



# RESEARCH PAPER

May 2023

## SHKKBIO – Tracking Biotech Companies Listed in Hong Kong

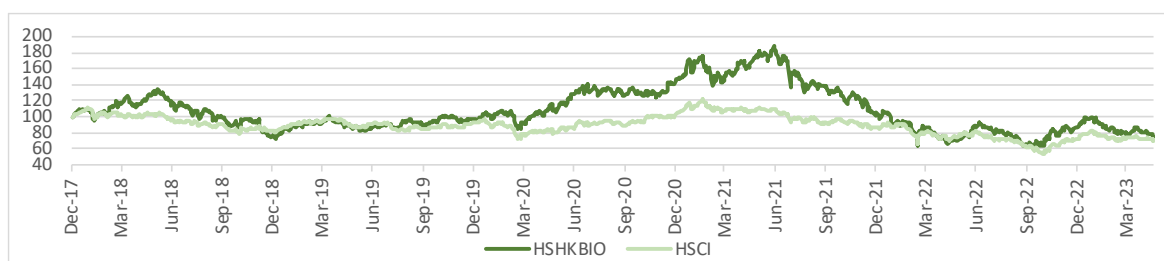
### Upcoming Amendments to Enhance Characteristics of the SHKKBIO

In mid-December 2019, Hang Seng Indexes Company Limited ('Hang Seng Indexes Company') launched the Hang Seng Hong Kong-Listed Biotech Index ('SHKKBIO'). The Hang Seng Hong Kong-Listed Biotech Index reflects the overall performance of biotech companies that are listed in Hong Kong, including stocks listed through Chapter 18A of the Listing Rules of Stock Exchange of Hong Kong Limited ('Listing Rules'). On 5 June 2023, the number of constituent companies will be cut to 50 from the current 73. In addition, fast entry rule will be introduced so that newly listed biotech companies can have better chances to be included in the SHKKBIO.

Many biotechnology or pharmaceuticals companies choose to release information of their new products or new discoveries during 2Q of each year. With numerous news flow, it is no surprise that the SHKKBIO tends to perform particularly strong in the 2Q of each year.

The healthcare spending per capita in China has risen to 5.6% as percentage of GDP in 2020. However, the simple average of the G7 developed countries is about 13% in 2020. We believe China has room to expand further when compared with the global peers of similar economy size. Therefore, China's healthcare industry still carries lots of potential for further growth. The SHKKBIO should be a useful tool to keep track of the performance of those relevant companies.

### Exhibit 1: SHKKBIO versus Hang Seng Composite Index ('HSCI') for Past 5 Years (2018-now)



Source: Hang Seng Indexes Company.

Date: 19 May 2023



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## Executive Summary

### ***HSHKBIO launched to measure performance of biotech companies listed in Hong Kong***

In mid-December 2019, Hang Seng Indexes Company launched the Hang Seng Hong Kong-Listed Biotech Index ('HSHKBIO'), which reflects the overall performance of biotech companies that are listed in Hong Kong, including stocks listed through the Chapter 18A of the Listing Rules and stocks classified as 'Biotechnology', 'Pharmaceuticals' or 'Medical Devices' under the Hang Seng Industry Classification System. We note volatility of individual biotech company's share price could be relatively high, therefore the HSHKBIO could smooth out such volatility.

### ***HSHKBIO constituents will be trimmed from 73 companies to 50 companies in June***

When the Hang Seng Hong Kong-Listed Biotech Index was first launched (16 Dec 2019), there was a total of 39 constituent companies. As of the date of this report, the number of constituent companies has increased to 73 companies. However, Hang Seng Indexes Company has already announced several amendments to be made to the index. One amendment is the implementation of a fixed number (50) upon the number of constituent companies within the HSHKBIO. We believe this will bring the HSHKBIO more in-line with other flagship indexes such as the Hang Seng China Enterprises Index (constituents fixed at 50) and the Hang Seng TECH Index (constituents fixed at 30). Fast entry rule will be introduced so that newly listed sizable biotech companies can have better chances to be included in the HSHKBIO.

### ***Each subsector's weighting distribution remains mostly the same, despite reduction in number of constituents***

With the upcoming implementation of new rules upon the HSHKBIO, we note the number of constituent companies will be reduced to 50 (effective from June 5). Since the top 50 relevant securities with the highest market value will be selected as constituents, given the market value of individual company under the Biotechnology tends to be smaller, we note this subsector will experience the sharpest decrease in constituent companies (from 31 to 18). With the market value of individual company under the Medical Devices tends to be larger, we note this subsector will experience the smallest decrease in constituent companies (from 14 to 10). Despite the reduction in number of constituent companies, each subsector's weighting distribution does not change in a material fashion. Therefore, each subsector gets a fair representation within the index.

### ***China's healthcare industry offers lots of potential for further growth***

Considering the healthcare spending together with demographics, the healthcare spending per capita in China has risen to 5.6% as percentage of GDP in 2020. However, the simple average of the G7 developed countries is about 13% in 2020, whereas developing economies in Asia are much lower. We believe China has room to expand further when compared with the global peers of similar economy size. Therefore, China's healthcare industry still carries lots of potential for further growth.



### ***Outperforms the HSCI on 5-year period, particularly strong in 2Q of each year***

For the 5-year period (1 Jan 2018 to 19 May 2023), the HSHKBIO has outperformed the HSCI by 3.5%. If we focus only on the index performance within 2Q, we note the HSHKBIO has outperformed the HSCI by 28.9%, 20.3%, 3.4% in 2020, 2021 and 2022. For 2Q23 (the period up to May 19), we note the HSHKBIO is broadly in-line with the HSCI.

One possible explanation for the behavior of the HSHKBIO index performance is the occurrence of many healthcare industry conferences being held during 2Q of each year. As a result, many biotechnology or pharmaceuticals companies choose to release information of their new products or new discoveries during 2Q of each year. With numerous news flow, it is no surprise that the HSHKBIO tends to perform particularly strong in the 2Q of each year.

### ***The HSHKBIO contains constituents listed through Chapter 18A of Listing Rules (with 'B' marker affixed to company's stock short name)***

Of the updated 50 constituent members of the HSHKBIO, we note 8 companies are listed through the Chapter 18A of Listing Rules. Given some of the biotechnology or pharmaceuticals companies often do not have substantial revenue or earnings before their initial public offerings, Chapter 18A provides an avenue in which these companies could raise funds from investors.

### ***COVID-19 pandemic raised public awareness of importance of healthcare***

The COVID-19 pandemic has impacted most of the world from 2020 to 2022. During the pandemic, the demand for medication, vaccines and personal protective equipment rose dramatically. In May 2023, the World Health Organization (WHO) has declared that COVID-19 is no longer a global health emergency. Having said that, we note the level of public concern with public healthcare and personal hygiene has risen correspondingly.

### **Exhibit 2: The HSHKBIO versus the HSCI for Past 5 Years (2018-now)**



Source: Hang Seng Indexes Company.

Date: 19 May 2023



## Industry Developments within and outside China

### External developments driving mainland's healthcare industry

In 2Q of this year, there are several important industry conferences which will be held for healthcare industry. For example, annual meetings hosted by National Comprehensive Cancer Network, American Association for Cancer Research and American Society of Clinical Oncology are all heavily attended by industry stakeholders.

