

पेटेंट कार्यालय  
शासकीय जर्नल

**OFFICIAL JOURNAL  
OF  
THE PATENT OFFICE**

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निर्गमन सं. 35/2025  
ISSUE NO. 35/2025

शुक्रवार  
**FRIDAY**

दिनांक: 29/08/2025  
DATE: 29/08/2025

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पेटेंट कार्यालय का एक प्रकाशन  
PUBLICATION OF THE PATENT OFFICE

(54) Title of the invention : FORMULATION AND EVALUATION OF HYDROXYCHLOROQUINE TRANSDERMAL PATCH FOR RHEUMATOID ARTHRITIS MANAGEMENT

<p>(51) International classification :A61K9/70, A61K47/38, A61K47/10, A61K47/4375, A61K31/4709, A61P29/00, A61P19/02</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. Mukesh Kumar Singh</b>  Address of Applicant :Associate Professor, School of Pharmaceutical Sciences, Faculty of Pharmacy, IFTM University, Moradabad, Uttar Pradesh, Pin Code: 244102 -----  <b>2)Miss Sonam</b>  <b>3)Mrs. Priti Singh</b>  <b>4)Dr. Dulendra Panchamlal Damahe</b>  <b>5)Mr. Ashwanee Kumar Sahu</b>  <b>6)Mrs Reshma Sahu</b>  <b>7)Mr. Vikas Kumar Sahu</b>  <b>8)Ms. Hemkanti Patel</b>  <b>9)Mr. Nitypal Singh Chouhan</b>  <b>10)Dr. Bhushan Muley</b>  <b>11)Dr. Sushil Kumar</b>  Name of Applicant : NA  Address of Applicant : NA</p> <p>(72)Name of Inventor :  <b>1)Dr. Mukesh Kumar Singh</b>  Address of Applicant :Associate Professor, School of Pharmaceutical Sciences, Faculty of Pharmacy, IFTM University, Moradabad, Uttar Pradesh, Pin Code: 244102 -----  <b>2)Miss Sonam</b>  Address of Applicant :Assistant Professor, Mescos institute of pharmacy, Amroha, Uttar Pradesh, Pin Code: 244221 -----  <b>3)Mrs. Priti Singh</b>  Address of Applicant :Assistant Professor, Smt. B.N.B. Swaminarayan Pharmacy College, Near Empress Mall, Salvav, Vapi, Gujarat, Pin Code: 396191 -----  <b>4)Dr. Dulendra Panchamlal Damahe</b>  Address of Applicant :Professor, Smt. B.N.B. Swaminarayan Pharmacy College, Near Empress Mall, Salvav, Vapi, Gujarat, Pin Code: 396191 -----  <b>5)Mr. Ashwanee Kumar Sahu</b>  Address of Applicant :Assistant Professor, Faculty of Health and Allied Sciences Department of Pharmacology, ISBM University, Nawapara (Kosmi), Chhura, Gariyaband, Chhattisgarh, Pin Code: 493996 -----  <b>6)Mrs Reshma Sahu</b>  Address of Applicant :Department of Botany, ISBM University, Nawapara (Kosmi), Chhura, Gariyaband Chhattisgarh, Pin Code: 493996 -----  <b>7)Mr. Vikas Kumar Sahu</b>  Address of Applicant :Assistant Professor, Faculty of Health and Allied Sciences Department of Pharmaceutical Chemistry, ISBM University, Nawapara (Kosmi), Chhura, Gariyaband, Chhattisgarh, Pin Code: 493996 -----  <b>8)Ms. Hemkanti Patel</b>  Address of Applicant :Assistant Professor, Shri Rawatpura Sarkar Institute of Pharmacy Kumhari, Durg, Chhattisgarh, Pin Code: 490042 -----  <b>9)Mr. Nitypal Singh Chouhan</b>  Address of Applicant :Assistant Professor, Shri Rawatpura Srakar Institute of Pharmacy, Near Powergrid Kumhari, Durg, Chhattisgarh, Pin Code: 490042 -----  <b>10)Dr. Bhushan Muley</b>  Address of Applicant :Associate Professor, Shri Rawatpura Srakar Institute of Pharmacy, Near Power grid Kumhari, Durg, Chhattisgarh, Pin Code: 490042 -----  <b>11)Dr. Sushil Kumar</b>  Address of Applicant :Professor &amp; Director, School of Pharmaceutical Sciences, Faculty of Pharmacy, IFTM University, Moradabad, Uttar Pradesh, Pin Code: 244102 -----</p>
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(57) Abstract :

The present invention relates to the formulation and evaluation of hydroxychloroquine-loaded transdermal patches using the solvent casting method. The patches were developed using polymers such as hydroxypropyl methylcellulose (HPMC) and ethyl cellulose (EC), with polyethylene glycol 400 (PEG 400) as a plasticizer, and a solvent system comprising ethanol and chloroform in a 1:2 ratio. The prepared patches were evaluated for physicochemical properties including thickness, folding endurance, weight uniformity, moisture content, moisture uptake, drug content uniformity, and in vitro drug release using a Franz diffusion cell. The formulation aims to provide sustained release of hydroxychloroquine through transdermal delivery, offering advantages such as bypassing first-pass metabolism and improving bioavailability. The results demonstrated uniform drug content, desirable mechanical properties, and consistent drug release, indicating the potential of the formulation as an effective transdermal delivery system for hydroxychloroquine.

No. of Pages : 12 No. of Claims : 8