

Review

Treatment modifying factors of biologics for psoriatic arthritis: a systematic review and Bayesian meta-regression

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Appendices to this paper containing supplementary material

APPENDICES

Appendix 1: Literature search strategies

Supplementary Table 1: Medline and EMBASE search strategy

No.	Term
1.	psoriatic arthritis/
2.	(psoria* adj2 (arthrit* or arthropath*)).ti,ab.
3.	1 or 2
4.	Etanercept/
5.	(etanercept or Enbrel).ti,ab.
6.	infliximab/
7.	(infliximab or remicade).ti,ab.
8.	adalimumab/
9.	(adalimumab or humira).ti,ab.
10.	golimumab/
11.	(golimumab or simponi).ti,ab.
12.	certolizumab pegol/ or certolizumab/
13.	(certolizumab* or certolizumab pegol or cimzia).ti,ab.
14.	tocilizumab/
15.	(tocilizumab or actemra).ti,ab.
16.	anakinra/
17.	(anakinra or kineret).ti,ab.
18.	abatacept/
19.	(abatacept or orenicia).ti,ab.
20.	rituximab/
21.	(rituximab or rituxan).ti,ab.
22.	ustekinumab/
23.	(ustekinumab or stelara).ti,ab.
24.	secukinumab/

No.	Term
25.	(secukinumab or AIN457).ti,ab.
26.	(AIN adj2 457).ti,ab.
27.	or/4-26
28.	3 and 27
29.	limit 28 to human

Supplementary Table 2: Cochrane Central search strategy

No.	Term
1.	MeSH descriptor Arthritis, Psoriatic, this term only
2.	(psoria* NEAR/2 arthrit*)
3.	(psoria* NEAR/2 arthropath*)
4.	(#1 OR #2 OR #3)
5.	(etanercept or enbrel):ti,ab,kw.
6.	(infliximab or remicade):ti,ab,kw.
7.	(adalimumab or humira):ti,ab,kw.
8.	(golimumab or simponi):ti,ab,kw.
9.	(certolizumab or certolizumab pegol or cimzia):ti,ab,kw.
10.	(tocilizumab or actemra):ti,ab,kw.
11.	(anakinra or kineret):ti,ab,kw.
12.	(abatacept or orencia):ti,ab,kw.
13.	(rituximab or rituxan):ti,ab,kw.
14.	(ustekinumab or stelara):ti,ab,kw.
15.	(secukinumab or AIN457):ti,ab,kw.
16.	(AIN NEAR/2 457)

Treatment Modifying Factors in Psoriatic Arthritis

No.	Term
17.	(#5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16)
18.	(#4 AND #17)

Appendix 2: Risk-of-bias assessment**Supplementary Table 3: Risk-of-bias summary: review of the authors' judgments for each included study (15)**

Study	Sequence generation	Allocation concealment	Blinding participants, personnel and outcome assessors	Incomplete outcome data addressed	Free of selective reporting	Free of other bias
ADEPT (9, 39)	Unclear	Unclear	Low	Low	Low	Low
Genovese et al 2007 (26)	Low	Low	Low	Low	Low	Low
GO-REVEAL (8), (49)	Low	Low	Low	Low	Low	Low
IMPACT (24)	Unclear	Unclear	Low	Low	Unclear	Low
IMPACT 2 (25), (7)	Low	Low	Low	Low	Unclear	Low
McInnes et al 2014 (28)	Low	Low	Low	Low	Low	Low
Mease et al 2000 (30)	Unclear	Low	Unclear	Low	Unclear	Low
Mease et al 2004 (10), (50)	Unclear	Low	Unclear	Low	Low	Unclear
Mease et al 2011 (34)	Unclear	Unclear	Low	Low	Low	Low
PSUMMIT 1 (27)	Low	Low	Low	Low	Low	Low
PSUMMIT 2 (31)	Low	Low	Low	Low	Low	Low

Treatment Modifying Factors in Psoriatic Arthritis

RAPID-PsA (29), (51)	Low	Low	Low	Low	Low	Low
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Treatment Modifying Factors in Psoriatic Arthritis

Appendix 3: Study baseline characteristics

Supplementary Table 4: Patient demographics

Primary Author	Intervention	N	Age, mean (SD)	Males, n (%)	White, n (%)	Psoriasis duration, mean (SD)	PsA duration, mean (SD)	DIP, n (%)	AM, n (%)	APA, n (%)	PAA, n (%)	Spondylitis, n (%)	Prior anti-TNF use, n (%)
Antoni et al 2005 (IMPACT 2) (25)	Infliximab	100	47.1 (12.8)	71 (71)			8.4 (7.2)	26 (26)	1 (1)	18 (18)	53 (53)	2 (2)	
	Placebo	100	46.5 (11.3)	51 (51)			7.8 (7.8)	23 (23)	2 (2)	22 (22)	47 (47)	6 (6)	
Antoni et al 2005 (IMPACT) (24)	Infliximab	52	45.7 (11.1)	30 (57)		16.9 (10.9)	11.7 (9.8)						
	Placebo	52	45.2 (9.7)	30 (57)		19.4 (11.6)	11 (6.6)						
Genovese et al 2007 (26)	Adalimumab	51	50.4 (11.0)	29 (57)	50 (98)	18 (13.2)	7.5 (7.0)	3 (6)	0 (0)			1 (2)	
	Placebo	51	47.7 (11.3)	25 (51)	46 (94)	13.8 (10.7)	7.2 (7.0)	0 (0)	0 (0)			1 (2)	
Kavanaugh et al 2009 (GO-REVEAL) (8)	Golimumab	146	45.7 (10.7)	89 (61)	141 (97)		7.2 (6.8)	24 (16)	2 (1)	44 (30)		14 (10)	
	Golimumab	146	48.2 (10.9)	86 (59)	142 (97)		7.7 (7.8)	22 (15)	1 (1)	49 (34)		18 (12)	
	Placebo	113	47.0 (10.6)	69 (61)	110 (97)		7.6 (7.9)	16 (14)	0 (0)	27 (24)		12 (11)	
McInnes et al 2013 (PSUMMIT 1) (27)	Ustekinumab	2205	48 (39-55)*	106 (52)		12 (4.1-22.2)*	3.4 (1.2-9.2)*						
	Ustekinumab	204	47 (39-54)*	116 (57)		14.1 (5.4-22.4)*	4.9 (1.7-8.3)*						
	Placebo	206	48 (39-57)*	108 (52)		13.1 (5.3-23.5)*	3.6 (1.0-9.7)*						
McInnes et al 2014 (28)	Secukinumab	28	46.7 (11.3)	9 (32)	28 (100)		6.3 (6.8)						10 (42)
	Placebo	14	47.6 (8.1)	6 (43)	11 (79)		5.4 (3.8)						3 (23)
Mease et al 2000 (30)	Etanercept	30	46 (30-70)*	16 (53)	27 (90)	19 (4-53)	19 (4-53)*						
	Placebo	30	43.5 (24-63)*	18 (60)	25 (83)	17.5 (2-43)	17.5 (2-43)*						
Mease et al 2004 (10)	Etanercept	101	47.6	58 (57)	91 (90)	18.3	9.0	52 (51)	1 (1)	41 (41)	87 (86)		
	Placebo	104	47.3	47 (45)	95 (91)	19.7	9.2	52 (50)	2 (2)	40 (38)	86 (83)		
Mease et al 2005 (ADEPT) (9)	Adalimumab	151	48.6 (12.5)	85 (56)	147 (97)	17.2 (12)	9.8 (8.3)	15 (10)	1 (1)			0 (0)	
	Placebo	162	49.2 (11.1)	89 (55)	152 (94)	17.1 (12.6)	9.2 (8.7)	8 (5)	0 (0)			0 (0)	
Mease et al 2011 (34)	Abatacept	45	50.3 (9.9)	22 (49)	40 (98)								16 (36)
	Abatacept	40	50.8 (10.5)	26 (65)	38 (95)								13 (33)
	Abatacept	43	51.5 (9.8)	20 (46)	43 (100)								22 (51)
	Placebo	42	52.6 (12.0)	23 (55)	41 (98)								12 (29)

Treatment Modifying Factors in Psoriatic Arthritis

Primary Author	Intervention	N	Age, mean (SD)	Males, n (%)	White, n (%)	Psoriasis duration, mean (SD)	PsA duration, mean (SD)	DIP, n (%)	AM, n (%)	APA, n (%)	PAA, n (%)	Spondylitis, n (%)	Prior anti-TNF use, n (%)
Mease et al 2014 (RAPID-PsA) (29)	Certolizumab	138	48.2 (12.3)	63 (46)	135 (99)								31 (23)
	Certolizumab	135	47.1 (10.8)	62 (46)	132 (98)								23 (17)
	Placebo	136	47.3 (11.1)	57 (42)	132 (97)								26 (19)
Ritchlin et al 2014 (PSUMMIT 2) (31)	Ustekinumab	103	49 (40-56)*	48 (47)		13.3 (5-24.4)*	5.3 (2.3-12.2)*						60 (58)
	Ustekinumab	105	48 (41-57)*	49 (47)		11.3 (4.5-21.4)*	4.5 (1.7-10.3)*						58 (55)
	Placebo	104	48 (39-56)*	51 (49)		11.4 (6-22)*	5.5 (2.3-12.2)*						62 (60)

SD – standard deviation; PsA – psoriatic arthritis; DIP – distal interphalangeal joint arthritis; AM – arthritis mutilans; APA – asymmetric peripheral arthritis; PAA – polyarticular arthritis; TNF – tumour necrosis factor; * - median (interquartile range); + - median (range)

Treatment Modifying Factors in Psoriatic Arthritis

Supplementary Table 5: Treatment characteristics

Primary Author	Intervention	Dose	Regimen	Route	Treatment duration (weeks)
Antoni et al 2005 (IMPACT 2) (25)	Infliximab	5 mg/kg	Weeks 0, 2, 6, 14 and 22	Intravenous	24
	Placebo				
Antoni et al 2005 (IMPACT) (24)	Infliximab	5 mg/kg	Weeks 0, 2, 4, 6 and 14	Intravenous	50
	Placebo				
Genovese et al 2007 (26)	Adalimumab	40 mg	Every other week	Subcutaneous	24
	Placebo				
Kavanaugh et al 2009 (GO-REVEAL) (8)	Golimumab	50 mg	Every fourth week	Subcutaneous	24
	Golimumab	100 mg	Every fourth week	Subcutaneous	24
	Placebo				
McInnes et al 2013 (PSUMMIT 1) (27)	Ustekinumab	45 mg	Weeks 0, 4 and every 12 weeks thereafter	Subcutaneous	52
	Ustekinumab	90 mg	Weeks 0, 4 and every 12 weeks thereafter	Subcutaneous	52
	Placebo				
McInnes et al 2014 (28)	Secukinumab	10 mg	Weeks 0 and 3	Subcutaneous	24
	Placebo				
Mease et al 2000 (30)	Etanercept	25 mg	Twice weekly	Subcutaneous	12
	Placebo				
Mease et al 2004 (10)	Etanercept	25 mg	Twice weekly	Subcutaneous	24
	Placebo				
Mease et al 2005 (ADEPT) (9)	Adalimumab	40 mg	Every other week	Subcutaneous	24
	Placebo				
Mease et al 2011 (34)	Abatacept	3 mg/kg	Weeks 0, 2, 4 and every 4 weeks thereafter	Intravenous	26
	Abatacept	10 mg/kg	Weeks 0, 2, 4 and every 4 weeks thereafter	Intravenous	26
	Abatacept	30 mg/kg	30 mg/kg at weeks 0 and 2, 10 mg/kg at weeks 4 and every 4 weeks thereafter	Intravenous	26
	Placebo				
Mease et al 2014 (RAPID-PsA) (29)	Certolizumab	200 mg	Every other week	Subcutaneous	216
	Certolizumab	400 mg	Every fourth week	Subcutaneous	216
	Placebo				
Ritchlin et al 2014 (PSUMMIT 2) (31)	Ustekinumab	45 mg	Weeks 0, 4 and every 12 weeks thereafter	Subcutaneous	52
	Ustekinumab	90 mg	Weeks 0, 4 and every 12 weeks thereafter	Subcutaneous	52
	Placebo				

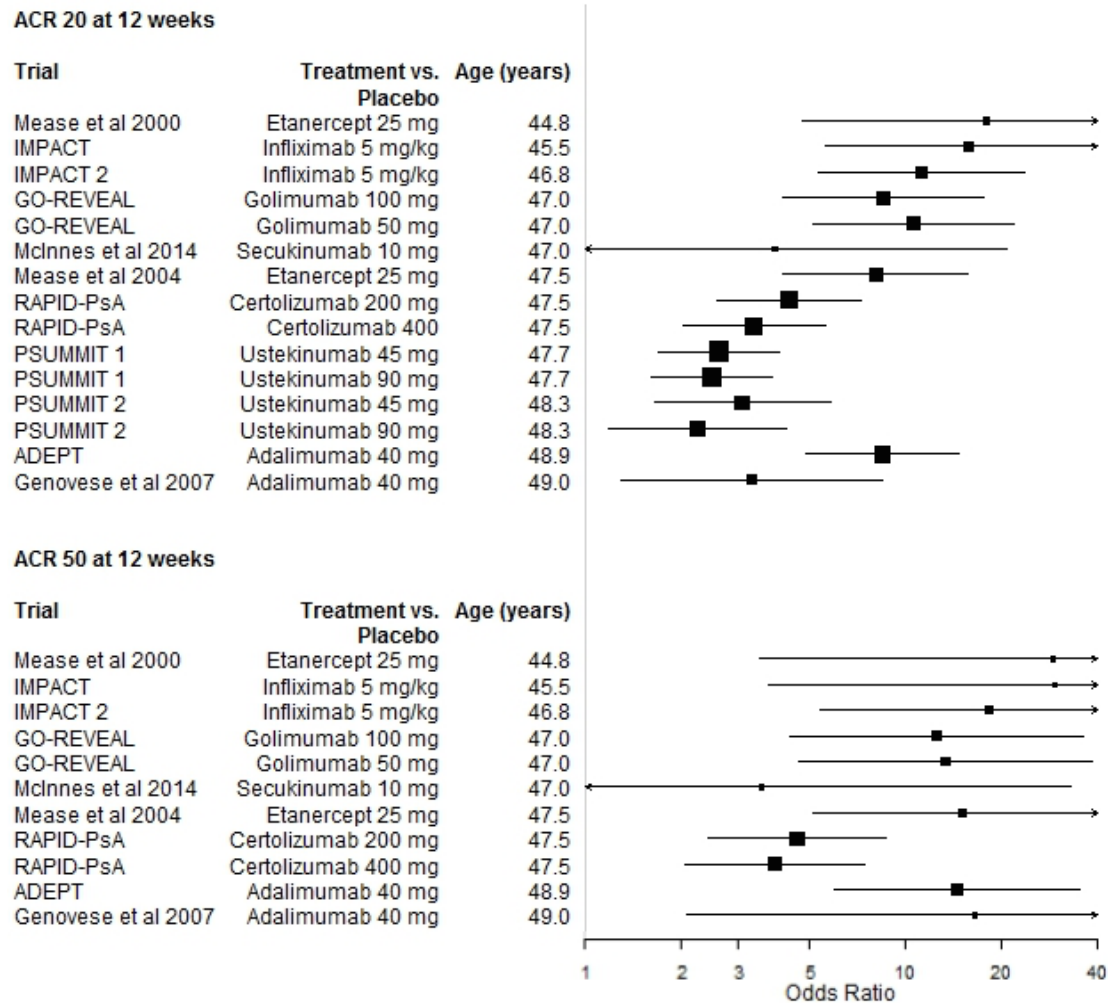
Treatment Modifying Factors in Psoriatic Arthritis

Supplementary Table 6: Trial characteristics

Primary Author	Total length of study (weeks)	Length of randomization period (weeks)	Early escape allowed	Week of early escape	Subsequent trial publications
Antoni et al 2005 (IMPACT 2) (25)	24	16	Yes	16	Kavanaugh et al 2007 (7)
Antoni et al 2005 (IMPACT) (24)	50	16	No	NA	
Genovese et al 2007 (26)	24	12	No	NA	
Kavanaugh et al 2009 (GO-REVEAL) (8)	24	24	Yes	16	Kavanaugh et al 2013 (49)
McInnes et al 2013 (PSUMMIT 1) (27)	52	24	Yes	16	
McInnes et al 2014 (28)	24	24	No	NA	
Mease et al 2000 (30)	24	24	No	NA	
Mease et al 2004 (10)	24	24	No	NA	Mease et al 2010 (50)
Mease et al 2005 (ADEPT) (9)	24	24	No	NA	
Mease et al 2011 (34)	26	24	No	NA	
Mease et al 2014 (RAPID-PsA) (29)	216	24	Yes	16	Gladman et al 2014 (51)
Ritchlin et al 2014 (PSUMMIT 2) (31)	52	24	Yes	16	

Appendix 4: Forest plots for ACR 20 and ACR 50

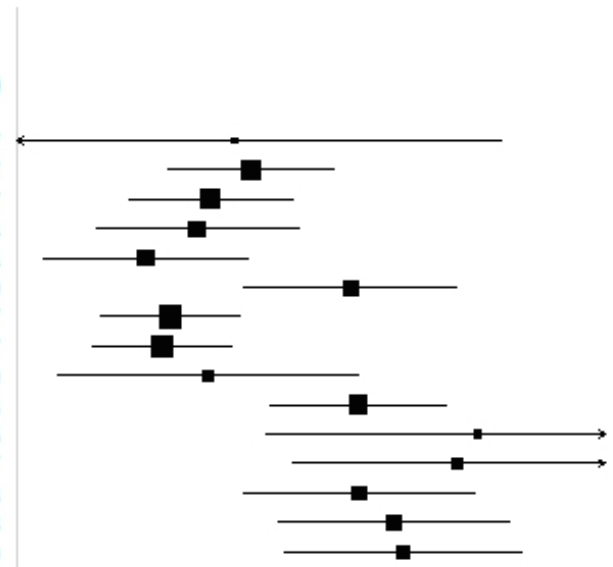
Supplementary Figure 1: Forest plot of odds ratios for ACR 20 and ACR 50 at 12 weeks for age (years)



Supplementary Figure 2: Forest plot of odds ratios for ACR 20 and ACR 50 at 12 weeks for male (%)

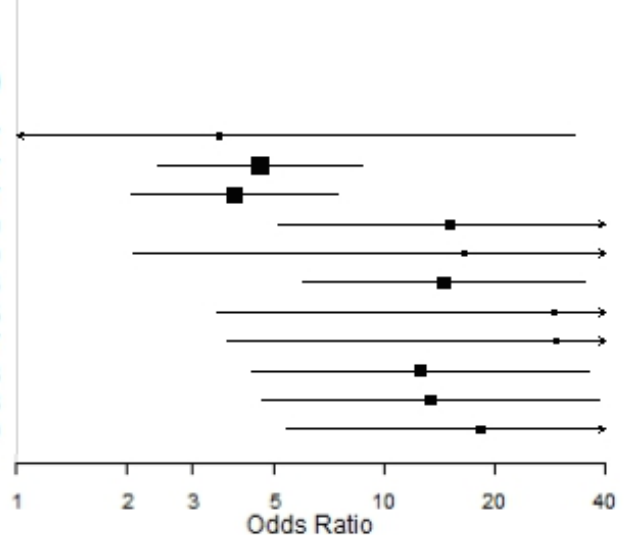
ACR 20 at 12 weeks

Trial	Treatment vs. Placebo	Male (%)
McInnes et al 2014	Secukinumab 10 mg	35.7
RAPID-PsA	Certolizumab 200 mg	44.7
RAPID-PsA	Certolizumab 400 mg	44.7
PSUMMIT 2	Ustekinumab 45 mg	47.4
PSUMMIT 2	Ustekinumab 90 mg	47.4
Mease et al 2004	Etanercept 25 mg	50.9
PSUMMIT 1	Ustekinumab 45 mg	53.7
PSUMMIT 1	Ustekinumab 90 mg	53.7
Genovese et al 2007	Adalimumab 40 mg	54.0
ADEPT	Adalimumab 40 mg	55.6
Mease et al 2000	Etanercept 25 mg	56.5
IMPACT	Infliximab 5 mg/kg	56.7
GO-REVEAL	Golimumab 100 mg	60.3
GO-REVEAL	Golimumab 50 mg	60.3
IMPACT 2	Infliximab 5 mg/kg	61.0



ACR 50 at 12 weeks

Trial	Treatment vs. Placebo	Male (%)
McInnes et al 2014	Secukinumab 10 mg	35.7
RAPID-PsA	Certolizumab 200 mg	44.7
RAPID-PsA	Certolizumab 400 mg	44.7
Mease et al 2004	Etanercept 25 mg	50.9
Genovese et al 2007	Adalimumab 40 mg	54.0
ADEPT	Adalimumab 40 mg	55.6
Mease et al 2000	Etanercept 25 mg	56.5
IMPACT	Infliximab 5 mg/kg	56.7
GO-REVEAL	Golimumab 100 mg	60.3
GO-REVEAL	Golimumab 50 mg	60.3
IMPACT 2	Infliximab 5 mg/kg	61.0



