CLAIM(S):

1. A rhesus macaque adeno-associated virus (AAV) vector comprising a promoter operably linked to a nucleic acid sequence that encodes human aldehyde dehydrogenase, wherein the AAV vector is AAV serotype rh.10 vector, and the vector further comprises a nucleic acid sequence encoding a mitochondrial localization sequence operably linked to the nucleic acid sequence that encodes human aldehyde dehydrogenase sequence.

2. The vector of claim 1, wherein the promoter is a constitutively active promoter.

3. The vector of claim 2, wherein the constitutively active promoter is a chicken beta-actin promoter.

4. The vector of claim 1, wherein the human aldehyde dehydrogenase is human aldehyde dehydrogenase 2 (ALDH2).

5. The vector of claim 1, wherein the vector encodes SEQ ID NO: 1.

6. The vector of claim 1, wherein the vector encodes SEQ ID NO: 3.

7. A composition comprising the vector of any one of claims 1-6 and a pharmaceutically acceptable carrier.

8. A composition comprising the vector of any one of claims 1-6 for use in the treatment of aldehyde dehydrogenase deficiency in a mammal, or the treatment or prevention of a disease characterized by aldehyde dehydrogenase deficiency or any symptom thereof in a mammal.

9. Use of the vector of any of claims 1-6, in the preparation of a medicament for the treatment of aldehyde dehydrogenase deficiency in a mammal, or the treatment or prevention of a disease characterized by aldehyde dehydrogenase deficiency or any symptom thereof in a mammal.

10. The use of claim 9, wherein the mammal is a human.

11. The use of claim 9, wherein the mammal is heterozygous or homozygous for an ALDH2*2 allele.

12. The use of claim 9, wherein the disease characterized by a deficiency in aldehyde dehydrogenase is selected from the group consisting of ethanol toxicity, upper respiratory/digestive tract cancer, osteoporosis, squamous cell carcinoma, fanconi anemia, Parkinson's disease, Alzheimer's disease, stroke, hypertension, cardiac arrhythmia, myocardial infarction, and nitroglycerin intolerance.

13. The use of claim 9, wherein the medicament is to be administered to the mammal not more than once within 30 days.

14. The use of claim 9, wherein the medicament is to be administered by intraoral, intramuscular, transdermal, intravenous, intraarterial, subcutaneous, intradermal, or intraperitoneal administration.

15. The use of claim 9, wherein the medicament is to be administered to the mammal whose residue 487 of ALDH2 protein in the mammal is not glutamic acid.

16. The method of claim 9, wherein the medicament is to be administered to the mammal whose amino acid at residue 487 is lysine.

17. The vector of claim 1, wherein the promoter is a cell type specific promoter or an inducible promoter.