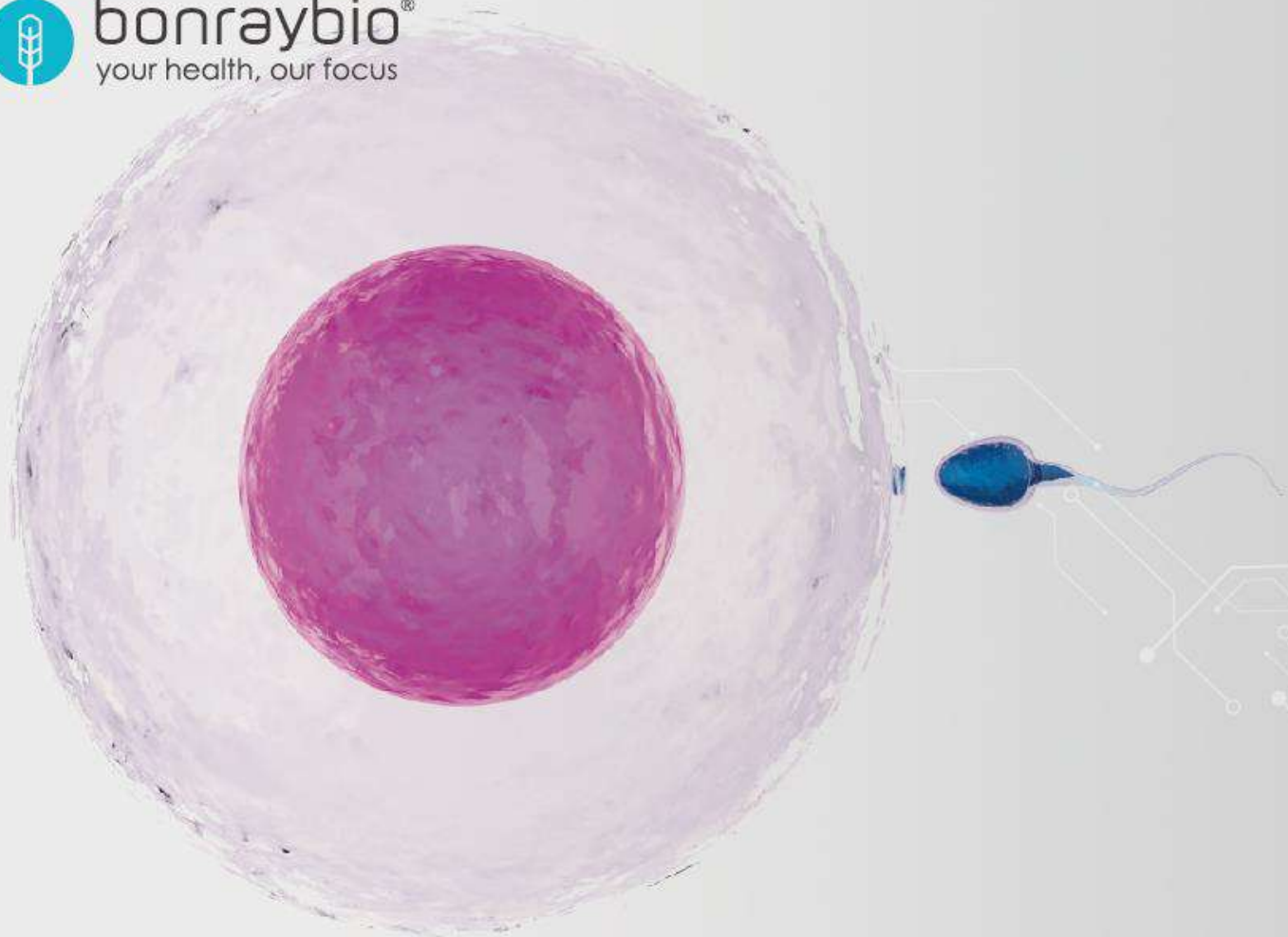




股票代碼  
**6955**



# 邦睿生技

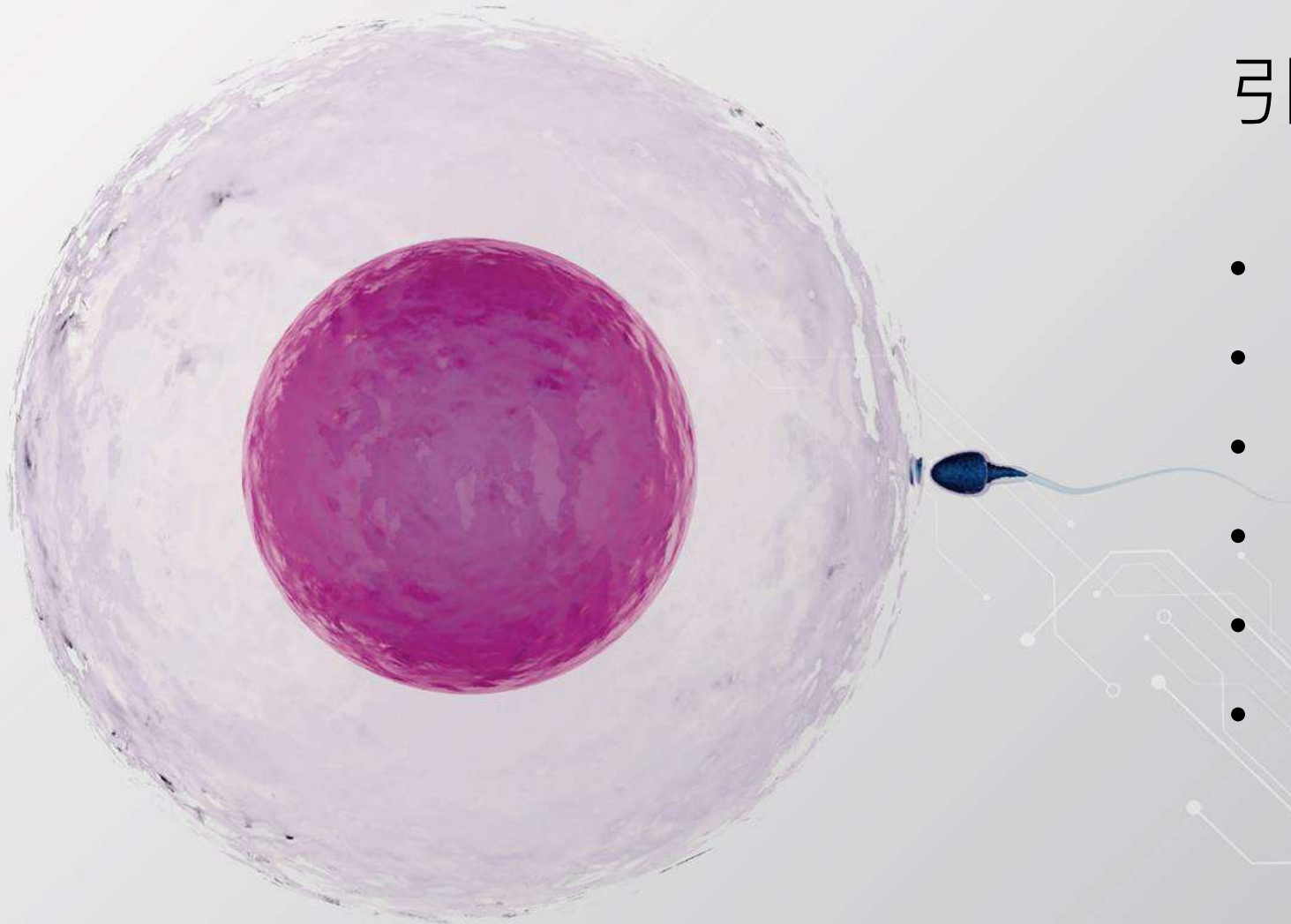
興櫃前法人說明會

主辦券商  第一金證券

# 貴賓引言

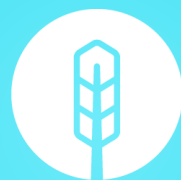
蔡裕庚 董事/VIVO CAPITAL 創投合夥人

前Thermo Fisher Scientific (NYSE: TMO)專業診斷業務高級副總裁兼集團總裁



## 引言綱要

- 個人資歷簡介
- 個人在體外醫療檢測的經驗
- 體外醫療檢測產品的關鍵成功因素
- 維梧資本如何決定投資邦睿
- 維梧資本對邦睿的經營表現觀察
- 維梧資本對邦睿未來潛力評估



bonraybio®

*your health, our focus*

邦睿生技股份有限公司 股票代碼: 6955  
興櫃前法說會

董事長暨總經理 徐振騰博士

## 免責聲明

- 本簡報及同時發佈之財務業務訊息及預測性資訊，係依據本公司現時從內部及外部來源所取得之資訊。
- 本公司未來實際所發生之營運結果及財務狀況可能與這些明示或暗示之預測性資訊有所差異，其原因可能來自於本公司無法掌握之各種風險因素。
- 本簡報中對未來的展望反映本公司截至目前為止對於未來的看法，對於這些看法，未來若有任何變動或調整時，本公司並不負責隨時提醒或更新。
- 未經本公司允許情況下，不可複製、修改、重新編譯、刪減或傳送本簡報任何內容，或將任何該等內容作為商業用途。

# 簡報大綱

公司介紹 01

產品介紹 02

營運成果 03

未來展望 04

---



# 公司介紹



# 公司概述

 <p>2016</p>	<p>資本額 170,860千元</p>		<p>78 全球工作夥伴 研發/品管/產線/ 業務/行銷</p>		<p>體外診斷 全自動顯微鏡 +AI</p>
<p>62/83 申請專利 美/歐/日/台/中</p>		<p>邦睿技術 光學/電子/機構/臨床醫學/ 醫聯網/演算法/AI</p>		<p>精液/精子 分析</p>	
	 		<p>LensHOOKE™ G-KUP™</p>		 reddot 2017 award winner

# 邦睿重要歷程

## 公司登記成立

位於台中市大里區



- ① 產品取得CE/GMP
- ② 產品首度亮相

全球員工人數 37人

## 前進中國市場

位於中國資陽市



- ① 產品取得NMPA准證
- ② 全球已簽56個國家

全球員工人數 63人

## 原有產品優化

X1 PRO二代演算法



- ① 產品專利共49件核准
- ② 墨西哥/新加坡萊特兒產品取得註冊號
- ③ 全球已簽53個國家

全球員工人數 67人

## 推出精子篩選解決方案



2016

全球員工人數 16人

- ① 產品原型開發

2017



## 公司擴大規模

落座於大里工業區

2018

全球員工人數 52人

- ① X1pro取得FDA准證
- ② 全球已簽30個國家

2019



## 前進美國市場

2020

全球員工人數 65人

- ① 產品專利共44件核准
- ② 阿根廷/馬來西亞萊特兒產品取得註冊號
- ③ 全球已簽54個國家

2021



## 新產品上市

精子DNA碎片檢測完整方案  
X12 PRO+R10

2022

全球員工人數 78人

- ① CA0 / CA1於ESHRE上市
- ② 產品取證FDA/CE/TFDA
- ③ 產品專利共60件核准
- ④ 全球已簽52個國家



# 董事會成員



徐振騰 先生

邦睿生技  
董事長



蔡裕庚 先生

維梧資本  
合夥人



黃椿木 先生

華廣生技  
董事長



鄭勝全 先生

新鉅科技  
董事長



曾惠瑾 女士

資誠會計師事務所  
榮譽副所長



王韶華 先生

前工研院北美公司  
總經理兼任北美代表



王毓香 女士

麥格會計師事務所  
所長



王晨桓 先生

建業法律事務所  
所長



陳階曉 先生

中國醫藥大學北港附設醫院  
泌尿科暨泌尿腫瘤科  
主任

## 經營團隊



總經理  
徐振騰

工作資歷21年

- 國立中興大學化學博士
- 美國史丹福大學醫學院訪問學者(STB計畫)
- 華廣生技(股)共同創辦人
- 華廣生技(股)研發副總經理



執行副總  
廖英智

工作資歷23年

- 交通大學應用化學所碩士
- 友達光電(股)台中廠副廠長



業務處  
莊明山副總

工作資歷27年

- 交通大學科技管理碩士
- 華廣生技(股)行銷業務副總經理
- 百丹特生醫(股)亞太區總經理



財會行政處  
楊佩真副總

工作資歷21年

- 東海大學會計系學士
- 健椿工業(股)財務長



市場企劃處  
楊婉嫻協理

工作資歷25年

- 英國University of East Anglia 碩士(主修行銷)
- 華廣生技(股)行銷協理
- 百丹特生醫(股)市場行銷暨客服部協理

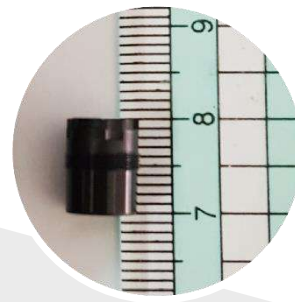
# 核心技術



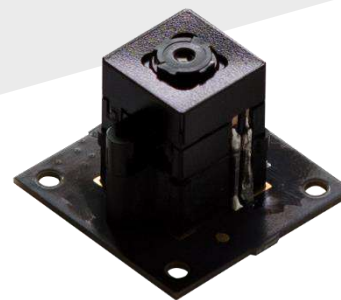
# 核心技術 – 微型化高畫素顯微鏡頭



傳統顯微



鏡頭1cm

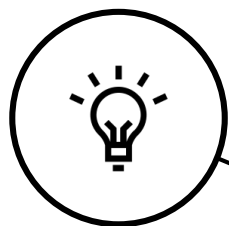


鏡頭模組 3.8 x 3.8 cm

邦睿微型化顯微鏡頭



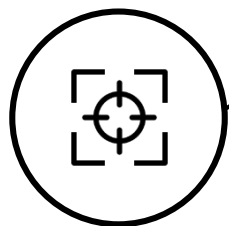
# 核心技術 - 高度整合硬體平台



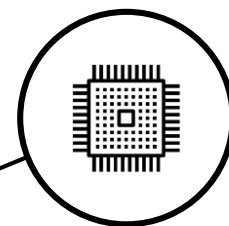
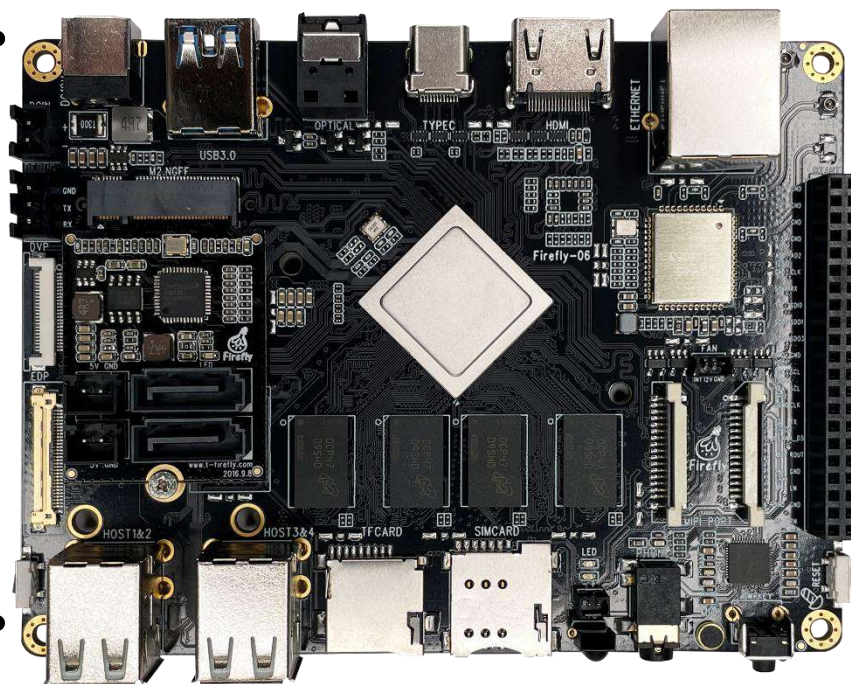
穩定光源



