



WhiteLab Genomics, the Vision Institute, and ADLIN Science are joining forces to develop new gene therapies in Ophthalmology.



This French consortium, supported by the French state and the Île-de-France Region via France 2030 (a call for regional projects), aims to accelerate the development of gene therapies for ophthalmic pathologies through utilizing artificial intelligence.

Paris, April 29th 2024 - WhiteLab Genomics, a specialist in AI for genomic medicine, the Vision Institute, an international research center on ophthalmic diseases, and ADLIN Science, which develops a decentralized digital research environment, have entered into a strategic partnership and officially announcing **the launch of GEAR (Evaluation of Adeno-Associated Virus Vector Gene Therapy for the Retina).**

Revolutionizing Genomic Medicine

Gene therapy is an innovative approach to modifying genetic defects in an organ, restoring its natural function, and preventing the onset of hereditary diseases. Gene therapy, using AAVs, effectively treats certain diseases such as Leber congenital amaurosis type 2, which affects retinal pigment epithelium cells. However, retinal diseases, such as photoreceptor dystrophies, present challenges due to limited access, physical barriers, and lack of knowledge of receptors present on these important cells. Currently, there are no specific vectors for these photoreceptor cells that can exclusively target the outer retina with low immunogenicity and low dosage. Together the consortium aims to address this gap by leveraging their knowledge and using rational and combinatorial approaches guided by machine learning algorithms to generate and test AAV variants with high therapeutic potential in humans.

"I am very honored to contribute to this synergy of experts to improve gene therapy engineering. With the GEAR project, we will be able to have a significant impact on the field of retinal health and visual health," **said Deniz Dalkara, research director specializing in the development of viral vectors at the Vision Institute.**

Accelerating Vector Optimization: Unleashing the Power of AI

The consortium partners are fully committed to advancing genomic therapies in ophthalmology through AI. By leveraging its platform, ADLIN will support WhiteLab Genomics and the Vision Institute in developing the next generation of gene therapy vectors. The goal of the GEAR project is to develop an AAV with increased efficiency

in transducing human retinal photoreceptors, thus opening unprecedented possibilities for innovative retinal gene therapy.

"We are thrilled to engage in this collaboration with the Vision Institute and ADLIN Science, by leveraging our artificial intelligence platform to drive the development of gene therapies, especially to help treat ophthalmic diseases. Together, we aim to improve outcomes for patients and create a lasting impact on the field of genomic medicine." **said David Del Bourgo, CEO and Co-founder of WhiteLab Genomics.**

Vision and Impact of GEAR

With a budget of 4 million euros, this consortium is financially supported, equally by the State and the Île-de-France Region as part of the regional I-demo call for projects of the France 2030 plan, operated on behalf of the State by Bpifrance. The submission of this project was supported by Medicen, the competitiveness cluster for the Paris Region.

As part of France 2030 plan, this initiative focusing on Innovations in Biotherapies with Artificial Intelligence, aims to unite and mobilize industrial value chains in line with the Île-de-France Region. The French government's objective is to establish France as a European leader in the production of biopharmaceuticals by 2030 by supporting health and pharmaceutical sovereignty. GEAR aligns with this vision and will position France as a global leader in AI-driven gene therapies.

"The GEAR project represents a unique opportunity to apply ADLIN's digital research environment to accelerate collaboration between two experts in the field of gene therapies such as Whitelab Genomics and the Vision Institute. The consortium will deliver tangible results in the form of a new targeted vector that will improve and specifically facilitate the administration of gene therapies beneficial to patients. This ambitious goal fits perfectly with ADLIN Science's vision of accelerating innovation in the field of precision medicine, and we are very excited to participate in this consortium," **said Paul Rinaudo, CEO and founder of ADLIN Science.**

About the Vision Institute

Founded in 2009 in Paris, the Vision Institute is a leading center dedicated entirely to research on vision-related diseases. Its innovative organization brings together researchers and physicians around patients, enabling the discovery, testing, and development of new therapeutic or technological solutions to prevent eye diseases by limiting their effects and restoring vision in patients who have lost it. Designed as a gathering and exchange center, the Vision Institute facilitates the sharing of ideas, the emergence of new questions, and the acceleration of the transfer of research results for patient care, notably through industrial partnerships, the creation of startups, and the use of cutting-edge technological platforms.

