

Identification and quantification of illegal active compounds in plant food supplements

Ariana Dos Santos¹, Donatella Caruso², Chiara Di Lorenzo¹, Enzo Moro¹, Federico Abbiati², Flavio Giavarini², Patrizia Restani^{1,2}

1 Dept. Pharmacological Sciences, Università degli Studi di Milano, via Balzaretti 9 20133 Milano, Italy

2. Research Centre for the Characterization and Safe use of Natural Compounds - "Giovanni Galli", Università degli Studi di Milano, via Balzaretti 9 20133 Milano, Italy.

The market of plant food supplements (PFS) is expanding quickly; among different PFSs, some categories are particularly at risk for the presence of banned substances such as those for weight control and for athletes. It is known that PFS can be inadvertently or deliberately contaminated with substances responsible for adverse effects in consumers or in athletes who could also test positive at doping controls. In these cases, the presence of stimulants, steroids, or steroidal precursors in PFS is common. Our laboratory is involved in the quality control of PFS when: 1) they are suspected to be added with illicit molecules and/or 2) are responsible for adverse effects in humans. We describe some of the cases faced by our group, where different analytical techniques were applied according to the class of substances considered (TLC, HPLC with different detectors, including HPLC/MS). Data on validation procedures are also reported.

The research leading to these results has received funding from 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 areas.