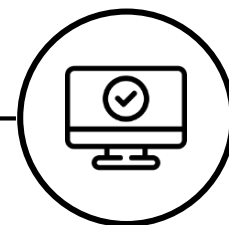
影像取得



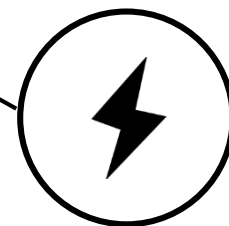
自動對焦



運算整合



電腦週邊整合



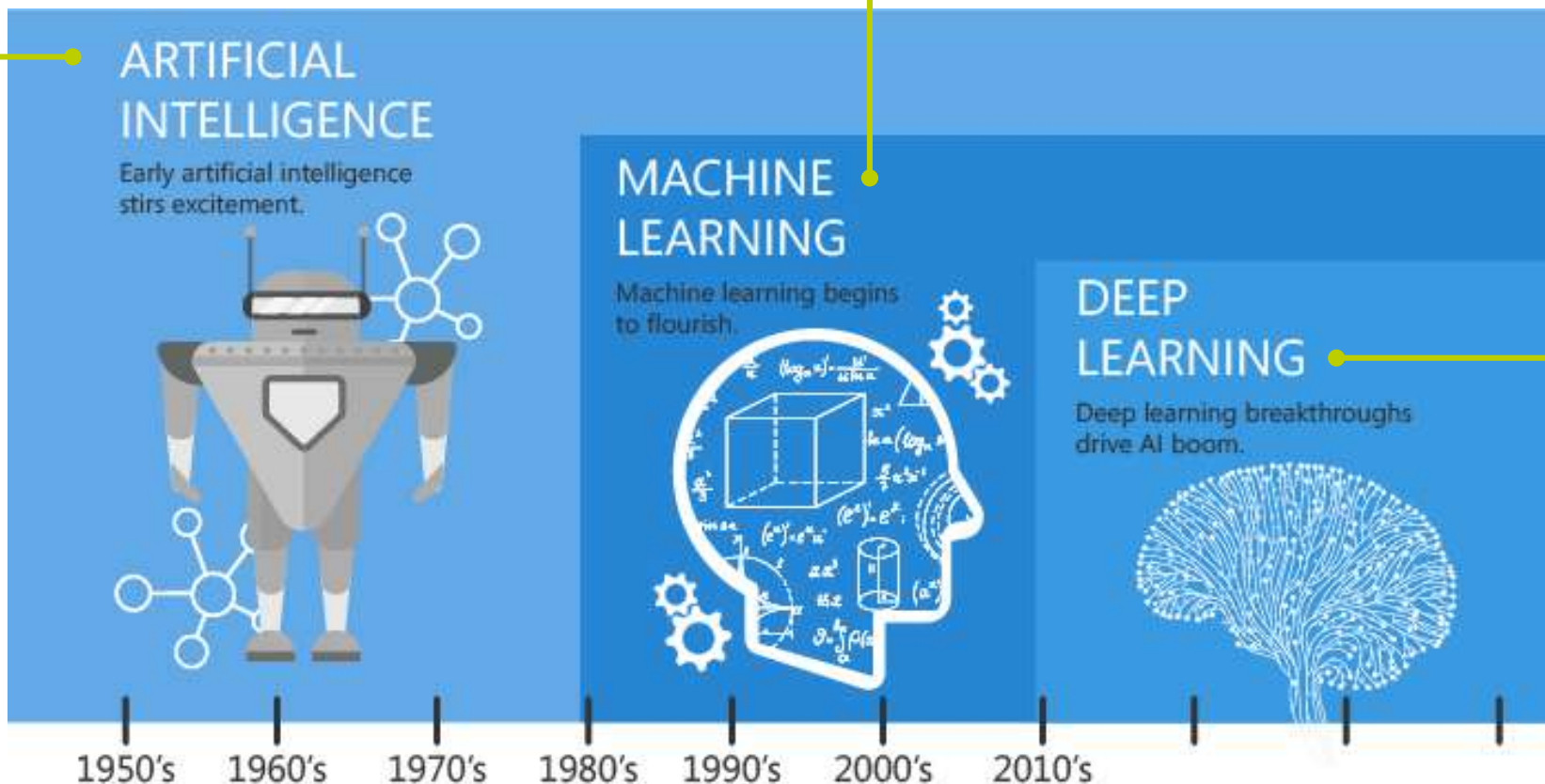
穩定電源

# 核心技術\_人工智慧



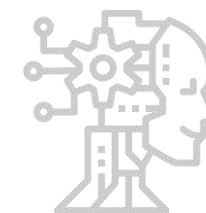
## Criteria for Judgement

Machine makes the judgement by the criteria



## Database Training

Create the database to train the machine to make the judgement.



## Self Learning

When the database accumulates enough data, the machine could start to learn by itself.



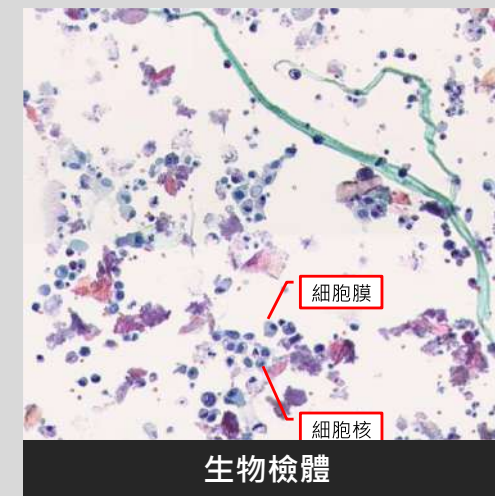
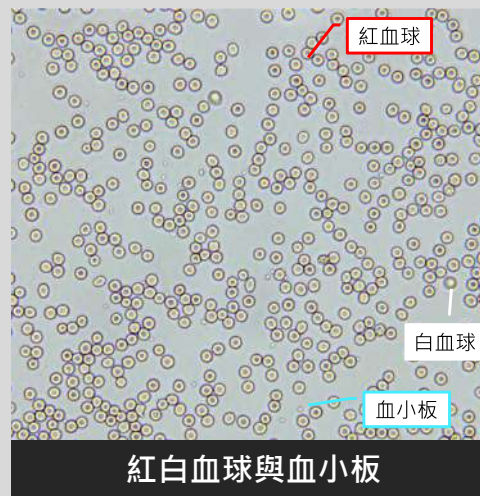
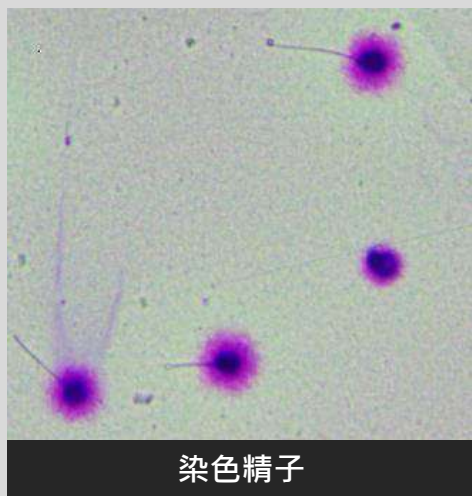
## 核心技術 – 微型化高畫素顯微鏡頭



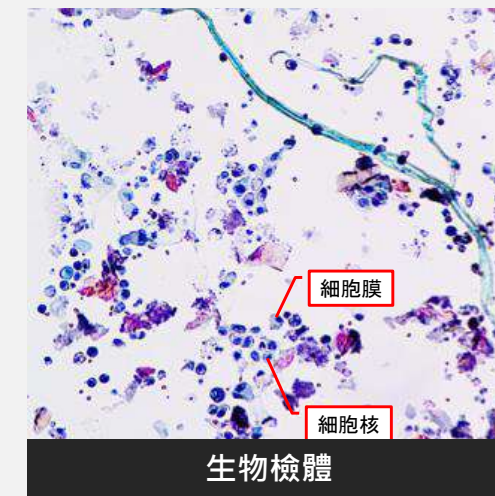
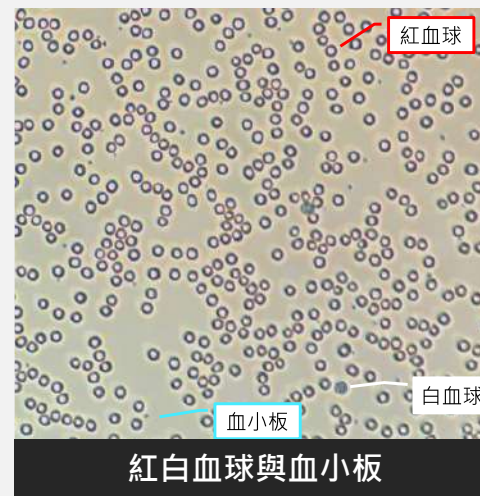
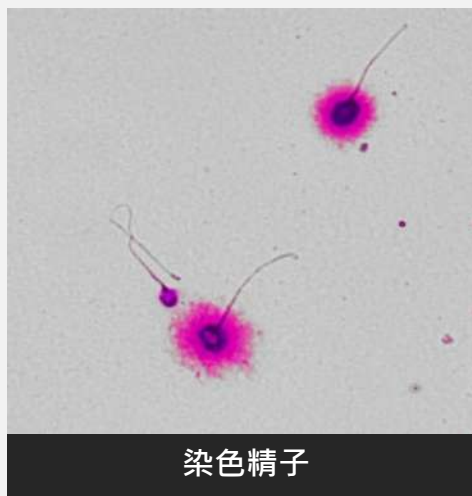
LensHooke® X1 PRO is capable of taking **1080P Full HD dynamic images** by **400X lens magnification** to enable immediate sperm Conc., Motility, Morphology examination by medical personnel.