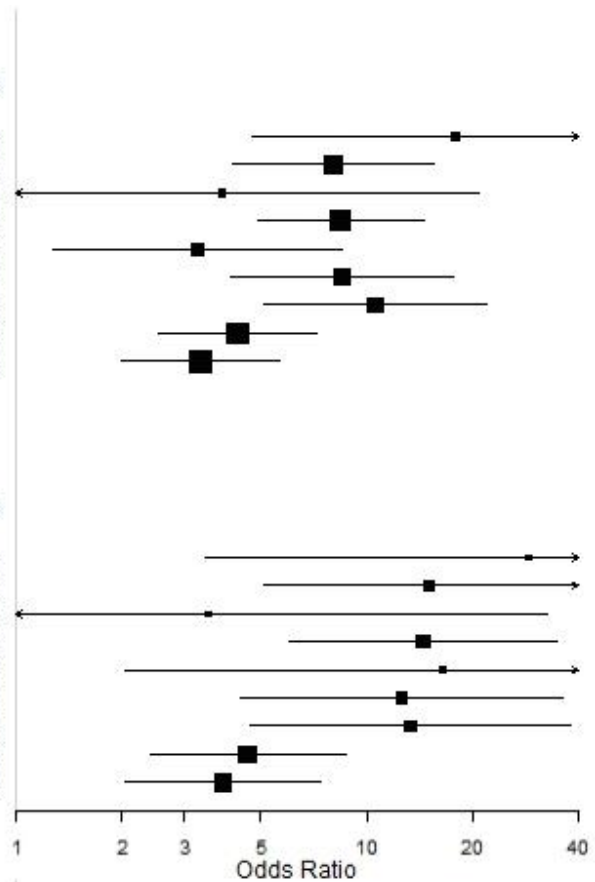
Supplementary Figure 3: Forest plot of odds ratios for ACR 20 and ACR 50 at 12 weeks for Caucasian (%)

ACR 20 at 12 weeks

Trial	Treatment vs. Placebo	Caucasian (%)
Mease et al 2000	Etanercept 25 mg	86.5
Mease et al 2004	Etanercept 25 mg	90.5
McInnes et al 2014	Secukinumab 10 mg	93.0
ADEPT	Adalimumab 40 mg	95.5
Genovese et al 2007	Adalimumab 40 mg	96.0
GO-REVEAL	Golimumab 100 mg	97.0
GO-REVEAL	Golimumab 50 mg	97.0
RAPID-PsA	Certolizumab 200 mg	97.8
RAPID-PsA	Certolizumab 400	97.8

ACR 50 at 12 weeks

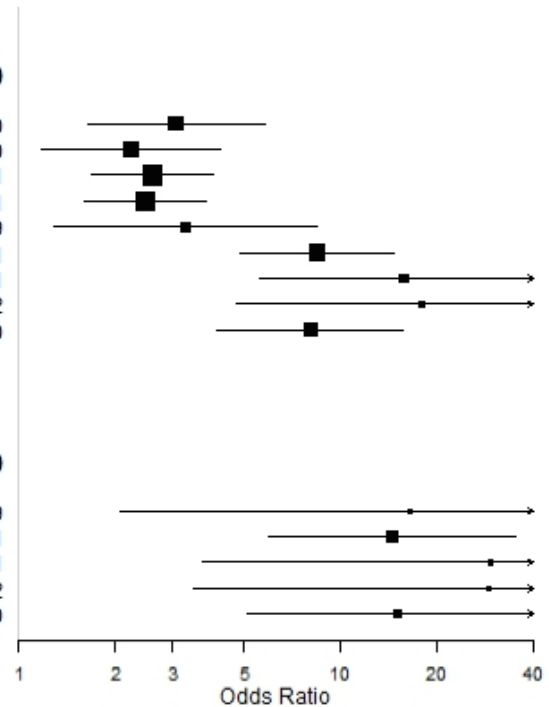
Trial	Treatment vs. Placebo	Caucasian (%)
Mease et al 2000	Etanercept 25 mg	86.5
Mease et al 2004	Etanercept 25 mg	90.5
McInnes et al 2014	Secukinumab 10 mg	93.0
ADEPT	Adalimumab 40 mg	95.5
Genovese et al 2007	Adalimumab 40 mg	96.0
GO-REVEAL	Golimumab 100 mg	97.0
GO-REVEAL	Golimumab 50 mg	97.0
RAPID-PsA	Certolizumab 200 mg	97.8
RAPID-PsA	Certolizumab 400 mg	97.8



Supplementary Figure 4: Forest plot of odds ratios for ACR 20 and ACR 50 at 12 weeks for psoriasis disease duration (years)

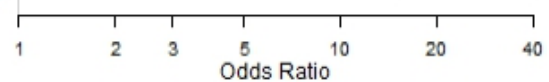
ACR 20 at 12 weeks

Trial	Treatment vs. Placebo	Psoriasis duration (years)
PSUMMIT 2	Ustekinumab 45 mg	12.0
PSUMMIT 2	Ustekinumab 90 mg	12.0
PSUMMIT 1	Ustekinumab 45 mg	13.1
PSUMMIT 1	Ustekinumab 90 mg	13.1
Genovese et al 2007	Adalimumab 40 mg	15.9
ADEPT	Adalimumab 40 mg	17.1
IMPACT	Infliximab 5 mg/kg	18.1
Mease et al 2000	Etanercept 25 mg	18.2
Mease et al 2004	Etanercept 25 mg	19.0

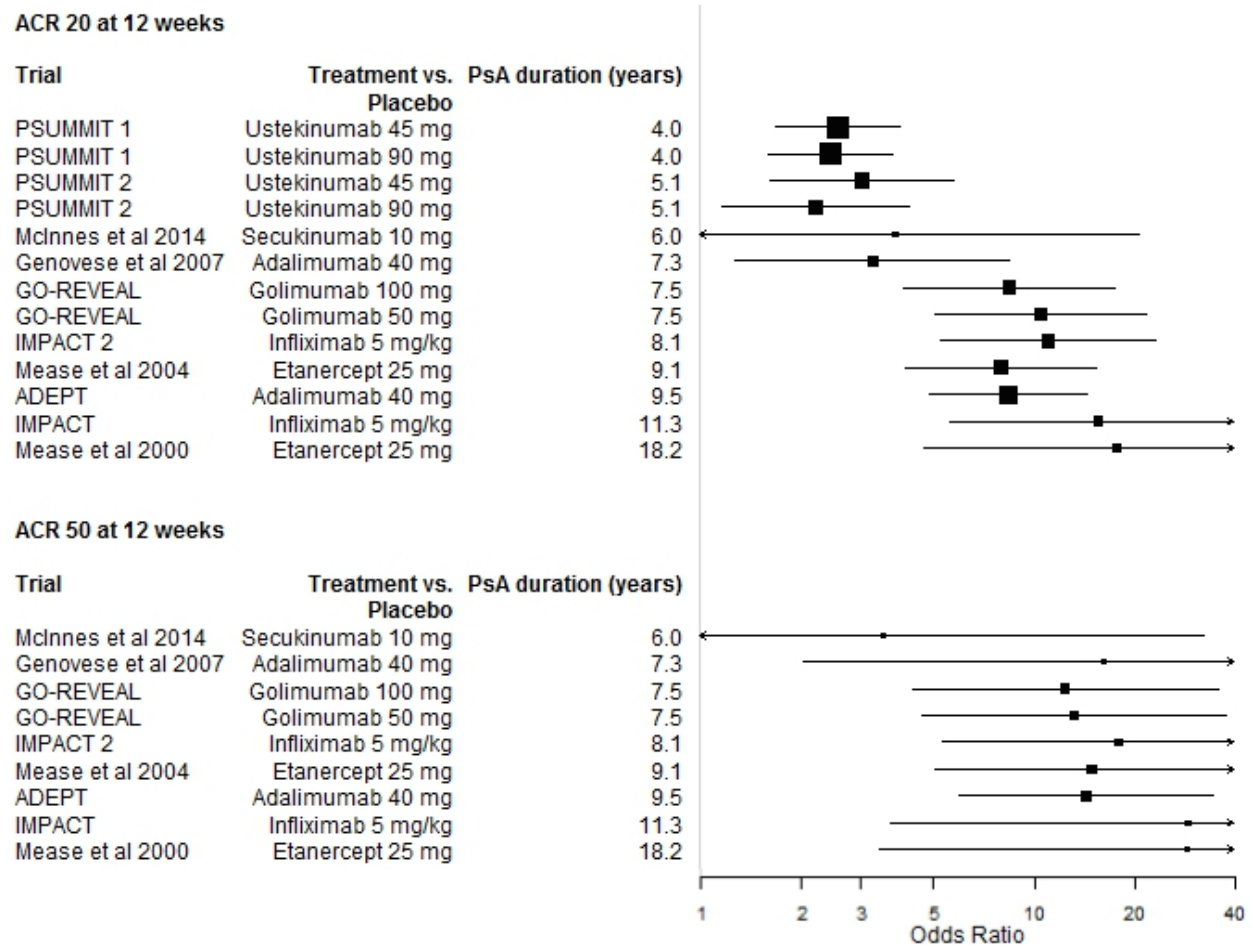


ACR 50 at 12 weeks

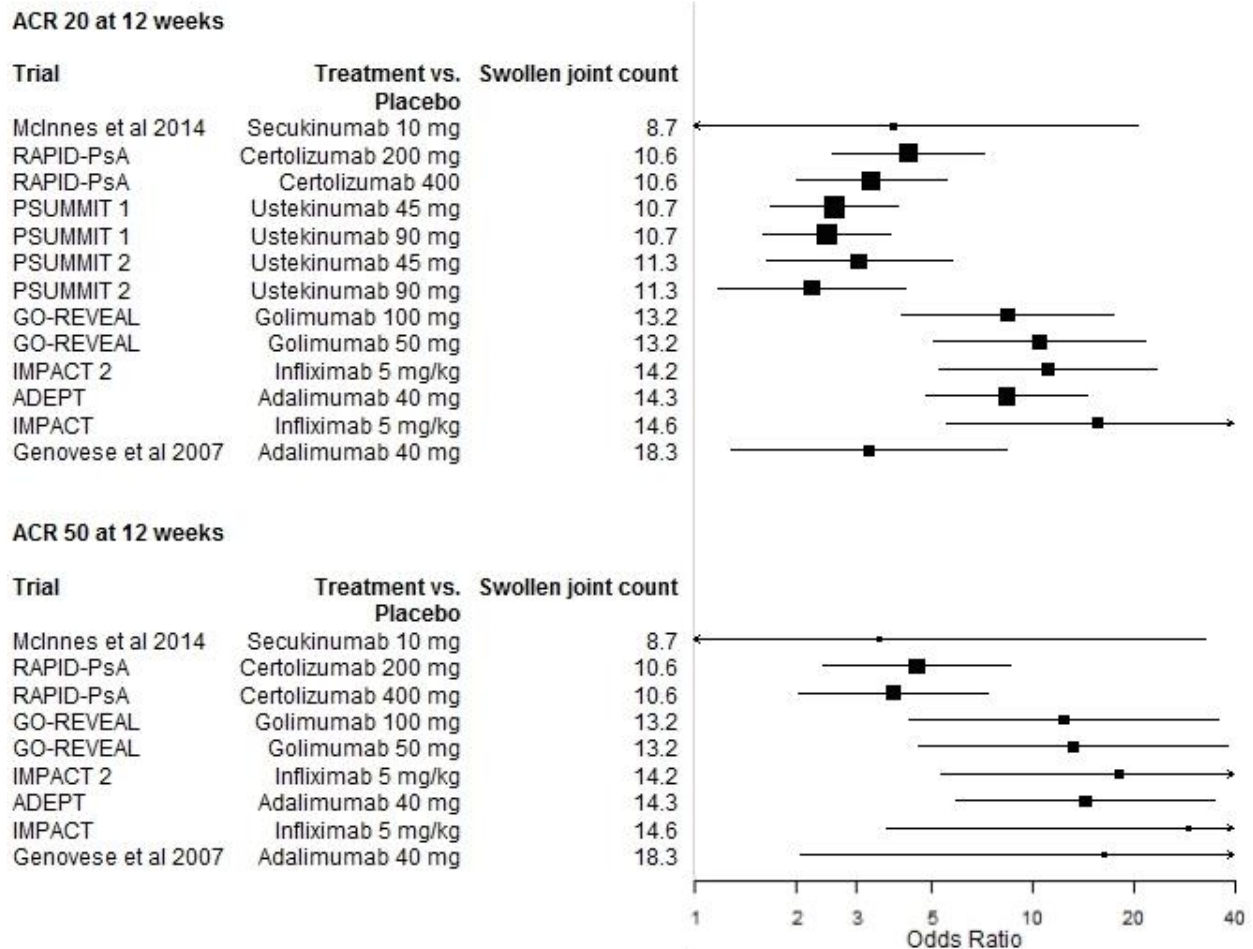
Trial	Treatment vs. Placebo	Psoriasis duration (years)
Genovese et al 2007	Adalimumab 40 mg	15.9
ADEPT	Adalimumab 40 mg	17.1
IMPACT	Infliximab 5 mg/kg	18.1
Mease et al 2000	Etanercept 25 mg	18.2
Mease et al 2004	Etanercept 25 mg	19.0



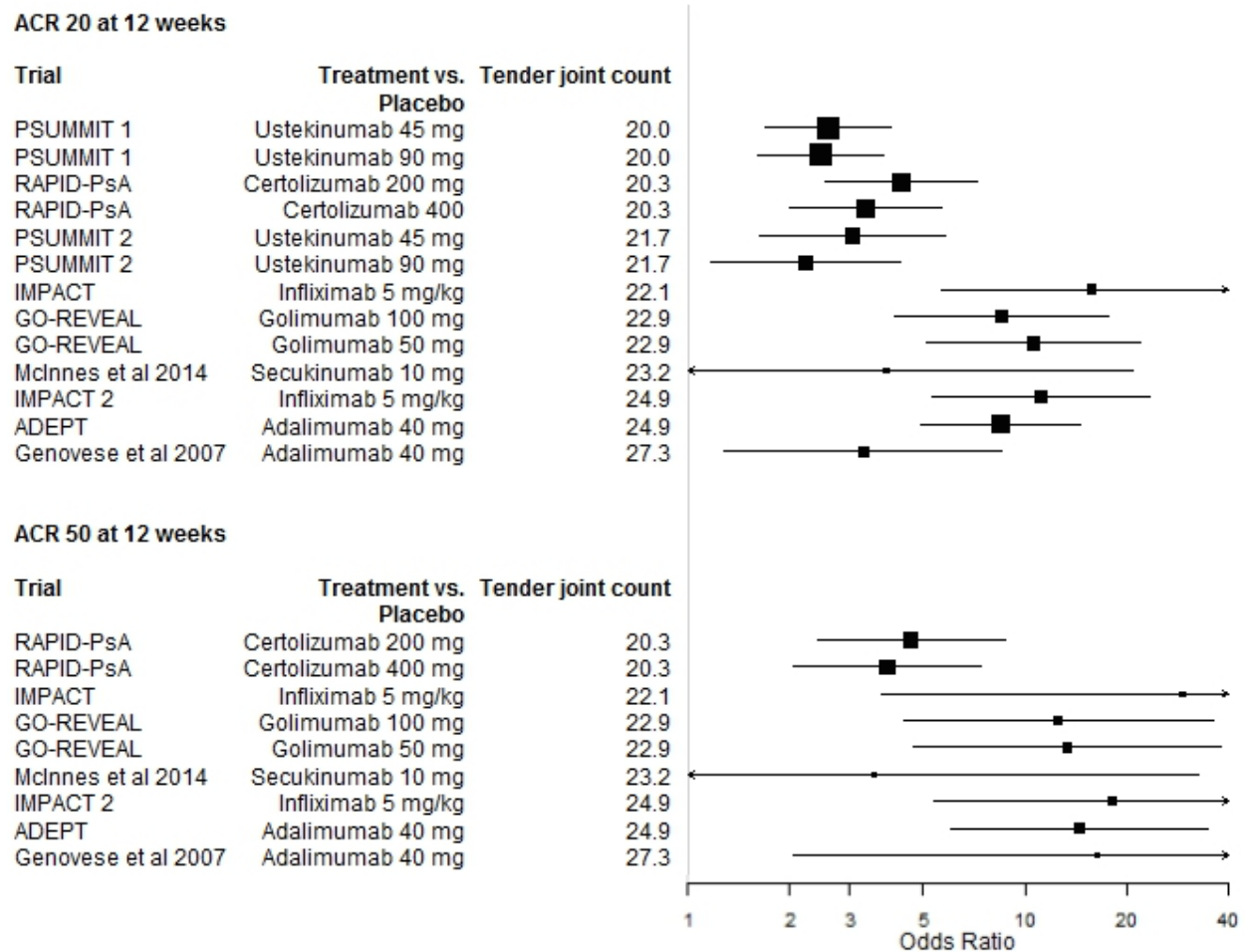
Supplementary Figure 5: Forest plot of odds ratios for ACR 20 and ACR 50 at 12 weeks for PsA disease duration (years)



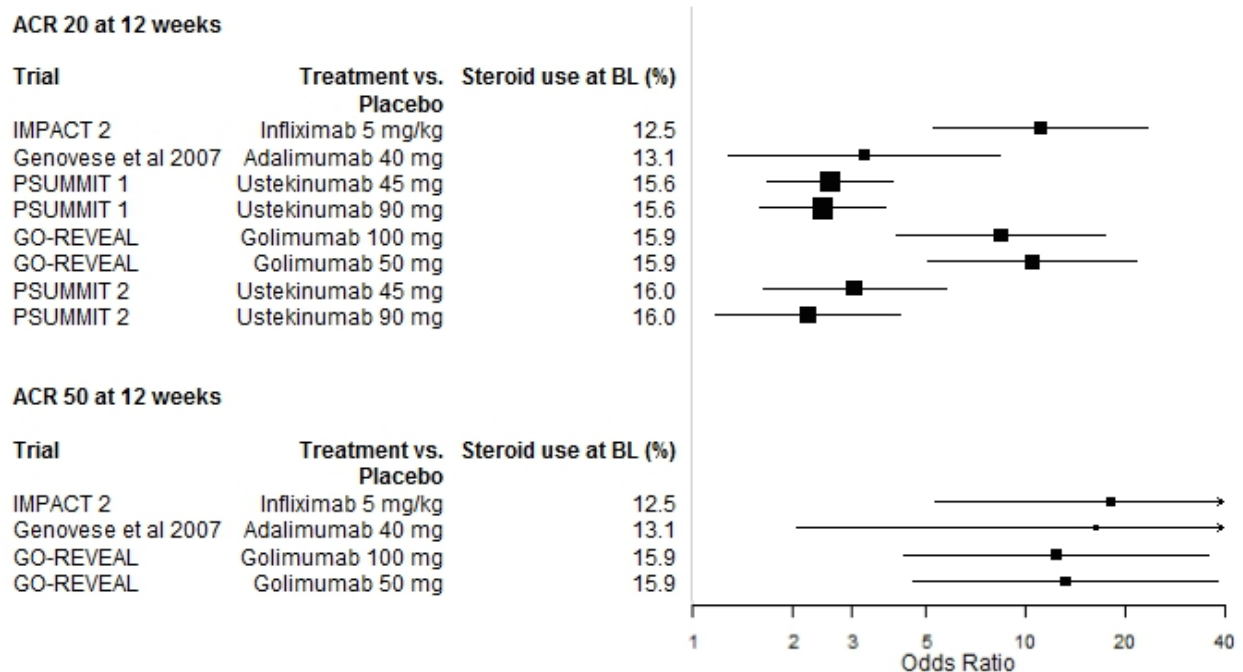
Supplementary Figure 6: Forest plot of odds ratios for ACR 20 and ACR 50 at 12 weeks for swollen joint count



