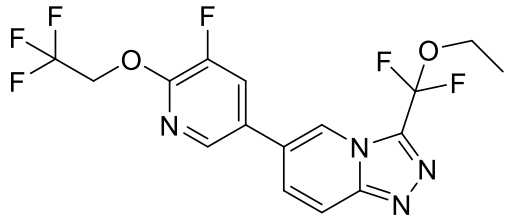
genes, such as for example, *SCN1A*, *SCN2A*, and *SCN8A*, by administering to a subject in need thereof a therapeutically effective amount of Compound 1 having the following formula:



or a pharmaceutically acceptable salt thereof.

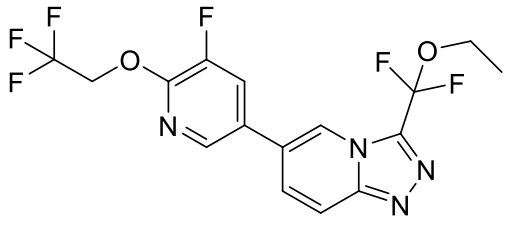
In some examples, the method provided involves treating a disorder associated with excessive neuronal excitability. In some examples, the disorder is epilepsy, an epilepsy syndrome, or an encephalopathy, such as a genetic or pediatric epilepsy or a genetic or pediatric epilepsy syndrome. In some examples, the disorder is focal epilepsy.

In some examples, the method reduces frequency of seizures experienced by the subject within 24 hours after administration of the compound or a pharmaceutically acceptable salt thereof as compared to the frequency of seizures prior to the administration.

In some examples, the compound of the disclosure, or a pharmaceutically acceptable salt thereof, is administered to the subject in an amount ranging from about 0.1 mg/kg to about 1 g/kg. In other examples, the compound or a pharmaceutically acceptable salt thereof is administered to the subject in an amount ranging from about 10 mg/kg to about 100 mg/kg, such as about 30 mg/kg.

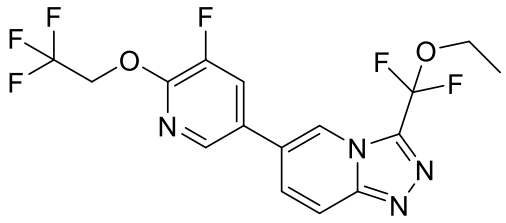
In some examples, the subject is human. In some examples, the subject is an adult suffering from or suspected of having focal epilepsy.

The present disclosure also provides a method of treating a condition relating to aberrant function of a sodium ion channel in a subject in need thereof, the method comprising administering to the subject Compound 1, or a pharmaceutically acceptable salt thereof, at a dose of about 1 mg to about 150 mg; wherein Compound 1 is of the following structural formula:



.

In one aspect, the present disclosure provides use of Compound 1, or a pharmaceutically acceptable salt thereof, in the manufacture of a medicament for treating a condition relating to aberrant function of a sodium ion channel in a subject in need thereof; wherein Compound 1 is of the following structural formula:



, and

wherein Compound 1, or a pharmaceutically acceptable salt thereof, is at a dose of about 1 mg to about 150 mg.

In some examples, the condition relating to aberrant function of a sodium ion channel is a neurological disorder. In some examples, the neurological disorder is a disorder associated with excessive neuronal excitability. In some examples, the neurological disorder is associated with one or more *de novo* gain-of-function or loss-of-function mutations in central nervous system sodium ion channel genes.

In some examples, the condition is epilepsy or an epilepsy syndrome. In some examples, the condition is a genetic epilepsy or a genetic epilepsy syndrome. In some examples, the condition is a pediatric epilepsy or a pediatric epilepsy syndrome. In some examples, the condition is selected from the group consisting of malignant migrating focal seizures of infancy (MMFSI), epilepsy of infancy with migrating focal seizures (EIMFS), autosomal dominant nocturnal frontal lobe epilepsy (ADNFLE), West syndrome, infantile spasms, epileptic encephalopathy, focal epilepsy, Ohtahara syndrome, developmental and epileptic encephalopathy, Lennox-Gastaut syndrome, seizures, leukodystrophy, leukoencephalopathy, intellectual disability, multifocal epilepsy, drug-resistant epilepsy, temporal lobe epilepsy and cerebellar ataxia.

