WHAT IS CLAIMED IS:

1. A method of treating cancer in a human patient comprising administering about 400 mg of an anti-PD-1 antibody, or antigen binding fragment thereof, to the patient every approximately six weeks, wherein the anti-PD-1 antibody or antigen-binding fragment thereof comprises:

(a) light chain complementarity determining regions (CDRs) comprising a sequence of amino acids as set forth in SEQ ID NOs: 1, 2 and 3 and heavy chain CDRs comprising a sequence of amino acids as set forth in SEQ ID NOs: 6, 7 and 8; or

(b) light chain CDRs comprising a sequence of amino acids as set forth in SEQ ID NOs: 11, 12 and 13 and heavy chain CDRs comprising a sequence of amino acids as set forth in SEQ ID NOs: 14, 15 and 16.

2. The method of claim 1, wherein the anti-PD-1 antibody or antigen-binding fragment thereof comprises:

(a) a heavy chain variable region comprising a sequence of amino acids as set forth in SEQ ID NO:9, or a variant of SEQ ID NO:9, and

(b) a light chain variable region comprising:

(i) a sequence of amino acids as set forth in SEQ ID NO:4, or a variant of SEQ ID NO:4,

(ii) a sequence of amino acids as set forth in SEQ ID NO:22, or a variant of SEQ ID NO:22, or

(iii) a sequence of amino acids as set forth in SEQ ID NO:23, or a variant of SEQ ID NO:23.

3. The method of claim 1 or 2, wherein the anti-PD-1 antibody or antigen-binding fragment thereof comprises a heavy chain variable region comprising a sequence of amino acids as set forth in SEQ ID NO:9 and a light chain variable region comprising a sequence of amino acids as set forth in SEQ ID NO:4.

4. The method of claim 1 or 2, wherein the anti-PD-1 antibody or antigen-binding fragment thereof is a monoclonal antibody comprising:

(a) a heavy chain comprising a sequence of amino acids as set forth in SEQ ID NO:10, or a variant of SEQ ID NO:10, and

(b) a light chain comprising a sequence of amino acids as set forth in SEQ ID NO:5, a variant of SEQ ID NO:5, SEQ ID NO:24, a variant of SEQ ID NO:24, SEQ ID NO:25, or a variant of SEQ ID NO:25.

5. The method of any of claims 1-4, wherein the anti-PD-1 antibody or antigen-binding fragment thereof is a monoclonal antibody comprising a heavy chain comprising

a sequence of amino acids as set forth in SEQ ID NO:10 and a light chain comprising a sequence of amino acids as set forth in SEQ ID NO:5.

6. The method of any of claims 1-5, wherein the cancer is selected from the group consisting of: melanoma, non-small cell lung cancer, head and neck cancer, urothelial cancer, breast cancer, gastrointestinal cancer, multiple myeloma, hepatocellular cancer, non-Hodgkin lymphoma, renal cancer, Hodgkin lymphoma, mesothelioma, ovarian cancer, small cell lung cancer, esophageal cancer, anal cancer, biliary tract cancer, colorectal cancer, cervical cancer, thyroid cancer, or salivary cancer.

7. The method of any of claims 1-6, wherein the patient has a tumor with a high mutational burden.

8. The method of any of claims 1-5, wherein the patient has a microsatellite instability-high (MSI-H) or mismatch repair deficient solid tumor.

9. The method of any of claims 1-5, wherein the cancer is unresectable or metastatic melanoma.

10. The method of any of claims 1-5, wherein the cancer is metastatic non-small cell lung cancer (NSCLC).

11. The method of claim 10, wherein the patient has a tumor with high PD-L1 expression [(Tumor Proportion Score (TPS) $\geq$50%)] and was not previously treated with platinum-containing chemotherapy.

12. The method of claim 10, wherein the patient has a tumor with PD-L1 expression (TPS $\geq$1%) and was previously treated with platinum-containing chemotherapy.

13. The method of any of claims 11-12, wherein, the patient's tumor has no EGFR or ALK genomic aberrations.

14. The method of any of claims 10-13, wherein the method further comprises administering pemetrexed and carboplatin to the patient.

15. The method of claim 14, wherein the patient has nonsquamous non-small cell lung cancer and the pemetrexed is administered to the patient in an amount of 500 mg/m^2 about every 21 days.

