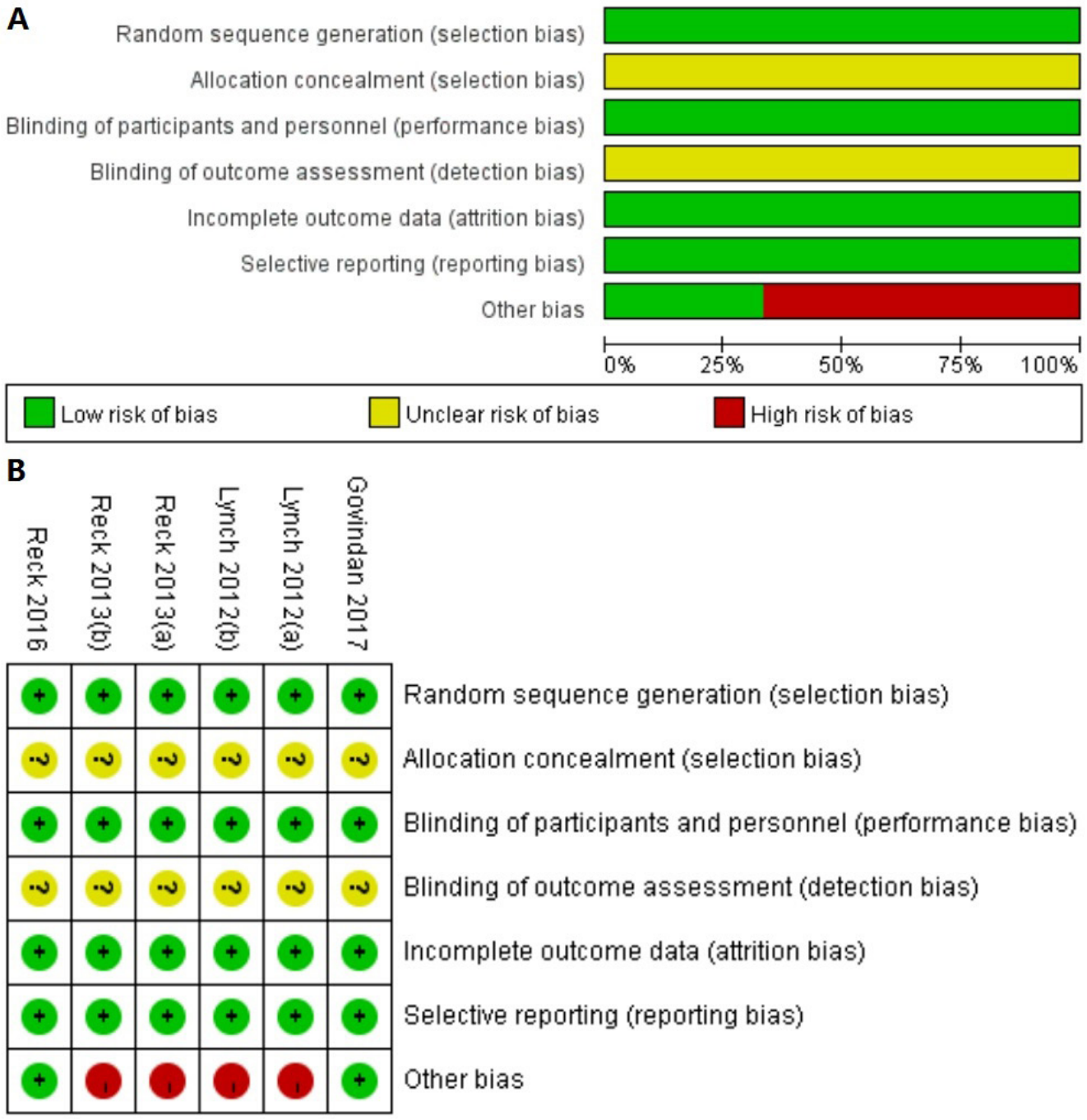
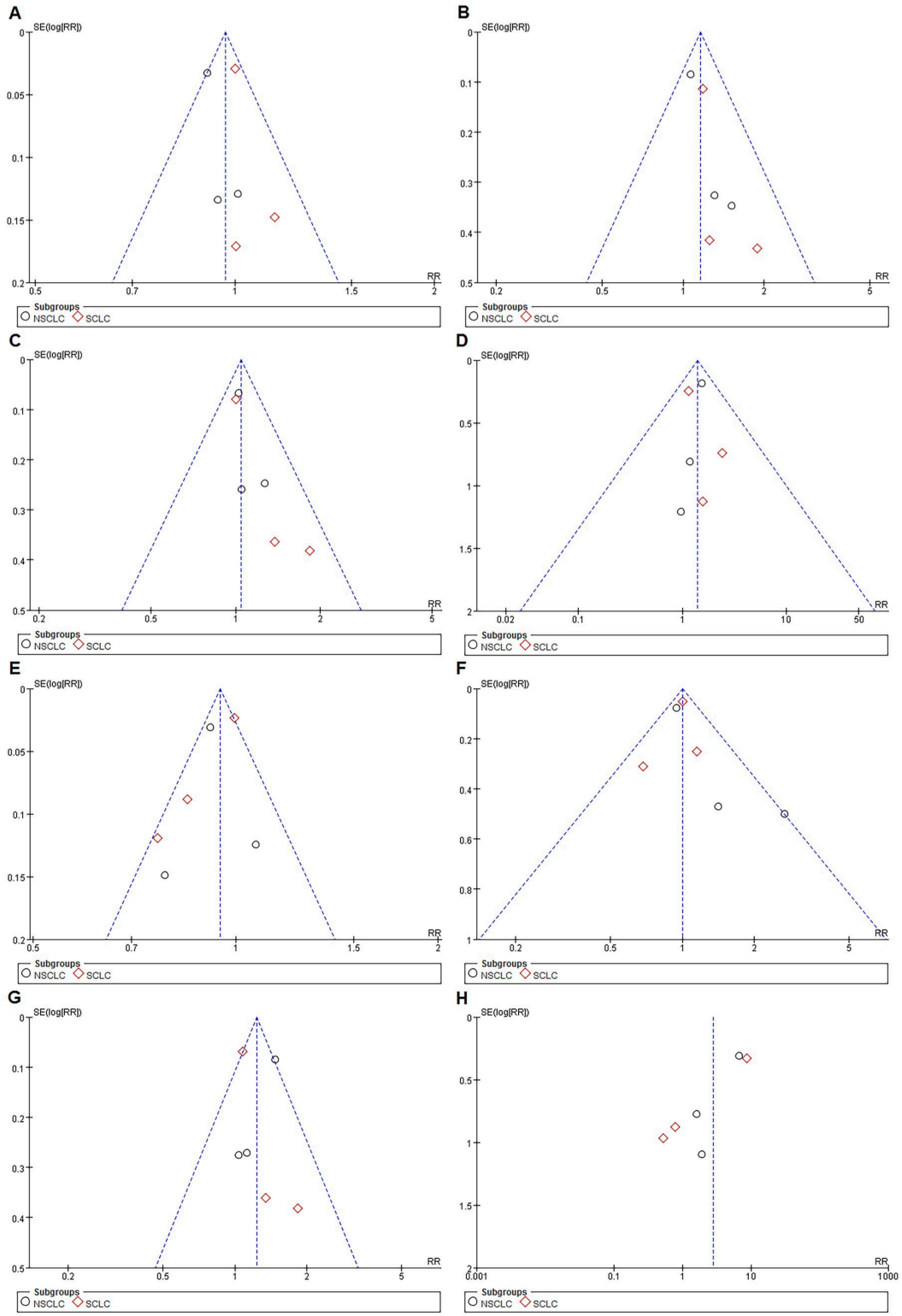
Supplementary Figure Legends:

