

## Identification and quantitative determination of organic acids in *Solanum muricatum* fruits

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**Introduction.** *Solanum muricatum* Aiton (Pepino) from *Solanaceae* family is an evergreen plant that native to such countries of South America as Colombia, Peru, and Chile. Nowadays, the plant is grown commercially successful in New Zealand and Australia, given the increasing interest of the population in exotic fruits. *Solanum muricatum* is appreciated for its juicy, aromatic, slightly sweet, edible fruits of different shapes and colors.

The ripe fruits of *Solanum muricatum* contain water, sugars, pectins, cellulose, hemicellulose, non-volatile organic acids, proteins, amino acids, flavonoids, tannins, vitamins, minerals, etc.

*Solanum muricatum* fruits have diuretic, antitumor, antidiabetic, antiscorbutic, and hepatoprotective activity due to the rich chemical composition. The ripe and unripe fruits also have antioxidant properties so that they can be used as a natural antioxidant agent.

### Materials and methods of research.

The paper chromatography method was used for the qualitative identification of organic acids. The chromatography study was carried out in the solvent system: ethanol – chloroform – ammonia – water

(70:40:20:2) in parallel with reliable samples of organic acids. After drying, the chromatogram was processed with the reagent (solution of sodium 2,6-dichlorophenolindophenolate) and heated in the drying oven at 105 °C temperature. The organic acids on the chromatogram appeared as yellow stains on a blue background, but ascorbic acid appeared as a pink stain, which disappeared with time.

The quantitative determination of organic acids content in *Solanum muricatum* fruits was carried out by the alkalimetry method described in the State Pharmacopoeia of Ukraine (article «Rosehip fruits»).

**Research results.** Citric, malic, tartaric, gallic, and ascorbic acids were identified among organic acids in *Solanum muricatum* fruits as a result of the chromatographic analysis. The quantitative content of organic acids in *Solanum muricatum* fruits amounted to 4,12±0,14 %.

**Conclusion.** The new promising source of plant raw material – the fruits of *Solanum muricatum* Aiton – contains various groups of biologically active compounds (BAC). The detailed study of these BAC is a relevant and modern direction of pharmacognosy.

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