

WELCOME  
TO OUR AMAZING COMPANY

從台灣出發，拓展到全世界

PIC/S GMP 藥廠

**PBF** 寶齡富錦生技  
Panion & BF Biotech Inc.



## Panion & BF Biotech Inc. (The Company)

### Disclaimer

- The presentation and the relevant information mentioned in this material, including operating performance, financial performance and the business outlook, have been compiled from both internal and external resources.
- These forward looking statements involve known and unknown risks, uncertainties and other factors, including price variation, competition, global economy, exchange rate movement and market demand, which may cause actual results to differ materially from those implied by such forward-looking statements.
- This Presentation should not be considered as the giving of investment advice by the Company or any of its shareholders, directors, officers, agents, employees or advisers. Each party to whom this Presentation is made available must make its own independent assessment of the Company after making such investigations and taking such advice as may be deemed necessary. In particular, any estimates or projections or opinions contained herein necessarily involve significant elements of subjective judgment, analysis and assumptions and each recipient should satisfy itself in relation to such matters.
- The forward looking statements expressed in this material reflect the Company's current view about the future as of today. The Company is not responsible for any updates if there are any changes in the future.

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Q&A



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# Introduction of PBF

- **Establishment** : January 7, 1976
- **Listing Date** : January 23, 2018 (Ticker : 1760)
- **Integration Capability** : Vertical Integration Converting R&D, Manufacturing, Branding, Channel Marketing, and Diversification.
- **Business Entities** : New Drug, Medicine, Cosmeceutical, Nutraceuticals, Antiseptics, **Pet Care**, Diagnostics/IVD, and APIs.
- **Capital** : NT\$857 million
- **Production Base** :
  - TW : Medicine 、Cosmetics 、Nutrients 、APIs 、Diagnostics/IVD 、Microneedle
  - China : Cosmetics & Antiseptic
- **Employees** : Taiwan 460+ 、 Overseas 70+

# 產品類別 (Product Categories)

呼吸道(Respiratory)  
腸胃道(Gastrointestinal)  
生物標記(Biomarker)  
多重檢測(Multiplex)

微創醫美(Invasive)  
半微創醫美(Semi-Invasive)  
無創醫美(Non-Invasive)



皮膚科(Dermatology)  
腎臟科(Nephrology)  
泌尿科(Urology)  
疼痛科(Pain)

醫療院所(Hospital)  
長照中心(Long-Care Center)  
居家環境(Home Environment Disinfection)

# 六大事業體 (Six Strategic BU)

台灣寶齡  
(PBF Taiwan)



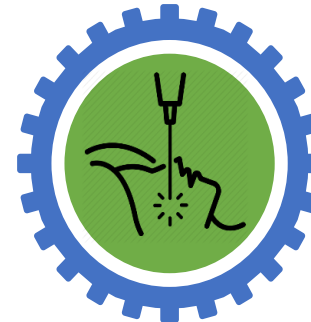
創新醫療  
(Innovative Medicine)

中國寶齡  
(PBF China)



創新診斷  
(Innovative Diagnostics)

原料藥事業  
(API Business)



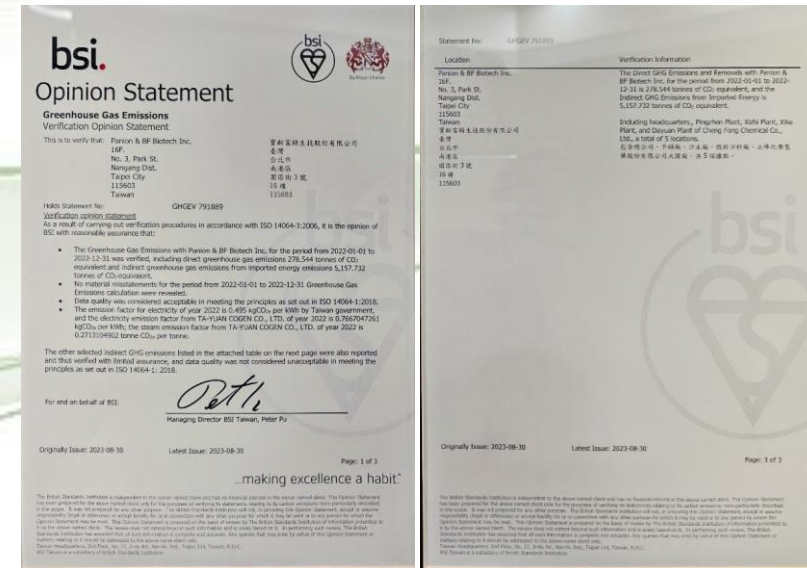
創新醫美  
(Innovative Cosmeceuticals)

# ESG

- Responsible division : The General Manager's Office of the Company, committed to advancing sustainable management, established the dedicated 'Sustainability Development Committee' on August 11, 2022, as resolved by the Board of Directors. **Mr. Chiang, Chung-Ming, the General Manager, serves as the Chairman of the 'Sustainability Development Committee,'** tasked with formulating short, medium, and long-term greenhouse gas reduction targets."

- Recent Achievements :

- ✓ August 2023 – Greenhouse Gas Inventory and Verification (Fiscal Year 2022) [Domestic Operations]
- ✓ June 2024 – Greenhouse Gas Inventory and Verification (Fiscal Year 2023) [Including Overseas Operations]
- ✓ August 2024 – Publication of Sustainability Report (Fiscal Year 2023)