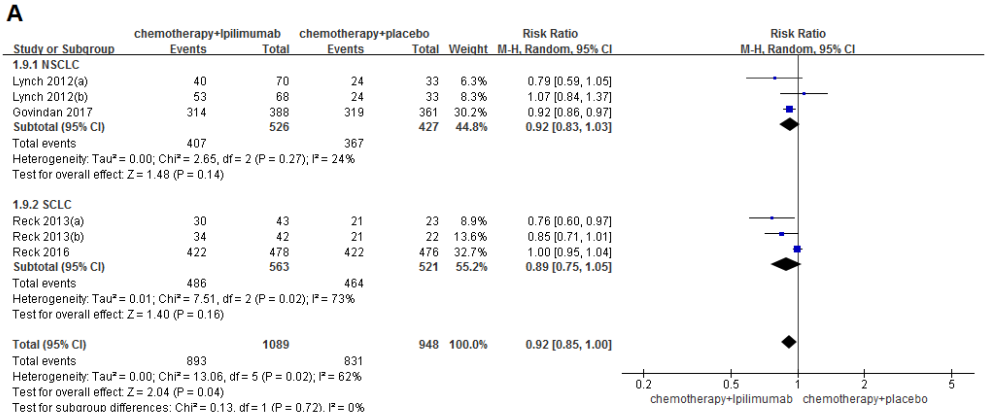
Supplementary Fig. 1. Risk of bias graph (A) and risk of bias summary (B).

