Principal Investigator

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Adopted Theme

Protein Crystal Materials —Revolutionizing Enzyme Production and Utilization—

Subject of Research

Protein Crystal Materials —Revolutionizing Enzyme Production and Utilization —

Overview

We aim to establish a business focused on R&D services and product development for enzyme production using intracellular protein crystallization technology. Our PCM (Protein Crystal Material) enables advanced capabilities, such as multi-enzyme cascade reaction, enzyme reactions under low-solubility conditions, and suppression of cellular toxicity, which are difficult to achieve with conventional methods. We will build a globally oriented business structure to capture significant market share, develop customer-optimized product prototypes, and secure intellectual property and scalable manufacturing technologies to further strengthen our competitive advantage.

Business Models (when applying)

We are developing PCM, a new material that integrates enzyme purification, immobilization, and preservation using intracellular protein crystallization technology. Applications will expand from research reagents to pharmaceutical intermediate manufacturing, with products optimized for customer needs. PCM's high stability, reactivity, and versatility enable purification-free, high-efficiency, and low-cost enzyme utilization, securing a strong competitive edge in domestic and global markets.

Activity Planning (when applying)

In the early stage, we will target high-value markets requiring small production volumes, as mass production capabilities are not yet established. We will steadily enhance technical expertise, improve product quality, and build a scalable production system. Customer interviews will help identify businesses with strong demand for new enzyme applications, while we also explore promising sectors for entry after medium-scale production is achieved. We will ensure compliance with safety standards and set benchmarks for continuous product quality improvement.