

Global Leading Company on Biomimetic Peptides

# CAREGEN

Investor Relation | 2022.11

CAREGEN  
CREATIVE VILLAGE



**CAREGEN CO., LTD.**

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## Disclaimer

Financial information contained in this document is based on consolidated K-IFRS that have been reviewed by an independent auditor.

This document may also contains forward-looking statements relating to the forecasts, targets, outlook, estimates of financial performance, opportunities, challenges, business developments, business plans and growth strategies of Caregen. The forward-looking statements are based on certain expectations, assumptions and premises, some of which are subjective or beyond our control. The forward-looking statements may prove to be incorrect and may not be realized in the future.

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## The Colors of Time

Chun's "The Colors of Time" in CAREGEN Creative Village's Lobby Gallery conveys the meaning of the company's ideology that CAREGEN considers people first, and values people's communication.

# 2022 Key Growth Drivers

## ProGsterol

Production & sales

- **U.S. FDA, NDI(New Dietary Ingredients) Approved.**
- **Full operation in HWASUNG Peptide plant (10tons/yr)**
- Expand global food supplement markets.
- Deglusterol registration in EU, India, Russia, the Middle East, Iran, Mexico, etc.

## Wet Macular Degeneration

U.S. FDA Clinical Trial Application

- **Affordable and convenient eye drop VS. Eye injectables**
- U.S. FDA IND(Investigational New Drug) submission preparation within 4Q 2022

## SpikeDown

Approval phase 1 clinical trial  
entering phase 2 clinical trial

- **Israel MoH, IND approval for phase 1 clinical trial**, IND application for phase 2 clinical trial within 2022
- Depending on the results of the clinical trial, the U.S. FDA emergency use approval application.

## Medical device, Raw Materials Manufacturing & Global Distribution

- **Medical device class III, Dermal, hair ,body fillers distribution over 130 countries.**
- Expand sales of Medical devices & raw materials through global partners,BASF...etc

## Development of Animal medicine and Functional feed

- Peptide-based Animal Specialty Drug Development (Dry eyes)
- Development of functional animal feed with peptides (Reduce pet allergies)
- ProGsterol Product development for companion animals



# Corporate Overview



# Corporate Profile

Established Date

August 23, 2001

Listing Date

November 17, 2015 (KOSDAQ: 14370)

Head Quarters

46-38, LS-ro 91 beon-gil, Dongan-gu  
Anyang-si, Gyeonggi-do, South Korea 14119

Business Areas

Research & Development of Peptide APIs,  
Manufacturing & Global distribution

Products / Pipeline

- Medical device Class III (Injectable)
- Dietary Supplement
- Pharmaceutical
- Cosmeceutical

Founder, CEO

**Dr. Yong Ji Chung**

CEO of CAREGEN (2001~)

HQ/R&D Center



Creative Village/Office Bldg.



Logistics Center



CGMP Factory



Peptide Plant

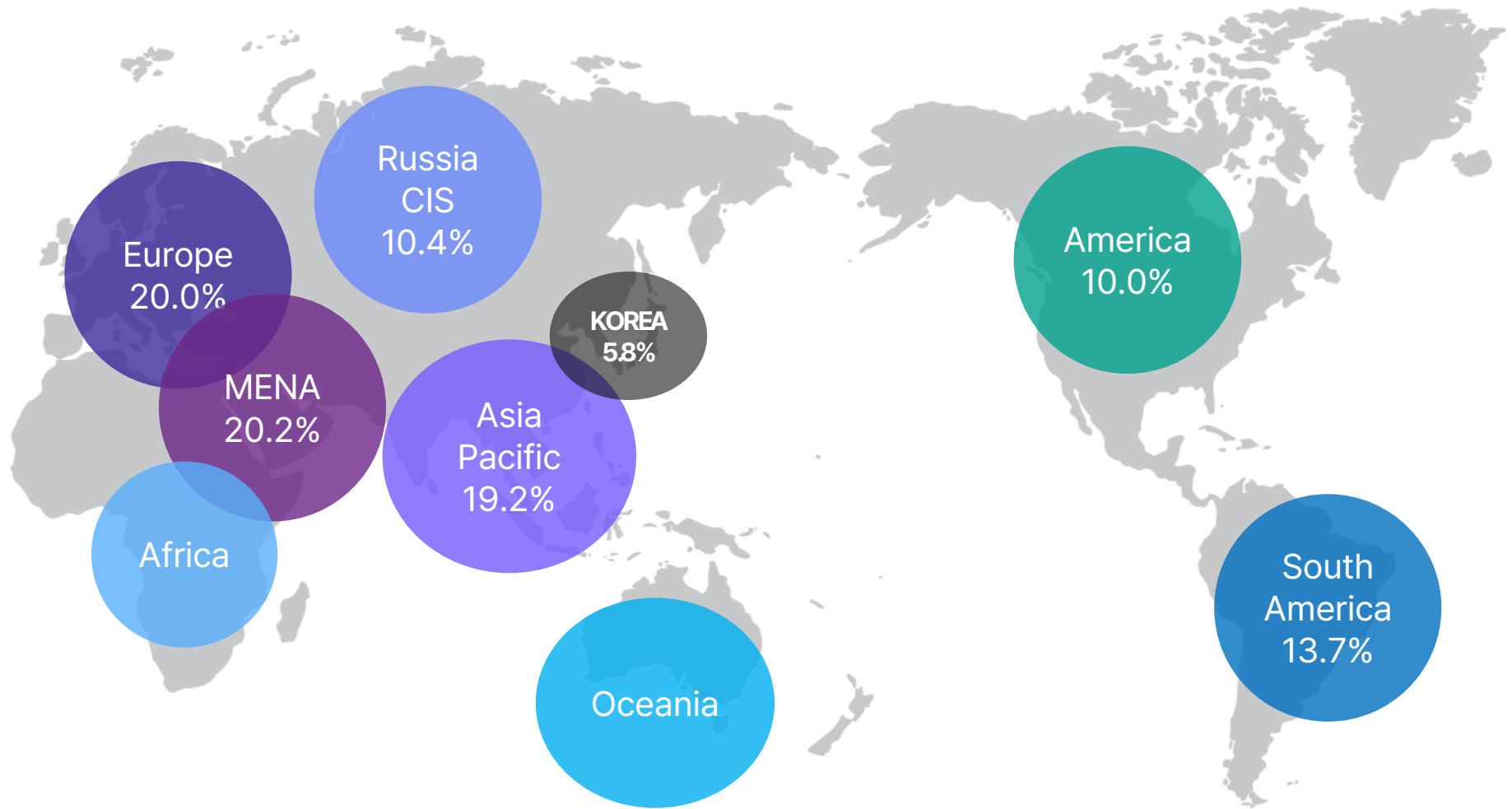


Peptide R&D Center



# Revenue by Region

Exports to 130 countries around the world, and overseas sales account for 94% of total sale





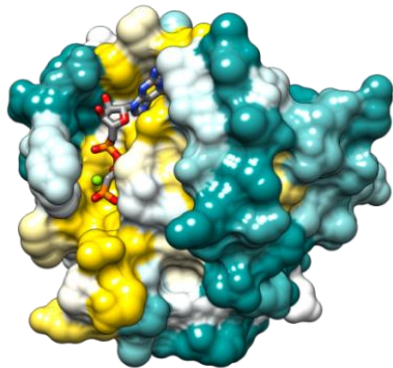
# Peptide Technology



# Growth Factors & Biomimetic Peptides

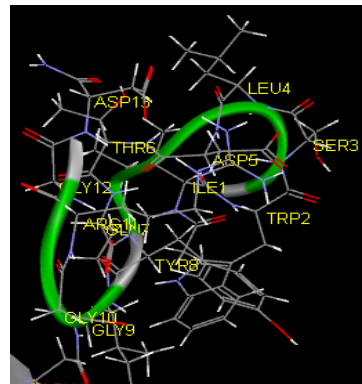
Caregen has secured the original technology  
in **Biomimetic Peptides** with a massively scalable capacity

