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OP-54 Forensic Aspects of Adulteration in Sports Supplements

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Sports supplements (SS) frequently contain adulterants, which is a serious issue in the world. SS has brought the risks of quality control, security, deliberate mislabeling and contamination[1]. Depending on the use of these, clinical poisoning, organ or system damages have begun to become widespread. Also, it is reported that illegal or drug-related compounds are viewed as adulterations. Amphetamine, ephedrine, sibutramine and 1,3- dimethylamiylamine (DMAA) are just a few of known adulterants that have been identified in SS researches[2]. Users describe these items, which feature mystical formulations in their advertising, as having a performance-boosting effect[1]. So, this situation may cause users to engage in crimes unconsciously. Cinnarizine, which is frequently taken to treat travel sickness, is one of the second-leading causes of Parkinson's and has serious side effects[3]. Cinnarizine can easily be converted into piperazine components, which currently replaces ecstasy as a "Street drug" [4]. This circumstance demonstrates the potential hazard of SS used for health and highlights their significance in forensic investigations. The analytical and legal aspects of cinnarizine determination in various SS in Turkish markets are reported in this study. Detection and confirmation of cinnarizine and its by-products were achieved by the m/z ratio and the mass spectral fragmentation pattern. To the best of our knowledge, "Cinnarizine" active compound was detected in SS for the first time ever. Due to its rapid degradation, it is crucial to isolate and identify cinnarizine and its by-products, especially 1-benzylhydrylpiperazine [5]. In this respect, it is of great importance for public health to be able to market SS, which has a multi-billion-dollar market and is dominated by numerous advertisements, in a reliable manner with precision inspections conducted by the competent authorities and high-quality control. Also, new analyzing methods which especially focused on easily degradable compounds might resolve those uncertainties in this area.

Keywords Adulteration; sports supplements; cinnarizine; piperazine; GC-MS.

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OP-55 Nutritional properties and Fatty Acid Constituents of *Lepista personata* (Fr.) Cooke

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Edible mushrooms are a valuable food product they are used in medicine as biologically active additives and in the food industry as a valuable protein product. Due to the significant content of natural compounds, several components with different biological activities have been isolated from mushrooms, and this tendency continues at present. Currently, the study of the biological activity of mushrooms is an actual due to the content of various components in their composition, which have shown various types of activity, such as cytotoxic, antioxidant, anticholinesterase and anti-inflammatory activity. [1-3]. The nutritional properties and fatty acid constituents of mushrooms are an equally important part of the study of biological activity. The content of some fatty acids affects the increase in activity.

Lepista personata belongs to the family Tricholomataceae, order Agaricales. Firstly, this study aims to study the fatty acid constituents of *Lepista personata* previously unreported and collected from the Almaty region, Kazakhstan. As part of the study, the petroleum ether, acetone, and methanol extracts, as well as hot water-based extract, were prepared. The petroleum ether extract was methylated and injected into the GC and GC-MS to screen for their fatty acid ingredients along with steroidal content. Linoleic acid, oleic acid, and palmitic acid were detected as the major amounts besides stearic acid and meristic acid. Secondly, as a future study, since the polar extracts exhibited cytotoxic activity against column cancer cell lines, the acetone extract and the methanol extract will be used to identify the biologically active compounds isolated by activity-guided fractionation.

Keywords: *Lepista personata*; fatty acid.

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