



# Bio ceramics Techno-Surgical Company

We bridge biopurification, human and veterinary bone regeneration, and oral healthcare through purpose-tailored design, spherical particle formation, porous structuring, and surface modification of HAp( Hydroxyapatite )-based bio ceramic materials.

One Bioceramic Platform

Purification · Regeneration · Oral Care



# Company Vision: Bio ceramics Techno-surgical Company

“We are a biotechnology company that improves patients’ quality of life through bio ceramic materials.”

## From Purification Media to Human & Veterinary Surgical Biomaterials

“CM BIOPHARM aims to become a Bio ceramics Techno-Surgical Company that expands from bio ceramic materials such as HAp,  $\beta$ -TCP, and BCP into biopharmaceutical purification materials, human and animal bone regeneration medical materials, functional ceramic materials, and oral care product lines.”



“We integrate bio purification, human tissue and bone regeneration, veterinary applications, and healthcare through a highly focused materials platform.”



# Problem & Market Gap: Gap in Domestic Bio ceramic Material Supply

**95%+**  
Dependence on imported  
purification resins and kits

**20+**  
Corporate inquiries after launch

**KRW 11 million**  
Sample sales in Q4 2025

**KRW 650 million**  
Target revenue for 2027

Problem Area	Market Gap	CMBIOPHARM's Entry
Bio purification Materials	Over 95% dependence on imports, leading to supply instability, pricing, and delivery risks Lack of domestic resin companies	Domestic HAp Ceramic Resin, Kit, Column
Biomedical Materials for Medical Devices	Human bone regeneration materials require quality documentation and manufacturing control No company positioned to supply medical-device-grade quality-controlled materials	First: ISO 13485-ready material supplier Next: Entry into finished medical devices, Class IV
Veterinary Bone Regeneration	Although localization has begun, there are still few market players Global market is growing	Vet Bone Graft, Pet Dental Bone Graft
Cosmetic Raw Materials	DDS applications, including detection of antioxidants and peptides Increasing demand for raw materials based on diverse cosmetic needs	Medical-device-grade quality-controlled nano-ceramic raw materials
Oral Care	Premium veterinary care / premium human toothpaste Potential for broad adoption of inorganic ceramic materials	TCP / HA / WH toothpaste, remineralization, fluorine-free products

# One Bioceramic Platform, Five Product Families

We efficiently enter diverse industries through platform material technology."

## BioProcess Media

HAp/CHT Resin  
Packed Column  
Exosome/DNA Column Kit

*Spherical  
bead*

## Functional Ceramic Materials

Ion-doped HAp  
DDS Carrier  
Cosmetic ingredient



## Purpose-Built Bioceramic Platform

*Nano  
powder*

## Oral Care & Healthcare

HA Toothpaste  
Sensitivity Relief  
Oral Care ODM

## Human Surgical Bio materials

Bone Graft  
Bone Void Filler  
Dental/Orthopedic Powder  
3D Printing Powder

*Polymer  
complex*

## Veterinary Surgical Biomaterials

Vet Bone Graft  
Pet Dental Bone Graft  
Vet Injectable Filler

One Bioceramic Platform. Human, Veterinary, BioProcess, Functional, Oral Care.

# Market Size: TAM / SAM / SOM

Biopharmaceutical excipients Human  
and veterinary regeneratives Oral  
Healthcare & Cosmetics



CenterChromatography resinSynthetic  
ceramic-based dental  
materialsBioceramic healthcare  
materialsSAM KRW 31 trillion



Multimodal resinCeramic-polymer  
composite medical devicesSupply  
market for cosmetics and  
pharmaceutical materials



**SOM 3조 원 = BioProcess Media · Surgical Biomaterials · Healthcare**

Source of market estimates: Based on internal due diligence and IR training materials. For submitted documents, we recommend conservatively stating this as 'over KRW 3 trillion'.



