

Variations of carnosic acid and carnosol concentrations in ethanol extracts of wild *Lepechinia salviae* in Spring (2008-2011)

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Ethanol extracts from dried leaves of wild *Lepechinia salvia* (Lindl) Epling, collected during the flowering period (September-November), contained 15% to 25% carnosic acid and 2 to 8% carnosol, depending on the month of collection. The highest concentration of carnosic acid in extracts was in October, while carnosol concentration had a peak in September, which suggests that it is not a product of carnosic acid oxidation. A comparison of extracts obtained in September 2008 to 2011 shows that the production of both abietanes increased in years with less winter rainfall and higher temperatures, which induced an early blooming. EC₅₀ values in DPPH radical scavenging and antiproliferative (CCRF-CEM tumor cells) bioassays confirm that the high bioactivity of the extracts of rosemary, sage and *L. salviae* does not arise only from carnosol and carnosic acid. The cytotoxic activity was significantly higher in extracts of *L. salviae*, probably due to water stress differences between the cultivars a