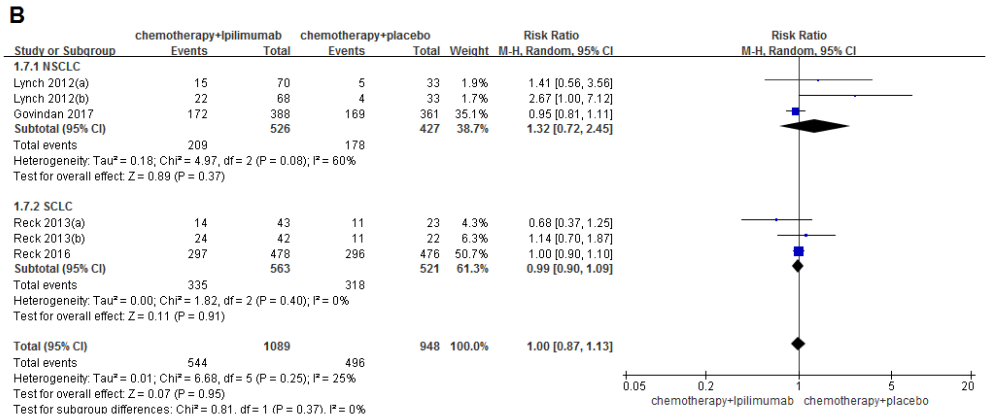


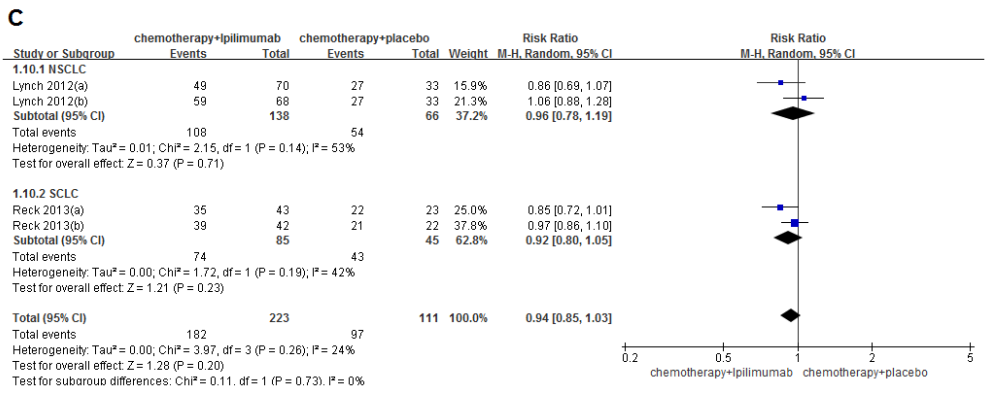
Supplementary Fig. 2. Funnel plots for risk ratio for immunochemotherapy vs. chemotherapy alone trials . A, 6 months-overall survival; B, 6 months-progression-free-survival; C, 1 year-overall survival; D, 1 year-progression-free survival; E, disease control rate ; F, objective response rate; G, treatment-related adverse events; H, adverse event-related discontinuation.