## Growth Factor

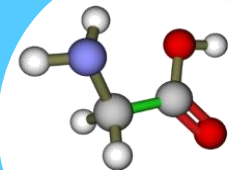


- Over 50 Amino acid chain
- Involves in cell proliferation, differentiation and growth

## Peptide



- 2~50 Amino acid chains
- Bio molecules which carries the same efficacy as Growth Factor

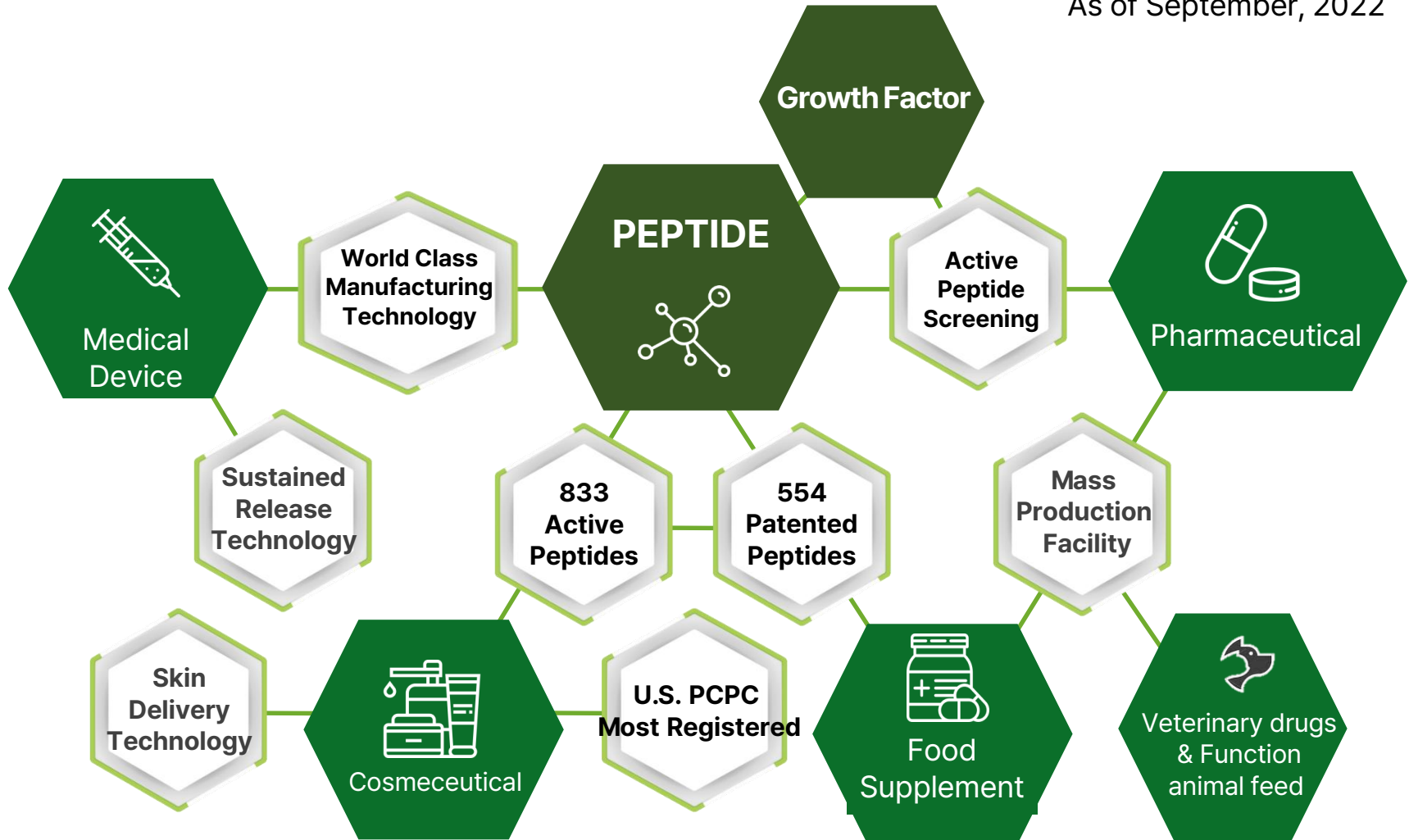


Amino Acid

# Caregen Platform Technology

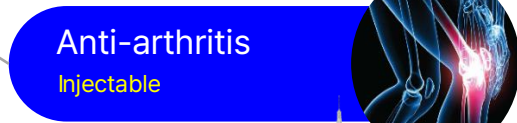
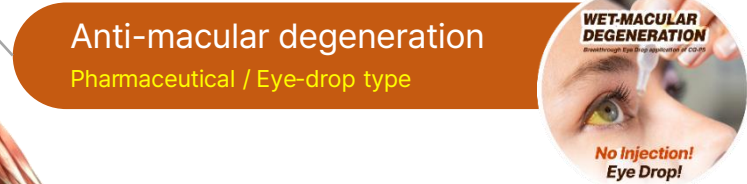
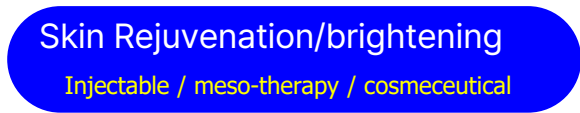
Expanding the application of world-class peptide original technology-based platform technology to various fields.

As of September, 2022



# Core Products based on Peptide Technology

Caregen provides **Total Healthcare Solution** based on Peptide technology



# Medical Device

## Filler, Meso Therapy



# Medical Device\_Facial Filler

A filler with sustained release formulation technology using Peptide and hyaluronic acid developed by Caregen.

**2011**

**2014**

**2015~2017**

**2020**

## REVOFIL



- ✓ Promotes collagen synthesis to improve wrinkles even after decomposition of fillers

## AQUASHINE



- ✓ Restores the skin with immediate improvement and moisturizing effect without any signs of treatment

## Prostrolane B series



- Natural B- No artificial augmentation
- Blanc B- Skin brightening
- Inner B SE- Safe eye bag reduction

## CG Styler 600



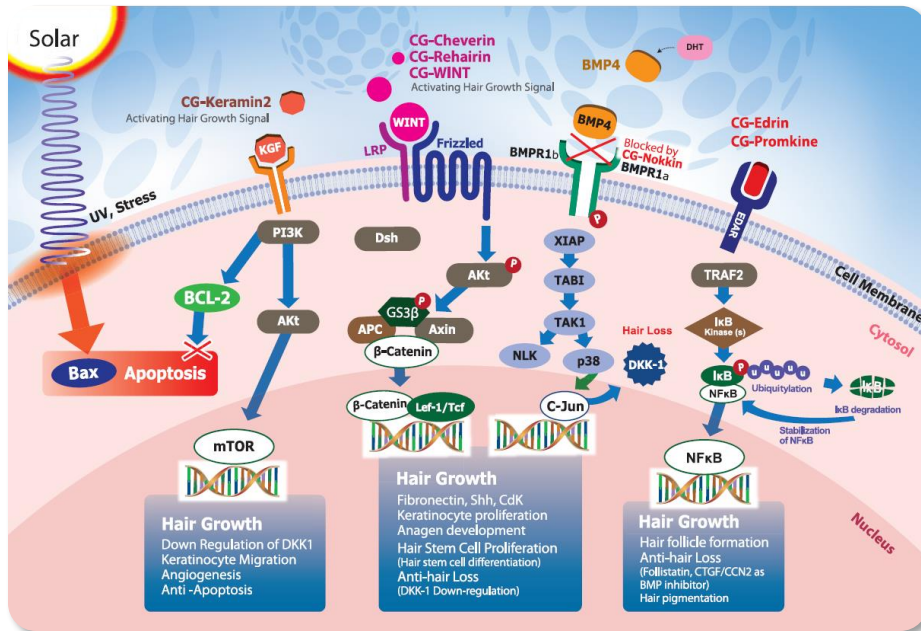
- ✓ Contains peptides that function as botulinum toxin
- ✓ Effective on sensitive areas such as lip wrinkles



## DR. CYJ Hair cell and scalp revitalization

- DR. CYJ Hair Filler is injected into dermis layer at the site of the damaged scalp in need of implantation for the treatment of subcutaneous tissue damage caused by chemical, physical and traumatic effects of wounded scalp

### ○ DR. CYJ Hair Filler Mechanism



### ○ Advantage

- Patented and exclusive peptide complex for hair regrowth and health.
- **Sustained Release technology** to maximize the efficacy of 7 hair growth peptides.
- Applicable and effective to any type of non- scarring Alopecia.





