

Antineoplastic drugs and their analysis: a state of the art review

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Abstract

The number of patients suffering from cancer is constantly increasing and, consequently, the number of different chemotherapy treatments administered is increasing. Given the high reactivity and toxicity of antineoplastic drugs, analytical methods are required in all pharmaceutical fields, from drug development to their elimination in wastewater; including formulation quality control, environment and human exposure and therapeutic drug monitoring. The aim of this paper is to provide an overview of the analytical methods available for the determination of antineoplastic drugs in different matrices such as pharmaceutical formulations, biological and environmental samples. The applicability and performance of the reported methods will be critically discussed, with focus on the most commonly used antineoplastic drugs. Only conventional compounds and small molecules for targeted therapy will be considered in the present review.

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