

Supplementary 2. Randomised controlled trials bias assessment using (Risk of bias 2 (RoB2) tool).

Study	Random sequence generation	Allocation concealment	Blinding patients and personnel	Blinding outcome assessment	Incomplete outcome data	Selective reporting	Overall
Van der Heijde D. 2006							
Sieper J. (AILITY-1) 2012							
Huang F. 2013							
Haibel H. 2008							
Landewé R. (RAPID- axSpA) 2013							
Deodhar A. (C-axSpAnd) 2019							
Inman R (GO-RAISE) 2008							
Deodhar A (GO-ALIVE) 2017							
Sieper J. (GO-AHEAD) 2015							
Bao C. 2014							
Van der heijde D. (ASSERT) 2005							
Barkham N. 2009							
Inman R. 2010							
Marzo-Ortega H. 2005							
Sieper J. (INFAST) 2012							
Braun J. 2002							
Gorman JD. 2002							
Davis JC. 2003							
Brandt J. 2003							
Calin A. 2004							
Van der Heijde D. 2006							
Barkham N. 2010							
Dougados M. (SPINE) 2011							
Dougados M. 2014							
Dougados M. (SPARSE) 2014							

Study	Random sequence generation	Allocation concealment	Blinding patients and personnel	Blinding outcome assessment	Incomplete outcome data	Selective reporting	Overall
Deodhar A. (COAST-W) 2019							
Van der Heijde D. (COAST- V) 2018							
Deodhar A. (COAST-X) 2019							
Baeten D. 2013							
Baeten D. (MEASURE1) 2015							
Baeten D. (MEASURE2) 2015							
Pavelka K. (MEASURE3) 2017							
Kivitz A. (MEASURE4) 2018							
Deodhar A. (PREVENT) 2019							
Huang F. (MEASURE5) 2020							
Van der Heijde D. (BE MOBILE1) 2023							
Van der Heijde D. (BE MOBILE2) 2023							
Van der Heijde D. (BE AGILE) 2020							
Deodhar A. 2021							
Van der Heijde D. 2017							
Van der Heijde D. (SELECT- AXIS 1) 2019							
Deodhar A. (SELECT-AXIS 2) 2022							
Van der Heijde A. (SELECT- AXIS 2) 2022							
Van der Heijde A. (TORTUGA) 2018							

Bias assessed using Cochrane risk of bias tool. Green = low risk of bias, Red = high risk of bias, Yellow = some concerns risk of bias.

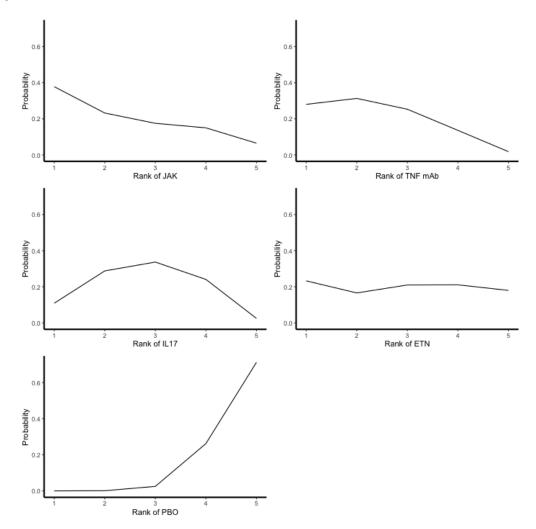
Supplementary 3. SUCRA ranking.