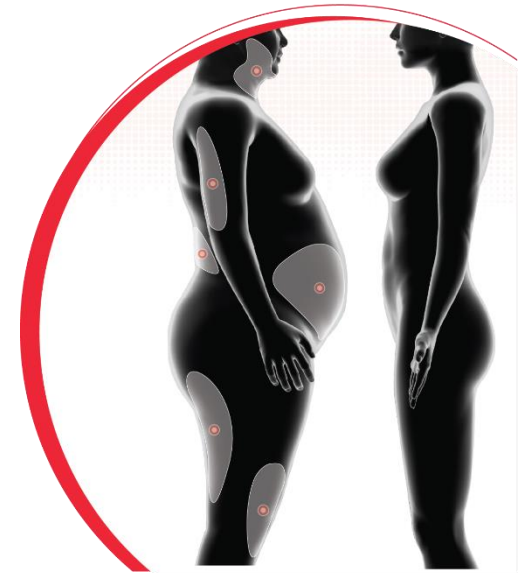
## DR. CYJ Treatment Results

- ✓ Sustained effect for 2 weeks after treatment by application of sustained release technology
- ✓ Standard Treatment : 1 session every 2 weeks for 8 weeks (Total 4 sessions)



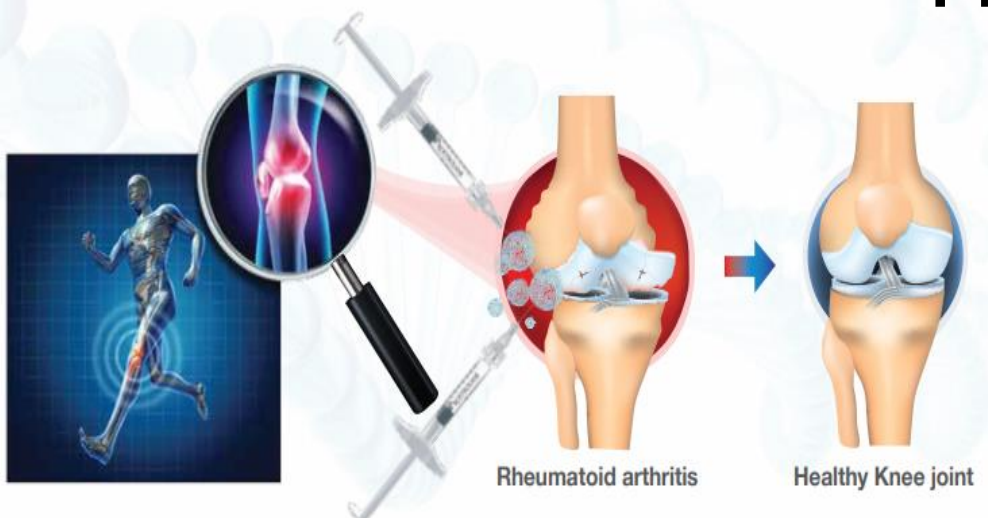
## Prostrolane Inner-B Body Fat Reduction

- Safe and efficient local fat reduction with patented peptides
- No tissue necrosis after the procedure by controlling the size of fat cells
- No pain, no reactions such as swelling, bruising, paralysis, erythema at the injection site
- Excellent effect on double chin without side effects
- Sustained release technology for 2 weeks (4 times in total))



## Prostrolane Intra-articular Filler

- Relieve pain by lubricating the knee joint
- Anti-inflammatory
- Bone formation
- Inhibition of osteoclast formation
- Cartilage regeneration



# Cosmeceutical



# Peptide Technology Based Cosmeceutical

**Cost reduction and quality differentiation through direct production of effective raw materials and application of self-developed technology**

It is possible to develop high-concentration products with maximized efficacy by developing and producing effective raw materials such as peptides and growth factors.

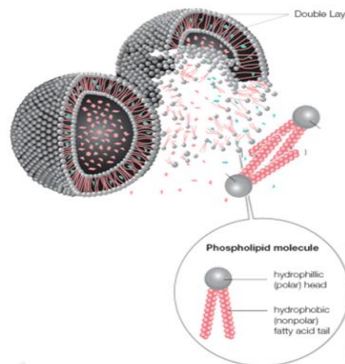
**252 peptide cosmetic ingredients listed in the US PCPC (Personal Care Product Council)**



Peptide API development technology

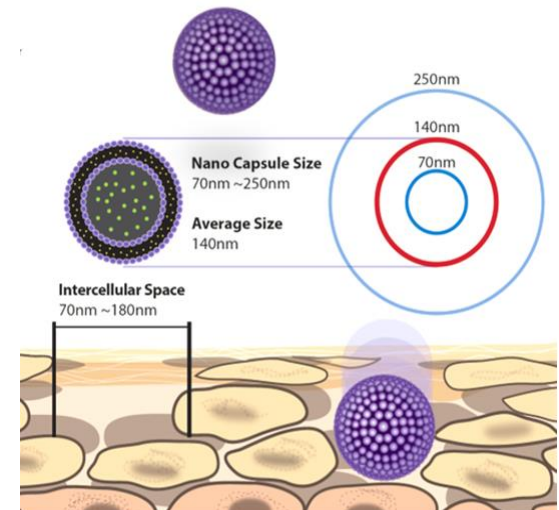
**Increased skin penetration through double-membrane liposome encapsulation of effective ingredients**

Phospholipid encapsulation so that raw materials pass through the keratin and enter the cells in the skin to show the effect



**Liposome encapsulation rate is over 85%**

Encapsulation process optimized for the characteristics of each raw material to maximize the reach rate of active ingredients to the target area



Custom encapsulation method & High liposome encapsulation rate



# R&D Pipeline

# R&D Pipelines

|                       | Indication                   | Candidates Identification                          | Preclinical Study |        | Permission(Food)<br>Clinical Study |
|-----------------------|------------------------------|--|-------------------|--------|------------------------------------|
|                       |                              |  | Efficacy          | Safety |                                    |
| DIETARY<br>SUPPLEMENT | Blood Sugar Control          | U.S. FDA NDI registration completed in 1Q '2022    |                   |        |                                    |
|                       | Anti-Hangover                |  |                   |        |                                    |
|                       | Improves liver function      |  |                   |        |                                    |
|                       | Body Fat Lipolysis           |  |                   |        |                                    |
|                       | Muscle Improvement           |  |                   |        |                                    |
| PHARMA<br>CEUTICALS   | Wet/Dry Macular Degeneration | US FDA IND submission preparation                  |                   |        |                                    |
|                       | Anti-virus (Covid-19)        | Israel MoH approval IND for phase 1 clinical trial |                   |        |                                    |
|                       | Hyperhidrosis                |  |                   |        |                                    |
|                       | Pain Relief                  |  |                   |        |                                    |
|                       | Hair Loss                    |  |                   |        |                                    |
|                       | Obesity                      |  |                   |        |                                    |
|                       | Psoriasis                    |  |                   |        |                                    |
|                       | Scar                         |  |                   |        |                                    |
|                       | Arthritis                    |  |                   |        |                                    |
|                       | Rhinitis                     |  |                   |        |                                    |



# Dietary Supplement for Healthy Blood Sugar Control

(Instant Result in 30mins after intaking)