# Company PipeLine

Category	Product Line	Development Status
BioProcess	Hydroxyapatite DNA extraction ceramic resinHydroxyapatite antibody polishing ceramic resinHydroxyapatite exosome pre-treatment ceramic resin	2026: MVP performance validation → 2027: Entry into the research-use column market
Human Surgical	Hydroxyapatite bone graft injectable putty Calcium phosphate-based dental granule implant	2026: Screening (in-vivo preclinical study) → 2027: Technical documentation → 2028: Launch
Veterinary Surgical	Hydroxyapatite bone graft injectable putty Calcium phosphate-based dental granule implant	2026: Screening (in-vivo preclinical study) → 2027: Technical documentation → 2028: Launch
Functional	Hydroxyapatite nano DDS material Nano beta-tricalcium phosphate material Calcium filler — water-soluble calcium hydroxyapatite material	Development completed; bulk supply available from August 2026Main customers: cosmetics and pharmaceutical brands
Oral Care	Tooth remineralization agent containing beta-tricalcium phosphate Fluoride-free micro-toothpaste for pets	Veterinary quasi-drug launch in November 2026Product registration in progress; manufactured in-house

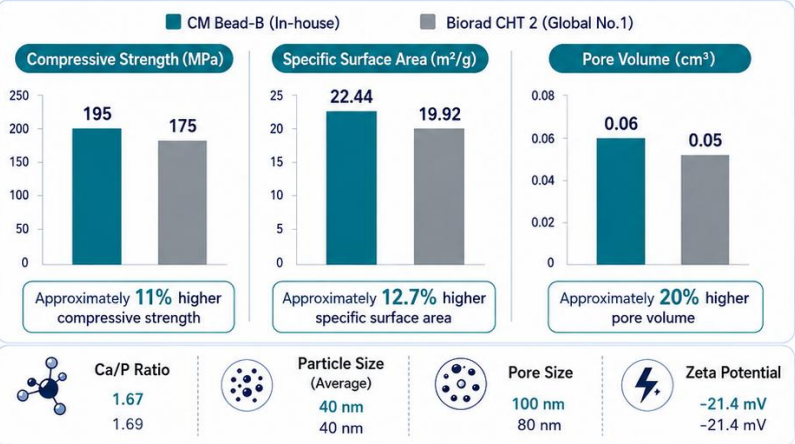


# Material Design & Key In-vivo Data

## Purification Media Performance

Progress of Competitive and Purification Performance Evaluation for Bioceramic Purification Media

- ✓ CM Bead-B secures superior hydrophilicity compared to leading global No.1 CHT products
- ✓ Purification performance evaluation is in progress at Seoul National University
- ✓ Evaluation targets: BSA / Lysozyme / DNA



**Purification Performance Evaluation Status** In Progress

**BSA**

- Binding / Elution profile evaluation
- Recovery & Purity analysis in progress
- Co-evaluation with Seoul National University College of Pharmacy

**Lysozyme**

- Binding / Elution profile evaluation
- Recovery & Purity analysis in progress
- Co-evaluation with Seoul National University College of Pharmacy

**DNA**

- Binding / Elution profile evaluation
- Recovery & Purity analysis in progress
- Co-evaluation with Seoul National University College of Pharmacy

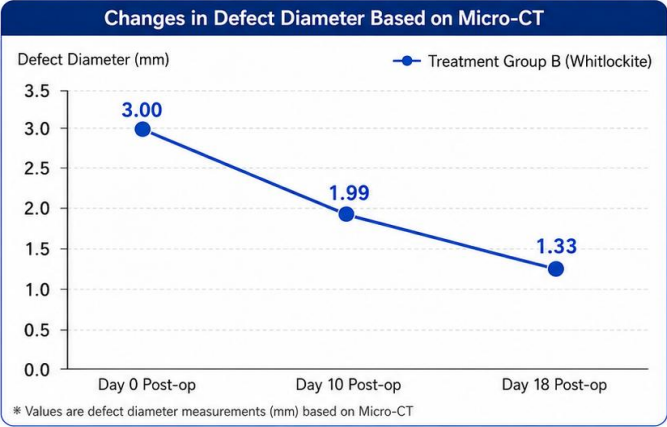
① Purification performance tests (BSA, Lysozyme, DNA) are being conducted at Seoul National University College of Pharmacy. This graphic summarizes key material properties and evaluation progress for IR purposes.

