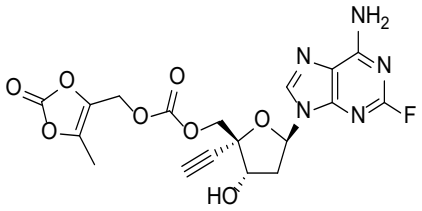
CLAIMS

1. An adenosine derivative of formula (4-A):



(formula (4-A),

or a pharmaceutically acceptable salt thereof.

2. A pharmaceutical composition comprising an adenosine derivative of claim 1, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

3. The pharmaceutical composition of claim 2, wherein the pharmaceutical composition is suitable for oral administration.

4. The pharmaceutical composition of claim 2 or 3, wherein the pharmaceutical composition is a liquid dosage form.

5. The pharmaceutical composition of claim 4, wherein the liquid dosage form is a solution, an emulsion or a liquid suspension.

6. The pharmaceutical composition of claim 2 or 3, wherein the pharmaceutical composition is a solid dosage form.

7. The pharmaceutical composition of claim 6, wherein the solid dosage form is a tablet, capsule, granule, powder, sachet, reconstitutable powder, inhalable dry powder, or chewable.

8. Use of an adenosine derivative of claim 1 or a pharmaceutical composition of any one of claims 2-7 in the manufacture of a medicament for treating HIV infection in a subject.

9. Use of an adenosine derivative of claim 1 or a pharmaceutical composition of any one of claims 2-7 in the manufacture of a medicament for preventing HIV infection in a subject.

10. The use of claim 8 or 9, wherein the HIV infection is caused by wild-type HIV-1, NRTI-resistant HIV-1, HIV-2, HIV having M184V mutations, HIV having K65R, or multidrug resistant HIV.

11. The use of any one of claims 8-10, wherein the adenosine derivative or pharmaceutical composition is to be administered orally to the subject.

12. The use of claim 11, wherein the administration of the adenosine derivative or the pharmaceutical composition to the subject results in a higher plasma concentration of 4'-ethynyl-2fluoro-2'-deoxyadenosine (EFdA) when compared to administration of a dose-equivalent EFdA under the same condition.

13. The use of claim 12, wherein the administration of the adenosine derivative or pharmaceutical composition to the subject results in at least a 10%, 20%, 30%, 40%, or 50% higher plasma concentration of EFdA when compared to administration of a dose-equivalent EFdA under the same condition.

14. The use of any one of claims 11-13, wherein the administration of the adenosine derivative or pharmaceutical composition to the subject results in a prolonged release of EFdA when compared to administration of a dose-equivalent EFdA under the same condition.

15. The use of any one of claims 11-14, wherein the administration of the adenosine derivative or pharmaceutical composition to the subject results in a higher AUC of EFdA when compared to administration of a dose-equivalent EFdA under the same condition.

16. The use of claim 15, wherein the administration of the pharmaceutical composition results in at least 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, or 100% higher AUC of EFdA when compared to administration of a dose-equivalent EFdA under the same condition.

17. The use of any one of claims 11-16, wherein the administration of the adenosine derivative or pharmaceutical composition to the subject results in a higher C_{max} of EFdA when compared to administration of a dose-equivalent EFdA under the same condition.

18. The use of claim 17, wherein the administration of the adenosine derivative or pharmaceutical composition to the subject results in at least a 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, or 90% higher C_{max} of EFdA when compared to administration of a dose-equivalent EFdA under the same condition.

19. The adenosine derivative of claim 1 or a pharmaceutical composition of any one of claims 2-7 for use as a medicament.