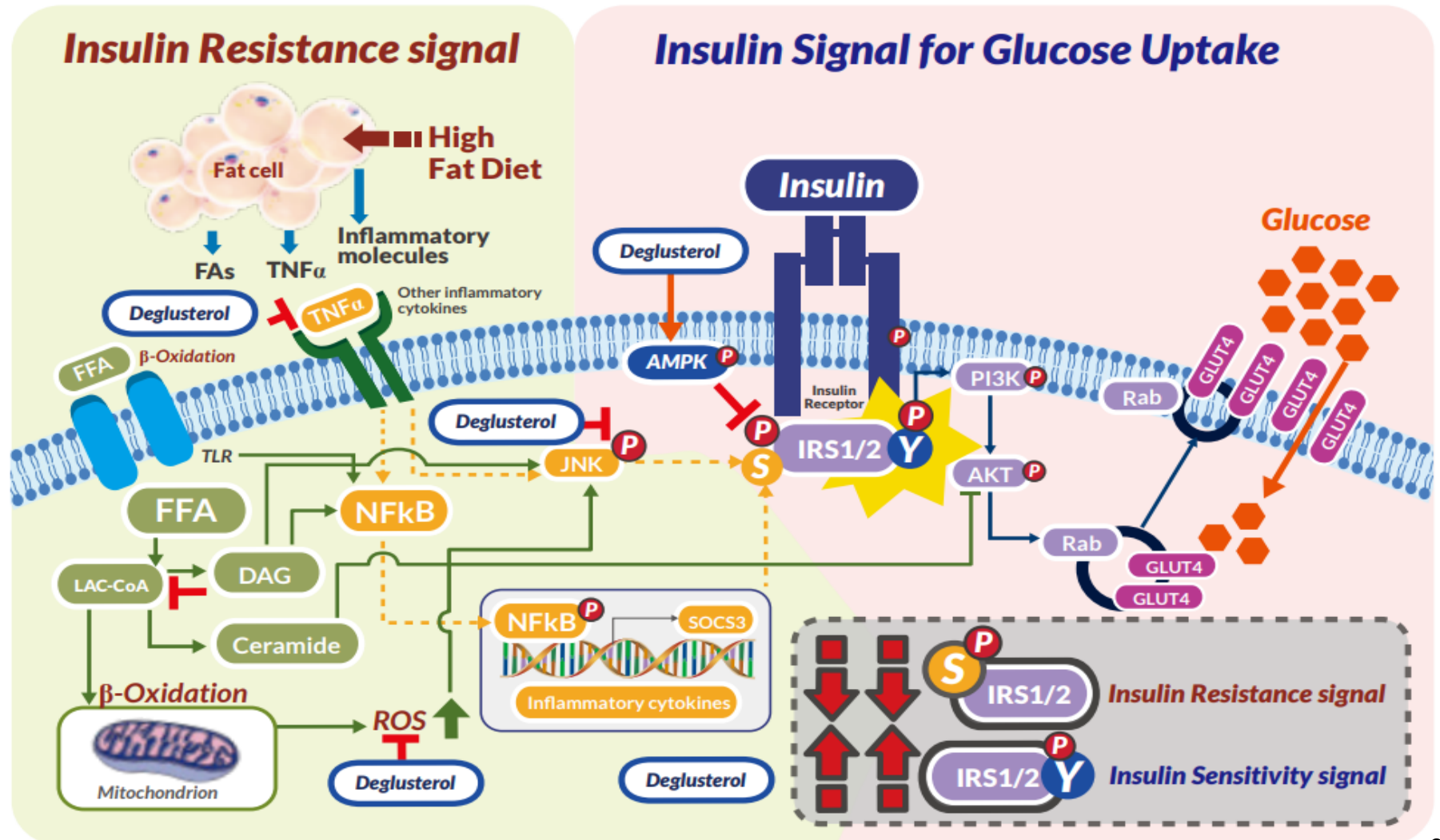


# ProGsterol\_Overview

|                          |   |
|--------------------------|---|
| Product Types            | ProGsterol powder and various formulations  |
| Technology               | Dietary supplement food development using blood sugar control peptides  |
| Peptides                 | CG-Deobetide, CG-Adiporin   |
| Target disease           | Prediabetes and type 2 diabetes   |
| Cause                    | Insulin resistance due to stress, obesity, lack of exercise, underlying disease, etc., and insufficient insulin secretion in the body, or a disease in which glucose in the blood is abnormally high because the secreted insulin does not function properly. |
| Current Treatment Method | Unlike other therapeutic agents that promote insulin secretion, <b><u>it increases the sensitivity of the insulin receptor and normalizes the function of insulin</u></b> , so there are no side effects such as insulin resistance or hypoglycemic shock.    |
| Development Stage        | ✓ Global registration is in progress with global CRO(Intertek)  |

# Deglusterol\_Mode of Action

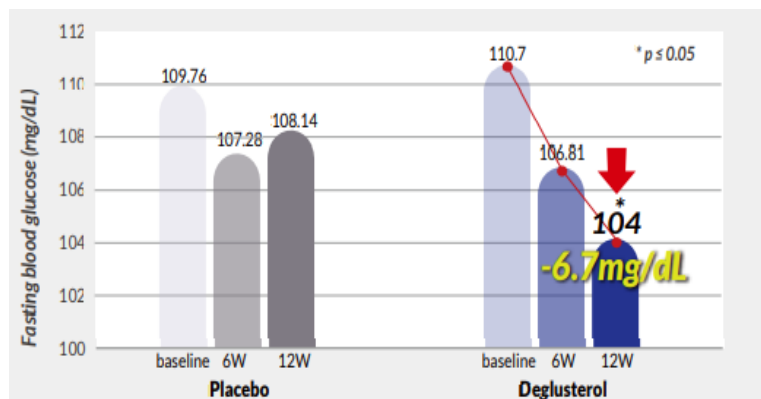
Deglusterol is a blood glucose regulator that increases and normalizes the sensitivity of insulin receptors without side effects such as hypoglycemic shock.



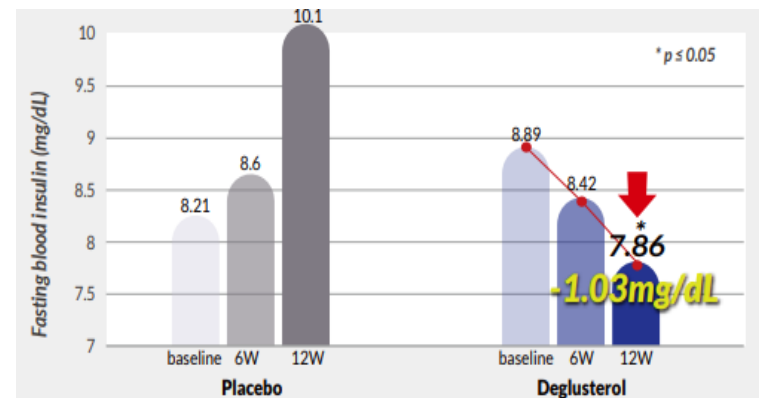
# Deglusterol Differentiation\_Human Clinical Tests

As a result of human clinical tests, Deglusterol significantly decreased Fasting blood glucose, fasting blood insulin, C-peptide, and HOMA-IR.

