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Short Communication

Cytotoxicity of *Physalis minima* Linn (Solanaceae) fruit against HCT116 and HT29 colorectal cancer cell lines

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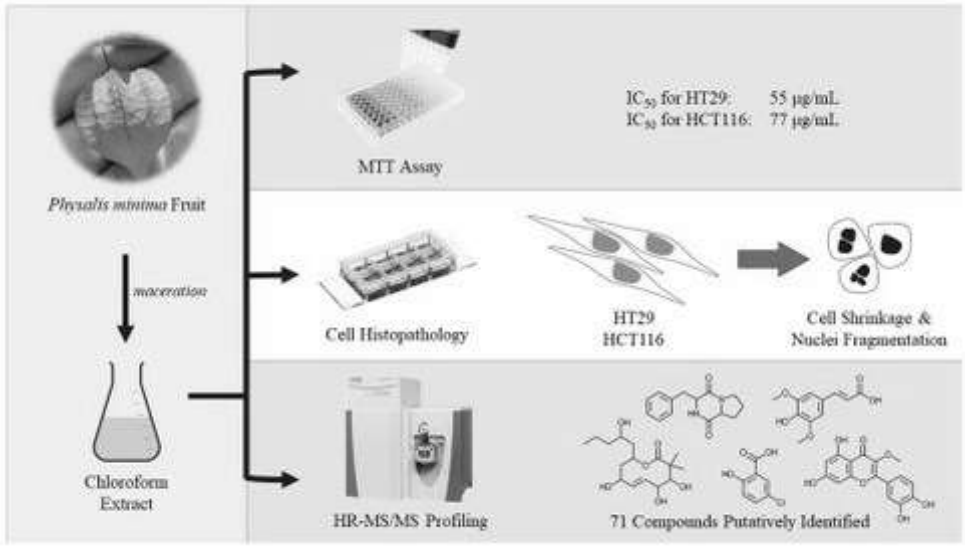
Abstract

The pantropical *Physalis minima* are traditionally used for the prevention and treatment of various illnesses, diseases, and cancers. While most earlier studies on the species have focused on the phytochemistry of the leaf and stem extracts, recent studies have indicated that its fruit may contain bioactive compounds of medical

interest. In this study, we investigated the cytotoxicity of extracts from the fruit of *P. minima* against colorectal cancer cell lines and revealed its phytochemical profile *via* high-resolution tandem mass spectrometry analysis. Following a 24-h treatment with the fruit extract, cytoplasm shrinkage and nucleus condensation were observed in the colorectal cancer cell lines HCT116 and HT29, indicating the induction of programmed cell death. Phytochemically, 71 putative metabolites were identified. Some of these metabolites have been reported to inhibit cancers to varying degrees, further supporting the correlation of the putative metabolites with the cytotoxicity against colorectal cancer cells demonstrated in this study.

Graphical Abstract



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Keywords:

Physalis minima Linn gooseberry bioactive metabolite high-resolution tandem mass spectrometry LC-MS/MS programmed cell death

Conflicts of interests

All authors declare no conflict of interest for this study.