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## Neurobiology of Drug Abuse

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# Monographs in Neural Sciences

Vol. 13

Series Editor

*Maynard M. Cohen*, Chicago, Ill.



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Basel · München · Paris · London · New York · New Delhi · Singapore · Tokyo · Sydney

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# Neurobiology of Drug Abuse

Volume Editor  
*J. Marwah*, Camden, N.J.

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## Drug Dosage

The authors and the publisher have exerted every effort to ensure that drug selection and dosage set forth in this text are in accord with current recommendations and practice at the time of publication. However, in view of ongoing research, changes in government regulations, and the constant flow of information relating to drug therapy and drug reactions, the reader is urged to check the package insert for each drug for any change in indications and dosage and for added warnings and precautions. This is particularly important when the recommended agent is a new and/or infrequently employed drug.

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## Introduction

The chapters in this monograph represent an in-depth review of the electrophysiological/neurophysiological effects of some major drugs of abuse. The focus has been to report the effects of these compounds at the single neuron level. The majority of studies reported have examined the effects of drugs of abuse on single monoamine neuron firing. There are three chapters devoted to the opiates. This signifies the abundance of reports regarding these compounds. Valentino discusses the electrophysiological effects of opiates on both peripheral and central excitable neurons. Callahan and Pasternak examine the multiplicity of opiate receptors and their relevance to CNS function. Haigler provides an in-depth look at the effects of opiates on pain circuits within the CNS and also reports the mechanisms underlying neuronal tolerance and dependence. Rebec and Pitts and Marwah report the neurobiological effects of central stimulants – amphetamine and cocaine, respectively. Heym and Jacobs and Pitts and Marwah report the neurobiological effects of ‘hallucinogenic’ drugs such as LSD and PCP.

It is hoped that this brief monograph will serve as a reference source for studies reporting the electrophysiological effects of some major drugs of abuse.