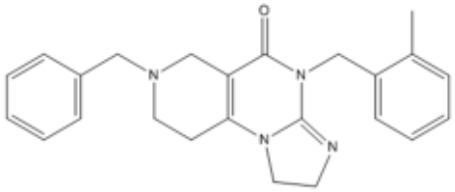
CLAIMS

What is claimed is:

1. Use of a pharmaceutical composition comprising a therapeutically effective amount compound (**1**)



(**1**)

or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for treating or preventing cancer in a subject in need thereof, wherein the cancer ~~involves a~~ is a midline glioma having ~~structure of the brain and has a~~ histone H3 K27M mutation.

2. The use according to claim **1**, wherein the midline glioma is selected from the group consisting of a diffuse intrinsic pontine glioma, a diffuse midline glioma, a spinal cord glioma, a thalamic glioma, a brainstem glioma, and a cerebellar glioma~~cancer involves the thalamus, medulla, hypothalamus, basal ganglia, pineal gland, midbrain, cerebellum, pons, or spinal cord~~.

3. The use according to claim **1**, wherein the midline glioma is not a spinal cord tumor.

~~3~~4. The use according to claim **1**, wherein the histone H3 K27M mutation ~~is~~ in the midline glioma is H3.3 K27M or H3.1 K27M.

~~4~~5. The use according to claim **1**, wherein the histone H3 K27M mutation in the midline glioma is in one or more histone genes selected from *H3F3A, H3F3B, HIST1H3A, HIST1H3B, HIST1H3C, HIST1H3D, HIST1H3E, HIST1H3F, HIST1H3G, HIST1H3H, HIST1H3I,* or *HIST1H3J*.

~~5~~6. The use according to claim **1**, wherein in cancerous tissue DRD2 is overexpressed, DRD5 is underexpressed, or both.

~~6~~7. The use according to claim **1**, wherein the subject is a human.

~~7~~8. The use according to claim **1**, wherein the subject is a domesticated pet.

~~8~~9. The use according to claim **1**, wherein the subject is a pediatric subject.

10. The use according to claim **1**, wherein the pharmaceutically acceptable salt is a di-hydrochloride salt.

~~9. Use of a pharmaceutical composition comprising a therapeutically effective amount a compound of formula (**10**) or an analog thereof, or a pharmaceutically acceptable salt thereof~~

in the manufacture of a medicament for treating or preventing cancer in a subject in need thereof, wherein the cancer has a histone H3 mutation.

10. The use according to claim **9**, wherein the cancer is selected from the group consisting of a central nervous system tumor, a brain tumor, a peripheral nervous system tumor, a pheochromocytoma, a paraganglioma, an adrenal cortical carcinoma, an adrenal tumor, and a neuroendocrine tumor.

11. The use according to claim **9**, wherein the cancer comes from glial cells and is selected from the group consisting of meningioma, ependymoma, oligodendrogliomas, astrocytoma, optic nerve glioma, pineal tumors, rhabdoid tumors, and diffuse intrinsic pontine glioma; or wherein the cancer comes from neural cells and is selected from the group consisting of medulloblastoma, neuroblastoma, ganglioma, primitive neuro-ectodermal tumors, and schwannoma.

12. The use according to claim **9**, wherein the cancer involves the thalamus, medulla, hypothalamus, basal ganglia, pineal gland, midbrain, cerebellum, pons, or spinal cord.

13. The use according to claim **9**, wherein the histone H3 mutation is H3.3 K27M or H3.1 K27M.

14. The use according to claim **9**, wherein the cancer has a K27M mutation in one or more histone genes selected from *H3F3A*, *H3F3B*, *HIST1H3A*, *HIST1H3B*, *HIST1H3C*, *HIST1H3D*, *HIST1H3E*, *HIST1H3F*, *HIST1H3G*, *HIST1H3H*, *HIST1H3I*, or *HIST1H3J*.

15. The use according to claim **9**, wherein DRD2 is overexpressed in cancerous tissue, DRD5 is underexpressed, or both.

16. The use according to claim **9**, wherein the subject is a human.

17. The use according to claim **9**, wherein the subject is a domesticated pet.

18. The use according to claim **9**, wherein the compound is ONC201.

19. The use according to claim **9**, wherein the subject is a pediatric subject.

20. Use of a pharmaceutical composition comprising a therapeutically effective amount a compound of formula (**10**) or an analog thereof, or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for treating or preventing cancer in a subject in need thereof, wherein the cancer involves a midline structure of the brain.

21. The use according to claim **20**, wherein the cancer involves the thalamus, medulla, hypothalamus, basal ganglia, pineal gland, midbrain, cerebellum, pons, or spinal cord.

22. The use according to claim **20**, wherein the cancer has a histone H3 mutation, wherein the histone H3 mutation is H3.3 K27M or H3.1 K27M.

~~23. The use according to claim **20**, wherein the cancer has a histone H3 K27M mutation in one or more histone genes selected from *H3F3A*, *H3F3B*, *HIST1H3A*, *HIST1H3B*, *HIST1H3C*, *HIST1H3D*, *HIST1H3E*, *HIST1H3F*, *HIST1H3G*, *HIST1H3H*, *HIST1H3I*, or *HIST1H3J*.~~

~~24. The use according to claim **20**, wherein DRD2 is overexpressed in cancerous tissue, DRD5 is underexpressed, or both.~~

~~25. The use according to claim **20**, wherein the subject is a human.~~

~~26. The use according to claim **20**, wherein the subject is a domesticated pet.~~

~~27. The use according to claim **20**, wherein the compound is ONC201.~~

~~28. The use according to claim **20**, wherein the subject is a pediatric subject.~~