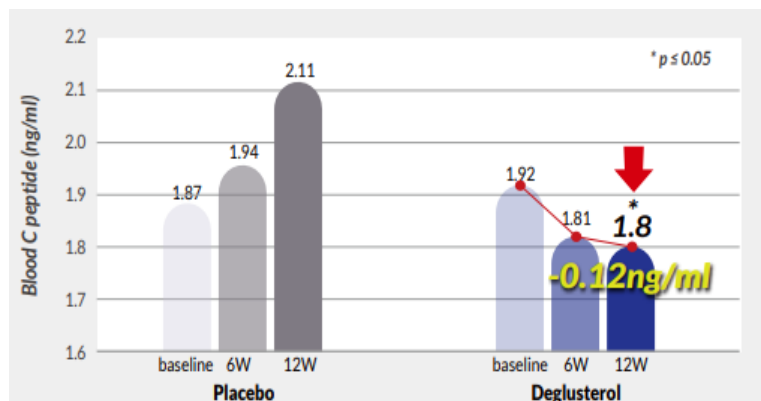
① [Fasting blood glucose level](#) at each visit compared to baseline



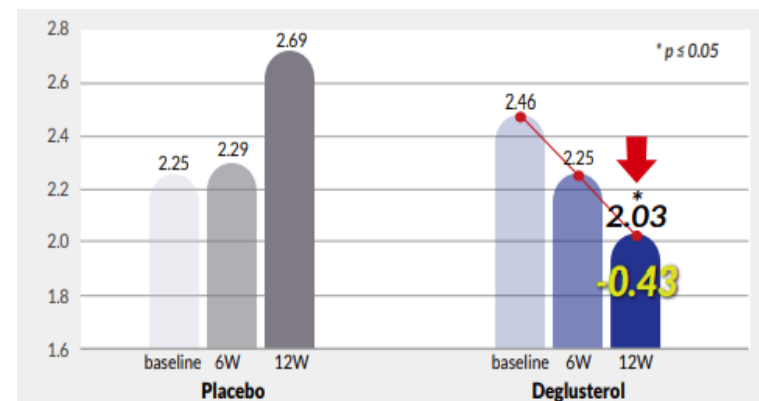
② [Blood fasting insulin](#) at each visit compared to baseline



③ [Blood C-peptide at each visit compared](#) to baseline



④ [HOMA-IR](#) at each visit compared to baseline



# CG-P5

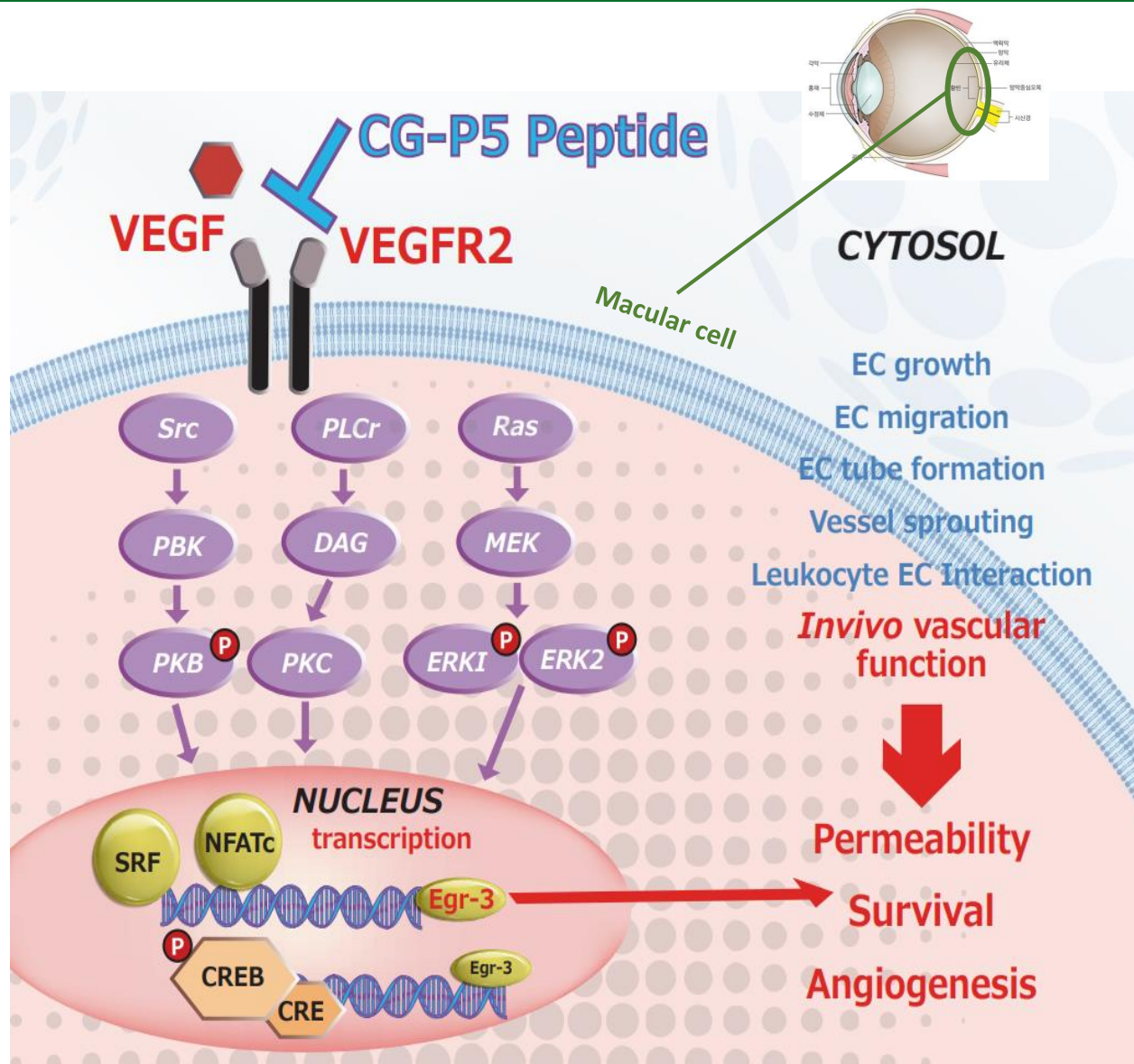
Wet Macular Degeneration Treatment with Eye drop  
But, no injection



|                                 |  |
|---------------------------------|--|
| <b>Product Types</b>            | Eye drop for age-related macular degeneration (AMD)  |
| <b>Technology</b>               | Development of peptides with macular degeneration treatment effect and development of eye drop-type macular degeneration treatment drugs   |
| <b>Peptides</b>                 | CG-P5  |
| <b>Target disease</b>           | <ul style="list-style-type: none"> <li>• Wet Age-related Macular Degeneration- Exudative type, Neovascular Wet AMD, nAMD</li> <li>• Dry Age-related Macular Degeneration- Non-exudative type</li> <li>• Diabetic retinopathy</li> </ul>  |
| <b>Cause</b>                    | Age related eye disease in which vision decreases due to macular aging, genetic factors, toxicity, inflammation, etc., and in severe cases, vision is completely lost  |
| <b>Current treatment method</b> | <ul style="list-style-type: none"> <li>• Wet macular degeneration: A method of improving lesions by regressing new blood vessels by periodically injecting an anti-vascular endothelial growth factor antibody (Anti-VEGF antibody) directly into the eyeball. Representative drugs include Aflibercept (Eylea), Ranibizumab (Lucentis), etc.</li> <li>• Dry macular degeneration : no cure yet, Prevention by dietary supplementation such as Lutein, an antioxidant</li> </ul> |
| <b>Development stage</b>        | <p>U.S. FDA IND(Investigational New Drug) submission preparation within 4Q 2022</p> <p><b>Prepared for application for designation of' Breakthrough Therapy'</b></p>   |



