

## BOOK REVIEW

James C. Garriott,<sup>1</sup> Ph.D.

### A Review of *The Analysis of Cannabinoids in Biological Fluids*

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**REFERENCE:** Hawks, R. L., *The Analysis of Cannabinoids in Biological Fluids*, NIDA Research Monograph Series, Parklawn Bldg., 5000 Fishers Lane, Rockville, MD 20857, 1983, 141 pp.

NIDA Research Monograph 42 is a presentation of their second technical review on development of cannabinoid assays for detection in biological specimens, held in January 1980. In the introduction, the editor discusses the potential utility and significance of use of cannabinoid assays in humans. Whereas determination of past use of *Cannabis* is now a routine capability (if proper methods are used) he explains why determination of a state of intoxication is much more difficult. The analysis of whole blood and possibly breath or saliva are discussed as potential determinants of intoxication.

The ten chapters include seven method presentations: three are radioimmunoassay procedures: one is an evaluation of immunoassay kits carried out by Peat et al at the Center for Human Toxicology; one is a HPLC-electro chemical detection procedure applicable to  $\Delta^9$ -tetrahydrocannabinol detection; a HPLC-RIA procedure is described by Moffat et al; an EMIT procedure by de Laurentis et al; and a GC/CI-MS procedure for analysis of  $\Delta^9$ -THC, 11-hydroxy- $\Delta^9$ -THC, and 9-carboxy- $\Delta^9$ -THC in plasma is described by Foltz and Hidy.

One chapter deals with the stability of  $\Delta^9$ -THC in blood, a very critical matter to those currently performing cannabinoid assays for forensic science purposes. The drug appeared to be remarkably stable under several modes of storage. The last chapter, by Hawks, provides an encapsulated update on the disposition and metabolism of cannabinoids in humans, after oral administration or smoking. In view of the current extensive use of urinary cannabinoid assays for forensic science purposes, this chapter contains valuable information concerning significance of positive finding, which everyone involved in this field should be aware of.

Although most of the methods presented have since been published in analytical journals, this monograph is a very useful reference to the state of the art in analysis for and interpretation of cannabinoids in biological specimens.

<sup>1</sup>Chief toxicologist, Bexar County Medical Examiner's Office, 600 N. Leona St., San Antonio, TX 78207.