NOVEL COMPOUNDS AND THEIR USE FOR TREATMENT OF SEIZURES

Summary
Epilepsy affects about 70 Million people worldwide and despite many available antiepileptic drugs (AEDs), pharmacotherapy of epilepsy remains a challenge. This invention pertains to aryl-substituted acetamide and pyrrolidin-2-one derivatives and formulations with anti-seizure activity. These derivatives are expected to be useful in the treatment and prevention of seizures in the cases of epilepsy (including medically refractory epilepsy) and nerve agent poisoning. These compounds have shown anti-seizure activity in drug-resistant (medically refractory) mice upon oral administration. Analogs of this compound are expected to have even better activity.

Problem Addressed
- Most of the currently available antiepileptic drugs (AEDs) have poor pharmacotherapy due to drug resistance, when the current first-line AEDs cannot control seizures in 24-41% of patients
- Side effects of effective AEDs limit their usage

Competitive Advantages
- Fewer side-effects
- Drug can be formulated in multiple dosage forms (tablets, capsules, pills, syrups/suspensions and suppositories)
- This class of compound has a “Red book” from NIH

Applications
- Medically refractory epilepsy
- Nerve agent poisoning

Patents
- 62/587,151

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