Suppl. table 1. Full list of articles eligible for meta-analysis. Characteristics as per PICO framework and key results

Citation	P Who is the patient/what problem is being addressed?	I What is the intervention or exposure?	C What is the comparison group?	O What is the outcome or endpoint?	Total N (N for intervention and control)	Age Mean (SD) or Median (IQR)	Duration of PsA Mean (SD) or Median (IQR)	Baseline DAS-28 score Mean (SD) or Median (IQR)	Baseline PASI score Mean (SD) or Median (IQR)	Current MTX use N (%)	History of TNF-alpha use N (%)	Body weight at baseline Mean (SD)	ACR20 at week 12 (primary objective)	Placebo controlled period	Incidence of infections during placebo controlled period
Mease et al., 2016 (1) (ARD) Ph III	Adult patients with psoriatic arthritis per CASPAR 2006 criteria with active disease (>=3 swollen joint count, >= 3 tender joint count and CRP >6mg/L or >1 PsA related hand or foot joint erosion on centrally read X rays) Adults (males and females) of white, Asian and other races were included (multi-country including North America, Canada, Japan and Europe). Patients on stable doses of allowed DMARDs, oral corticosteroids and/or NSAIDs were allowed without dose modification. Patients were not treated with biologics prior to enrolment.	Ixekizumab 80 mg q2wk or 80 mg q4wk given as a subcutaneous injection (2 investigational treatment arms) up-to 24 weeks. Both regimens included a 160mg starting/loading dose	Placebo and Adalimumab 40 q2wk injections given subcutaneously up-to 24 weeks (superiority comparison at week 12 was only with placebo; adalimumab served as active reference for placebo only and was not for testing equivalence or non-inferiority)	ACR20 at week 12 (primary endpoint was ACR20 at week 24). Secondary endpoints: ACR50 and ACR70 response at week 24. Safety endpoints included incidence and severity of related AEs (including SAEs), infections and treatment discontinuation due to AEs.	417 (Ixekizumab N= 210, Placebo N=106 and Adalimumab N=101)	Combined: 49.5 (11.9) Placebo: 50.6 (12.3) Ixekizumab q4w: 49.1 (10.1) Ixekizumab q2w: 49.8 (12.4)	Combined: 6.7 years (7.2) Placebo: 6.3 (6.9) Ixekizumab q4w: 6.2 (6.4) Ixekizumab q2: 7.2(8)	Combined: 4.9 (1) Placebo: 4.9 (1) Ixekizumab q4w: 5 (1) Ixekizumab q2w: 5 (1.1)	Combined: 6.1 (6.9) Placebo: 6.2 (7.5) Ixekizumab q4w: 6.9 (6.66) Ixekizumab q2w: 6 (7)	Combined: 226 (54.2%) Placebo: 69 (65.1) Ixekizumab q4w: 68 (63.6) Ixekizumab q2w: 63 (61.2)	0 (0%)	Combined: 85.6 (20.9) Placebo: 83.8 (19.6) Ixekizumab q4w: 85.5 (23) Ixekizumab q2w:81.6 (17.5)	58.57% (123/210: Ixekizumab) vs. 31.13% (33/106: Placebo)	24 weeks	25.84% (54/209: Ixekizumab) vs 25.47% (27/106: Placebo)
Mease et al., 2015 (2) (NEJM) Phase III	Patients >= 18 years who met the CASPAR criteria and had active disease (>=3 SJC and TJC) despite previous treatment with NSAIDs, DMARD or TNF inhibitors. Concomitant oral	Intravenous loading dose of 10mg/kg Secukinumab given at week 0, 2 and 4 followed by 75mg or 150 mg given subcutaneously (two active	Placebo injections were given intravenously at week 0, 2 and 4 followed by subcutaneous injections every 4 weeks. They were then	ACR20 at week 12 (primary endpoint at week 24). Major secondary endpoint was: ACR50 response at week 24.	606 (Secukinumab N = 404 and Placebo N = 202)	Secukinumab 150mg: 49.6 (11.8) Secukinumab 75mg: 48.8 (12.2) Placebo: 48.5 (11.2)	Not reported	Secukinumab 150mg: 4.8 (1.1) Secukinumab 75mg: 4.9 (1.2) Placebo: 4.9 (1.1)	Secukinumab 150mg: 15.6 (13.9) Secukinumab 75mg: 10.7 (8.8)	Secukinumab 150mg: 121 (59.9%) Secukinumab 75mg: 122 (60.4%)	Secukinumab 150mg: 59 (29.2%) Secukinumab 75mg: 60 (29.7%)	Secukinumab 150mg: 84.2(21.1) Secukinumab 75mg: 84.5 (19.6)	53.47%(216/404: Secukinumab) vs 24.23% (49/202: Placebo)	16 weeks	29.7% (120/404: Secukinumab) vs. 23.27% (47/202: Placebo)

