

Anthocyanins and antioxidant capacity in plant food supplements (PFS) containing *Vaccinium* sp and/or *Vitis vinifera*

Brunella Carratù, Marco Ciarrocchi, Raffaella Gargiulo, Stefania Giammarioli and Elisabetta Sanzini

Department of Veterinary Public Health and Food Safety – Istituto Superiore di Sanità, Viale Regina Elena 299, 00161 Rome, Italy

Anthocyanins are powerful antioxidants used in relation to prevention and treatment of vascular and vision disorders, and urinary tract infections. These compounds are active principles of PFS containing *Vaccinium* species and/or *Vitis vinifera*. The aim of this work was to study the antioxidant capacity and profile of anthocyanins present in commercial products to evaluate the quality and verify label claims. Seventeen PFS were analyzed; in products used for urinary infections the main ingredient is *Vaccinium macrocarpon* (cranberry), for helping vision is *Vaccinium myrtillus* (blueberry), and for cardiovascular health *Vaccinium myrtillus* and *Vitis vinifera* are utilized, the last plant is also present commonly in antioxidant supplements. The separation to determine both anthocyanins and anthocyanidins was performed by HPLC with reverse phase column and UV-VIS detection; the antioxidant capacity was measured by TEAC method and expressed as Trolox equivalent. The samples often do not coincide with the values stated on the labels, and a large variability was found in quality profile of anthocyanins and in the values of the antioxidant capacity.

This research was funded by the European Community's Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 245199. It has been carried out within the PlantLIBRA project (website: www.plantlibra.eu). This report does not necessarily reflect the Commission views or its future policy on this area.