The National Comprehensive Cancer Network 2023 Annual Conference has more than 2,000 registrants. That is a reflection of the importance of these conferences among industry stakeholders.

Many healthcare companies will make important announcements regarding new products or services during these industry conferences. Whenever important drugs or research findings being revealed, we believe companies within the corresponding industry subsector will react in a positive manner.

### Exhibit 3: List of Industry Conferences Relevant for Healthcare Companies

Date of conference	Name of conference	Abbreviation of conference
31 March - 2 April 2023	National Comprehensive Cancer Network	NCCN
14 - 19 April 2023	American Association for Cancer Research	AACR
12 - 16 May 2023	European Society for Radiotherapy and Oncology	ESTRO
2 - 6 June 2023	American Society of Clinical Oncology	ASCO
8 - 11 June 2023	European Hematology Association	EHA
8 - 12 July 2023	American Head & Neck Society	AHNS

Source: Hang Seng Indexes Company.

Date: 19 May 2023

### Internal developments driving mainland's healthcare industry

The healthcare industry can be broadly classified into pharmaceuticals, biotechnology, medical devices and services. The industry development in China is mainly driven by the demographic change and healthcare reform.

In 2021, China's population was 1.41 billion. According to the Organization for Economic Co-operation and Development (OECD), China's population is expected to peak at 1.46 billion in 2030E (Exhibit 4). By then, the old age dependency ratio (aged 65 and over/aged 20-64) would reach 29% (Exhibit 5), indicating the issue of aging population, and thus increasing need for healthcare services. On the other hand, China's disposable income per capita reached RMB36,883 in 2022, up 5%YoY, representing 5-year CAGR of 7% (Exhibit 6), indicating the potential improved quality of living and affordability for healthcare services.

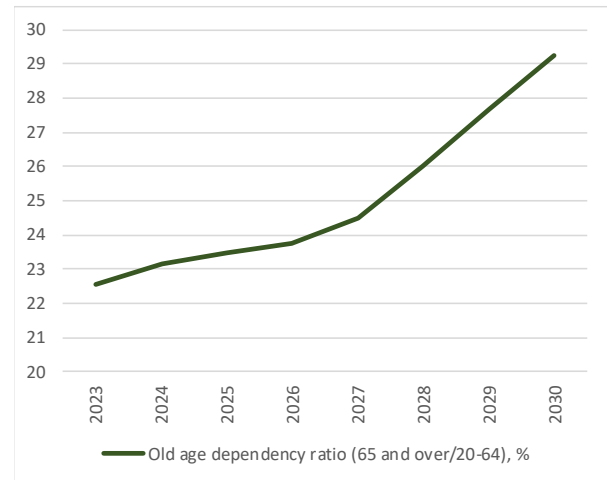


**Exhibit 4: China's Population Forecast**



Source: OECD  
Date: October 2022

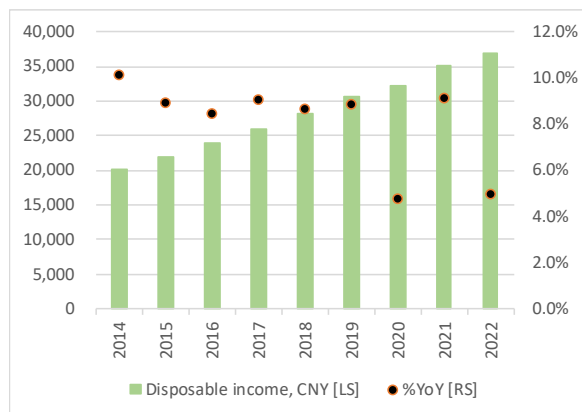
**Exhibit 5: China's Dependency Ratio**



Remarks: Old age dependency ratio = No. of Age (65 and over) / No. of Age (20-64)  
Source: OECD

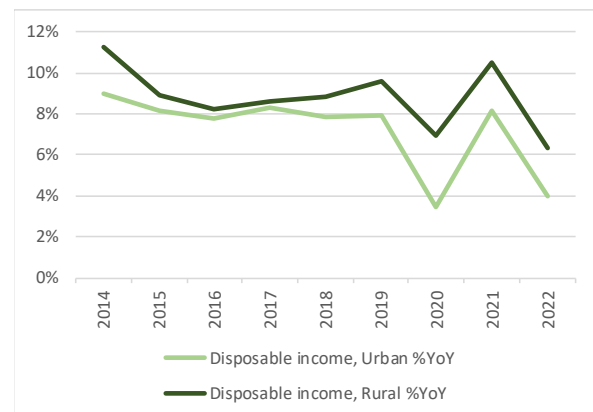
Date: October 2022

**Exhibit 6: China's National Disposable Income per Capita and Growth**



Source: NBS, WIND  
Date: December 2022

**Exhibit 7: China's Growths of Urban vs Rural Disposable Income per Capita**

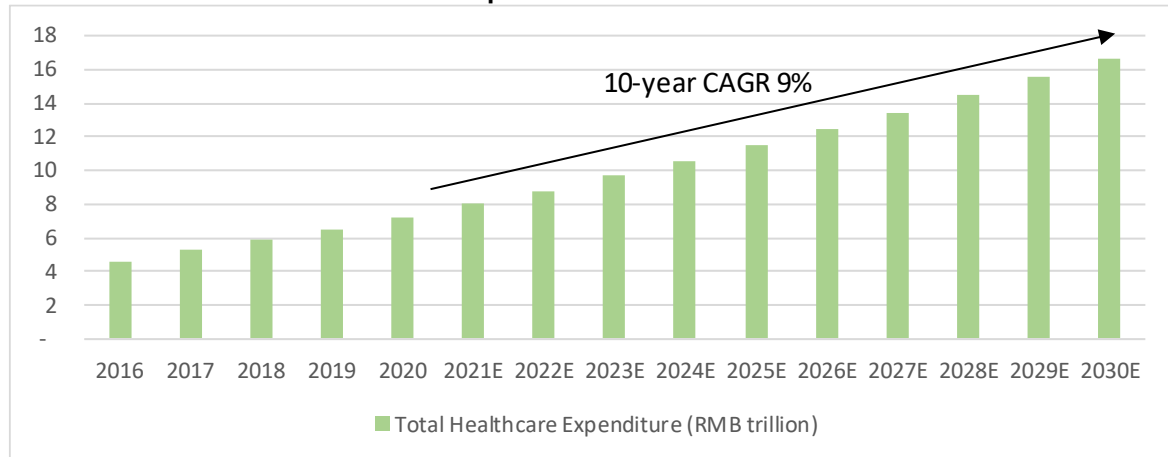


Source: NBS, WIND  
Date: December 2022

Apart from the demographic change, the growth of China's healthcare industry also benefits from policy support. Back in October 2016, China announced the "Healthy China 2030" blueprint, stressing four core principles, namely health priority, innovation, scientific development, fairness and justice. The strategic blueprint expected healthcare services market to reach RMB 16 trillion in 2030E. In September 2019, the respective action plan was rolled out, setting 15 action targets to be achieved by 2022 and 2030. In March 2021, the 14th Five Year Plan also echoed with the deepening of healthcare reform and encouragement of scientific breakthroughs in healthcare related areas like neural science, genetic biotech, clinical medicine. In April 2022, the "14th FYP Notice for National Health Plan" ( "十四五" 國民健康規劃 ) has stated the development principles and the expected targets in 2025E, such as raising the average life expectancy to 78.9 / over 80 by 2025E/2035E (vs 77.9 in 2020). The Plan also expected the health industry size to exceed RMB 11.5 trillion in 2025E. Due to the policy support, the long-term growth of China's healthcare market is sustainable with 10-year CAGR of 9% during 2020-2030E, reaching RMB 16.6 trillion in 2030E (Exhibit 8), according to Frost & Sullivan.



