

# ROLE OF 5-HT<sub>1A</sub> RECEPTOR FOR HYPOGLYCAEMIC POTENTIAL OF ETHANOLIC EXTRACT OF CASSIA OCCIDENTALIS LINN. LEAVES IN CHRONIC STRESSED RATS

Deepak Mohale<sup>1</sup>, Alok Tripathi<sup>2</sup>, and Anil Chandewar<sup>3</sup>

<sup>1</sup>P. Wadhwani college of Pharmacy

<sup>2</sup>P. Wadhwani college of Pharmacy, Yavatmal

<sup>3</sup>P. Wadhwani College of Pharmacy

April 28, 2020

## Abstract

**Background and Purpose** Chronic stress affects many physiological functions in the body leading to number of disorders including diabetes. Hence present work was designed to study Ethanolic extract of *Cassia occidentalis* linn. leaves (ECO) for its hypoglycaemic effect and role of 5-HT<sub>1A</sub> receptor in chronic stressed rat. **Experimental Approach** Animals divided in 5 groups (n=6) and treated with 500 mg/kg p.o. of ECO alone and in combination with Aripiprazole 2.5mg/kg, i.p. (ECO+ARI group) and WAY 100635 (0.3mg/kg, i.p.) (ECO+WAY group) for 28 days to assess its effect in immobilized stressed rats. Open field and Hole board test were used for determination of stress in animals followed by blood glucose level and adrenal gland study. **Key Results** Animals treated with ECO 500 mg/kg p.o. and ECO+ARI showed significant (p<0.01) stress resistant activity as compared to negative control. Whereas ECO+WAY treated group showed no significant change in stress related behaviour compared to negative control. Results also demonstrated that there was significant (p<0.01) decrease in blood glucose level and weight of adrenal gland in animals treated with ECO and ECO+ARI. Whereas, ECO+WAY group showed non-significant change in blood glucose level and weight of adrenal gland as compared to negative control. **Conclusion and Implications** Present study concludes, ECO possess antistress and hypoglycaemic activity in immobilized stressed rats by activating 5-HT<sub>1A</sub> receptor.

## Hosted file

Manuscript.doc available at <https://authorea.com/users/311039/articles/441782-role-of-5-ht1a-receptor-for-hypoglycaemic-potential-of-ethanolic-extract-of-cassia-occidentalis-linn-leaves-in-chronic-stressed-rats>

## Hosted file

Table 1.doc available at <https://authorea.com/users/311039/articles/441782-role-of-5-ht1a-receptor-for-hypoglycaemic-potential-of-ethanolic-extract-of-cassia-occidentalis-linn-leaves-in-chronic-stressed-rats>