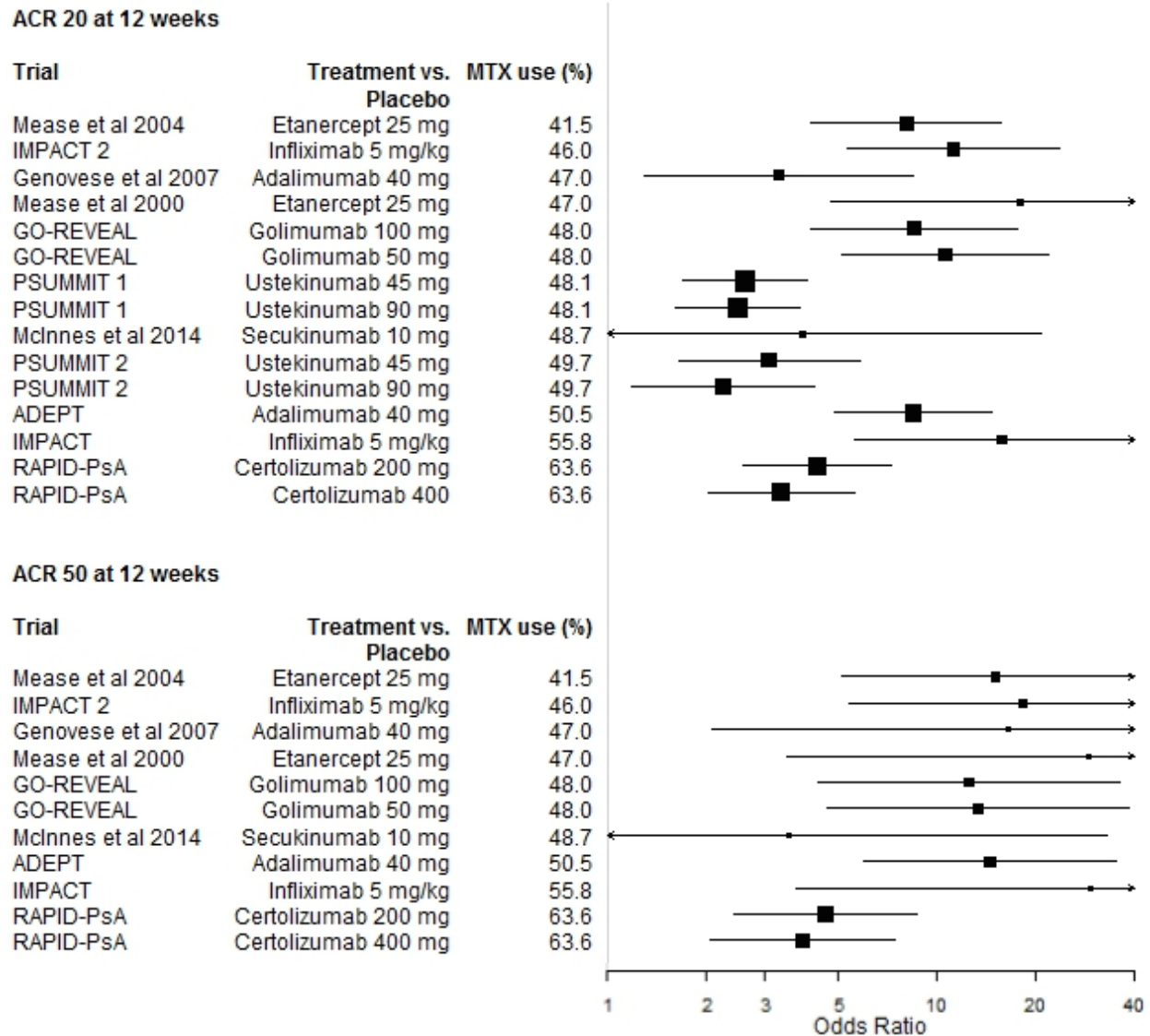
Supplementary Figure 7: Forest plot of odds ratios for ACR 20 and ACR 50 at 12 weeks for tender joint count



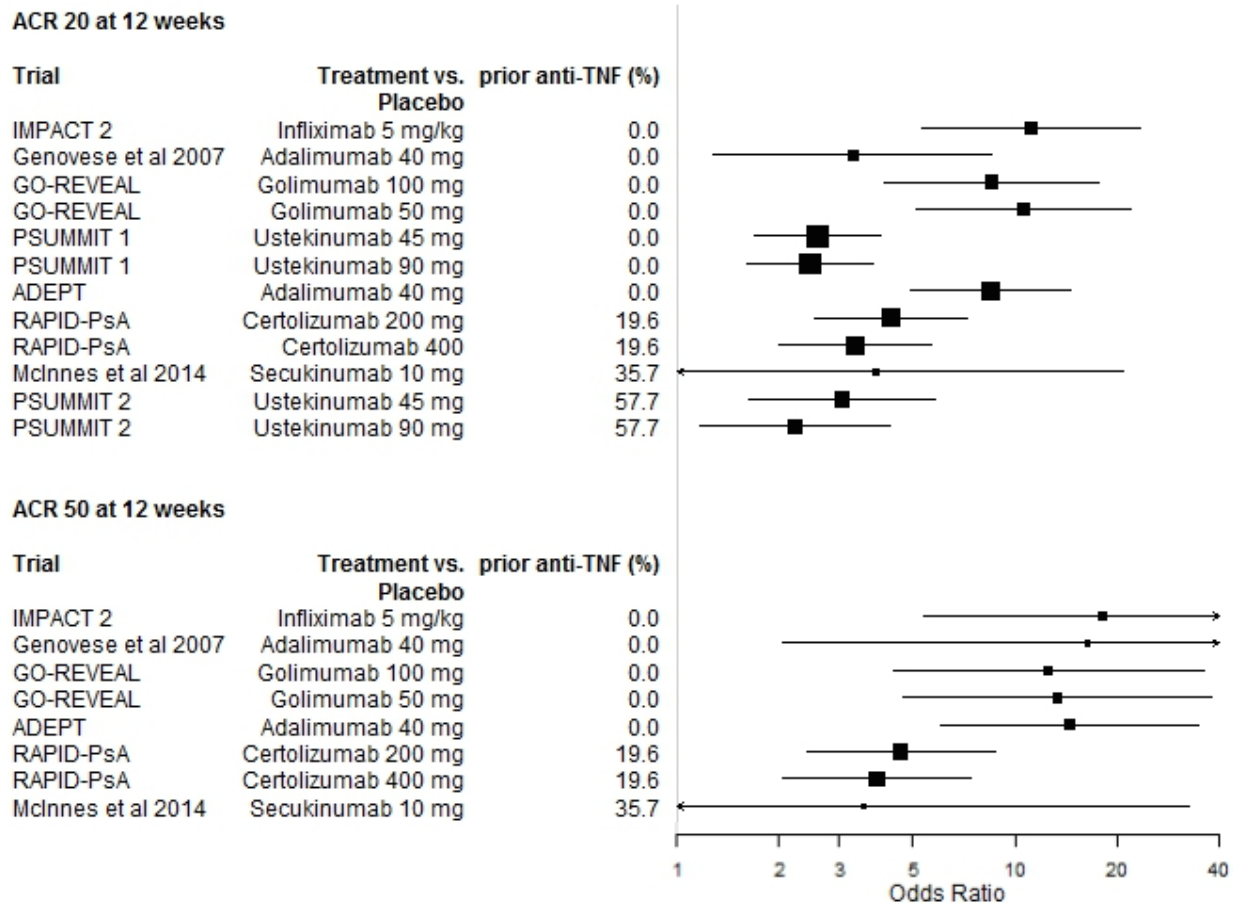
Supplementary Figure 8: Forest plot of odds ratios for ACR 20 and ACR 50 at 12 weeks for steroid use at baseline (%)



Supplementary Figure 9: Forest plot of odds ratios for ACR 20 and ACR 50 at 12 weeks for methotrexate use (%)



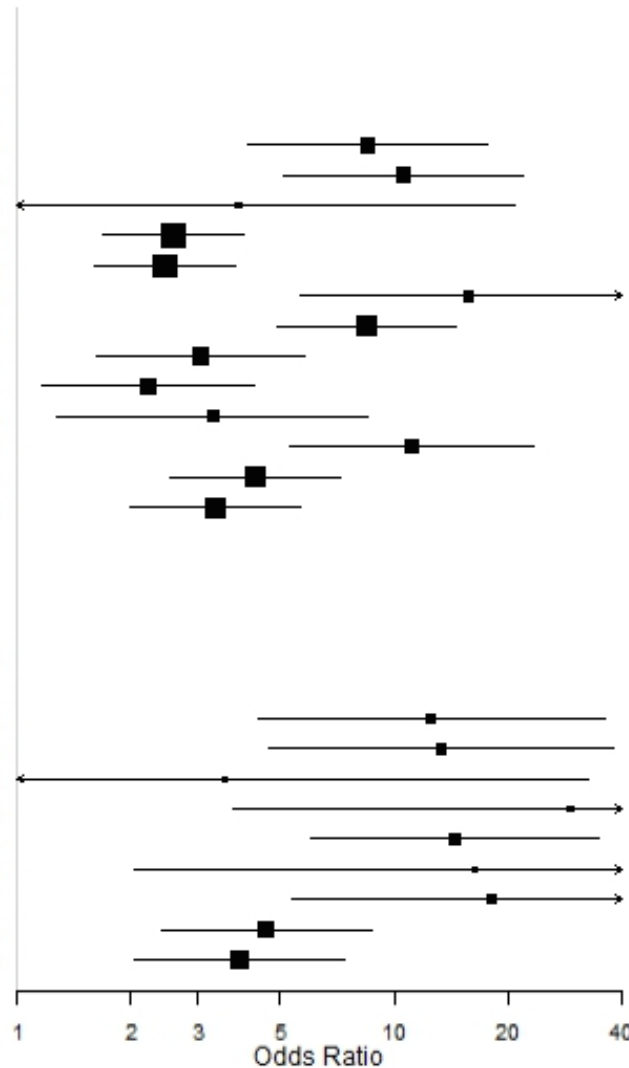
Supplementary Figure 10: Forest plot of odds ratios for ACR 20 and ACR 50 at 12 weeks for prior anti-TNF use (%)



Supplementary Figure 11: Forest plot of odds ratios for ACR 20 and ACR 50 at 12 weeks for DAS

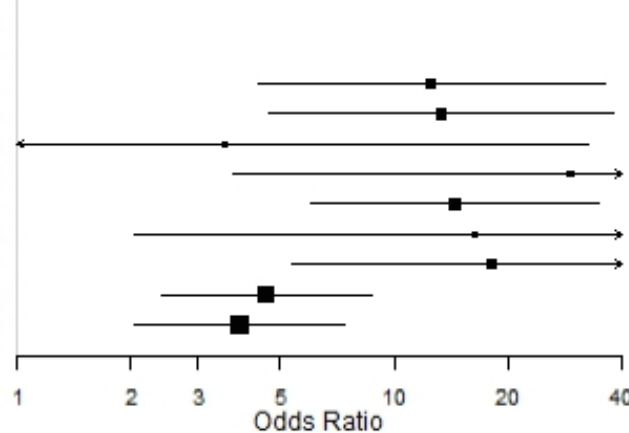
ACR 20 at 12 weeks

Trial	Treatment vs. Placebo	DAS
GO-REVEAL	Golimumab 100 mg	4.3
GO-REVEAL	Golimumab 50 mg	4.3
McInnes et al 2014	Secukinumab 10 mg	4.8
PSUMMIT 1	Ustekinumab 45 mg	5.2
PSUMMIT 1	Ustekinumab 90 mg	5.2
IMPACT	Infliximab 5 mg/kg	5.3
ADEPT	Adalimumab 40 mg	5.4
PSUMMIT 2	Ustekinumab 45 mg	5.4
PSUMMIT 2	Ustekinumab 90 mg	5.4
Genovese et al 2007	Adalimumab 40 mg	5.5
IMPACT 2	Infliximab 5 mg/kg	5.7
RAPID-PsA	Certolizumab 200 mg	5.8
RAPID-PsA	Certolizumab 400	5.8

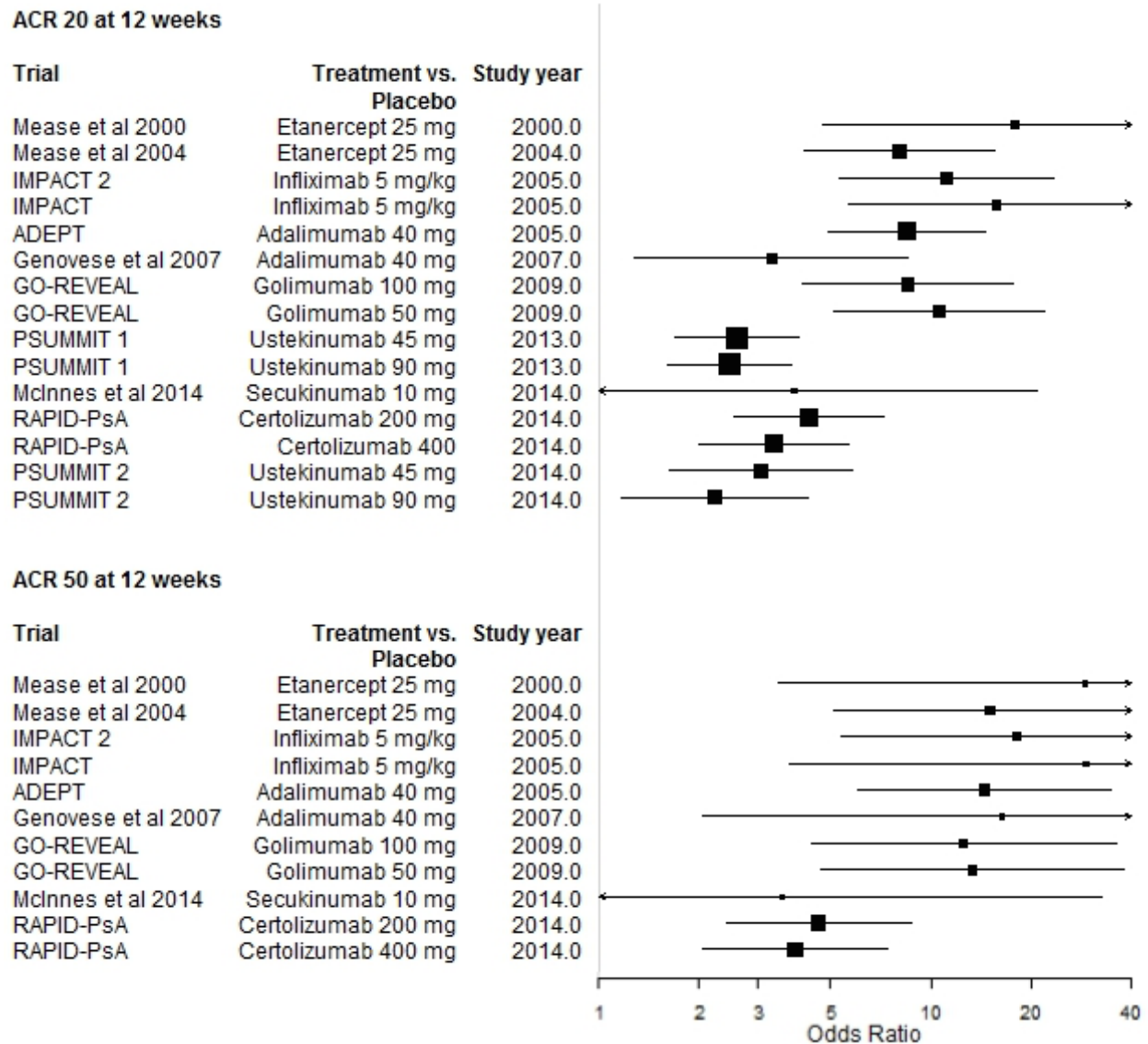


ACR 50 at 12 weeks

Trial	Treatment vs. Placebo	DAS
GO-REVEAL	Golimumab 100 mg	4.3
GO-REVEAL	Golimumab 50 mg	4.3
McInnes et al 2014	Secukinumab 10 mg	4.8
IMPACT	Infliximab 5 mg/kg	5.3
ADEPT	Adalimumab 40 mg	5.4
Genovese et al 2007	Adalimumab 40 mg	5.5
IMPACT 2	Infliximab 5 mg/kg	5.7
RAPID-PsA	Certolizumab 200 mg	5.8
RAPID-PsA	Certolizumab 400 mg	5.8



Supplementary Figure 12: Forest plot of odds ratios for ACR 20 and ACR 50 at 12 weeks for publication year



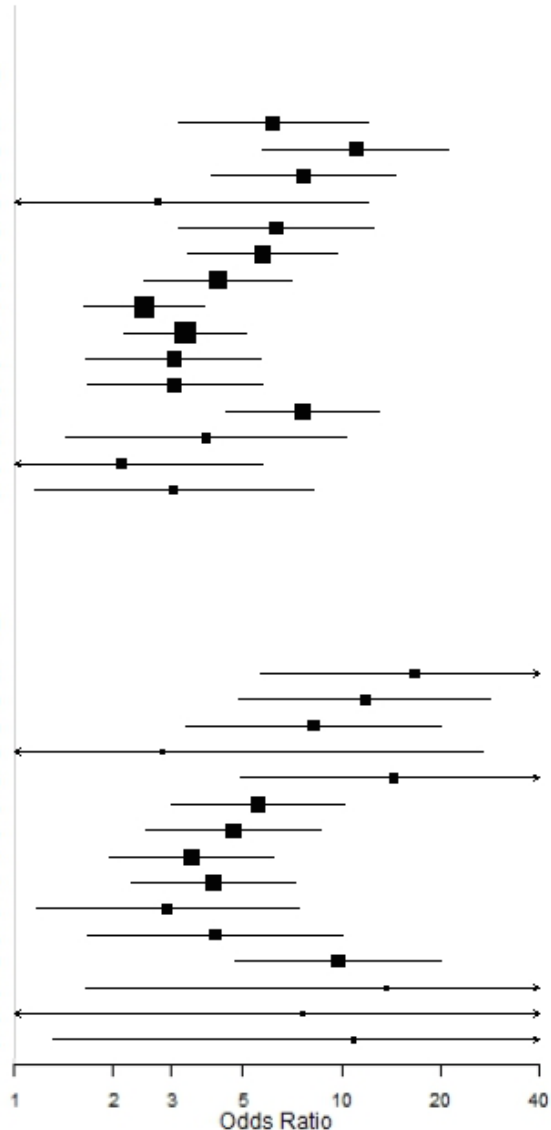
Supplementary Figure 13: Forest plot of odds ratios for ACR 20 and ACR 50 at 24 weeks for age (years)

ACR 20 at 24 weeks

Trial	Treatment vs. Placebo	Age (years)
IMPACT 2	Infliximab 5 mg/kg	46.8
GO-REVEAL	Golimumab 100 mg	47.0
GO-REVEAL	Golimumab 50 mg	47.0
McInnes et al 2014	Secukinumab 10 mg	47.0
Mease et al 2004	Etanercept 25 mg	47.5
RAPID-PsA	Certolizumab 200 mg	47.5
RAPID-PsA	Certolizumab 400 mg	47.5
PSUMMIT 1	Ustekinumab 45 mg	47.7
PSUMMIT 1	Ustekinumab 90 mg	47.7
PSUMMIT 2	Ustekinumab 45 mg	48.3
PSUMMIT 2	Ustekinumab 90 mg	48.3
ADEPT	Adalimumab 40 mg	48.9
Mease et al 2011	Abatacept 10 mg/kg	51.3
Mease et al 2011	Abatacept 3 mg/kg	51.3
Mease et al 2011	Abatacept 30/10 mg/kg	51.3

ACR 50 at 24 weeks

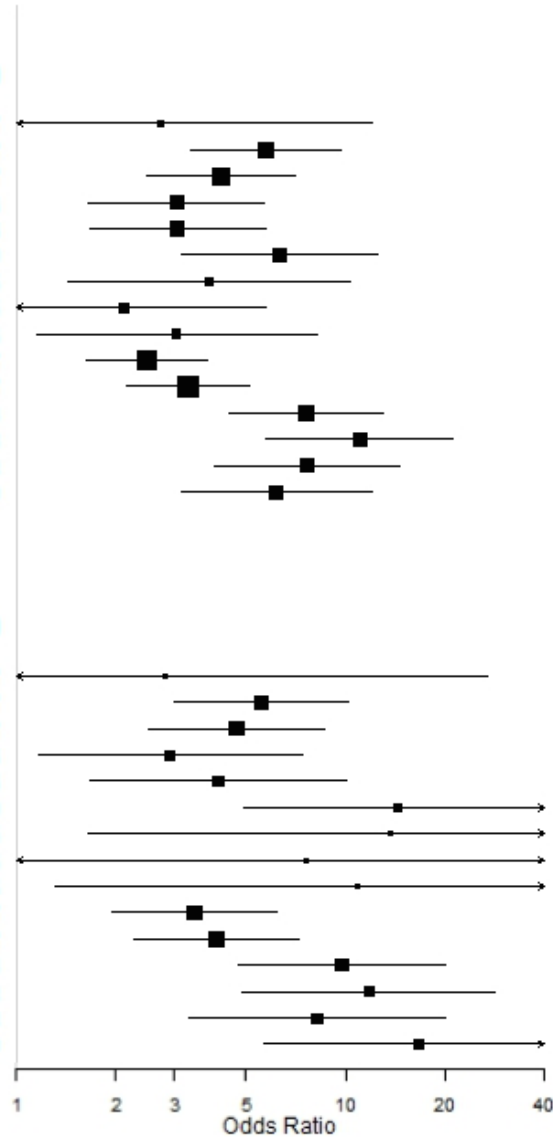
Trial	Treatment vs. Placebo	Age (years)
IMPACT 2	Infliximab 5 mg/kg	46.8
GO-REVEAL	Golimumab 100 mg	47.0
GO-REVEAL	Golimumab 50 mg	47.0
McInnes et al 2014	Secukinumab 10 mg	47.0
Mease et al 2004	Etanercept 25 mg	47.5
RAPID-PsA	Certolizumab 200 mg	47.5
RAPID-PsA	Certolizumab 400 mg	47.5
PSUMMIT 1	Ustekinumab 45 mg	47.7
PSUMMIT 1	Ustekinumab 90 mg	47.7
PSUMMIT 2	Ustekinumab 45 mg	48.3
PSUMMIT 2	Ustekinumab 90 mg	48.3
ADEPT	Adalimumab 40 mg	48.9
Mease et al 2011	Abatacept 10 mg/kg	51.3
Mease et al 2011	Abatacept 3 mg/kg	51.3
Mease et al 2011	Abatacept 30/10 mg/kg	51.3



