PROJECT

DREAMS

Drug Repurposing with Artificial Intelligence for Muscular disorders

DREAMS aims to discover and validate novel shared therapies capable of treating multiple rare Neuromuscular Disorders (NMDs) for which there is currently no therapy, using a groundbreaking methodology combining AI, stem cells, and pharmacological screening.

This project has received funding from the European Union's Horizon Europe research and innovation programme under Grant Agreement No. 101080229-2

9	6	€7,8 M	60
PARTNERS	COUNTRIES	TOTAL BUDGET	MONTHS

Dreams

IN ONE CLICK		
Coordinator	**Programme**	**Period**
CECS	Horizon Europe	2023-2028
Sector	**Web**	
Health	www.dreamshorizon.eu	

01
Challenge

It is estimated that at least 4% of the world's population—1 in every 17 people—suffers from one of over 8,000 rare diseases. Currently, there are only 11 approved treatments for 7 neuromuscular diseases out of the 600 identified. Associated challenges include a scarcity of research, difficulties in clinical trials, and high development costs. Despite these challenges, efforts to develop treatments persist, driven by the urgency to address unmet medical needs and improve the quality of life for those affected.

02
Solution

To address the challenges in drug discovery for rare diseases, DREAMS proposes integrating cutting-edge technology to identify treatments that can be applicable to multiple conditions more efficiently and economically. Additionally, it suggests implementing adaptive clinical trials involving both patients and experts, aiming to simplify testing in small and diverse groups. These two innovations aim to drive the development of new effective pharmacological therapies.

03
Impacts

DREAMS is committed to improving the quality of life for patients with rare neuromuscular diseases through the development of new pharmacological therapies. By validating this reusable approach, DREAMS will pave the way for finding treatments for rare diseases efficiently and economically. Additionally, through the development of an artificial intelligence and induced pluripotent stem cells (AI/iPSC) platform, it aims to have an impact on other rare diseases beyond its initial project.