# 核心技術 – 微型化高畫素顯微鏡頭

傳統顯微鏡頭影像



邦睿顯微鏡頭影像



# 核心技術



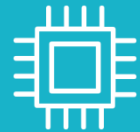
微型化

高畫素顯微鏡頭

ION

Technology Inside

Intelligence Optical Mi



高度整合

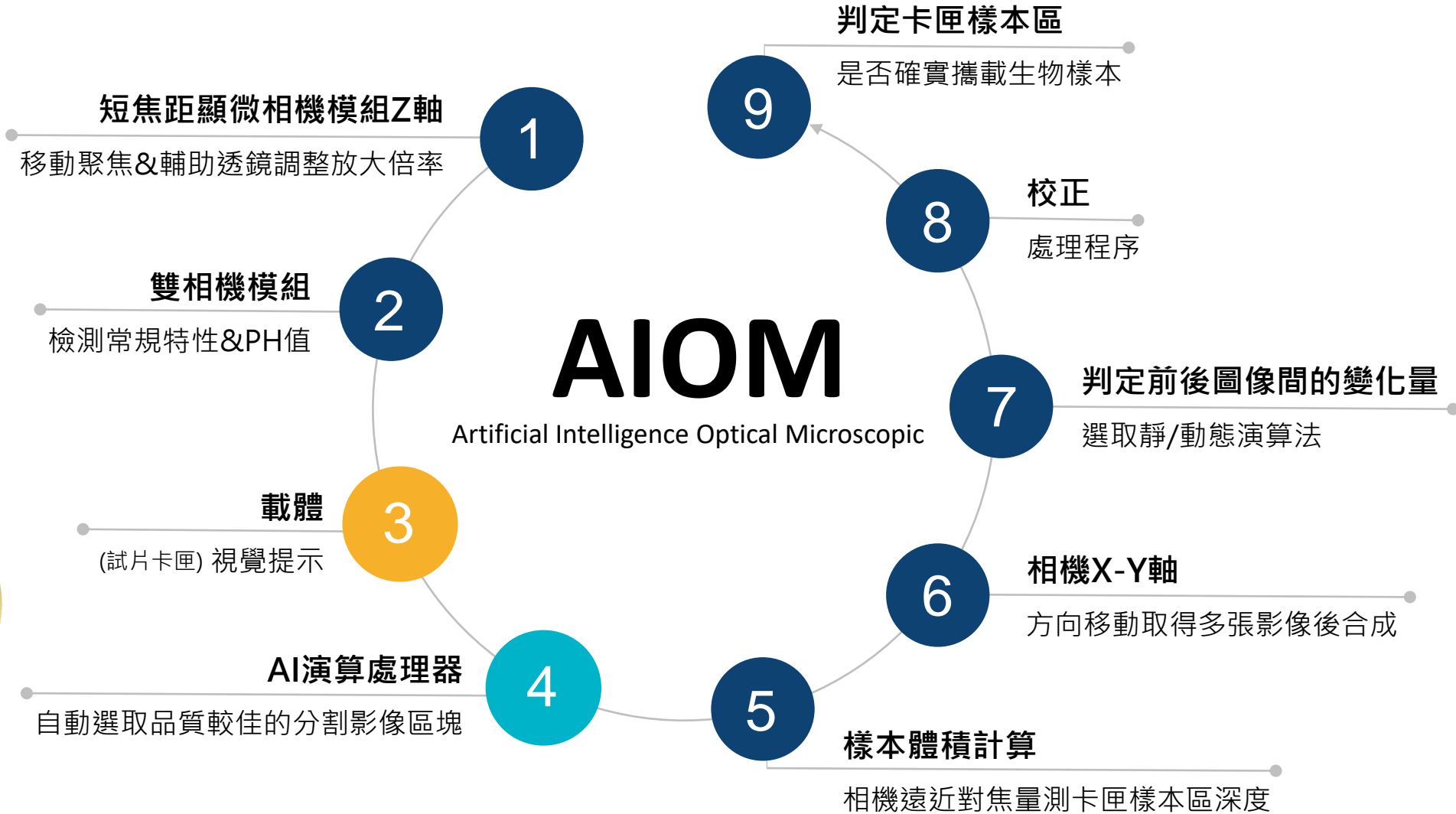
硬體運算平台



人工智慧

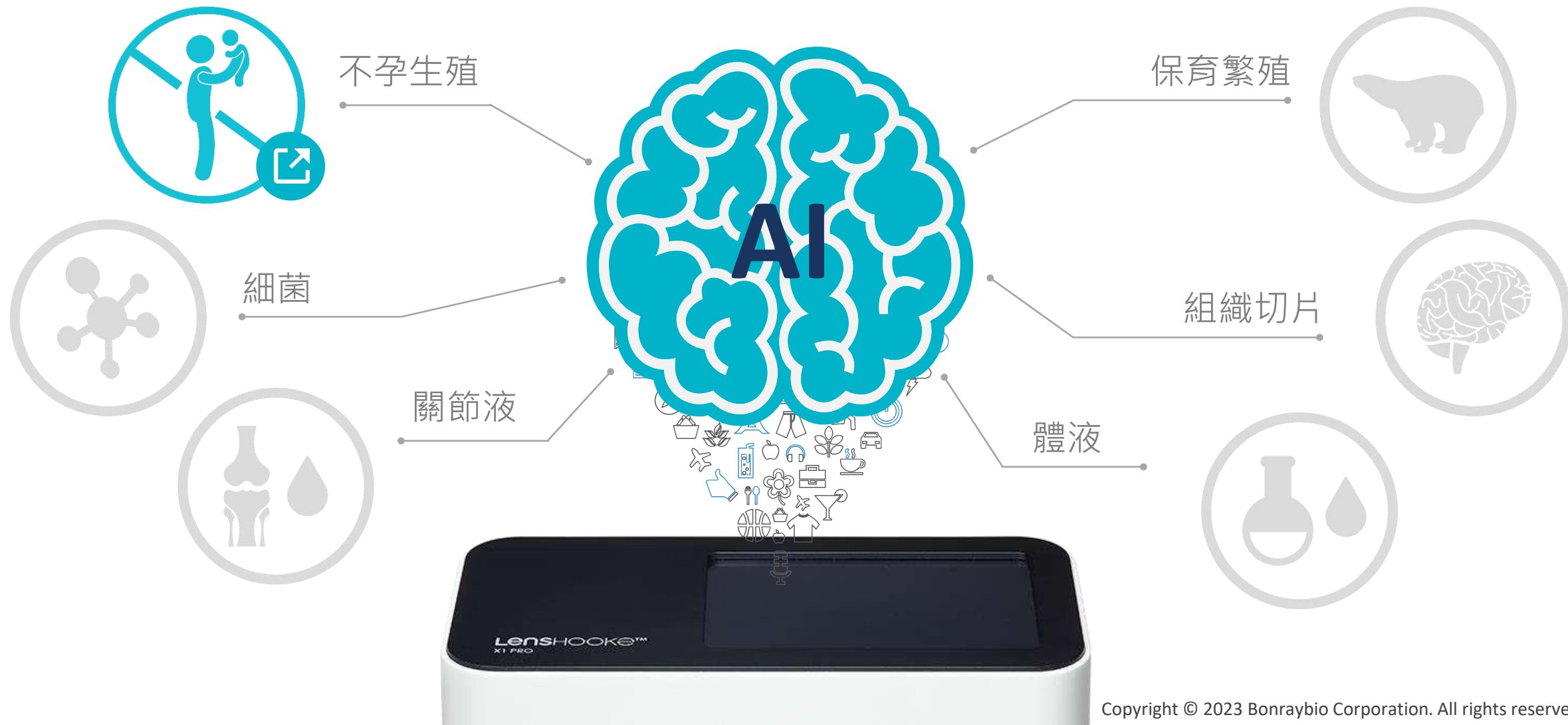
演算法架構

# 專利技術






# AI智慧醫療自動光學顯微檢測技術



# 專利組合

 總申請  
**83**









 核准  
**62**








 申請中  
**21**




-  003819614-0004
-  EP15861680.5 (Pending)
-  EP3244250B1
-  EP3244250B1
-  EP3244250B1
-  EP3244250B1
-  9003819614-0004
-  US 9,958,665 B2

-  US 9,959,621 B2
-  US 10,281,386 B2
-  US 9,958,658 B2
-  US 9,664,611 B2
-  US 10,324,022 B2
-  US 10,852,290 B2
-  US 10,928,378 B2
-  US D858,790 S

-  17/034,566 (Pending)
-  17/648,887 (Pending)
-  17/648,901 (Pending)
-  I699532B
-  D186172
-  I755755
-  I572896
-  I647452

-  110122043 (Pending)
-  CN 106198536
-  CN 108474735
-  CN 304284876
-  201910363406.9 (Pending)
-  CN202010554604.6A (Pending)
-  CN202110783910.1 (Pending)



-  003819614-0003
-  006362836 (Pending)
-  9003819614-0003
-  US D831,224 S
-  USD912273S
-  D186173
-  I688759
-  D202000
-  305466832S
-  CN 304284890 S
-  201910260546.3 (Pending)



-  003824994-0001
-  EP3311753
-  EP3311753
-  EP3311753
-  EP3311753
-  9003824994-0001
-  EP3311753
-  US 10,940,479 B2
-  US D842,494 S
-  D183283
-  I620923
-  CN 107966327
-  CN 304326173



-  EP21216689.6 (Pending)
-  EP21216691.2 (Pending)
-  17/643,058 (Pending)
-  17/643,161 (Pending)
-  109145791 (Pending)
-  109145792 (Pending)
-  202110624213.1 (Pending)
-  202110608571.3 (Pending)







**技術品牌**  
研發製造

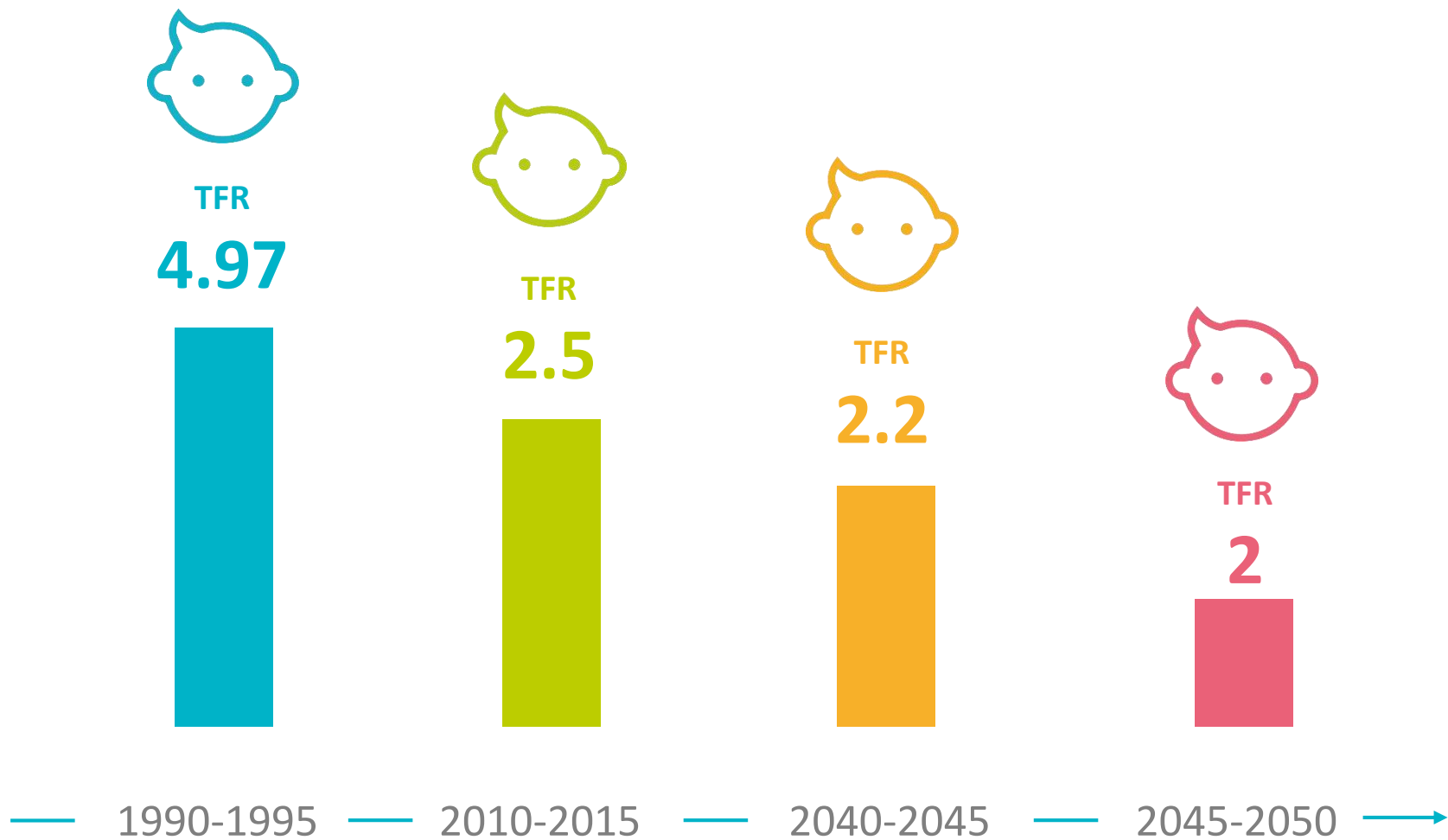
**LenSHOOKE®**

**產品品牌**  
市場銷售



## 產品介紹

# 背景概述

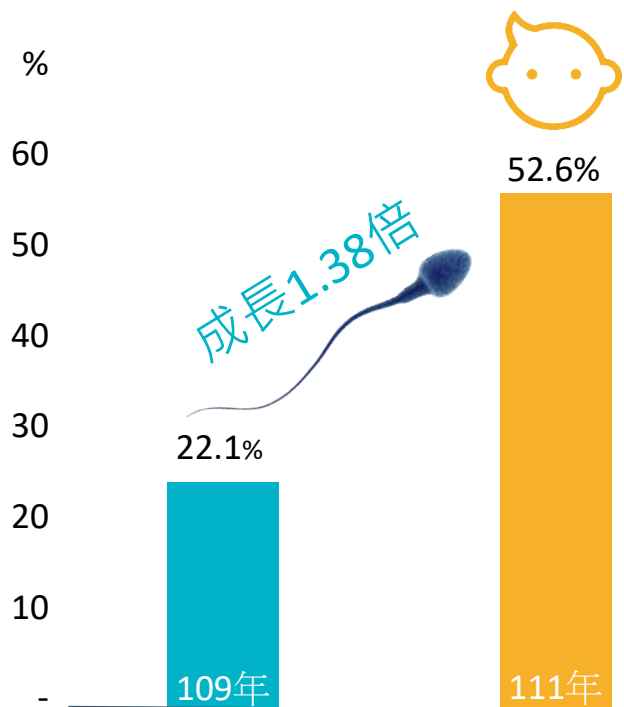


全球生育率  
**逐漸減少!**



(資料來源: UN Population Division) TFR (Total fertility rate)總和生育率

# 國家補助政策擴增市場需求



109年國內人工生殖施術結果及擴大補助後111年受補助施術夫妻之單一胚胎植入率

資料來源：國健署

衛生福利部  
Ministry of Health and Welfare  
促進全民健康與福祉

請輸入關鍵字  進階

熱門關鍵字：[COVID-19](#) [長期照顧](#) [防疫補償](#) [確診](#)

本部簡介 ▾ 最新消息 ▾ 便民服務 ▾ 法令規章 ▾ 衛教視窗 ▾ 重大事件 ▾ 本部各單位及所屬機關 ▾

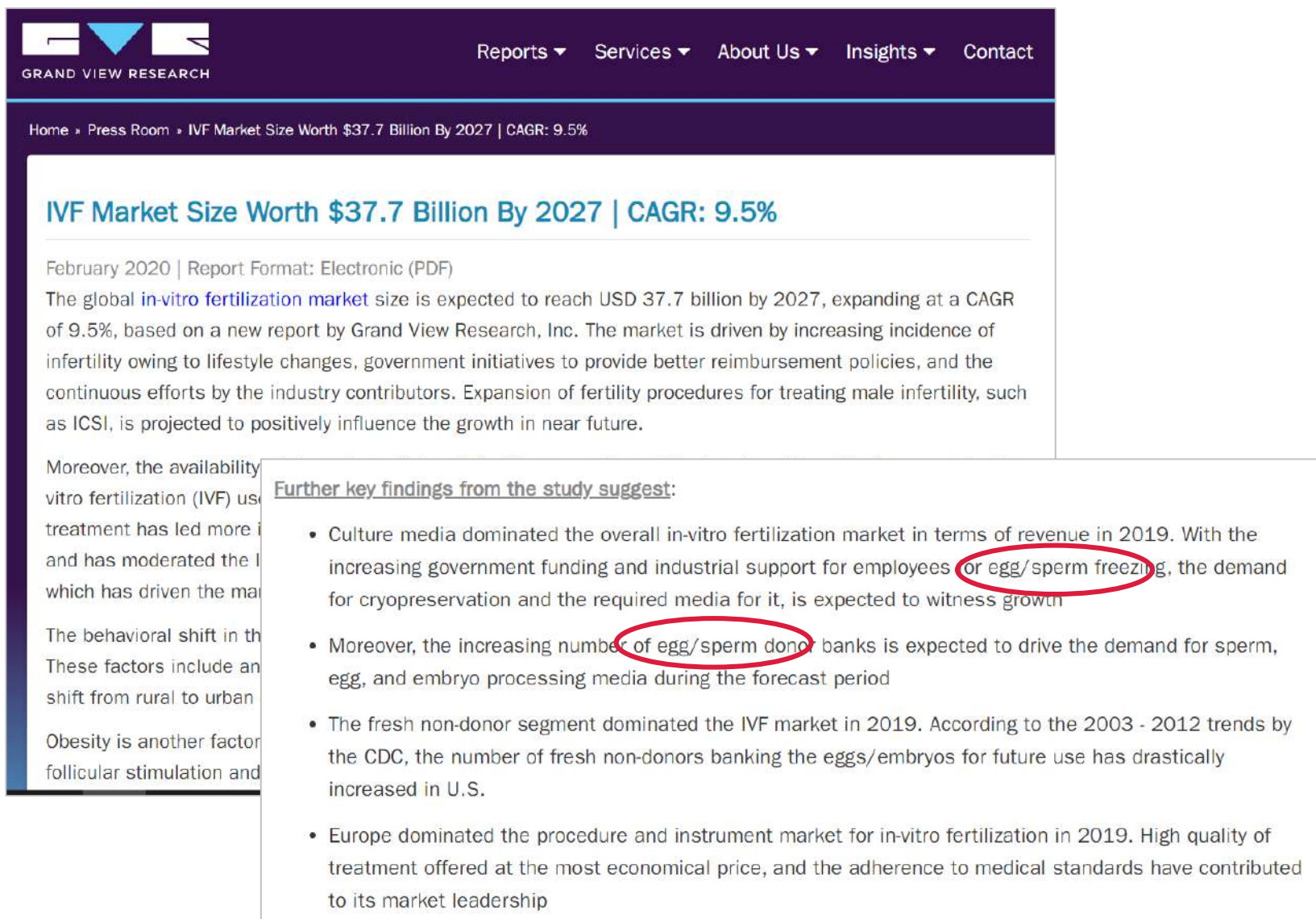
111年衛生福利部新聞

12月新聞

試管嬰兒補助方案迄今已超過5.6萬人次不孕夫妻受惠

資料來源：國民健康署 • 建檔日期：111-12-30 • 更新時間：111-12-30

行政院自110年7月1日起，實施「擴大不孕症治療（試管嬰兒）補助方案」，以減輕不孕夫妻進行試管嬰兒之經濟負擔，補助對象為不孕夫妻至少一方具我國國籍，且妻年齡未滿45歲者，可透過98家特約人工生殖機構進行不孕症治療，並幫助接受治療的民眾線上代為申辦，既快速又便民的措施，大幅提升服務可近性。截至111年12月14日止，已有56,245件申請補助資格通過，其中39,196件已完成療程並通過補助費用審查，累計補助金額達28億981萬餘元。受補助的夫妻當中共有5,838對，已順利產下6,545名嬰兒，滿足不孕夫妻的生育期待。



