

## Phytochemical Screening and Antioxidant Activity of Green Tea (*Camellia sinensis*) Infusions Commercialized in Portugal

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Natural antioxidant products, like green tea (*Camellia sinensis*) have gained popularity worldwide and new products claiming antioxidant activity are frequent in the dietary supplement industry. However, information regarding the antioxidant properties of these products, in the labels, is usually scarce. In addition, the antioxidant properties of commercial teas were not investigated in detail. Therefore, the present study aims to investigate the phytochemical and antioxidant activity of *C. sinensis* infusions. For that purpose, six samples (A-F) from different commercial brands available in the Portuguese market were tested for *in vitro* antioxidant activity by free radical scavenging activity assay using 2,2-diphenyl-1-picrylhydrazyl (DPPH) and metal iron chelating capacity. The screening was performed for phenolic compounds, polyphenols, flavonoids, tannins, diterpenes, triterpenes, alkaloids, saponins and cardiotonic heterosides. The phytochemical screening showed positive results for phenolic compounds, polyphenols, flavonoids and diterpenes in all the samples, whereas triterpenes, alkaloids, and saponins were absent. In the DPPH assay, IC<sub>50</sub> values range from 12.0-556.6 µg/ml, in all the infusions tested. The sample F (bags with green tea, turmeric, ginger and lemon verbena) showed the lower IC<sub>50</sub> value (12.0±1.5). This is probably related with the synergic effect of the plants and the different bioactive compounds present, with antioxidant activity. For the Fe<sup>2+</sup> chelating activity, only the sample B (dry leaves of green tea) showed an IC<sub>50</sub> value of 58.0±17.1. The different brands and mixture of plants included in the samples may influence chemical composition in green tea infusions and therefore their antioxidant capacity.