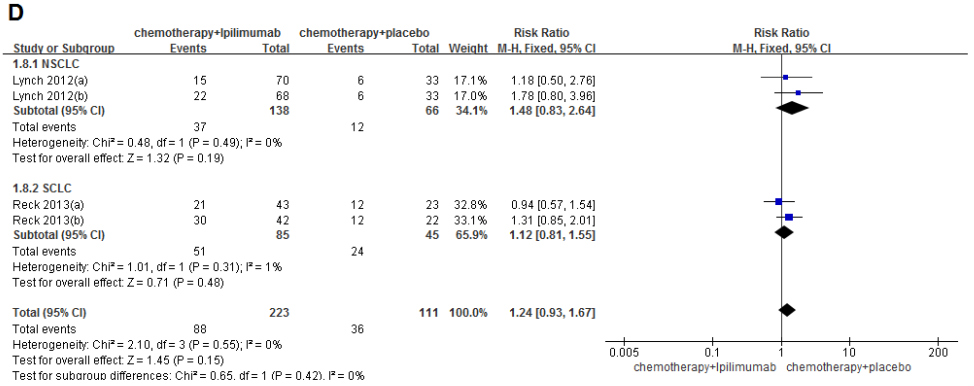


Supplementary Fig. 3. Subgroup analysis of different regimens of chemotherapy combined with ipilimumab or placebo; A, 6 months-overall survival; B, 6 months-progression-free; C, 1 year-overall survival-survival; D, 1 year-progression-free survival; t:Paclitaxel; c:Carboplatin.



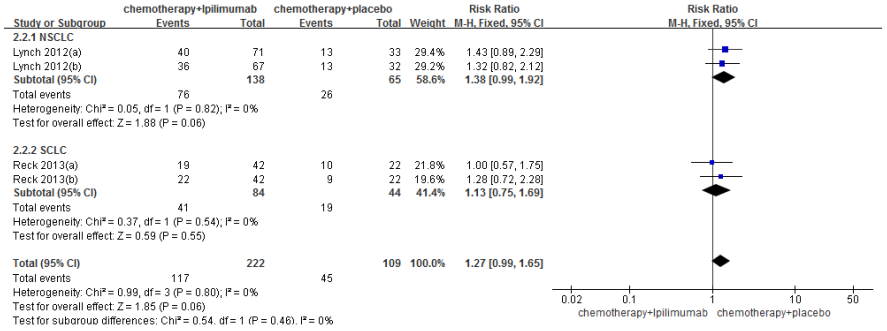




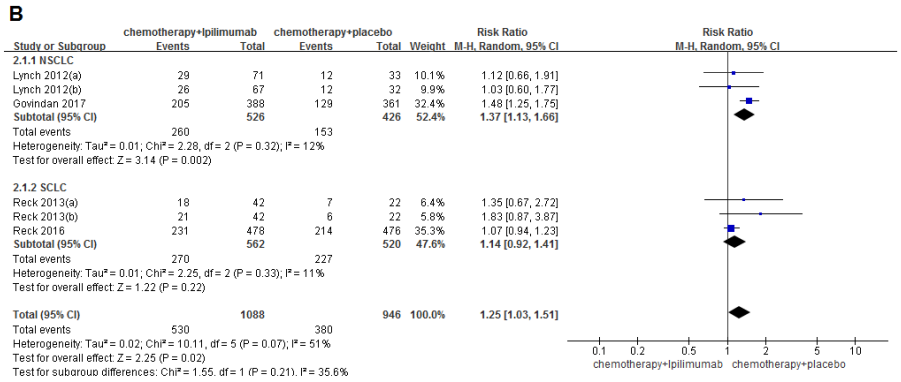


Supplementary Fig. 4 Subgroup analysis of concurrent and phased Ipilimumab. A, 6 months-overall survival; B, 6 months-progression-free-survival; C, 1 year-overall survival; D, 1 year-progression-free survival.