	steroids (<=10mg/day) and methotrexate (<=25mg/week) was permitted provided the dose prescribed was stable. Those who received prior anti-TNF therapy were required to have either inadequate response or stopped treatment due to side effects. Those on anti-TNF at screening were subjected to washout period of 4 to 10 weeks before randomization. Study was performed at 104 sites in North America, South America, Europe, Middle East, Australia and Asia.	arms) every 4 weeks up-to 24 weeks	switched to Secukinumab 150 or 75 at week 16 or 24 depending on clinical response	ACR70 response was an exploratory endpoint at week 24. Safety endpoints included incidence and severity of related AEs (including SAEs), and treatment discontinuation due to AEs.					Placebo: 15.1 (11.6)	Placebo: 125 (61.9)	Placebo: 59 (29.2%)	Placebo: 80 (20.5)			
McInnes et al., 2015 (3) (Lancet) Phase III	Adult patients >= 18 years who met CASPAR criteria and had active disease (>=3 SJC and >= 3TJC) despite previous DMARD or anti-TNF agents. Study performed in 76 centers in Australia, Asia, USA and Canada. Concomitant orals steroids (<=10 mg/day) and methotrexate (<=25 mg/week) were allowed on stable dose. Patients on anti-TNF agent had to discontinue and undergo washout of 4 – 10 weeks	Secukinumab 300mg or 150mg or 75 mg given subcutaneously (three active treatment arms) once a week from baseline to week 4 and then once every 4 weeks up-to week 52	Placebo injections given subcutaneously once a week from baseline to 4 weeks and then every 4 weeks till 12 weeks. Placebo treated patients were re-randomized (1:1) to subcutaneous Secukinumab 300mg or 150mg every 4 weeks from week 16 (for non-responders) or 24 (for responders) till week 52	ACR20 at week 12 (primary endpoint at week 24). Major secondary endpoints were: ACR50 response at week 24. ACR70 response was an exploratory endpoint at week 24. Safety endpoints included incidence and severity of related AEs (including SAEs), and treatment	397 (299 Secukinumab vs 98 Placebo)	Secukinumab 300mg: 46.9 (12.6) Secukinumab 150mg: 46.5 (11.7) Secukinumab 75mg: 48.6 (11.4) Placebo: 49.9 (12.5)	Not Reported	Secukinumab 300mg: 4.8 (1) Secukinumab 150mg: 4.9 (1.1) Secukinumab 75mg: 4.7 (1) Placebo: 4.7 (1)	Secukinumab 300mg: 11.9 (8.4) Secukinumab 150mg: 16.2 (14.3) Secukinumab 75mg: 12.1 (10.2) Placebo: 11.6 (8.3)	Secukinumab 300mg: 44 (44%) Secukinumab 150mg: 44 (44%) Secukinumab 75mg: 47(47%) Placebo: 50 (51%)	Secukinumab 300mg: 33 (33%) Secukinumab 150mg: 37 (37%) Secukinumab 75mg: 34 (34.3%) Placebo: 35 (35.7%)	Secukinumab 300mg: 85.4 (18.4) Secukinumab 150mg: 91.2 (19.8) Secukinumab 75mg: 85.6 (20.6) Placebo: 86.2 (19.8)	48.83%(146/299: Secukinumab) vs. 25.51% (25/98: Placebo)	16 weeks	27.42% (82/299: Secukinumab) vs. 30.61% (30/98: Placebo)

	before randomization.			discontinuation due to AEs.											