Supplementary Figure 14: Forest plot of odds ratios for ACR 20 and ACR 50 at 24 weeks for male (%)

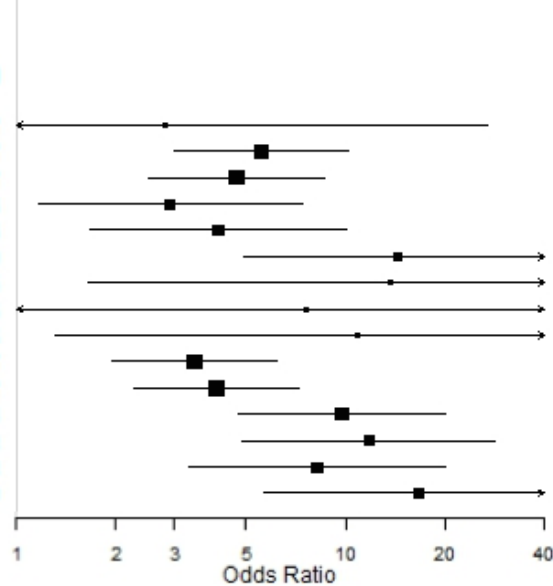
ACR 20 at 24 weeks

Trial	Treatment vs. Placebo	Male (%)
McInnes et al 2014	Secukinumab 10 mg	35.7
RAPID-PsA	Certolizumab 200 mg	44.7
RAPID-PsA	Certolizumab 400 mg	44.7
PSUMMIT 2	Ustekinumab 45 mg	47.4
PSUMMIT 2	Ustekinumab 90 mg	47.4
Mease et al 2004	Etanercept 25 mg	50.9
Mease et al 2011	Abatacept 10 mg/kg	53.5
Mease et al 2011	Abatacept 3 mg/kg	53.5
Mease et al 2011	Abatacept 30/10 mg/kg	53.5
PSUMMIT 1	Ustekinumab 45 mg	53.7
PSUMMIT 1	Ustekinumab 90 mg	53.7
ADEPT	Adalimumab 40 mg	55.6
GO-REVEAL	Golimumab 100 mg	60.3
GO-REVEAL	Golimumab 50 mg	60.3
IMPACT 2	Infliximab 5 mg/kg	61.0

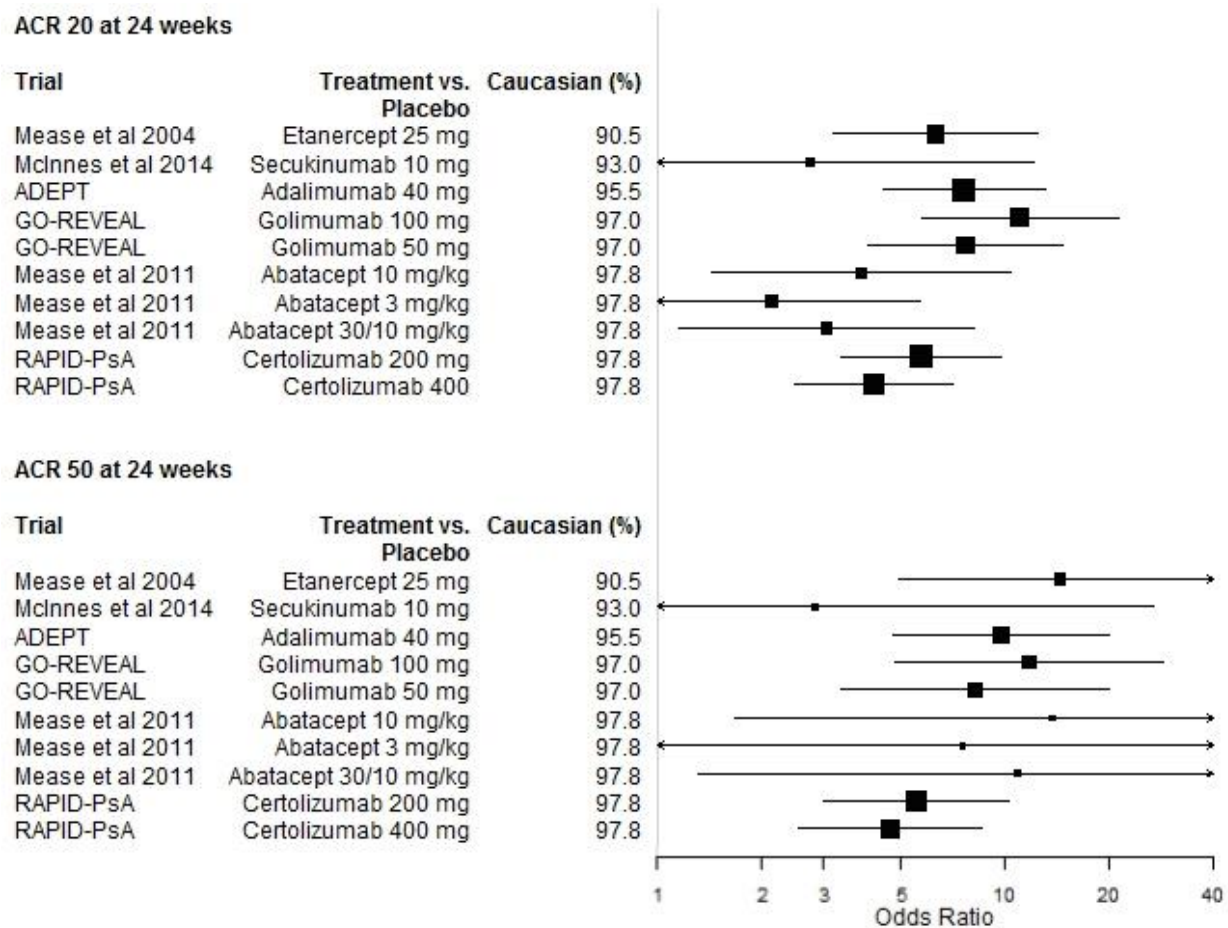


ACR 50 at 24 weeks

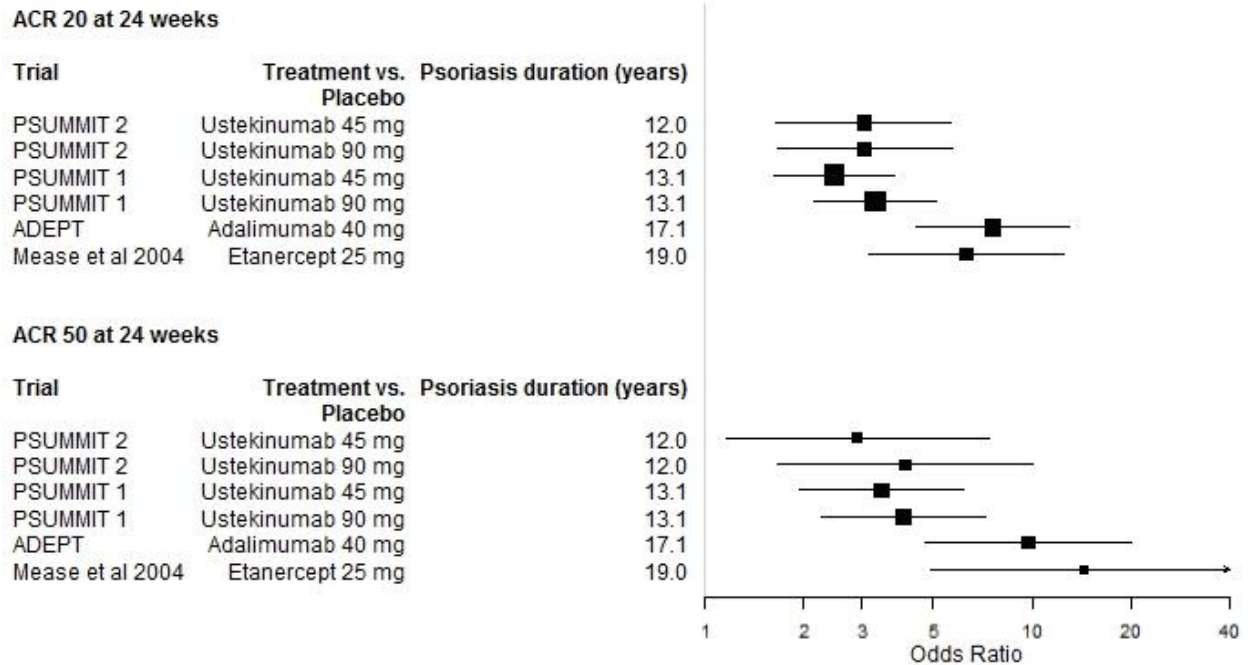
Trial	Treatment vs. Placebo	Male (%)
McInnes et al 2014	Secukinumab 10 mg	35.7
RAPID-PsA	Certolizumab 200 mg	44.7
RAPID-PsA	Certolizumab 400 mg	44.7
PSUMMIT 2	Ustekinumab 45 mg	47.4
PSUMMIT 2	Ustekinumab 90 mg	47.4
Mease et al 2004	Etanercept 25 mg	50.9
Mease et al 2011	Abatacept 10 mg/kg	53.5
Mease et al 2011	Abatacept 3 mg/kg	53.5
Mease et al 2011	Abatacept 30/10 mg/kg	53.5
PSUMMIT 1	Ustekinumab 45 mg	53.7
PSUMMIT 1	Ustekinumab 90 mg	53.7
ADEPT	Adalimumab 40 mg	55.6
GO-REVEAL	Golimumab 100 mg	60.3
GO-REVEAL	Golimumab 50 mg	60.3
IMPACT 2	Infliximab 5 mg/kg	61.0



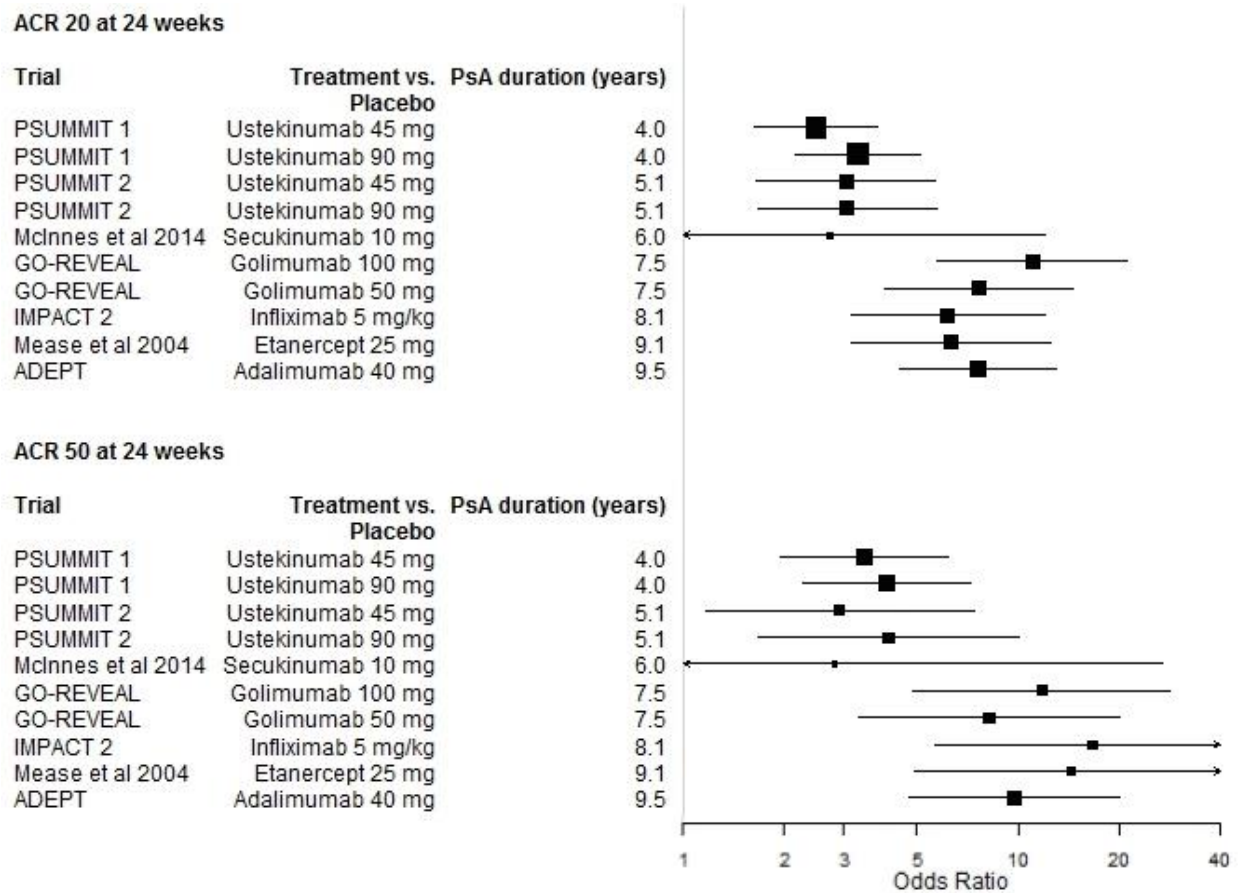
Supplementary Figure 15: Forest plot of odds ratios for ACR 20 and ACR 50 at 24 weeks for Caucasian (%)



Supplementary Figure 16: Forest plot of odds ratios for ACR 20 and ACR 50 at 24 weeks for psoriasis disease duration (years)



Supplementary Figure 17: Forest plot of odds ratios for ACR 20 and ACR 50 at 24 weeks for PsA disease duration (years)



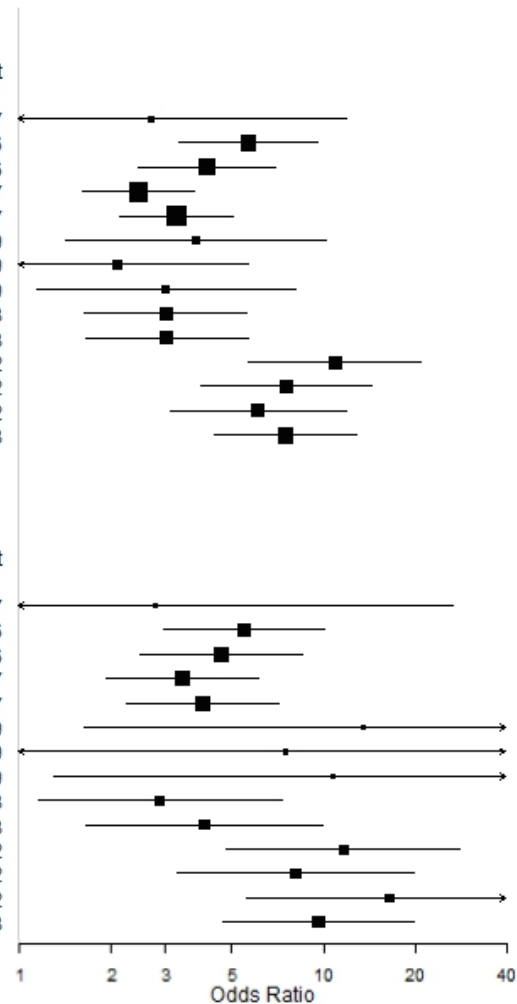
Supplementary Figure 18: Forest plot of odds ratios for ACR 20 and ACR 50 at 24 weeks for swollen joint count

ACR 20 at 24 weeks

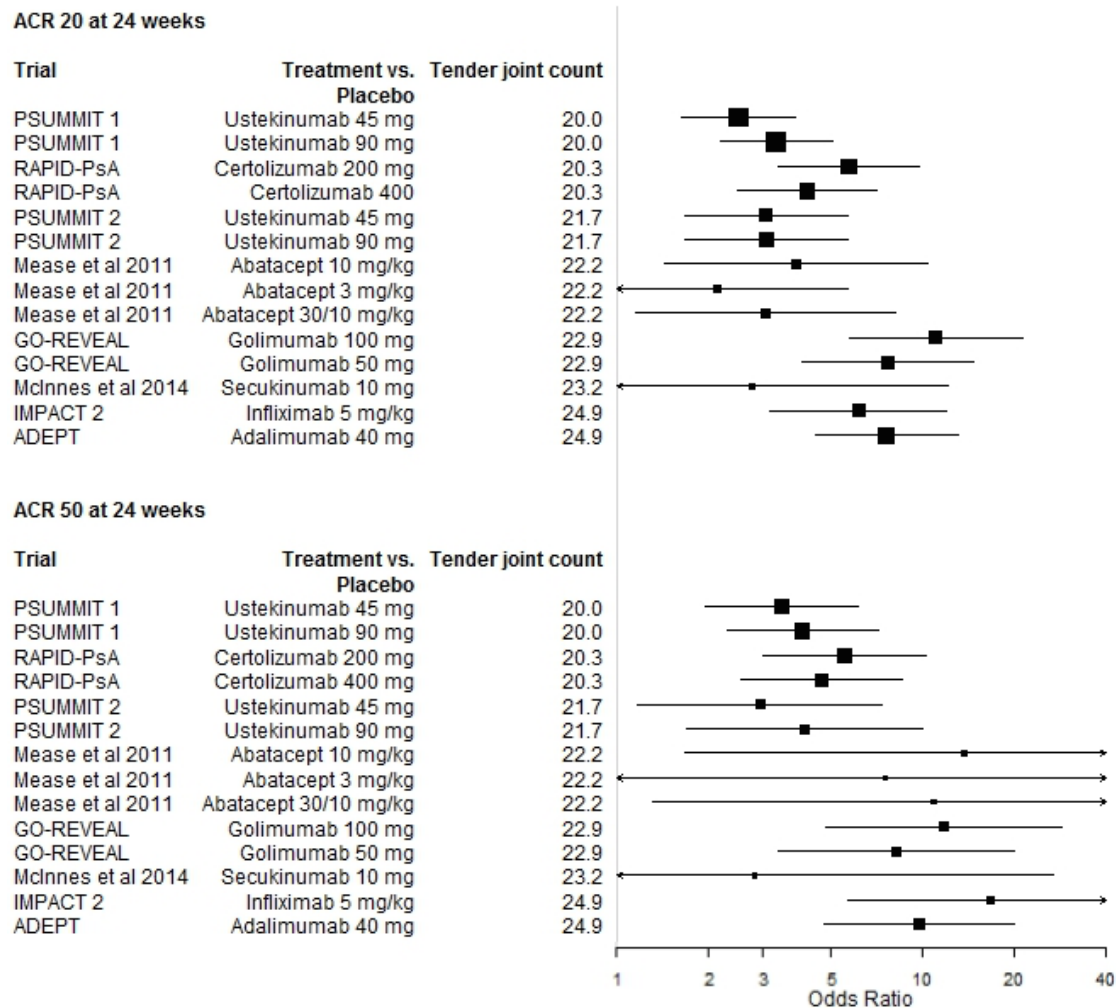
Trial	Treatment vs. Swollen joint count	
	Placebo	
McInnes et al 2014	Secukinumab 10 mg	8.7
RAPID-PsA	Certolizumab 200 mg	10.6
RAPID-PsA	Certolizumab 400 mg	10.6
PSUMMIT 1	Ustekinumab 45 mg	10.7
PSUMMIT 1	Ustekinumab 90 mg	10.7
Mease et al 2011	Abatacept 10 mg/kg	10.9
Mease et al 2011	Abatacept 3 mg/kg	10.9
Mease et al 2011	Abatacept 30/10 mg/kg	10.9
PSUMMIT 2	Ustekinumab 45 mg	11.3
PSUMMIT 2	Ustekinumab 90 mg	11.3
GO-REVEAL	Golimumab 100 mg	13.2
GO-REVEAL	Golimumab 50 mg	13.2
IMPACT 2	Infliximab 5 mg/kg	14.2
ADEPT	Adalimumab 40 mg	14.3

