Claims:

1. A viral or recombinant adeno-associated virus (rAAV) vector comprising a polynucleotide sequence including a gene of interest; and an isolated enhancer polynucleotide sequence which contains at least one region of 100 bp or longer with at least 95%, or at least 98% or greater sequence identity to an isolated polynucleotide sequence of a human enhancer element E1 to E10 having a sequence as set forth in SEQ ID NOs: 15-24, respectively, wherein the isolated enhancer polynucleotide sequence specifically restricts the expression of the gene of interest in neuronal or interneuronal cells of the brain.

2. The viral or rAAV vector of claim 1, wherein the isolated enhancer polynucleotide sequence comprises a nucleotide sequence which contains at least one region of 100 bp or longer having at least 95% , or at least 98% or greater sequence identity to a polynucleotide sequence of isolated human enhancer element E2 having the sequence as set forth in SEQ ID NO: 16; or

the isolated enhancer polynucleotide sequence comprises a nucleotide sequence which contains at least one region of 100 bp or longer having at least 95% or at least 98% or greater sequence identity to a polynucleotide sequence of isolated human enhancer element E6 having the sequence as set forth in SEQ ID NO: 20 or of isolated human enhancer element E5 having the sequence as set forth in SEQ ID NO: 19.

3. A viral or recombinant adeno-associated virus (rAAV) vector comprising:

a polynucleotide sequence including a gene of interest; and

an isolated enhancer polynucleotide sequence of a human enhancer element E1 to E10 comprising a sequence having at least 95% or at least 98% or greater identity to the sequence as set forth in SEQ ID NOs: 15-24, respectively, wherein the isolated enhancer polynucleotide sequence specifically restricts the expression of the gene of interest in neuronal or interneuronal cells of the brain.

4. The viral or rAAV vector of claim 3, wherein the isolated enhancer polynucleotide sequence comprises a nucleotide sequence having at least 95%, or at least 98% or greater sequence identity to a polynucleotide sequence of isolated human enhancer element E2 having the sequence as set forth in SEQ ID NO: 16; or

the isolated enhancer polynucleotide sequence comprises a nucleotide sequence having at least 95% or at least 98% or greater sequence identity to a polynucleotide sequence of isolated

human enhancer element E6 having the sequence as set forth in SEQ ID NO: 20 or of isolated human enhancer element E5 having the sequence as set forth in SEQ ID NO: 19.

5. The viral or rAAV vector of any one of claims 1-4, wherein the isolated enhancer polynucleotide sequence comprises the polynucleotide sequence of isolated human enhancer element E6 having the sequence as set forth in SEQ ID NO: 20 or of the polynucleotide sequence of isolated human enhancer element E5 having the sequence as set forth in SEQ ID NO: 19.

6. The viral or rAAV vector of any one of claims 1-5, wherein the isolated enhancer is E2 having the polynucleotide sequence set forth in SEQ ID NO: 16, which restricts expression of the gene of interest in parvalbumin (PV)-expressing cortical interneuron cells of the brain; or

the isolated enhancer is E6 having the polynucleotide sequence set forth in SEQ ID NO: 20, which restricts the expression of the gene of interest in vaso-intestinal peptide-expressing cortical interneuron cells (VIP cINs) of the brain; or

the isolated enhancer is E5 having the polynucleotide sequence set forth in SEQ ID NO: 19, which restricts expression of the gene of interest in pyramidal (PYR) neurons of the brain.

7. The viral or rAAV vector of any one of claims 1-6, wherein the gene of interest is an *SCN1A* gene and the isolated enhancer polynucleotide sequence specifically restricts expression of the *SCN1A* gene in interneuronal cells of the brain.

8. The viral or rAAV vector of any one of claims 1-7, wherein the gene of interest is an *SCN1A* gene, a reporter gene, a Designer receptor exclusively activated by designer drug (DREADD)-encoding gene, a pharmacologically selective actuator molecule (PSAM)-encoding therapeutic gene, an effector gene, or a therapeutic gene.

9. The viral or rAAV vector of claim 8, wherein the DREADD-encoding gene is a Gq-DREADD-encoding gene that is activated by the chemogen clozapine-N4-oxide (CNO).

10. The viral or rAAV vector of any one of claims 1-9, wherein the interneuron cells are GABAergic interneuron cells;

the interneuron cells are GABAergic interneuron cells within the brain telencephalon;

the interneuron cells are GABAergic interneuron cells which express parvalbumin (PV) or vaso-intestinal peptide (VIP); or

the neuron cells are pyramidal (PYR) neurons of the brain cortex.

11. The viral vector of any one of claims 7-10, wherein the vector delivers the *SCN1A* gene to *SCN1A*-expressing GABAergic interneuron cells in the brain, and wherein the *SCN1A* gene is functionally expressed, thereby restoring normal levels of *SCN1A* in the interneuron cells following administration of the vector to a subject;
wherein the subject is a human patient or
wherein the subject is an infant suffering from Dravet syndrome (DS).

