

Enhancement of Bioavailability through Soya-Phosphatidylcholine- *Sida cordifolia* Vesicular System for Neurodegenerative Diseases †

Richa Tripathy Tiwari ^{1,*}, Asmita Gajbhiye Patil ¹

¹ Department of Pharmaceutical Sciences, Dr Hari Singh Gour Central University, Sagar, MP;

* Correspondence r.tripathy16@gmail.com; if there are multiple corresponding authors, add author initials) (F.L.);

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Abstract: It has been reported that the majority of the plant extracts suffer from low bioavailability (15 to 35%) as a result of low solubility, especially towards the lipophilicity for neurodegenerative diseases. *Sida cordifolia* is one of the very important plants having pharmacological potential such as central nervous system depressant, anticancer, wound healing, antistress, anti-diabetic, anti-inflammatory and analgesic, hepatoprotective and also used for treating neurodegenerative diseases by modulating numerous neurochemical level. But the main reason for not being used for neurodegenerative diseases is its low bioavailability because of less lipophilicity. For overcoming this problem, we had formulated a vesicular system of *Sida cordifolia* extract loaded with soya phosphatidylcholine for treating neurodegenerative diseases such as Alzheimer's and Parkinson's diseases with the possible enhancement of bioavailability. The technique involves the initial formation of a complex of *Sida cordifolia* aqueous and alcoholic extract with soya phosphatidylcholine (SPC) then further vesicular system of *Sida cordifolia* extracts through the rotary evaporator. The *in-vitro* and *in-vivo* study will be performed to determine the positive effects for Alzheimer's and Parkinson's disease delivered through the vesicular formulations, along with the estimation of parameters. The novel drug delivery system will positively enhance the bioavailability of *Sida cordifolia* extract with better pharmacodynamics profiles especially for the treatment of Alzheimer's and Parkinson's diseases.

Keywords: soya-phosphatidylcholine; *Sida cordifolia*; Alzheimer's and Parkinson's disease.

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Conflicts of Interest

The authors declare no conflict of interest.