16. The method of claim 14 or claim 15, further comprising administering about 400 μg to about 1000 μg of folic acid to the patient once per day, beginning about 7 days prior to administering pemetrexed to the patient and continuing until about 21 days after the patient is administered the last dose of pemetrexed.

17. The method of any of claims 14-16, further comprising administering about 1 mg of vitamin B_{12} to the patient about 1 week prior to the first administration of pemetrexed and about every three cycles of pemetrexed administration.

18. The method of any of claims 14-17, further comprising administering dexamethasone to the patient twice a day on the day before, the day of, and the day after pemetrexed administration.

19. The method of claim 10, wherein the NSCLC is squamous and the patient is also treated with carboplatin-paclitaxel or nab-paclitaxel.

20. The method of any of claims 1-5, wherein the cancer is recurrent or metastatic head and neck squamous cell cancer (HNSCC).

21. The method of any of claims 1-5, wherein the cancer is (1) refractory classical Hodgkin lymphoma (cHL), or (2) cHL and the patient has relapsed after 3 or more lines of therapy for cHL.

22. The method of any of claims 1-5, wherein the cancer is locally advanced or metastatic urothelial carcinoma.

23. The method of claim 22, wherein the patient's tumor expresses PD-L1 [Combined Positive Score >10].

24. The method of claim 22, wherein the patient is not eligible for platinum-containing chemotherapy or has disease progression during or following platinum-containing chemotherapy or within 12 months of neoadjuvant or adjuvant treatment with platinum-containing chemotherapy.

25. The method of any of claims 1-5, wherein the cancer is locally advanced or metastatic gastric cancer or gastroesophageal junction adenocarcinoma.

26. The method of any of claims 1-5, wherein the cancer is cervical cancer.

27. The method of claim 26, wherein the cervical cancer is recurrent or metastatic cervical cancer and the patient had disease progression on or after chemotherapy.

28. The method of claim 25, 26 or 27, wherein the patient's tumor expresses PD-L1 [Combined Positive Score (CPS) ≥1].

29. The method of any of claims 1-5, wherein the cancer is primary mediastinal large B-cell lymphoma (PMBCL).

30. The method of claim 29, wherein the patient has refractory PMBCL or has relapsed after 2 or more prior lines of therapy.

31. The method of any of claims 1-5, wherein the cancer is resected high-risk stage III melanoma.

32. The method of any of claims 1-5, wherein the cancer is hepatocellular carcinoma.

33. The method of any of claims 1-5, wherein the cancer is renal cell carcinoma (RCC).

34. The method of claim 32, wherein the cancer is advanced clear cell RCC.

35. The method of any of claims 1-5, wherein the cancer is recurrent, locally advanced or metastatic Merkel cell carcinoma (MCC).

36. The method of any of claims 1-35, wherein the anti-PD-1 antibody or antigen-binding fragment thereof is administered to the patient by intravenous or subcutaneous administration.

37. The method of any of claims 1-36, wherein the anti-PD-1 antibody or antigen-binding fragment thereof is pembrolizumab.

38. A composition comprising about 400 mg of pembrolizumab and a pharmaceutically acceptable carrier.

39. The composition of claim 38, further comprising 10 mM histidine, pH 5.5, 7% sucrose, and 0.02% polysorbate 80.

40. A kit for treating a patient with cancer, the kit comprising:

(a) about 400 mg of an anti-PD-1 antibody or antigen binding fragment thereof, and

(b) instructions for using the anti-PD-1 antibody or antigen binding fragment thereof, in the method of any of claims 1-36.

41. The kit of claim 40, wherein the anti-PD-1 antibody is pembrolizumab.

42. Use of the composition of any of claims 38-39 or the kit of any of claims 40-41 for treating an individual suffering from cancer.

43. The use of claim 42, wherein the cancer is melanoma, lung cancer, head and neck cancer, bladder cancer, breast cancer, gastrointestinal cancer, multiple myeloma, hepatocellular cancer, lymphoma, renal cancer, mesothelioma, ovarian cancer, esophageal cancer, anal cancer, biliary tract cancer, colorectal cancer, cervical cancer, thyroid cancer, or salivary cancer.