Prozymi Biolabs

UKRI Biotechnology and Biological Sciences Research Council

ROSLIN INNOVATION CENTRE

Accelerating enzyme innovation for gluten detoxification to bridge from concept to commercial readiness

Prozymi Biolabs

Prozymi Biolabs Ltd is a start-up biotechnology company developing enzyme-based technologies to improve food safety and quality. Their current focus is on creating an enzymatic approach to detoxify gluten while retaining the sensory qualities of wheat-based foods. This innovation has the potential to benefit millions of people worldwide living with coeliac disease, gluten intolerance, or sensitivity.

From their base at the Roslin Innovation Centre, Prozymi Biolabs leverages the region's world-class ecosystem in biotechnology and synthetic biology to accelerate the translation of enzyme discovery into viable commercial applications.

Gluten-related disorders affect millions worldwide. Managing these conditions requires strict lifelong avoidance of gluten, a protein in wheat, barley and rye. However, creating gluten-free foods that match the taste, texture and nutrition of traditional products remains challenging. Without gluten's elasticity, many products are **dry, dense or nutritionally poor,** and maintaining gluten-free production adds cost and complexity. **Prozymi Biolabs** addresses these barriers by developing **enzyme-based technology** that neutralises gluten's immunogenic fragments while retaining wheat's natural properties—offering the potential for **safe, high-quality, affordable "gluten-safe" foods** for sensitive consumers.

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The **Campus Innovation Award,** enabled **Prozymi Biolabs to** form a strategic collaboration with the **Edinburgh Genome Foundry (EGF),** a world-class University of Edinburgh facility specialising in automated DNA design, assembly and phenotyping. The project, enabled the company to establish a **high-throughput cloning workflow** for gluten-degrading enzymes. Using EGF's **robotic platform**, Prozymi streamlined construct assembly with improved efficiency and reproducibility. This collaboration directly addressed key core technical barriers, significantly accelerating research progress and supporting rapid proof-of-concept development.

The project's outcome delivered robust construct assembly pipeline that shortened experimental timelines and enhanced reproducibility. Commercially, the results contributed to securing funding for development of the company's minimum viable product and bolstering organisational growth.

The Campus Innovation Award played a pivotal role in reshaping Prozymi Biolabs' R&D capabilities, allowing the company to fast-track its plasmid generation process. The project highlights the value of university-industry collaboration in driving innovation, supporting commercial capacity, and strengthening Scotland's biotechnology sector.

One year on…

Since completion, the generated data was essential in securing an Innovate UK Launchpad: Bio-based manufacturing in Scotland grant. The concept data also underpinned the investment pitch deck and supported successful acceptance onto competitive accelerator programmes.

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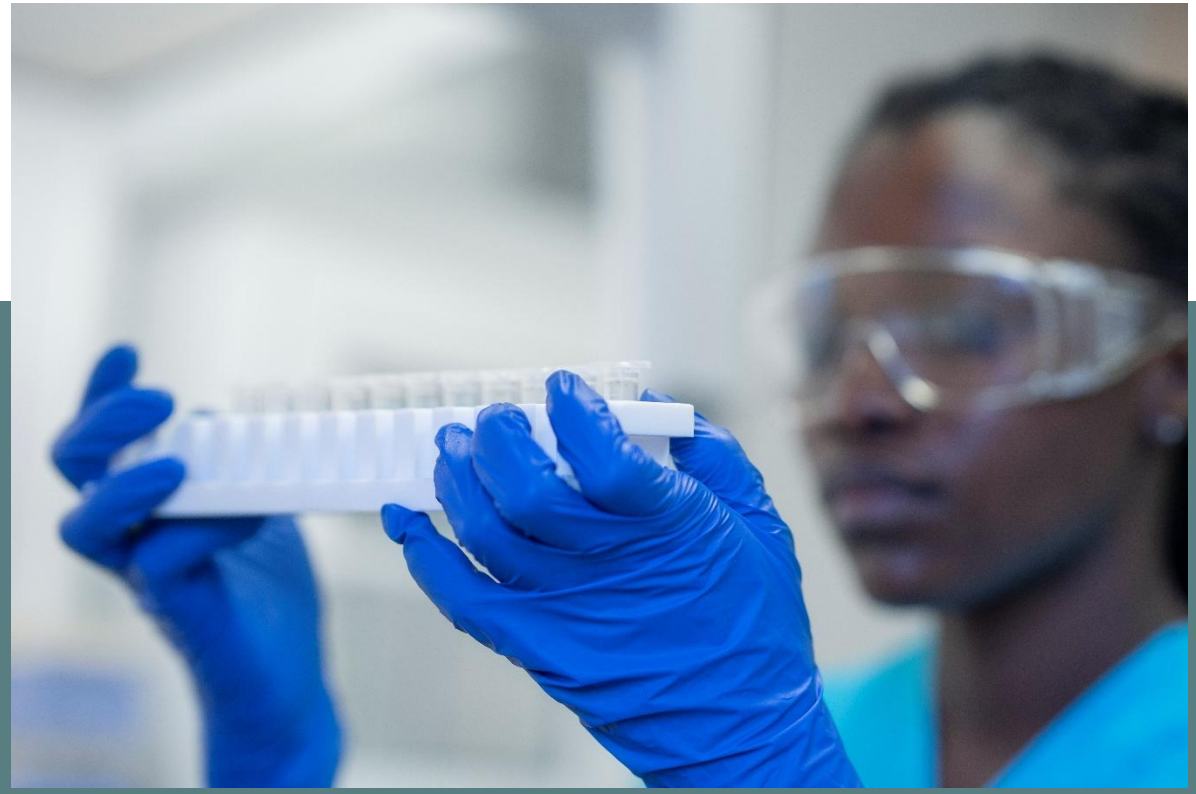

"The Campus Innovation Award was pivotal in helping us accelerate enzyme development and establish a high-throughput workflow using the University of Edinburgh's advanced facilities. It transformed our R&D capability and brought us closer to commercial readiness."

Dr. Ioannis Stasinopoulos, CEO & Co-founder of Prozymi Biolabs