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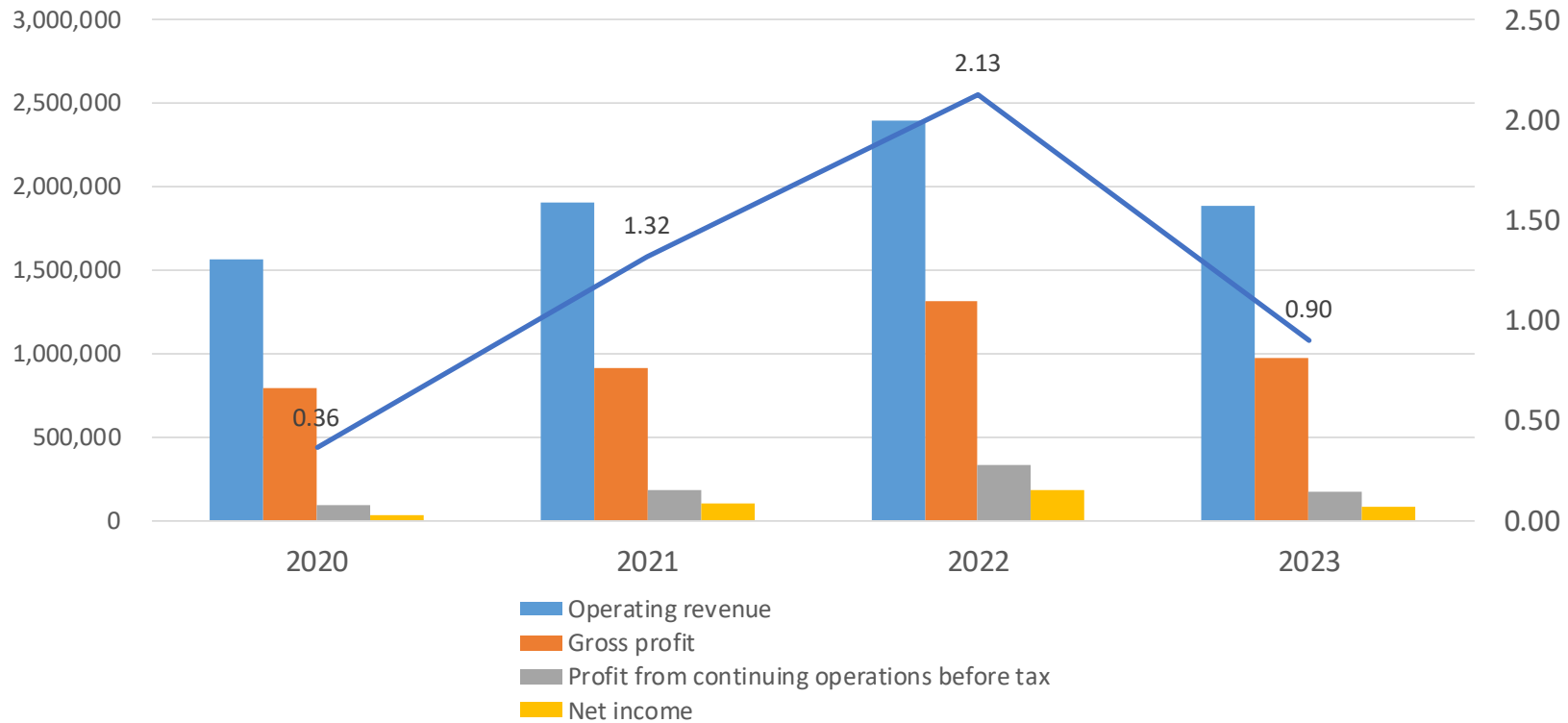
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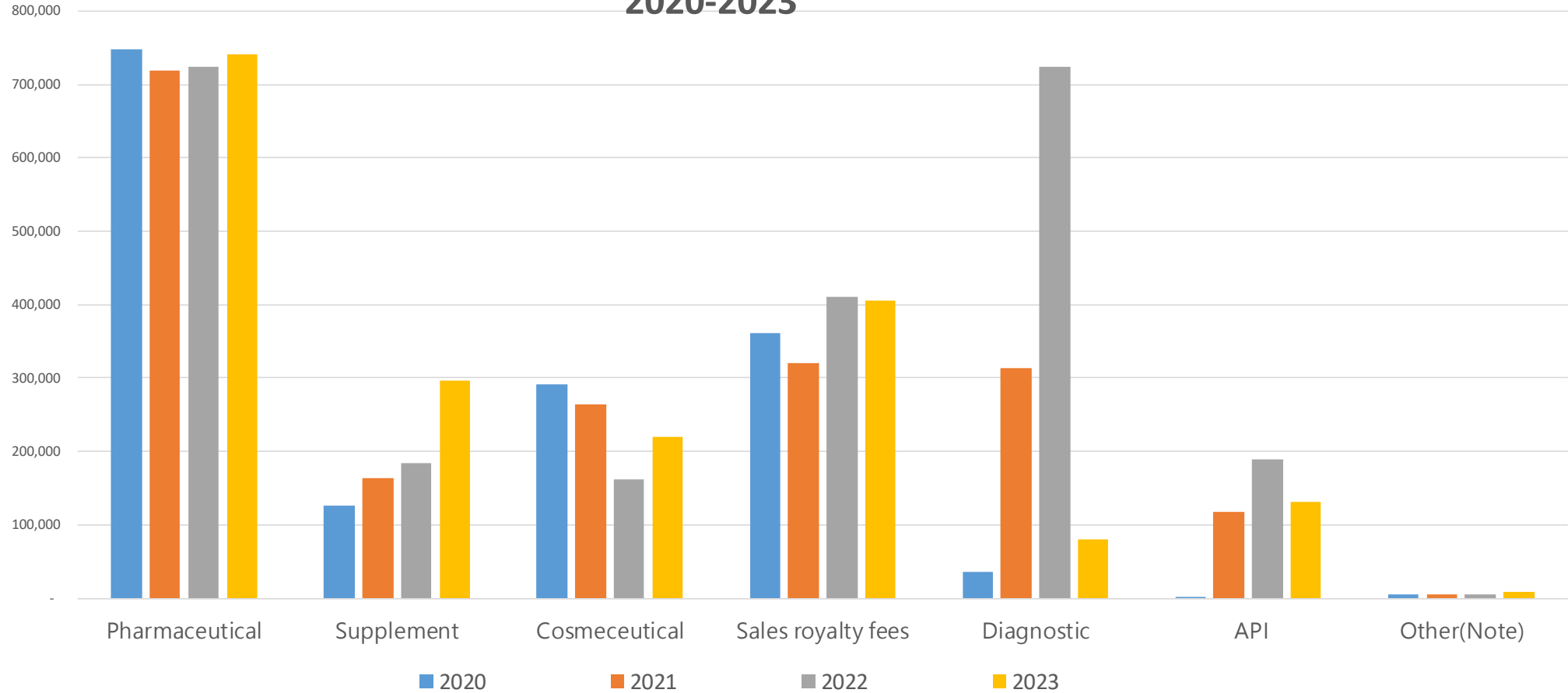


## Consolidated Statements of Comprehensive Income 2020-2023



	In Thousands of New Taiwan Dollars			
	2020	2021	2022	2023
Operating revenue	1,568,637	1,901,211	2,398,648	1,881,875
Gross profit	795,123	912,138	1,318,596	974,397
Profit from continuing operations before tax	89,406	182,652	333,409	168,711
Net income	27,901	104,402	182,345	77,219
Basic earnings per share(expressed in New Taiwan dollars)	0.36	1.32	2.13	0.90
Research and development expenses	127,016	157,711	248,496	217,041
Percentage of Operating revenue	8.1%	8.3%	10.4%	11.5%

## Revenue from Major products 2020-2023

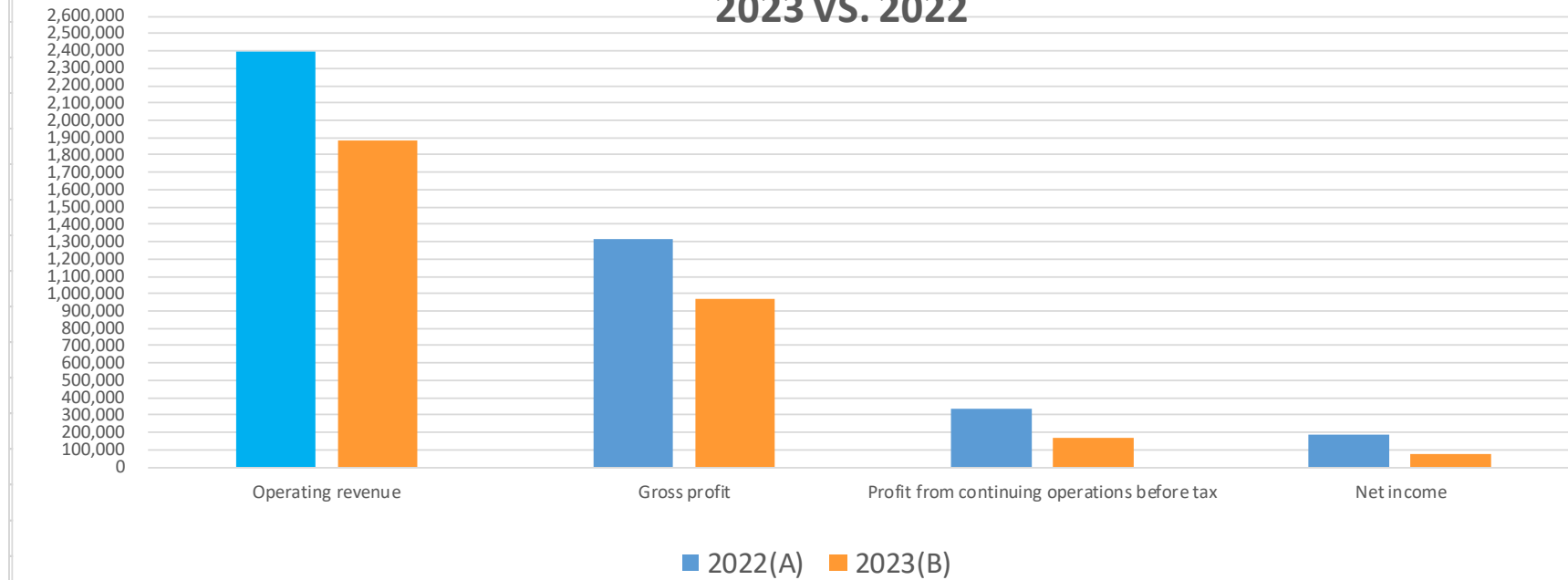


In Thousands of New Taiwan Dollars																
Major products	Pharmaceutical		Supplement		Cosmeceutical		Sales royalty fees		Diagnostic		API		Other(Note)		Operating revenue	
2020	747,769	48%	125,718	8%	290,565	19%	360,796	23%	36,374	2%	2,271	0%	5,144	0.3%	1,568,637	100%
2021	719,660	38%	163,910	9%	263,391	14%	319,789	17%	313,144	16%	116,802	6%	4,515	0.2%	1,901,211	100%
2022	724,221	30%	183,929	8%	161,267	7%	409,919	17%	724,634	30%	189,909	8%	4,769	0.2%	2,398,648	100%
2023	740,492	39%	295,732	16%	219,255	12%	405,235	22%	80,774	4%	131,446	7%	8,941	0.5%	1,881,875	100%