ACR 50 at 24 weeks

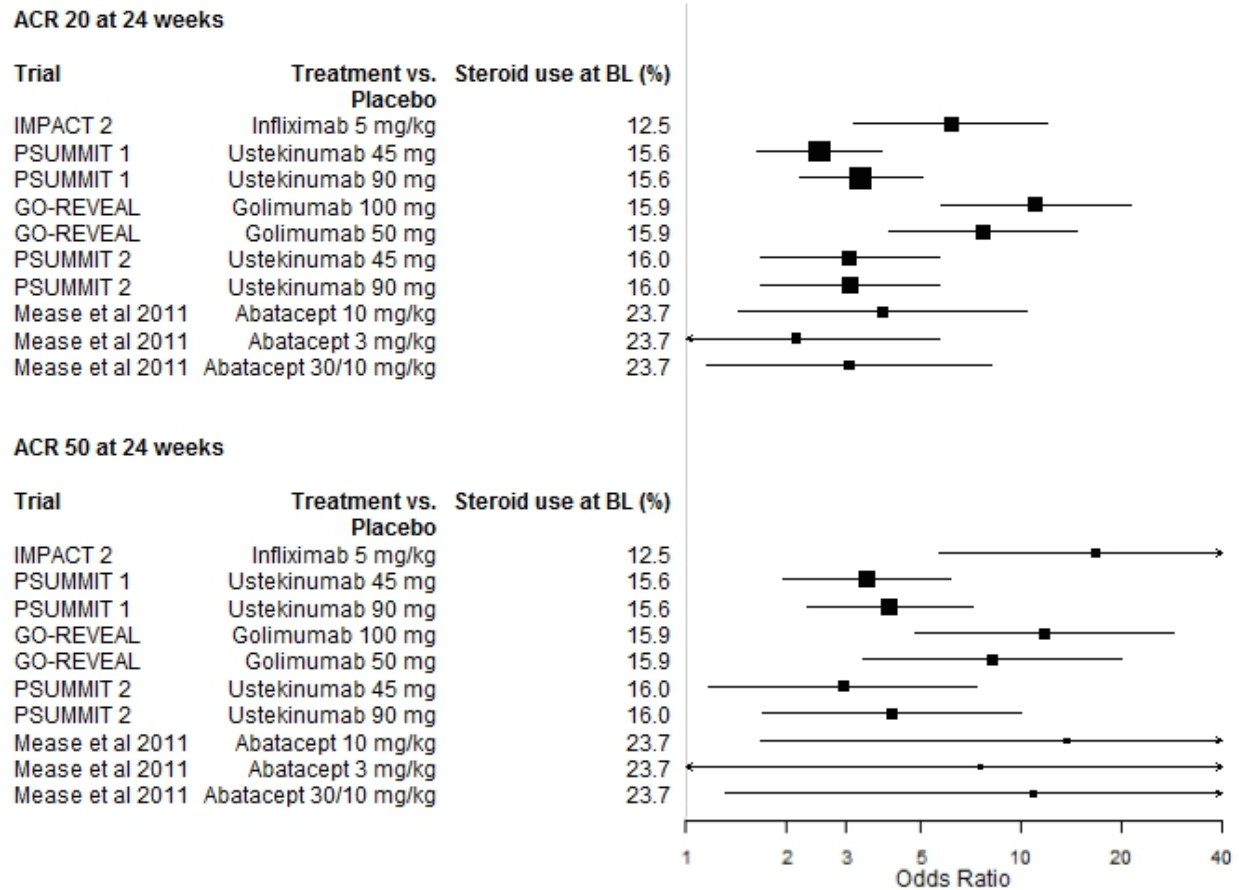
Trial	Treatment vs. Swollen joint count	
	Placebo	
McInnes et al 2014	Secukinumab 10 mg	8.7
RAPID-PsA	Certolizumab 200 mg	10.6
RAPID-PsA	Certolizumab 400 mg	10.6
PSUMMIT 1	Ustekinumab 45 mg	10.7
PSUMMIT 1	Ustekinumab 90 mg	10.7
Mease et al 2011	Abatacept 10 mg/kg	10.9
Mease et al 2011	Abatacept 3 mg/kg	10.9
Mease et al 2011	Abatacept 30/10 mg/kg	10.9
PSUMMIT 2	Ustekinumab 45 mg	11.3
PSUMMIT 2	Ustekinumab 90 mg	11.3
GO-REVEAL	Golimumab 100 mg	13.2
GO-REVEAL	Golimumab 50 mg	13.2
IMPACT 2	Infliximab 5 mg/kg	14.2
ADEPT	Adalimumab 40 mg	14.3



Supplementary Figure 19: Forest plot of odds ratios for ACR 20 and ACR 50 at 24 weeks for tender joint count



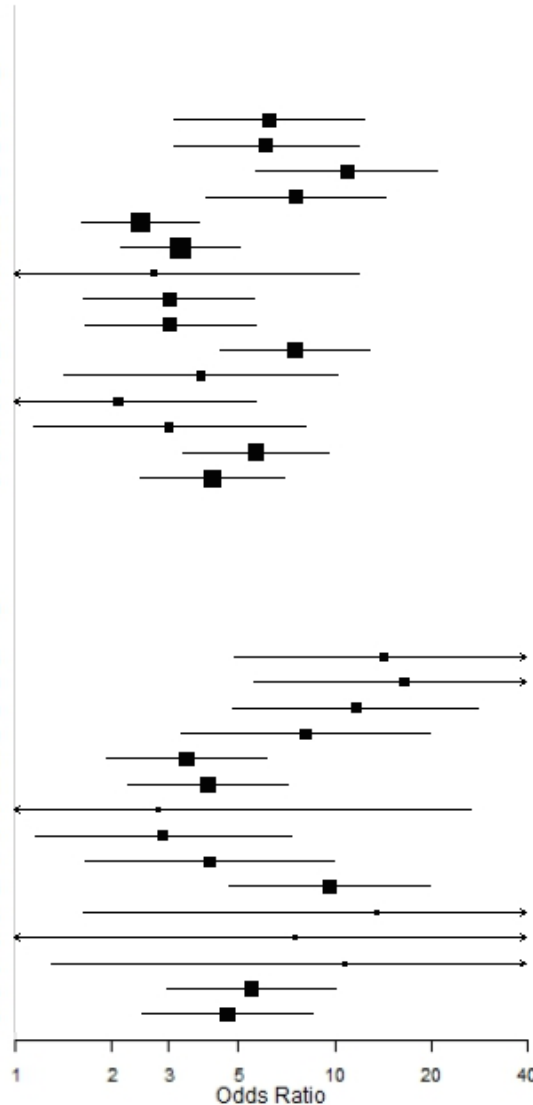
Supplementary Figure 20: Forest plot of odds ratios for ACR 20 and ACR 50 at 24 weeks for steroid use at baseline (%)



Supplementary Figure 21: Forest plot of odds ratios for ACR 20 and ACR 50 at 24 weeks for methotrexate use (%)

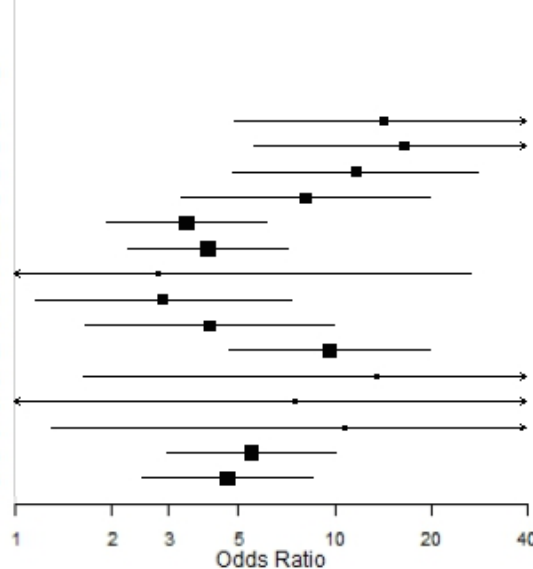
ACR 20 at 24 weeks

Trial	Treatment vs. Placebo	MTX use (%)
Mease et al 2004	Etanercept 25 mg	41.5
IMPACT 2	Infliximab 5 mg/kg	46.0
GO-REVEAL	Golimumab 100 mg	48.0
GO-REVEAL	Golimumab 50 mg	48.0
PSUMMIT 1	Ustekinumab 45 mg	48.1
PSUMMIT 1	Ustekinumab 90 mg	48.1
McInnes et al 2014	Secukinumab 10 mg	48.7
PSUMMIT 2	Ustekinumab 45 mg	49.7
PSUMMIT 2	Ustekinumab 90 mg	49.7
ADEPT	Adalimumab 40 mg	50.5
Mease et al 2011	Abatacept 10 mg/kg	58.3
Mease et al 2011	Abatacept 3 mg/kg	58.3
Mease et al 2011	Abatacept 30/10 mg/kg	58.3
RAPID-PsA	Certolizumab 200 mg	63.6
RAPID-PsA	Certolizumab 400	63.6

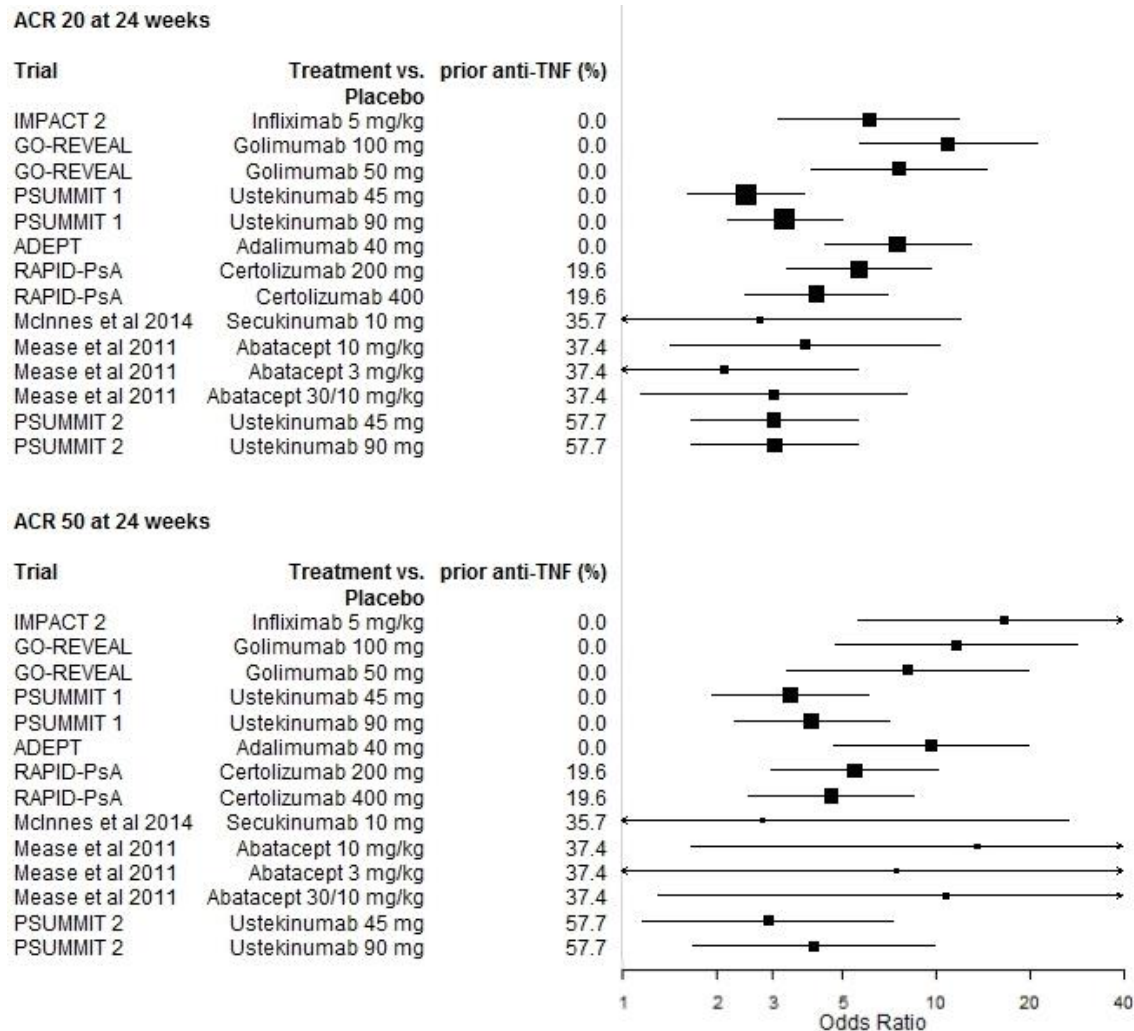


ACR 50 at 24 weeks

Trial	Treatment vs. Placebo	MTX use (%)
Mease et al 2004	Etanercept 25 mg	41.5
IMPACT 2	Infliximab 5 mg/kg	46.0
GO-REVEAL	Golimumab 100 mg	48.0
GO-REVEAL	Golimumab 50 mg	48.0
PSUMMIT 1	Ustekinumab 45 mg	48.1
PSUMMIT 1	Ustekinumab 90 mg	48.1
McInnes et al 2014	Secukinumab 10 mg	48.7
PSUMMIT 2	Ustekinumab 45 mg	49.7
PSUMMIT 2	Ustekinumab 90 mg	49.7
ADEPT	Adalimumab 40 mg	50.5
Mease et al 2011	Abatacept 10 mg/kg	58.3
Mease et al 2011	Abatacept 3 mg/kg	58.3
Mease et al 2011	Abatacept 30/10 mg/kg	58.3
RAPID-PsA	Certolizumab 200 mg	63.6
RAPID-PsA	Certolizumab 400 mg	63.6



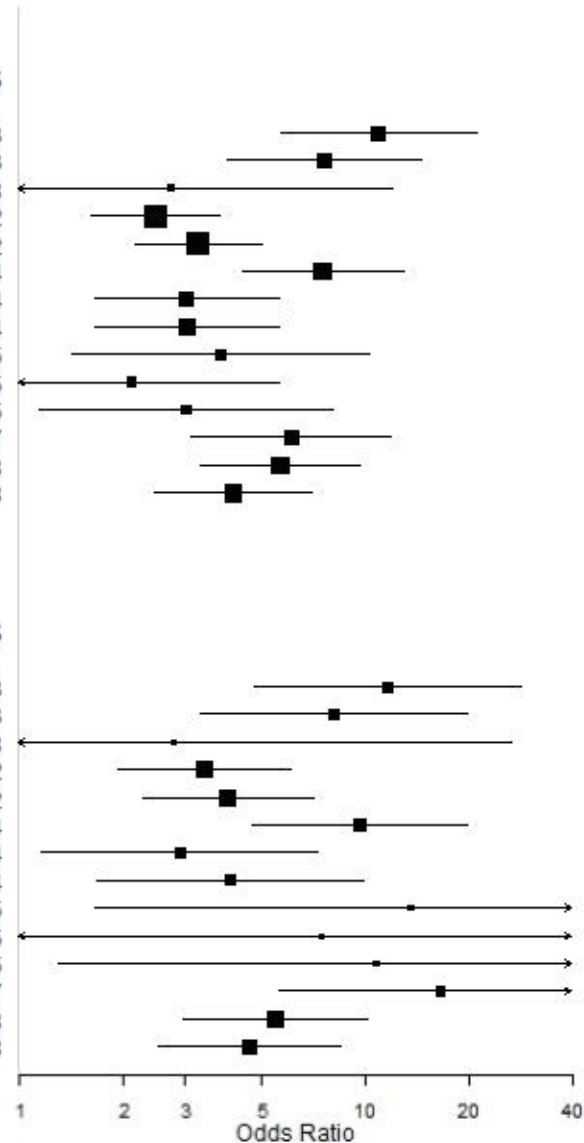
Supplementary Figure 22: Forest plot of odds ratios for ACR 20 and ACR 50 at 24 weeks for prior anti-TNF use (%)



Supplementary Figure 23: Forest plot of odds ratios for ACR 20 and ACR 50 at 24 weeks for DAS

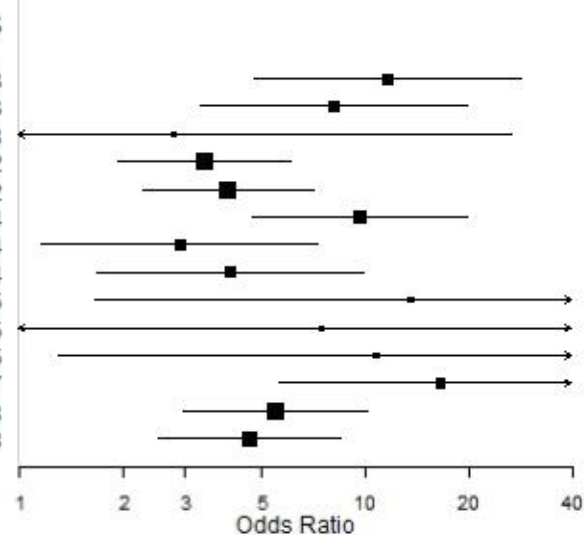
ACR 20 at 24 weeks

Trial	Treatment vs. Placebo	DAS
GO-REVEAL	Golimumab 100 mg	4.3
GO-REVEAL	Golimumab 50 mg	4.3
McInnes et al 2014	Secukinumab 10 mg	4.8
PSUMMIT 1	Ustekinumab 45 mg	5.2
PSUMMIT 1	Ustekinumab 90 mg	5.2
ADEPT	Adalimumab 40 mg	5.4
PSUMMIT 2	Ustekinumab 45 mg	5.4
PSUMMIT 2	Ustekinumab 90 mg	5.4
Mease et al 2011	Abatacept 10 mg/kg	5.5
Mease et al 2011	Abatacept 3 mg/kg	5.5
Mease et al 2011	Abatacept 30/10 mg/kg	5.5
IMPACT 2	Infliximab 5 mg/kg	5.7
RAPID-PsA	Certolizumab 200 mg	5.8
RAPID-PsA	Certolizumab 400 mg	5.8

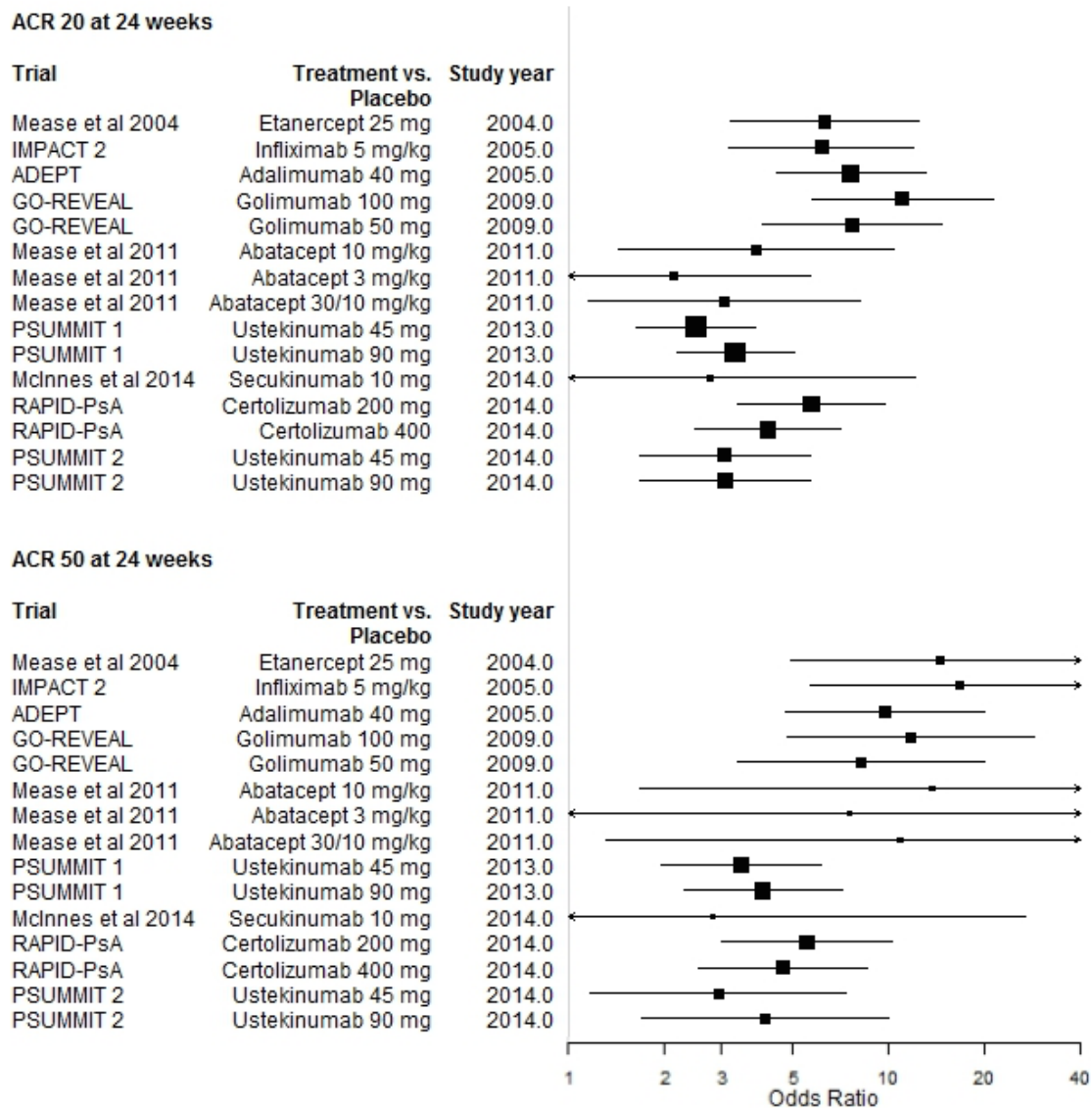


ACR 50 at 24 weeks

Trial	Treatment vs. Placebo	DAS
GO-REVEAL	Golimumab 100 mg	4.3
GO-REVEAL	Golimumab 50 mg	4.3
McInnes et al 2014	Secukinumab 10 mg	4.8
PSUMMIT 1	Ustekinumab 45 mg	5.2
PSUMMIT 1	Ustekinumab 90 mg	5.2
ADEPT	Adalimumab 40 mg	5.4
PSUMMIT 2	Ustekinumab 45 mg	5.4
PSUMMIT 2	Ustekinumab 90 mg	5.4
Mease et al 2011	Abatacept 10 mg/kg	5.5
Mease et al 2011	Abatacept 3 mg/kg	5.5
Mease et al 2011	Abatacept 30/10 mg/kg	5.5
IMPACT 2	Infliximab 5 mg/kg	5.7
RAPID-PsA	Certolizumab 200 mg	5.8
RAPID-PsA	Certolizumab 400 mg	5.8