In some examples, the condition is epileptic encephalopathy. In some examples, the condition is focal epilepsy.

In some examples, the seizures are generalized tonic clonic seizures or asymmetric tonic seizures.

In some examples, the subject is a human.

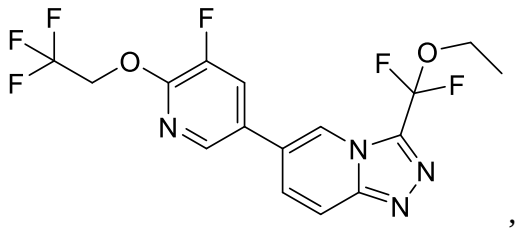
In some examples, the Compound 1 is administered at the dose of about 5 mg to about 130 mg. In some examples, the Compound 1 is administered at the dose of about 5 mg, about 10 mg, about 15 mg, about 20 mg, about 25 mg, about 30 mg, about 35 mg, about 40 mg, about 45 mg, about 50 mg, about 55 mg, about 60 mg, about 65 mg, about 70 mg,

about 75 mg, about 80 mg, about 85 mg, about 90 mg, about 95 mg, about 100 mg, about 105 mg, about 110 mg, about 115 mg, about 120 mg, about 125 mg or about 130 mg.

In some examples, the administration of Compound 1 results in a reduction in the severity, number and/or frequency of seizures experienced by the subject as compared to the severity, number and/or frequency of seizures experienced by the subject prior to administration of Compound 1.

In some examples, the administration of Compound 1 does not result in ataxia, lethargy and vomiting in the subject.

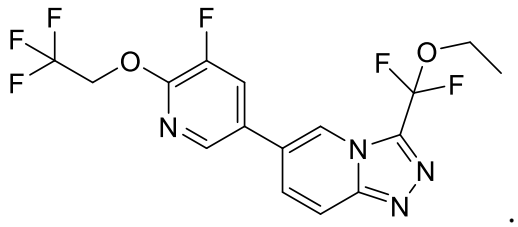
The present disclosure also provides a method of reducing severity, number and/or frequency of seizures in a subject in need thereof, the method comprising administering to the subject an effective amount of Compound 1 of the following structural formula:



,

or a pharmaceutically acceptable salt thereof.

In another aspect, the present disclosure provides use of Compound 1, or a pharmaceutically acceptable salt thereof, in the manufacture of a medicament for reducing severity, number and/or frequency of seizures in a subject in need thereof; wherein Compound 1 is of the following structural formula:



.

In some examples, the subject has a condition relating to aberrant function of a sodium ion channel. In some examples, the condition relating to aberrant function of a sodium ion channel is a neurological disorder. In some examples, the neurological disorder is a disorder associated with excessive

neuronal excitability. In some examples, the neurological disorder is associated with one or more *de novo* gain-of-function or loss-of-function mutations in central nervous system sodium ion channel genes.

In some examples, the condition is epilepsy or an epilepsy syndrome. In some examples, the condition is a genetic epilepsy or a genetic epilepsy syndrome. In some examples, the condition is a pediatric epilepsy or a pediatric epilepsy syndrome. In some examples, the condition is selected from the group consisting of malignant migrating focal seizures of infancy (MMFSI), epilepsy of infancy with migrating focal seizures (EIMFS), autosomal dominant nocturnal frontal lobe epilepsy (ADNFLE), West syndrome,

infantile spasms, epileptic encephalopathy, focal epilepsy, Ohtahara syndrome, developmental and epileptic encephalopathy, Lennox-Gastaut syndrome, seizures, leukodystrophy, leukoencephalopathy, intellectual disability, multifocal epilepsy, drug-resistant epilepsy, temporal lobe epilepsy and cerebellar ataxia.

In some examples, the condition is epileptic encephalopathy. In some examples, the condition is focal epilepsy.

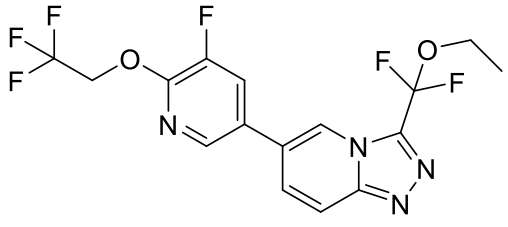
In some examples, the seizures are generalized tonic clonic seizures or asymmetric tonic seizures.