POC underway with Thermo Fisher, the global leader in biopharmaceutical materials

**ThermoFisher**  
SCIENTIFIC

## Analysis of Treatment Group B

Evaluation of Bone Defect Recovery Based on Micro-CT and X-ray

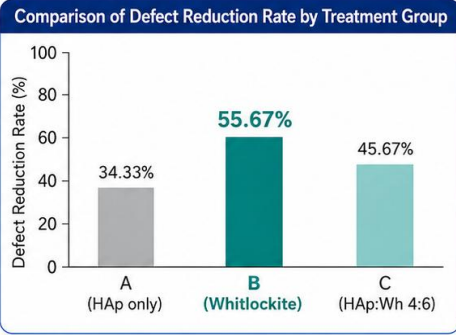


Treatment Group B (Whitlockite) Micro-CT Measurement Results				
	Day 0 Post-op	Day 10 Post-op	Day 18 Post-op	Defect Reduction Rate (%)
Treatment Group B (Whitlockite)	3.00 mm	1.99 mm	1.33 mm	55.67%

\* Defect reduction rate (%) = (Day 0 diameter - Day 18 diameter) / Day 0 diameter × 100

Source: Results of Micro-CT-based defect diameter measurement and X-ray structural observation

Defect Reduction Rate  
**55.67%**  
Treatment Group B (Whitlockite)



**Key Findings Summary**

- ✓ By Day 18 post-op, the defect diameter in Treatment Group B decreased to **1.33 mm**
- ✓ Treatment Group B showed the highest defect reduction rate compared with Groups A and C
- ✓ X-ray observation indicates relatively stable maintenance at the defect site
- ✓ Suggests potential for bone formation and structural recovery

Example X-ray Observation (Treatment Group B)

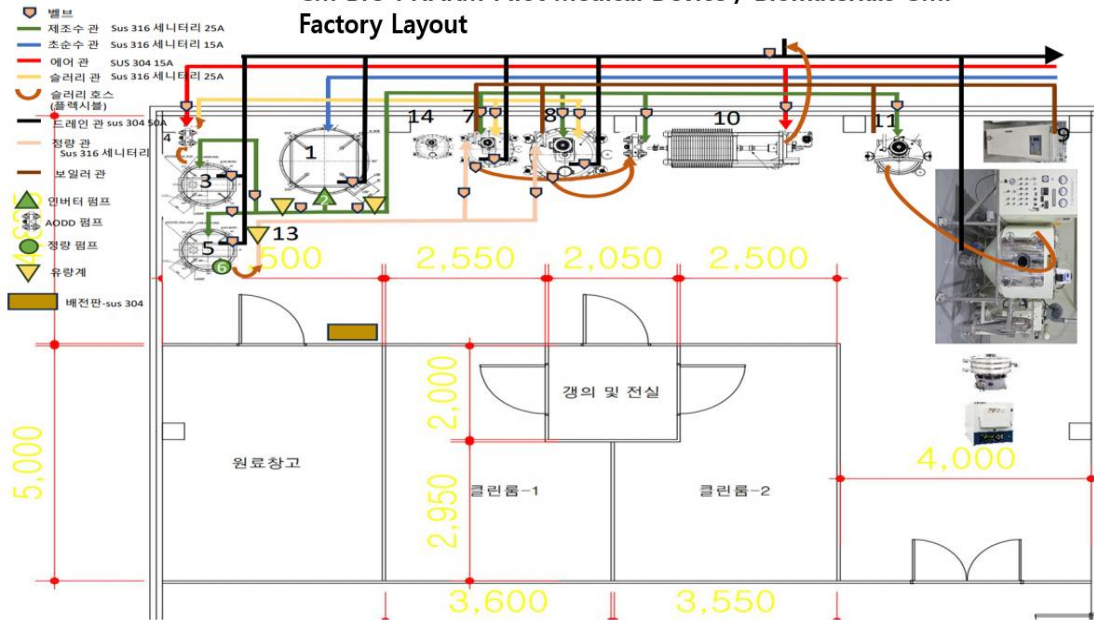
## Test Analysis: College of Veterinary Medicine, Gyeongsang National University



# Manufacturing & Quality: Establishment of Medical Device GMP / ISO 13485 Mass Production Facility

**Scheduled for completion in August 2026**

CM BIO PHARM Pilot Medical Device / Biomaterials GMP  
Factory Layout



**Raw Material Manufacturing**

50 L batch

**Facility**

"Based on in-house(OSONG)  
processing/manufacturing facilities

**Documentation System**

Product standards, manufacturing  
records, SOP, CAPA

**Pilot Production**

1 kg/hr batch

**Expansion Process**

Slurry → spray drying → sintering →  
crushing → classification → washing →  
packaging(Medical device: additional  
polymer synthesis packaging)

**Expansion**

Expansion to 1st-floor mass production  
facility and ISO 13485

**"We will complete a regulatory-compliant pilot facility for biomaterials, equipped with GMP quality documentation, batch history management, clean manufacturing, and change control, which are fundamental requirements for biopharmaceutical materials and medical device companies."**

Source: Reflects regulatory support data, pilot process and GMP documentation, 1st-floor mass production plan, and roadmap for expansion to medical device GMP / ISO 13485.