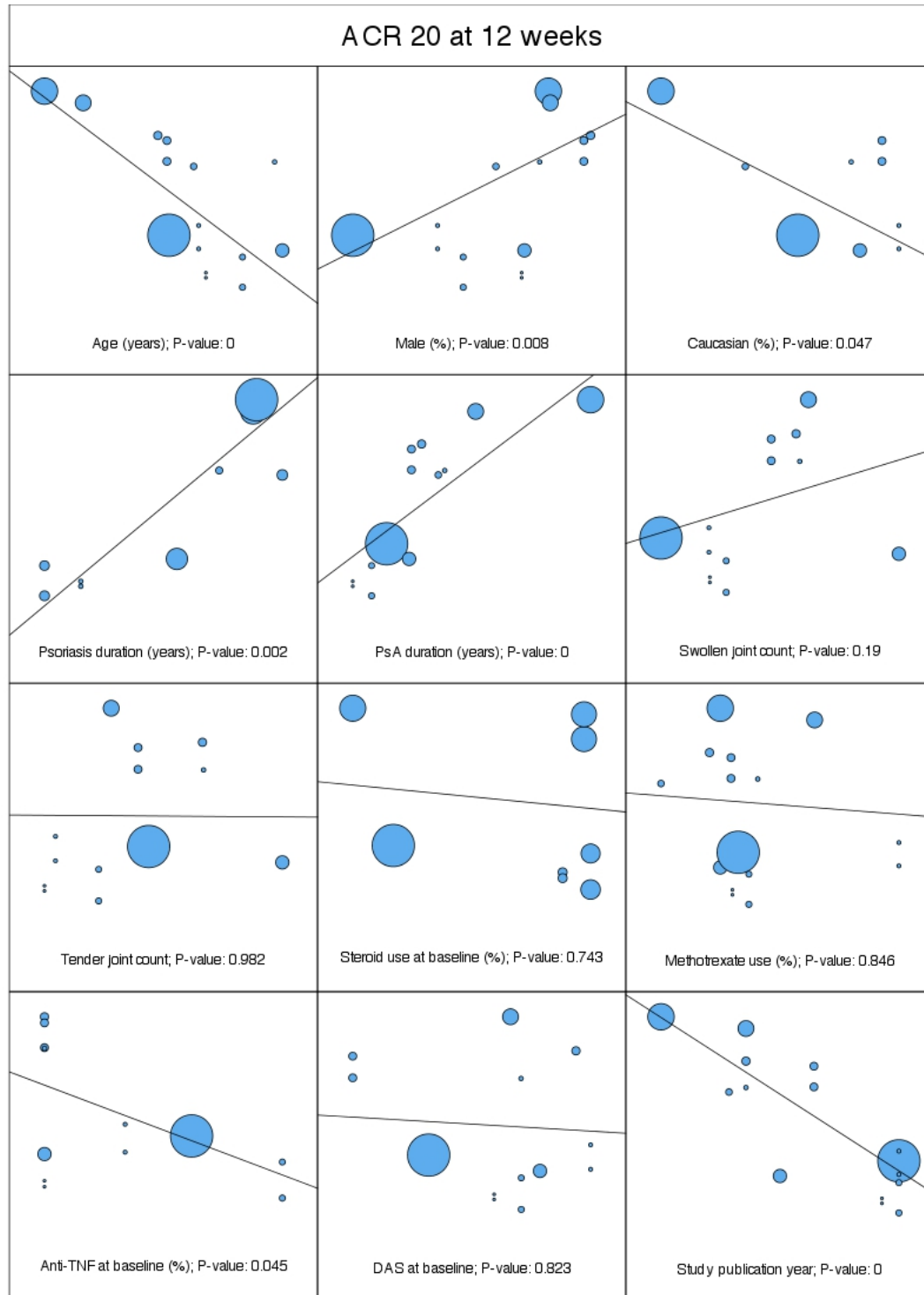


Supplementary Figure 24: Forest plot of odds ratios for ACR 20 and ACR 50 at 24 weeks for publication year



Appendix 5: L'Abbe plots for ACR 20 and ACR 50

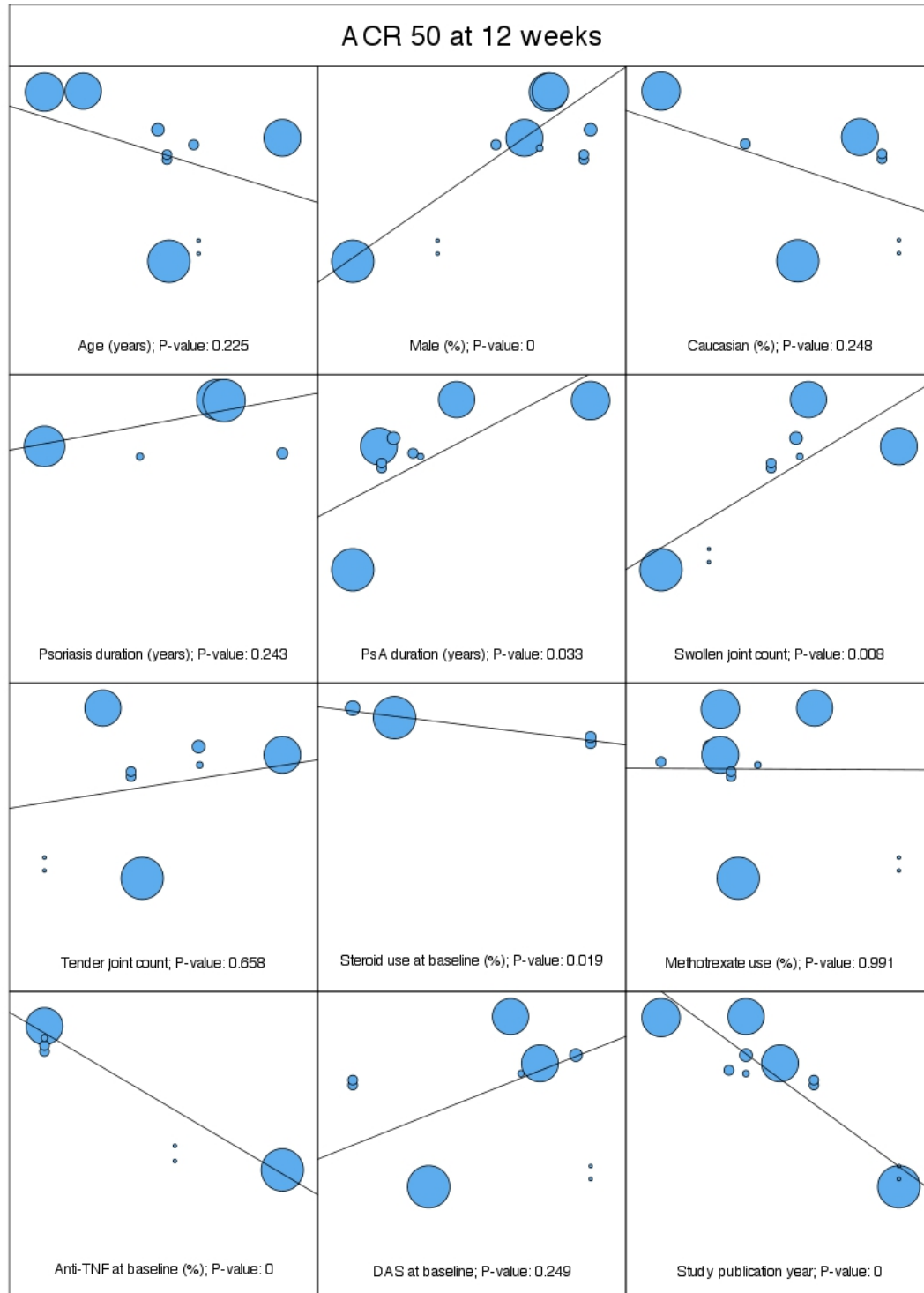
Supplementary Figure 25: Meta-regression (L'Abbé) plots of log odds ratios (y-axis) against the underlying covariate value (x-axis) for the ACR 20 outcome at 12 weeks



Treatment Modifying Factors in Psoriatic Arthritis

Note: Lines are provided by a weighted linear regression, with weights being inversely proportional to the variance in each estimate.

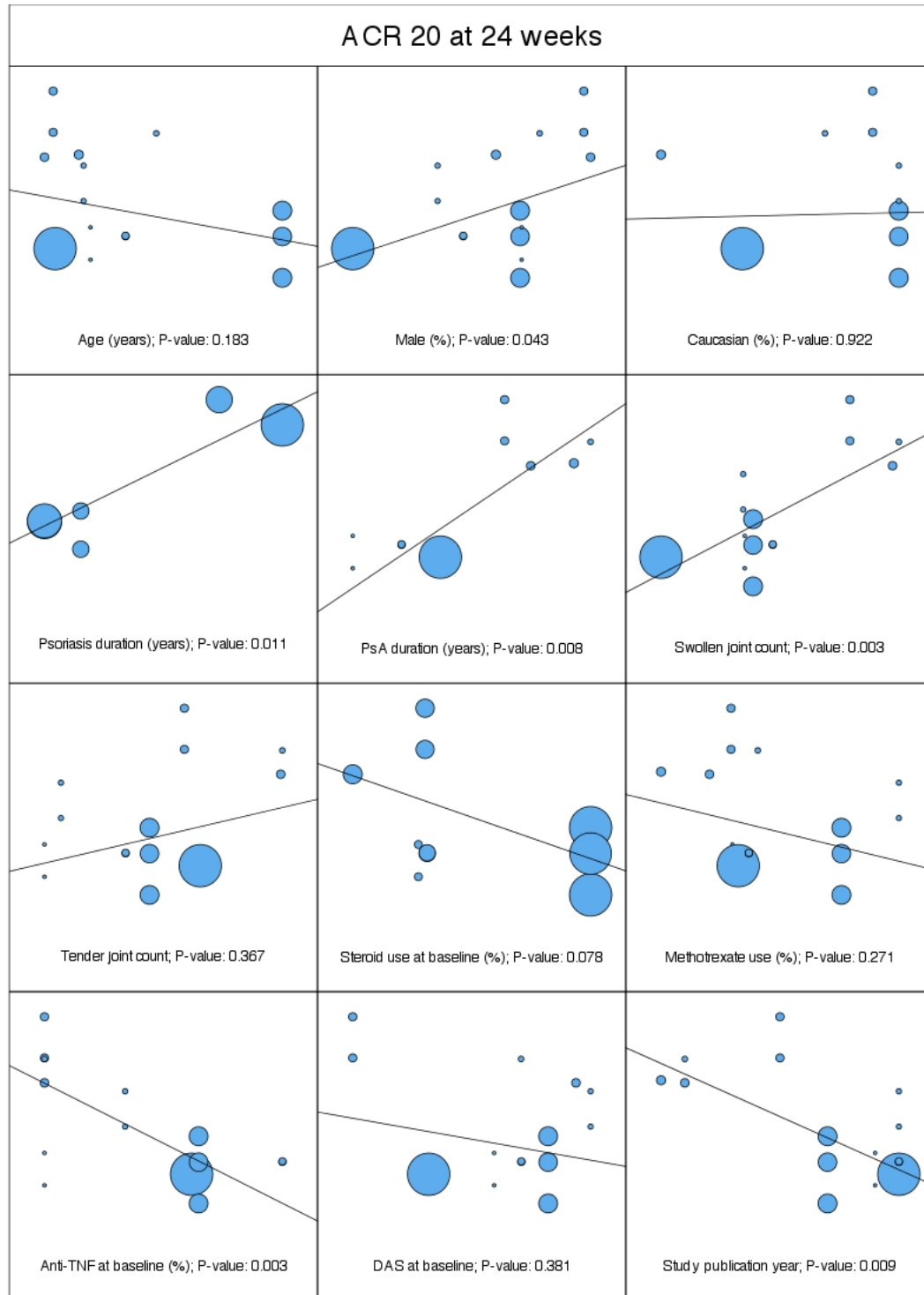
Supplementary Figure 26: Meta-regression (L'Abbé) plots of log odds ratios (y-axis) against the underlying covariate value (x-axis) for the ACR 50 outcome at 12 weeks



Treatment Modifying Factors in Psoriatic Arthritis

Note: Lines are provided by a weighted linear regression, with weights being inversely proportional to the variance in each estimate.

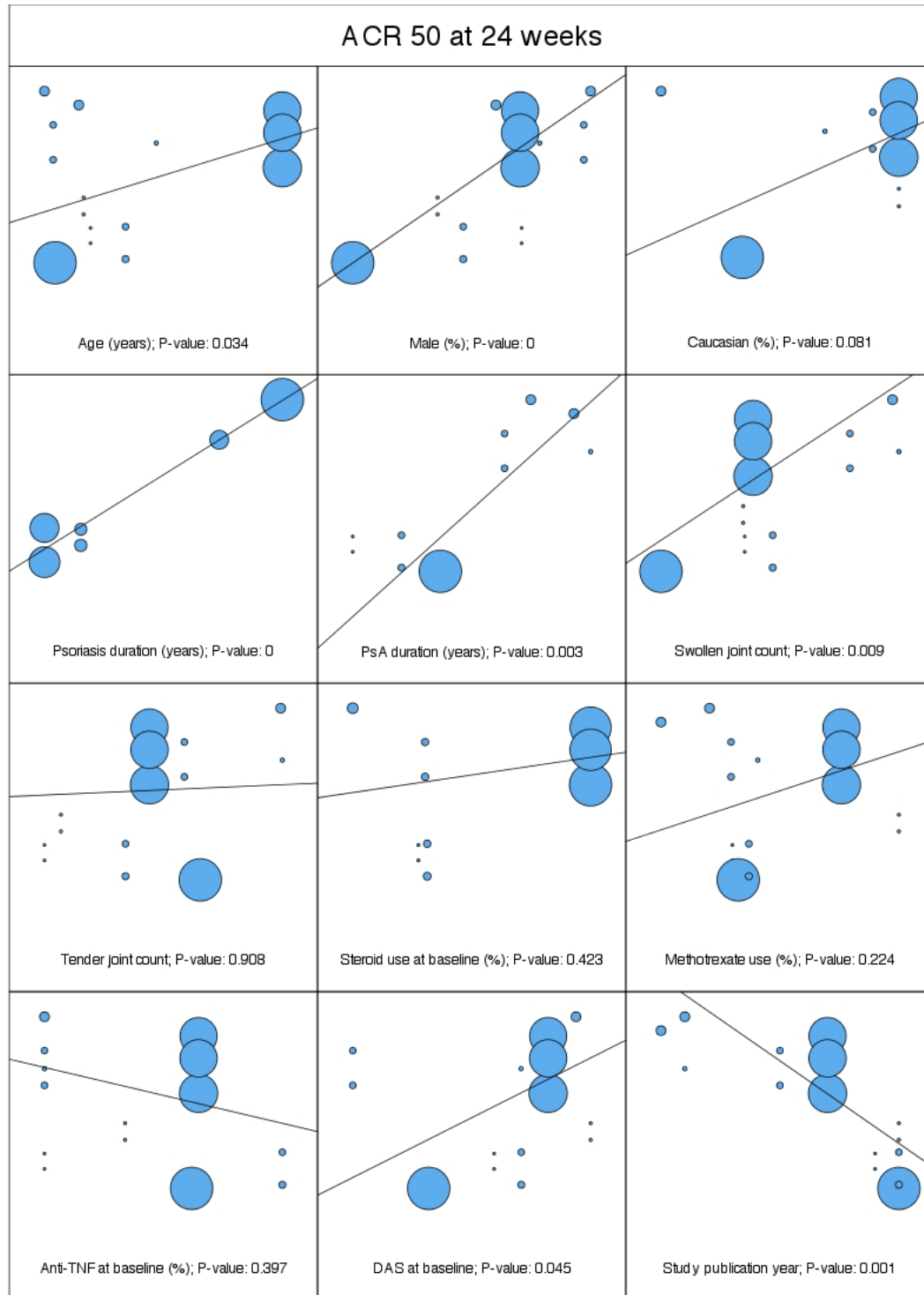
Supplementary Figure 27: Meta-regression (L'Abbé) plots of log odds ratios (y-axis) against the underlying covariate value (x-axis) for the ACR 20 outcome at 24 weeks



Treatment Modifying Factors in Psoriatic Arthritis

Note: Lines are provided by a weighted linear regression, with weights being inversely proportional to the variance in each estimate.

Supplementary Figure 28: Meta-regression (L'Abbé) plots of log odds ratios (y-axis) against the underlying covariate value (x-axis) for the ACR 50 outcome at 24 weeks



Treatment Modifying Factors in Psoriatic Arthritis

Note: Lines are provided by a weighted linear regression, with weights being inversely proportional to the variance in each estimate.

Appendix 6: Sensitivity analyses considering only trials assessing anti-TNF treatments

Supplementary Table 7: Estimate of covariate effect on treatment effects obtained with fixed effects meta-regression model, ACR 20, ACR 50, PASI 75 (sensitivity analyses considering only trials assessing anti-TNF treatments)

Covariate	ACR 20		ACR 50		PASI 75	
	12 weeks	24 weeks	12 weeks	24 weeks	12 weeks	24 weeks
Older age vs. younger	0.47 (0.27, 0.79)	0.80 (0.49, 1.35)	-	-	-	-
High % male vs. low	-	-	2.22 (1.00, 5.44)	1.64 (0.76, 3.80)	-	1.77 (0.56, 5.78)
High % Caucasian vs. low	-	-	-	-	0.21 (0.06, 0.62)	-
Longer psoriasis disease duration vs. shorter (years)	1.20 (0.58, 2.56)	0.82 (0.35, 2.01)	-	1.52 (0.44, 6.83)	-	-
Longer PsA disease duration vs. shorter (years)	1.31 (0.73, 2.36)	0.92 (0.49, 1.70)	1.22 (0.46, 3.41)	0.88 (0.34, 2.16)	-	-
High swollen joint count vs. low	-	-	2.23 (0.93, 5.70)	1.87 (0.91, 4.01)	6.57 (1.92, 22.31)	3.06 (0.96, 9.15)
High tender joint count vs. low	-	-	-	-	6.57 (1.92, 22.31)	3.06 (0.96, 9.15)
High % steroid use vs. low	-	-	-	-	-	-
High % methotrexate use vs. low	-	-	-	-	-	-
High prior anti-TNF use vs. low	0.46 (0.26, 0.82)	0.64 (0.35, 1.13)	0.28 (0.12, 0.64)	-	-	0.14 (0.05, 0.42)
High baseline DAS vs. low	-	-	-	0.72 (0.34, 1.50)	-	-
Later publication year vs. early	0.49 (0.30, 0.80)	0.93 (0.55, 1.54)	0.38 (0.18, 0.79)	0.51 (0.26, 1.04)	-	-

Values are represented as odds ratio (95% credible interval). All bolded values are statistically meaningful at the 0.05 significance level. Analyses were performed using dichotomized versions of continuous measures (dichotomized at the median). Direction of values: Values above 1.00 indicate an increase in the treatment effect due to the selected covariate; values below 1.00 indicate a decrease in the treatment effect due to the selected covariate.

