

1. Record Nr.	UNINA9910253870903321
Titolo	Drug Discovery and Evaluation: Pharmacological Assays // edited by Franz J. Hock
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2016
ISBN	3-319-05392-2
Edizione	[4th ed. 2016.]
Descrizione fisica	1 online resource (32 illus., 20 illus. in color. eReference.)
Collana	Springer Reference
Disciplina	610
Soggetti	Medicine Pharmacology Pharmacy Biomedicine, general Pharmacology/Toxicology Drug Safety and Pharmacovigilance
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Intro -- Preface to the Fourth Edition -- Contents -- About the Editor -- Contributors -- Part I: Cardiovascular Activity -- Studies in Isolated Organs -- -Sympatholytic Activity in Isolated Vascular Smooth Muscle -- Purpose and Rationale -- Procedure -- Experimental Course -- Evaluation -- Modifications of the Method -- -Sympatholytic Activity in the Isolated Guinea Pig Seminal Vesicle -- Purpose and Rationale -- Procedure -- Evaluation -- Modification of the Method -- - Sympatholytic Activity in the Isolated Vas Deferens of the Rat -- Purpose and Rationale -- Procedure -- Evaluation -- Modifications of the Method -- -Sympatholytic Activity in the Isolated Rat Spleen -- Purpose and Rationale -- Procedure -- Evaluation -- Modifications of the Method -- -Sympatholytic Activity in the Isolated Rat Anococcygeus Muscle -- Purpose and Rationale -- Procedure -- Evaluation -- Modifications of the Method -- beta1-Sympatholytic Activity in Isolated Guinea Pig Atria -- Purpose and Rationale -- Procedure -- Right Atrium -- Left Atrium -- Evaluation -- Modifications of the Method -- beta2-Sympatholytic Activity in the

