

## **Bioinspired Antimicrobial Peptide Hydrogel Dressing for Accelerated Healing of Infected Wounds**

Kunal Agam Kanaujia<sup>1,2</sup>, Dilip Kumar Arya<sup>1,3</sup>, Anit Kumar<sup>1</sup>, Shubham Kanaujiya<sup>1</sup>, Prashant Pandey<sup>1</sup>, Srinivas Ganjipete<sup>4</sup>, Shubhini A. Saraf<sup>5</sup>, Parasuram Pavadai<sup>4</sup>, P.S. Rajinikanth<sup>1,\*</sup>

<sup>1</sup>Department of Pharmaceutical Sciences, Babasaheb Bhimrao Ambedkar University, Lucknow 226025, India

<sup>2</sup>Faculty of Pharmacy, Khwaja Moinuddin Chishti Language University, Sitapur-Hardoi Bypass Road, Lucknow 226013, India

<sup>3</sup>Centre of Biomedical Research, Sanjay Gandhi Post-Graduate Institute of Medical Sciences Campus, Raebareli Road, Lucknow 226014, India

<sup>4</sup>Department of Pharmaceutical Chemistry, Faculty of Pharmacy, M.S. Ramaiah University of Applied Sciences, M S R Nagar, Bengaluru 560054, Karnataka, India

<sup>5</sup>Department of Pharmaceutics, National Institute of Pharmaceutical Education and Research (NIPER), Raebareli, Lucknow 226002, Uttar Pradesh, India

### **\*Corresponding author**

Prof. (Dr.) P.S. Rajinikanth

Professor (Pharmaceutics)

Department of Pharmaceutical Sciences

Babasaheb Bhimrao Ambedkar University, Lucknow, India

Email: [psrajinikanth222@gmail.com](mailto:psrajinikanth222@gmail.com)

**Table S1:** Optimization criteria for hydrogel formulation based on selected independent variables and corresponding dependent responses

<b>Parameters</b>	<b>Goal</b>	<b>Importance</b>
CS (mg)	Minimum	+++
TPP (%w/v)	Minimum	+++
Crosslinking time (hours)	In range	
Viscosity (centipoise)	Minimum	+
Swelling index (%)	Maximum	+++

**Table S2:** Final optimized formulation composition and its theoretical response values

<b>Parameter</b>	<b>Optimised value</b>
CS (mg)	1000
TPP (%w/v)	0.5
Crosslinking time (hours)	11.99
Viscosity (centipoise)	3474.39
Swelling index (%)	272.259

**Table S3:** Predicted and experimental values of the final optimised formulation

<b>Responses</b>	<b>Predicted value</b>	<b>Experimental value</b>
Viscosity (centipoise)	3474.39	3658.28
Swelling index (%)	272.259	312.43