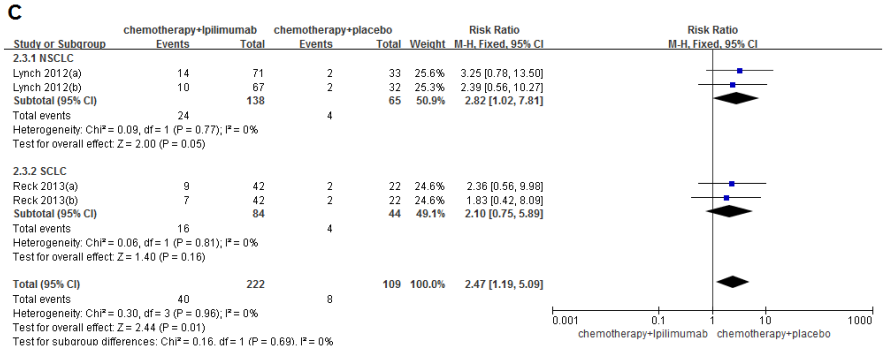
A



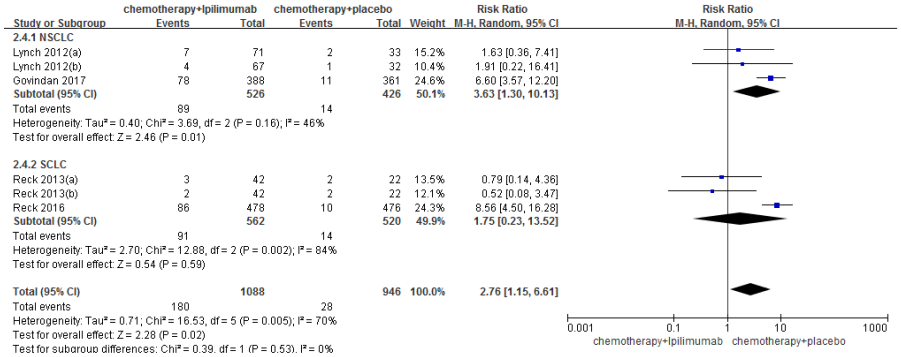
B



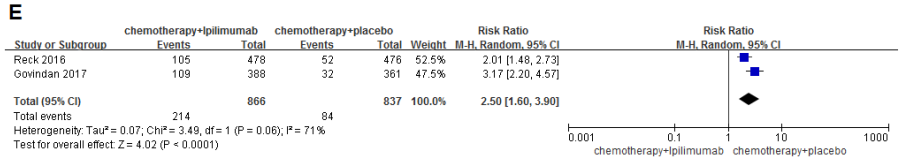
C



D



E



Supplementary Table S1. PRISMA Checklist

Section/Topic	#	Checklist Item
TITLE		
Title	1	Identify the report as a systematic review, meta-analysis, or both.
ABSTRACT		
Structured summary	2	Provide a structured summary including, as applicable: background; objective participants, and interventions; study appraisal and synthesis methods; result implications of key findings; systematic review registration number.
INTRODUCTION		
Rationale	3	Describe the rationale for the review in the context of what is already known.
Objectives	4	Provide an explicit statement of questions being addressed with reference to outcomes, and study design (PICOS).
METHODS		
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., We registration information including registration number.
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report cha language, publication status) used as criteria for eligibility, giving rationale.
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, cor additional studies) in the search and date last searched.
Search	8	Present full electronic search strategy for at least one database, including an repeated.
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in s included in the meta-analysis).
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, indepen for obtaining and confirming data from investigators.
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding simplifications made.
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (includ done at the study or outcome level), and how this information is to be used in
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if do (e.g., I^2) for each meta-analysis.