Isolated Tracheal Chain -- Purpose and Rationale -- Procedure --
Experimental Course -- Evaluation -- Modifications of the Method --
Angiotensin-Converting Enzyme Inhibition in the Isolated Guinea Pig
Ileum -- Purpose and Rationale -- Procedure -- Angiotensin I
Antagonism -- Bradykinin Potentiation -- Evaluation -- Angiotensin I
Antagonism -- Bradykinin Potentiation -- Modification of the Method
-- Contractile and Relaxing Activity on Isolated Blood Vessels Including
Effects of Potassium-Channel Openers -- Purpose and Rationale --
Procedure -- Evaluation -- Modifications of the Method -- Isolated
Guinea Pig Ureter -- Purpose and Rationale -- Procedure -- Evaluation
-- Critical Assessment of the Method -- Modifications of the Method.
Isolated Corpus Cavernosum -- Purpose and Rationale -- Procedure --
Evaluation -- Modifications of the Method -- References and Further
Reading -- -Sympatholytic Activity in Isolated Vascular Smooth
Muscle -- -Sympatholytic Activity in the Isolated Guinea Pig Seminal
Vesicle -- -Sympatholytic Activity in the Isolated Vas Deferens of the
Rat -- -Sympatholytic Activity in the Isolated Rat Spleen -- -
Sympatholytic Activity in the Isolated Rat Anococcygeus Muscle --
beta1-Sympatholytic Activity in Isolated Guinea Pig Atria -- beta2-
Sympatholytic Activity in the Isolated Tracheal Chain -- Angiotensin
Converting Enzyme Inhibition in the Isolated Guinea Pig Ileum --
Contractile and Relaxing Activity on Isolated Blood Vessels Including
Effects of Potassium-Channel Openers -- Isolated Guinea Pig Ureter --
Isolated Corpus Cavernosum -- Cardiovascular Analysis In Vivo --
Hemodynamic Screening in Anesthetized Rats -- Purpose and Rationale
-- Procedure -- Evaluation -- Critical Assessment of the Method --
Modifications of the Method -- Blood Pressure in Pithed Rats --
Purpose and Rationale -- Procedure -- Evaluation -- Modifications of
the Method -- Antihypertensive Vasodilator Activity in Ganglion-
Blocked, Angiotensin II-Supported Rats -- Purpose and Rationale --
Procedure -- Evaluation -- Critical Assessment of the Method --
Modifications of the Method -- Blood Pressure in Conscious
Hypertensive Rats (Tail-Cuff Method) -- Purpose and Rationale --
Procedure -- Surgical Procedure to Induce Renal Hypertension -- Test
Procedure -- Evaluation -- Critical Assessment of the Method --
Modifications of the Method -- Direct Measurement of Blood Pressure
in Conscious Rats with Indwelling Catheter -- Purpose and Rationale --
Procedure -- Preparation of Cannulae -- Implantation of Cannulae --
Measurement of Blood Pressure -- Evaluation.
Critical Assessment of the Method -- Modifications of the Method --
Cannulation Techniques in Rodents -- Purpose and Rationale --
Permanent Cannulation of the Jugular Vein in Rats -- Purpose and
Rationale -- Procedure -- Modifications of the Method -- Permanent
Cannulation of the Renal Vein in Rats -- Purpose and Rationale --
Procedure -- Permanent Cannulation of the Portal Vein in Rats --
Purpose and Rationale -- Procedure -- Permanent Cannulation of the
Thoracic Duct in Rats -- Purpose and Rationale -- Procedure --
Portacaval Anastomosis in Rats -- Purpose and Rationale -- Procedure
-- Cardiovascular Analysis in Anesthetized Mice -- Purpose and
Rationale -- Procedure -- Evaluation -- Modifications of the Method --
Blood Pressure in Anesthetized Cats -- Purpose and Rationale --
Procedure -- Evaluation -- Critical Assessment of the Method --
Modifications of the Method -- Cardiovascular Drug Challenging
Experiments in Anesthetized Dogs -- Purpose and Rationale --
Procedure -- Evaluation -- Hemodynamic Analysis in Anesthetized
Dogs -- Purpose and Rationale -- Procedure -- Preparation for
Hemodynamic Measurements -- Experimental Course -- Calculation of
Results and Evaluation -- Modifications of the Method --

Hemodynamic Measurements in Conscious Dogs -- Purpose and Rationale -- Procedure -- Experimental Protocol -- Evaluation -- Modifications of the Method -- Hemodynamic Studies in Monkeys -- Purpose and Rationale -- Procedure -- Evaluation -- Modifications of the Method -- Measurement of Cardiac Output and Regional Blood Flow with Microspheres -- Purpose and Rationale -- Procedure -- Evaluation -- Critical Assessment of the Method -- Modifications of the Method -- Carotid Artery Loop Technique -- Purpose and Rationale -- Procedure -- Critical Assessment of the Method -- Modifications of the Method.

Measurement of Heart Dimensions in Anesthetized Dogs -- Purpose and Rationale -- Procedure -- Implantation of Ultrasonic Transducers -- Preparation for Hemodynamic Measurements -- Experimental Course -- Evaluation -- Modifications of the Method -- Telemetric Monitoring of Cardiovascular Parameters in Rats -- Purpose and Rationale -- Procedure -- Evaluation -- Modifications of the Method -- Cardiovascular Effects After Intracerebroventricular Administration -- Purpose and Rationale -- Procedure -- Evaluation -- Modifications of the Method -- Influence on Orthostatic Hypotension -- Purpose and Rationale -- Procedure -- Evaluation -- Modifications of the Method -- Bezold-Jarisch Reflex -- Purpose and Rationale -- Procedure -- Evaluation -- Modifications of the Method -- Endotoxin-Induced Shock -- Purpose and Rationale -- Procedure -- Evaluation -- Modifications of the Method -- Hemorrhagic Shock -- Purpose and Rationale -- Procedure -- Evaluation -- Critical Assessment of the Method -- Modifications of the Method -- Tourniquet Shock -- Purpose and Rationale -- Procedure -- Evaluation -- Critical Evaluation of the Method -- Modifications of the Method -- Heatstroke -- Purpose and Rationale -- Procedure -- Evaluation -- Modifications of the Method -- - and beta-Adrenoreceptors in the Mouse Iris -- Purpose and Rationale -- Procedure -- Evaluation -- Modifications of the Method -- 2-Adrenoreceptor Blockade Measured In Vivo by Clonidine-Induced Sleep in Chicks -- Purpose and Rationale -- Procedure -- Evaluation -- Critical Assessment of the Method -- Activity at beta1- and beta2-Adrenoreceptors in the Rat -- Purpose and Rationale -- Procedure -- Evaluation of Agonists -- Evaluation of Antagonists -- Critical Assessment of the Method -- Modifications of the Method -- beta1- and beta2-Sympatholytic Activity in Dogs -- Purpose and Rationale -- Procedure.

