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(54) Title of the invention : PHOSPHOLIPID VESICULAR NANOCARRIERS FOR TOPICAL DELIVERY OF TEA TREE OIL IN MANAGEMENT OF ATOPIC DERMATITIS

<p>(51) International classification :A61K0009000000, A61K0047100000, A61K0047240000, A61P0017000000, A61Q0019000000</p> <p>(86) International Application No :NA Filing Date :NA</p> <p>(87) International Publication No : NA</p> <p>(61) Patent of Addition to Application Number :NA Filing Date :NA</p> <p>(62) Divisional to Application Number :NA Filing Date :NA</p>	<p>(71)Name of Applicant : <b>1)Dr. Pravin Kumar</b> Address of Applicant :Associate Professor Department of Pharmaceutics Laureate Institute of Pharmacy Off Campus Ph.D Research Center, HPTU, Hamirpur VPO-Kathog, Tehsil-Jwalamukhi, Distt. Kangra, H.P-176031 -----</p> <p><b>2)Prof (Dr) Mahendra Singh Ashawat</b> <b>3)Prof (Dr) Dinesh Kumar</b> Name of Applicant : NA Address of Applicant : NA</p> <p>(72)Name of Inventor : <b>1)Dr. Pravin Kumar</b> Address of Applicant :Associate Professor Department of Pharmaceutics Laureate Institute of Pharmacy Off Campus Ph.D Research Center, HPTU, Hamirpur VPO-Kathog, Tehsil-Jwalamukhi, Distt. Kangra, H.P-176031 -----</p> <p><b>2)Prof (Dr) Mahendra Singh Ashawat</b> Address of Applicant :Director cum Principal Laureate Institute of Pharmacy Off Campus Ph.D Research Center, HPTU, Hamirpur VPO-Kathog, Tehsil-Jwalamukhi, Distt. Kangra, H.P-176031 -----</p> <p><b>3)Prof (Dr) Dinesh Kumar</b> Address of Applicant :Director School of Pharmacy Sanskriti University 28 KMs to Delhi Mathura Highway, Chhata, Mathura, UP -----</p>
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(57) Abstract :

The invention discloses phospholipid vesicular nanocarrier for topical delivery of tea tree oil in management of atopic dermatitis and method of preparation. The phospholipid vesicular nanocarrier comprises of tea tree oil; phosphatidylcholine; ethanol; a cream base comprising an oil base and an aqueous base, wherein the oil base comprising of cetyl alcohol, stearic acid, tween 80 and span 20, and wherein the aqueous base comprising of propylene glycol, glycerine, methylparaben, propylparaben and distilled water. Evaluation of the nanocarrier showed that phospholipid vesicular nanocarrier have potential for inhibiting atopic dermatitis. The phospholipid vesicular nanocarrier based creams showed acidic pH similar to normal skin, good stability, acceptable spreadability, and low potential for skin irritation. There was removal of erythema, edema, excoriations, and dryness in atopic skin. The high drug permeation of the phospholipid vesicular nanocarrier based cream was confirmed as the cream demonstrated enhanced penetration of stratum corneum and high deposition of tea tree oil in the epidermis and dermis.

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