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## Development and optimization of self-microemulsifying tablet for oral delivery of poorly water-soluble nutraceuticals

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A nutraceutical is considered to be food or part of a food that has medical or health benefit, including the prevention and treatment of disease. It is essential to optimize formulations to provide the optimal benefit to humans. The present study deals with the development of suitable dosage forms for poorly water-soluble nutraceutical. Resveratrol (RES) is a poorly water-soluble drug and its oral bioavailability is very low. A new self-microemulsifying drug delivery system (SMEDDS) has been successfully developed to improve the solubility and oral absorption of RES. Suitable compositions of SMEDDS formulation

were screened via solubility studies of RES. The optimal formulation of SMEDDS was comprised of 1:2.3 ratio of oil (caprylic capric triglycerides) and surfactant (Cremophor RH 40). The solubility of RES (47.5 mg/g) significantly increased in SMEDDS. The self-microemulsifying liquid containing RES was adsorbed into colloidal silicon dioxide, mixed with HPMC, gas generating agent (sodium bicarbonate and tartaric acid), lactose and micro crystalline cellulose and transformed into tablets by direct compression. The optimized tablet formulation showed a controlled release of RES over and 12 h period.

### Biography

Narra Kishore has completed his PhD at the age of 30 years from Madras University, TN, India and Postdoctoral Studies from University College of Engineering, Anna University-BIT, campus, TN, India. He is the senior scientist in the department of nutraceuticals at Sami Labs, Bangalore, India, a pharmaceutical industry. He has published more than 25 papers in reputed journals. And his area of expertise includes novel drug delivery systems and herbal formulations.

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