Preparation for Hemodynamic Measurements -- Screening for beta-Blocking Effects in Anesthetized Dogs -- Testing for beta1- and beta2-Blocking Effects: Determination of ED50 -- Evaluation -- Intrinsic beta-Sympathomimetic Activity in Reserpine-Pretreated Dogs -- Purpose and Rationale -- Procedure -- Preparation for Hemodynamic Measurements -- Experimental Course -- Evaluation -- Cat Nictitating Membrane Preparation (Ganglion-Blocking Activity) -- Purpose and Rationale -- Procedure -- Evaluation -- Critical Assessment of the Method -- Modifications of the Method -- Assessment of Ganglion-Blocking Activity in the Isolated Bovine Retractor Penis Muscle -- Purpose and Rationale -- Procedure -- Evaluation -- Critical Assessment of the Method -- Modifications of the Method -- Angiotensin II Antagonism -- Purpose and Rationale -- Procedure -- Intrinsic Agonistic Activity -- Antagonistic Activity -- Duration of Activity -- Evaluation -- Intrinsic Agonistic Activity -- Antagonistic Activity -- Critical Assessment of the Method -- Modifications of the Method -- ACE Inhibition Measured In Vivo in the Rat -- Purpose and Rationale -- Procedure -- Inhibition of Angiotensin I Cleavage -- Potentiation of Bradykinin-Induced Vasodepression -- Evaluation --

Inhibition of Angiotensin I Cleavage -- Potentiation of Bradykinin-Induced Vasodepression -- Critical Assessment of the Method -- Modifications of the Method -- Evaluation of Renin Inhibitors in Dogs -- Purpose and Rationale -- Procedure -- Animal Experiment -- Analytical Procedures -- Evaluation -- Critical Assessment of the Method -- Modifications of the Method -- Evaluation of Renin Inhibitors in Monkeys -- Purpose and Rationale -- Procedure -- Evaluation -- Modifications of the Method -- Critical Assessment of the Method -- Penile Erection in Rabbits -- Purpose and Rationale -- Procedure -- Evaluation.
Modifications of the Method.

Sommario/riassunto

The 4th edition of this successful reference book contains an updated selection of the most frequently used assays for reliably detecting the pharmacological effects of potential drugs. Effects covered include cardiovascular, analgesic, endocrine, psychotropic, respiratory, renal and immunomodulatory activities. Each of the more than 1,000 assays comprises a detailed protocol outlining the purpose and rationale of the method, a critical assessment of the results and their pharmacological and clinical relevance. In addition, animal models of rare diseases are described. For this 4th edition, all existing chapters have been revised and completely updated. A large number of assays were added. Sections that have been specifically enlarged include - Pharmacological assays in thrombosis and haemostasis, - Antidiabetic activity (includes completely new chapters such as Biochemical Methods in Diabetology), - Anti-atherosclerotic activity. New chapters are added such as Auditory Pharmacology, Oncology Activity, Stem Cells, Omics, Personalized Medicine, etc.