GRAND VIEW RESEARCH

Reports ▾ Services ▾ About Us ▾ Insights ▾ Contact

Home » Press Room » IVF Market Size Worth \$37.7 Billion By 2027 | CAGR: 9.5%

## IVF Market Size Worth \$37.7 Billion By 2027 | CAGR: 9.5%

February 2020 | Report Format: Electronic (PDF)

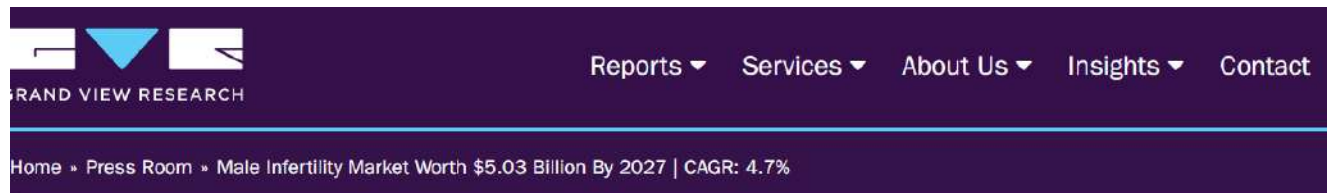
The global [in-vitro fertilization market](#) size is expected to reach USD 37.7 billion by 2027, expanding at a CAGR of 9.5%, based on a new report by Grand View Research, Inc. The market is driven by increasing incidence of infertility owing to lifestyle changes, government initiatives to provide better reimbursement policies, and the continuous efforts by the industry contributors. Expansion of fertility procedures for treating male infertility, such as ICSI, is projected to positively influence the growth in near future.

Moreover, the availability of in-vitro fertilization (IVF) treatment has led more and has moderated the which has driven the market. The behavioral shift in these factors include an shift from rural to urban. Obesity is another factor follicular stimulation and

**Further key findings from the study suggest:**

- Culture media dominated the overall in-vitro fertilization market in terms of revenue in 2019. With the increasing government funding and industrial support for employees **or egg/sperm freezing**, the demand for cryopreservation and the required media for it, is expected to witness growth.
- Moreover, the increasing number **of egg/sperm donor** banks is expected to drive the demand for sperm, egg, and embryo processing media during the forecast period.
- The fresh non-donor segment dominated the IVF market in 2019. According to the 2003 - 2012 trends by the CDC, the number of fresh non-donors banking the eggs/embryos for future use has drastically increased in U.S.
- Europe dominated the procedure and instrument market for in-vitro fertilization in 2019. High quality of treatment offered at the most economical price, and the adherence to medical standards have contributed to its market leadership.

# 男性不孕症檢測市場

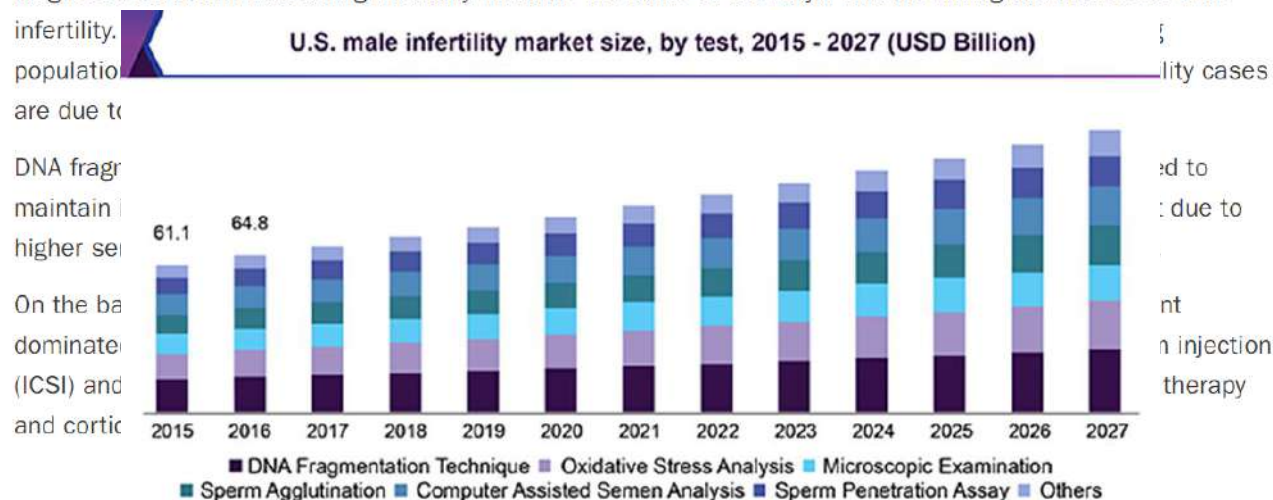


## Male Infertility Market Size Worth \$5.03 Billion By 2027 | CAGR: 4.7%

April 2020 | Report Format: Electronic (PDF)

### Male Infertility Market Growth & Trends

The global male infertility market size is expected to reach **USD 5.03 billion by 2027**, expanding at a CAGR of 4.7% over the forecast period, according to a new report by Grand View Research, Inc. Advancements in diagnostic tests and increasing infertility in males are some of the major factors driving the market for male infertility.

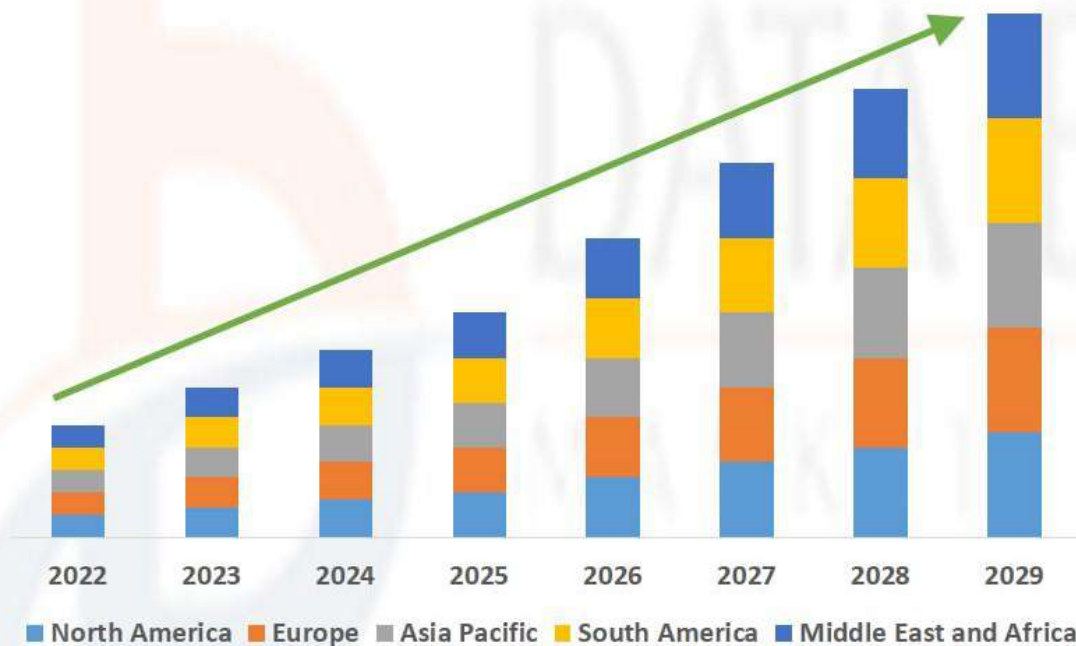


Source: www.grandviewresearch.com



# 精子分析系統市場

Global Sperm Analyzer Systems Market is Expected to Account for USD 635.27 Million by 2029



DMCA Protected © Data Bridge Market Research- All Rights Reserved.

Source: Data Bridge Market Research Market Analysis Study 2022

Global Sperm Analyzer Systems Market, By Regions, 2022 to 2029



DATA BRIDGE MARKET RESEARCH



# 精子DNA 碎片率檢測列入重點



## EAU Guidelines on Sexual and Reproductive Health

A. Salonia (Chair), C. Bettocchi, J. Carvalho, G. Corona, T.H. Jones, A. Kadio, S. Minhas (Vice-c)



## WHO laboratory manual for the examination and processing of human semen

Sixth Edition

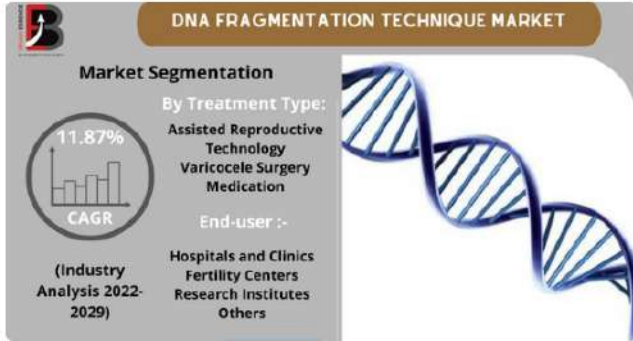
### Chapter 3: Extended examination

#### 9.3.3 Measurement of sperm DNA Fragmentation Index (DFI)

Semen analysis is a descriptive evaluation, and may be unable to discriminate between the sperm of fertile and infertile men. Therefore, it is now apparent that sperm DNA damage may occur in men with infertility. DNA fragmentation, or the accumulation of single- and double-strand DNA breaks, is a common property of sperm, and an increase in the level of sperm DNA fragmentation has been shown to reduce the chances of natural conception. In this context, sperm DNA damage is more common in infertile men and sperm DNA damage has been identified as a major contributor to male infertility, as well as poorer outcomes following ART [1192, 1193], including impaired embryo development [1192], miscarriage, recurrent pregnancy loss [1192, 1194], and birth defects in the offspring [1192]. Sperm DNA damage can be increased by a number of factors including hormonal anomalies, varicocele, chronic infection and lifestyle factors (e.g., smoking) [1193].

may not be impaired, may affect embryo assisted reproduction in abnormal ejaculate as of infertility in semen quality (164, infertility, becoming clinical andrology.

# 精子DNA碎片分析市場



## The DNA Fragmentation Technique Market Size, Share, Value, Business Overview | Expected To Reach USD 10.95 Billion By 2028

Brandessence market research publishes market research reports & business insights produced by highly qualified and experienced industry analysts.

**Global DNA Fragmentation Technique Market** is valued at USD 5.45 Billion in 2021 and expected to reach USD 10.95 Billion by 2028 with the CAGR of 11.87% over the forecast period

Artificial breaking of DNA order to use it as genomics applications is termed as DNA fragmentation. In 1970 first DNA fragmentation was reported by Williamson. The techniques of DNA fragmentation are divided into three categories which are; enzymatic methods, physical methods and chemical methods. The main objective of DNA fragmentation is to screen mutations in DNA. The applications of DNA fragmentation are for DNA sequencing, for performing DNA microarray, forensics and for detection of male infertility by studying the amount of fragmented DNA from a sperm cell.

### Key Players:

- [Merck](#)
- [Halotech DNA](#)
- [SCSA Diagnostics](#)
- [Vitrolife](#)
- [Cadila Pharmaceuticals Limited](#)
- [CooperSurgical](#)
- [Cryolab Ltd](#)
- [Microm Ltd.](#)
- [Thermo Fisher Scientific](#)
- [Covaris](#)
- [Delfi Diagnostics](#)
- [Jetanin Hospital](#)
- **[BONRAYBIO](#)**
- [Corem](#)
- [Others](#)



## Sperm Separation Devices Market Would Rocket up to at a Value of CAGR of 16.3% by 2029

By CDN Newswire Published August 26, 2022

Global sperm separation devices market is expected to gain market growth in the forecast period of 2022 to 2029. Data Bridge Market Research analyses that the market is growing with a CAGR of 16.3% in the forecast period of 2022 to 2029 and is expected to reach USD 1,456.28 million by 2029 from USD 438.94 million in 2021. The rise in the number of male population suffering from infertility and high consumption of alcohol are the major drivers which propelled the demand of the market in the forecast period.