Note : Other products : Medical device

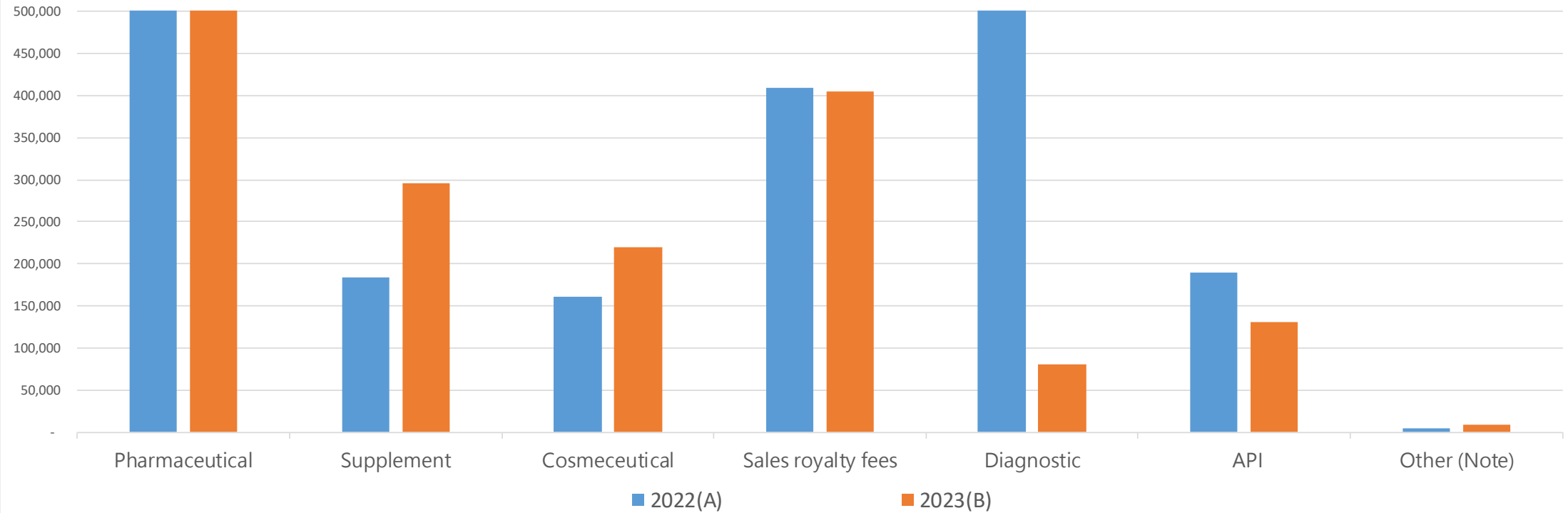
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## Consolidated Statements of Comprehensive Income 2023 VS. 2022



	In Thousands of New Taiwan Dollars			
	2022(A)	2023(B)	2023 VS. 2022	
			Difference Amount (B)-(A)	Growth rate%
Operating revenue	2,398,648	1,881,875	(516,773)	(22)
Gross profit	1,318,596	974,397	(344,199)	(26)
Profit from continuing operations before tax	333,409	168,711	(164,698)	(49)
Net income	182,345	77,219	(105,126)	(58)
Basic earnings per share(expressed in New Taiwan dollars)	2.13	0.90	(1.23)	(58)
Research and development expenses	248,496	217,041	(31,455)	(13)
Percentage of Operating revenue	10.4%	11.5%		

## Revenue from Major products 2023 VS. 2022



In Thousands of New Taiwan Dollars

Major products	Pharmaceutical		Supplement		Cosmeceutical		Sales royalty fees		Diagnostic		API		Other (Note)		Operating revenue	
2022(A)	724,221	30%	183,929	8%	161,267	7%	409,919	17%	724,634	30%	189,909	8%	4,769	0.2%	2,398,648	100.0%
2023(B)	740,492	39%	295,732	16%	219,255	12%	405,235	22%	80,774	4%	131,446	7%	8,941	0.5%	1,881,875	100.0%
Diff Amt(B)-(A) 及 Growth rate%	16,271	2%	111,803	61%	57,988	36%	(4,684)	-1%	(643,860)	-89%	(58,463)	-31%	4,172	87%	(516,773)	-22%

