

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511073122 A

(19) INDIA

(22) Date of filing of Application :31/07/2025

(43) Publication Date : 22/08/2025

(54) Title of the invention : REVERSIBLE MAO-A INHIBITORS AND RELATED METHODS

(51) International classification :A61P25/24, A61P25/14, C07D231/04, C07D413/02, C07D413/10, C07D403/02, C07D403/10, C07D265/28  
(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)Chitkara University**  
Address of Applicant :Chitkara University, Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India -----  
**2)Chitkara Innovation Incubator Foundation**  
Name of Applicant : NA  
Address of Applicant : NA  
(72)Name of Inventor :  
**1)Ms. Diksha Choudhary**  
Address of Applicant :Chitkara University, Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India -----  
**2)Dr Rajwinder Kaur**  
Address of Applicant :Chitkara University, Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India -----  
**3)Dr. Bhupinder Kumar**  
Address of Applicant :Assistant Professor, HNB Garhwal University, (A Central University) Srinagar, Uttarakhand-246174, India. -----  
**4)Thakur Gurjeet Singh**  
Address of Applicant :Chitkara University, Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India -----

(57) Abstract :  
The invention relates to compounds VK16 and VK19, which are reversible and selective inhibitors of monoamine oxidase A (MAO-A). These compounds exhibit significant selectivity over monoamine oxidase B (MAO-B), with VK16 showing an  $IC_{50}$  value of  $0.06 \pm 0.02 \mu M$  for hMAO-A and a selectivity index greater than 330, while VK19 has an  $IC_{50}$  value of  $0.09 \pm 0.02 \mu M$  for hMAO-A and a selectivity index of approximately 210. The invention also includes pharmaceutical compositions containing these compounds, suitable for various dosage forms, and methods for treating depression, including major depressive disorder and treatment-resistant depression, through oral or parenteral administration. Reference Fig 1

No. of Pages : 18 No. of Claims : 10