

Ube Industries and HiLung Sign Joint Development Agreement for Co-Development of Novel Selective LPA1 Antagonist HL001 for Pulmonary Fibrosis

YAMAGUCHI and KYOTO, JAPAN, March 28th, 2022 – Ube Industries, Ltd. (Headquarter: Ube, Yamaguchi; President Masato Izumihara; hereinafter "Ube Industries") and HiLung Inc. (Headquarter: Sakyo-ku, Kyoto; Chief Executive Officer: Yuki Yamamoto; hereinafter "HiLung"), have entered into a joint development agreement for a novel lysophosphatidic acid receptor-1 (LPA1) antagonist (development code: HL001), discovered by Ube Industries.

HL001 is a highly selective antagonist against LPA1, a receptor suspected to play a major role in the pathological progression of idiopathic pulmonary fibrosis (IPF). IPF is an increasingly-debilitating chronic disease characterized by fibrosing stiff lungs and diminishing lung vital capacity, leading to an average mortality of over 50% in five years after diagnosis – the course of which has been overwhelmingly irreversible. IPF, together with other rarer diseases, are classified as idiopathic interstitial pneumonia (IIPs), an entity of rare disease designated in Japan as a government-supported intractable disease, owing to the obvious unmet medical need. Recent basic research has fed into growing speculation that anomalies in alveolar repair and regeneration induce the fibrosing cascade, of which LPA is a prominent pathway – and as such we believe LPA1 shall be an effective therapeutic target for IPF.

Ube Industries and HiLung had previously signed a joint research agreement in March 2021 around HL001, together assessing potential efficacy and mechanism of action, including by leveraging our uniquely dynamic fibrosing assay based on human iPSC-based respiratory organoids, a proprietary technology of HiLung. These and other preclinical studies have encouraged us that HL001 can make a great contribution to IPF patients and meet the gaping unmet need still present to this day, which this joint development agreement aims to help alleviate. The two companies are currently projecting an entry into human clinical trials by March 2024.

This most recent agreement solidifies the collaboration between Ube Industries – a highly-established chemistry producer, and HiLung – a respiratory cell & organoid biology pioneer, as we accelerate the development of this novel IPF therapy and strive forward to offer the patients, at the earliest timeframe possible, the solutions they have long sought out.

About UBE Industries, Ltd.

Ube Industries is a chemistry-focused company that is also engaged in the construction materials and machinery businesses. In its pharmaceutical business, Ube Industries aims to contribute to better health for everyone with community-based manufacturing of drugs using innovative technologies. Going forward, Ube Industries will continue creating promising new compounds for new medicines with a dual approach of pursuing drug discovery through internal and joint research and development projects, and manufacturing and supply of APIs* and intermediates. <http://www.ube.co.jp>

*: Active Pharmaceutical Ingredients

About HiLung Inc.

HiLung was founded in 2020 to dramatically accelerate respiratory drug discovery and development, based on our pioneering cell differentiation technologies which can mass-produce respiratory cells from human stem cells, including human iPSCs (induced pluripotent stem cells) – unprecedented industry-scale yield of which positions us at the forefront of R&D in respiratory cell & organoid biology. We are offering our normal respiratory models for toxicology studies, along with human respiratory disease models and infection models (incl. COVID-19) reproducing human-specific pathologies, all leading to human(e), non-animal, target identification, lead optimization, and patient stratification studies, available in multiple high-throughput formats allowed for by our highly manipulable cells and organoids. These studies and resulting pipeline development not only serve the patients directly, they will also be foundational building blocks for our ultimate dream of regenerative lung transplantation therapy. All through our leading efforts, we strive to contribute to a future where all respiratory diseases can be cured and "Everybody Is Happily Inspiring".

"Inspiring Cell Technologies" – <https://www.hilung.com/>

For further inquiries:

Ube Industries, Ltd.: Contact Form

<https://www.ube-ind.co.jp/ube/Inquiry/Form/InquiryIprEnAgree>

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HL001 is an investigational compound and their human therapeutic efficacy and safety have not been clinically established.