Note : Other products : Medical device

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# Innovative Medicine

創新醫療事業群

NEPHOXIL PHARMACEUTICAL GRADE FERRIC CITRATE

**ACCUMULATED SALES SINCE 2015**  
**>1.3 BILLION USD**

**2023 GLOBAL SALES IN US&JAPAN**  
**>220 MILLION USD**



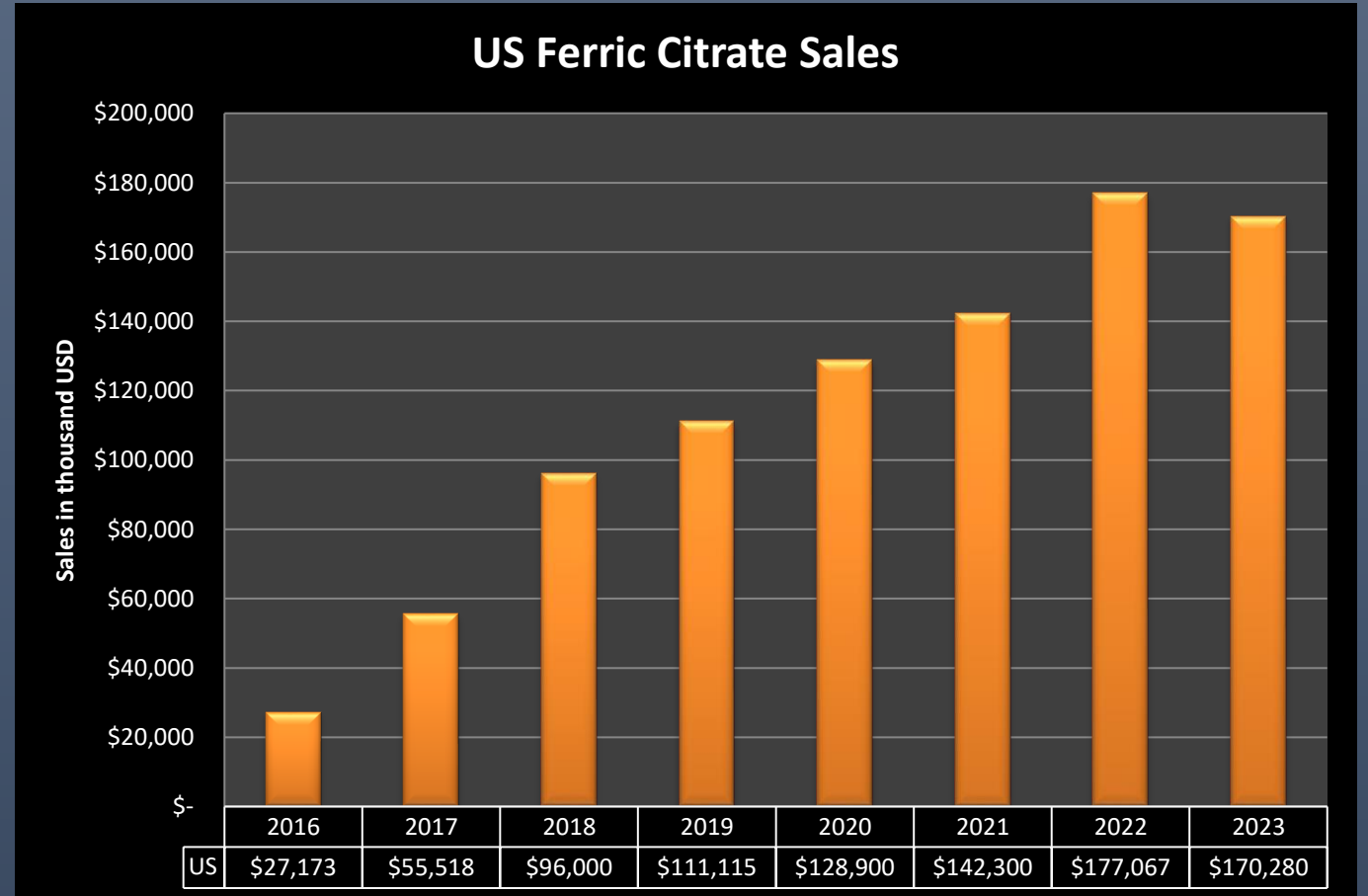


# Ferric Citrate USA

## Auryxia Tablets Growth

- Fourth quarter 2023 Auryxia® (ferric citrate) net product revenues of \$53.2 million and
- Full year 2023 revenues of \$170.3 million
- Expect revenue growth in 2024
- ~Q2 2025 generic entry
- Potential revenue upside in 2025 and 2026 due to phosphate binders are added to the bundle payment and eligible for Transitional Drug Add-on Payment Adjustment (TDAPA).

Source : [www.Akebia.com](http://www.Akebia.com)

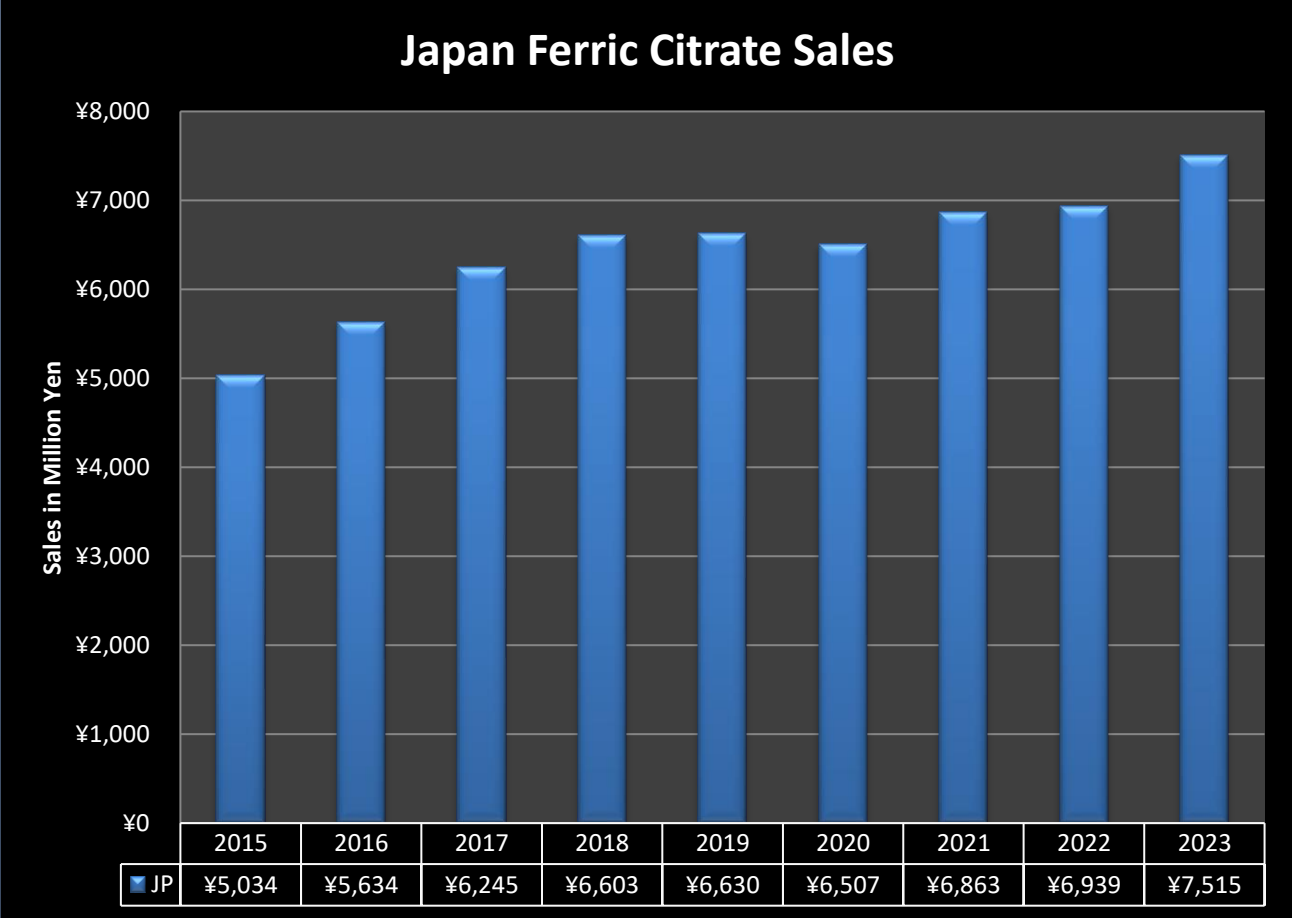


# Ferric Citrate Japan

## Riona tablets Growth

- 2023 total sales 7515 million yen
- 2023 to 2022 YoY Growth Rate : 8.3%
- 2024 estimate 6700 million yen due to 2024 NHI drug price revision.

Source : <https://www.torii.co.jp>



# 拿百磷多角度劑型發展

## Nephoxil New Formulation Development



膠囊劑型 Capsules

- 500 mg: for dialysis patients
  - Hyperphosphatemia



錠片劑型 Tablets

- 1,000 mg: for pre-dialysis patients
  - Iron deficiency anemia



新口服液態 Oral Drops

- Oral Drops: for pets with renal disease
  - Daily renal care, requiring only a few ml taken orally or mixed with food