Get Sample Copy of the Report (Including Full TOC, Table & Figures) @ <https://www.databridgemarketresearch.com/request-a-sample/?dbmr=global-sperm-separation-devices-market>

Market KeyPlayers Covered in This Report:

DxNow, The Cooper Companies Inc., Bonraybio Co., Ltd., gynotec, Hamilton Thorne, Ltd., Menicon Co., Ltd., Promega Corporation, Koek Biotechnology Bioengineering and Medical Services Industry & Trade Inc., Nidacon International AB, Bonraybio Co., Ltd., SAR Healthline Pvt Ltd., Memphasys, Sperm Processor Pvt. Ltd., among others

# 創業產品-全自動精子常規檢測儀

## For Semen Analysis



X10  
X1 PRO Semen Quality Analyzer



CS  
Semen Test Cassette



CK0  
Liquefaction Test Cup



QX0  
X QC Beads



QXA  
X QC Reticle



QXB  
X QC Video

Analyzer

Consumables

Quality Control



# 人工計數 (酸鹼值, 濃度 & 活動力)

① 確認液化狀態



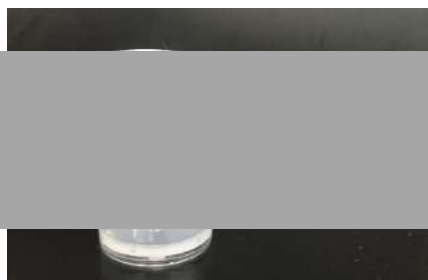
② 確認顏色



③ 確認酸鹼值



④ 確認體積量



⑤ 滴入檢體到計數盤



⑥ 把計數盤放置顯微鏡下



超過 9 個步驟

需費時 15~20 分鐘

⑦ 計算濃度



⑧ 計算活動力

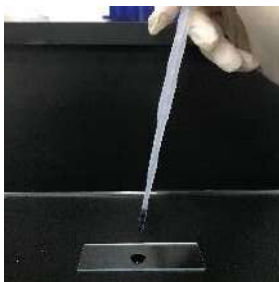


⑨ 清潔計數盤

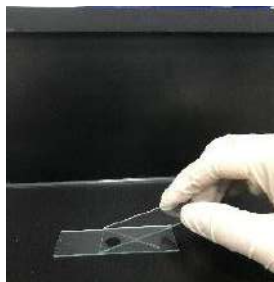


# 人工計數 (型態)

① 將檢體滴入玻片



② 抹片



③ 染片



④ 使用紙巾吸收多餘染劑



⑤ 第二次染片



⑥ 使用紙巾吸收多餘染劑



⑦ 第三次染片



⑧ 使用紙巾吸收多餘染劑



超過 12 個步驟

需費時 60 分鐘

⑨ 清洗玻片



⑩ 自然陰乾



⑪ 將撥片放置顯微鏡



⑫ 計算型態率



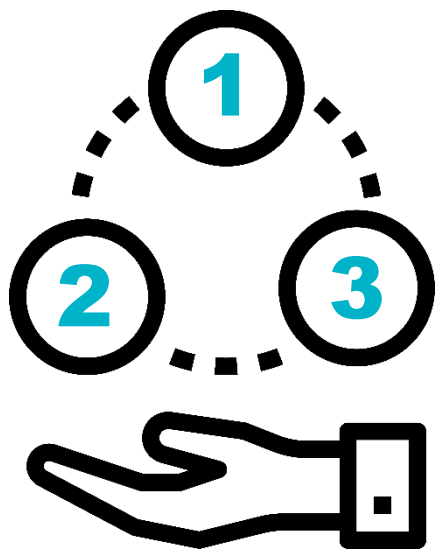
# 步驟越多 越容易發生“錯誤”



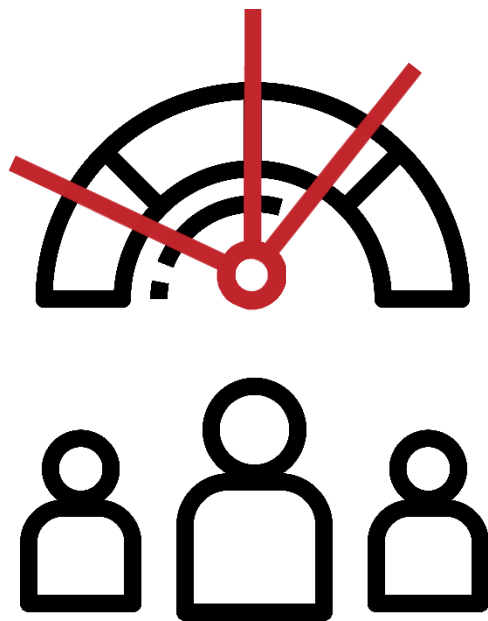
不同醫檢師檢測出的結果不一致  
因為“標準不同”



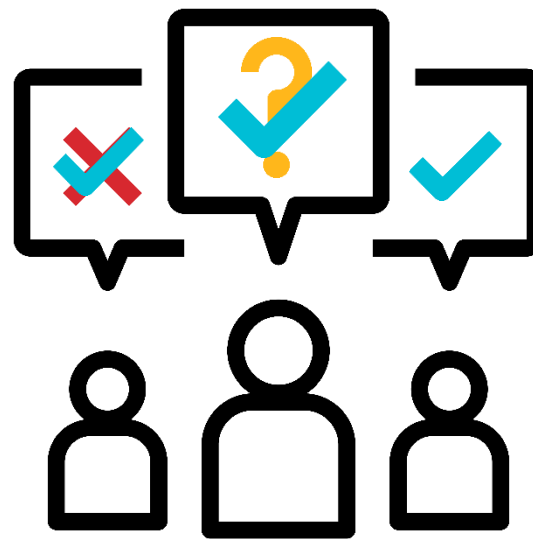
# 創新構想



簡單



快速

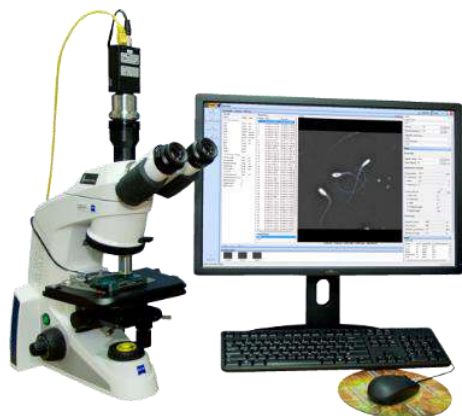


標準化



# LensHooke X1 PRO 精子品質分析儀競爭分析

電腦輔助分析技術



20 步驟 / 75分鐘

半自動判讀

靜態報告

傳統人工鏡檢



20 步驟 / 75分鐘

人工判讀

手寫報告

 LensHooke X1 PRO  
人工智慧顯微技術



3 步驟 / 2-5分鐘

全自動判讀

靜態與動態影像報告

# 進階檢測-全自動精子DNA碎片分析儀

## 2021 Launched Products

### For Sperm DNA Fragmentation Diagnosis



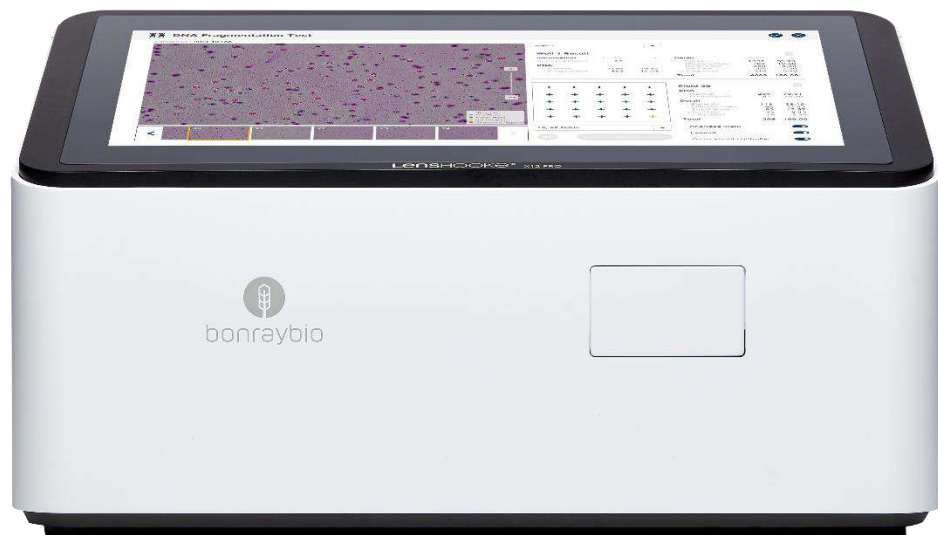
Normal  
DNA



SSB DNA  
Fragmentation



DSB DNA  
Fragmentation



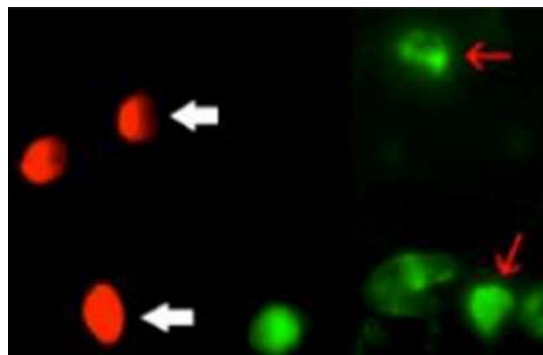
LensHooke® X12 PRO



LensHooke® R10

# LensHooke 精子DNA 碎片率全方位檢測競爭分析

傳統TUNEL 法



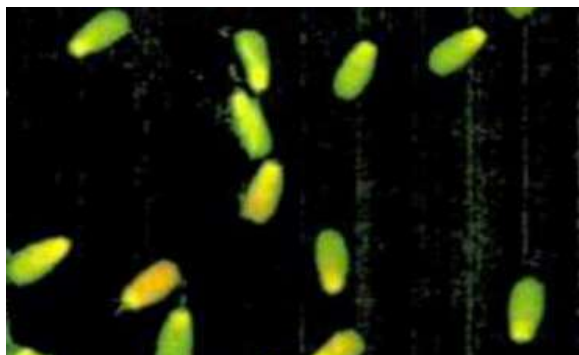
3小時

操作**複雜**

針對**一般細胞**

可搭配**無配套式**流式細胞儀

傳統SCSA 法



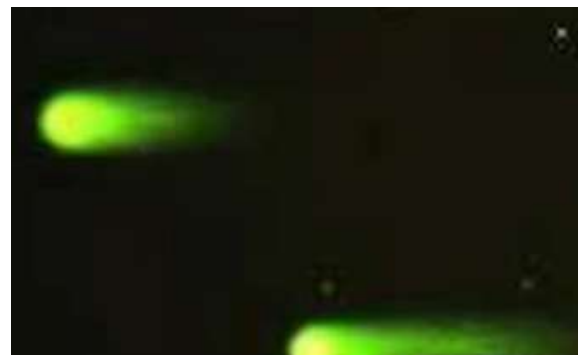
3小時

操作**複雜**

針對**一般細胞**

可搭配**無配套式**流式細胞儀

傳統Comet法



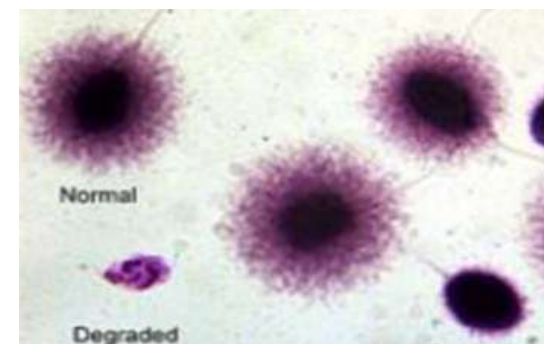
4小時

操作**複雜**

針對**一般細胞**

可搭配**無配套式**特殊軟件

LensHooke  
精子DNA碎片率檢測



40分鐘

操作**簡便**

專門針對**精子**

可搭配**配套開發**檢測系統

# LensHooke CA0/CA1 精子優選裝置

CA0 / CA1  
精子優選器



Live Motile Sorting



# LensHooke CA0 精子優選裝置競爭分析

## 傳統上游法



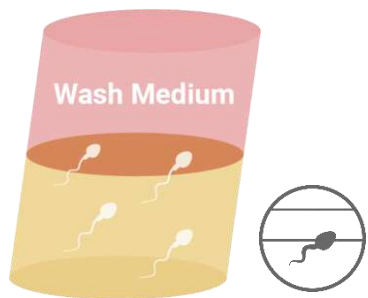
精子清洗培養液



恆溫箱



離心機



7 步驟 / 70分鐘

精子品質差 / 回收率佳

## 傳統梯度密度離心法



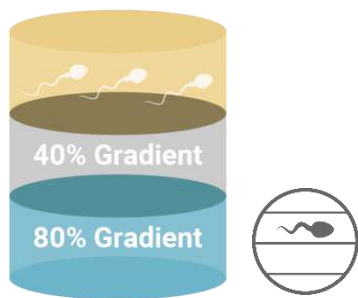
精子清洗培養液



梯度密度液



離心機



10 步驟 / 60分鐘

精子品質差 / 回收率好

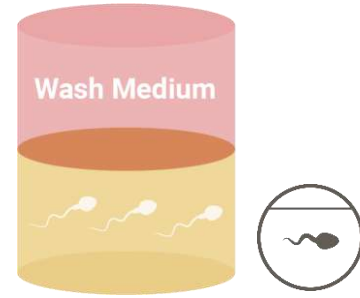
## 微流道篩選技術



精子清洗培養液



恆溫箱



4 步驟 / 30分鐘

精子品質佳 / 回收率尚可

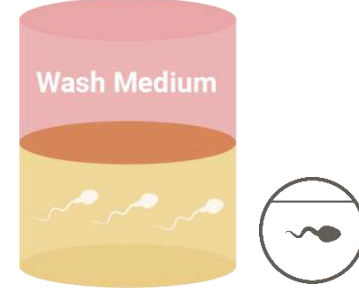
## LensHooke CA0 精子動力優選技術



精子清洗培養液



恆溫箱



4 步驟 / 30分鐘

精子品質好 / 回收率佳



# 產品範疇



**Semen Analysis**  
(Basic Exam)



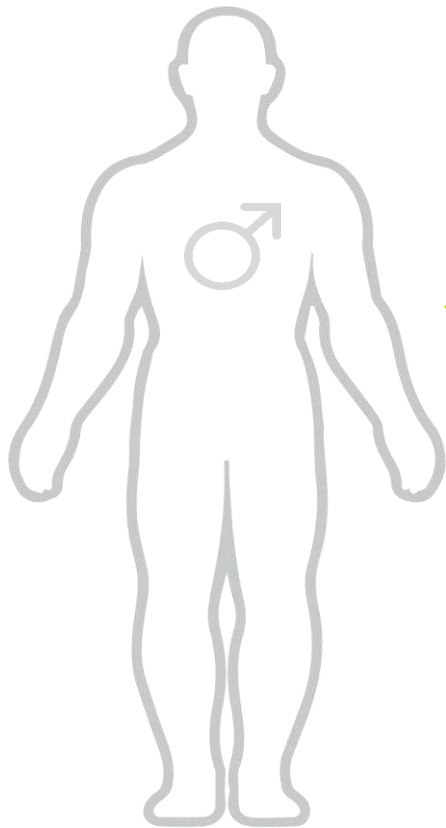
**Semen Analysis**  
(Advanced Exam)