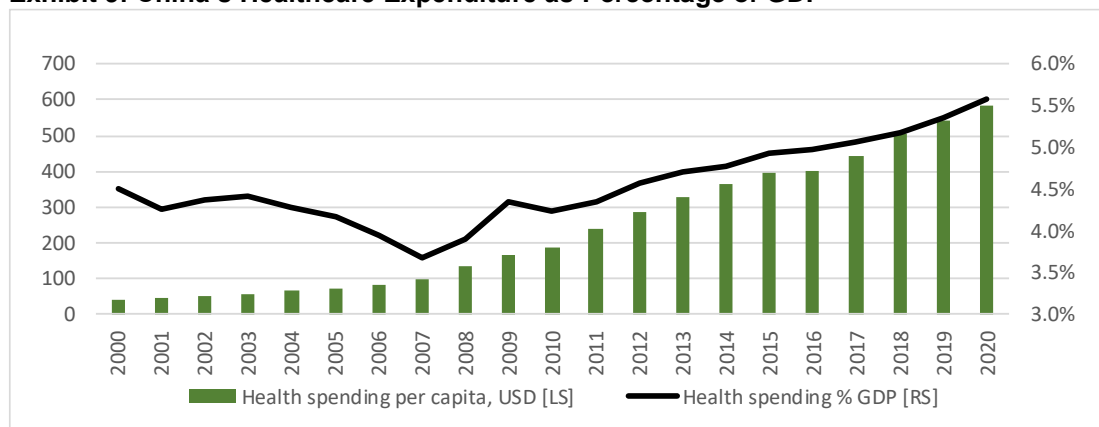
**Exhibit 8: China's Total Healthcare Expenditure**



Sources: Frost & Sullivan; data as of [June] 2022

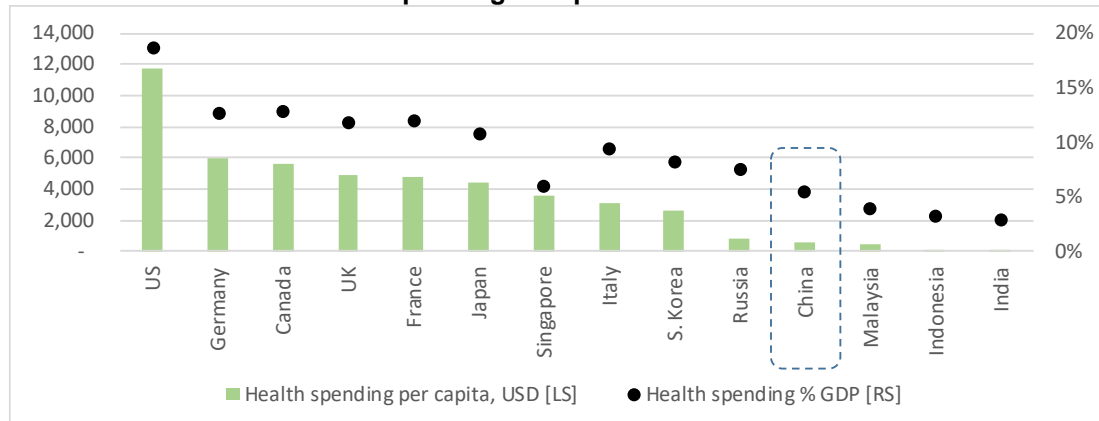
Considering the healthcare spending together with demographics, the healthcare spending per capita in China has risen to 5.6% as percentage of GDP in 2020 (Exhibit 9). However, the simple average of the G7 developed countries is about 13% in 2020 (Exhibit 10), whereas developing economies in Asia are much lower. We believe China has room to expand further when compared with the global peers of similar economy size.

**Exhibit 9: China's Healthcare Expenditure as Percentage of GDP**



Sources: World Health Organisation; data as of April 2023

**Exhibit 10: Global Healthcare Spending Comparison in 2020**



Sources: World Health Organisation; data as of April 2023



In the face of inflation risk and equity market volatility, the healthcare industry is viewed as a defensive choice with an explosive upside, due to its R&D innovations. Yet factor such as product pipeline uncertainties, complexity of business and medical products of individual companies can deter many investors. Given the company-specific risk and uncertainty, the Hang Seng Hong Kong-Listed Biotech Index aims to diversify and capture the long-term growth of China's healthcare industry.





## Index Launched to Encompass Biotechnology Companies

In mid-December 2019, Hang Seng Indexes Company launched the Hang Seng Hong Kong-Listed Biotech Index, aiming to reflect the overall performance of biotech companies that are listed in Hong Kong, including stocks listed through the Chapter 18A of Listing Rules and stocks classified as 'Biotechnology', 'Pharmaceuticals' or 'Medical Devices' under the Hang Seng Industry Classification System (HSICS).

**Exhibit 11: Subsectors within HSICS Covered by the HSHKBIO**

Industry	Sector	Subsector	Definition
Healthcare	Pharmaceuticals & Biotechnology	(I) Pharmaceuticals	Companies engaged in the research, development, production or distribution of pharmaceuticals
		(II) Biotechnology	Companies engaged in the research, development and manufacturing of biological substances usually involving genetic analysis and engineering for medicine discovery and diagnostic development, such as providers of these medicines and diagnostic products
		(III) Chinese Medicines	Companies mainly engaged in the research, development, production or distribution of Chinese medicines
	Healthcare Equipment & Services	(IV) Medical Devices	Manufacturers and suppliers of healthcare equipment and devices
		(V) Medical & Aesthetic Services	Medical & aesthetic service providers including hospital, clinic and beauty shop

Source: Hang Seng Indexes Company.

Note: Grey highlights represent subsectors (within healthcare industry) covered by the HSHKBIO.

Date: 19 May 2023

**Exhibit 12: Relative Performance of the HSHKBIO versus the HSCI (2018-now)**



Source: Hang Seng Indexes Company.

Date: 19 May 2023



When the Hang Seng Hong Kong-Listed Biotech Index was first launched (16 Dec 2019), there was a total of 39 constituent companies. Upon initial launch of the index, the selection criteria of constituent companies for the index were:

- Securities listed on the Main Board of the Stock Exchange of Hong Kong (including companies listed via Chapter 18A of the Listing Rules).
- Companies classified as 'Biotechnology', 'Pharmaceuticals', 'Medical Devices' under the Hang Seng Industry Classification System.
- Freefloat-adjusted-market-capitalisation weighted.
- 10% cap imposed on individual constituents.
- The number of constituent companies was set at variable.