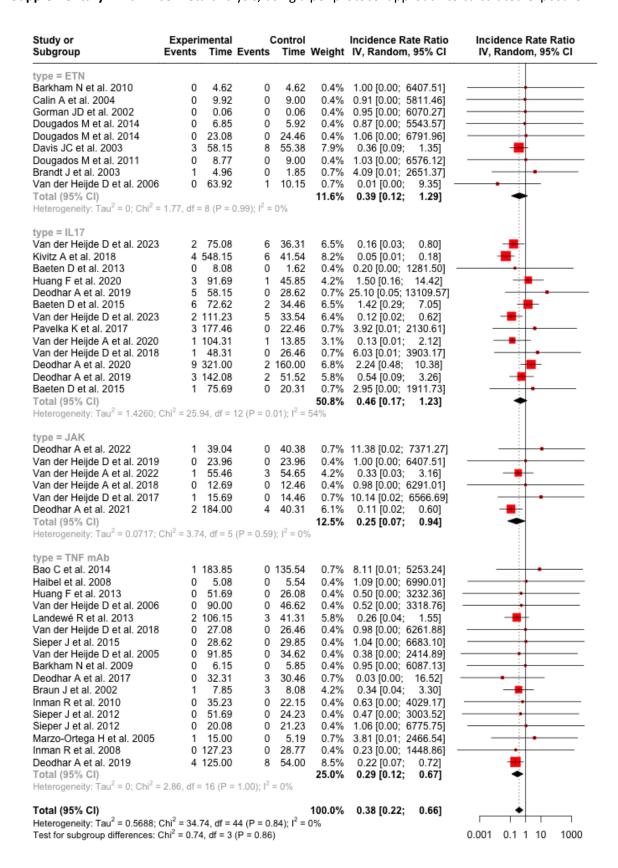
A probability of treatment superiority was calculated based on estimated probabilities using the parameters derived from the NMA and reported as a rank according to the surface under the cumulative ranking curves (SUCRA). A SUCRA value of 1 indicates the treatment is certain to be the most effective in the network, while a value of 0 indicates it is certain to be the least effective.

Table. SUCRA ranking of each treatment.

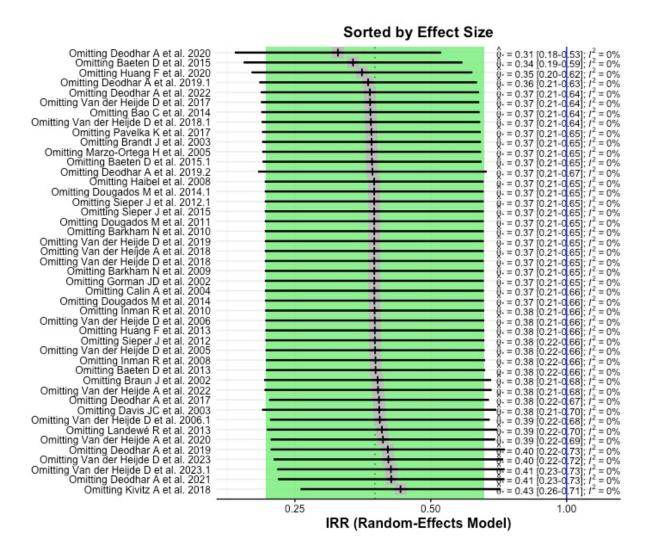
Rank	PBO	ETN	Anti-IL17	JAKi	Anti-TNF
					mAbs
Best	0	0.23	0.12	0.34	0.31
Second	0	0.21	0.27	0.24	0.27
Third	0.02	0.21	0.32	0.18	0.25
Fourth	0.22	0.20	0.26	0.15	0.14
Worse	0.75	0.13	0.02	0.07	0.01
RANK	4.7	2.9	2.8	2.4	2.3
SUCRA	0.1	0.6	0.6	0.7	0.7

Figure. SCURA plot showing for each treatment, the cumulative probability of being ranked 1st through 5th.

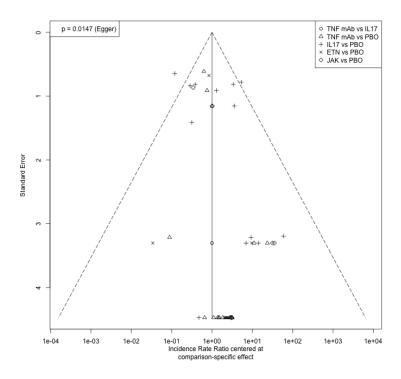




Supplementary 5. The 'leave-one-out' analysis, which systematically removes one study at a time and presents the summary effect estimates without that study.



Supplementary 6i. Funnel plot.



Supplementary 6ii. PET PEESE estimates

When adjusting for small sample effects using the PET-PEESE the pooled effects remained statistically significance.

PET PEESE Estimates

Anti-TNF mAbs	Anti-IL17	ETN	JAK	
0.19 (0.12, 0.30)	0.13 (0.11, 0.72)	0.31 (0.18, 0.65)	0.06 (0.06, 0.38)	Placebo

Legend: In the summary table, the referent group for all comparison is placebo

i.