12. A viral particle or virus-like particle comprising the viral vector of any one of claims 1-11.

13. A cell comprising the viral vector of any one of claims 1-11 or the viral particle or virus-like particle of claim 12.

14. A pharmaceutical composition comprising the viral vector of any one of claims 1-11, or the viral particle or virus-like particle of claim 12, and a pharmaceutically acceptable vehicle, carrier, or diluent.

15. Use of the viral vector of any one of claims 1-11, a viral particle, a virus-like particle, or a pharmaceutical composition thereof, in the manufacture of a medicament for treating Dravet syndrome (DS), or for inhibiting or preventing adult or infantile seizures and/or epilepsy, wherein a subject in need thereof is to be administered an effective amount of the viral vector the viral particle, the virus-like particle, or the pharmaceutical composition thereof, to restore normal levels of *SCN1A* expression in GABAergic interneuron cells or neuron cells of said subject.

16. The use of claim 15, wherein the enhancer polynucleotide sequence in the vector comprises an isolated polynucleotide sequence of a human enhancer element E1 to E10 having a sequence as set forth in SEQ ID NOs: 15-24, respectively;

wherein the enhancer polynucleotide sequence in the vector comprises an isolated polynucleotide sequence of a human enhancer element E2 having a sequence as set forth in SEQ ID NO: 16;

wherein the enhancer polynucleotide sequence is the isolated human enhancer element E2 having a sequence as set forth in SEQ ID NO: 16;

wherein the enhancer polynucleotide sequence in the vector comprises an isolated polynucleotide sequence of a human enhancer element E6 having a sequence as set forth in SEQ

ID NO: 20 or to an isolated polynucleotide sequence of a human enhancer element E5 having a sequence as set forth in SEQ ID NO: 19; or

wherein the enhancer polynucleotide sequence is the isolated human enhancer element E6 having a sequence as set forth in SEQ ID NO: 20 or the human enhancer element E5 having a sequence as set forth in SEQ ID NO: 19.

17. Use of a recombinant adeno-associated virus (rAAV) vector comprising an *SCN1A* transgene polynucleotide sequence and an enhancer polynucleotide sequence that specifically restricts expression of a Nav 1.1 sodium channel encoded by an *SCN1A* transgene in interneuron cells or neuron cells of the cerebral cortex, in the manufacture of a medicament for delivering a transgene for inhibiting or preventing seizures and/or epilepsy in a subject, wherein the cells of the subject are to be contacted with the rAAV vector, which is expressed in the cells, thereby inhibiting or preventing seizures and/or epilepsy in the subject;wherein the interneuron cells are selected from PV-expressing cortical interneurons (PV-cINs), dis-inhibitory cortical interneurons expressing the vaso-intestinal peptide (VIP cINs), or pyramidal neurons; and wherein the enhancer polynucleotide sequence in the vector comprises at least one region of 100 bp or longer having at least 95% or at least 98% or greater sequence identity to a polynucleotide sequence of isolated human enhancer element E1, E2, E3, E4, E5, E6, E7, E8, E9, or E10 having the sequence as set forth in SEQ ID NOs: 15-24, respectively; or

wherein the enhancer polynucleotide sequence in the vector has at least 95% or at least 98% or greater sequence identity to a polynucleotide sequence of isolated human enhancer element E1, E2, E3, E4, E5, E6, E7, E8, E9, or E10 having the sequence as set forth in SEQ ID NOs: 15-24, respectively; or

wherein the enhancer polynucleotide sequence in the rAAV vector comprises at least one region of 100 bp or longer having at least 95% or at least 98% or greater sequence identity to a polynucleotide sequence of isolated human enhancer element E2 having the sequence as set forth in SEQ ID NO: 16, to a polynucleotide sequence of isolated human enhancer element E6 having the sequence as set forth in SEQ ID NO: 20, or to a polynucleotide sequence of isolated human enhancer element E5 having the sequence as set forth in SEQ ID NO: 19; or

wherein the enhancer polynucleotide sequence in the rAAV vector has at least 95% or at least 98% or greater sequence identity to a polynucleotide sequence of isolated human enhancer element E2 having the sequence as set forth in SEQ ID NO: 16, to a polynucleotide sequence of isolated human enhancer element E6 having the sequence as set forth in SEQ ID NO: 20, or to a

polynucleotide sequence of isolated human enhancer element E5 having the sequence as set forth in SEQ ID NO: 19; or

wherein the enhancer polynucleotide sequence in the rAAV vector is selected from isolated human enhancer elements E1, E2, E3, E4, E5, E6, E7, E8, E9, or E10 having a sequence as set forth in SEQ ID NOs: 15-24, respectively; or

wherein the enhancer polynucleotide sequence is the isolated human enhancer element E2 polynucleotide sequence of SEQ ID NO: 16, the isolated human enhancer element E6 polynucleotide sequence of SEQ ID NO: 20, or the isolated human enhancer element E5 polynucleotide sequence of SEQ ID NO: 19.

