

Korean biotech has developed 'Enhanced (functional reinforced) Exosome' for wound, pneumonia, and hair loss remedy is looking for R&I partners in Europe

Summary

Profile type

Technology offer

Company's country

South Korea

POD reference

TOKR20230703001

Profile status

PUBLISHED

Type of partnership

Investment agreement
Commercial agreement with technical assistance
Research and development cooperation agreement

Targeted countries

• World

Contact Person

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Term of validity

3 Jul 2023
2 Jul 2024

Last update

3 Jul 2023

General Information

Short summary

The Company is a medical and pharmaceutical research and development company that develops medicines using exosome derived from blood stem based in South Korea. The Enhanced Exosome has developed based on 2 technologies which are a high expression of GDF-3 gene from umbilical cord and production technology.

The Company is looking for partners for technology transfer contract, business contract, investments attraction, international joint research, buyer discovery, etc.

Full description

It is not easy to commercialize the "Core Blood Stem Cell," which is the youngest cell in terms of generation and has excellent efficacy, because it is difficult to separate and culture, and few companies challenge it.

Most exosome development companies use fat or bone marrow stem cells that are easy to separate, but the company has tried to develop medicines using "exosomes derived from cord blood stem cells" with these two related technologies.

'Technology A' a high-level technology that separates and cultivates stem cells that express the GDF-3 gene from

Core blood, is a rare technology related to cord blood stem cells, and its innovative technology.

'Technology B' is the Production technology of 'Enhanced Exosome' which enhanced regeneration and anti-inflammatory function.

Furthermore, GDF-3 highly expressed cord blood stem cells separated by 'Technology A' through 'Technology B,' core technology are cultured in an unique environment to secrete exosomes with enhanced regeneration and anti-inflammatory functions and secure a technology to obtain them at a high concentration.

By enabling mass production (100L) of 'Enhanced Exosome' (renewable anti-inflammatory function-enhancing exosomes) at the GMP (Good Manufacturing Practice) level, the company have established the largest production capacity among new drug development companies using various human cell-derived exosomes.

The mass production of 'Enhanced Exosome' (functional reinforced exosomes) secured through two technologies related to blood stem cells ('Technology A', 'Technology B') is the key to commercialization, and companies that secure theirs two core technologies and 'Enhanced Exosome' (functional reinforced exosomes) are expected to gain an advantage in the development of advanced renewable drugs.

Development of the two technologies ('Technology A' and 'Technology B') by the company has been completed, three related patents have been applied, and now PCT applications have been made, and one of them has been applied in individual countries. 'Enhanced Exosome', produced (US, China, Japan, and Europe), can be produced by building a GMP process, and the technology can be supplied to institutions that want drug research and development.

The first exosome new drug using 'Enhanced Exosome', "Window (Burn) Treatment", completed the phase 1/2 IND (Investigational New Drug) application in December 2022, but will be re-applied for phase 1/2 IND in March 2023 and approved in the first half of the year through the opinion coordination process with the KFDA (Korea Food & Drug Administration).

This is the fourth phase 1 application for a domestic exosome company, and when the target phase 1/2 clinical trial begins within 23 years, the clinical period (one prescription, 12 weeks follow-up) is shorter than that of other patients, so the phase 1/2 clinical trial will be complete faster than other companies.

Advantages and innovations

The core of the two technologies is to secrete "exosomes with enhanced regeneration and anti-inflammatory functions" using 'Technology B' and to produce 'Enhanced Exosome' (renewable anti-inflammatory function enhanced exosomes) secured through 'Technology A'.

Cord blood stem cells are known to be the youngest and most effective cells than other stem cells such as fat and bone marrow, and 'Enhanced Exosome' has 3 to 5 times higher expression of Collagen, Fibronectin, and Elastin secreted by general cord blood stem cells.

In addition, the technology has the advantage of being bio-friendly because it is a cell-derived material which are able to expand to the development of bio-friendly medicines, medical devices, and cosmetics for diseases that require superior regeneration and anti-inflammatory functions.

Technical specification or expertise sought

Stage of development

Lab tested

IPR Status

Secret know-how

Sustainable Development goals

• **Goal 3: Good Health and Well-being**

Partner Sought

Expected role of the partner

1. Partners who want to develop new wound treatments with excellent regeneration and anti-inflammatory effects
2. Partners who want to develop new drugs and medical devices that require regeneration and anti-inflammatory functions
3. Partners who want to invest in a New Drug Development Company using Exosome

Type of partnership

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Type and size of the partner

• **R&D Institution**

• **University**

• **Other**

Dissemination

Technology keywords

- **03004007 - Pharmaceuticals**
- **06001015 - Pharmaceutical Products / Drugs**
- **06001002 - Clinical Research, Trials**
- **06001003 - Cytology, Cancerology, Oncology**

Targeted countries

- **World**

Market keywords

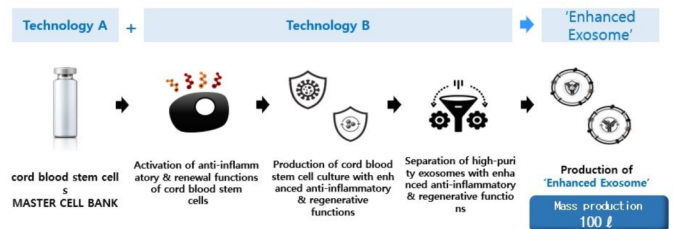
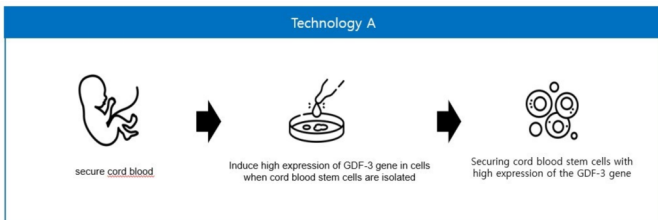
- **04013 - Stem cells and biobanks**
- **05005022 - Other clinical medicine**
- **05004004 - Medical instruments**
- **04017 - Micro- and Nanotechnology related to Biological sciences**

Sector groups involved

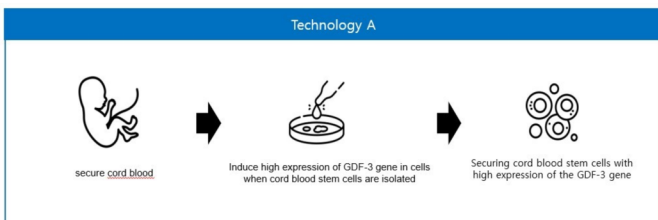
- **Health**

Media

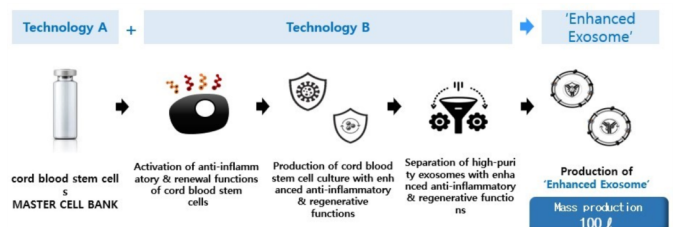
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