Comparison	Number of Studies	Direct Evidence	12	Random Effects Model	IRR	95%-CI
TNF mAb vs IL17 Direct estimate Indirect estimate Network estimate	1	0.02		*	0.17 0.66 0.63	[0.00; 107.31] [0.24; 1.83] [0.23; 1.75]
TNF mAb vs ETN Direct estimate Indirect estimate Network estimate	0	0		*	1.07 1.07	[0.25; 4.64] [0.25; 4.64]
TNF mAb vs JAK Direct estimate Indirect estimate Network estimate	0	0		*	0.79 0.79	[0.17; 3.62] [0.17; 3.62]
TNF mAb vs PBO Direct estimate Indirect estimate Network estimate	17	0.99	0	* *	0.47 0.01 0.46	[0.20; 1.09] [0.00; 207.18] [0.20; 1.06]
IL17 vs ETN Direct estimate Indirect estimate Network estimate	0	0		*	1.70 1.70	[0.45; 6.43] [0.45; 6.43]
IL17 vs JAK Direct estimate Indirect estimate Network estimate	0	0		*	1.24 1.24	[0.31; 5.04] [0.31; 5.04]
IL17 vs PBO Direct estimate Indirect estimate Network estimate	13	0.99	0		0.72 2.64 0.72	[0.40; 1.28] [0.00; 3186.05] [0.40; 1.29]
ETN vs JAK Direct estimate Indirect estimate Network estimate	0	0		*	0.73 0.73	[0.13; 4.22] [0.13; 4.22]
ETN vs PBO Direct estimate Indirect estimate Network estimate	9	1.00	0	*	0.43	[0.13; 1.41] [0.13; 1.41]
JAK vs PBO Direct estimate Indirect estimate Network estimate	6	1.00	0		0.58 0.58	[0.16; 2.08] [0.16; 2.08]
				0.001 0.11 10 1000		

ii.

Treatment		arisor ndom				IRR	95%-CI
ETN IL17 JAK TNF mAb	_	-	-	_	\neg	0.72 0.58	[0.13; 1.41] [0.40; 1.29] [0.16; 2.08] [0.20; 1.06]
	0.2	0.5	1	2	5		

iii.

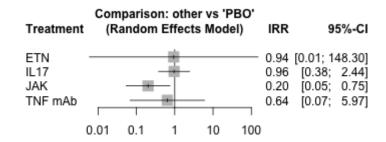
Anti-TNF mAbs				
0.63 (0.23; 1.75)	Anti-IL17			
1.07 (0.25; 4.64)	1.70 (0.45; 6.43)	ETN		
0.79 (0.17; 3.62)	1.24 (0.31; 5.04)	0.73 (0.13; 4.22)	JAK	
0.46 (0.20; 1.06)	0.72 (0.40; 1.29)	0.43 (0.13; 1.41)	0.58 (0.16, 2.08)	Placebo

Legend. i. Forest plot of direct, indirect and network IRR estimates of comparisons between all treatments. ii. Forest plot of network IRR estimates of comparisons between treatments and placebo iii. Summary table of network IRR estimates of comparisons between treatments. The referent group for comparisons is the treatment arm appearing at the end of the row i.e., in the 1st row of estimates the referent is anti-IL17, in the 2nd row the referent is ETN, in the 3rd row the referent is JAK and in the 4th row the referent is placebo.

i.

