

### S32-3 Problems of LC-MS/MS analysis in the food safety

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Various affairs related to the food safety have recently occurred, and the management system based on a reliable analysis has been more strongly important. Most of the affairs related to food are sensitive so that the analytical method based on the scientific evidences is required. LC-MS/MS has been increasingly generalized in the food safety area in recent years.

Analytes in relation to the safety of food include many risk factors such as residual pesticides and veterinary medicines, mycotoxins, food additives and carcinogenic substances. And another thing, foods contain various components such as proteins, carbohydrates, fats and etc. These may cause interference with the analyses, so it is important for trace level analyses to adequately remove the interference substances by sample pretreatment and to choose an analytical apparatus most suitable for the analytes.

LC-MS/MS is extremely good in terms of sensitivity, selectivity and flexibility, and has now become an indispensable apparatus for food analyses. On the other hand, the reduced ionization can be pointed out as a problem in food analyses using LC-MS/MS. Ionization will be delicately affected by the interference substances that are different for each food, which may reduce the reliability of the analysis. For solving these problems, important keys are to develop an appropriate sample-pretreatment, a sufficient isolation method by HPLC and an assays using surrogate.