# CG-P5\_Mode of Action



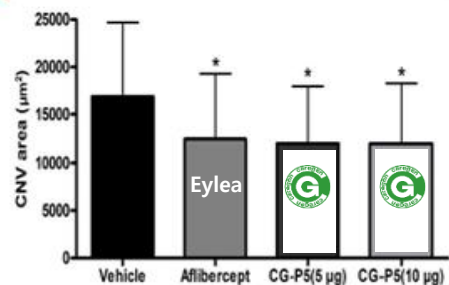
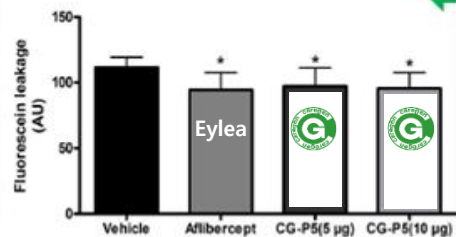
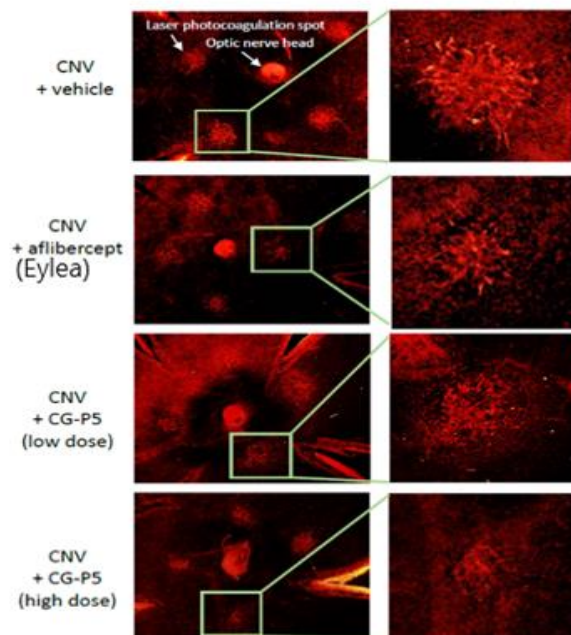
A therapeutic agent of an eye drops formulation containing the peptide CG-P5 that functions as an anti-angiogenic is administered to the eye to inhibit damage to the retinal macular region caused by excessive neovascularization of wet macular degeneration.

CG-P5 binds to Vascular Endothelial Growth Factor Receptors(VEGFR) to inhibit choroidal neovascularization(CNV)

# CG-P5\_Preclinical Test Results

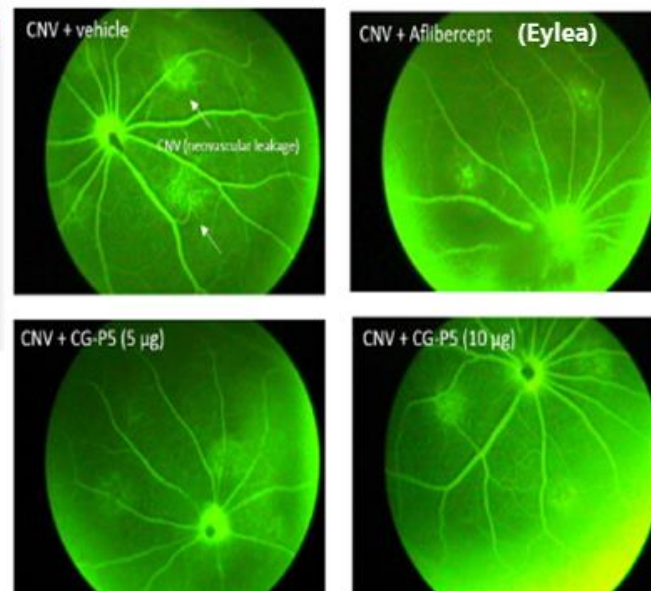
## ● CNV Formation Evaluation

Isolectin  $\beta$ 4 staining (endothelial cell marker)

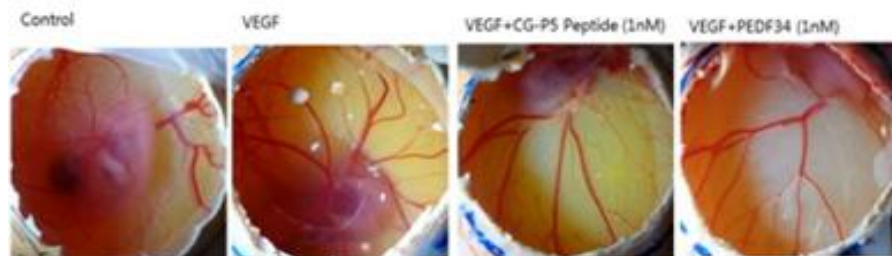


## ● Fluorescein Retinal angiography

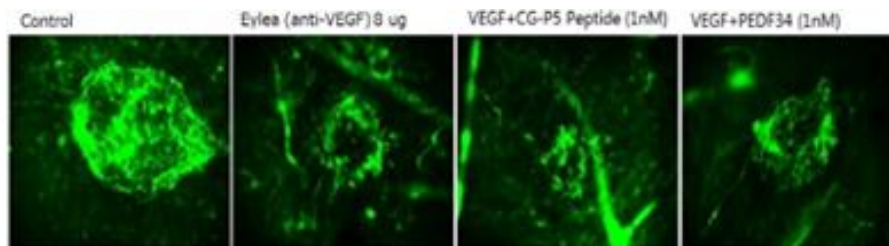
(leakage form CNV)



## ● CAM assay



## ● Laser-induced CNV Model



# SpikeDown

COVID-19 therapeutic with nasal spray



Nasal spray type

# SpikeDown\_Overview

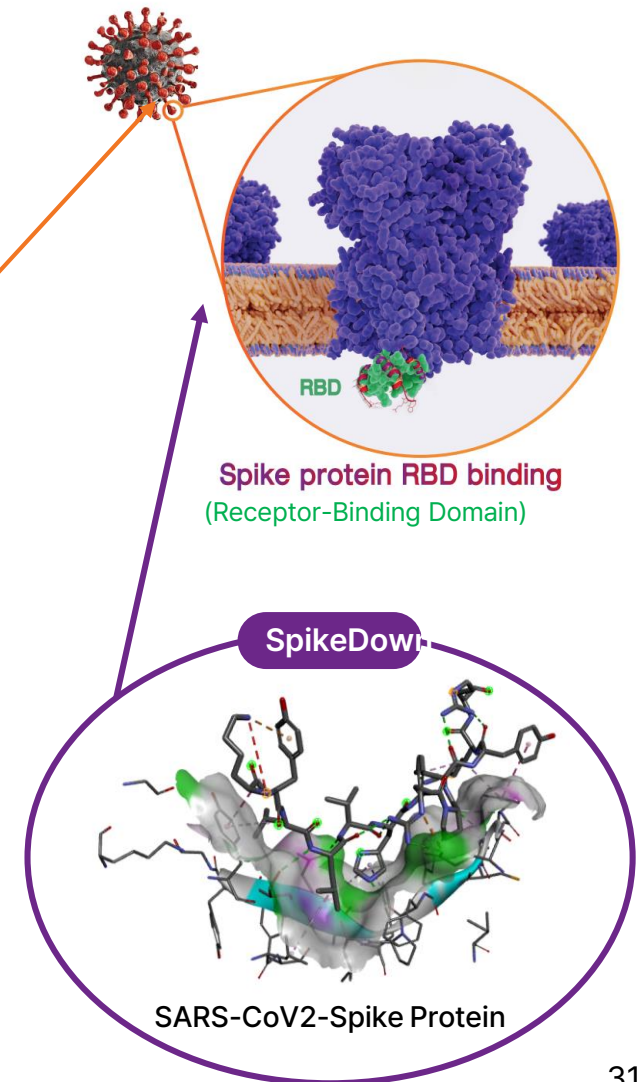
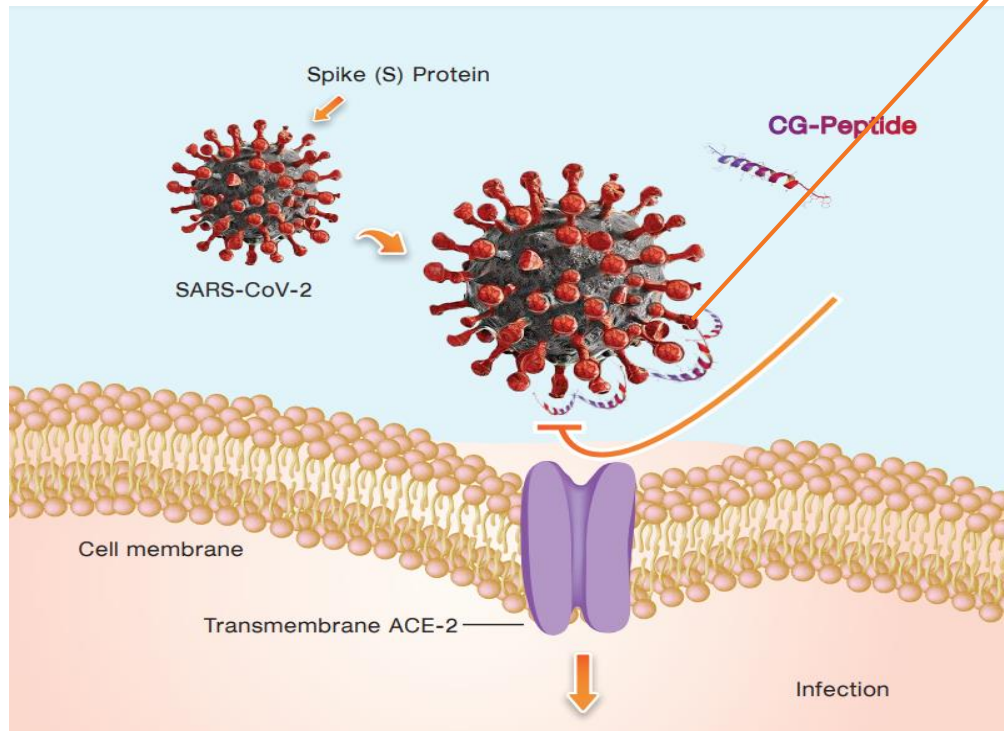
|                               |  |
|-------------------------------|--|
| Product Types                 | Nasal spray type   |
| Technology                    | Antiviral Peptide Treatment  |
| Peptides                      | CG-SpikeDown   |
| Target disease                | Coronavirus (COVID-19)   |
| Spike down<br>Differentiation | <ul style="list-style-type: none"><li>• Storage and distribution at room temperature</li><li>• Preventing infection and reinfection risk by blocking virus penetration into human cells</li><li>• In-house mass-producing peptides with high purity to supply products at a low prices</li><li>• Non-toxic that can be use at all times by adult patients, non-patients, the elderly, and animals.</li></ul> |
| Development<br>stage          | <ul style="list-style-type: none"><li>• <b>Israel MoH, IND approval for phase 1 clinical trial</b>, IND application for phase 2 clinical trial within 2022</li><li>• Depending on the results of the clinical trial, the U.S. FDA emergency use approval application.</li></ul>  |



