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## Design and development of resveratrol and naringin loaded nano-lipospheres based hydrogel for topical delivery: A combined therapy

Mahfoozur Rahman<sup>1</sup>, Amita Verma<sup>1</sup>, Firoz Anwar<sup>2</sup> and Vikas Kumar<sup>1</sup>

<sup>1</sup>Sam Higginbottom University of Agriculture, Technology and Sciences, India

<sup>2</sup>King Abdulaziz University, KSA

Resveratrol and naringin are naturally occurring flavonoids; they gain increasing research interest widely as anti-inflammatory, anti-oxidant and anti-carcinogenic effects, etc. However the *in vivo* biological effect of both the drug appears strongly limited by its poor oral bioavailability, due to limited solubility and higher metabolization, which restricts their clinical application. In addition to the individual therapeutic effect, may enhance the therapeutic effect upon by combination delivery of said drugs. In this context, an attempt was made to encapsulate the drugs within the core and lipid layers of nano-liposphere to improve its skin delivery, photostability, biocompatibility and pharmacodynamics efficacy. The developed system was characterized and evaluated for micromeritics, surface charge, spreadability, rheology, morphology, skin transport characteristics, skin compatibility anti-inflammatory effect, and further cellular uptake and cell cytotoxic studies also were considered. The results revealed an improved performance vis-a-vis the conventional Diclofenac cream. Thus, the developed lipid-based vesicular system of resveratrol and naringin is unique for topical delivery.

mahfoozkaifi@gmail.com