the companies’ initial listings.

### Time From IPO to Removal of B-marker in Months





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# Report Methodology and Contacts

## Report Methodology

This report includes data on the following 20 companies that listed on HKEX during calendar year 2021:

Abbisko Cayman Ltd.  
Acotec Scientific Holdings Limited  
Beijing Airdoc Technology Co., Ltd.  
Brii Biosciences Limited  
Broncus Holding Corporation  
CANbridge Pharmaceuticals Inc.  
CARsgen Therapeutics Holdings Limited  
Clover Biopharmaceuticals, Ltd.  
Keymed Biosciences Inc.  
MicroPort CardioFlow Medtech Corporation  
MicroTech Medical (Hangzhou) Co., Ltd.  
New Horizon Health Limited  
Shanghai Bio-Heart Biological Technology Co., Ltd.  
Shanghai HeartCare Medical Technology Corporation Limited  
Shanghai MicroPort MedBot (Group) Co., Ltd.  
Sirnaomics Ltd.  
Suzhou Basecare Medical Corporation Limited  
Transcenta Holding Ltd.  
Zhaoke Ophthalmology Limited  
Zylox-Tonbridge Medical Technology Co., Ltd.

In addition, where noted in the text (including in the sections relating to corporate governance), this report includes data on the following 28 companies that listed on HKEX prior to January 1, 2021:

Akeso, Inc.  
Alphamab Oncology  
Antengene Corporation Limited  
Ascentage Pharma Group International  
Asclepis Pharma Inc.  
BeiGene, Ltd.  
CanSino Biologics Inc.  
CStone Pharmaceuticals  
Everest Medicines Limited  
Genor Biopharma (formerly JHBP (CY) Holdings Limited)  
HBM Holdings Limited  
Hua Medicine (Shanghai) Ltd.  
Immunotech Biopharm Ltd.  
InnoCare Pharma Limited  
Innovent Biologics, Inc.  
Jacobio Pharmaceuticals Group Co., Ltd.  
JW (Cayman) Therapeutics Co. Ltd.  
Kintor Pharmaceutical Limited  
Mabpharm Limited  
Ocumension Therapeutics  
Peijia Medical Limited  
RemeGen Co., Ltd.  
Shanghai Henlius Biotech, Inc.  
Shanghai Junshi Biosciences Co., Ltd.  
SinoMab BioScience Limited  
TOT BIOPHARM International Company Limited  
Venus MedTech (Hangzhou) Inc.  
Zai Lab Limited

### Sources

All data in this report was obtained from publicly available sources.

### Exchange Rates

The exchange rates used in this report are US\$1 = HK\$7.75 and US\$1 = RMB6.5.

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## Contacts



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