# SpikeDown\_Mode of Action

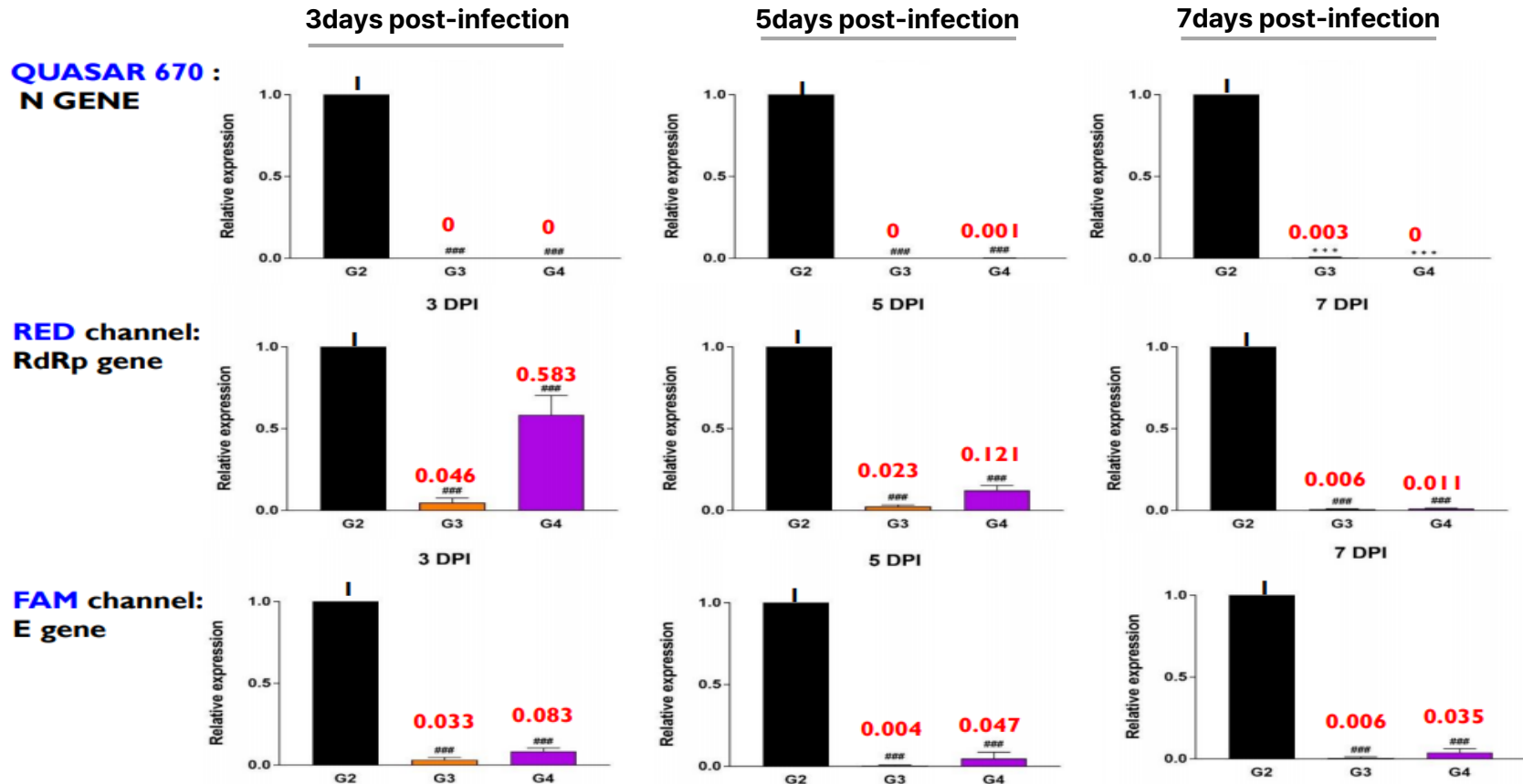
Prevents virus from penetrating into cells by blocking the binding of corona virus spike and ACE2 receptor on the surface of human cells.

SpikeDown binds to RBD (Receptor-Binding Domain), which is the coronavirus' spike protein receptor binding site, and blocks binding to ACE2, preventing the virus from penetrating into cells.



