



BIOTECH CONSORTIUM INDIA LIMITED

ANTIMICROBIAL POLYMER FILM FOR FOOD PACKAGING AND PHARMACEUTICAL APPLICATIONS

TECHNOLOGY AVAILABLE FOR TRANSFER

BACKGROUND

The technology discloses a process for the production of enzyme based antimicrobial polymeric film. The process is developed at the Department of Biotechnology, Indian Institute of Technology, Madras, India.

TECHNOLOGY

The hydrolase enzyme based antibiofilm and antimicrobial polymer film uses Papain as the enzyme and Curcumin as the cross linker. UV treatment makes a cross link between the functional group of the polymer and the Curcumin.

Papain, the hydrolase enzyme is coated on the curcumin linked polymer surface and UV treated to form a cross link between the functional group present on the curcumin and the functional group present in the enzyme.

APPLICATIONS

- Food packaging industry for active packaging and control release packaging
- Medical devices and implants (hospital and dental surgery equipments)
- Pharmaceutical for packaging and for drug delivery
- Health care and hygienic applications
- Paint and Textile industry for antimicrobial textiles, films, and nanofibers

VALUE PROPOSITIONS

- The components of the film are natural food grade substrate hence the product is safe and nontoxic
- The antimicrobial film shows broad spectrum of activity against Gram positive, Gram negative bacteria, fungi, yeast and food pathogens.
- Suitable also for less and minimally processed food
- Low cost as the product constituents are cheap
- Simple process

PATENT STATUS

Patent Pending

LICENSING OPPORTUNITY

The technology is available for license and BCIL is actively seeking partners for the licensing and commercial development of the technology.

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