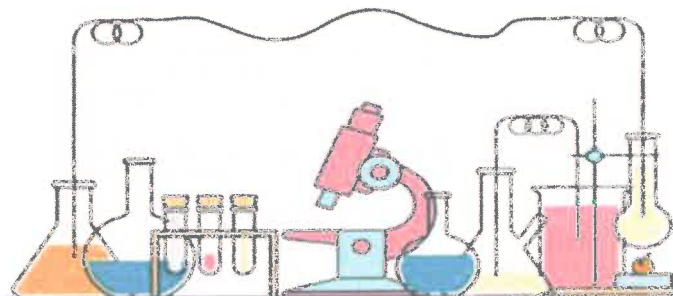




FACULTY OF SCIENCE
UNIVERSITY OF MINHO



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School of Science, Chemistry Department

University of Minho, Campus of Gualtar

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Rosa canina L. as new food ingredient an source of bioactive compounds

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Sustainable food options are increasing among the most concerned consumers, in which they seek to combine new ingredients with potential health benefits [1]. Edible flowers provide new colors, textures and vibrancy to any dish, and apart from the "glam" factor, they can provide bioactive compounds [2]. In the present work, the edible petals of *Rosa canina* L., gently supplied by the RBR Foods Company (Portugal), were tested for their cytotoxic activity against tumor cell lines. The assays were conducted in the hydromethanolic extract and in the lyophilized infusion, being both of them re-dissolved in water in order to obtain stock solutions at 100 mg/mL for successive dilutions until determination of GI₅₀ values (concentration that inhibits 50% of the net cell growth). Four human tumor cell lines were tested: MCF-7 (breast adenocarcinoma), NCIH460 (non-small cell lung cancer), HeLa (cervical carcinoma) and HepG2 (hepatocellular carcinoma). A non-tumour primary cells' culture (assigned as PLP2) was also prepared from a freshly harvested porcine liver, and used in the bioassays. Ellipticine was used as the positive control. While the hydromethanolic extract inhibited the growth of HeLa (308 µg/mL), the lyophilized infusion inhibited MCF-7 (377 µg/mL), respectively. Both extracts presented cytotoxicity for HepG2 (297 µg/mL and 315 µg/mL for hydromethanolic extract and infusion, respectively). None of the extracts showed toxicity towards PLP2. After chemical characterization of the extracts, flavonoids were the only phenolic compounds present, being quercetin-3-O-glucoside and kaempferol-3-O-glucoside the major compounds present in both extracts. These results showed that *R. canina* edible flowers are sources of bioactive compounds related with cytotoxic properties in human tumor cell lines, highlighting their applicability potential in nutraceutical and pharmaceutical fields.

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