CLAIMS:

1. Use of 20 mg/kg of MEDI4736, or an antigen binding fragment thereof, in combination with 1 mg/kg tremelimumab, or an antigen-binding fragment thereof, in the manufacture of a medicament in the treatment of non-small cell lung cancer (NSCLC) in a human patient, wherein the MEDI4736, or an antigen-binding fragment thereof, and the tremelimumab, or an antigen-binding fragment thereof, is to be administered to the patient.

2. The use of claim 1, wherein the MEDI4736 is to be administered every 4 weeks.

3. The use of claim 1 or 2, wherein the tumor response can be detected by week 2, 4, 6, 8, 10, 33 or 50.

4. Use of MEDI4736, or an antigen binding fragment thereof, in combination with tremelimumab, or an antigen-binding fragment thereof, in the manufacture of a medicament in the treatment of NSCLC in a human patient, wherein the MEDI4736, or an antigen-binding fragment thereof, and the tremelimumab, or an antigen-binding fragment thereof, is to be administered to the patient to increase progression-free survival.

5. The use of claim 4, wherein the progression-free survival is increased as compared to either the MEDI4736 or an antigen-binding fragment thereof or the tremelimumab or an antigen-binding fragment thereof is to be administered alone.

6. The use of any one of claims 1-5, wherein the NSCLC is refractory to at least one chemotherapeutic agent.

7. The use of claim 6, wherein the chemotherapeutic agent is Vemurafenib, Erlotinib, Afatinib, Cetuximab, Carboplatin, Bevacizumab, Erlotinib, Gefitinib, or Pemetrexed.

8. The use of any one of claims 1-7, wherein the patient has an Eastern Cooperative Oncology Group (ECOG) performance status of 0-1.

9. The use of any one of claims 1-8, wherein the patient is immunotherapy-naïve prior to the administration of MEDI4736 or antigen-binding fragment thereof and tremelimumab or antigen-binding fragment thereof.

10. The use of any one of claims 1-9, wherein the MEDI4736 or an antigen-binding fragment thereof is to be administered by intravenous infusion.

11. The use of any one of claims 1-10, wherein the tremelimumab or an antigen-binding fragment thereof is to be administered by intravenous infusion.

12. The use of any one of claims 1-11, wherein the medicament is to be administered to reduce tumor size by at least about 10%, 25% or 50%.

13. The use of any one of claims 1-12, wherein the human patient has locally advanced unresectable or metastatic NSCLC.

14. The use of any one of claims 1-13, wherein the NSCLC is squamous or non-squamous.

15. The use of any one of claims 1-14, wherein the NSCLC comprises a KRAS-mutation or an EGFR-mutation.

16. The use of any one of claims 1-15, wherein the NSCLC is PD-L1 positive.

17. The use of any one of claims 1-15, wherein the NSCLC is PD-L1 negative.

18. The use of any one of claims 1-17, wherein the MEDI4736 or antigen-binding fragment thereof is to be administered every 2 weeks.

19. The use of any one of claims 1-18, wherein the MEDI4736 is to be administered every 4 weeks for 49 weeks.