# 拿百磷亞太地區發展

## Nephoxil Cap Asia Pacific Development

- 2024 持續擴大銷售渠道與營收。  
Continuous market/revenue expansion

Korea



Kyowa Kirin Korea  
協和麒麟韓國

- 新藥審查中  
NDA Review in Progress

China



Wego PBF China  
威高寶齡中國

- 2024 渠道佈建，Q3上市規劃。  
2024 channel deployment; Q3 launch planned

Thai



DKSH Thai  
大昌華嘉泰國



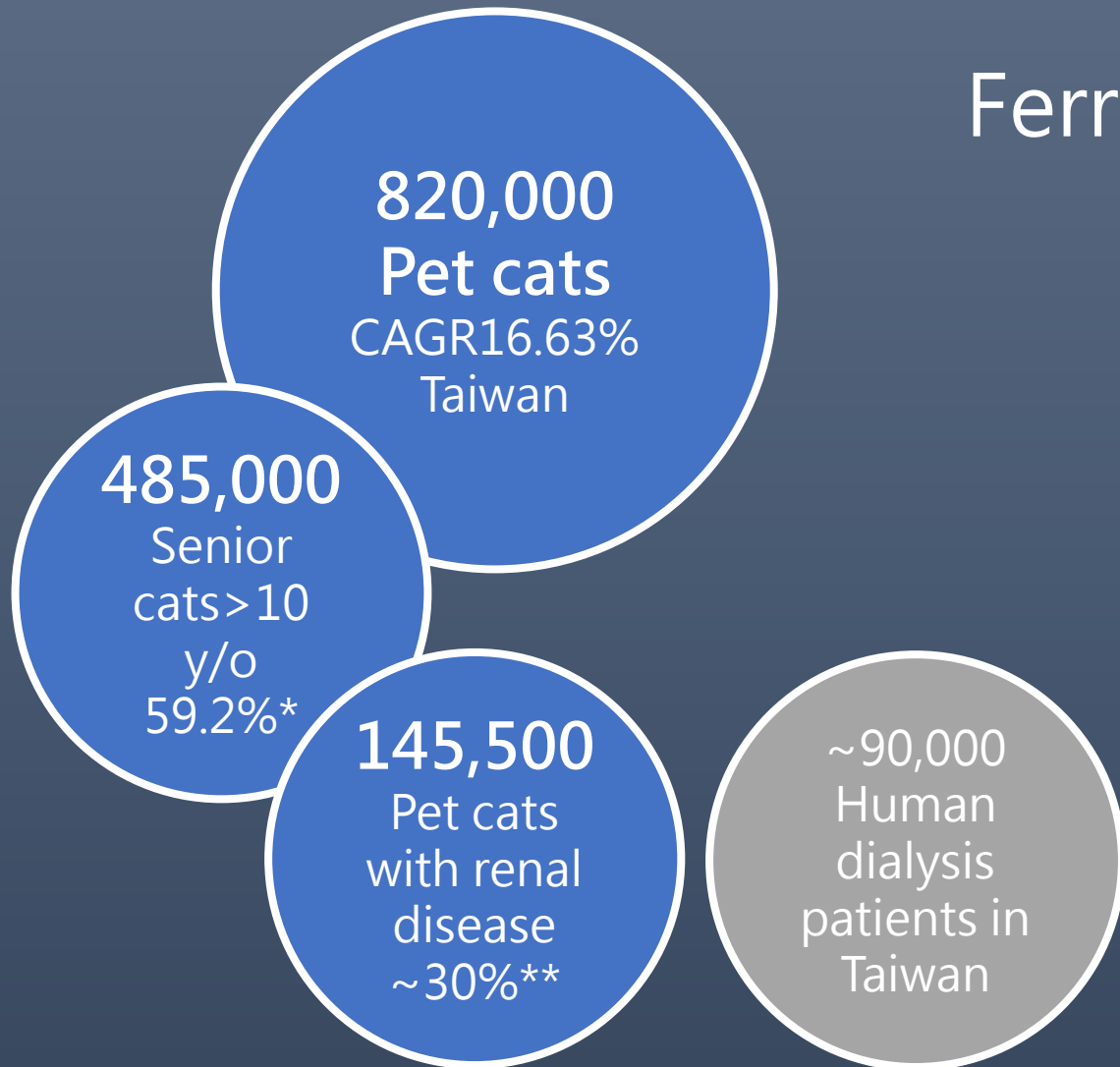
# 2023 Nephoxil Taiwan

## New dosage form & indication

- 2023: 完成拿百磷缺鐵性貧血「新劑型+新適應症」三期臨床解盲，近期已完成衛福部三期臨床結案查核。Completion of Phase III clinical trials for the new dosage form & indication for iron deficiency anemia, with TFDA trial closure investigation concluded in 2023.
- 2024: CMC 批量試製、藥品上市申請準備與健保給付平行審查準備。Scale up production trials, CMC consolidation, and initiate product registration alongside with National Health Insurance submission for 2024.

# NephoPet

## Ferric Citrate Hydrate Oral Drops



- Patented ingredients + convenient dosage form + tailored flavoring 專利成分+便利劑型+風味調製
- Clinical evidence: NephoPet' s ongoing clinical trials are the world' s first for renal care in cats and dogs with renal disease 臨床實證: NephoPet 臨床收案執行中，為全球首次針對腎病貓犬之腎病照護臨床試驗。
- Completion of product line integration; product launch expected in 2024 完成產品線整合，預計今年上市
  - Renal Care
  - Bone & Joint Care
  - Skin care
  - Infection Control
  - Anesthetics
- Pet food market size reached NTD23.5bn (TIER, 2022) 寵物飲食市場規模達新台幣235億 台經院2022
- Kidney failure ranked first in the cause of death in domestic cats and sixth in domestic dogs 腎衰竭為家貓十大死因第一位，家犬為第六位。

\*Ministry of Finance \*\*MIC's 2021 Survey "New Trend in Pet Consumption"(新世代寵物消費趨勢)

# 原料藥產能擴充

## API manufacturing capacity expansion

- Basic production line: Max 10 ton/year, with capacity upscale completed; new US DMF expected
- Additional production line: Max 100 ton/year
  - Completion of stand-alone factory and equipment installation
  - Batch size: up to 5x
  - Batch time: up to 7x
  - Q2/2024 Production line trial run
  - Submission for TFDA production approval and new US DMF filings expected in 2024

# Innovative Diagnostics

創新診斷事業群







In vitro diagnostics

 strip 飛確

江政儒(Ken Chian)  
PBF Innovative  
Diagnostics  
2024/04/11

# Near-term Product Line strip 飛確

## 呼吸道病原Respiratory Pathogen

- ✓ 新型冠狀病毒 (Sars-Cov-2)
- ✓ 流感病毒(Influenza Virus)
- ✓ 呼吸道融合病毒(RSV)
- ✓ 腺病毒(Adenovirus)
- ✓ A型鏈球菌(GAS)
- 人類間質肺炎病毒(hMPV)
- 嗜肺性退伍軍人桿菌(I. Pneumophila)
- 肺炎鏈球菌(s. Pneumoniae)
- 肺炎黴漿菌(m. Pneumoniae)

## 腸胃道病原Gastrointestinal Pathogen

- ✓ 幽門螺旋桿菌( h. Pylori )
- ✓ 輪狀病毒(Rotavirus)
- ✓ 腺病毒(Adenovirus)
- 困難梭狀桿菌(c. Difficile)
- 諾羅病毒(Norovirus)
- 腸病毒(Enterovirus)

## 其他Others

- ✓ 乙型鏈球菌(GBS)
- ✓ 糞便潛血(FOB)
- ✓ 登革熱病毒(Dengue Virus)
- 抗穆氏管荷爾蒙(AMH)

# Mid/Long-Term Product line



## 性傳染病原STD Pathogen

- 人類免疫缺乏病毒(HIV)
- 梅毒(Syphilis)
- 淋病(Gonorrhea)
- 猴痘(Monkeypox)

## 癌症指標Cancer Marker

- CA72-4
- CA125
- CA15-3
- CA199
- PSA

## 抗藥細菌檢測

## Antimicrobial Susceptibility Testing

## 心臟指標Cardiac Marker

- 心肌鈣蛋白(Troponin)
- B型利鈉利尿胜肽(BNP)
- 肌酸磷酸酶(CK-MB)

## 發炎指標Inflammation Marker

- 前降鈣素(PCT)
- C反應蛋白(CRP)

