

Caption for supplementary material

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Reference included in meta-analysis

- 1 Carbone DP, Reck M, Paz-Ares L, et al. First-Line Nivolumab in Stage IV or Recurrent Non-Small-Cell Lung Cancer. *N Engl J Med*. 2017 Jun 22;376(25):2415-2426.
- 2 Usmani SZ, Schjesvold F, Oriol A, et al. Pembrolizumab plus lenalidomide and dexamethasone for patients with treatment-naive multiple myeloma (KEYNOTE-185): a randomised, open-label, phase 3 trial. *Lancet Haematol*. 2019 Sep;6(9):e448-e458.
- 3 Mateos MV, Blacklock H, Schjesvold F, et al. Pembrolizumab plus pomalidomide and dexamethasone for patients with relapsed or refractory multiple myeloma (KEYNOTE-183): a randomised, open-label, phase 3 trial. *Lancet Haematol*. 2019 Sep;6(9):e459-e469.
- 4 Cohen EEW, Soulières D, Le Tourneau C, et al. Pembrolizumab versus methotrexate, docetaxel, or cetuximab for recurrent or metastatic head-and-neck squamous cell carcinoma (KEYNOTE-040): a randomised, open-label, phase 3 study. *Lancet*. 2019 Jan 12;393(10167):156-167.
- 5 Powles T, Durán I, van der Heijden MS, et al. Atezolizumab versus chemotherapy in patients with platinum-treated locally advanced or metastatic urothelial carcinoma (IMvigor211): a multicentre, open-label, phase 3 randomised controlled trial. *Lancet*. 2018 Feb 24;391(10122):748-757.
- 6 Powles T, van der Heijden MS, Castellano D, et al. Durvalumab alone and durvalumab plus tremelimumab versus chemotherapy in previously untreated patients with unresectable, locally advanced or metastatic urothelial carcinoma (DANUBE): a randomised, open-label, multicentre, phase 3 trial. *Lancet Oncol*. 2020 Dec;21(12):1574-1588.
- 7 Goldman JW, Dvorkin M, Chen Y, et al. Durvalumab, with or without tremelimumab, plus platinum-etoposide versus platinum-etoposide alone in first-line treatment of extensive-stage small-cell lung cancer (CASPIAN): updated results from a randomised, controlled, open-label, phase 3 trial. *Lancet Oncol*. 2021 Jan;22(1):51-65.
- 8 Kato K, Cho BC, Takahashi M, et al. Nivolumab versus chemotherapy in patients with advanced oesophageal squamous cell carcinoma refractory or intolerant to previous chemotherapy (ATTRACTION-3): a multicentre, randomised, open-label, phase 3 trial. *Lancet Oncol*. 2019 Nov;20(11):1506-1517.
- 9 Zimmer L, Livingstone E, Hassel JC, et al. Adjuvant nivolumab plus ipilimumab or nivolumab

monotherapy versus placebo in patients with resected stage IV melanoma with no evidence of disease (IMMUNED): a randomised, double-blind, placebo-controlled, phase 2 trial. *Lancet*. 2020 May 16;395(10236):1558-1568.

Fig S1. Risk of bias graph presenting each risk of bias item as percentages across all included studies

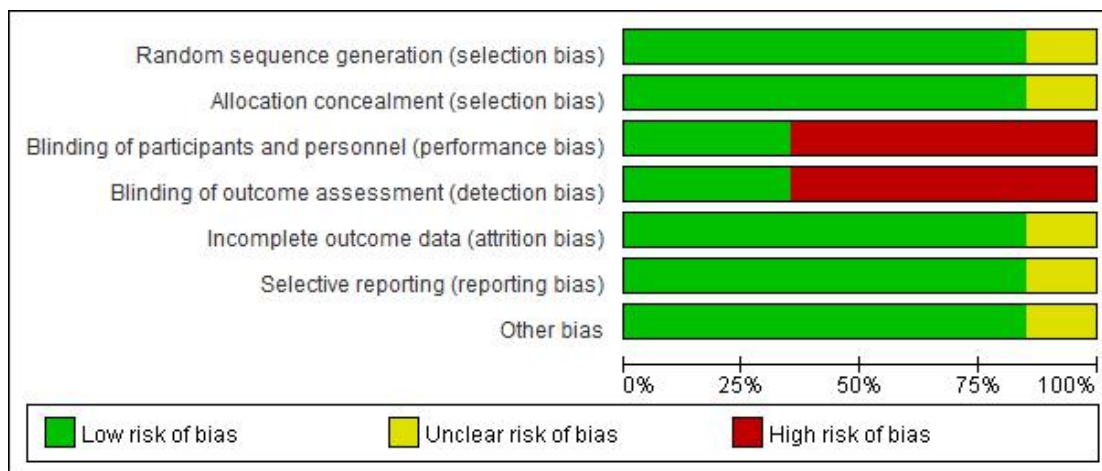


Fig S2. Risk of bias summary for included studies, showing each risk of bias item for every included study

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)	Other bias
NCT00094653	+	+	+	+	+	+	+
NCT00527735	+	+	+	+	+	+	+
NCT01704287	+	+	+	+	+	+	+
NCT02041533	+	+	+	+	+	+	+
NCT02231749	+	+	+	+	+	+	+
NCT02252042	+	+	+	+	+	+	+
NCT02302807	+	+	+	+	+	+	+
NCT02420821	+	+	+	+	+	+	+
NCT02481830	?	?	+	+	?	?	?
NCT02494583	+	+	+	+	+	+	+
NCT02516241	+	+	+	+	+	+	+
NCT02523313	+	+	+	+	+	+	+
NCT02569242	+	+	+	+	+	+	+
NCT02576509	?	?	+	+	?	?	?
NCT02576977	+	+	+	+	+	+	+
NCT02579863	+	+	+	+	+	+	+
NCT02908672	+	+	+	+	+	+	+
NCT03043872	+	+	+	+	+	+	+
NCT03215706	?	?	+	+	?	?	?
NCT03950674	+	+	+	+	+	+	+

