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CONTENTS

Editorial
Irrational combinations: No consideration for patient safety: Shiv Prakash 217

Review Article
Bioequivalence: Issues and perspectives: Shubha Rani 218

Research Papers
Isolation, characterization and study of enhancing effects on nasal absorption of insulin in rat of the total saponin from Acanthophyllum squarrosum: S.A. Sajadi Tabassi, H. Hosseinzadeh, M. Ramezani, E. Moghimipour, S.A. Mohajeri 226
Pharmacological and biochemical evidence for the antidepressant effect of the herbal preparation Trans-01: Md. Shalam, S.M. Shantakumar, M. Laxmi Narasu 231
Effects of dexamethasone and betamethasone as COX-2 gene expression inhibitors on rigidity in a rat model of Parkinson’s disease: Mehdi Shafee Ardestani, Hassan Mehrab, Nourallah Sadeghzadeh 235
Activity of aqueous ethanol extract of Euphorbia prostrata ait on Shigella dysenteriae type 1-induced diarrhea in rats: Kamgang René, Gonsu Kamga Hortense, Wafo Pascal, Mbungni N. Jean Alexis, Pouokam Ervice Vidal, Fokam Tagne Michel Archange, Fonkoua Marie Christine 240
Antidiarrheal and antimicrobial activities of Stachytarpheta jamaicensis leaves: S. Sasidharan, L. Yoga Latha, Z. Zuraini, S. Suryani, S. Sangetha, L. Shirley 245

Research Letters
Positive inotropic and chronotropic effect of aloe gel on isolated rat heart: Pradeep Kumar, Manish Goyal, Sunita Tewari 249
Synergistic effect of cefixime and cloxacillin combination against common bacterial pathogens causing community acquired pneumonia: Astha Agarwal, N. Jain, A. Jain 251
In vitro cytotoxic and human recombinant caspase inhibitory effect of Annona reticulata leaves: Susanta Kumar Mondal, Nirup Bikash Mondal, Upal Kanti Mazumder 253

Correspondence
Counterfeit and substandard drugs: The need for an effective and stringent regulatory control in India and other developing countries: A. Sukhlecha 255

Letter to the Editor
Postgraduate education in medical pharmacology: A student’s viewpoint: Varun Gupta 256

Book Review

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New drug discovery is one of the important emerging areas in pharmacology. Though many pharmaceutical industries are now involved in building their own research centers for developing new molecules in our country, the new drug discovery programme is still in its infancy. The main factor responsible for this is the shortage of manpower, despite the fact that many colleges and universities offer postgraduate and doctoral programs in pharmacology. Moreover, textbooks detailing the new screening techniques are not available, and the existing ones have become outdated.

The late N.S. Parmar and Shiv Prakash, both distinguished pharmacologists, have authored a book on screening methods in pharmacology that should prove to be a big boon for postgraduate and doctoral students. The authors have described, in a simple and a comprehensive manner, many experiments that are required for the screening of new drugs. They have also described the latest technologies used for new-molecule development, such as combinatorial chemistry, high-throughput screening, and microarray technology.

This book provides details regarding different evaluation methods of drugs used for various systems that can be easily carried out in any laboratory with reasonable facilities. There are also descriptions of some important techniques for the evaluation of pharmacological actions of drugs, (e.g., hepatoprotective, antioxidant, antiemetic, antiulcer, antifertility, anti-nephrolithiatic, and anti-atherosclerotic activities); these techniques are useful not only for studying synthetic drugs but also for herbal drugs.

Experimental design affects the overall outcome of the study. In the present scenario, not much importance is given to proper experimental design and the results of such studies are, therefore, not reproducible. The chapter on experimental design has explanations on how to conceive ideas for research projects with proper literature review and how to consult with experts for the selection of the correct animal models, protocols, group size, controls (positive, negative, and sham), and randomization procedure, along with advice for the refinement of the experimental design to make it more fruitful and scientifically valid. Statistical analyses, employed for proper interpretation of the experimental data, are also well explained in this book. The book introduces the reader to some basic statistical concepts, such as collection of data, variables, errors and bias, degrees of freedom, interpretation of data with various tests, etc., along with the problems in pharmacological screening research which leads the reader into further investigations.

The computer-based programme for LD_{50} (QuickBASIC) given in this book is one of its kind; it will help investigators to run their own program for computation of LD_{50}. The CPCSEA guidelines are intended to ensure proper care of animals used in the laboratory, with the objective of enhancing animal well-being, quality, maintenance, and safety. These aspects, essential for good laboratory practices (GLP), are well elaborated in this book. The overall strength of the book lies in the honest approach of these two experts. They have taken care to make sure that the book is simple and easily understood and not too expensive. The book will be read for many years by postgraduate students, teachers of pharmacology, and researchers working in pharmaceutical industries around the world. I pay my tribute to the late Dr. Parmar who, in association with a brilliant technocrat like Dr. Shiv Prakash, has brought out an excellent book.

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