

Industrial Biotechnology

A novel, cost-effective material with enhanced activity and thermostability: a new generation protease inhibitor for biotech industry

APPLICATION

The novel formulation of protease inhibitor for isolation of different proteins from the cell line, plant, microbes, tissue, nematodes etc. and impacts on the quality protein for better R&D outcome.

COMPANY NAME	TECHNOLOGY READINESS LEVEL (TRL)	INTELLECTUAL PROPERTY
Biopioneer Pvt Ltd	TRL: 8 (Validated & Early Revenue Stage)	Indian Patent App No: 202131010934
FOUNDER'S NAME		
Bijayananda Panigrahi		

PROBLEM ADDRESSED

Processing of clinical sample/ any protein sample, the presence of undesired proteases during the isolation and purification of intact peptides/proteins usually leads to the reduction of pure protein yield and active protein. Protease inhibitors available in the market are expensive, sensitive to temperature, less effective and limited inhibition activity. Additionally, commercially available protease inhibitors are composed of a number of different ingredients and each ingredient is responsible for inhibitory activity against specific protease

ABOUT THE TECHNOLOGY

Biopioneer is developing a NexGen HM Protease Inhibitor which can be used as an efficient protease inhibitor for a wide range of protease enzyme. The newly developed material is a single component, stable at room temperature, non-toxic, water soluble and efficient formulation which can inhibit serine protease significantly around 97 %. It also exhibits inhibitory action against strong protease such as proteinase K, which is rarely seen in case of traditional protease inhibitor. Apart from these, the hybrid material is around 10-15 times less expensive than traditional protease inhibitors.

FUNDS RAISED/ACHIEVEMENTS

- BIRAC BIG grant of INR 49.38 lakhs.
- INR 15 lakhs grant-in-aid from Startup Odisha Product Development Fund
- INR 50 lakhs from BIRAC SBIRI

PRODUCT IMAGE



USP

- The formulation is highly efficient to inhibits against a broad spectrum of protease enzymes and thermally stable at room temperature.
- The formulation is water soluble and exhibits pH stability
- EDTA free and less toxic product
- Compatible with buffer and surfactants
- No interference in fluorescence-based quantification of proteins
- Low competitive pricing (5 – 10 times)

END USERS/CUSTOMERS

- Academic and Research labs, Cosmetic industry, Food and Agriculture industry, and Diagnostic labs