In some examples, the subject is a human.

In some examples, Compound 1 is administered at the dose of about 1 mg to about 150 mg. In some examples, Compound 1 is administered at the dose of about 1 mg, about 2 mg, about 3 mg, about 4 mg, about 5 mg, about 10 mg, about 15 mg, about 20 mg, about 25 mg, about 30 mg, about 35 mg, about 40 mg, about 45 mg, about 50 mg, about 55 mg, about 60 mg, about 65 mg, about 70 mg, about 75 mg, about 80 mg, about 85 mg, about 90 mg, about 95 mg, about 100 mg, about 105 mg, about 110 mg, about 115 mg, about 120 mg, about 125 mg, about 130 mg, about 135 mg, about 140 mg, about 145 mg or about 150 mg.

In some examples, the administration of Compound 1 does not result in ataxia, lethargy and vomiting in the subject.

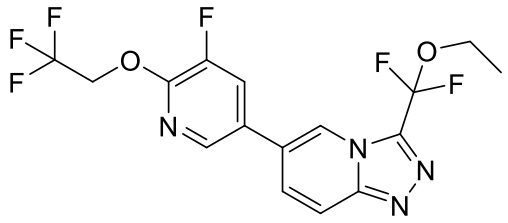
The present disclosure also provides a method of preferentially inhibiting persistent sodium current (I_{Na}) over peak sodium current (I_{Na}) in a neuron, the method comprising contacting said neuron with an effective amount of Compound 1 of the following structural formula:



,

or a pharmaceutically acceptable salt thereof.

In another aspect, the present disclosure provides use of Compound 1, or a pharmaceutically acceptable salt thereof, in the manufacture of a medicament for preferentially inhibiting persistent sodium current (I_{Na}) over peak sodium current (I_{Na}) in a neuron, wherein said neuron is to be contacted with an effective amount of Compound 1 of the following structural formula:



.

In some examples, the neuron is in a subject. In some examples, the subject has a condition relating to aberrant function of a sodium ion channel. In some examples, the condition relating to aberrant function of a sodium ion channel is a neurological disorder. In some examples, the neurological disorder is a disorder associated with excessive neuronal excitability. In some examples, the neurological disorder is associated with one or more *de novo* gain-of-function or loss-of-function mutations in central nervous system sodium ion channel genes.

In some examples, the condition is epilepsy or an epilepsy syndrome. In some examples, the condition is a genetic epilepsy or a genetic epilepsy syndrome. In some examples, the condition is a pediatric epilepsy or a pediatric epilepsy syndrome. In some examples, the condition is selected from the group consisting of malignant migrating focal seizures of infancy (MMFSI), epilepsy of infancy with migrating focal seizures (EIMFS), autosomal dominant nocturnal frontal lobe epilepsy (ADNFLE), West syndrome, infantile spasms, epileptic encephalopathy, focal epilepsy, Ohtahara syndrome, developmental and epileptic encephalopathy, Lennox-Gastaut syndrome, seizures, leukodystrophy, leukoencephalopathy, intellectual disability, multifocal epilepsy, drug-resistant epilepsy, temporal lobe epilepsy and cerebellar ataxia.

In some examples, the condition is epileptic encephalopathy. In some examples, the condition is focal epilepsy.

In some examples, the seizures are generalized tonic clonic seizures or asymmetric tonic seizures.

In some examples, the subject is a human.

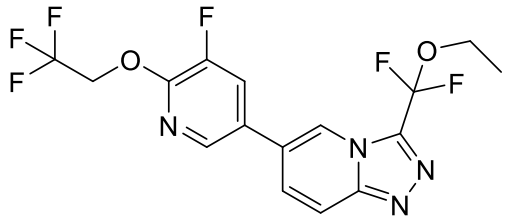
Brief Description of the Drawings

The accompanying drawings, which are incorporated in and constitute a part of this specification, illustrate certain embodiments, and together with the written description, serve to explain certain principles of the methods and devices disclosed herein.

