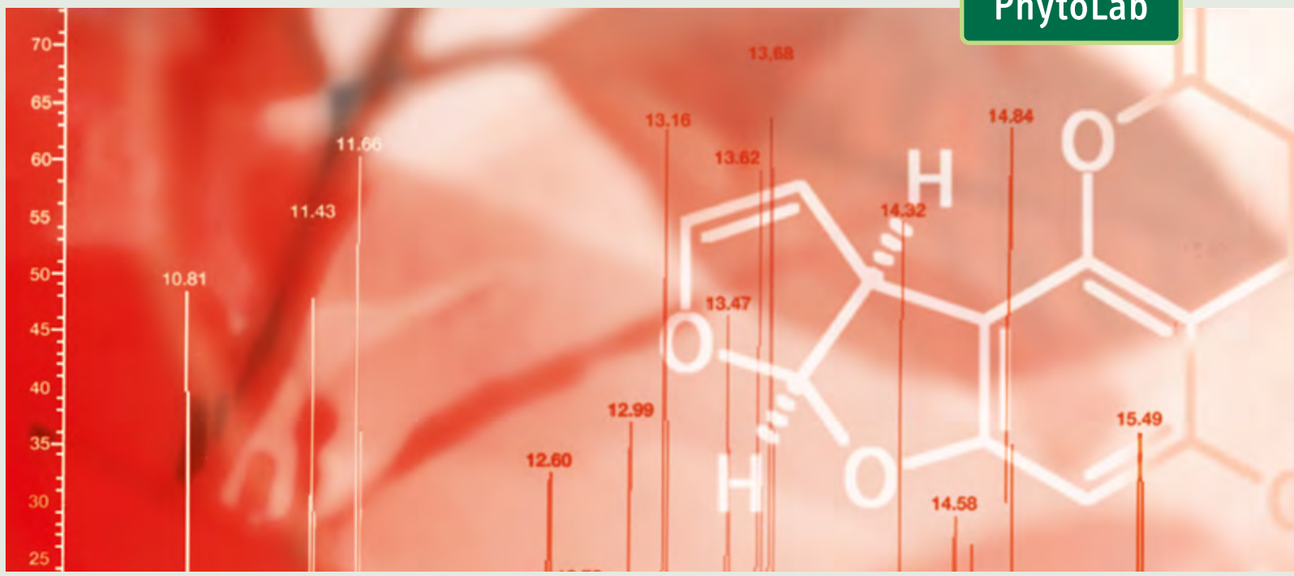
the nature network®

PhytoLab



Trace Analysis for Herbal Products

phy|trace®
Tracing of Contaminants

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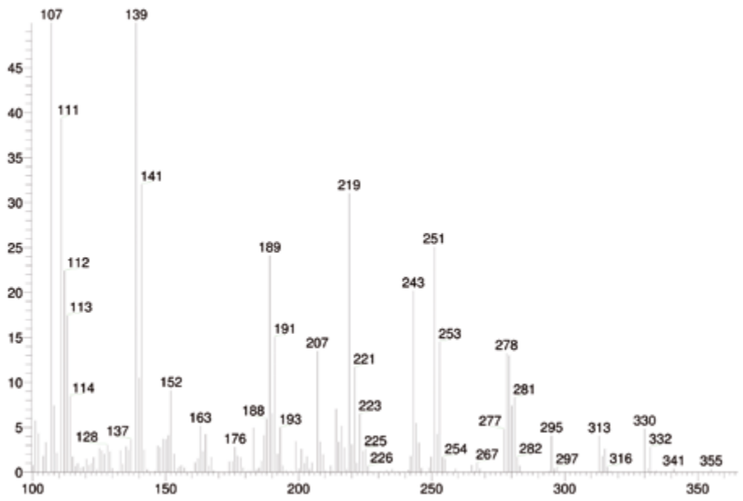
PL-PTB-E4-10.2015

Tracing of Contaminants

Trace analysis begins as early as the raw material stage. In spite of exercising maximum care, herbal raw materials may be contaminated by numerous substances from various sources as a result of environmental factors, selective use, or as a consequence of natural processes, for example. The heterogeneous physico-chemical properties of the substances, the diversity of the herbal matrices and divergent regulatory requirements impose very high demands on the analytical laboratory.

