



Determination of 5-Fluorouracil in Surface Samples Using SPE Combined With HPLC- DAD

Renata C. RESENDE, Gabriella P. TAHAN, Antônio F.F. OLIVEIRA,
Patrícia P. MAIA* & Isarita MARTINS

*Laboratory of Toxicological Analysis, Department of Clinical and Toxicological Analysis,
Federal University of Alfenas, Rua Gabriel Monteiro da Silva 700, 37130-000 Alfenas, MG, Brazil*

SUMMARY. A simple and rapid SPE-HPLC-DAD method was developed for the determination of 5-fluorouracil (5-FU) in surface samples. A C18 column (250 x 4.6 mm i.d., 5 μ m) and a similar pre-column were used for the separation at 25 °C, using 20 mM ammonium acetate buffer solution pH 4.7: methanol (95:5, v/v) as mobile phase at a flow rate of 1.2 mL/min. Under optimal conditions, the linearity was 0.9993, in a range of 25-100 μ g/mL. The limits of detection and quantification were 5 and 25 μ g/mL, respectively. The relative standard deviation (%) was below 15 % for the evaluation of precision and the mean recovery was 77 %. The extracting procedure followed HPLC analysis showed their applicability in order to examine 5-FU in surfaces samples. Moreover, it could be suggested that the developed method is an alternative in the monitoring of the occupational exposure to antineoplastic agents, once the analyte in question is considered an indicator for this purpose.

KEY WORDS: Antineoplastic drugs, 5-fluorouracil, Occupational exposure; SPE-HPLC-DAD, Surface samples.

* Author to whom correspondence should be addressed. *E-mail:* patpenido@unifal-mg.edu.br