Comparison	Number of Studies	Direct Evidence	12	Random Effects Model	IRR	95%-CI
TNF mAb vs IL17 Direct estimate Indirect estimate Network estimate	1	0.14		*		[0.00; 105.06] [0.06; 10.70] [0.06; 7.18]
TNF mAb vs ETN Direct estimate Indirect estimate Network estimate	0	0				[0.00; 171.89] [0.00; 171.89]
TNF mAb vs JAK Direct estimate Indirect estimate Network estimate	0	0		-	3.17 3.17	[0.24; 42.33] [0.24; 42.33]
TNF mAb vs PBO Direct estimate Indirect estimate Network estimate	12	0.95	0 _	*	0.77 0.02 0.64	[0.08; 7.66] [0.00; 363.29] [0.07; 5.97]
IL17 vs ETN Direct estimate Indirect estimate Network estimate	0	0		*		[0.01; 175.61] [0.01; 175.61]
IL17 vs JAK Direct estimate Indirect estimate Network estimate	0	0		=	4.77 4.77	[0.95; 23.85] [0.95; 23.85]
IL17 vs PBO Direct estimate Indirect estimate Network estimate	9	0.98	0		0.94 4.58 0.96	[0.37; 2.40] [0.00; 8276.41] [0.38; 2.44]
ETN vs JAK Direct estimate Indirect estimate Network estimate	0	0		-		[0.02; 869.36] [0.02; 869.36]
ETN vs PBO Direct estimate Indirect estimate Network estimate	3	1.00	0			[0.01; 148.30] [0.01; 148.30]
JAK vs PBO Direct estimate Indirect estimate Network estimate	4	1.00	0	0.001 0.11 10 1000	0.20 0.20	[0.05; 0.75] [0.05; 0.75]

ii



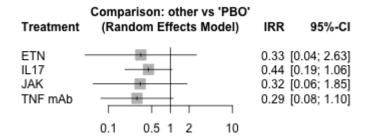
iii

Anti-TNF mAbs				
0.67 (0.06; 7.18)	Anti-IL17			
0.68 (0.00; 171.9)	1.02 (0.01; 175.6)	ETN		
3.17 (0.24; 42.3)	4.77 (0.95; 23.6)	4.66 (0.02; 869.4)	JAK	
0.64 (0.07; 5.97)	0.96 (0.38; 2.44)	0.94 (0.01; 148.3)	0.20 (0.05, 0.75)	Placebo

Legend. i. Forest plot of direct, indirect and network IRR estimates of comparisons between all treatments. ii. Forest plot of network IRR estimates of comparisons between treatments and placebo iii. Summary table of network IRR estimates of comparisons between treatments. The referent group for comparisons is the treatment arm appearing at the end of the row i.e., in the 1^{st} row of estimates the referent is anti-IL17, in the 2^{nd} row the referent is ETN, in the 3^{rd} row the referent is JAK and in the 4^{th} row the referent is placebo.

i.

Comparison	Number of Studies	Direct Evidence	12	Random Effects Model	IRR	95%-CI
TNF mAb vs IL17 Direct estimate Indirect estimate Network estimate	1	0.06		*	0.16 0.71 0.65	[0.00; 137.10] [0.14; 3.60] [0.13; 3.17]
TNF mAb vs ETN Direct estimate Indirect estimate Network estimate	0	0		*	0.87 0.87	[0.07; 10.23] [0.07; 10.23]
TNF mAb vs JAP Direct estimate Indirect estimate Network estimate	0	0		*	0.89 0.89	[0.10; 8.04] [0.10; 8.04]
TNF mAb vs PB0 Direct estimate Indirect estimate Network estimate	7	0.98	0%	*	0.31 0.00 0.29	[0.08; 1.20] [0.00; 128.00] [0.08; 1.10]
IL17 vs ETN Direct estimate Indirect estimate Network estimate	0	0		#	1.33 1.33	[0.14; 12.58] [0.14; 12.58]
IL17 vs JAK Direct estimate Indirect estimate Network estimate	0	0		*	1.37 1.37	[0.19; 9.60] [0.19; 9.60]
IL17 vs PBO Direct estimate Indirect estimate Network estimate	12	0.99	58%	•	0.44 1.60 0.44	[0.18; 1.05] [0.00; 3617.56] [0.19; 1.06]
ETN vs JAK Direct estimate Indirect estimate Network estimate	0	0		*	1.03 1.03	[0.07; 15.36] [0.07; 15.36]
ETN vs PBO Direct estimate Indirect estimate Network estimate	3	1.00	0%	***	0.33	[0.04; 2.63] [0.04; 2.63]
JAK vs PBO Direct estimate Indirect estimate Network estimate	5	1.00	0%	0.001 0.11 10 1000	0.32 0.32	[0.06; 1.85] [0.06; 1.85]



iii

ii

Anti-TNF mAbs				
1.65 (0.13; 3.17)	Anti-IL17			
0.87 (0.07; 10.2)	1.33 (0.14; 12.6)	ETN		
0.89 (0.10; 8.04)	1.37 (0.19; 9.60)	1.03 (0.07; 15.4)	JAK	
0.29 (0.08; 1.10)	0.44 (0.19; 1.06)	0.33 (0.04; 2.63)	0.32 (0.06, 1.85)	Placebo

