Arbutus unedo L., the strawberry tree (Ericaceae family), is an endemic Mediterranean species. Its leaves have been employed for a long time in traditional and popular medicine as an astringent, diuretic, urinary anti-septic, and more recently, in the therapy of hypertension and diabetes [1]. The aim of this work is to evaluate the antioxidant properties of a hydroethanolic extract of A. unedo leaves in a neurodegeneration cell model and the inhibitory activity to human matrix metalloprotease (MMP-9), an enzyme involved in cancer invasion.

The intracellular radical scavenging activity of the plant extracts in an oxidative stress-induced model of neurodegeneration in SK-N-MC cells was evaluated to the nontoxic range of concentrations. The pretreatments with the extract protects the cells from the oxidative stress injury as detected by an increase in cell viability up to 42% with 15 µg GAE.mL⁻¹ and 86% with 30 µg GAE.mL⁻¹.

An enriched polyphenolic fraction, obtained by a SPE, presents an IC50 of 2.88 µg.mL⁻¹ for the MMP-9 inhibitory activity, a very interesting result when compared with the value obtained for green tea extract, with already described significant inhibition [2], in the same assay conditions (4.28 µg.mL⁻¹). The HPLC-MS analysis of the leaves reveals several gallic acid derivatives that could be responsible for the observed effects, further analysis should be done to correlate the compounds with the detected bioactivities.

Acknowledgements: To FCT for financial support of C. Santos (SFRH/BPD/26562/2006) and L. Tavares (SFRH/BD/37382/2007).