Mease et al., 2014 (4)(NEJM) Phase II	Patients between the ages of 18 and 75 years age having PsA per CASPAR criteria and active disease (>=3 TJC and >=3 SJC). Concomitant stable dose of methotrexate (<=25 mg/week) or NSAIDs or leflunomide (<=20 mg/day or steroids (<=10 mg per day prednisone equivalent) was allowed but had to be stable 4 weeks prior to randomization. Those who received anti-TNF and/or anti-IL12/23 treatments had to undergo washout periods of 2 and 3 months respectively. Study conducted at 29 sites in the United States and Canada.	Brodalumab 140 mg or 280 mg given subcutaneously (two active treatment arms) on day 1 and weeks 1, 2, 4, 6, 8 and 10. Open label extension was up to 5 years (40-week period reported in this article) and was Brodalumab 280 mg every 2 weeks.	Placebo injections given subcutaneously on day 1 and weeks 1, 2, 4, 6, 8 and 10. Open label extension was given to patients who did not discontinue the study at a dose of 280 mg every 2 weeks (open label extension phase was for 5 years but only 40-week data has been reported in this article)	ACR20 at week 12. Major secondary endpoints were: ACR50 and 70 responses at week 12. Safety endpoints included incidence and severity of related AEs (including SAEs), and treatment discontinuation due to AEs.	167 (113 Brodalumab plus 55 Placebo)	Combined: 52 (11) Brodalumab 140mg: 53 (10) Brodalumab 280mg: 51 (12) Placebo: 53 (13)	Combined: 8.8 (7.7) Brodalumab 140mg: 9.4 years (7.5) Brodalumab 280mg: 8.1 years (7.9) Placebo: 8.4 years (7.5)	Combined: 5.6 (1.2) Brodalumab 140mg: 5.7 (1.2) Brodalumab 280mg: 5.5 (1.2) Placebo: 5.5 (1.1)	Not reported	Combined: 61 (54%) Brodalumab 140mg: 31 (54%) Brodalumab 280mg: 30 (54%) Placebo: 23 (42%)	Combined: 61 (54%) Brodalumab 140mg: 30 (53%) Brodalumab 280mg: 31 (55%) Placebo: 25 (45%)	Combined: 91 (22) Brodalumab 140mg: 91 (22) Brodalumab 280mg: 91 (22%) Placebo: 90 (20%)	38.05%(43/113: Brodalumab) vs. 18.18%(10/55: Placebo)	12 weeks	11.61% (13/112: Brodalumab) vs. 7.27% (4/55: Placebo)
Ritchlin et al., 2014 (5) (ARD) Phase III	Adult patients with PsA per CASPAR criteria and had active disease (>=5 SJC and >5TJC with screening CRP >= 6 mg/L modified to >=3 mg/L after study start) for >=6 months, despite >=3 months of DMARD therapy, >=4 week of NSAIDs and/or >=8 (Etanercept, adalimumab, golimumab, certolizumab-	Ustekinumab 90mg or 45 mg given subcutaneously (two treatment arms) at week 0, 4 and every 12 weeks (q12) thereafter. At week 16, patients with <5% improvement in tender and swollen joints entered blinded early escape wherein those	Placebo injections given subcutaneously at week 0, 4 and every 12 weeks. At week 16, patients with <5% improvement in tender and swollen joints entered blinded early escape. Placebo patients who did not enter EE crossed over to Ustekinumab	ACR20 at week12 (but primary endpoint was at week 24). Other major secondary endpoints: ACR50 and ACR70 at week 24. Safety endpoints included incidence and severity of	311 (207 Ustekinumab plus 104 Placebo)	Placebo: Median: 48 (IQR: 38.5 to 56) Ustekinumab 45mg: 49 (40 to 56) Ustekinumab 90mg: 48 (41 to 57)	Not reported	Placebo: Median: 5.2 (IQR: 4.4 to 5.9) Ustekinumab 45mg: 5.6 (4.9 to 6.3) Ustekinumab 90mg: 5.3 (4.7 to 6)	Placebo: Median: 7.9 (IQR: 4.5 to 16) Ustekinumab 45mg: 8.6 (4.5 to 18.3) Ustekinumab 90mg: 8.8 (4.5 to 18)	Placebo: 49(47.1%) Ustekinumab 45mg: 54 (52.4%) Ustekinumab 90mg: 52 (49.5%)	Placebo: 62(59.6%) Ustekinumab 45mg: 60(58.2%) Ustekinumab 90mg: 58 (55.2%)	Not reported	36.54%(76/208: Ustekinumab) vs. 17.31%(18/104: Placebo)	16 weeks	27.05% (56/207: Ustekinumab) vs. 24.04 (25/104 Placebo)

	pegol) or 14 (infliximab) continuous weeks of anti-TNF therapy. Concomitant stable dose of methotrexate was permitted at <=25mg/week. Concomitant NSAID and oral low dose steroids (<=10mg/day prednisone equivalent) permitted if stable for 2 weeks before randomization and stable during study (no dose modification except for safety reasons). Multi center and multi country study (Europe, North America and UK).	who received 45 mg switch to 90 mg and those who received 90 mg would continue 90mg in a blinded fashion.	45mg at week 24, week 28 and week 40.	related AEs (including SAEs), infections and treatment discontinuation due to AEs.											
