



NATIONAL INSTITUTE OF CHEMISTRY

Sectors: **Life Science, Biotech**

Industries: **Agriculture, Phytopharmacy**

Targeted phytopharmaceuticals compounds for better protection of agricultural crops

TYPE OF COOPERATION

R&D cooperation and technology licensing opportunity

PATENT STATUS

EU patent application pending

No.:

Co-ownership:

University of Ljubljana
and
University Tübingen

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Our researchers have discovered an entirely new approach on agricultural crops protection. Pathogenic microbes affecting the crops such as potatoes, soybeans, tomatoes, tobacco and vines, secrete a number of harmful molecules that allow the microbes to infect and spread along the plant. The new targeted compounds affect secretion and infestation processes of harmful microbes, thus preventing an infestation of the plant. We confirmed the inhibitory effect of our new compounds on the toxic activity of the infamous potato pest, oomycete *Phytophthora*. This targeted approach to control pests thus affects only specific effector molecules, outside the living cells and only affects harmful microbes that cause potato and tomato blight.

Technology

The chemical compounds are acting only on specific proteins found in a secretion and infestation processes of harmful microbes. Such microbes are infesting specific group of plants, dicotyledons. Among these secreted molecules are NLP proteins (Nep1-like proteins), which are present in three unrelated groups of microbes (bacteria, fungi and oomycetes). Technology has been laboratory tested.

Main advantages

- Targeted crop protection, needing less chemicals, not affecting any cell process;
- Preliminary results show no toxicity on humans and environment;
- Broad spectrum of protection from microbes of diverse taxonomic groups;
- Easily scalable production of the protective compounds.

Keywords

Microbe, Targeted Crop protection, NLP proteins



Check for more information about the technology, market, related news, and other relevant information.