18. A viral vector, or a viral particle or virus-like particle comprising the viral vector, comprising an isolated enhancer polynucleotide sequence selected from SEQ ID NOs: 15-24, , wherein the vector specifically targets neuronal cells expressing *SCN1A*; and
wherein the neuronal cells are parvalbumin cortical interneurons (PV cINs), pyramidal (PYR) neurons, or vaso-intestinal peptide cortical interneurons (VIP cIN).

19. A viral vector, or a viral particle or virus-like particle comprising the viral vector, comprising:

(i) an isolated enhancer polynucleotide sequence selected from SEQ ID NOs: 25-27, wherein the vector specifically targets cells expressing *Pvalb*;

(ii) an isolated enhancer polynucleotide sequence selected from SEQ ID NOs: 28-31, wherein the vector specifically targets cells expressing *Acan*;

(iii) an isolated enhancer polynucleotide sequence selected from SEQ ID NOs: 32-39, wherein the vector specifically targets cells expressing *Tmem132c*;

(iv) an isolated enhancer polynucleotide sequence selected from SEQ ID NO: 40 or SEQ ID NO: 41, wherein the vector specifically targets cells expressing *Lrrc38*;

(v) an isolated enhancer polynucleotide sequence selected from SEQ ID NO: 42 or SEQ ID NO: 43, wherein the vector specifically targets cells expressing *Inpp5j*;

(vi) an isolated enhancer polynucleotide sequence selected from SEQ ID NOs: 44-47, wherein the vector specifically targets cells expressing *Mef2c*;

(vii) an isolated enhancer polynucleotide sequence selected from SEQ ID NO: 48 or SEQ ID NO: 49, wherein the vector specifically targets cells expressing *Pthlh*; or

(viii) an isolated enhancer polynucleotide sequence selected from SEQ ID NOS: 15-49, wherein the vector specifically targets cells PV-expressing cells.

is a recombinant adeno-associated virus (rAAV) vector.

20. A delivery vector comprising at least one enhancer element polynucleotide comprising a sequence as set forth in any one of SEQ ID NOs: 15-49 and a transgene polynucleotide for use in a method of restricting expression of the transgene in a neuronal or interneuronal cell, wherein the delivery vector is to be administered to a subject and wherein the transgene is specifically expressed in the neuronal or interneuronal cell.

21. The delivery vector for the use of claim 20, wherein the transgene is *SCN1A*;
wherein the neuronal cell is a cortical interneuron expressing parvalbumin (PV cIN); a cortical interneuron expressing parvalbumin (PV cIN), a cortical interneuron expressing the vaso-intestinal peptide (VIP cIN), or a pyramidal (PYR) cell;
wherein the enhancer element polynucleotide comprises a sequence set forth in SEQ ID NOS: 15-18 or SEQ ID NOS: 21-24;
wherein the enhancer element polynucleotide comprises the sequence set forth in SEQ ID NO: 19;
wherein the enhancer element polynucleotide comprises the sequence set forth in SEQ ID NO: 20; and/or
wherein the delivery vector is to be administered to the brain locally or systemically.

22. The delivery vector of claim 20 or 21, wherein the delivery vector is a lentiviral vector or recombinant adeno-associated virus (rAAV).

23. A cell comprising the viral vector, viral particle or virus-like particle of claim 18 or 19, or the delivery vector of any one of claims 20-22.

24. A pharmaceutical composition comprising the viral vector, viral particle or virus-like particle of claim 18 or 19, or the delivery vector of any one of claims 20-22, and a pharmaceutically acceptable vehicle, carrier, or diluent.

25. An isolated enhancer element comprising a polynucleotide sequence having at least 95% or at least 98% identity to a polynucleotide sequence set forth in any one of SEQ ID NOs: 5-49, wherein the enhancer element regulates or restricts expression of a gene or transgene in a neuronal or interneuronal cell type or population.

26. An isolated enhancer element comprising a polynucleotide sequence comprising or consisting of a polynucleotide sequence set forth in any one of SEQ ID NOs: 15-49, wherein the

enhancer element regulates or restricts expression of a gene or transgene in a neuronal or interneuronal cell type or population.

27. The isolated enhancer element of claim 25 or 26, wherein the neuronal or interneuronal cell type or population is a cortical interneuron expressing parvalbumin (PV cIN); a cortical interneuron expressing parvalbumin (PV cIN), a cortical interneuron expressing the vaso-intestinal peptide (VIP cIN), or a pyramidal (PYR) cell.