

September 26, 2024

Press Release

**Patent granted to Novel Process for Innovative Antifungal Surfactants developed by  
JMI Researchers**

Patent Office, Government of India has granted patent to the ground breaking research work done by Professor Rajan Patel & Dr. Farooq Ahmad Wani from the Centre for Interdisciplinary Research in Basic Sciences in collaboration with researchers Dr. Mohammad Abid, Dr. Babita Aneja, and Dr. Amaduddin from the Department of Biosciences, Jamia Millia Islamia (JMI). The team has developed a novel process to synthesize benzimidazolium Gemini surfactants, showcasing potential as effective antifungal agents. The novel process is a significant advancement for the field of pharmaceutical chemistry.

The patented process focuses on the synthesis of benzimidazolium gemini surfactants, compounds that have shown remarkable efficacy against a variety of fungal pathogens. Their unique molecular structure allows for enhanced interaction with cell membranes, which is crucial for combating infections effectively.

“This patent represents a major step forward in the ongoing research into antifungal agents. The need for effective treatments against resistant fungal strains is more urgent than ever. Our surfactants could provide a novel solution to this growing challenge”, said Professor Patel.

The process described in the patent details a novel approach that significantly improves the yield and purity of the surfactants. Preliminary studies indicate strong antifungal activity against common pathogens, suggesting potential applications in both healthcare and agriculture. The surfactants are designed to be biodegradable, minimizing environmental impact while providing effective antifungal properties.

The collaboration among the researchers showcases the importance of interdisciplinary work in advancing scientific understanding and developing new technologies. This patent not only represents a significant achievement for the team but also positions their research at the forefront of antifungal innovation.

Professor Patel and his colleagues are now looking to further investigate the clinical applications of their findings and explore partnerships for potential commercialization.



**Professor Rajan Patel**



**Left to Right Professor Rajan Patel,  
Dr. Farooq Ahmed Wani & Dr.  
Mohammed Abid**