



PURIFICATION AND EVALUATION OF THE EFFECT OF TWO COMPOUNDS ISOLATED FROM THE *Ipomoea tyrianthina* ROOT ON GABAergic TRANSMISSION SYSTEM.

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Introduction. Mexico possesses a great diversity of species from the *Ipomoea* genus, some of them, have been used in the treatment of diseases of nervous origin (1, 2). Recently, extracts and metabolites obtained from glycosidic resins produced by *Ipomoea tyrianthina* Lindley (1, 3) have demonstrated activity on the central nervous system, especially relating to the GABAergic system (4).

The objective of this project is to isolate two glycosidic compounds from methanol extracts of the *Ipomoea tyrianthina* root and to define the possible mechanism of action by which they could be altering GABAergic systems.

Methods. Methanol extracts were obtained (EMIT) from previously dried and ground *Ipomoea tyrianthina* root. The EMIT fractionation and identification of pure compounds were performed according to the protocol of Mirón (3) with some modifications. Pharmacological evaluation was carried out using an experimental model of cerebral cortex slices from CD-1 female mice (20-30 g), provided by the animal facility of the UNAM, and following the protocol described by Gutiérrez and Delgado (5).

Results. Two major glycolipidic compounds were obtained after purification, tyrianthine 10 and tyrianthine C; both having an effect on the release of endogenous GABA in *in vitro* assays, increasing its concentration compared to controls (Fig. 1-B).

Conclusions. Tyrianthine 10 and tyrianthine C increase the concentration of endogenous GABA release, possibly by an effect on GABAergic synapses. This suggests four possible mechanisms of action: 1) depolarization associated with the flow of extracellular ions ($\text{Na}^+/\text{Ca}^{2+}$) to the intracellular environment, 2) blockade of GABA_B receptor, 3) inhibition of GABA reuptake, or 4) reverse activation of GABA transport.

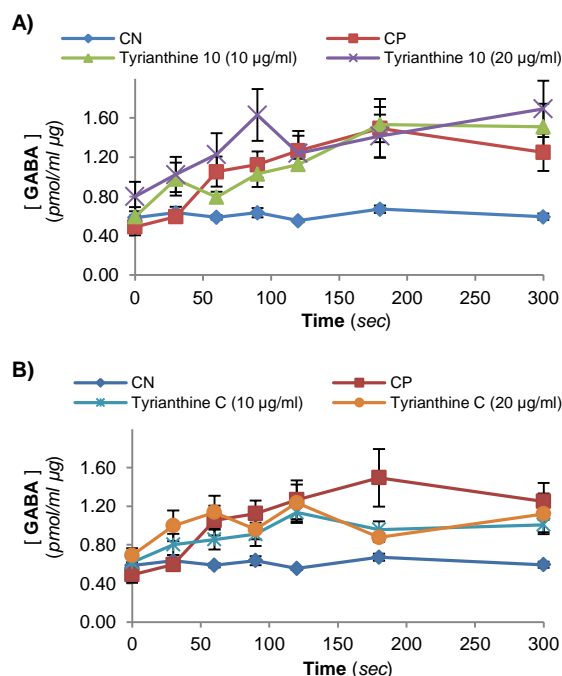


Fig. 1 Effect of tyrianthine 10 (A) and tyrianthine C (B) on *in vitro* release of endogenous GABA in cerebral cortex slices of mouse. $\bar{X} \pm \text{SEM}$, $p < 0.05$, $n = 3$.

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