### Exhibit 13: Top 10 Companies upon Initial Launch of the HSHKBIO (16 December 2019)

	Code	Company	Subsector	Market Cap (HK\$bn)	Weighting (%)
1	2269.HK	WUXI BIO	Biotechnology	119.4	10.70
2	1177.HK	SINO BIOPHARM	Pharmaceuticals	129.7	10.08
3	1093.HK	CSPC PHARMA	Pharmaceuticals	109.9	9.97
4	6160.HK	BEIGENE	Biotechnology	83.7	8.82
5	1099.HK	SINOPHARM	Pharmaceuticals	32.1	5.23
6	0241.HK	ALI HEALTH	Pharmaceuticals	104.9	5.13
7	3692.HK	HANSO PHARMA	Pharmaceuticals	135.2	4.40
8	1801.HK	INNOVENT BIO	Pharmaceuticals	31.2	4.31
9	1066.HK	WEIGAO GROUP	Medical Devices	40.1	3.59
10	1548.HK	GENSCRIPT BIO	Biotechnology	35.0	3.14
		<b>Subtotal</b>		<b>821.0</b>	<b>65.37</b>

Source: Hang Seng Indexes Company.

Date: 19 December 2019

### Exhibit 14: Top 10 Companies of the HSHKBIO (19 May 2023)

	Code	Company	Subsector	Market Cap (HK\$bn)	Weighting (%)
1	2269.HK	WUXI BIO	Biotechnology	178.0	10.00
2	6160.HK	BEIGENE	Biotechnology	169.5	10.00
3	1093.HK	CSPC PHARMA	Pharmaceuticals	89.0	9.53
4	1801.HK	INNOVENT BIO	Pharmaceuticals	58.5	7.09
5	1177.HK	SINO BIOPHARM	Pharmaceuticals	73.8	6.31
6	1066.HK	WEIGAO GROUP	Medical Devices	55.4	4.35
7	6618.HK	JD HEALTH	Pharmaceuticals	156.8	3.92
8	1548.HK	GENSCRIPT BIO	Biotechnology	41.7	3.87
9	2359.HK	WUXI APPTec	Biotechnology	27.1	3.54
10	9926.HK	AKESO	Biotechnology	31.6	2.93
		<b>Subtotal</b>		<b>881.3</b>	<b>61.56</b>

Source: Hang Seng Indexes Company.

Date: 19 May 2023



## Enhancements of the HSHKBIO will be Implemented Soon

In March 2023, Hang Seng Indexes Company announced a few amendments for HSHKBIO. All these changes will be implemented on 5 June 2023.

**Objective (updated):** To serve as a benchmark to reflect the overall performance of the 50 largest biotech companies that are listed in Hong Kong.

**Listing history requirement (newly added):** At least one month.

**Fast entry (newly added):** A newly listed security will be added to index if its full market capitalisation ranks within the top 5 of the existing constituents on its first trading day. The ad hoc addition will normally be implemented after the close of the 10th trading day of the new issue.

**Number of constituent companies (updated):** Fixed at 50.

Due to the abovementioned amendments, the number of constituent companies will decrease from the current 73 (as of 19 May 2023) to 50 (post implementation of new rules).

### Exhibit 15: Changes in the Number of Constituents within the HSHKBIO since Index Launch

	Launch	4Q19	1Q20	2Q20	3Q20	4Q20	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23
<b>Additions</b>			6	2	6	3	8	3	2	4	3	2	4	7	11	2
<b>Removals</b>			(2)	(3)	(5)	(1)	(2)	0	(1)	(1)	(2)	(1)	(3)	(2)	(4)	(25)
<b>Index members</b>	39	39	43	42	43	45	51	54	55	58	59	60	61	66	73	50

Source: Hang Seng Indexes Company.

Note: HSHKBIO was launched on 16 December 2019.

Date: 19 May 2023

When we look at the flagship indexes (Hang Seng Index, Hang Seng China Enterprises Index, Hang Seng TECH Index) launched by Hang Seng Indexes Company, we notice the number of constituent companies are 80 (ultimately to be fixed at 100), 50 (fixed) and 30 (fixed) respectively. For the Hang Seng Hong Kong-Listed Biotech Index, the upcoming change to bring the number of constituent companies down to 50 should be viewed as a way to make the HSHKBIO more in-line with other flagship indexes.



If we use the share prices as of 19 May 2023 for the purpose of trimming 73 companies down to 50 companies for HSHKBIO, under the new framework, we note a few key features:

- The number of Biotechnology companies will decrease from the current 31 to 18. Corresponding weighting within the HSHKBIO will increase from the current 39.1% to 39.7%.
- The number of Medical Devices companies will decrease from the current 14 to 10. Corresponding weighting within the HSHKBIO will decrease from the current 11.5% to 10.7%.
- The number of Pharmaceutical companies will decrease from the current 28 to 22. Corresponding weighting within the HSHKBIO will increase from the current 49.4% to 49.6%.

### Exhibit 16: Summary of Changes Post Implementation of New Rules upon the HSHKBIO

	Number of companies			Weighting distribution (%)		
	Old	New	Change	Old	New	Change
<b>Pharmaceuticals</b>	28	22	-6	49.43	49.61	0.18
<b>Biotechnology</b>	31	18	-13	39.10	39.74	0.64
<b>Medical Devices</b>	14	10	-4	11.47	10.65	-0.82

Source: Hang Seng Indexes Company.

Note: Old weighting distribution is based on 31 March 2023. New weighting distribution is based on 19 May 2023.

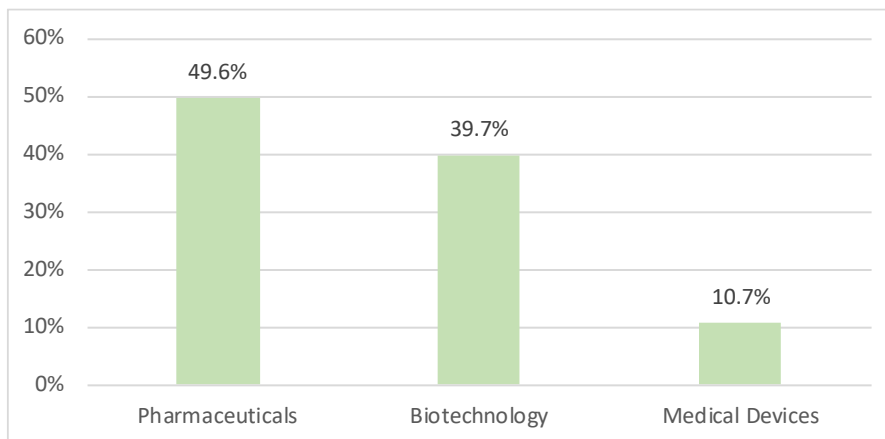
Date: 19 May 2023



## Analysis of the HSHKBIO

To avoid the index being highly skewed by mega-sized stocks, the index is free-float market-value-weighted and there is an 10% individual stock weight cap. Based on closing share prices on 19 May 2023, within the HSHKBIO, we note Pharmaceuticals has the highest weighting (49.6%), followed by Biotechnology (39.7%), and Medical Devices has the lowest weighting (10.7%).