# SpikeDown\_Preclinical Efficacy Test Results

As a result of spike-down treatment in hamsters infected with Covid-19, no viral genes were detected in the lungs from the 3rd day, and the body weight recovered more than 95% after 7 days of infection



G2: Vehicle control    G3: SpikeDown Nasal Spray type    G4: SpikeDown Intravenous injection type



# SpikeDown vs. Others

|                  | SpikeDown  | Other Antibody Treatments  |
|------------------|--|--|
| Type             | Nasal spray type   | Injection  |
| Antiviral action | It can be used in both mild and severe patients due to its strong antiviral effect.  | Mainly used for mild patients  |
| Stability        | Excellent thermal stability allows storage at the product is long  | Refrigerated and frozen storage is essential due to low stability, and the shelf life is short   |
| Safety           | Excellent safety, both patients and non-patients can use it at all times, enabling treatment and prevention  | May not be administered to all patients due to potential risk of side effects  |
| Quality & Costs  | High purity mass production with uniform quality is possible at low cost, and distribution and storage costs are significantly lower due to room temperature storage | Production price is high, mass production is difficult, and costs for distribution and storage of refrigeration and freezing facilities are required |
| Expandability    | It can be expanded as a treatment for mutated and similar viruses, and non-clinical treatment for pulmonary fibrosis is in progress.                                 | Treatment for people infected with the COVID19 virus   |



# Mass-Production(10tons/yr), BGMP Peptide Synthesis Manufacturing Facility

## □ Main facilities (Peptide synthesis)



Peptide synthesis Reactor  
(SUS Reactor, 300ℓ X 10 Set)



Cleavage Reactor  
(GLASS Reactor, 280ℓ X 10 Set)



Prep HPLC system (2Set)



Crystallization Reactor  
(10 Set)







# Financial Results

# EARNINGS SUMMARY

Consolidated (in million Won)

|                          | 3Q FY2022     |        | 3Q FY2021 |        | 2Q FY2022 |        | YoY   |       | QoQ   |       |
|--------------------------|---------------|--------|-----------|--------|-----------|--------|-------|-------|-------|-------|
|                          | Amout         | %      | Amout     | %      | Amout     | %      | Amout | %     | Amout | %     |
| <b>Revenue</b>           | <b>18,310</b> | 100.0% | 13,649    | 100.0% | 16,359    | 100.0% | 4,661 | 34.2% | 1,951 | 11.9% |
| <b>Gross Profit</b>      | <b>13,138</b> | 71.7%  | 10,656    | 78.1%  | 12,507    | 76.5%  | 2,482 | 23.3% | 631   | 5.0%  |
| <b>SG&amp;A Expenses</b> | <b>6,656</b>  | 36.4%  | 4,623     | 33.9%  | 3,542     | 21.7%  | 2,033 | 44.0% | 3,114 | 87.9% |
| <b>Operating Profit</b>  | <b>6,482</b>  | 35.4%  | 6,033     | 44.2%  | 8,965     | 54.8%  | 449   | 7.4%  |       |       |
| <b>Net Profit</b>        | <b>6,277</b>  | 34.3%  | 6,534     | 47.9%  | 7,476     | 45.7%  |       |       |       |       |

# Revenue Breakdown by Products

Consolidated (in million Won)

|   |                 | 3Q FY2022<br>(Accumulated amount) |             |             | FY2021        |             | FY2020        |             |
|---|-----------------|-----------------------------------|-------------|-------------|---------------|-------------|---------------|-------------|
|   |                 | Amount                            | % of Rev.   | YoY         | Amount        | % of Rev.   | Amount        | % of Rev.   |
| <b>Professional<br/>(Filler, Meso)</b>            | <b>Subtotal</b> | <b>37,284</b>                     | <b>76%</b>  | <b>14%</b>  | <b>43,656</b> | <b>74%</b>  | <b>43,700</b> | <b>73%</b>  |
|   | Facial          | 22,267                            | 45%         | 2%          | 27,909        | 47%         | 26,526        | 44%         |
|   | Hair            | 10,512                            | 22%         | 15%         | 10,135        | 17%         | 9,867         | 16%         |
|   | Body            | 3,857                             | 6%          | 25%         | 4,606         | 8%          | 5,778         | 10%         |
|   | Intra-articular | 648                               | 3%          | 35%         | 1,006         | 2%          | 1,529         | 3%          |
| <b>Cosmeceutical</b>                              | <b>Subtotal</b> | <b>9,052</b>                      | <b>17%</b>  | <b>12%</b>  | <b>11,195</b> | <b>19%</b>  | <b>8,782</b>  | <b>15%</b>  |
|   | Facial          | 5,231                             | 11%         | 12%         | 6,158         | 10%         | 4,818         | 8%          |
|   | Hair            | 3,376                             | 6%          | 0.2%        | 5,001         | 9%          | 4,029         | 7%          |
|   | Miscellaneous   | 444                               | 0.3%        | 1,245%      | 36            | 0%          | -65           | n/a         |
| <b>Raw Materials<br/>(Peptide, Growth Factor)</b> |                 | <b>3,369</b>                      | <b>7%</b>   | <b>17%</b>  | <b>3,777</b>  | <b>6%</b>   | <b>967</b>    | <b>1%</b>   |
| <b>Dietary Supplement</b>                         |                 | <b>1</b>                          | <b>0%</b>   | <b>100%</b> | <b>3,777</b>  | <b>6%</b>   | <b>967</b>    | <b>1%</b>   |
| <b>Others</b>                                     |                 | <b>256</b>                        | <b>0.4%</b> | <b>-43%</b> | <b>460</b>    | <b>1%</b>   | <b>6,846</b>  | <b>11%</b>  |
| <b>TOTAL</b>                                      |                 | <b>49,962</b>                     | <b>100%</b> | <b>13%</b>  | <b>59,088</b> | <b>100%</b> | <b>60,295</b> | <b>100%</b> |



# Performance Highlight\_Consolidated FS Summery

## ☐ Financial Position

| (in million Won)                    | 3Q 2022        | FY2021         |
|-------------------------------------|----------------|----------------|
| <b>Current Assets</b>               | <b>150,168</b> | <b>149,329</b> |
| Cash and Cash Equivalents           | 34,590         | 22,249         |
| Short-Term Financial Instruments    | 97,859         | 114,019        |
| Account Receivables                 | 7,558          | 5,538          |
| Inventories                         | 8,059          | 6,174          |
| Other Current Assets                | 2,101          | 1,349          |
| <b>Non-Current Assets</b>           | <b>76,039</b>  | <b>77,431</b>  |
| <b>Total Assets</b>                 | <b>226,207</b> | <b>226,760</b> |
| Current Liabilities                 | <b>8,681</b>   | 9,850          |
| Non-Current Liabilities             | <b>7,690</b>   | 7,116          |
| <b>Total Liabilities</b>            | <b>16,371</b>  | <b>16,966</b>  |
| Paid-In Capital                     | 5,372          | 5,372          |
| Capital Surplus                     | 6,003          | 4,544          |
| Other Capital                       | (69,354)       | (71,628)       |
| Retained Earnings                   | 267,786        | 271,430        |
| Minority Interests                  | 30             | 77             |
| <b>Total Equity</b>                 | <b>209,836</b> | <b>209,794</b> |
| <b>Total Liabilities and Equity</b> | <b>226,207</b> | <b>226,760</b> |

## ☐ Income Statements

| (in million Won)                | 3Q 2022       |               | 3Q 2021       |               |
|---------------------------------|---------------|---------------|---------------|---------------|
|                                 | Amount        | %             | Amount        | %             |
| <b>Revenue</b>                  | <b>49,962</b> | <b>100.0%</b> | <b>30,413</b> | <b>100.0%</b> |
| Cost of Goods Sold              | 12,373        | 24.8%         | 6,580         | 21.6%         |
| <b>Gross Margin</b>             | <b>37,589</b> | 75.2%         | <b>23,833</b> | 78.4%         |
| Operating Expenses              | 13,757        | 27.5%         | 8,034         | 26.4%         |
| <b>Operating Profit</b>         | <b>23,832</b> | <b>47.7%</b>  | <b>15,799</b> | <b>51.9%</b>  |
| Other Non-Operating Income      | 161           | 0.3%          | 381           | 1.3%          |
| Other Non-Operating Income      | 61            | 0.1%          | 111           | 0.4%          |
| Financial Income                | 5,699         | 11.4%         | 2,521         | 8.3%          |
| Financial Expenses              | 2,538         | 5.1%          | 174           | 0.6%          |
| <b>Profit Before Income Tax</b> | <b>27,094</b> | 54.2%         | <b>18,416</b> | 60.6%         |
| Income Tax                      | 5,823         | 11.7%         | 4,120         | 13.5%         |
| <b>Net Income</b>               | <b>21,271</b> | <b>42.6%</b>  | <b>14,296</b> | <b>47.0%</b>  |
| Controlling Interest            | 21,321        | 42.7%         | 14,339        | 47.1%         |
| Non-Controlling Interest        | -50           | -0.1%         | -43           | -0.1%         |