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Titolo Pharmacoresistance in epilepsy: from genes and molecules to

promising therapies / / Luisa Rocha, Esper A. Cavalheiro, editors

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Note generali Description based upon print version of record.

Nota di bibliografia Includes bibliographical references and index.

Nota di contenuto Pharmacoresistance and Epilepsy -- Genes involved in

pharmacoresistant epilepsy -- Pathological oscillations in the pharmacoresistant epileptic brain -- Molecular mechanisms of pharmacoresistant epilepsy -- Modifications in the seizures susceptibility by excitotoxic neuronal damage and its possible relationship with the pharmacoresistance -- Intracellular pathways associated with neuronal survival and death in epilepsy -- The role of JNK pathway in the process of excitotoxicity induced by epilepsy and neurodegeneration -- Proteomics-based strategy to identify biomarkers and pharmacological targets in temporal lobe epilepsy --Abnormalities of GABA system and human pharmacoresistant epilepsy -- Pharmacoresistant epilepsy and immune system -- Contribution of the antiepileptic drug administration regime in the development and/or establishment of pharmacoresistant epilepsy -- Experimental models to study pharmacoresistance in epilepsy -- Resistance to epileptogenesis in the Neotropical rodent Proechimys -- On the development of new antiepileptic drugs for the treatment of pharmacoresistant epilepsy - Different approaches to different hypothesis -- Modulating P-glycoprotein regulation as a therapeutic strategy for pharmacoresistant epilepsy -- Vagus Nerve Stimulation for Intractable Seizures -- The role of neuromodulation in the treatment of refractory epilepsy -- Transcranial magnetic stimulation and refractory

## Sommario/riassunto

partial epilepsy -- Effects of transcranial focal electrical stimulation via concentric ring electrodes on seizure activity -- Physical exercise as a strategy to reduce seizure susceptibility.

Although more than 10 new antiepileptic drugs have been developed in the past decade, epilepsy remains resistant to drug therapy in about one-third of patients, many of whom struggle with the disease their entire lives. Managing these patients is a challenge and requires a structured multidisciplinary approach. The book includes chapters on all issues related to pharmacoresistance in epilepsy, and describes recent developments in the pathogenesis and treatment of this disorder. It addresses abnormalities in inhibitory mechanisms, epilepsy-related changes to the immune system, development of pharmacoresistance caused by chronic exposure to antiepileptic drugs, and novel therapeutic strategies for preventing or slowing down the progression of the disease. Clinicians and basic scientists alike will find up-to-date information on the development of pharmacoresistance, as well as reviews of mechanisms associated with epilepsy that may help them consider novel strategies for preventing the development of pharmacoresistance in the first place. The book also features information on new therapeutic strategies for control of epilepsy, such as transcutaneous electrical stimulation and virtual screening of new antiepileptic drugs. Pharmacoresistance in Epilepsy: From Genes and Molecules to Promising Therapies is useful to anyone working in the field, whether they're studying epilepsy in the lab or treating it in a doctor's office.