# Market Entry: Short-Term Market Entry Strategy (2026–2027)

No.	Market	Product	Revenue Type	Annual Target
1	Oral care	TCP toothpaste, ceramic veterinary quasi-drug	Intial product sales	KRW 18,000 × 20,000 pcs
2	Reasearch Kit	Ceramic resin purification column kit	Repeat purchase	KRW150,000 * 1000pcs
3	Functional Materials	DDS material supply	POC·bulk supply	KRW 1.4 million × 50 kg
4	Customized Materials	Ion substitution / particle size control	Development cost· ODM	3 KRW 20million × 3 Project
5	Veterinary / Human Bone Regeneration	Bone Graft, Bone Filler	OEM / medical device material	KRW 11 million × 20 kg



**2027 P×Q Estimate:**  
**Exosome Kit KRW 500 million + Resin Project KRW 50 million + Custom Material KRW 100 million = KRW 650 million**

# Roadmap: 2026–2030 Revenue Layer

Initial kits & toothpaste → Material POC → OEM/ODM → Medical device material supply → Global innovative medical device material supply

Year	Core product	Quantitative Target
2026	Exosome Kit MVP, HA toothpaste, HAp Sample	Revenue KRW 100 million / Investment KRW 200 million
2027	Exosome Kit, PDRN Kit, Resin POC, Custom Material	Revenue KRW 650 million
2028	Packed Column, Vet Bone Graft, Dental Powder, Oral Care ODM	Expansion of OEM/ODM contracts Launch of Class IV finished medical devices
2029	Bulk Resin, Surgical Biomaterial OEM, DDS Carrier	Annual revenue KRW 2 billion Supply to pharmaceutical and medical device materials value chains
2032~	Human/Vet Bone Graft, 3D Printing Powder, Global OEM	Annual revenue KRW 8 billion Global partnerships



“Bio Process will generate early-stage revenue, while Veterinary and Human Surgical Biomaterials will expand corporate value.”

# Investor Return Scenario



**KRW 200M**

Seed Investment



**5%**

Investor Equity



**KRW 4.0B**

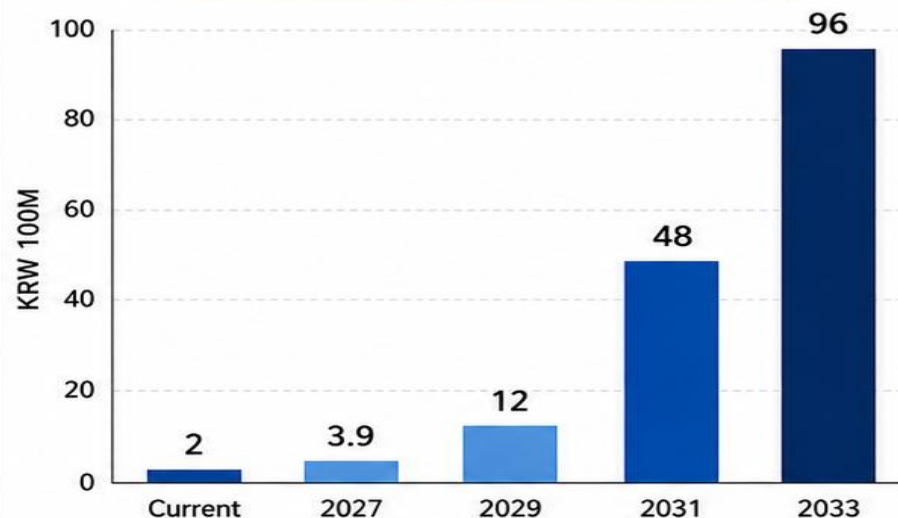
Post-money Valuation



**12x**

Target Revenue Multiple

## Investor Equity Value Growth



## Investment Highlights

CMBioPharm is growing into a Bioceramics Techno-Surgical Company with concurrent capabilities in medical-device materials, bioprocess materials and components, and oral-care quasi-drug products, and in the long term aims for a platform multiple of approximately 12x revenue.



