

(54) Title of the invention : Topical Phytosomal Curcumin Formulation from Curcuma Amada for MRSA Resistance Protein Inhibition

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(57) Abstract :

The present invention relates to a topical phytopharmaceutical formulation for targeted inhibition of methicillin-resistant Staphylococcus aureus (MRSA) resistance proteins. The formulation comprises curcumin extracted from Curcuma amada rhizomes, complexed with pharmaceutically acceptable phospholipids to form a phytosome, and incorporated into a collagen–sodium alginate gel base. The phytosomal complex enhances dermal penetration, stability, and sustained release of curcumin while maintaining high antioxidant and antimicrobial activity. The composition optionally includes calcium carbonate as a crosslinking agent, solvents, and excipients compatible with topical administration. The invention also discloses a process for preparing the phytosomal complex and incorporating it into the gel base, ensuring optimal pH, viscosity, and spread ability for skin application. In vitro studies demonstrate superior drug release, antioxidant potential, and potent MRSA inhibition compared to pure curcumin formulations. The formulation is suitable for clinical and over-the-counter therapeutic use in treating skin infections and related inflammatory conditions.

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