FIGS. 1A-1D depict the effect of Compound 1 (**FIG. 1A**), Reference Compound (**FIG. 1B**), lamotrigine (LTG) (**FIG. 1C**), and carbamazepine (CBZ) (**FIG. 1D**) on human

We claim:

1. Use of Compound 1, or a pharmaceutically acceptable salt thereof, in the manufacture of a medicament for treating a condition relating to aberrant function of a sodium ion channel in a subject in need thereof; wherein Compound 1 is of the following structural formula:



, and

wherein Compound 1, or a pharmaceutically acceptable salt thereof, is at a dose of about 1 mg to about 150 mg.

2. The use of claim 1, wherein said condition relating to aberrant function of a sodium ion channel is a neurological disorder; optionally wherein said neurological disorder is a disorder associated with excessive neuronal excitability; further optionally wherein said neurological disorder is associated with one or more *de novo* gain-of-function or loss-of-function mutations in central nervous system sodium ion channel genes.

3. The use of claim 1 or 2, wherein the condition is epilepsy or an epilepsy syndrome; optionally wherein the condition is a genetic epilepsy or a genetic epilepsy syndrome or wherein the condition is a pediatric epilepsy or a pediatric epilepsy syndrome.

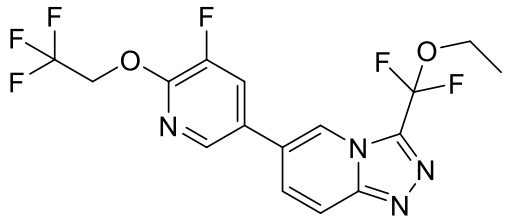
4. The use of any one of claims 1-3, wherein the condition is selected from the group consisting of malignant migrating focal seizures of infancy (MMFSI), epilepsy of infancy with migrating focal seizures (EIMFS), autosomal dominant nocturnal frontal lobe epilepsy (ADNFLE), West syndrome, infantile spasms, epileptic encephalopathy, focal epilepsy, Ohtahara syndrome, developmental and epileptic encephalopathy, Lennox-Gastaut syndrome, seizures, leukodystrophy, leukoencephalopathy, intellectual disability, multifocal epilepsy, drug-resistant epilepsy, temporal lobe epilepsy and cerebellar ataxia; optionally wherein the condition is epileptic encephalopathy, or wherein the condition is focal epilepsy, or wherein the seizures are generalized tonic clonic seizures or asymmetric tonic seizures.

5. The use of any one of claims 1-4, wherein the subject is a human.

6. The use of any one of claims 1-5, wherein the dose is about 5 mg to about 130 mg; optionally wherein the dose is about 5 mg, about 10 mg, about 15 mg, about 20 mg, about 25 mg, about 30 mg, about 35 mg, about 40 mg, about 45 mg, about 50 mg, about 55 mg, about 60 mg, about 65 mg, about 70 mg, about 75 mg, about 80 mg, about 85 mg, about 90 mg, about 95 mg, about 100 mg, about 105 mg, about 110 mg, about 115 mg, about 120 mg, about 125 mg or about 130 mg .

7. The use of any one of claims 1-6, wherein the treating results in a reduction in the severity, number and/or frequency of seizures experienced by the subject as compared to the severity, number and/or frequency of seizures experienced by the subject prior to administration of Compound 1; and/or the treating does not result in ataxia, lethargy and vomiting in the subject.

8. Use of Compound 1, or a pharmaceutically acceptable salt thereof, in the manufacture of a medicament for reducing severity, number and/or frequency of seizures in a subject in need thereof; wherein Compound 1 is of the following structural formula:



.

9. The use of claim 8, wherein the subject has a condition relating to aberrant function of a sodium ion channel; optionally wherein the condition relating to aberrant function of a sodium ion channel is a neurological disorder; further optionally wherein said neurological disorder is a disorder associated with excessive neuronal excitability; and/or wherein said neurological disorder is associated with one or more *de novo* gain-of-function or loss-of-function mutations in central nervous system sodium ion channel genes.

10. The use of claim 9, wherein the condition is epilepsy or an epilepsy syndrome; optionally wherein the condition is a genetic epilepsy or a genetic epilepsy syndrome; or wherein the condition is a pediatric epilepsy or a pediatric epilepsy syndrome.