Section/Topic	#	Checklist Item
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative eviden reporting within studies).
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analys which were pre-specified.
RESULTS		
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in th each stage, ideally with a flow diagram.
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., s provide the citations.
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome leve
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) intervention group (b) effect estimates and confidence intervals, ideally with a
Synthesis of results	21	Present the main results of the review. If meta-analyses done, include for eac consistency.
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analy
DISCUSSION		
Summary of evidence	24	Summarize the main findings including the strength of evidence for each mai key groups (e.g., healthcare providers, users, and policy makers).
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at revie identified research, reporting bias).
Conclusions	26	Provide a general interpretation of the results in the context of other evidence
FUNDING		
Funding	27	Describe sources of funding for the systematic review and other support (e.g systematic review.

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(6): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit: **www.prisma-statement.org**.

Supplementary Table S2. search strategy

Database	Retrieval type	Results
Pubmed	#1.Lung Neoplasms [mesh] #2.Pulmonary Neoplasm[All fields]#3.lung cancer[All fields] #4. #1 or #2 or #3 #5.Small Cell Lung Carcinoma [Mesh] #6.Small Cell Lung Cancer[All fields] #7.SCLC [All fields] #8.#5 or #6 or #7 #9.Carcinoma,Non-Small-Cell Lung[Mesh] #10.Non-Small Cell Lung Cancer[All fields] #11.Non-Small Cell Lung Carcinoma [All fields] #12.NSCLC [All fields] #13.#9 or #10 or #11 or #12 #14.#4 or #8 or #13 #15.Ipilimumab [Mesh] #16.MDX-CTLA-4[All fields] #17.Yervoy[All fields] #18.#15 or #16 or #17 #19.randomized controlled trial [Publication Type] #20.controlled clinical trial [Publication Type] #21.Randomized [All fields] #22.Placebo [All fields] #23.#19 or #20 or #21 or #22 #24.#14 and #18 and #23	35
Embase	#1. 'lung tumor'/exp #2. lung cancer [ab,ti] #3. #1 or #2 #4. 'small cell lung cancer'/exp #5. SCLC [ab,ti] #6. #4 or #5 #7. 'non small cell lung cancer'/exp #8. NSCLC [ab,ti] #9. #7 or #8 #10.#3 or #6 or #9 #11. 'ipilimumab'/exp #12.MDX-CTLA-4[ab,ti] #13.Yervoy [ab,ti] #14.#11 or #12 or #13 #15. ‘randomized controlled trial’/exp #16. ‘controlled clinical trial’/exp #17. Placebo [ab,ti] #18. Randomized [ab,ti]	164

	#19. #15 or #16 or #17 or #18 #20.#10 and #14 and #19	
Cochrane library	#1. lung cancer[ti,ab,kw] #2.small cell lung cancer[ti,ab,kw] #3. non-small cell lung cancer[ti,ab,kw] #4. SCLC[ti,ab,kw] #5.NSCLC[ti,ab,kw] #6. #1 or #2 or #3 or #4 or #5 #7. MeSH descriptor: [Lung Neoplasms] explode all trees #8. MeSH descriptor: [Small Cell Lung Carcinoma] explode all trees #9. MeSH descriptor: [Carcinoma, Non-Small-Cell Lung] explode all trees #10.#6 or #7 or #8 or #9 #11. MeSH descriptor: [Ipilimumab] explode all trees #12. MDX-CTLA-4[ti,ab,kw] #13. Yervoy [ti,ab,kw] #14. #11 or #12 or #13 #15. randomized controlled trial [Publication Type] #16. controlled clinical trial [Publication Type] #17. Randomized [ti,ab,kw] #18.Placebo [ti,ab,kw] #19. #15 or #16 or #17 or #18 #20.#10 and #14 and #19	4
Web of Science	#1.Lung Neoplasms [ts] #2.Pulmonary Neoplasm [ts] #3. lung cancer [ts] #4. #1 or #2 or #3 #5. Small Cell Lung Carcinoma [ts] #6.Small Cell Lung Cancer	112