Treatment Modifying Factors in Psoriatic Arthritis

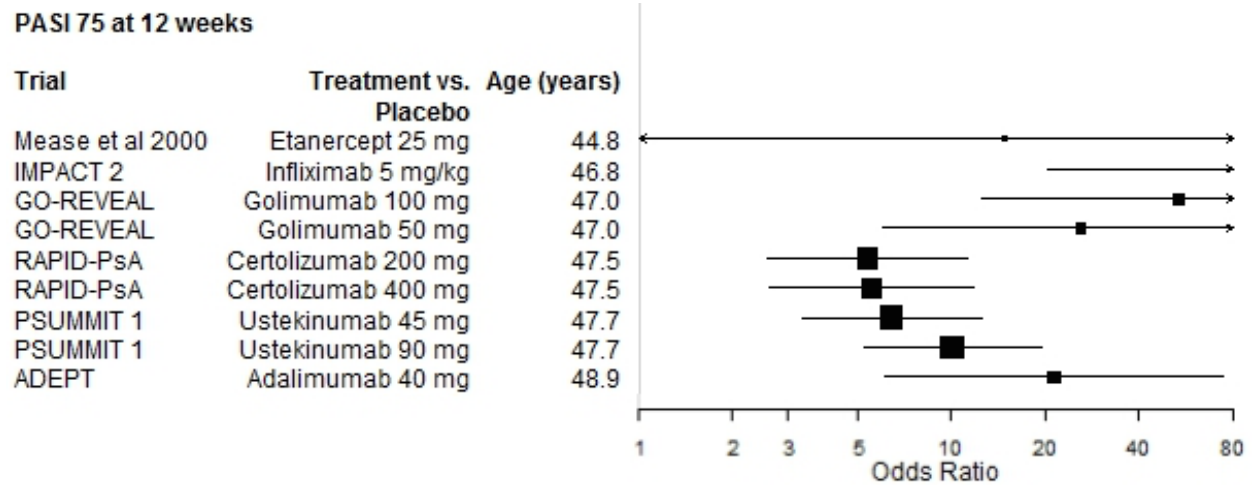
Supplementary Table 8: Estimate of covariate effect on treatment effects obtained with fixed effects meta-regression model, SF-36 PCS, SF-36 MCS (sensitivity analyses considering only trials assessing anti-TNF treatments)

Covariate	SF-36 PCS		SF-36 MCS	
	12 weeks	24 weeks	12 weeks	24 weeks
Older age vs. younger	0.18 (-1.84, 2.15)	-	-2.00 (-4.24, 0.21)	-1.08 (-2.70, 0.55)
High % male vs. low	-	-	-	-
High % Caucasian vs. low	-	-	1.45 (-0.87, 3.74)	-
Longer psoriasis disease duration vs. shorter (years)	-	5.05 (3.75, 6.36)	-	-
Longer PsA disease duration vs. shorter (years)	-	4.74 (3.46, 6.02)	-	-
High swollen joint count vs. low	-	-	-	-
High tender joint count vs. low	-	-	-	-
High % steroid use vs. low	-	-	-	-
High % methotrexate use vs. low	-	-	-	-
High prior anti-TNF use vs. low	-	-	-	-
High baseline DAS vs. low	-	2.00 (0.45, 3.57)	-	-
Later publication year vs. early	-	-4.25 (-5.43, -3.06)	-	-

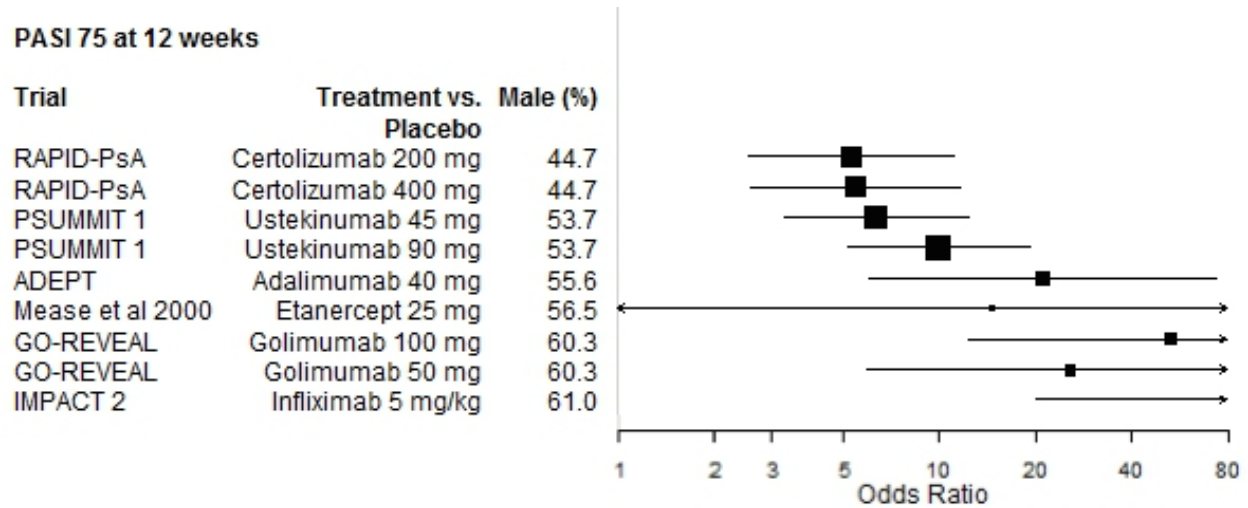
Values are represented as odds ratio (95% credible interval). All bolded values are statistically meaningful at the 0.05 significance level. Analyses were performed using dichotomized versions of continuous measures (dichotomized at the median). Direction of values: Positive values indicate an increase in the treatment effect due to the selected covariate; negative values indicate a decrease in the treatment effect due to the selected covariate.

Appendix 7: Forest plots for PASI 75

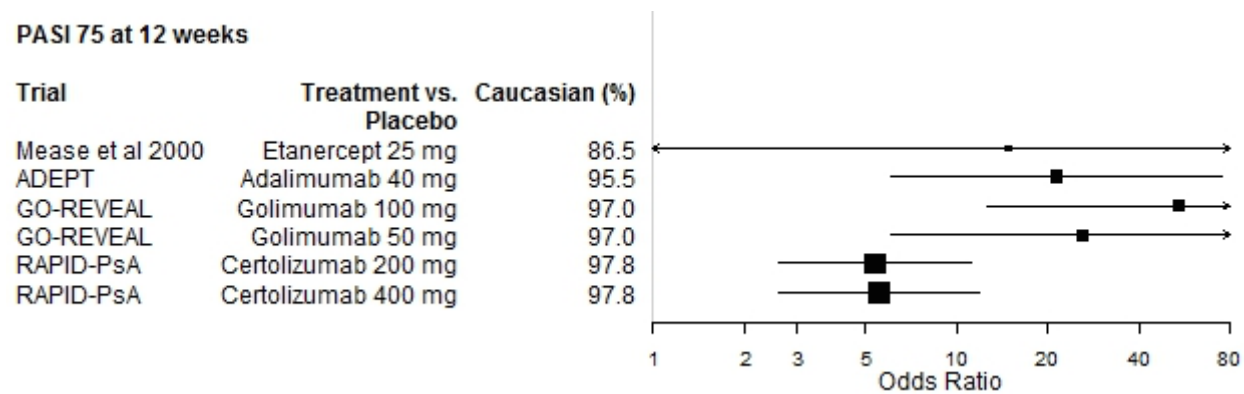
Supplementary Figure 29: Forest plot of odds ratios for PASI 75 at 12 weeks for age (years)



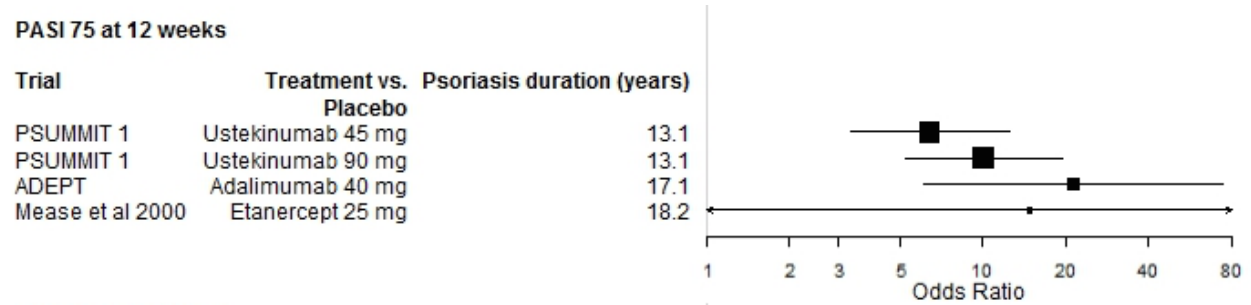
Supplementary Figure 30: Forest plot of odds ratios for PASI 75 at 12 weeks for male (%)



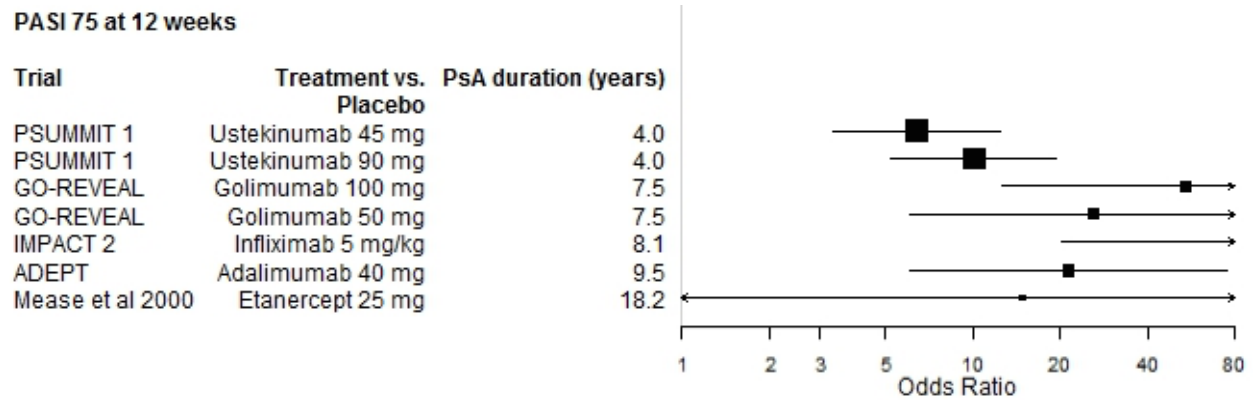
Supplementary Figure 31: Forest plot of odds ratios for PASI 75 at 12 weeks for Caucasian (%)



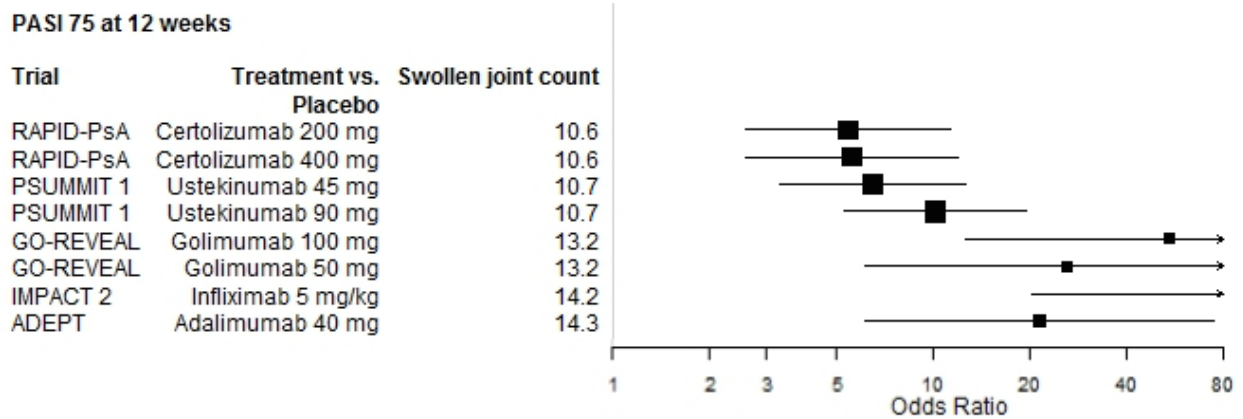
Supplementary Figure 32: Forest plot of odds ratios for PASI 75 at 12 weeks for psoriasis disease duration (years)



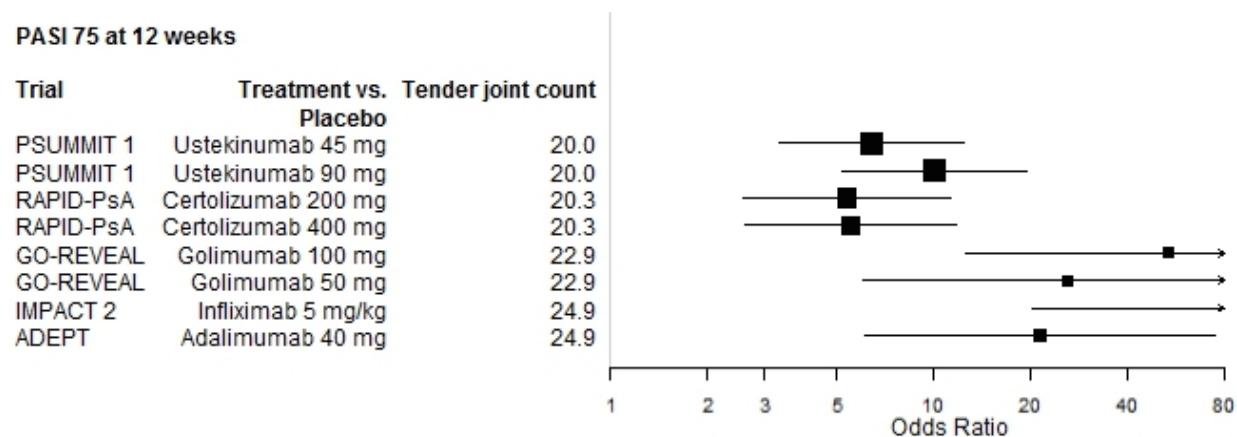
Supplementary Figure 33: Forest plot of odds ratios for PASI 75 at 12 weeks for PsA disease duration (years)



Supplementary Figure 34: Forest plot of odds ratios for PASI 75 at 12 weeks for swollen joint count

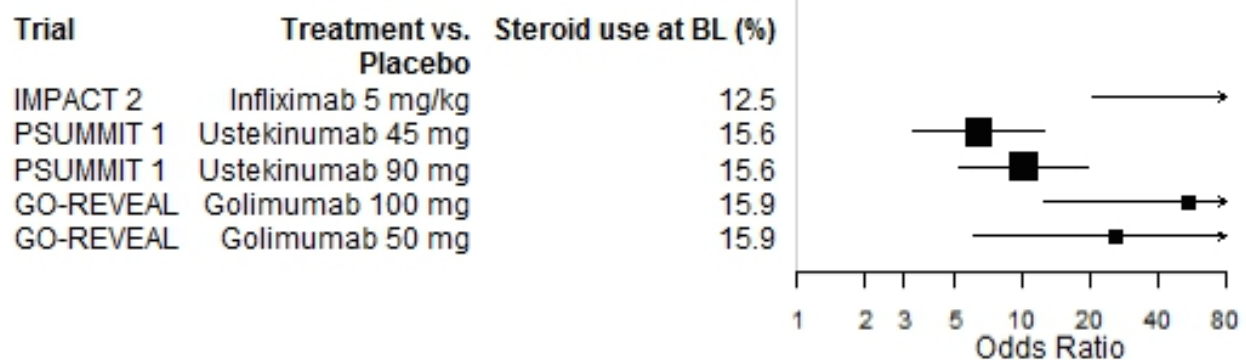


Supplementary Figure 35: Forest plot of odds ratios for PASI 75 at 12 weeks for tender joint count



Supplementary Figure 36: Forest plot of odds ratios for PASI 75 at 12 weeks for steroid use at baseline (%)

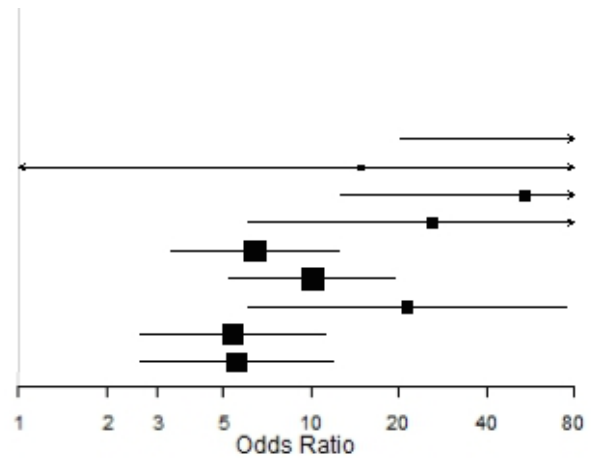
PASI 75 at 12 weeks



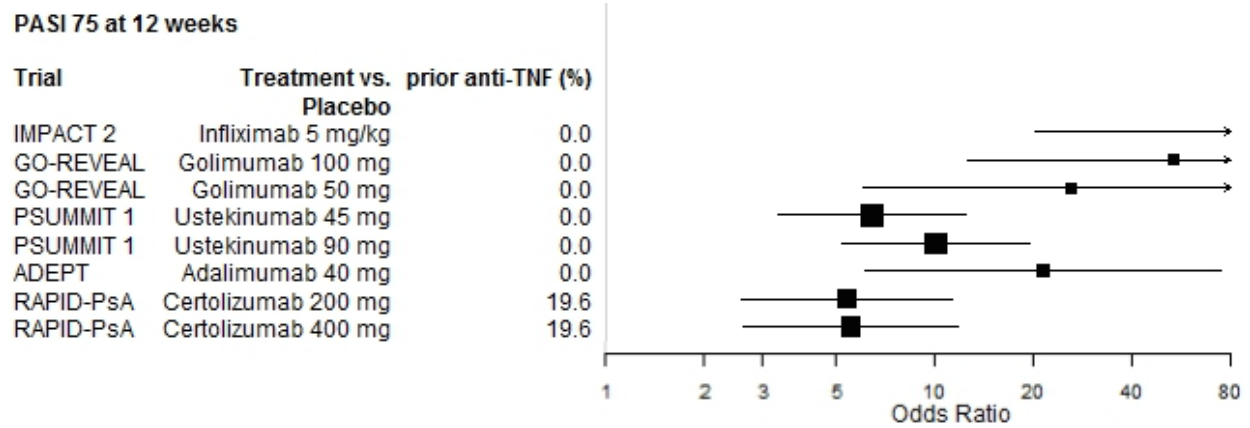
Supplementary Figure 37: Forest plot of odds ratios for PASI 75 at 12 weeks for methotrexate use (%)

PASI 75 at 12 weeks

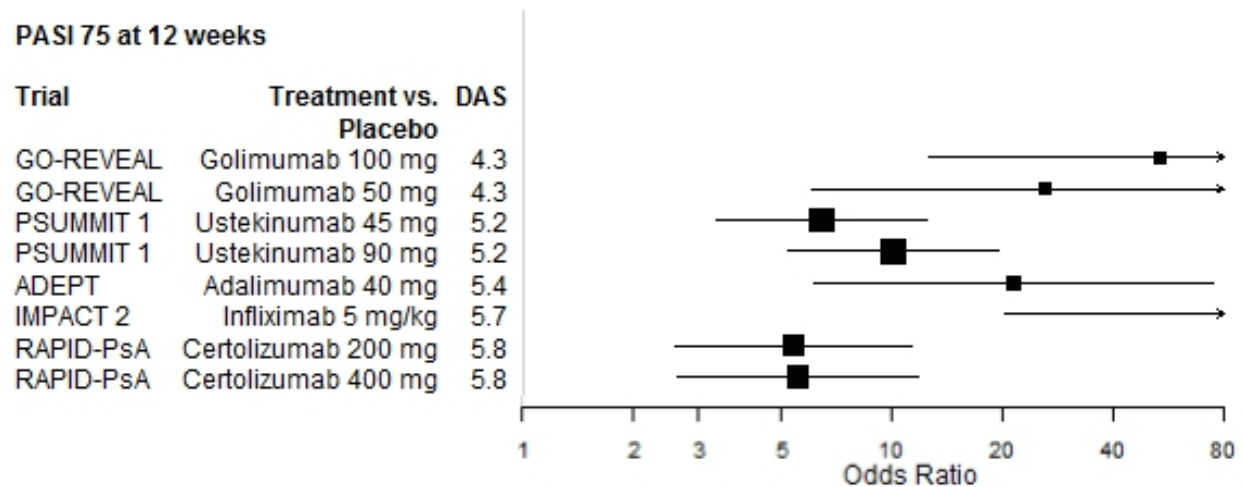
Trial	Treatment vs. Placebo	MTX use (%)
IMPACT 2	Infliximab 5 mg/kg	46.0
Mease et al 2000	Etanercept 25 mg	47.0
GO-REVEAL	Golimumab 100 mg	48.0
GO-REVEAL	Golimumab 50 mg	48.0
PSUMMIT 1	Ustekinumab 45 mg	48.1
PSUMMIT 1	Ustekinumab 90 mg	48.1
ADEPT	Adalimumab 40 mg	50.5
RAPID-PsA	Certolizumab 200 mg	63.6
RAPID-PsA	Certolizumab 400 mg	63.6



Supplementary Figure 38: Forest plot of odds ratios for PASI 75 at 12 weeks for prior anti-TNF use (%)



