पेटेंट कार्यालय
शासकीय जर्नल

OFFICIAL JOURNAL
OF
THE PATENT OFFICE

निर्गमन सं. 16/2025	शुक्रवार	दिनांक: 18/04/2025
ISSUE NO. 16/2025	FRIDAY	DATE: 18/04/2025

पेटेंट कार्यालय का एक प्रकाशन
PUBLICATION OF THE PATENT OFFICE

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :28/03/2025
(21) Application No.202511029881 A
(43) Publication Date : 18/04/2025

(54) Title of the invention : PHARMACOKINETIC AND PHARMACODYNAMIC CONSIDERATIONS IN PERSONALIZED MEDICINE OPTIMIZING DRUG THERAPY

(51) International classification :G16H0050200000, G16H0050500000, A61B0005000000, G16H0070400000, G16C0020300000
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

(71)**Name of Applicant :**
1)Dr. Ankur Singh
Address of Applicant :Associate Professor, SOS School of Pharmacy, Faculty of Pharmacy, IFTM University Lodhipur Rajput, Moradabad, Uttar Pradesh, Pin Code: 244102. ---------- ----------
2)Dr. Arun Kumar Mishra
3)Mr. Amit Kumar
4)Mr. Prashant Kumar Gupta
5)Ms. Diksha Diwakar
Name of Applicant : NA
Address of Applicant : NA
(72)**Name of Inventor :**
1)Dr. Ankur Singh
Address of Applicant :Associate Professor, SOS School of Pharmacy, Faculty of Pharmacy, IFTM University Lodhipur Rajput, Moradabad, Uttar Pradesh, Pin Code: 244102. ---------- ----------
2)Dr. Arun Kumar Mishra
Address of Applicant :Professor, SOS School of Pharmacy, Faculty of Pharmacy, IFTM University Lodhipur Rajput, Moradabad, Uttar Pradesh, India. Pin 244102. ---------- ----------
3)Mr. Amit Kumar
Address of Applicant :Assistant Professor, MIT College of Pharmacy, MIT Campus, (Affiliated to Dr. A.P.J. Abdul Kalam Technical University), Ram Ganga Vihar Phase-II, Moradabad, Uttar Pradesh, Pin Code: 244001 ---------- ----------
4)Mr. Prashant Kumar Gupta
Address of Applicant :Assistant Professor, Moradabad Educational Trust, Faculty of Pharmacy, Moradabad, Uttar Pradesh, Pin Code: 244001 ---------- ----------
5)Ms. Diksha Diwakar
Address of Applicant :Assistant Professor, SOS School of Pharmacy, Faculty of Pharmacy, IFTM University Lodhipur Rajput, Moradabad, Uttar Pradesh, Pin Code; 244102. ---------- ----------

(57) Abstract :
The present invention relates to a method for a personalized drug dosing system that optimizes pharmacokinetic (PK) and pharmacodynamic (PD) responses based on an individual's CYP2D6 metabolizer status. Traditional fixed-dose regimens fail to account for interindividual variations in drug metabolism, leading to suboptimal efficacy or adverse effects. This invention stratifies patients into metabolizer groups (poor, intermediate, extensive, and ultrarapid) and adjusts drug dosing accordingly to achieve optimal therapeutic response while minimizing toxicity. The method involves genotyping, LC-MS-based plasma drug concentration analysis, and real-time PK/PD modeling using computational tools. Clinical validation demonstrates enhanced drug exposure, improved therapeutic outcomes, and reduced variability in response. The invention ensures dose individualization for drugs significantly influenced by CYP2D6 metabolism, such as antidepressants and cardiovascular agents. By integrating pharmacogenomics and therapeutic drug monitoring (TDM), this approach enhances treatment precision, safety, and effectiveness, paving the way for personalized medicine in clinical practice.

No. of Pages : 15 No. of Claims : 10