**2033 Target: KRW 16.0B Revenue → KRW 192.0B Enterprise Value**



**Investor Equity Value @5%:  
KRW 9.6B / Return Multiple: 48x**

Year	Projected Revenue	Applied Multiple	Projected Enterprise Value	Investor Equity Value	Return Multiple
Current	-	-	KRW 4.0B (Post)	KRW 200M	1.0x
2027	KRW 650M	12x	KRW 7.8B	KRW 390M	1.95x
2029	KRW 2.0B	12x	KRW 24.0B	KRW 1.2B	6.0x
2031	KRW 8.0B	12x	KRW 96.0B	KRW 4.8B	24.0x
2033	KRW 16.0B	12x	KRW 192.0B	KRW 9.6B	48.0x

"\*The 12x revenue multiple is a target valuation assumption based on a portfolio spanning medical devices, biopharmaceutical materials and components, and pharmaceutical products. Actual investment returns may vary depending on market conditions, exit terms, and follow-on investment structures."

# Government R&D Track Record 2025–2026

A bio ceramics platform validated through national R&D projects

CM BIOPHARM is continuously building its HAp bio ceramic source technology, bioprocess validation, productization, pilot-scale production, and regulatory documentation system through government, local government, and public-support programs from 2025 to 2026.

연도	Funding Agencyct / Program	Funding Agency	Key Details	Business Linkage
2025	Validation Development of Biopharmaceutical Raw Materials	Ministry of SMEs and Startups	Development of HAp-based bio ceramic materials	Secured core technology for whitlockite advanced putty
2025	Validation Development of Biopharmaceutical Raw Materials	Ministry of Trade, Industry and Energy	Validation of raw materials for bioprocessing	Verification of ceramic bead applicability for purification
2025~2026	Chungcheongbuk-do Bio ceramics Research Project	Chungcheong buk-do	Research on bio ceramic materials	Purification column kits for nucleic acid / exosome researchtion of high-purity exosome purification kitsand medical device materials
2026	Youth Startup Academy	Korea SMEs and Startups Agency	Development of chromatography media based on spherical bioactive ceramicsity exosome purification kits	Purification column kits for nucleic acid / exosome research
2026	Startup Growth Technology Development D-Dol R&D	Ministry of SMEs and Startups	Development of chromatography media based on spherical bioactive ceramics	Pilot-scale mass production process
2026	Ceramic Bead Regulatory Support	Osong Advanced Medical Industry Promotion Foundation	Review of ISO 7 pilot facility, GMP documentation system, and medical device GMP / ISO 13485	Customer due diligence and investment/regulatory validation basis

6 projects

Major achievements from 2025–2026

KRW 860 million

Government R&D funding secured

KRW 100–200 million

2027 TIPS target

138.84m<sup>2</sup> / ISO 7/GMP

Osong pilot production facility

Government-backed validation from material R&D to pilot manufacturing and regulatory readiness.



# Bioceramics Research Team **CMBIOPHARM**

## Management · Materials Development

**Taejun Park, CEO**



### Education

Ph.D. in Materials Science & Engineering  
(Bioceramics)

### Business & Technology Integration

- 10 years of experience in materials development and commercialization
- Led commercialization of functional ceramic bead products
- Experience generating revenue from commercialization of regulatory-approved products

## Materials Development

**Hyesun Lee  
Researcher  
(External)**



### Education

Ph.D. in Materials Science & Engineering  
(Bioceramics)

### Advanced Advisory

- Researcher at the Korea Institute of Ceramic Engineering & Technology
- Research on chemical purification processes
- Research on process scale-up

## Synthesis Design

**Hyunmin Bae, CTO**

Ph.D. in Materials Science  
& Engineering



## Synthesis Design

**Eunju Song, Researcher**

M.S. in Polymer Engineering



## Biological Evaluation

**Jungeun Lee, Researcher**

Pharmacist / Researcher



## Synthesis Design

**Jaebok Lee, Researcher**

M.S. in Biotechnology



## Materials Technology Advisor

**T. Kenji**

31 years at HOYA, Japan

## Technical Communication & Global Collaboration

**N. Aira**

Korean–Japanese  
Interpreter





**Better products, faster, to more points of care.**  
**Improving patients' quality of life through**  
**bioceramics technology.**

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