

Claims

What is claimed is:

1. A method for treating breast cancer comprising administering to a patient in need thereof a BET bromodomain inhibitor selected from 1-benzyl-6-(3,5-dimethylisoxazol-4-yl)-N-methyl-1H-imidazo[4,5-b]pyridin-2-amine (Compound I), 1-benzyl-6-(3,5-dimethylisoxazol-4-yl)-1H-imidazo[4,5-b]pyridin-2-amine, and pharmaceutically acceptable salts/co-crystals thereof, with a second therapeutic agent.
2. The method of claim 1, wherein the BET bromodomain inhibitor is Compound I.
3. The method of claim 1 or claim 2, wherein the BET bromodomain inhibitor is the mesylate salt/co-crystal of Compound I Form I.
4. The method according to any one of claims 1-3, wherein the second therapeutic agent is a PARP inhibitor.
5. The method according to claim 4, further comprising administration of a checkpoint inhibitor
6. The method according to any one of claims 1-3, wherein the second therapeutic agent is talazoparib.
7. The method according to any one of claims 1-6, wherein the breast cancer is triple-negative breast cancer (TNBC).
8. The method according to any one of claims 1-7, wherein the subject previously has been treated with a breast cancer therapy.
9. The method according to any one of claims 8, wherein the breast cancer therapy is chemotherapy.
10. The method according to any one of claims 8, wherein the breast cancer therapy is immunotherapy.

11. The method according to any one of claims 1-10, wherein the subject previously has shown disease progression on treatment with a PARP inhibitor.
12. The method according to any one of claims 1-11, wherein the subject is a human.
13. The method according to any one of claims 1-12, wherein the subject with breast cancer has one or both germline mutations BRCA1 and BRCA2.
14. The method according to any one of claims 1-12, wherein the subject with breast cancer has one or both germline mutations BRCA1 and BRCA2.
15. The method according to any one of claims 1-12, wherein the subject with breast cancer does not carry germline mutations BRCA1 or BRCA2.
16. The method according to any one of claims 1-12, wherein the subject with breast cancer has somatic mutations to BRCA1 and BRCA2.
17. The method according to any one of claims 1-12, wherein the subject with breast cancer has somatic mutations to either BRCA1 or BRCA2.
18. The method according to any one of claims 1-12, wherein the subject with breast cancer has one or more somatic mutations to homologous recombination (HR) genes, including ATM, CHEK2, NBN, PALB2, ATR, RAD51, RAD54, DSS1, RPA1, CHK1, FANCD2, FANCA, FANCC, FANCM, BARD1, RAD51C, RAD51D, RIF1, and BRIP1..
19. The method according to any one of claims 1-12, wherein the subject with breast cancer has one or more germline mutations to homologous recombination (HR) genes, including ATM, CHEK2, NBN, PALB2, ATR, RAD51, RAD54, DSS1, RPA1, CHK1, FANCD2, FANCA, FANCC, FANCM, BARD1, RAD51C, RAD51D, RIF1, and BRIP1..
20. The method according to any one of claims 1-12, wherein the subject has a tumor characterized as homologous recombination (HR)-proficient.
21. The method according to any one of claims 1-12, wherein the subject has a tumor characterized as homologous recombination deficient (HRD).

22. The method according to claim 1, wherein a compound selected from 1-benzyl-6-(3,5-dimethylisoxazol-4-yl)-N-methyl-1H-imidazo[4,5-b]pyridin-2-amine (Compound I) and 1-benzyl-6-(3,5-dimethylisoxazol-4-yl)-1H-imidazo[4,5-b]pyridin-2-amine and pharmaceutically acceptable salts or co-crystals thereof, is dosed with a PARP inhibitor without resulting in thrombocytopenia as a dose-limiting toxicity.
23. The method according to claim 22, wherein the PARP inhibitor is talazoparib.