McInnes et al., 2013 (6) (Lancet) Phase III	Adult patients with active PsA (>=5 SJC and >=5TJC and baseline CRP of >=3mg/L with upper limit being 10 mg/L) for >=6 months despite 3 months or more of DMARD treatment or 4 weeks or more of NSAID treatment or both or intolerance to these treatments. Study conducted in 14 countries (104 sites) across Europe, North America, Australia, Russia and UK. No prior use of anti-TNF agents.	Ustekinumab 90 mg or 45 mg given subcutaneously at week 0, 4 and every 12 weeks thereafter. At week 16, patients with <5% improvement in tender and swollen joints entered blinded early escape wherein those who received 45 mg switch to 90 mg and those who received 90 mg would continue 90mg in a blinded fashion up-to week 52.	Placebo injection given subcutaneously at week 0, 4 and every 12 weeks thereafter. At week 16, patients with <5% improvement in tender and swollen joints entered blinded early escape. Placebo patients who did not enter EE crossed over to Ustekinumab 45mg at week 24, week 28 every 12 weeks thereafter up-to week 52.	ACR20 at week 12 (primary endpoint at 24 weeks). Secondary endpoints: ACR 50, 70 responses at week 24. Safety endpoints included incidence and severity of related AEs (including SAEs), infections and treatment discontinuation due to AEs.	614 (409 Ustekinumab plus 205 Placebo)	Placebo: Median: 48 (IQR: 39 to 57) Ustekinumab 45mg: 48 (39 to 55) Ustekinumab 90mg: 47 (38.5 to 54)	Placebo: 3.6 years (1 -9.7) Ustekinumab 45mg: 3.4 years (1.2 – 9.2) Ustekinumab 90mg: 4.9 (1.7 – 8.3)	Placebo: 5.2 (4.4-6) Ustekinumab 45mg: 5.2 (4.6-5.7) Ustekinumab 90mg: 5.2 (4.6-5.8)	Placebo: 8.8 (4.4-13) Ustekinumab 45mg: 7.1 (3.3-15.3) Ustekinumab 90mg: 8.4 (4.8-14.7)	Placebo: 96 (46.6%) Ustekinumab 45mg: 99 (48.3%) Ustekinumab 90mg: 101 (49.5%)	0(0%)	Not reported	41.56% (170/409 : Ustekinumab) vs. 21.84%(45/206: Placebo)	16 weeks	18.09% (74/409: Ustekinumab) vs. 20.98% (43/205: Placebo)

Gottileb et al., 2009 (7) (Lancet) Phase II	Adults (>=18 years) who had active PsA (>=3 SJC and >=TJC and either baseline CRP >= 15mg/L or morning stiffness of at-least 45 min) and diagnosed at-least 6 months before receipt of study agent. Inadequate response to DMARDs, NSAIDs, anti-TNF or a combination must have been present prior to enrolment. Study permitted stable dose of methotrexate (<=25 mg/week) and/or oral steroids (<=10mg/day of prednisone). Patients who received biologics within 3 months or systemic drugs or phototherapy within 4 weeks of randomization. Study was conducted at 24 sites in North America and Europe.	Ustekinumab 90mg or 63 mg given subcutaneously every week for 4 weeks followed by placebo crossover at weeks 12 and 16.	Placebo injections given subcutaneously every week for 4 weeks followed by Ustekinumab 63 mg crossover at weeks 12 and 16.	ACR20 at week 12 (primary endpoint) Major secondary endpoints were ACR50 and ACR70 at weeks 12. Safety endpoints included incidence and severity of related AEs (including SAEs), infections and treatment discontinuation due to AEs.	146 (76 Ustekinumab vs 70 Placebo)	Ustekinumab: 50 (42-60.5) Placebo: 47.5 (40-55)	Ustekinumab: 6.15 years (2.78 – 13.7) Placebo: 4.9 (2.43-10.71)	Not reported	Ustekinumab: 8.45 (5.7-15.3) Placebo: 9.75 (5.5-15.65)	Ustekinumab: 15 (20%) Placebo: 15 (21%)	Ustekinumab: 18 (24%) Placebo: 22 (31%)	Not reported	32/76 Ustekinumab vs 10/70 Placebo	12 weeks	35.53% (27/76: Ustekinumab) vs. 30% (21/70: Placebo)