# DEVELOPMENT AND EVALUATION OF SOME NOVEL FORMULATIONS FOR EFFICIENT DELIVERY OF CHOLECALCIFEROL

**A**

**THESIS**

SUBMITTED TO

**MAHARAJA RANJIT SINGH**

**PUNJAB TECHNICAL UNIVERSITY**

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**IN FULFILLMENT OF THE REQUIREMENT**

**FOR THE DEGREE OF**

**DOCTOR OF PHILOSOPHY**

**IN**

**PHARMACEUTICAL SCIENCES**

**By**

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## CANDIDATE'S DECLARATION

I hereby certify that the work which is being presented in the thesis, entitled **"Development and Evaluation of Some Novel Formulations for Efficient Delivery of Cholecalciferol"** in fulfilment of the requirements of the award of the degree of Doctor of Philosophy in Faculty of Pharmacy and submitted in Maharaja Ranjit Singh Punjab Technical University, Bathinda is an authentic record of my own work carried out during a period from 2017 to 2023 under the supervision of **Dr. Ashish Baldi.**

The matter embodied in this thesis has not been submitted by me for the award of any other degree of this or any other University/Institute.

Neha

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This is to certify that the above statement made by the candidate is correct to the best of my knowledge.

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Sign. of Supervisor

Sign. of External Examiner

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Neha Rawat

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| | 100µL of SEDDS formulation diluted in HBSS solution and kept for 2h incubation. After 2 h treatment, 20µL of MTT solution (2.5 mg/mL) was added in each well and the cells were again incubated for another 4 h to form formazan crystals. The formazon crystals were dissolved by adding 150µL of DMSO using an orbital shaker and absorbance was recorded at 570 nm using a microplate reader (TECAN Infinite Pro) and percent viability was calculated. | |
| 6.47 | Stability studies of cholecalciferol SEDDS. The formulations were placed in sealed containers and stability study was performed by storing the samples at 4˚C (refrigerator), 25˚C (60% RH), and 30˚C (65% RH) for three months. The samples were removed from stability chamber after every month and analyzed for drug content. | 133 |