**Sperm Separation**



自然程序



輔助生殖

協助輔助生殖決策建議

精液檢測 (原始樣本)

精子優化/選精

確保精子品質

精液檢測(選精優化)

LensHOOKE®

男性生殖整體解決方案

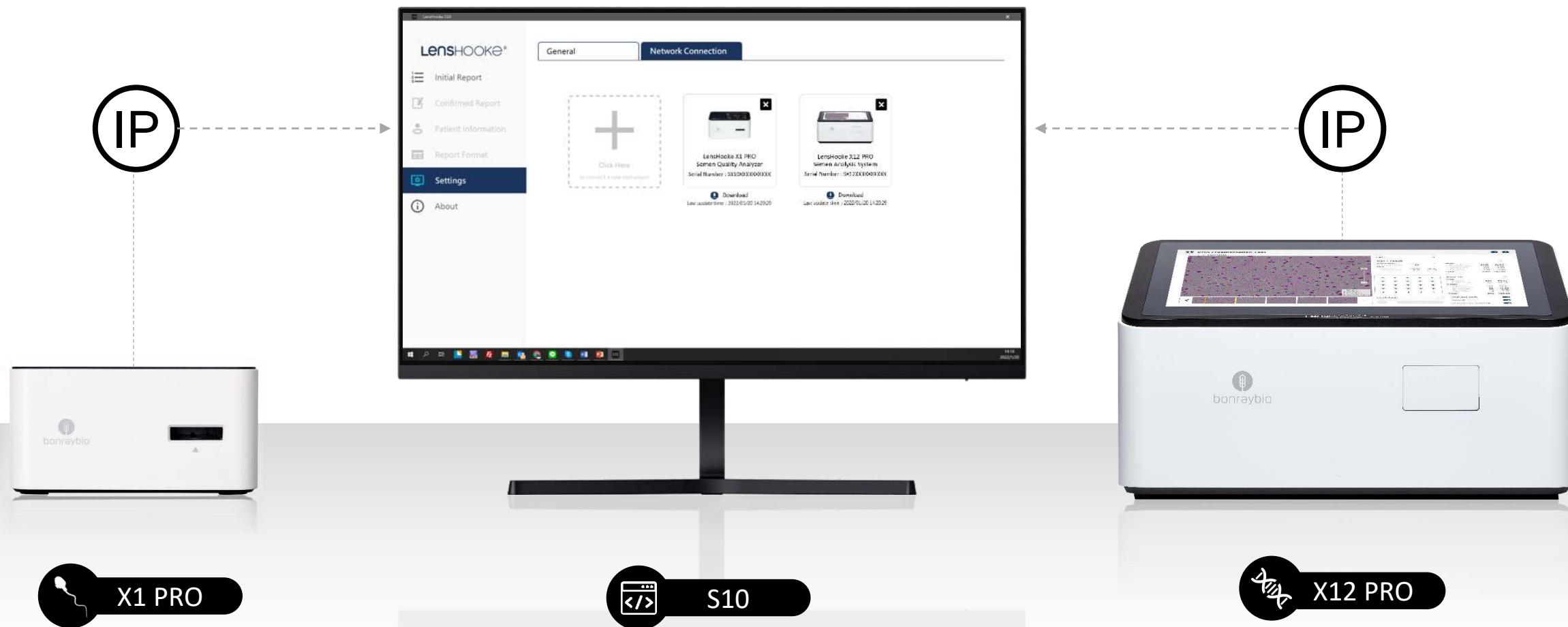




# LensHooke S10

2022 NEW

## 數據整合軟體



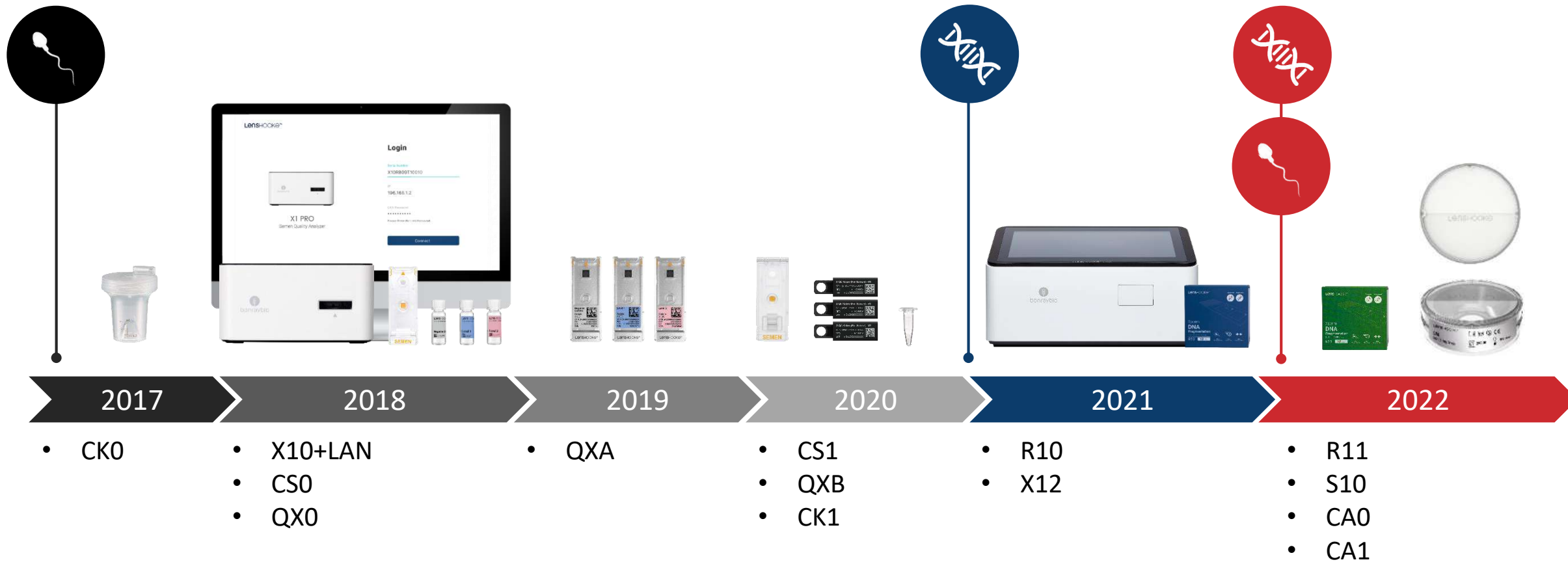
---



# 營運成果



# 產品上市時間表



# 2023 新品上市時程



LensHooke X12 PRO  
精子品質分析系統



基礎精子常規檢測  
(精子濃度, 活動力, 實體型態, 圓細胞)



基礎精子常規檢測  
(染色型態)

Q1

Q2

Q3

Q4



LensHooke CS3  
精子檢測片



LensHooke CR0  
預染色型態玻片



精子檢測片  
(搭配X12 PRO精子檢測系統)



預染色型態玻片  
(搭配X12 PRO精子檢測系統)

# 產品准證 (發布)

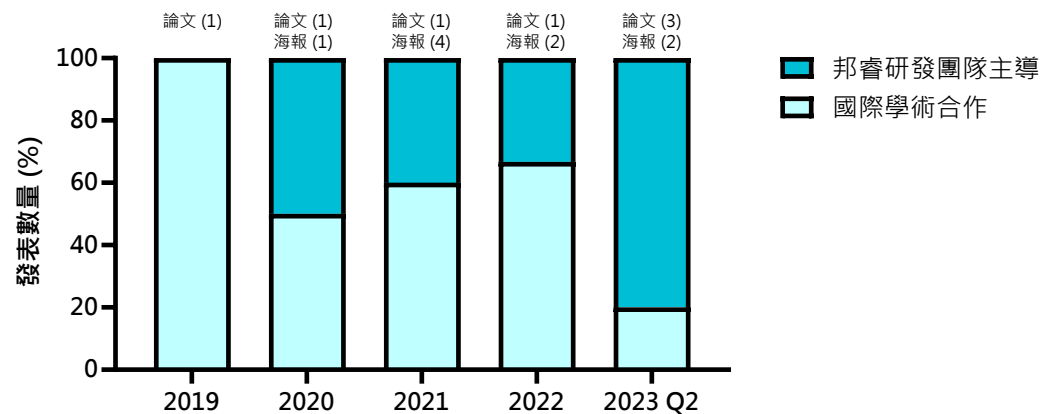
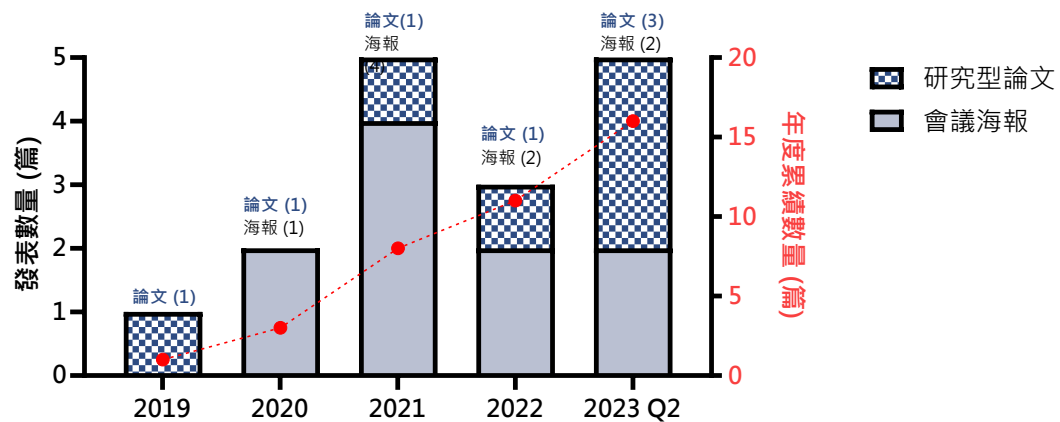
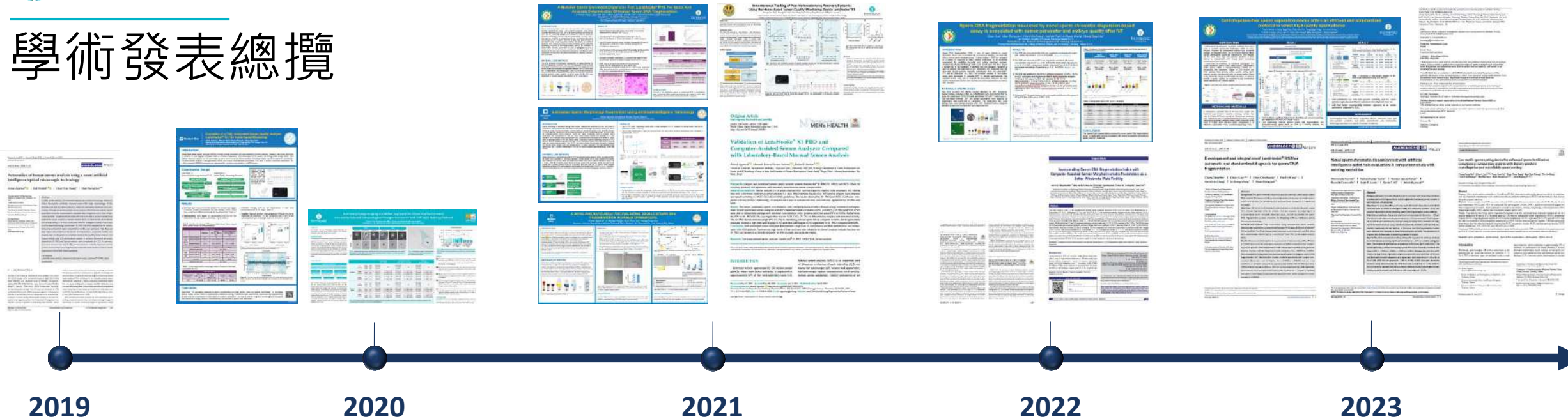


檢測儀	X1 PRO   X12 PRO	X1 PRO   X1 PRO SE (CLIA Waiver)	X1 PRO   X12 PRO	X1 PRO	X1 PRO   X12 PRO	X1 PRO	X12 PRO
耗材	CS0   CS1   CK1	CS0   CS1   CK0   CK1   CA0   CA1	CS0   CS1   CK1   CW0   CA0   CA1	CS0   CS1   CK0	CS0   CS1   CK0   CK1	CS0   CK0	CA0
品質管控	QX0   QXA	QX0   QXA   QXB	QX0   QXA   QXB	QX0   QXA		QX0	
試劑	R10   R11	R10   R11	R10   R11   CR0				R10



檢測儀	X1 PRO	X1 PRO	X1 PRO	X1 PRO	X1 PRO	X1 PRO	X1 PRO
耗材	CS0   CK0   CW0	CS   CK   CW0	CS0	CS   CK	CS0   CS1   CK0	CS0   CK0	CS0   CS1   CK0   CK1
品質管控	QX0	QX0	QX0	QX0	QX0	QX0	QX0   QXA   QXB