**Obtain results within 30 mins**  
**Accelerate medical decisions**



COVID  
Flu A  
Flu B



COVID  
Flu A  
Flu B  
RSV

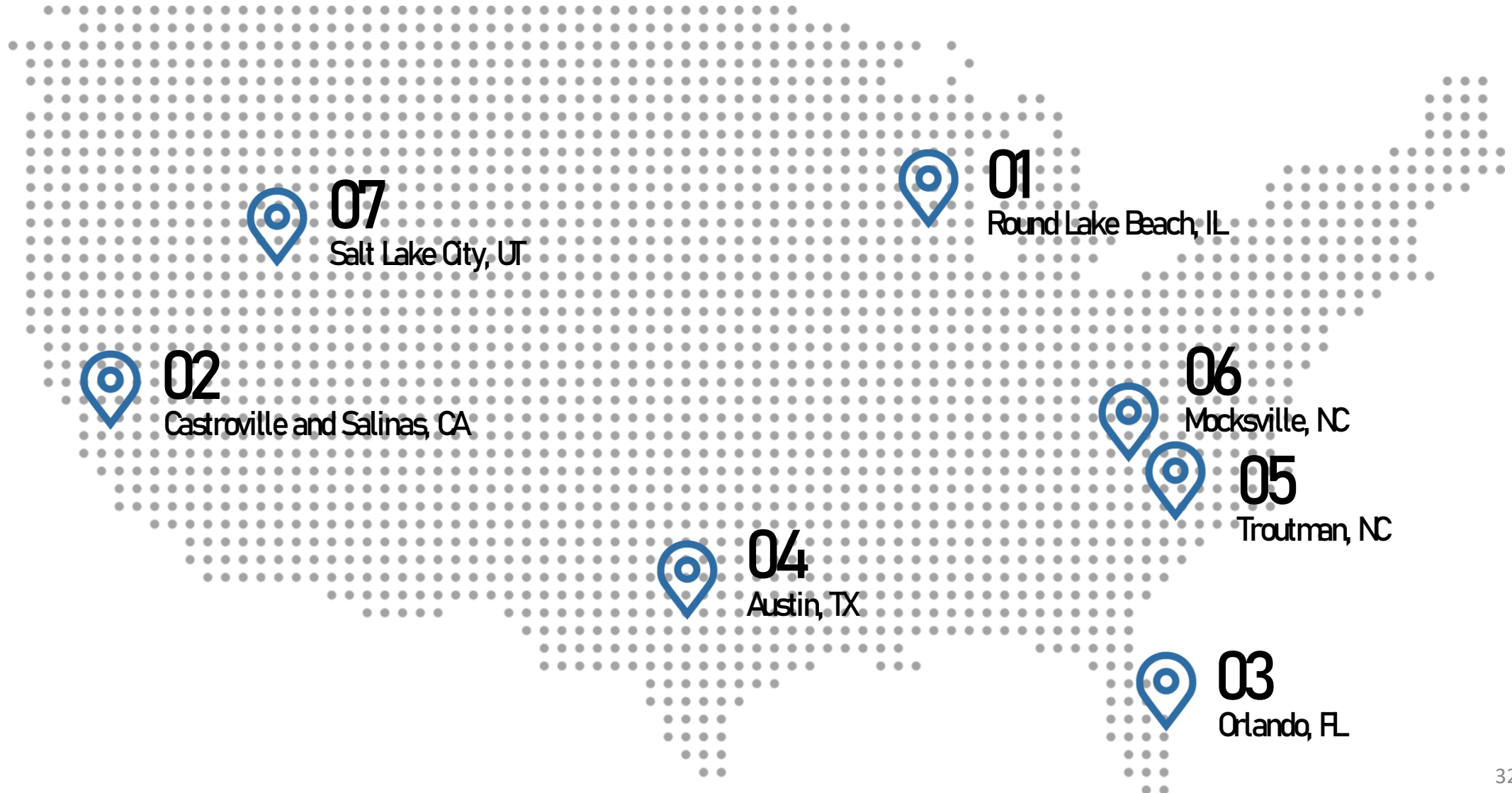


COVID  
Flu A  
Flu B  
RSV  
ADV

# Multiplex Detection 多合一檢測

# Single sample, multiple detections

# 2024 Clinical Study of Multiplex Rapid Test in US







# Vstrip NANA

## Diagnostic Reader

Applicable to Vstrip rapid tests and microfluidic chips

### Usage environment

- Clinics
- Hospitals
- Long-term care institutions
- Home healthcare services
- Schools

**Automated reading  
reduces test processes**

# Timeline



## 台灣TW

### 查驗登記送件Registration

2023Q2 Vstrip RV2 COVID-19 Antigen Rapid Test (professional-grade)

2023Q2 Vstrip RV2 COVID-19 Antigen Rapid Test (consumer-grade)

2023Q3 Acadecise COVID-19 Antigen Rapid Test (consumer-grade)  
- commissioned development by Academia Sinica

2024Q1 Vstrip Dengue NS1 Antigen Rapid Test

2024Q1 Vstrip ABC FluAB & COVID-19 Antigen Rapid Test

2024Q1 Vstrip Immuno-Fecal Occult Blood Rapid Test

2024Q3 Vstrip Streptococcus Pneumoniae Antigen Rapid Test

2024Q3 Vstrip Legionnaires Antigen Rapid Test

2024Q3 Vstrip Clostridium Difficile Antigen Rapid Test



## 新加坡SG

### 查驗登記送件Registration

2024 Vstrip ABC FluAB & COVID-19 Antigen Rapid Test

2024 Vstrip Dengue NS1 Antigen Rapid Test



## 泰國TH

### 查驗登記送件Registration

2024 Vstrip Immuno-Fecal Occult Blood Rapid Test



## 美國US

### 臨床試驗執行Clinical Study

2024 Vstrip ABCR Flu&COVID-19&RSV Antigen Rapid Test



## 加拿大CA

### 查驗登記送件Registration

2024 Vstrip H. pylori Antigen Rapid Test (Non-Sterile)



## 瓜地馬拉GT

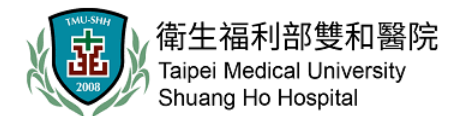
### 查驗登記送件Registration

2023Q1 Vstrip RV2 COVID-19 Antigen Rapid Test

2024Q1 Vstrip Flu A & B Rapid Test

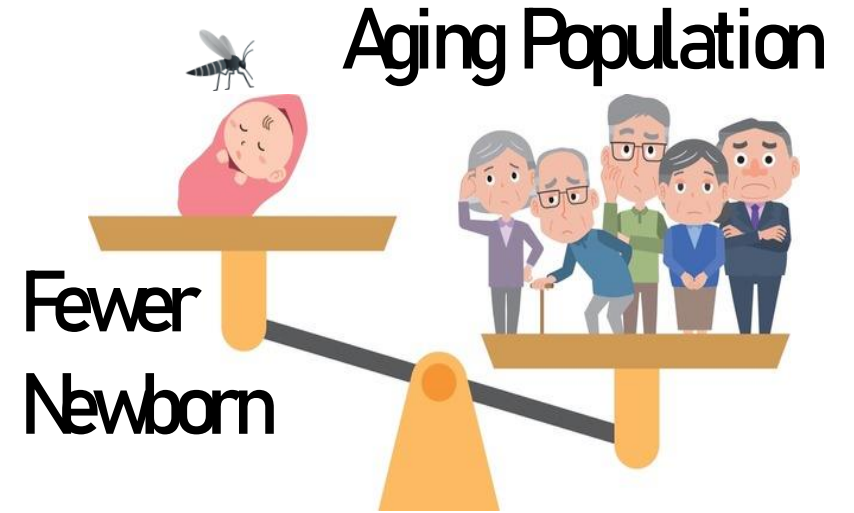
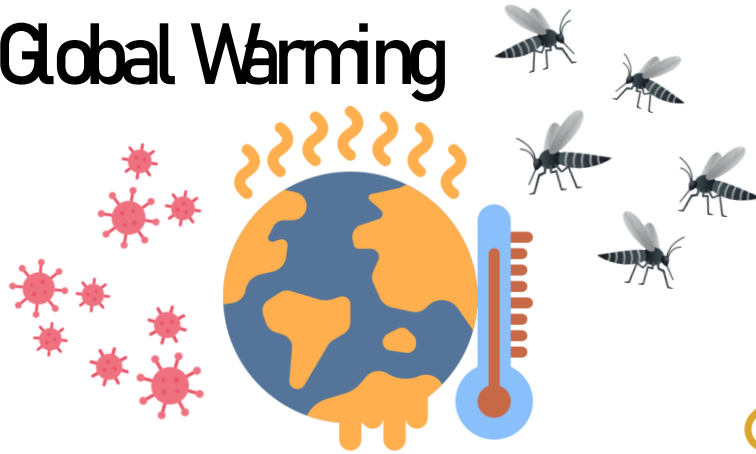
# Strategy

- Product line expansion
- Clinical collaborations and technological development/cooperation in Taiwan
- Multiple detections
- Automated operation/reading processes
- Obtain certificates in the US, Canada, Guatemala, Singapore and Thailand, providing ODM services
- Obtain results within 30 minutes at points of care or at home



# What we care

Global Warming



Burnout Medical Personnel



Drug Resistant Bacterial



**Upstream/downstream  
cooperation;  
Strengthen the medical  
testing capabilities in Taiwan**

## 抗原快篩 Antigen Test

- 傳染病檢驗 (Infectious Disease)