11. The use of claim 9 or 10, wherein the condition is selected from the group consisting of malignant migrating focal seizures of infancy (MMFSI), epilepsy of infancy with migrating focal seizures (EIMFS), autosomal dominant nocturnal frontal lobe epilepsy

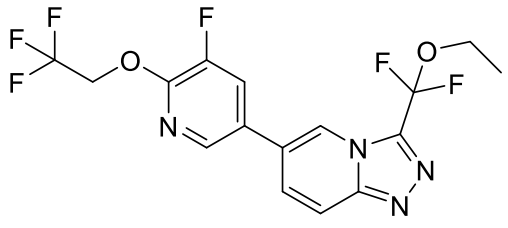
(ADNFLE), West syndrome, infantile spasms, epileptic encephalopathy, focal epilepsy, Ohtahara syndrome, developmental and epileptic encephalopathy, Lennox-Gastaut syndrome, seizures, leukodystrophy, leukoencephalopathy, intellectual disability, multifocal epilepsy, drug-resistant epilepsy, temporal lobe epilepsy and cerebellar ataxia; optionally wherein the condition is epileptic encephalopathy, or wherein the condition is focal epilepsy; or wherein the seizures are generalized tonic clonic seizures or asymmetric tonic seizures.

12. The use of any one of claims 9-11, wherein the subject is a human.

13. The use of any one of claims 9-12, wherein a dose of Compound 1 is about 1 mg to about 150 mg; optionally wherein the dose is about 1 mg, about 2 mg, about 3 mg, about 4 mg, about 5 mg, about 10 mg, about 15 mg, about 20 mg, about 25 mg, about 30 mg, about 35 mg, about 40 mg, about 45 mg, about 50 mg, about 55 mg, about 60 mg, about 65 mg, about 70 mg, about 75 mg, about 80 mg, about 85 mg, about 90 mg, about 95 mg, about 100 mg, about 105 mg, about 110 mg, about 115 mg, about 120 mg, about 125 mg, about 130 mg, about 135 mg, about 140 mg, about 145 mg or about 150 mg.

14. The use of any one of claims 9-13, wherein the treating does not result in ataxia, lethargy and vomiting in the subject.

15. Use of Compound 1, or a pharmaceutically acceptable salt thereof, in the manufacture of a medicament for preferentially inhibiting persistent sodium current (I_{Na}) over peak sodium current (I_{Na}) in a neuron, wherein said neuron is to be contacted with an effective amount of Compound 1 of the following structural formula:



16. The use of claim 15, wherein said neuron is in a subject.

17. The use of claim 16, wherein said subject has a condition relating to aberrant function of a sodium ion channel; optionally wherein said condition relating to aberrant function of a sodium ion channel is a neurological disorder; further optionally wherein said neurological disorder is a disorder associated with excessive neuronal excitability; and/or wherein said

neurological disorder is associated with one or more *de novo* gain-of-function or loss-of-function mutations in central nervous system sodium ion channel genes.

18. The use of claim 17, wherein the condition is epilepsy or an epilepsy syndrome; optionally wherein the condition is a genetic epilepsy or a genetic epilepsy syndrome or wherein the condition is a pediatric epilepsy or a pediatric epilepsy syndrome.

19. The use of claim 17 or 18, wherein the condition is selected from the group consisting of malignant migrating focal seizures of infancy (MMFSI), epilepsy of infancy with migrating focal seizures (EIMFS), autosomal dominant nocturnal frontal lobe epilepsy (ADNFLE), West syndrome, infantile spasms, epileptic encephalopathy, focal epilepsy, Ohtahara syndrome, developmental and epileptic encephalopathy, Lennox-Gastaut syndrome, seizures, leukodystrophy, leukoencephalopathy, intellectual disability, multifocal epilepsy, drug-resistant epilepsy, temporal lobe epilepsy and cerebellar ataxia; optionally wherein the condition is epileptic encephalopathy; or wherein the condition is focal epilepsy; or wherein the seizures are generalized tonic clonic seizures or asymmetric tonic seizures.

20. The use of any one of claims 16-20, wherein the subject is a human.