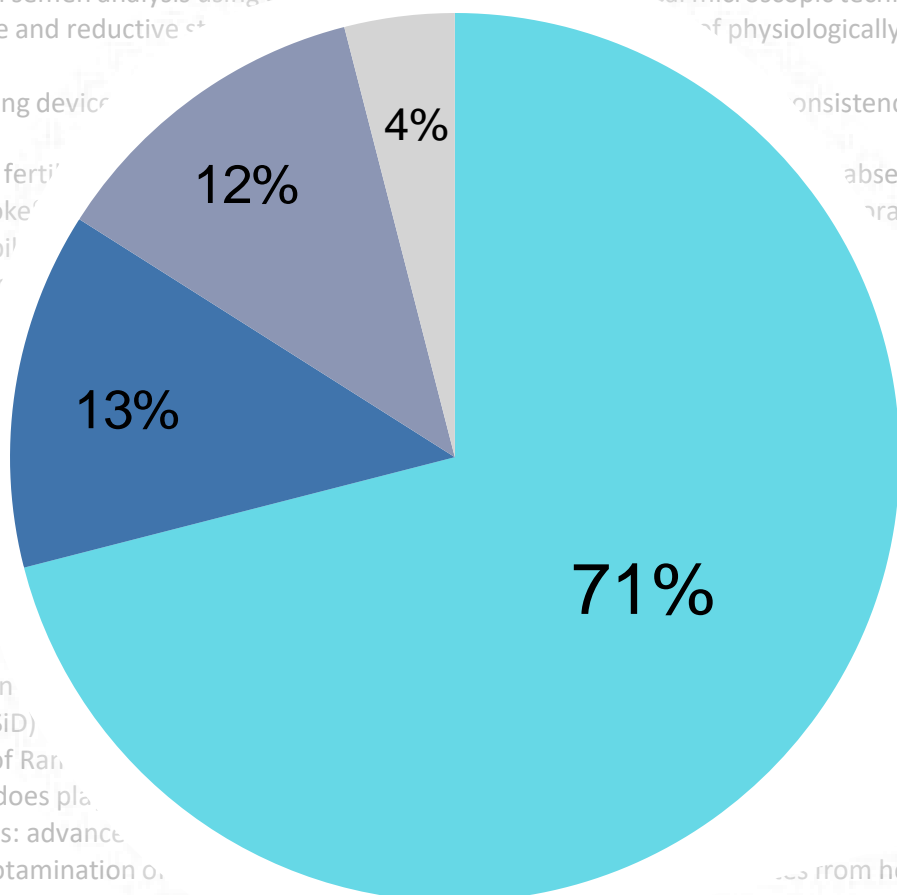
# 學術發表總攬



- 統計至今 (2023.07), 邦睿共發表16篇學術文章 (6 篇研究型論文 ; 10 篇會議海報)
- 另外2篇研究型論文與4篇摘要預計於今年度發表

邦睿研發團隊在出版物數量增長方面實現了一個重要的里程碑

#	Title	Journal (SCI impact factor, 2021)
1	Automation of human semen analysis using a novel optical microscopic technology	Andrologia (2.532)
2	The effect of oxidative and reductive stress on the motility of physiologically normal human spermatozoa	Free Radic Biol Med. (8.101)
3	Male infertility	Lancet. (202.731)
4	Simplified sperm testing device for low- and middle-income countries	Facts Views Vis Obgyn. (0.54)
5	Comparative study of fertility in low- and middle-income countries	Andrologia (2.532)
6	Validation of LensHooke® for the diagnosis of sperm motility	World J Mens Health (6.494)
7	The validity and reliability of the LensHooke® for the diagnosis of sperm motility	Transl Androl Urol. (2.479)
8	Standardized Laboratory Practice for the Diagnosis of Sperm Motility	World J Mens Health (6.494)
9	Incorporating sperm motility into the WHO definition of male infertility	Chin J Physiol. (1.568)
10	The Effectiveness of the LensHooke® for the Diagnosis of Sperm Motility	Acta Inform Med. (1.87)
11	Future of Male Infertility	Urology (2.633)
12	ALDH2 Expression, Mitochondrial Dysfunction, and Sperm Motility	J Urol. (7.641)
13	The Association between Sperm Motility and Male Infertility	World J Mens Health (6.494)
14	Molecular Alterations in Sperm Motility	PLoS One (2.110)
15	In vitro assessment of sperm motility	PLoS One (2.110)
16	Staining-free, Automated Sperm Motility Analysis	PLoS One (2.110)
17	High concentration of spermatozoa	PLoS One (2.110)
18	Artificial intelligence in sperm motility analysis	PLoS One (2.110)
19	Computer software (SiD) for sperm motility analysis	PLoS One (2.110)
20	Motility Assessment of Rare Spermatozoa	PLoS One (2.110)
21	Sperm DNA integrity does not predict sperm motility	PLoS One (2.110)
22	Looking with new eyes: advanced sperm motility analysis	PLoS One (2.110)
23	Condensation and protamination of spermatozoa	PLoS One (2.110)
24	The MAEL expression in mitochondria of spermatozoa	PLoS One (2.110)
25	Development and integration of LensHooke® for the diagnosis of sperm motility	PLoS One (2.110)

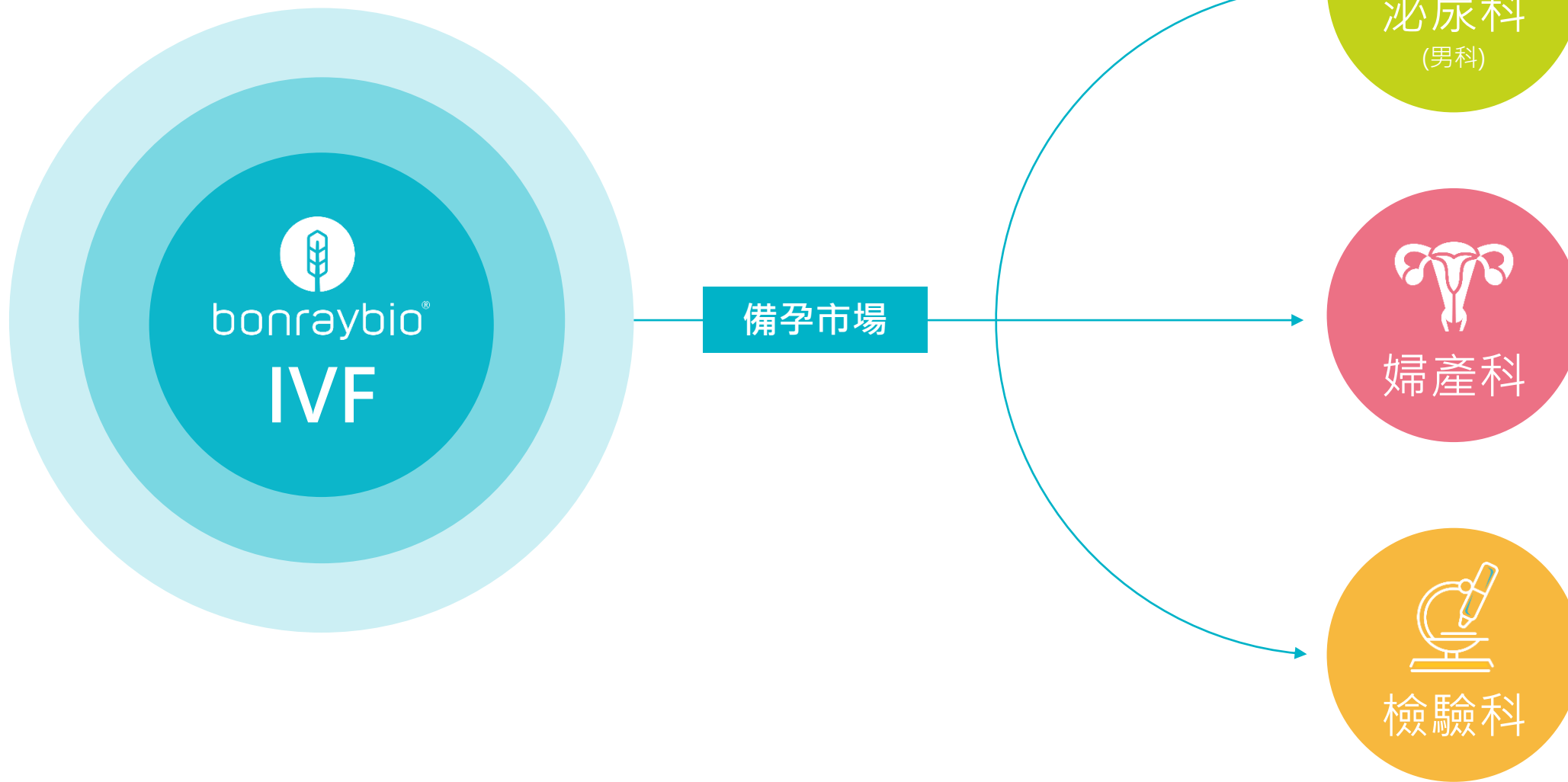


- **不孕症**  
(男科學, 人工輔助生殖, 婦產科, 泌尿科)
- **方法學**  
(人工智慧)
- **基礎科學**  
(生物學, 自由基, 基因學, 食品科學, 神經學.)
- **其他**  
(環境與公共衛生, 社會學)

**LensHooke**產品不僅為不孕領域的臨床實踐做出貢獻，  
且開啟了人工智慧在此領域的應用。



# 產品之銷售模式



# 全球銷售模式



- 當地舉辦Workshop
- 產品推廣

- 輔導經銷商當地產品培訓
- Workshop

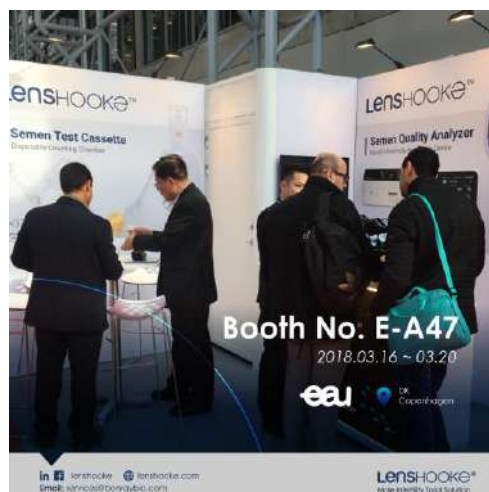


# 醫療器械展會





# 專業年會





# 新品上市發表會



New Product Launch  
新品上市發表會



2019

- X1 PRO 精子品質分析檢測儀





# 新品上市發表會/全球在線課程



<p><b>Webinar</b> Automated Semen Analyzer using Artificial Intelligence is the New Gold Standard for Routine Semen Examination. Chile Sep. 24 80 人</p>	<p><b>Webinar Review</b> Automated Semen Analyzer using Artificial Intelligence. A Technological Breakthrough of this Century. Italy Oct. 22 21 人</p>	<p><b>Webinar</b> embART India Oct. 23 184 人</p>	<p><b>Webinar</b> Artificial Intelligence in Andrology Laboratory: The Future of Semen Analysis. Vietnam Dec. 17 536 人</p>	<p><b>Webinar</b> Artificial Intelligence in Andrology Laboratory: The Future of Semen Analysis. India Mar. 28 105 人</p>	<p><b>Webinar</b> New Concepts and Technologies in the Diagnosis of Male Infertility. Lithuania Jan. 14 80 人</p>
<p><b>Webinar</b> Automated Semen Analyzer using Artificial Intelligence is the New Gold Standard for Routine Semen Examination. India Mar. 20 536 人</p>	<p><b>Webinar</b> Global Andrology Symposium Mexico May. 19 1231 人</p>	<p><b>Webinar</b> Automated Semen Analyzer using Artificial Intelligence is the New Gold Standard for Routine Semen Examination. Nigeria Jun. 25 372 人</p>	<p><b>Webinar</b> DPW PATELKI Jawa Barat Indonesia Jan. 14 184 人</p>	<p><b>Webinar</b> HỌI NGHỊ KHOA HỌC TOÀN QUỐC NĂM 2022 Vietnam Nov. 18 35 人</p>	<p><b>Webinar</b> Automated Semen Analyzer using Artificial Intelligence is the New Gold Standard for Routine Semen Examination. Spain Nov. 30 184 人</p>

# 新品上市發表會



• X1 PR



## INVITATION

**KEYNOTE PRESENTATION**

### Artificial Intelligence Powered Andrology Diagnostics Offers Total Solution for Male Infertility

**MODERATOR:**  
Prof. Dr. Giovanni Maria Colpi  
Head of Andrology Unit, and Scientific Director of Next Fertility Procrea, Lugano (Switzerland)

**SPEAKER:**  
Prof. Dr. Ashok Agarwal  
Head of Andrology Center at Cleveland Clinic Foundation, Cleveland, United States

**DATE:** July 5<sup>th</sup>, 2022      **TIME:** 12:30 - 14:00

 **Milan, Italy** | MiCo - Milano Convention Center Meeting Room | LEVEL-1, ORANGE 02

**LensHooke®**  
Male Infertility Total Solution

**WELCOME TO OUR BOOTH!**  
Hall 4 | Booth No. G10





# 新品上市發表會/全球在線課程



• X

系統





# 經銷商教育訓練2023



**22**個/國家  
**30**位/經銷商



**2<sup>ND</sup>** 2023.02.21-02.23  
**7**國家/**11**位經銷商

2023

**1<sup>ST</sup>** 2023.02.14-02.16  
**11**國家/**12**位經銷商



**3<sup>RD</sup>** 2023.05.03-05.05  
**4**國家/**7**位經銷商



# 產品體驗巡迴課程



**2<sup>ND</sup>** 2023.02.19  
**Malaysia** 馬來西亞



**4<sup>TH</sup>** 2023.04.24  
**Brazil** 巴西



**6<sup>TH</sup>** 2023.05.14-05.15  
**Korea** 南韓



**8<sup>TH</sup>** 2023.06.18  
**Vietnam** 越南



**10<sup>TH</sup>** 2023.07.05  
**Germany** 德國



**3<sup>RD</sup>** 2023.04.01  
**Singapore** 新加坡



**5<sup>TH</sup>** 2023.04.30  
**Colombia** 哥倫比亞



**7<sup>TH</sup>** 2023.05.26  
**Thailand** 泰國



**9<sup>TH</sup>** 2023.06.30  
**Italy** 義大利





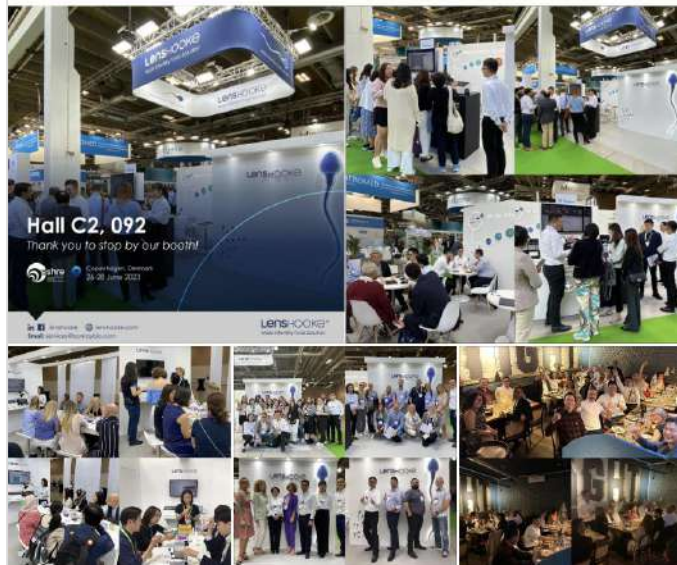
# 社群網絡滲透式行銷

 總觸及人數  
**62,428**

**LensHooke**  
7月5日下午1:37

Thank you to stop by our booth in ESHRE to know more about our new solutions for semen analysis. This year, we not only demo our product but also let you to realize how easy LensHooke is by real practice. We will keep devoting to develop more solutions to fulfill the demands of IVF market. See you next year.

