LC-ESI-MS/MS and cytotoxic activity of three Pistacia species

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Abstract

LC-ESI-MS/MS was used for a comprehensive characterisation of ethanol extract from the leaves of three Pistacia species. After optimisation of the method and the use of the negative ionisation mode, a total of 42 different compounds were identified, of which 22 were tentatively characterised in P. chinensis Bunge, 33 in P. khinjuk stocks and 25 in P. lentiscus L. leaves. Flavonoids, phenolic acids, and their derivatives were the most abundant identified compounds. LC-ESI-MS/MS revealed identification of 15, 18 and 6 not previously detected compounds in P. chinensis Bunge, P. khinjuk Stocks and P. lentiscus L., respectively. The three extracts were also tested for their cytotoxic activities against human PC3 prostate cancer, A549 lung cancer, MCF7 breast cancer and HepG2 liver cancer. Generally, all the extracts have a moderate cytotoxic activity against lung, breast and prostate cancer, with different IC50. However, only P. lentiscus L. showed moderate activity against liver cancer.

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