**Exhibit 17: Weighting Distribution across Subsectors within the HSHKBIO**

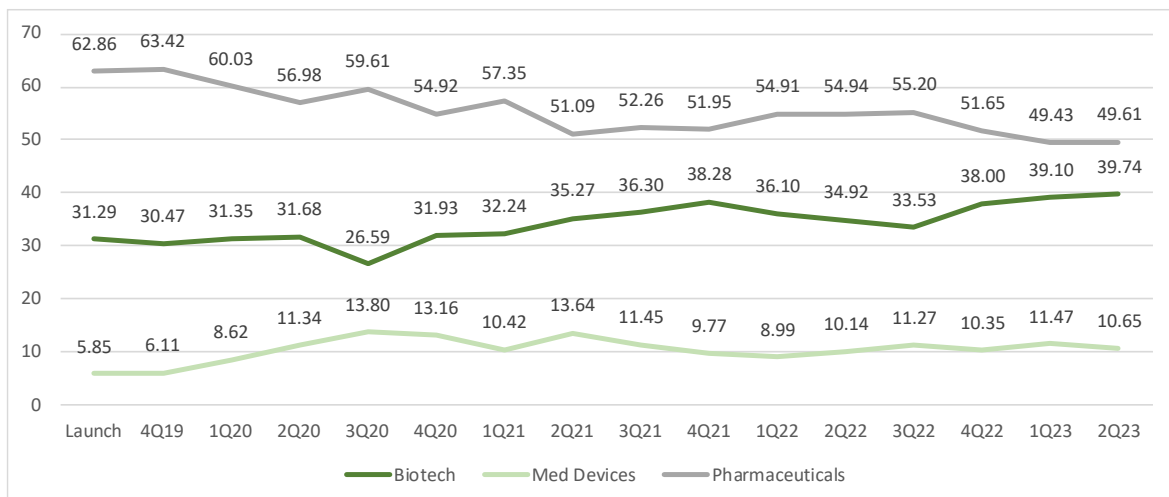


Source: Hang Seng Indexes Company.

Date: 19 May 2023

If we track the weighting distribution of the HSHKBIO over the period since its launch to 2Q23, we note Biotechnology subsector and Medical Devices subsector have been trending up in terms of weighting distribution. Meanwhile, we note Pharmaceuticals subsector has been trending down in terms of weighting distribution.

**Exhibit 18: Weighting Distribution (HSHKBIO) over the Period since its Launch to 2Q23**



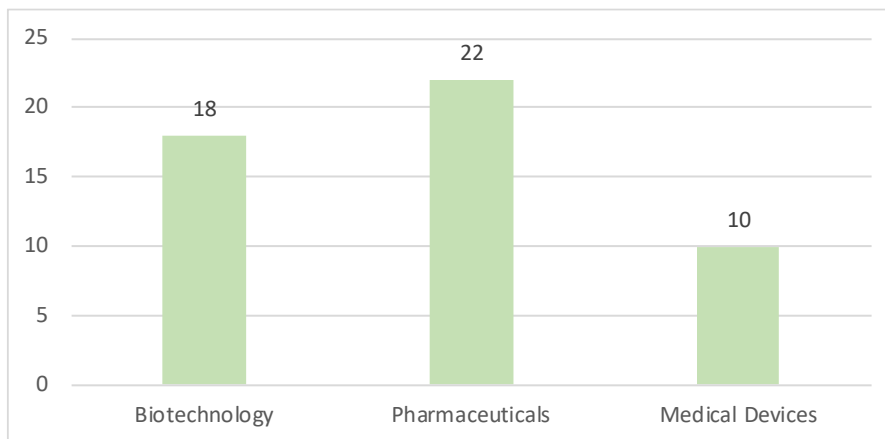
Source: Hang Seng Indexes Company.

Date: 19 May 2023



We note Biotechnology subsector has 18 companies, Pharmaceuticals subsector has 22 companies and Medical Devices subsector has 10 companies. Not only Pharmaceuticals subsector has more companies than the other subsectors within the HSHKBIO, it has a higher weighting distribution (49.6%) than the other two subsectors (Biotechnology, Medical Devices).

**Exhibit 19: Number of Companies within Each Subsector of the HSHKBIO**

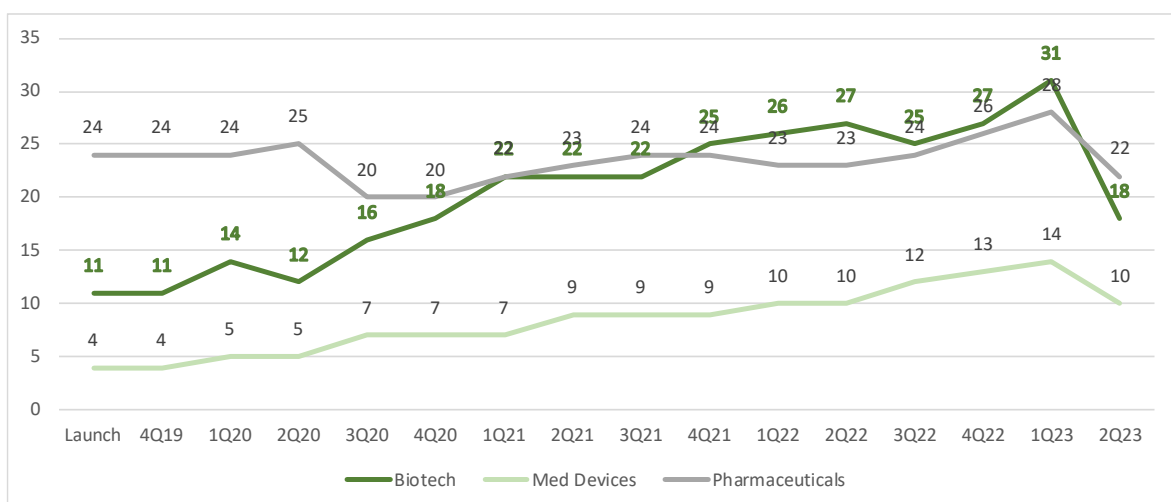


Source: Hang Seng Indexes Company.

Date: 19 May 2023

If we track the number of companies within each subsector of the HSHKBIO over the period since its launch to 2Q23, we note Biotechnology subsector has experienced the biggest increase (7) in number of companies. Meanwhile, we note Pharmaceuticals subsector has experienced a decline (2) in number of companies.

**Exhibit 20: Number of Companies within Each Subsector over the Period since its Launch to 2Q23**



Source: Hang Seng Indexes Company.

