

March 12-13, 2018
London, UK

Yahdiana Harahap et al., Int J Drug Dev & Res 2018, Volume 10

DETERMINATION OF METHAMPHETAMINE IN SALIVA USING GAS CHROMATOGRAPHY TANDEM MASS SPECTROMETRY

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Methamphetamine is a very strong central nervous system stimulant of the amphetamine group. Methamphetamine concentration in the body is usually determined in the blood and urine. Saliva as a biological matrix is simpler and is more efficient for methamphetamine tests in the body although it is rarely used. The aims of this study is to develop analytical methods for methamphetamine in saliva using gas chromatography tandem mass spectrometry. This technique is suitable to be applied for forensic drug abuse test using small sample and short analysis time. The chromatography conditions were DB MS-5 capillary columns with a length of 30 m; inner diameter of 0.25 mm; mobile phase Helium gas of 99.999%; flow rate of 0.8 mL/min; detection of MS at m/z values of 58.00 and 91.00, thus ephedrine HCl was used as an internal standard. Sample preparation using liquid-liquid microextraction with cyclohexane solvent and the residue was dried and reconstituted with 100 μ L of methanol. The method was valid in term of selectivity, accuracy and precision, carry over, matrix effect, stability test and was linear in the concentration range of 15.0 to 300.0 ng/mL. The method was successfully applied to the saliva sample of methamphetamine

users. Prior to sample analysis saliva was collected from the users less than 24 hours after the consumption of methamphetamine. The levels of methamphetamine in saliva was 106.99 ng/mL and 177.14 ng/mL.

Biography

Yahdiana Harahap is a Professor in the field of Pharmaceutical Chemistry especially bioanalysis related to bioequivalence study and DNA adduct. She received her Master's Degree in 1994 and Doctoral Degree in 2003 from the Department of Pharmacy, Faculty of Mathematics and Natural Sciences, Institute Teknologi Bandung. She has been the Head of Bioavailability-Bioequivalence Laboratory Faculty of Pharmacy Universitas Indonesia since 2008. She serves as member of Expert Council Indonesian Pharmacist Association, reviewer in several international journals, President of Asian Federation of Pharmaceutical Science, Head of Sub Collegium Indonesia Pharmaceutical Industry and as the Head of Pharmacy Division in Indonesian Accreditation Agency for Higher Education in Health (LAM PT-Kes). She has generated more than 80 scientific works published in international and national journals and presented them in national and international conferences.

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