With more than 20 years of experience in analysing residual substances in plant-based products, PhytoLab now offers a comprehensive package of services that covers all issues relating to residue analysis and evaluation under the name **phy**trace®.

- Specialists in dried herbal products
- Trace analysis: pesticides, mycotoxins, heavy metals, secondary plant constituents that are relevant to safety
- Method development and validation
- Accredited laboratory with GMP certification



Dried herbal product specialists
Herbal products present a special challenge in terms of trace analysis because they contain such a multifarious spectrum of constituent substances. The analysis of residual traces is complicated to a considerable extent by matrix substances, which are present in much higher concentrations in some cases, particularly in dried herbal materials. This can easily give rise to falsified results – negative or positive – if laboratory personnel do not have sufficient experience with herbal matrices.

At the same time, the detection, analysis and evaluation of residues constitute an important task when it comes to risk assessment. Based on the experience gathered over many years, we can offer you comprehensive advice on the contamination situation of individual products, irrespective of their origins.

PhytoLab specialises in the highly complex matrix of dried herbal products, herbal extracts and essential oils that presents such a challenge in terms of analysis. We therefore not only offer our customers various alternative analytical means of confirming findings, but also provide assistance in the legal interpretation of analytical findings and determining potential contamination pathways.

Trace analysis
Unwanted residues in the trace range essentially include pesticides, mycotoxins and heavy metals, toxic plant constituents (e.g. pyrrolizidine alkaloids and tropane alkaloids), as well as PAHs, plasticisers and nicotine. Mycotoxins are secondary metabolic products of moulds and also include highly toxic, carcinogenic, mutagenic or teratogenic compounds. The most widely distributed mycotoxins include the aflatoxins, ochratoxin A, patulin and fusarium toxins. Plants may take up heavy metals from the soil, from the water or the air. Attention is focussed on the highly toxic heavy metals lead, cadmium and mercury, as well as other metals.

Method development and validation
There are no official methods available for a large number of contaminants in dried herbal products. PhytoLab is therefore playing an important role in developing and establishing suitable methods and procedures for such products in the food and pharmaceutical sectors. We offer procedures that have been validated comprehensively for these complex matrices in accordance with the currently applicable regulatory requirements. In doing so, we not only apply official procedures (e.g. modular multimethod for pesticides in accordance with Section 64 of the German Food and Feed Code (LFGB)), but also methods that we have developed ourselves.

We are also able to cater for customers' special requirements, developing and validating analytical procedures that are tailored to their specific needs with the state-of-the-art equipment at our disposal. Our experts would be happy to advise you and answer any product-specific questions that you may have.

Accredited laboratory with GMP certification
PhytoLab gives top priority to quality assurance. Granted flexible accreditation in accordance with DIN EN 17025, PhytoLab is also authorised to analyse official control food and drug samples. The areas of testing to which the accreditation applies are given in the appendix to the accreditation certificate.

Furthermore, PhytoLab has GMP certification and has the authority to carry out tests on drugs in its capacity as a company commissioned in accordance with the stipulations of § 14 (4) of the German Drug Law (AMG). By taking part in national and international proficiency testing schemes organised by reputable agencies (e.g. FAPAS, proof-acs) on a regular basis, we have our performance continuously and successfully reviewed by independent organisations.

Increasingly stringent regulatory requirements and growing expectations on the part of the consumers demand maximum information content and ultimate reliability in the analysis of residues in herbal drugs and food today. These demands can only be met in a highly specialised laboratory environment with appropriate quality assurance. With state-of-the-art analytical technology and a team of experts with many years of experience, PhytoLab offers you analytical competence and security in the assessment of results.

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