#lenshooke #bonraybio #eshre2023 #eshre #MaleInfertilityTotalSolution..... 查看更多



**LensHooke**  
6月13日上午11:55

Exciting News! The article of our pioneered live motile sorting technology is just published by Journal of Assisted Reproduction and Genetics. According to this article, CA0, to develop by live motile sorting technology, yielded spermatozoa with enhanced sperm fertilization potentials; DFI was minimized in samples processed by CA0. CA0 was effective for both normal and abnormal semen samples due to its consistent selection efficiency.

For more details, please visit our boo..... 查看更多

**JATG**  
Journal of Assisted Reproduction and Genetics  
https://doi.org/10.1007/s12611-023-02838-4

**GAMETE BIOLOGY**

**Live motile sperm sorting device for enhanced sperm-fertilization competency: comparative analysis with density-gradient centrifugation and microfluidic sperm sorting**

Cheng-Teng Hui<sup>1</sup>, Chun-Li Lee<sup>2,3,4</sup>, Fong-Stan Lin<sup>1</sup>, Fang-Zong Wang<sup>1</sup>, Hui-Chen Chang<sup>1</sup>, Tsa-En Wang<sup>1</sup>, Chun-Chia Huang<sup>2,3</sup>, Hui-Mei Tsao<sup>7</sup>, Maw-Sheng Lee<sup>2,3,4,5</sup>, Ashok Agarwal<sup>6,7,8,9</sup>

Received: 23 February 2023 / Accepted: 23 May 2023  
© The Author(s), under exclusive license to Springer Science+Business Media, LLC, part of Springer Nature 2023

**Abstract**  
Purpose A live motile sperm sorting device (LensHooke® CA0) developed to prevent the deleterious effects of centrifugation was evaluated comparatively with conventional density-gradient centrifugation (DGC) and microfluidic-based device (Zymot) in sperm selection. Methods Semen samples from 239 men were collected. CA0 under different incubation intervals (5, 10, 30, and 60 min) and temperatures (20, 25, and 37°C) was conducted. The sperm quality in CA0-, DGC-, and Zymot-processed samples was then comparatively evaluated. Semen parameters included concentration, motility, morphology, motion kinematics, DNA fragmentation index (DFI), and the rate of acrosome-reacted sperm (AR). Results Total motility and motile sperm concentration increased in a time- and temperature-dependent manner and the total motility peaked for 30 min at 37°C. In paired analysis, CA0 showed significantly higher total motility (94.05%), progressive motility (90.8%), rapid progressive motility (83.6%), normal morphology (10.3%), and lower DFI (2.4%) and AR (4.7%) than the other two methods in normozoospermic samples (all  $p < 0.05$ ). For non-normozoospermic samples, CA0 had significantly better results than the other two methods (total motility 89.2%, progressive motility 80.4%, rapid progressive motility 74.2%, normal morphology 8.5%, DFI 4.0%, and AR 4.0%; all  $p < 0.05$ ). Conclusion CA0 yielded spermatozoa with enhanced sperm fertilization potentials. DFI was minimized in samples processed by CA0. CA0 was effective for both normal and abnormal semen samples due to its consistent selection efficiency.

**Keywords** Sperm preparation · Sperm motility · Sperm DNA fragmentation · Sperm quality · Sperm retrieval

**Introduction**  
Worldwide, approximately 190 million individuals in the reproductive age group are affected by infertility [1–3]. Up to 30% of infertility cases are attributed solely to male factor infertility, which contributes to approximately 50% of infertility in combination with female infertility. The most prominent abnormalities found in semen are low sperm concentration, poor sperm motility, and abnormal sperm morphology [4]. To overcome sperm abnormalities in assisted

Cheng-Teng Hui and Chun-Li Lee are joint first authors by virtue of their contributions to this work.

✉ Ashok Agarwal | [ashok@Andrology.org](mailto:ashok@Andrology.org)

<sup>1</sup> Center for Research and Development, Bonray Bio Co., Ltd., Taichung, Taiwan  
<sup>2</sup> Division of Infertility Clinic, Lee Women's Hospital, Taichung, Taiwan  
<sup>3</sup> Institute of Medicine, Chung Shan Medical University, Taichung, Taiwan  
<sup>4</sup> Department of Obstetrics and Gynecology, Chung Shan Medical University, Taichung, Taiwan  
<sup>5</sup> Department of Post-Baccalaureate Medicine, National Chung-Shing University, Taichung, Taiwan  
<sup>6</sup> Global Andrology Forum, American Center for Reproductive Medicine, OH 44032 Montland Hill, USA  
<sup>7</sup> Cleveland Clinic Foundation, Cleveland, OH 44195, USA  
<sup>8</sup> Global Andrology Forum, 130 West Jupiter Lane, Montland Hill, OH 44032, USA

Published online: 10 June 2023 

 總觸及率  
**10,475**

**LensHooke**  
182 人關注  
2 個月前

REDLARA 2023 & LensHooke MITS (Male Infertility Total Solution) workshop  
5rd Stop – Medellin, Colombia

**REDLARA 2023 & LensHooke MITS workshop**  
Medellin  
April 26-30, 2023  
Colombia

**LensHooke**  
182 人關注  
2 個月前

LensHooke MITS (Male Infertility Total Solution) workshop  
4rd Stop – San Paulo, Brazil

.....展開



# 市場銷售區域

**美洲** 已上市 \*8

墨西哥	智利	巴西	哥倫比亞
美國	阿根廷	秘魯	波多黎各

**歐洲** 已上市 \*24

挪威	丹麥	瑞典	南非
芬蘭	愛沙尼亞	拉脫維亞	
立陶宛	捷克	斯洛伐克	
波蘭	德國	希臘	
奧地利	塞爾維亞	意大利	
法國	西班牙	瑞士	
荷蘭	比利時	英國	
		葡萄牙	
		盧森堡	

**非洲&中東** 已上市 \*12  
即將上市 \*2

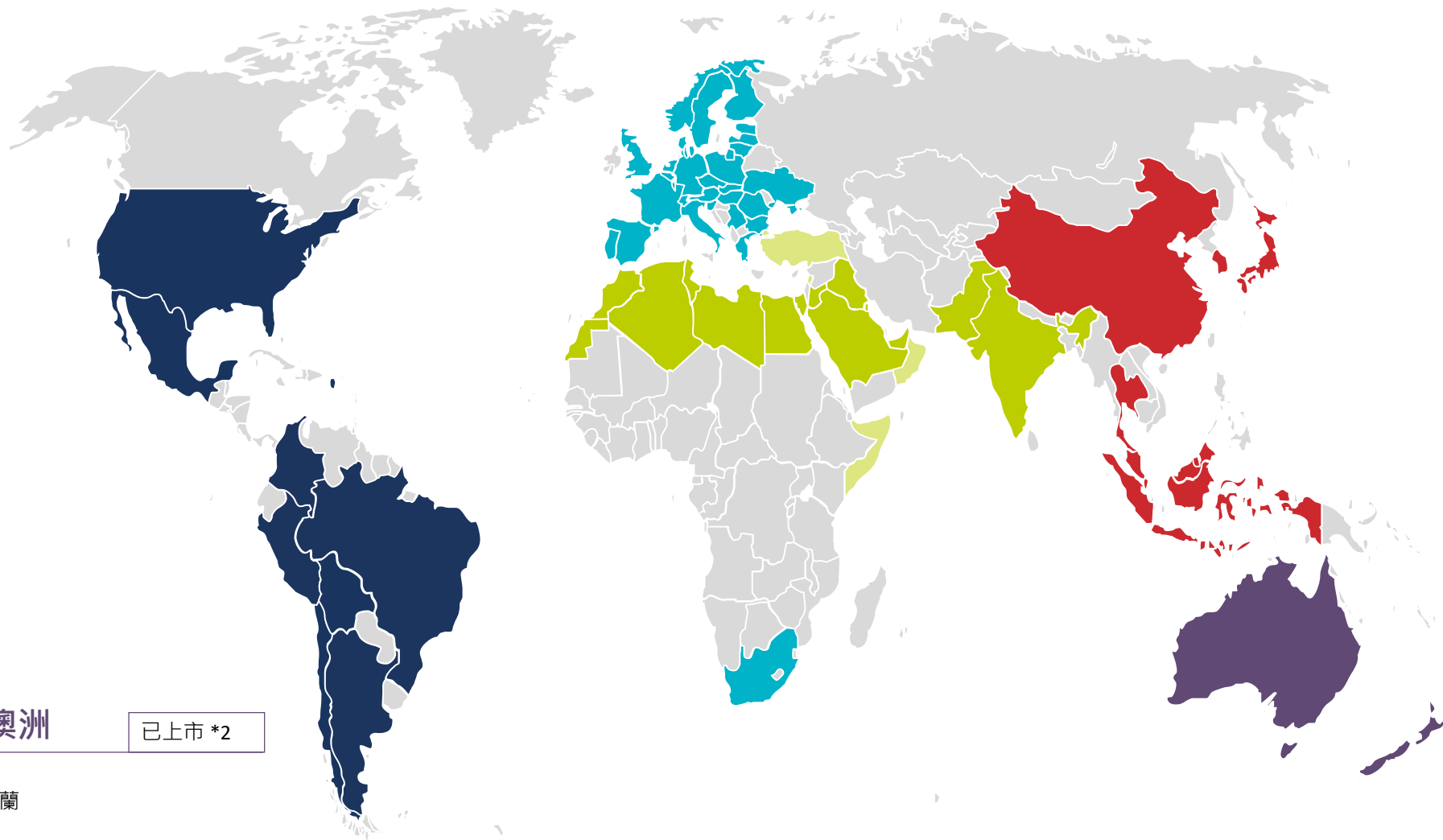
摩洛哥	卡達	印度
沙特阿拉伯	巴林	阿曼
伊拉克	巴基斯坦	黎巴嫩
科威特		土耳其
約旦		
阿拉伯聯合酋長國		

**亞洲** 已上市 \*10

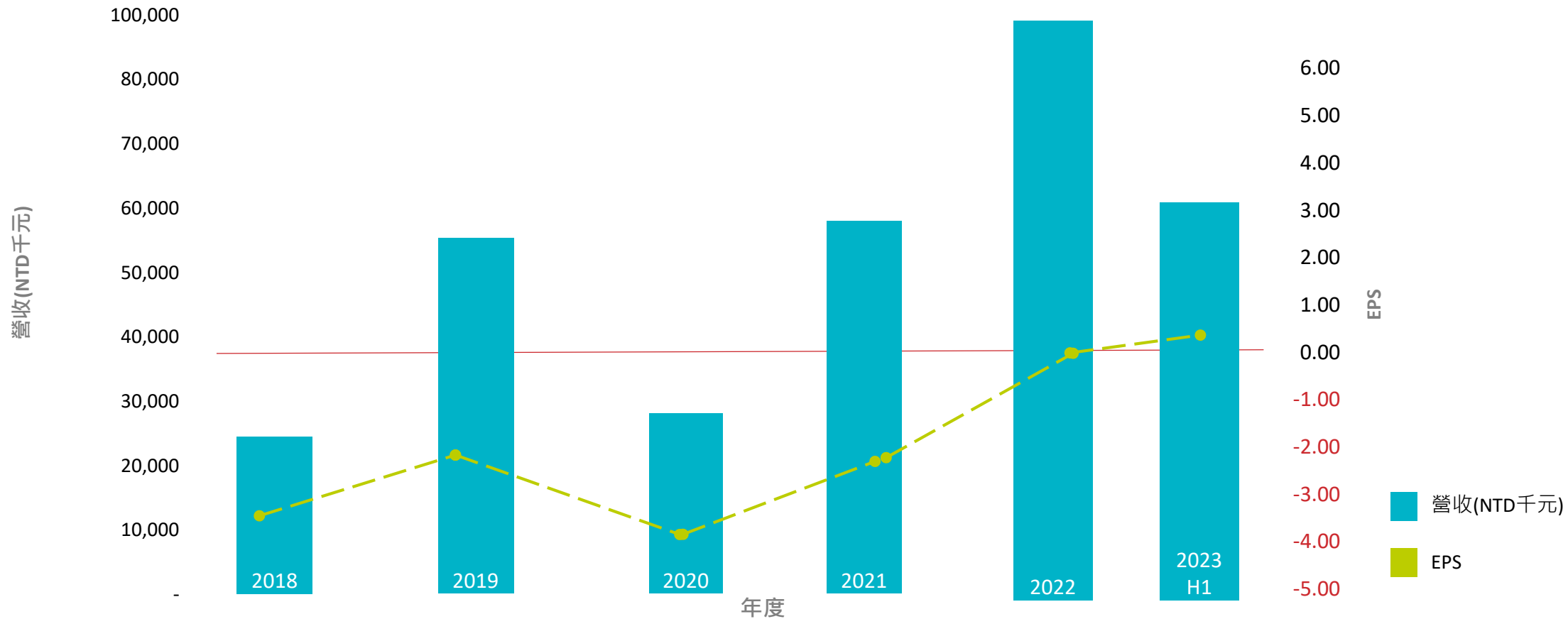
日本	韓國	新加坡
印尼	泰國	
香港	中國	
澳門	台灣	
	馬來西亞	

**澳洲** 已上市 \*2

澳洲
紐西蘭



# 營收資訊



年度	2018	2019	2020	2021	2022	2023 H1 (自結數)
營收(NTD千元)	22,552	54,285	26,590	56,295	106,274	63,941
EPS	-3.73	-2.43	-4.00	-2.63	0.11	0.35

---



未來展望

# 持續深化品牌



**技術品牌**  
研發製造

**LenSHOOKE®**

**產品品牌**  
市場銷售



# 未來產品方向布局

## 生殖醫學領域



生殖領域  
**男性不孕症檢測**

精子檢測  
精子DNA碎片檢測  
篩選精子

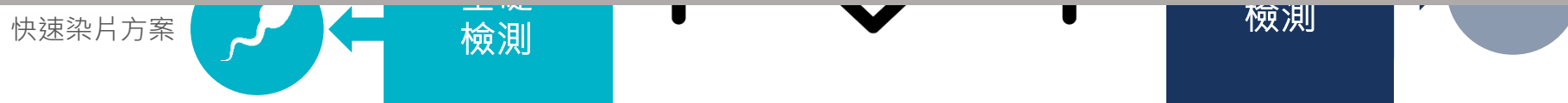


生殖領域  
**婦科不孕症**

# 近期上市產品布局



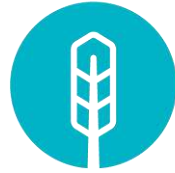
## 全方位輔助備孕解決方案



A person wearing a white lab coat and blue nitrile gloves is holding a camera. The camera's lens is the central focus, showing a glowing DNA double helix and a small, glowing orange and red sphere. The background is dark and out of focus.

your health  
our focus

演進醫創 聚焦健康



bonraybio<sup>®</sup>

Technology Inside