# **Revolutionizing Peptide Discovery: Al-Driven Drug Design Paving the Way** for the Future of Cell & Gene Therapy

C. Alliot<sup>1</sup>, C. Colas<sup>1</sup>, B. Dafniet<sup>1</sup>, J. Maes<sup>1</sup>, J-P. Buffet<sup>1</sup>, P. Vidal<sup>1</sup>, A. Murza<sup>2</sup>, D. Del Bourgo<sup>1</sup>, J. Cottineau<sup>1</sup>, P-L. Boudreault<sup>2</sup>, D. Serillon<sup>1</sup> <sup>1</sup>WhiteLab Genomics, Future4Care, 8 rue Jean Antoine de Baïf, 75013 Paris, France <sup>2</sup> Department of Pharmacology and Physiology, Faculty of Medicine and Health Sciences, Institut de Pharmacologie de Sherbrooke, Université de Sherbrooke, 3001, 12e Avenue Nord, J1H 5N4 Sherbrooke, Québec, Canada

# **Genomic Medicine's Principal Challenges** Manufacturing Specificity Immunogenicity complexity The Opportunity to Accelerate Drug R&D ACCELERATE ACCELERATED Enhanced efficiency **Cost reduction** Improved product quality Accelerated time to market **ALFRED, Proprietary & Modular AI Platform**



## **About WhiteLab Genomics**

WhiteLab Genomics stands at the convergence of AI and biology. Founded in 2019, backed by Y-Combinator, WhiteLab is pioneering the accelerated development of life-saving genomic medicines. By leveraging their proprietary technology, WhiteLab 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.



45+ specialists in Al biology, and including 20+ PhDs and PharmDs, in Paris and Boston.

### dserillon@whitelabgx.com

Over the past decade, rational peptide design has become a promising strategy in drug discovery due to peptides' versatility in targeting complex biological targets. Despite their potential, challenges like structural flexibility and unintended biological interactions persist. Beyond their therapeutic potential, peptides hold the promise to redefine the frontier of gene delivery, enhancing vector targeting through insertion or conjugation to both viral and non-viral platforms.

genomic medicine.





#### Introduction





Unleash the Potential of Genomic Medicine using AI