	[ts]	
	#7. SCLC [ts] #8.#5 or #6 or #7	
	#9. Non-Small Cell Lung Cancer [ts]	
	#10. Non-Small Cell Lung Carcinoma [ts]	
	#11. NSCLC [ts] #12.#9 or #10 or #11 #13.#4 or #8 or #12	
	#14. Ipilimumab [ts] #15.MDX-CTLA-4 [ts] #16.Yervoy [ts]	
	#17. #14 or #15 or #16	
	#18. randomized controlled trial [ts]	
	#19. Randomized [ts] #20.Placebo [ts]	
	#21. controlled clinical trial [ts] #22.#18 or #19 or #20 or #21	
	#23. #13 and #17 and #22	
Clinical trials.gov	Condition or disease: lung cancer Other terms: Ipilimumab Study type: All studies Study Results: studies with results clinical study: completed studies	4

Supplementary Table S3. Results of the meta-analyses examining tumor response and disease control between pure chemotherapy group and chemotherapy plus ipilimumab group

	N	Ipilimumab (events / total)	Placebo (events / total)	RR [95% CI]	Heterogeneity (I^2, P)
CR	6	3 / 1089	2/ 948	1.09 [0.24-4.97]	0%, 0.63
•SCLC	3	2 / 563	0 / 521	2.23 [0.24-20.59]	0%, 0.79
•NSCLC	3	1 / 526	2 / 427	0.47 [0.04-5.11]	NA
PR	6	541/ 1089	494 / 948	1.00 [0.87-1.14]	30%, 0.21
•SCLC	3	333 / 563	318 /521	0.98 [0.82-1.16]	14%, 0.31
•NSCLC	3	208/ 526	176/ 427	1.33 [0.72-2.44]	59%, 0.09
SD	6	349 / 1089	335/ 948	0.88 [0.78-0.99]	28%, 0.22
•SCLC	3	151 / 563	146 / 521	0.94 [0.77-1.14]	31%, 0.23
•NSCLC	3	198/ 526	189/ 427	0.83 [0.71-0.97]	35%, 0.22
PD	6	123 / 1089	89/ 948	1.15 [0.73-1.81]	45%, 0.10
•SCLC	3	42 / 563	42 / 521	2.25 [0.31-16.03]	64%, 0.06
•NSCLC	3	81 / 526	47 / 427	1.33 [0.95-1.86]	0%, 0.87
irCR	4	1 / 223	0/ 111	1.64 [0.07-38.64]	NA
•SCLC	2	1 / 85	0 / 45	1.64 [0.07-38.64]	NA
•NSCLC	2	0 / 138	0 / 66	NA	NA
irPR	4	87 / 223	36 / 111	1.23 [0.91-1.66]	0%, 0.48
•SCLC	2	50 / 85	24 / 45	1.10 [0.80-1.52]	23%, 0.25
•NSCLC	2	37 / 138	12 / 66	1.48 [0.83-2.64]	0%, 0.49
irSD	4	94 / 223	61 /111	0.76 [0.61-0.95]	0%, 0.71
•SCLC	2	23 / 85	19 / 45	0.64 [0.39-1.04]	0%, 0.48
•NSCLC	2	71 / 138	42 / 66	0.81 [0.63-1.03]	0%, 0.65
irPD	4	13 / 223	2 / 111	2.64 [0.70-9.93]	0%, 0.99
•SCLC	2	2 / 85	0 / 45	2.67 [0.13-53.39]	NA
•NSCLC	2	11 / 138	2 / 66	2.63 [0.60-11.53]	0%, 0.92

N = number of included studies; RR = relative risk.

SCLC: Small Cell Lung Cancer; NSCLC: Non-Small Cell Lung Cancer.

CR: complete response; PR: partial response; SD: stable disease; PD: progressive disease.

irCR: immune related complete response; irPR: immune related partial response; irSD: immune related stable disease; irPD: immune related progressive disease.

NA: not applicable.