

Supplemental Methods

Search strategies and number of studies yielded from each database.

Pubmed: 75 Results

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((("Carcinoma, Non-Small-Cell Lung"[Mesh]) OR (((NSCLC[Title/Abstract] OR "Non Small Cell"[Title/Abstract] OR "Non-Small-Cell"[Title/Abstract] OR "Non-Small Cell"[Title/Abstract] OR "Non-Small Cell"[Title/Abstract]))) AND lung[Title/Abstract])) AND (("pembrolizumab" [Supplementary Concept] OR "lambrolizumab"[Title/Abstract] OR "Keytruda"[Title/Abstract] OR "MK-3475"[Title/Abstract])) AND ((("clinical trials as topic"[MeSH Terms] OR "trial"[Title/Abstract] OR "study"[Title/Abstract])))
```

EMbase: 106 Results

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('pembrolizumab'/exp OR 'lambrolizumab':ab,ti OR 'Keytruda':ab,ti OR 'MK-3475':ab,ti) AND (('non small cell lung cancer'/exp OR ('lung':ab,ti AND ('NSCLC':ab,ti OR 'Non Small Cell':ab,ti OR 'Non-Small-Cell':ab,ti OR 'Non-Small Cell':ab,ti OR 'Non-Small Cell':ab,ti))) AND ('randomized controlled trial'/exp))
```

Cochrane: 162 results, 158 trials

#1 MeSH descriptor: [Carcinoma, Non-Small-Cell Lung] explode all trees

#2 "lung" AND ("Non Small Cell" OR "Non-Small Cell" OR "Non-Small-Cell")

#3 "pembrolizumab" or "lambrolizumab" or "Keytruda" or "MK-3475"

4 (#1 OR #2) AND #3

Supplemental Table 1. Quality assessment: risk of bias by Cochrane Collaboration's tool

Trial	Sequence generation	Allocation Concealment	Blinding	Incomplete outcome data	Selective reporting	Other source of bias
KEYNOTE-021 2016, 2018	Adequate	Adequate (Central allocation)	Adequate (Independent Radiologic review)	Adequate	Inadequate (PFS, OS was not reported)	
KEYNOTE-189 2018	Adequate	Adequate (Central allocation)	Adequate (Independent Radiologic review)	Adequate	Adequate	
KEYNOTE-407 2018	Adequate	Adequate (Central allocation)	Adequate (Independent Radiologic review)	Adequate	Adequate	
KEYNOTE-024 2016, 2017	Adequate	Adequate (Central allocation)	Adequate (Independent Radiologic review)	Adequate	Adequate	
KEYNOTE-042 2018	Adequate	Adequate (Central allocation)	Adequate (Independent Radiologic review)	Adequate	Adequate	Data from the abstract and the presentation slides

Supplemental Figure 1. Trial Selection Process