## 自動化判讀 Reader

## 自動化微流晶片 Microfluidic Chip

- 心臟指標檢驗 (Cardiac Marker)
- 發炎指標檢驗 (Inflammation Marker)
- 腫瘤指標檢驗 (Tumor Marker)

2023

2024

2025

2014

## 分子檢測 Molecular Test

- 傳染病檢驗 (Infectious Disease)

## LDT 認證

- 傳染病檢驗 (Infectious Disease)

# 照護點 & 居家檢驗

# Point of Care Testing & Home Testing

**V**strip 飛確

讓檢驗變得簡單

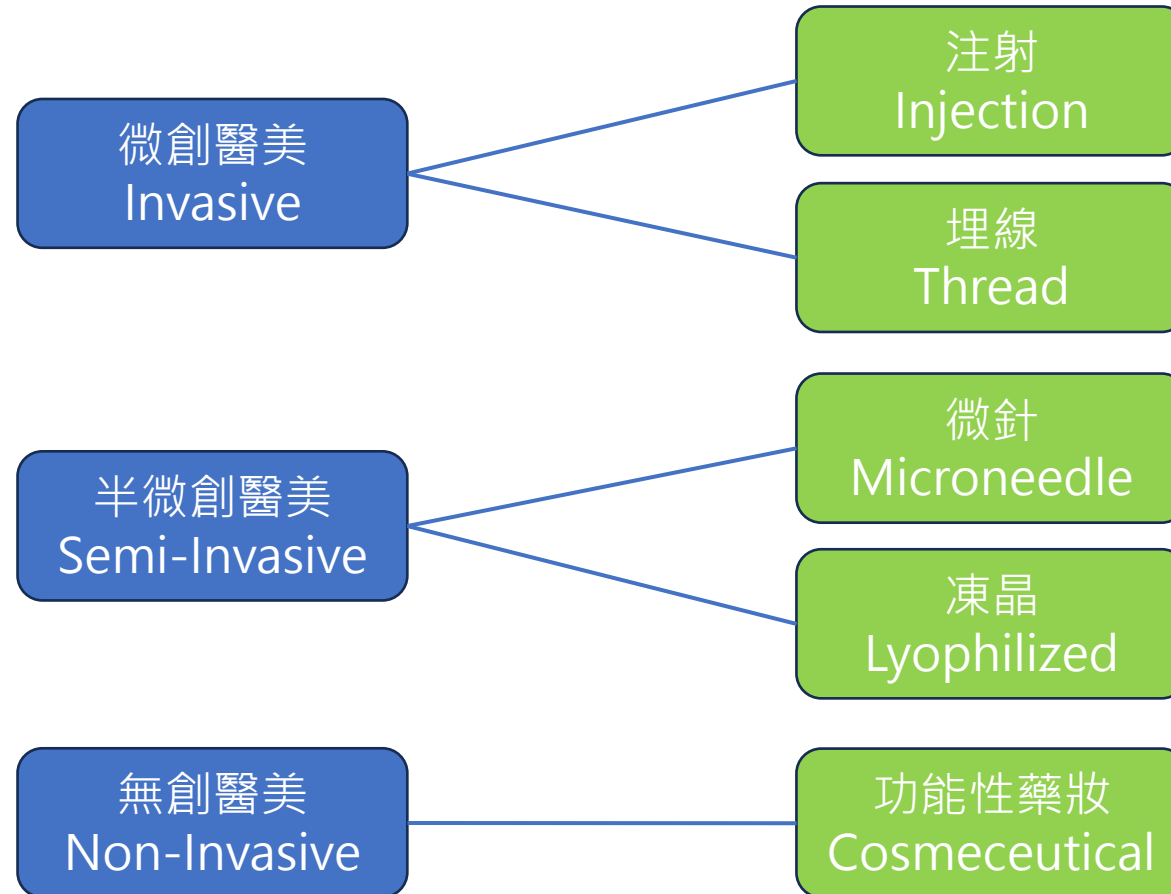
**Easy Testing, Easy Life**



# Innovative Cosmeceuticals

創新醫美事業群

# Innovative Aesthetics Department



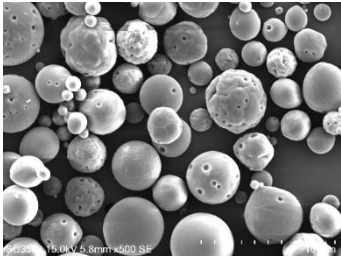
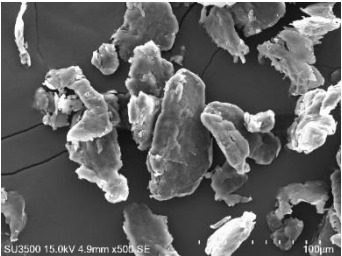
# (Invasive) Product Development Progress

## A. Injection

Product name	Patent/ know-how	Development progress	Current market potential
"PBF" PLLA Microsphere	Patented microsphere manufacturing processes (biodegradable microspheres with regular shapes and pores)	Ongoing clinical trials at Taipei Medical University <b>TFDA approved</b> clinical trial <b>No.1120704614</b> Pilot Study estimated to complete in mid 2025; certificate estimated to be granted by end of 2026	USD 14.8bn



Product	Other product	
特徵	<ol style="list-style-type: none"> <li>Irregular particles <b>tend to clog needles</b></li> <li>Require <b>2 hr</b> to dissolve, resulting in poor usability</li> </ol>	<ol style="list-style-type: none"> <li><b>Regular-shaped and porous biodegradable microspheres avoid needle clogging</b></li> <li><b>Dissolving time &lt;10 mn, user-friendly</b></li> <li><b>Animal testing confirmed low inflammation</b></li> </ol>

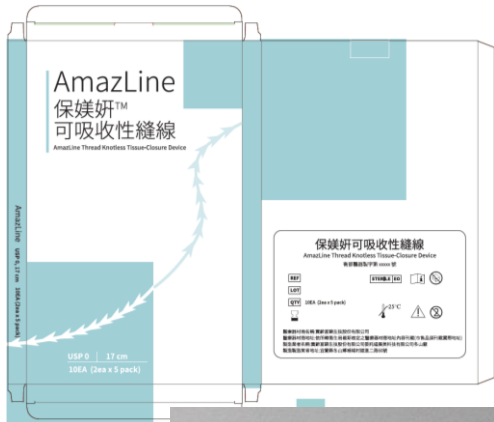
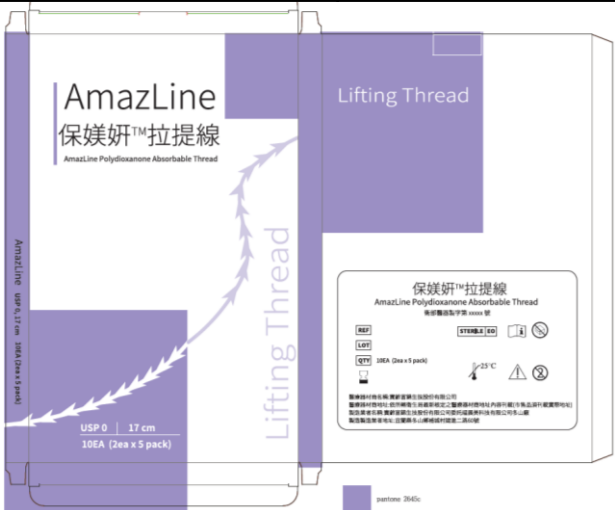


電顯圖		

# (Invasive) Product Development Progress

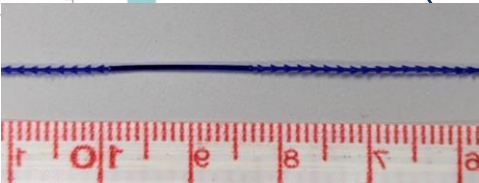
## B. Thread

Product name	Patent/ know-how	Development progress	Current market potential
AmazLine® 保媿妍® 1.Thread Knotless Tissue-Closure Device 2.Polydioxanone Absorbable Thread	Molded thread sculpting (not cutting line), integrally formed	1. Thread Knotless Tissue-Closure Device has obtained certificate 2. Polydioxanone Absorbable Thread is expected to obtain certificate and be launched in Q4 2024	USD 6.6bn



