Principal Investigator

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Adopted Theme

Development of innovative biopreservation methods using human-derived stabilizer “Hero Proteins”

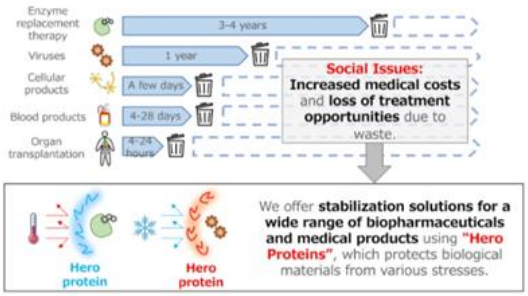
Subject of Research

Development of innovative biopreservation methods using human-derived stabilizer “Hero Proteins”

GTIE VC Collective

ANRI Inc.

Overview



Recently, the modalities of pharmaceuticals have diversified, with proteins, vaccines, gene therapy, and cell therapy becoming practical. The stability of these modalities during long-term storage and transportation is crucial. Existing treatments like blood transfusions and organ transplants also face stability challenges, resulting in missed treatment opportunities for patients.

“Hero Proteins” are a newly discovered class of proteins that protect other proteins from various stresses such as heat and freezing. This project aims to establish a startup to solve stability issues in biomedicine using these proteins.

Business Models (when applying)

We will create tailor-made Hero proteins optimized for specific modalities and required stress resistance. We will provide a platform business that selects and supplies the most suitable Hero protein to address the stabilization challenges of the customer’s modality.

Activity Planning (when applying)

Construction of Hero Protein Library
Create a diverse recombinant Hero Protein library and a viral pool library capable of expressing Hero proteins within cells. This establishes a unique platform technology for optimal Hero protein screening.

Application Demonstration
Confirm the stabilization effects of Hero proteins against various biopharmaceutical modalities and stresses. Evaluate the feasibility and validity of business expansion through proof-of-concept acquisition.

Elucidation of Stabilizing Mechanisms
In addition to stability evaluation for each modality, elucidate the correlation between Hero protein sequences and functions, and their mechanisms using various physicochemical, biochemical approaches, in silico analysis, and machine learning.