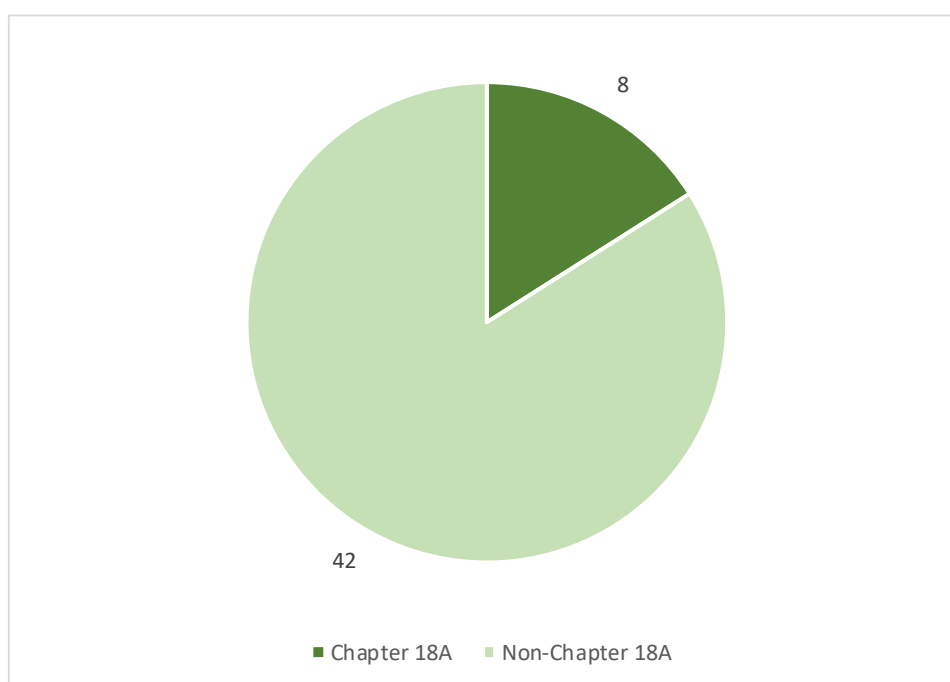
Date: 19 May 2023



Of the updated 50 constituent members of the HSHKBIO, we note 8 companies are listed through the Chapter 18A of the Listing Rules .

Given some of the biotechnology or pharmaceuticals companies often do not have substantial revenue or earnings before their initial public offerings, Chapter 18A of the Listing Rules provides an avenue in which these companies could raise funds from investors.

### Exhibit 21: Composition of Constituent Companies within the HSHKBIO



Source: Hang Seng Indexes Company.

Date: 19 May 2023

### Exhibit 22: List of the HSHKBIO Constituents Listed through Chapter 18A of Listing Rules

Code	Company	Subsector	Code	Company	Subsector
1 1244.HK	3D MEDICINES - B	Biotechnology	5 2162.HK	KEYMED BIO - B	Biotechnology
2 9966.HK	ALPHAMAB - B	Biotechnology	6 2157.HK	LEPU BIO - B	Biotechnology
3 2171.HK	CARSGEN - B	Biotechnology	7 2252.HK	MEDBOT - B	Medical Devices
4 9969.HK	INNOCARE - B	Biotechnology	8 9995.HK	REMEGEN - B	Biotechnology

Source: Hang Seng Indexes Company.

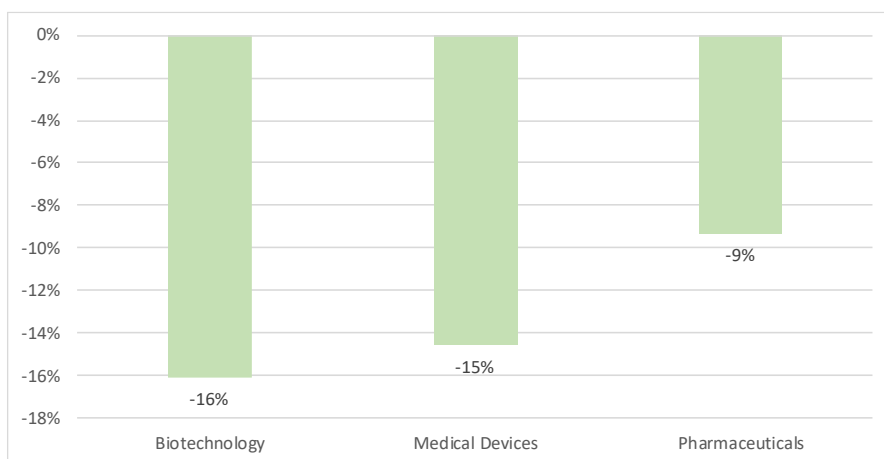
Date: 19 May 2023



## Comparison of Index Performance and Return Volatility

If we look within the three subsectors (Biotechnology, Medical Devices, Pharmaceuticals), we see Pharmaceuticals subsector is performing better than the other two subsectors for YTD (up to 19 May 2023).

**Exhibit 23: YTD Performance of Subsectors within the HSHKBIO**



Source: Hang Seng Indexes Company.

Date: 19 May 2023

In terms of share price performance (based on the 50 constituent companies), Biotechnology has 5 companies in positive territory and 13 companies in negative territory. Medical Devices has 3 companies in positive territory and 7 companies in negative territory. Pharmaceuticals has 9 companies in positive territory and 13 companies in negative territory.

For Biotechnology subsector, share price performance ranged from +62.9% to -52.2%.

For Medical Devices subsector, share price performance ranged from +50.3% to -45.9%.

For Pharmaceuticals subsector, share price performance ranged from +98.1% to -80%.

Quite often, share prices of companies from Biotechnology and Pharmaceuticals are driven by: (1) announcement of new drugs or products by respective companies; (2) material jump of revenue experienced by respective companies; (3) news flow related to mergers and acquisition of companies within industry.





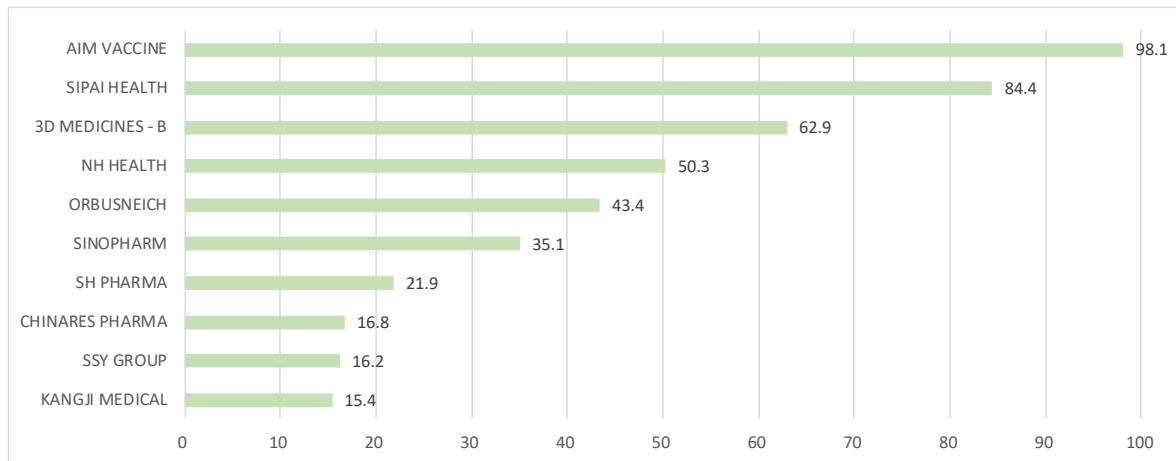
**Exhibit 24: Comparison of Performance within Three Subsectors of the HSHKBIO (YTD)**

