# PP61. TOTAL CONTENT ANALYSIS, *IN VITRO* ANTIOXIDANT, AND ENZYME INHIBITION TESTS ON *MYRTUS COMMUNIS* L.

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*Myrtus communis* L. is a member of the Myrtaceae family and is represented by a single species in Türkiye. This evergreen plant can grow naturally or cultivated mostly in countries in the Mediterranean region.

In this study, the total phenolic, flavonoid and proanthocyanidin contents of the 80% ethanol extract of *M. communis* and the fractions and infusion. The responses of the mentioned extracts and fractions to antioxidant activity and enzyme inhibition tests were examined.

Based on these studies, future studies aim to elucidate the neuroprotective effect of pure compounds with bioactivity-guided fractionation of the plant and support it with *in vivo* tests. 200 grams of dry leaves was macerated in 80% EtOH solution for 12 hours in 3 repetitions. Isolation studies were performed using open-column chromatography. Boiled distilled water was added to 30 grams of dry leaves for infusion.

Total phenolic, total flavonoid and proanthocyanidin content analyzes of the mentioned extracts and fractions were performed. The antioxidant activities were examined by ABTS, CUPRAC, DPPH, FRAP methods. It was also subjected to inhibition test of tyrosinase enzyme. According to the results of total phenolic content analysis, it was seen that the RC[9-22] had the highest phenolic content. According to the results of total flavonoid content analysis, the fraction seen as rich in flavonoids in thin layer chromatography results has the highest flavonoid content. Total proanthocyanidin content was less than other contents. Extracts and fractions with the richest flavonoid and phenolic content showed the highest antioxidant activity. 80% EtOH extract showed the highest tyrosinase enzyme inhibition activity.

The results of in vitro studies show that *M. communis* has general antioxidant activity and that the 80% EtOH extract of the plant has tyrosinase enzyme inhibition activity. In light of these data, it is predicted that the plant can play an effective role in the treatment of many diseases, especially neurological diseases.