Molded thread sculpting, integrally formed

- 1. Molded process and integrally formed
- 2. Bidirectional anchor-shaped barbs with complete structure and strong lifting
- 3. Lasting for 12-18 months



# (Semi-Invasive) Product Development Progress

## C. Microneedle

Product name	Patent/ know-how	Development progress	Current market potential
Two-stage microneedle 1. Spot-fading (450μm) 2. Embroidery (450μm) 3. Wrinkle removal (600μm)	1. Microneedle devices and the manufacturing processes 2. Skin patch (design patent)	1. Spot-fading microneedle have kicked off trial production in small volume 2. Embroidery microneedle is expected to be launched in Q2 2024 3. Winkle-removal microneedle (containing PLLA microspheres) have completed animal (rat) trials for collagen proliferation effects, with ongoing technology transfer and collaboration with National Cheng Kung University	USD 10.8bn

### Two-stage microneedle

#### 1. Spot-fading (450μm)

#### 2. Embroidery (450μm)

#### 3. Wrinkle removal (containing PLLA microsphere)

Needle length : 450μm, 600μm  
Product size : Microneedle grid 1\*1cm  
Number of needles : 196/piece



6 Piece



Small-molecule hyaluronic acid + spot-fading active ingredient

High-strength base

Before

After



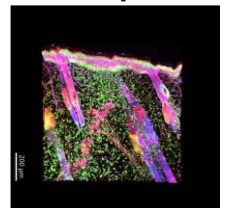
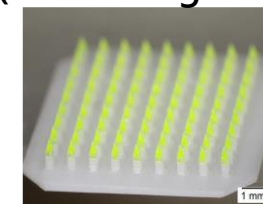
Parting line



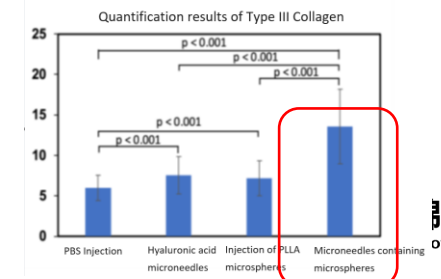
Hairline

Instant transformation and natural thickness, replacing SMP surgery

Embroidery microneedle deposits dye into the epidermal layer, creating a hair-like appearance and texture on the scalp for a natural, thick hair effect.



Three months after microneedling on rats



# (Semi-Invasive) Product Development Progress

## D. Exosomes + PRP

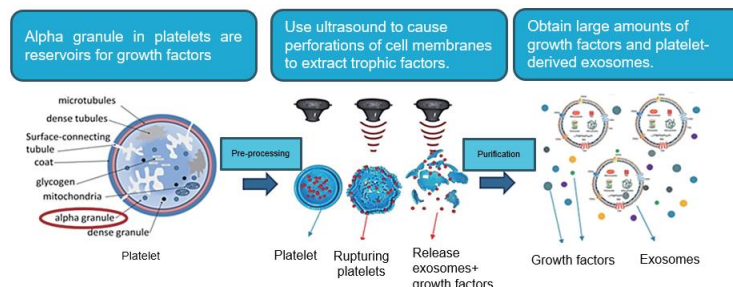
Product name	Patent/ know-how	Development progress	Current market potential
PxoBang®培可棒 Exosome Lyophilized Crystal	1.Extraction technology 2.Active protection technology	The INCI Name application for (Exosome + PRP) extraction (Porcine platelet derived exosomes) is in progress, with approval estimated in Oct, 2024	NEW

**The only composite lyophilized crystal: (Exosome + PRP) lyophilized crystal**

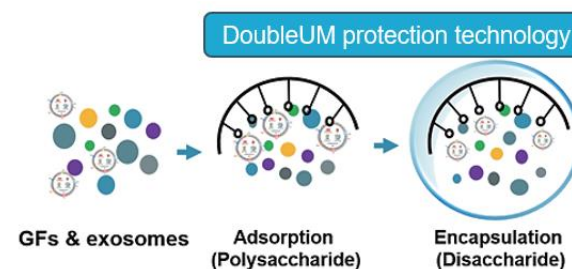
(Exosome + PRP) Lyophilized crystal /1.1mg	Ingredient	Content
	Exosomes	392mn units
	PDGF	1 ± 0.1 ng
	TGF-Beta1	7.5 ± 0.7 ng
	EGF	0.25 ± 0.025 ng
	VEGF	0.25 ± 0.025 ng
	b-FGF	0.1 ± 0.01 ng

**Qualitative & quantitative : Concentration can be adjusted based on difference usage requirement**

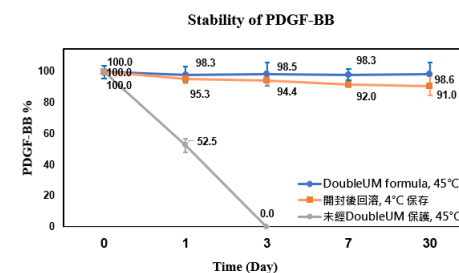
### Patented extraction technology



### Patented active protection technology



### Safety validation



/S GMP 藥廠

**BF 寶齡富錦生技**  
Panion & BF Biotech Inc.

# (Non-Invasive) Product development progress

## E. Composite molecular weight hyaluronic acid

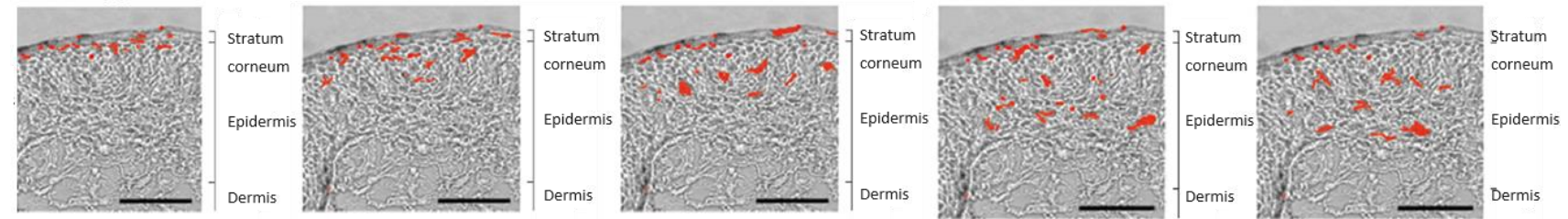
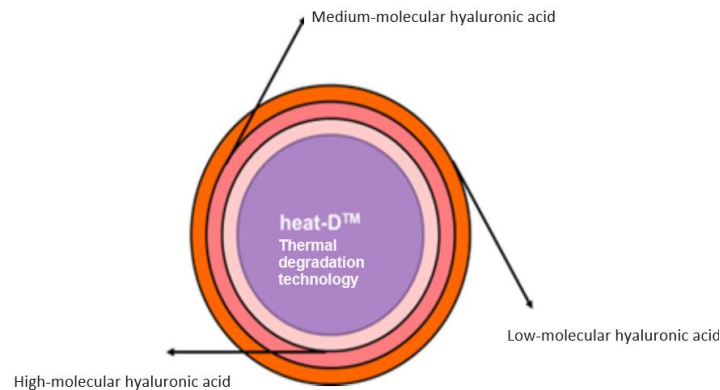
Technology	Patent/ know-how	Development progress	Current market potential
Thermally degraded hyaluronic acid (composite molecular hyaluronic acid preparation)5D, others	1. Patented thermal degradation technology 2. Multi-angle light scattering analysis (molecular weight) technology	Launched in Q1 2024	NEW

### Thermally degraded hyaluronic acid



- 1. Including various molecular weights, reaching different depths of the skin.
- 2. Molecular distribution can be customized according to requirements.

The hyaluronic acid with different molecular weights can penetrate various layers of the skin



> 2000 KDa

300-500 KDa

100-200 KDa

50-100 KDa

PIC/SMP 醫研  
**PBF** 寶齡富錦生技  
 Panion & BF Biotech Inc.

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