

## SIMPLE EXTRACTION METHOD FOR DETECTING EXOGENOUS SUBSTANCES IN SCALP HAIR BY GC-MS

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### Abstract

Hair analysis are increasingly growing in importance of being valid and reliable measure of long-term exposure that can be applied in biomonitoring of occupational exposure to xenobiotics due to the ability of hair to sequester exogenous substances into its shaft.

This article presents different extraction procedures for simultaneous determination of exogenous compounds in hair segments that are detected by gas chromatography/mass spectrometry (GC/MS).

The optimisation of the extraction strategy was performed on hair samples from adult subjects for determination on common exogenous substances such as caffeine, nicotine and its metabolite cotinine. These exogenous substances which get incorporated into hair due to repetitive exposure/consumption are associated with adverse health effects making them of interest to epidemiological studies.

As this method is simple and economical it can be applied to research studies for biomonitoring of occupational exposure to xenobiotics like pesticides, antineoplastic drugs, hard metals, polycyclic aromatic hydrocarbons.

**Key words:** *Hair analysis, Biomonitoring, Occupational exposure, Xenobiotics, GC-MS method, Caffeine, Nicotine, Cotinine.*