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Agriculture



- > TRL 2
- > Proof of Concept

Problem

Rodents cause significant economic, environmental, and public health challenges across homes, agricultural settings, food production facilities, and urban infrastructure. Current rodent control methods rely heavily on poisons, traps, and chemical deterrents that may harm non-target animals, create environmental contamination, contribute to animal welfare concerns, and require ongoing management. Increasing regulatory and consumer demand for humane and sustainable pest management solutions is driving the need for safer alternatives. While rodents naturally avoid predators, the specific biological signals responsible for these fear responses have remained largely unidentified, limiting the development of effective, natural, and targeted repellent technologies

Solution

This technology leverages naturally occurring proteins found in feline secretions that elicit strong innate fear and avoidance behaviours in rodents. Researchers have identified specific high molecular weight protein fractions associated with these effects and are working to validate the key active components responsible for repellent activity. The approach uses naturally derived predator-associated cues to influence rodent behaviour rather than relying on toxicity or physical capture. The resulting platform could enable development of environmentally friendly, non-lethal repellent products that deter rodents from protected areas while reducing risks associated with traditional rodenticides. The technology is currently undergoing further optimisation and validation studies.

Potential Commercial Applications

- Humane rodent repellents for residential properties
- Agricultural crop and grain storage protection
- Food manufacturing and processing facilities
- Food distribution warehouses and logistics centres
- Commercial and industrial pest management programs
- Biosecurity and livestock facility protection
- Integrated Pest Management (IPM) solutions
- Eco-friendly alternatives to chemical rodenticides

Inventors

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