

Claims

What is claimed is:

1. A method for treating prostate cancer comprising administering to a subject 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 to 3, wherein the second therapeutic agent is an androgen receptor antagonist.
5. The method according to any one of claims 1 to 3, wherein the second therapeutic agent is an androgen synthesis inhibitor.
6. The method according to any one of claims 1 to 3, wherein the second therapeutic agent is enzalutamide.
7. The method according to any one of claims 1 to 3, wherein the second therapeutic agent is apalutamide.
8. The method according to any one of claims 1 to 3, wherein the second therapeutic agent is abiraterone.
9. The method according to any one of claims 1 to 7, wherein the prostate cancer is castration-resistant prostate cancer or metastatic castration-resistant prostate cancer.
10. The method according to any one of claims 1 to 8, wherein the subject previously has been treated with a prostate cancer therapy.

11. The method according to claim 8, wherein the prostate cancer therapy is an androgen-deprivation therapy.
12. The method according to any one of claims 1 to 9, wherein the subject previously has shown disease progression on androgen-deprivation therapy.
13. The method according to any one of claims 1 to 10, wherein the subject has not previously been treated with androgen-deprivation therapy.
14. A method according to claim 11 or claim 12, wherein the androgen-deprivation therapy is enzalutamide, apalutamide, or abiraterone.
15. 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 androgen deprivation therapy without resulting in thrombocytopenia as a dose-limiting toxicity.
16. The method of claim 15, wherein the androgen-deprivation therapy is enzalutamide, apalutamide, darolutamide, or abiraterone.
17. The method according to any of claims 1-9, wherein the subject has an activation of the ETS transcription factor family, either through activating mutations and/or translocations, including TMPRSS2-ERG, SLC45A3-ERG, NDRG1-ERG, DUX4-ERG, ELF4-ERG, ELK4-ERG, BZW2-ERG, CIDEC-ERG, DYRK1A-ERG, EWSR1-ERG, FUS-ERG, GMPR-ERG, HERPUD1-ERG, KCNJ6-ERG, ZNRF3-ERG, ETS2-ERG, ETV1-ERG, HNRNPH1-ERG, PAK1-ERG, PRKAB2-ERG, SMG6-ERG, SLC45A3-FLI1, TMPRSS2-ETV1, SLC45A3-ETV1, FOXP1-ETV1, EST14-ETV1, HERV17-ETV1, ERVK-24-ETV1, C15ORF21-ETV1, HNRPA2B1-ETV1, ACSL3-ETV1, OR51E2-ETV1, ETV1 S100R, RBM25-ETV1, ACP-ETV1, BMP1B-ETV1, CANT1-ETV1, ERO1A-ETV1, CPED1-ETV1, HMGN2P46-ETV1, HNRNPA2B1-ETV1, SMG6-ETV1, FUBP1-ETV1, KLK2-ETV1, MIPOL1-ETV1, SLC30A4-ETV1, EWSR1-ETV1, TMPRSS2-ETV4, KLK2-ETV4, CANT1-ETV4, DDX5-ETV4, UBT-ETV4,

ETV4, DHX8-ETV4, CCL16-ETV4, EDIL3-ETV4, EWSR1-ETV4, SLC45A3-ETV4, UBTF-ETV4, XPO7-ETV4, TMPRSS2-ETV5, SLC45A3-ETV5, ACTN4-ETV5, EPG5-ETV5, LOC284889-ETV5, RNF213-ETV5, SLC45A3-ELK4.

18. The method according to any of claims 1-9, wherein the subject has a spike in PSA either at 4 weeks or 8 weeks of treatment.