



Kringle
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Press release

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Research Collaboration with Kyoto University in Biomaterial-assisted Regenerative Medicine using HGF

Kringle Pharma, Inc. (Head office located in Osaka, Japan; President & CEO, Kiichi Adachi; “KRINGLE”), a late clinical-stage biopharmaceutical company, today announces signing of collaborative research agreement with Kyoto University (Located in Kyoto, Japan) focused on applied research combining HGF with biomaterials to create novel regenerative medicine products.

Professor Yasuhiko Tabata, Laboratory of Biomaterials, Institute for Life and Medical Sciences, Kyoto University, is a renowned leading scientist in the field of regenerative medicine utilizing biomaterials. Professor Tabata and KRINGLE jointly initiate applied research on regenerative medicine based on the biomaterial technologies and KRINGLE’s recombinant human HGF (development code: KP-100). The goal of this collaboration is to develop biomaterial-assisted regenerative medicine using HGF for the treatment of incurable diseases.

Regenerative medicine is a treatment method that promotes the functional regeneration of tissues and organs by administering cells and other materials prepared outside the body to the damaged tissues or organs. In recent years, research on stem cell transplantation therapy using iPS cells and other stem cells has been attracting attention. The importance of biomaterials in regenerative medicine has been recognized, and intensive research is being conducted not only on their function as a scaffold for transplanted cells, but also on the combined use of drug delivery systems (DDS) technology and drugs to efficiently reach target cells, improve stability in vivo, and control drug release.

HGF is an endogenous biological protein responsible for the regeneration and repair of tissues and organs. Previous studies revealed that HGF administration resulted in functional recovery in animal models for various diseases. KRINGLE has been developing KP-100 for incurable diseases such as acute spinal cord injury, ALS, vocal fold scar and acute kidney injury. Through this collaboration, KRINGLE aims to maximize the therapeutic potential of HGF, expanding target indications over the existing pipelines, eventually providing novel therapies for patients suffering from incurable diseases.

About Hepatocyte Growth Factor (HGF)

HGF was originally discovered as an endogenous mitogen for mature hepatocytes. Subsequent studies demonstrated that HGF exerts multiple biological functions based on its mitogenic, motogenic, anti-apoptotic, morphogenic, anti-fibrotic and angiogenic activities, and facilitates regeneration and protection of a wide variety of organs including not only liver, but also kidneys, heart, lungs, nerve tissues and skin.

About Biomaterials

Biomaterials are materials that are used in the body by itself or in combination with biological components including cells, proteins, nucleic acids or bacteria. Biomaterial technologies (e.g., scaffold to promote the formation of biological tissues, DDS technology to enhance the biological activity of proteins and genes that have cell differentiation and proliferation effects, etc.) can be utilized to enhance the regenerative and repair



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capabilities of biological tissues*.

*Source: Yasuhiko Tabata, “Regenerative medicine in terms of DDS technology - Regenerative therapy and regenerative research,” (2015)

About Kringle Pharma, Inc. <https://www.kringle-pharma.com/en/>

Kringle Pharma is a late clinical-stage biopharmaceutical company established in December 2001 to develop novel biologics based on HGF. Currently, Kringle’s clinical programs with recombinant human HGF are: 1) Phase 3 ongoing in acute spinal cord injury, 2) investigator-initiated Phase 2 ongoing in ALS, 3) Phase 2/3 in preparation in vocal fold scar, and 4) Phase 1a and 1b completed in acute kidney injury. Kringle’s mission is to contribute to societal and global healthcare through the continued research, development and commercialization of HGF drug for patients suffering from incurable diseases.

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