
Contents

<i>Preface</i>	<i>v</i>
<i>Contributors</i>	<i>ix</i>
PART I NOVEL APPROACHES FOR THE TREATMENT OF EPILEPSY	
1 Inflammatory Cytokines as Targets for Epilepsy Drug Therapy <i>María-Leonor López-Meraz, Jesús-Servando Medel-Matus, and Jerome Niquet</i>	3
2 The Use of Anti-inflammatory Drugs in Epilepsy <i>María Guadalupe Valle-Dorado, Laura Elena Córdova-Dávalos, Daniel Pérez-Pérez, Rosalinda Guevara-Guzmán, and Luisa Rocha</i>	23
3 Carbonic Anhydrase and Epilepsy <i>Luciana Gavernet</i>	37
4 Synaptic Vesicle Protein 2A as a Novel Pharmacological Target with Broad Potential for New Antiepileptic Drugs. <i>Luz Adriana Pichardo-Macias, Itzel Jatziri Contreras-García, Sergio R. Zamudio, Edgar Mixcoha, and Julieta G. Mendoza-Torreblanca</i>	53
5 Do Cannabinoids Represent a Good Therapeutic Strategy for Epilepsy? <i>Cecilia Zavala-Tecuapetla and Luisa Rocha</i>	83
6 Glutamate Receptors as Targets for Novel Antiepileptic Drug Therapy <i>Manola Cuéllar-Herrera, César E. Santana-Gómez, Francía Carmona-Cruz, Daruni Vázquez-Barrón, Francisco Velasco, and Ana L. Velasco</i>	97
7 Neurosteroid Regulation of Seizures: Role of GABAA Receptor Plasticity <i>Suchitra Joshi and Jaideep Kapur</i>	127
8 Erythropoietin as Potential Neuroprotective and Antiepileptogenic Agent in Epilepsy and Refractory Epilepsy. <i>Amalia Marelli, Liliana Czornyj, Luisa Rocha, and Alberto Lazarowski</i>	147
9 Caloric Restriction and Dietary Treatments of Epilepsy: Mechanistic Insights for Drug Discovery. <i>Karla G. Carvajal Aguilera and Bryan V. Phillips Farfán</i>	163
10 Gene Therapy in Epilepsy <i>Miguel A. López-García, Iris A. Feria-Romero, Julia J. Segura-Uribe, David Escalante-Santiago, and Sandra Orozco-Suárez</i>	181

PART II INNOVATIVE SOLUTIONS FOR THE SCREENING OF NEW ANTIEPILEPTICS DRUGS AND ADDRESSING MULTI-DRUG RESISTANT EPILEPSY	
11	Human Brain Tissue as a Model for the Study of Epilepsy 203 <i>Leonardo Lara-Valderrábano, Ivette Bañuelos-Cabrera, Victor Navarrete-Modesto, and Luisa Rocha</i>
12	The Blood–Brain Barrier and the Design of New Antiepileptic Drugs 221 <i>Gabriela Rogel-Salazar and Hiram Luna-Munguia</i>
13	Virtual Screening Applications in the Search of Novel Antiepileptic Drug Candidates. 237 <i>Alan Talevi and Luis E. Bruno-Blanch</i>
14	Discovering New Antiepileptic Drugs Addressing the Transporter Hypothesis of Refractory Epilepsy: Ligand-Based Approximations. 259 <i>Manuel Couyoupetrou, Mauricio Di Ianni, Melisa Gantner, Guido Pesce, Roxana Peroni, Alan Talevi, and Luis E. Bruno-Blanch</i>
15	Discovering New Antiepileptic Drugs Addressing the Transporter Hypothesis of Refractory Epilepsy: Structure-Based Approximations 281 <i>Pablo Palestro and Luciana Gavernet</i>
16	Nanoformulations of Antiepileptic Drugs: In Vitro and In Vivo Studies. 299 <i>María E. Ruiz and Guillermo R. Castro</i>
PART III POTENTIAL CONTRIBUTIONS OF NETWORK PHARMACOLOGY AND DRUG REPURPOSING IN ANTIEPILEPTIC DRUG DISCOVERY	
17	Side Effects of Antiepileptic Drugs 329 <i>Hana Kubova</i>
18	Network Pharmacology and Epilepsy 351 <i>Alan Talevi</i>
19	The Importance of Drug Repurposing in the Field of Antiepileptic Drug Development. 365 <i>Alan Talevi</i>
	<i>Index</i> 379



<http://www.springer.com/978-1-4939-6353-9>

Antiepileptic Drug Discovery

Novel Approaches

Talevi, A.; Rocha, L. (Eds.)

2016, XI, 386 p. 51 illus., 42 illus. in color., Hardcover

ISBN: 978-1-4939-6353-9

A product of Humana Press