Biotechnology				Medical Devices				Pharmaceuticals			
Code	Company	Price chg %		Code	Company	Price chg %		Code	Company	Price chg %	
<b>Top 5</b>				<b>Top 5</b>				<b>Top 5</b>			
1	1244.HK	3D MEDICINES - B	62.9	1	6606.HK	NH HEALTH	50.3	1	6660.HK	AIM VACCINE	98.1
2	2162.HK	KEYMED BIO - B	11.2	2	6929.HK	ORBUSNEICH	43.4	2	0314.HK	SIPAI HEALTH	84.4
3	2367.HK	GIANT BIOGENE	7.7	3	9997.HK	KANGJI MEDICAL	15.4	3	1099.HK	SINOPHARM	35.1
4	6160.HK	BEIGENE	2.2	4	1066.HK	WEIGAO GROUP	(4.4)	4	2607.HK	SH PHARMA	21.9
5	9688.HK	ZAI LAB	1.0	5	2291.HK	SCIENOTECH	(6.5)	5	3320.HK	CHINARES PHARMA	16.8
<b>Bottom 5</b>				<b>Bottom 5</b>				<b>Bottom 5</b>			
14	2269.HK	WUXI BIO	(29.6)	6	1789.HK	AK MEDICAL	(26.4)	18	2096.HK	SIMCERE PHARMA	(27.5)
15	9995.HK	REMEGEN - B	(35.8)	7	0853.HK	MICROPORT	(26.5)	19	0241.HK	ALI HEALTH	(29.6)
16	1951.HK	JXR	(38.8)	8	2252.HK	MEDBOT - B	(39.0)	20	6618.HK	JD HEALTH	(30.9)
17	9969.HK	INNOCARE - B	(41.1)	9	9955.HK	CLOUDR	(43.2)	21	3759.HK	PHARMARON	(42.6)
18	6185.HK	CANSINO BIO	(52.2)	10	2172.HK	MICROPORT NEURO	(45.9)	22	9886.HK	DINGDANG HEALTH	(80.0)

Source: Hang Seng Indexes Company.

Date: 19 May 2023

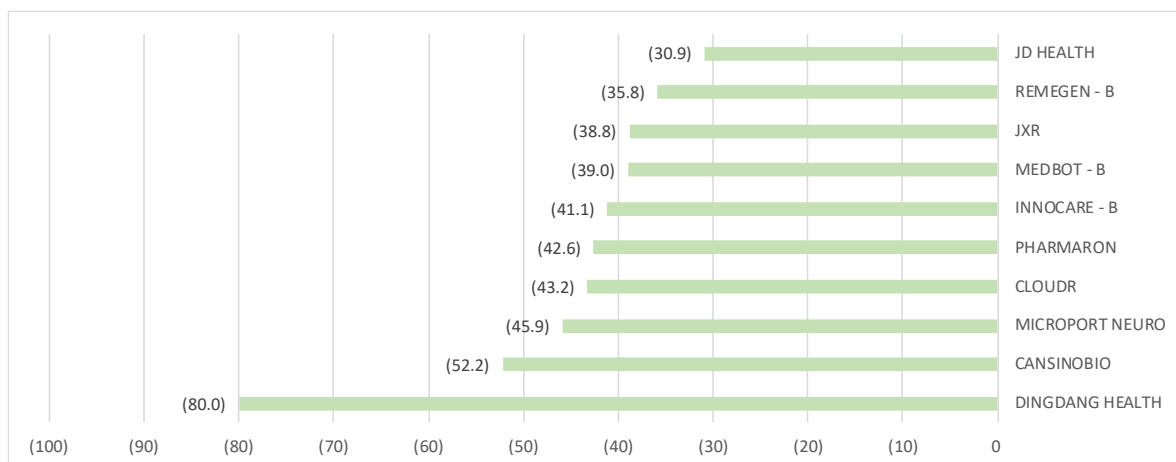
**Exhibit 25: Top 10 Performance (%) YTD of Individual Company within the HSHKBIO**



Source: Hang Seng Indexes Company.

Date: 19 May 2023

**Exhibit 26: Bottom 10 Performance (%) YTD of Individual Company within the HSHKBIO**



Source: Hang Seng Indexes Company.

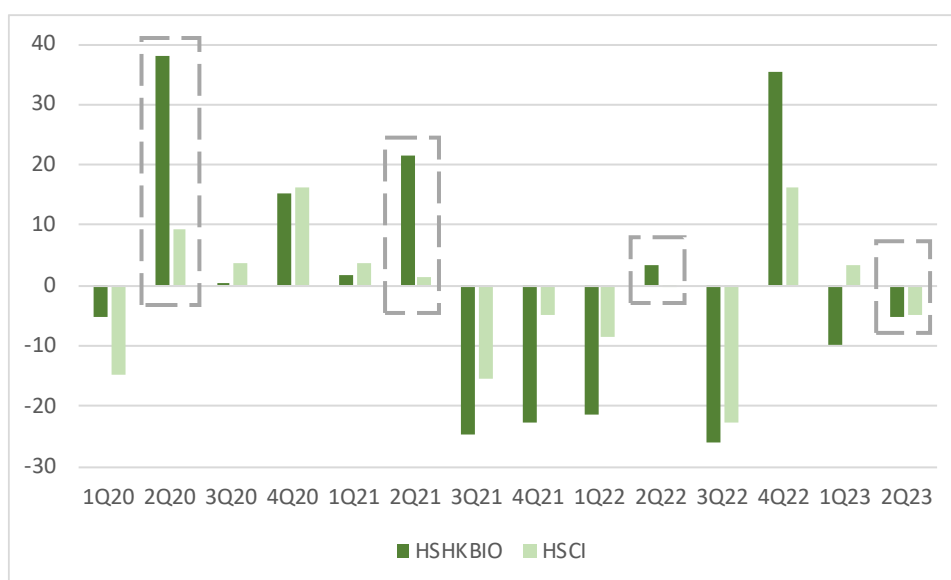
Date: 19 May 2023



For the 5-year period (1 Jan 2018 to 19 May 2023), the HSHKBIO has outperformed the HSCI by 3.5%. If we focus only on the index performance within 2Q, we note the HSHKBIO has outperformed the HSCI by 28.9%, 20.3%, 3.4% in 2020, 2021 and 2022. For 2Q23 (the period up to May 19), we note the HSHKBIO is broadly in-line with the HSCI.

One possible explanation for the behavior of the HSHKBIO index performance is the occurrence of many healthcare industry conferences being held during 2Q of each year. As a result, many biotechnology or pharmaceuticals companies choose to release information of their new products or new discoveries during 2Q of each year. With numerous news flow, it is no surprise that the HSHKBIO tends to perform particularly strong in the 2Q of each year.

### Exhibit 27: Comparison of Index Performance (Quarterly Basis)



Source: Hang Seng Indexes Company.

Note: 2Q23 performance is counted up to 19 May 2023.

