

# Effects of 7-O-demethylisothalicberine, a bisbenzylisoquinoline alkaloid of *Berberis chilensis*, on electrical activity of frog cardiac pacemaker cells

Morales, Miguel A.

Roberto Gallardo, L.

Martínez, José L.

Puebla, Ricardo S.

Hernández, Doris A.

1. 1. In spontaneously beating preparations of sinus venosus of the chilean frog *Caudiverbera caudiverbera*, the electrophysiological effects of 7-O-demethylisothalicberine (7-O-DI) on transitional pacemaker cells were investigated. 2. 2. 7-O-DI in concentration  $1 \times 10^{-4}$  M blocked the action potential of transitional cells. This blockade was preceded by subthreshold oscillations and depolarization of membrane potential. 3. 3. Lower concentration of the drug to induce complete blockade ( $5 \times 10^{-5}$  M), allowed to observe a great depression of bioelectric cell characteristics in transitional fibres. 4. 4. 7-O-DI induced blockade of transitional cells action potential was preceded by the appearance of a notch in their upstroke and the persistence of a fast depolarizing activity that remained unblocked. This 7-O-DI resistant fast component of the upstroke was blocked by tetrodotoxin. 5. 5. Transitional cells completely blocked by 7-O-DI were depolarized to about 40 mV. 6. 6. The results indica