Legend. i. Forest plot of direct, indirect and network IRR estimates of comparisons between all treatments. ii. Forest plot of network IRR estimates of comparisons between treatments and placebo iii. Summary table of network IRR estimates of comparisons between treatments. The referent group for comparisons is the treatment arm appearing at the end of the row i.e., in the 1^{st} row of estimates the referent is anti-IL17, in the 2^{nd} row the referent is ETN, in the 3^{rd} row the referent is JAK and in the 4^{th} row the referent is placebo.

Supplementary 10. Sensitivity network metanalysis restricting analyses to studies with >10% of the study population reporting past or concurrent uveitis (n=21 studies).

ii

i.

Comparison	Number of Studies	Direct Evidence	12	Random Effects Model	IRR	95%-CI
TNF mAb vs IL17 Direct estimate Indirect estimate Network estimate	1	0.08		*	0.16 0.85 0.75	[0.00; 143.00] [0.12; 6.17] [0.11; 5.00]
TNF mAb vs ETN Direct estimate Indirect estimate Network estimate	0	0		*	0.53 0.53	[0.03; 8.36] [0.03; 8.36]
TNF mAb vs JAK Direct estimate Indirect estimate Network estimate	0	0		*	1.31 1.31	[0.07; 25.45] [0.07; 25.45]
TNF mAb vs PBC Direct estimate Indirect estimate Network estimate	7	0.97	0% _	* *	0.29 0.00 0.26	[0.05; 1.58] [0.00; 84.65] [0.05; 1.37]
IL17 vs ETN Direct estimate Indirect estimate Network estimate	0	0		*	0.70 0.70	[0.06; 7.81] [0.06; 7.81]
IL17 vs JAK Direct estimate Indirect estimate Network estimate	0	0		+	1.74 1.74	[0.12; 24.46] [0.12; 24.46]
IL17 vs PBO Direct estimate Indirect estimate Network estimate	10	0.99	59%	•	0.34 1.46 0.35	[0.13; 0.90] [0.00; 3922.45] [0.13; 0.91]
ETN vs JAK Direct estimate Indirect estimate Network estimate	0	0		*	2.48 2.48	[0.09; 67.61] [0.09; 67.61]
ETN vs PBO Direct estimate Indirect estimate Network estimate	3	1.00	0%	*	0.49	[0.05; 4.48] [0.05; 4.48]
JAK vs PBO Direct estimate Indirect estimate Network estimate	2	1.00	43%	0.0010.11.10.1000	0.20 0.20	[0.02; 2.33] [0.02; 2.33]
				0.0010.11 10 1000		

Treatment	Comparison: other vs 'PBO' (Random Effects Model)	IRR	95%-CI
ETN IL17 JAK TNF mAb	0.1 0.51 2 10	0.35 0.20	[0.05; 4.48] [0.13; 0.91] [0.02; 2.33] [0.05; 1.37]

iii.

Anti-TNF mAbs				
0.75 (0.11; 5.00)	Anti-IL17			
0.53 (0.03; 8.36)	0.70 (0.06; 7.81)	ETN		
1.31 (0.07; 25.5)	1.74 (0.12; 24.5)	2.48 (0.09; 67.6)	JAK	
0.26 (0.05; 1.37)	0.35 (0.13; 0.91)	0.49 (0.05; 4.48)	0.20 (0.02, 2.33)	Placebo

Legend. i. Forest plot of direct, indirect and network IRR estimates of comparisons between all treatments. ii. Forest plot of network IRR estimates of comparisons between treatments and placebo iii. Summary table of network IRR estimates of comparisons between treatments. The referent group for comparisons is the treatment arm appearing at the end of the row i.e., in the 1^{st} row of estimates the referent is anti-IL17, in the 2^{nd} row the referent is ETN, in the 3^{rd} row the referent is JAK and in the 4^{th} row the referent is placebo.