

(54) Title of the invention : A Lead compound Deserpidine as inhibitor of efflux-mediated multidrug resistance

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**(57) Abstract :**

The present invention discloses a Lead compound Deserpidine as inhibitor of efflux-mediated multidrug resistance. The present invention refers Deserpidine is a competitive inhibitor of p-glycoprotein and cytochrome P450 3A4 (CYP3A4) and has acceptable drug-like properties. The compound can inhibit the activity of drug efflux transporter P-glycoprotein which is commonly expressed in different types of cancer cells, malaria, and tuberculosis types of diseases. In the present days, expression of P-glycoprotein is one of the main reasons for treatment failure, so Deserpidine can be used for the development of new drugs to prevent the activity of P-glycoprotein and the efficacy of the chemotherapy can be increased.

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