

InnoTech Alberta is a research and innovation organization, with a range of technologies available for licensing. Our focus is on the growth and development of technology-based sectors and the commercialization of technology in Alberta. We provide business and technical services, and initiatives that encourage a strong science, technology and entrepreneurial culture in Alberta.

LICENSING OPPORTUNITY

Biofungicide PKPB1

LEVERAGE OUR TECHNOLOGY

InnoTech Alberta has a variety of technologies available for licensing. We will work with companies, from small to large, to set up mutually beneficial licensing deals. With more than 90 years in applied research and development, we are an experienced commercialization partner. InnoTech's licensing opportunities are the result of our world-renowned research programs. Contact us to explore these opportunities.

TECHNOLOGY OVERVIEW

InnoTech Alberta has isolated a new strain of *Paenibacillus polymyxa*, an environmentally friendly, non-pathogenic bacterium that produces an antibiotic after sporulation. The bacteria (PKPB1 or PKB1), its antibiotic, and peptides isolated from the antibiotic display inhibitory effects against a wide variety of fungi.

In particular, the technology has been found effective in suppressing blackleg of canola and fairy ring in turfgrass.



Cucumber seeds on Pythium fungus – PKPB1 treated at day 7



Cucumber seeds on Pythium fungus – Untreated



Addition of PKPB1 to growing medium in greenhouse

ADVANTAGES

Easy to apply:

- » The fungicide can be applied to the plant itself and/or the seeds prior to planting or the medium in which the plant is grown.
- » PKPB1 bacteria can be dried or hydrated and applied either as live vegetative cells or in the spore state.
- » PKPB1 or its isolated antibiotic can be applied to a crop at any stage of plant growth such as seed treatment, soil amendment, or as foliar spray.

Biofungicide PKPB1

ADVANTAGES CONTINUED

Long shelf life:

- » PKPB1 can be stored as dormant spores.

Low-risk biological pest control product:

- » PKPB1 growth is unaffected by many other herbicides and fungicides commonly used on crops
- » Well suited for inclusion in an integrated pest management program to supplement or displace chemical pesticides

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COMMERCIAL APPLICATIONS

Biocontrol of:

- » *Leptosphaeria maculans* (Blackleg)
- » *Sclerotinia sclerotiorum* (stem rot)
- » *Marasmius oreades* (fairy ring mushrooms)
- » *Pythium* species (root rot, seedling blight)



*Cucumber roots inoculated with PKPB1 and *Pythium* species in a hydroponic greenhouse system*

- » *Fusarium* species (snow mold, root rot)
- » *Alternaria brassicae* (black spot) in field and greenhouse crops as well as turfgrass.

STATUS

Issued and pending patent applications in various jurisdictions, including a US issued patent: US Patent 6,602,500

This technology is available for licensing.

WANT TO EXPLORE THIS OPPORTUNITY?

Licensing@albertainnovates.ca

Our province is blessed with abundant natural resources, world-class infrastructure and research institutions, a highly skilled workforce, and a dynamic, entrepreneurial business community. Alberta Innovates harnesses these strengths by acting as the catalyst between government, industry and academia, to solve some of the biggest challenges facing our province.

TECHNICAL SERVICES

Helping organizations develop their technologies faster and smarter through a subsidiary, InnoTech Alberta.

- » 100,000 m² of product/process development and scale-up facilities in the areas of petroleum, environment and carbon management, bio and industrial technologies
- » 300 hectare research farm, three greenhouses, and 36 growth chambers

FUNDING PROGRAMS

- » Fostering an entrepreneurial culture and increasing Alberta's critical mass of innovation talent
- » Post-secondary investment programs offer a broad range of support to researchers at all stages of their careers, from graduate students to the world's top researchers

- » Industry investment programs offer support to Alberta-based SMEs in a variety of ways to help accelerate their growth and success

REGIONALLY ACCESSIBLE COMMERCIALIZATION SUPPORT

- » Making connections and pointing businesses and entrepreneurs in the right direction
- » Alberta Regional Innovation Network System - an integrated province-wide system ensuring SMEs and innovators have access to vital services and resources to help them succeed

LICENSING SERVICES

- » Managing the translation of Alberta Innovates intellectual property into business solutions
- » Facilitating licensing deals with industry anywhere in the world