About WhiteLab Genomics

Founded in 2019, backed by Y-Combinator, WhiteLab Genomics stands at the convergence of computer sciences and biology, pioneering the accelerated development of genomic medicines. By leveraging their proprietary technology, WhiteLab Genomics analyzes complex biological data powered by AI to significantly reduce development timelines and mitigate associated risks. Based on exhaustive datasets, the platform provides in-silico simulations to discover and design optimized

payloads and vectors. WhiteLab aims to expedite the drug development process, cut costs, and accelerate the delivery of life-saving therapies to the market. The company collaborates with leading pharmaceutical companies such as Sanofi, academic institutions, and innovative biotechnology companies. Recognized for their contribution to advancing the field of gene and cell therapy, WhiteLab Genomics is part of the prestigious French government supported French Tech 2030 program.

About ADLIN Science

Founded in November 2020, ADLIN Science specializes in an integrative and decentralized digital research environment for the management, analysis, and utilization of multi-omic data. Their innovative approach promotes collaboration between public and private entities, including institutes, hospitals, universities, biotechnology, and pharmaceutical companies. ADLIN Science aims to accelerate innovation in precision medicine to transform the healthcare sector.

About France 2030

- Translates a dual ambition: to transform key sectors of the French economy (energy, automotive, health, aerospace, and space) sustainably through technological and industrial innovation, and to position France not only as an actor but as a leader in the world of tomorrow. From fundamental research to the emergence of an idea to the production of a new product or service, France 2030 supports the entire lifecycle of innovation until its industrialization.
 - Is unprecedented in its scope: €54 billion will be invested to ensure that our companies, universities, and research organizations fully succeed in their transitions in these strategic sectors. The challenge: to enable them to respond competitively to ecological challenges and the attractiveness of the coming world, and to emerge as future champions of our sectors of excellence to strengthen French sovereignty and independence in key sectors. 50% of expenditures will be devoted to decarbonizing the economy, and 50% will be directed towards emerging actors, carriers of innovation with no adverse impact on the environment (according to the principle of Do No Significant Harm).
 - Will be implemented collectively: the plan is conceived and deployed in consultation with economic, academic, local, and European actors who have contributed to determining its strategic orientations and flagship actions. Project leaders are invited to submit their applications via open, demanding, and selective procedures to benefit from state
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- Managed by the General Secretariat for Investment on behalf of the Prime Minister and implemented by the French Agency for Ecological Transition (ADEME), the National Research Agency (ANR), Bpifrance, and the Deposits and Consignment Fund (CDC). More information at: france2030.gouv.fr | <https://www.gouvernement.fr/agence-innovation-sante> | @SGPI_avenir

About the Île-de-France Region

The Île-de-France Region plays a leading role in French employment and growth, both in terms of its economic weight and its influence. As the top economic region in Europe and the third globally, behind Tokyo and New York, Île-de-France is an innovation hub, housing 40% of France's R&D activities and enjoying international attractiveness. The Île-de-France Region intervenes in various areas concerning the daily lives of its 12 million inhabitants: transportation, education, economic development, environment, etc. Spanning just 2% of French territory but hosting 18% of its population and nearly 30% of the national GDP.

About Bpifrance

Bpifrance Investissement manages Bpifrance's equity investments, providing financing to companies at every stage of their development through credit, guarantees, and equity funds. Bpifrance supports innovation projects and international expansion, offering various products to facilitate export activities. In addition to financing, Bpifrance provides consulting services, networking, and acceleration programs for startups, SMEs, and mid-sized companies, with 50 regional branches ensuring effective support for entrepreneurs in tackling their challenges.