

WHAT IS CLAIMED IS:

1. Use of an adenosine signaling inhibitor in the manufacture of a medicament for treating an elevated adenosine cancer in a subject, wherein:

the subject is to be diagnosed with an elevated adenosine cancer when, in a sample from the subject, a measure ρ of the relative expression levels of an ACPD TM variant to the expression level of one or more ACPD non-TM variant(s) exceeds a predetermined cutoff value; and

an effective amount of the adenosine signaling inhibitor is to be administered to the diagnosed subject.

2. The use of claim 1, wherein the cancer is prostate cancer, lung cancer, bladder cancer, or other cancer.

3. The use of any one of claims 1 to 2, wherein the predetermined cutoff value of ρ is the median, mean, top quartile, top quintile, top decile, or other statistical measure, of ρ in a selected group of reference samples.

4. The use of any one of claims 1 to 3, wherein ρ is the $\log_2$ of the ratio of the expression level of ACPD variant 2 to the expression level of ACPD variant 1, 3, 4, 5, 6, 7, 8, 9, or the total expression level of a combination thereof.

5. The use of any one of claims 1 to 3, wherein ρ is the $\log_2$ of the ratio of the expression level of ACPD variant 2 to the expression level of ACPD variant 1.

6. The use of any one of claims 1 to 3, wherein ρ is the $\log_2$ of the ratio of the expression level of ACPD variant 2 to the expression level of ACPD variant 3.

7. The use of any one of claims 1 to 3, wherein ρ is the $\log_2$ of the ratio of the expression level of ACPD variant 2 to the total expression level of ACPD variants 1 and 3.

8. The use of any one of claims 1 to 3, wherein p is the $\log_2$ of the ratio of the expression level of ACP variant 2 to the total expression level of ACP variants 1, 3, 4, 5, 6, 7, 8, and 9.

9. The use of any one of claims 1 to 8, wherein the adenosine signaling inhibitor includes a CD39 inhibitor, a CD73 inhibitor, a PAP inhibitor, an adenosine receptor antagonist, or a combination thereof.

10. The use of claim 9, wherein the CD73 inhibitor is MEDI9447 or AB680.

11. The use of any one of claims 9 to 10, wherein the adenosine receptor antagonist is an antagonist of A2aR and/or A2bR.

12. The use of any one of claims 9 to 11, wherein the adenosine receptor antagonist is AZD4635, CPI-444, PBF-509, PBF-1129, or preladenant.

13. The use of any one of claims 9 to 13, wherein the adenosine signaling inhibitor includes a CD73 inhibitor and an adenosine receptor antagonist.

14. The use of claim 13, wherein the CD73 inhibitor is MEDI9447 and the adenosine receptor antagonist is AZD4635.

15. The use of any one of claims 1 to 14, wherein the sample is a tumor sample, a circulating tumor DNA (ctDNA) sample, a plasma RNA sample, or an exosome sample.

16. An adenosine signaling inhibitor for use in the treatment of an elevated adenosine cancer in a subject in need thereof, wherein: in a sample from the subject, a measure p of the relative expression levels of an ACP TM variant to the expression level of one or more ACP non-TM variant(s) exceeds a predetermined cutoff value.