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# The use of linear ion trap for rapid one-run ginsenoside profiling in roots and ginseng based products

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The pharmacological properties of old Chinese medicine (Ginseng) are generally attributed to its triterpene glycosides, called ginsenosides. Up to now more than 600 ginsenosides have been isolated from Panax species and most of them exhibit two types of aglycone moieties: Protopanaxadiol and protopanaxatriol. One of the main goals of the ginseng researches was the differentiation of the ginsenosides patterns between the different Panax species. Moreover, studies of changes in ginsenosides composition due to different traditional processing of *P. ginseng* roots such as white and red ginseng have been undertaken. The problem is the pure compounds of the ginsenosides are not available to researches in large quantities. That is the reason why currently the methods of standard-free analysis of ginsenosides are in high demand. New approach of qualitative analysis of ginsenosides in challenging matrices was developed in our laboratory on the basis of high performance liquid chromatography/tandem mass spectrometry. Analysis of extracts was carried out using a reversed-phase chromatography with SB-C18 sorbent. For compounds identification, electrospray ionization and quadrupole/linear ion trap mass-spectrometer in different modes were used. The meticulous study of the fragmentation of ginsenosides in the linear ion trap and its application for analysis of these compounds was made. The method may replace existing HPLC-DAD profiling approaches. The results of this study indicated that HPLC/ESI-LITMS is easily applicable for quality control purposes of marketed products and allows the rapid and direct identification of ginsenosides in crude plant extracts.

## Biography

Igor Rodin has completed his PhD from Lomonosov Moscow State University and continues to work in the field of analytical chemistry. He studies the methodology of the modern combined techniques such as HPLC and tandem mass-spectrometry. He has published more than 35 papers in reputed Russian and other international journals.

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