

PRESS RELEASE
05 July 2022



Mogrify and Astellas announce collaboration to conduct research on *in vivo* regenerative medicine approaches to address sensorineural hearing loss

Cambridge, UK, Tokyo, Japan, 05 July 2022: Mogrify Limited (CEO: Darrin M. Disley, Ph.D., “Mogrify®”), a biopharmaceutical company transforming the lives of patients through a novel class of *in vivo* reprogramming therapies, and Astellas Pharma Inc. (TSE: 4503, President and CEO: Kenji Yasukawa, Ph.D., “Astellas”), a leader in regenerative medicine, today announced that they have executed a collaborative research agreement on *in vivo* regenerative medicine approaches to address sensorineural hearing loss.

Utilizing Mogrify’s proprietary direct cellular reprogramming platform, the collaboration will seek to identify novel combinations of transcription factors involved in cell differentiation to generate new cochlear hair cells. As part of the collaboration, Astellas Gene Therapies, a division of Astellas, is covering the research cost of the work as well as contributing its expertise in adeno-associated virus (AAV) based genetic medicine and translational capabilities to complete experiments in pre-clinical models. Mogrify will exploit its bioinformatic platform, screening and validation process to characterize potential therapeutic factors.

An estimated 1.57 billion people globally suffer from hearing loss¹, and US data suggests that over 10% have severe to profound sensorineural hearing loss in at least one ear². This degree of hearing loss significantly reduces quality of life and, with no drug treatments currently available, represents a large unmet need.

Dr. Louise Modis, CSO, Mogrify, said: *“Mogrify’s human regulatory network-centric approach is well placed to identify superior factor combinations, therefore increasing the efficiency of direct conversion toward the target cell type in the ear. Combined with Astellas’ capabilities for gene therapy and research of sensorineural, this provides a clear path for the development of a novel *in vivo* reprogramming therapy for sensorineural hearing loss.”*

Dr. Mathew Pletcher, Senior VP, Division Head of Gene Therapy Research & Technical Operations, Astellas, said: *“In this collaboration, we will look to combine the unique delivery attributes of AAV-based gene therapy, with our deep translational capabilities in otology developed through our “Targeted Therapeutics for Auditory Regeneration”, and “Direct Reprogramming (Transdifferentiation)” initiatives. Through this collaboration, we will seek to address a significant unmet need in sensorineural hearing loss.”*

1. Hearing Loss Collaborators. Hearing loss prevalence and years lived with disability, 1990-2019: findings from the Global Burden of Disease Study 2019. Lancet. 2021 Mar 13;397(10278):996-1009.

2. Goman AM, Lin FR. Prevalence of Hearing Loss by Severity in the United States. Am J Public Health. (2016);106(10):1820-1822.

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Notes to Editors



Dr. Louise Modis, CSO, Mogrify

*Dr. Mathew Pletcher, Senior VP,
Division Head of Gene Therapy
Research & Technical
Operations, Astellas*

For high-resolution and alternate images please contact Zyme Communications.

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About Mogrify www.mogrify.co.uk

Mogrify has developed a proprietary suite of platform technologies that utilize a systematic big-data approach to direct cellular reprogramming (Rackham *et al.*, Nature Genetics, 2016) and the maintenance of cell identity (Kamaraj *et al.*, Cell Systems, 2020). The platforms, MOGRIFY® and epiMOGRIFY®, developed over a 12-year period via a multi-national research collaboration, deploy next-generation sequencing, gene regulatory and epigenetic network data to enable the prediction of the transcription

factors and growth factors required to produce any target human cell type from any source human cell type.

The platforms can be used to enhance existing stem-cell forward programming methods, or bypass development pathways altogether, affecting a direct transdifferentiation between a mature cell type to another mature cell type.

Mogrify is applying its proprietary and award-winning platforms to generate the functional cell types required to transform the lives of patients, delivering a novel class of *in vivo* reprogramming therapies across ophthalmology, otology, metabolic and other areas of degenerative disease.

Uniquely positioned to address a regenerative medicine market estimated to be worth \$150 billion USD by 2028, Mogrify is commercializing its technology via a combination of *in vivo* reprogramming therapy development, co-development partnerships, as well as the exploitation of the platform in other therapeutic and non-therapeutic applications. Based in Cambridge, UK, the Company has raised over \$40 million USD funding from Parkwalk, Ahren Innovation Capital, 24Haymarket, Trend Investment Group, Dr. Darrin M. Disley, OBE, Dr. Jonathan Milner and the University of Bristol Enterprise Fund III, as well as strategic investors; Astellas Venture Management.

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About Astellas www.astellas.com/en

Astellas Pharma Inc. is a pharmaceutical company conducting business in more than 70 countries around the world. We are promoting the Focus Area Approach that is designed to identify opportunities for the continuous creation of new drugs to address diseases with high unmet medical needs by focusing on Biology and Modality. Furthermore, we are also looking beyond our foundational Rx focus to create Rx+[®] healthcare solutions that combine our expertise and knowledge with cutting-edge technology in different fields of external partners. Through these efforts, Astellas stands on the forefront of healthcare change to turn innovative science into value for patients. For more information, please visit the Astellas website.

About Astellas Gene Therapies

Astellas integrated its wholly owned subsidiary, Audentes Therapeutics, Inc. as of April 1, 2021 and established “Astellas Gene Therapies” within the organization as an Astellas Center of Excellence to develop genetic medicines with the potential to deliver transformative value for patients. Based on an innovative scientific approach and industry leading internal manufacturing capability and expertise, we are currently exploring three gene therapy modalities: gene replacement, exon skipping gene therapy, and vectorized RNA knockdown and hope to also advance additional Astellas gene therapy programs toward clinical investigation. We are based in San Francisco, with manufacturing and laboratory facilities in South San Francisco and Sanford, North Carolina.

Cautionary Notes (Astellas)

In this press release, statements made with respect to current plans, estimates, strategies and beliefs and other statements that are not historical facts are forward-looking statements about the future performance of Astellas. These statements are based on management’s current assumptions and beliefs in light of the information currently available to it and involve known and unknown risks and uncertainties. A number of factors could cause actual results to differ materially from those discussed in the forward-looking statements. Such factors include, but are not limited to: (i) changes in general economic conditions and in laws and regulations, relating to pharmaceutical markets, (ii) currency exchange rate fluctuations, (iii) delays in new product launches, (iv) the inability of Astellas to market existing and new products effectively, (v) the inability of Astellas to continue to effectively research and develop products accepted by customers in highly competitive markets, and (vi) infringements of Astellas’ intellectual property rights

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