Date: 19 May 2023

For the past five years (2018-22), we note HSHKBIO has annualised return of -2.9%. Meanwhile, the HSCI has annualised return of -6.4%. For 2020, we note the HSHKBIO was up 51.6% for the full year. For that same year, the HSCI was up 12.2%. We attribute the outperformance of the HSHKBIO to the breakout of COVID-19 pandemic. Globally, the investment community was anticipating the development of vaccine and prescription drugs (specifically for COVID-19). Therefore, the market focused heavily upon healthcare companies. In 2022, when a majority of overseas countries were returning to normalised lifestyle (post COVID-19), we note that the HSHKBIO performed broadly in-line with the HSCI.



As shown in Exhibit 24, there is a wide range in terms of stock performance. For the first four months of this year, some companies' share prices were up almost 90% YTD while some other companies' share prices were down almost 50% YTD. With the volatility associated with individual company's share price performance, we believe the HSHKBIO presents investors with a good solution: (1) keeping track of performance of biotech companies; (2) smoothing out potential volatility of individual company's share price performance.

**Exhibit 28: Comparison of Index Return and Annualised Volatility**

								Overall Annualised	
	Index	2018	2019	2020	2021	2022	2018-22	2018-22	
Return (%)	HSHKBIO	-22.4	25.3	51.6	-27.8	-18.7	-13.5	-2.9	
	HSCI	-16.7	11.0	12.2	-15.6	-18.0	-28.2	-6.4	
Annualised volatility (%)	HSHKBIO	32.6	24.1	30.8	38.7	48.1		35.8	
	HSCI	20.0	15.5	24.2	21.6	32.5		23.5	
Risk-adjusted Return (x)	HSHKBIO	-0.69	1.05	1.67	-0.72	-0.39			
	HSCI	-0.83	0.71	0.50	-0.72	-0.55			

Source: Hang Seng Indexes Company.

Date: 19 May 2023



## The HSHKBIO's Correlation with the HSCI

We compute the correlation between the HSHKBIO and the HSCI over the period of 2018-22. We note the correlation coefficient is 0.784. The value of the correlation coefficient suggests there is mediocre but not exceptionally strong statistical relationship between the HSHKBIO and the HSCI. For investors who are looking for risk diversification opportunities, the HSHKBIO presents an optimal solution.

**Exhibit 29: Correlation Matrix between the HSHKBIO, HSCI and HSI**

	HSHKBIO	HSCI	HSI
HSHKBIO	1.000	0.784	0.725
HSCI	0.784	1.000	0.984
HSI	0.725	0.984	1.000

Source: Hang Seng Indexes Company.

Date: 19 May 2023



## Appendix – The HSHKBIO Constituent Details (Top 40 Stocks)

Exhibit 30: HSHKBIO – Top 40 Stocks within Constituents (based on 19 May 2023)

	Code	Company	Subsector	Market Cap (HK\$bn)	3-mth ADT (HK\$m)	Weighting (%)	Acc. Weighting (%)
1	2269.HK	WUXI BIO	Biotechnology	178.0	1,115.7	10.00	10.00
2	6160.HK	BEIGENE	Biotechnology	169.5	177.6	10.00	20.00
3	1093.HK	CSPC PHARMA	Pharmaceuticals	89.0	300.6	9.53	29.53
4	1801.HK	INNOVENT BIO	Pharmaceuticals	58.5	281.3	7.09	36.62
5	1177.HK	SINO BIOPHARM	Pharmaceuticals	73.8	153.2	6.31	42.94
6	1066.HK	WEIGAO GROUP	Medical Devices	55.4	71.1	4.35	47.29
7	6618.HK	JD HEALTH	Pharmaceuticals	156.8	352.0	3.92	51.21
8	1548.HK	GENSCRIPT BIO	Biotechnology	41.7	234.0	3.87	55.08
9	2359.HK	WUXI APPTec	Biotechnology	27.1	167.4	3.54	58.62
10	9926.HK	AKESO	Biotechnology	31.6	236.8	2.93	61.56
11	1099.HK	SINOPHARM	Pharmaceuticals	36.0	194.6	2.57	64.12
12	0867.HK	CMS	Pharmaceuticals	30.7	32.3	2.41	66.53
13	0853.HK	MICROPORT	Medical Devices	27.6	120.2	2.17	68.70
14	3692.HK	HANSOH PHARMA	Pharmaceuticals	73.8	48.5	2.11	70.81
15	3320.HK	CHINARES PHARMA	Pharmaceuticals	46.4	71.0	1.99	72.79
16	1530.HK	3SBIO	Pharmaceuticals	18.7	46.9	1.87	74.66
17	0241.HK	ALI HEALTH	Pharmaceuticals	63.3	293.5	1.81	76.47
18	0013.HK	HUTCHMED	Pharmaceuticals	17.5	76.1	1.62	78.09
19	2196.HK	FOSUN PHARMA	Pharmaceuticals	11.9	50.9	1.52	79.62
20	2162.HK	KEYMED BIO - B	Biotechnology	15.9	96.0	1.47	81.09
21	1951.HK	JXR	Biotechnology	11.1	122.9	1.37	82.46
22	2186.HK	LUYE PHARMA	Pharmaceuticals	12.4	57.6	1.31	83.77
23	6606.HK	NH HEALTH	Medical Devices	11.4	85.0	1.30	85.06
24	9969.HK	INNOCARE - B	Biotechnology	12.0	41.3	1.29	86.35
25	0512.HK	GRAND PHARMA	Pharmaceuticals	18.0	13.5	1.16	87.51
26	3347.HK	TIGERMED	Biotechnology	7.9	64.6	1.13	88.63
27	2096.HK	SIMCERE PHARMA	Pharmaceuticals	22.4	68.8	1.12	89.75
28	2005.HK	SSY GROUP	Pharmaceuticals	14.9	19.9	0.96	90.71
29	2252.HK	MEDBOT - B	Medical Devices	18.5	41.2	0.92	91.63
30	9688.HK	ZAI LAB	Biotechnology	24.3	59.4	0.87	92.50
31	9995.HK	REMEGEN - B	Biotechnology	7.0	99.6	0.85	93.35
32	2607.HK	SH PHARMA	Pharmaceuticals	14.5	44.1	0.83	94.19
33	3759.HK	PHARMARON	Pharmaceuticals	6.3	91.5	0.80	94.99
34	9966.HK	ALPHAMAB - B	Biotechnology	8.7	96.5	0.64	95.63
35	2171.HK	CARSGEN - B	Biotechnology	6.4	27.7	0.60	96.23
36	1789.HK	AK MEDICAL	Medical Devices	8.0	27.6	0.57	96.80
37	2157.HK	LEPU BIO - B	Biotechnology	8.9	7.1	0.51	97.31
38	9997.HK	KANGJII MEDICAL	Medical Devices	11.5	6.9	0.49	97.80
39	0460.HK	SIHUAN PHARM	Pharmaceuticals	7.2	16.0	0.46	98.26
40	6185.HK	CANSINOBIO	Biotechnology	4.2	65.4	0.42	98.68

Source: Hang Seng Indexes Company.

Date: 19 May 2023



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