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Research article

Inhibitory effect of ethanolic extract of *Physalis minima* L. (Ciplukan) leaves on acetylcholine muscarinic-3 receptors induced on isolated guinea pig tracheal

Evi Depiana Gultom*, Urip Harahap, Aminah Dalimunthe

Department of Pharmacology, Faculty of Pharmacy, Universitas Sumatera Utara, Medan, Indonesia.

Key words: *Physalis minima* L, Ciplukan, Ethanolic extract, Acetylcholine-muscarinic-3 receptors, in vitro.

***Corresponding Author: Evi Depiana Gultom,** Department of Pharmacology, Faculty of Pharmacy, Universitas Sumatera Utara, Medan, Indonesia.

Abstract

Objective: The study was aimed to investigate the inhibitory effect of ethanolic extract of *Physalis minima* L. leaves (EEPML) against acetylcholine (ACh)-induced contraction of the ACh-muscarinic-3 receptor. **Materials and methods**: The study of the inhibitory effect of the ethanolic extract of *physalis minima* L. on the contraction by ACh concentration series ($1x10^{-8}$-$3x10^{-3}$ M) was conducted in vitro using isolated guinea pig tracheal organ in the Krebs solution. **Results:** EEPML (0.5 - 4 mg/ml) concentration has relaxation effect on the trachea smooth muscle contraction induced by acetylcholine 1.43 x 10^{-4} M ($r=0.982$; $p<0.05$). EEPML has concentration of 4mg/ml, that is not different with atropine sulfate 1 x 10^{-6} M in reduced the contraction of guinea pig's trachea smooth muscle induced by acetylcholine 1.43 x 10^{-4} M ($p>0.05$). EEPML at 0.5 - 4 mg/ml concentration has relaxation effect, EEPML 3.2 M has no difference in terms of ability as atropine sulfate 1 x 10^{-6} M on the trachea smooth muscle contraction induced by ACh 1.43 x 10^{-4} M. It showed that the possibility of the mechanism of the relaxation effect of EEDC mediated through inhibition muscarinic receptors **Conclusion:** The EEPML has relaxation effect on the trachea smooth muscle contraction induced by ACh And showed antagonist effect on ACh-muscarinic-3 receptor.