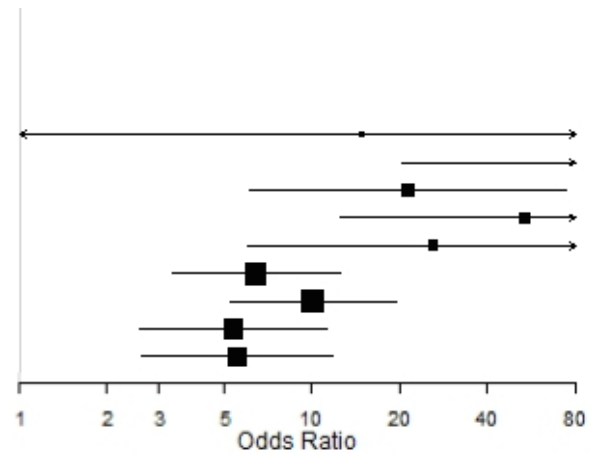
Supplementary Figure 39: Forest plot of odds ratios for PASI 75 at 12 weeks for DAS



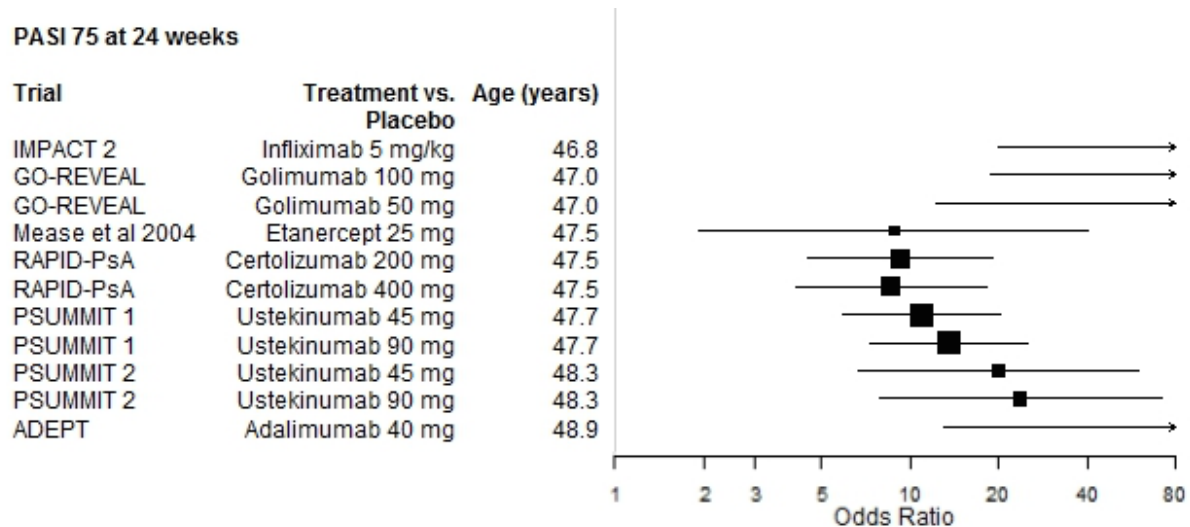
Supplementary Figure 40: Forest plot of odds ratios for PASI 75 at 12 weeks for publication year

PASI 75 at 12 weeks

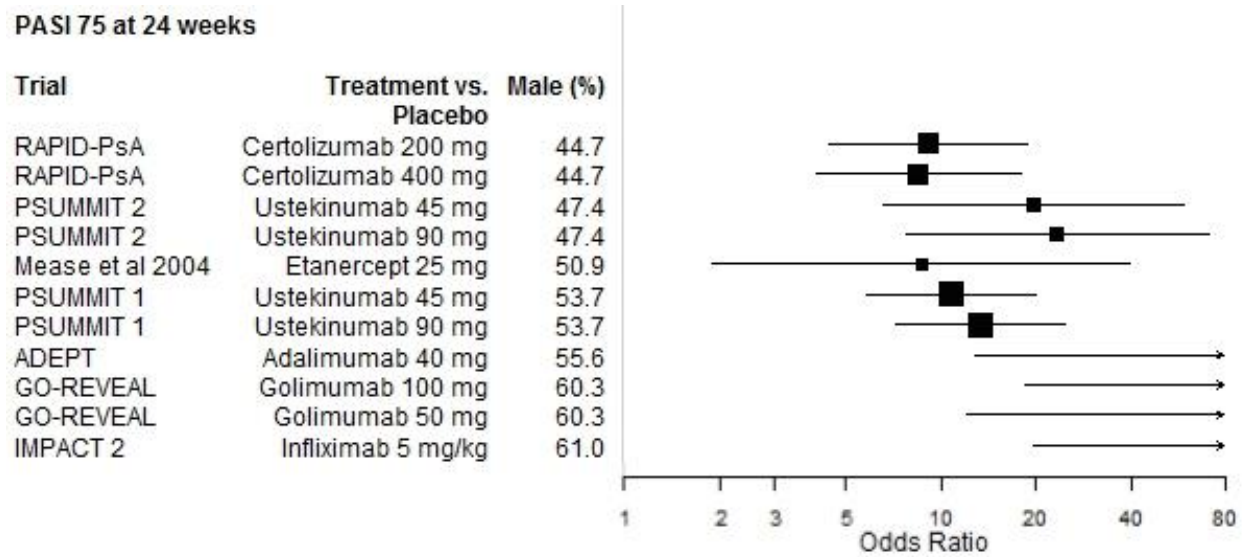
Trial	Treatment vs. Placebo	Study year
Mease et al 2000	Etanercept 25 mg	2000.0
IMPACT 2	Infliximab 5 mg/kg	2005.0
ADEPT	Adalimumab 40 mg	2005.0
GO-REVEAL	Golimumab 100 mg	2009.0
GO-REVEAL	Golimumab 50 mg	2009.0
PSUMMIT 1	Ustekinumab 45 mg	2013.0
PSUMMIT 1	Ustekinumab 90 mg	2013.0
RAPID-PsA	Certolizumab 200 mg	2014.0
RAPID-PsA	Certolizumab 400 mg	2014.0



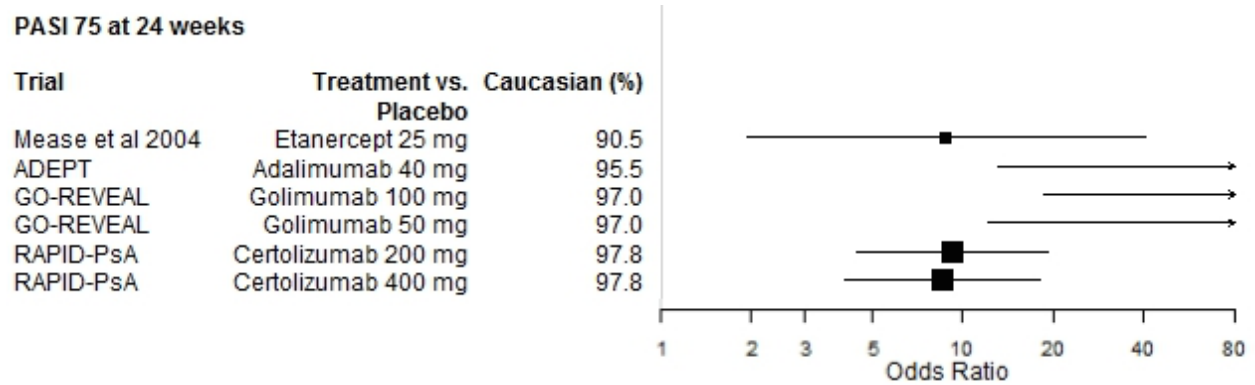
Supplementary Figure 41: Forest plot of odds ratios for PASI 75 at 24 weeks for age (years)



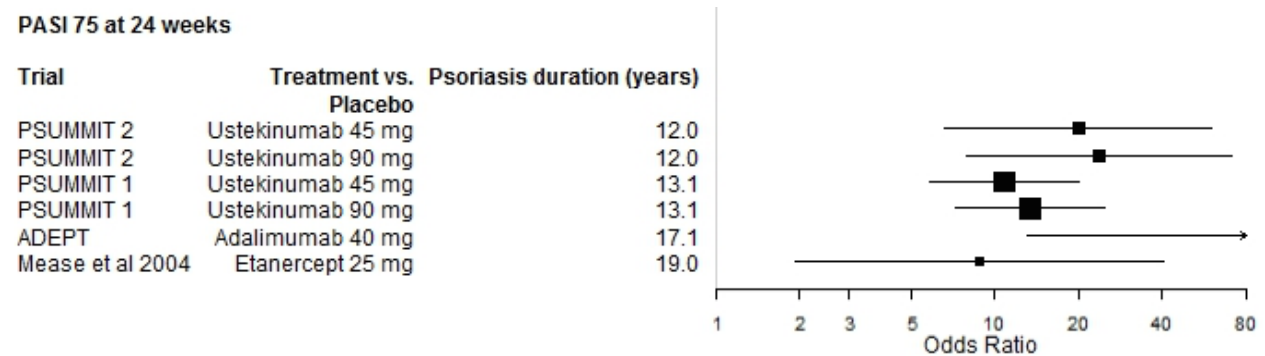
Supplementary Figure 42: Forest plot of odds ratios for PASI 75 at 24 weeks for male (%)



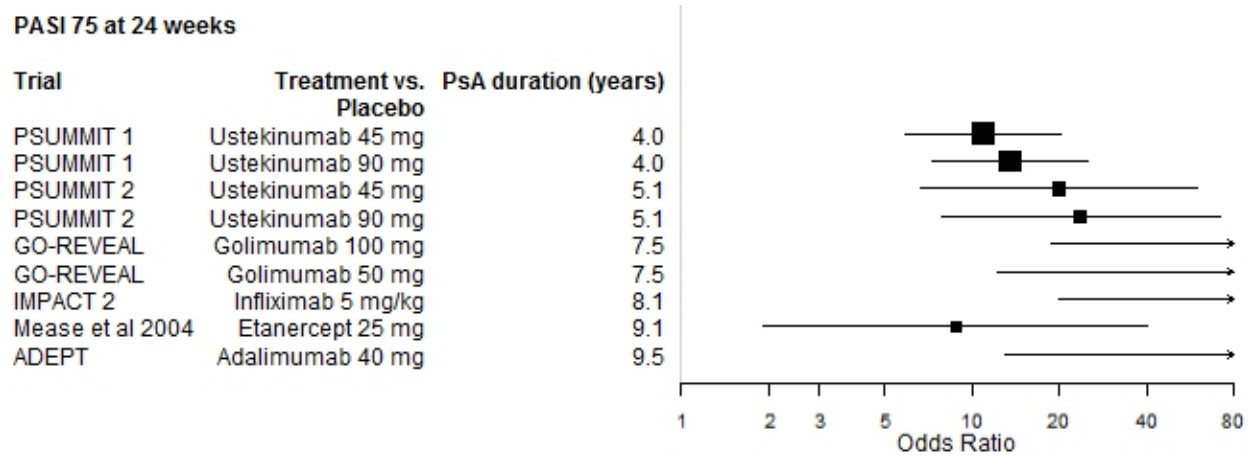
Supplementary Figure 43: Forest plot of odds ratios for PASI 75 at 24 weeks for Caucasian (%)



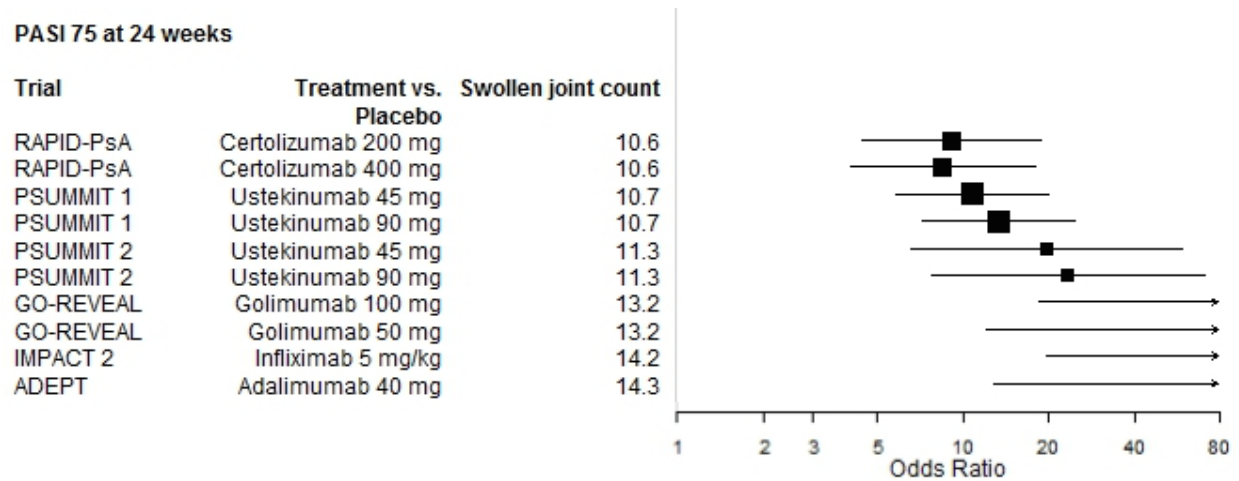
Supplementary Figure 44: Forest plot of odds ratios for PASI 75 at 24 weeks for psoriasis disease duration (years)



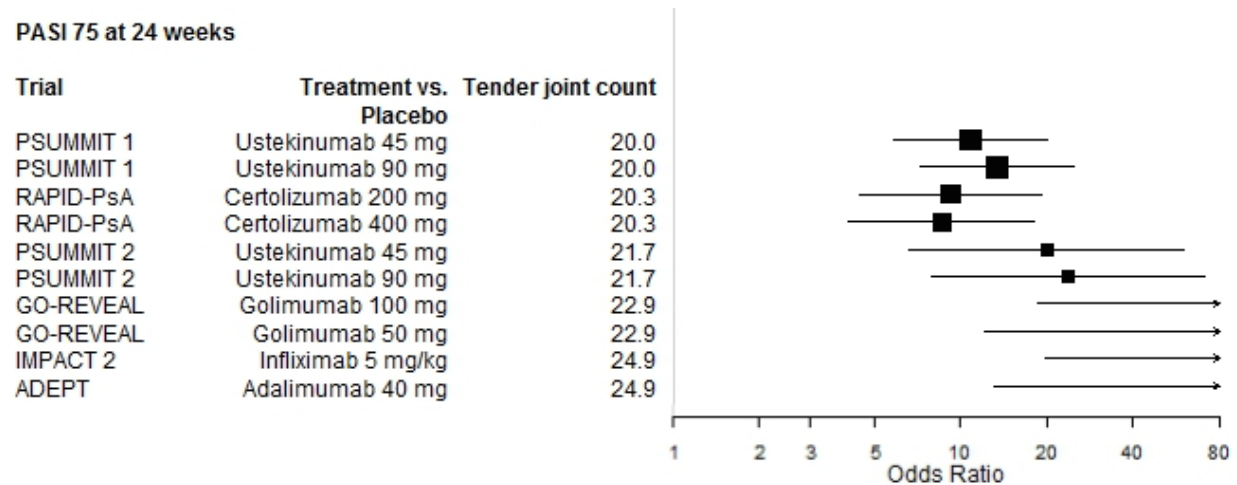
Supplementary Figure 45: Forest plot of odds ratios for PASI 75 at 24 weeks for PsA disease duration (years)



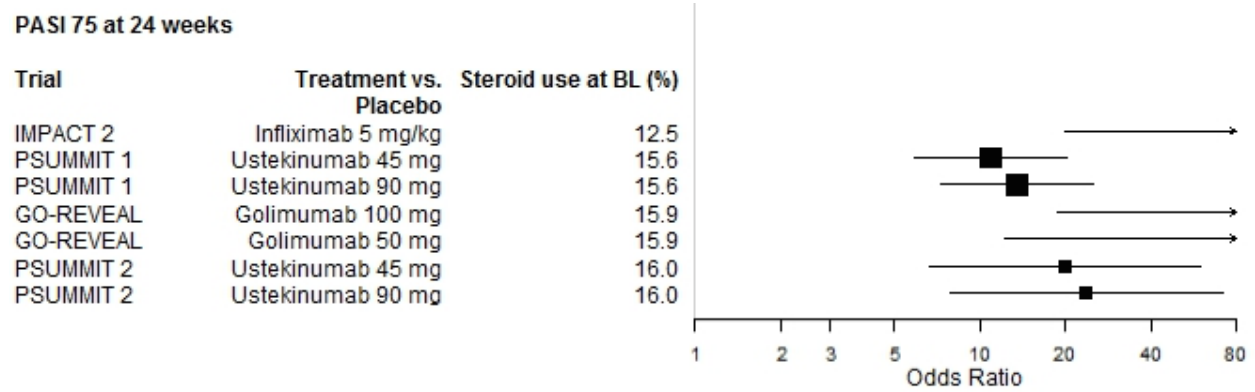
Supplementary Figure 46: Forest plot of odds ratios for PASI 75 at 24 weeks for swollen joint count



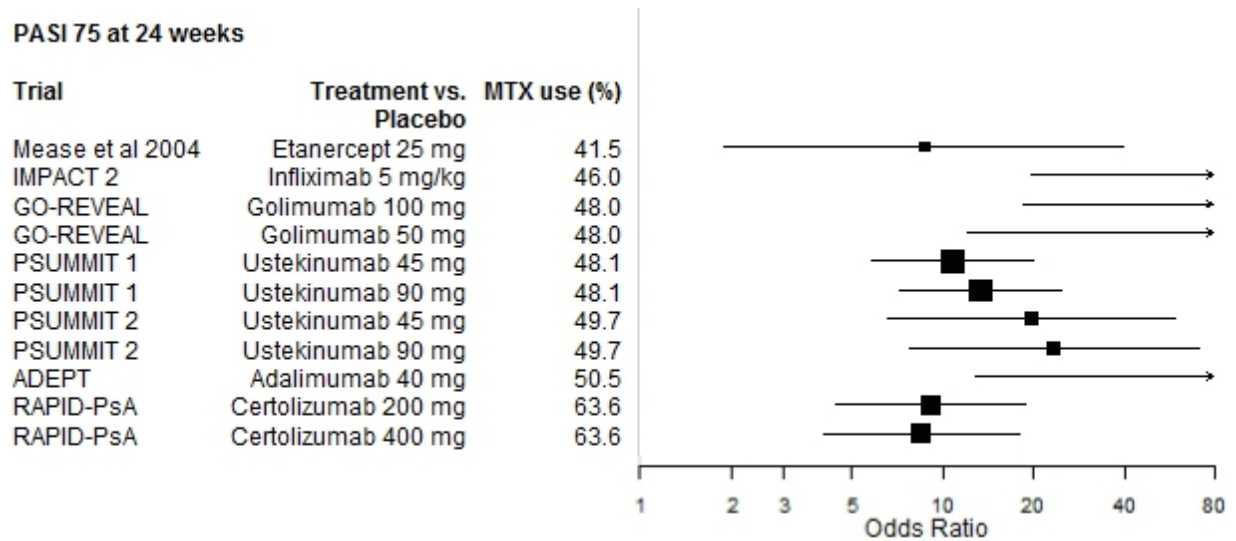
Supplementary Figure 47: Forest plot of odds ratios for PASI 75 at 24 weeks for tender joint count



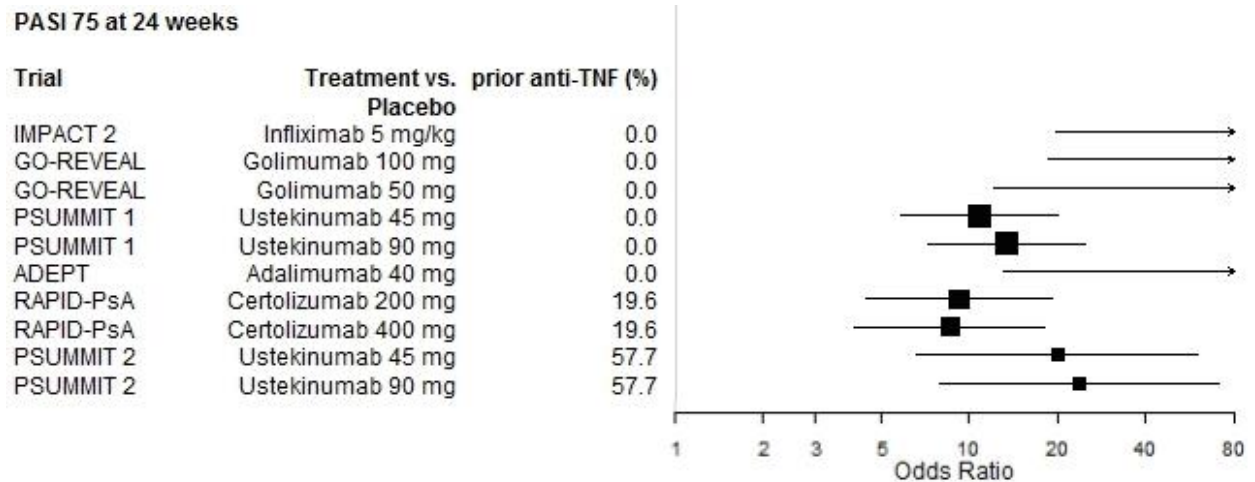
Supplementary Figure 48: Forest plot of odds ratios for PASI 75 at 24 weeks for steroid use at baseline (%)



Supplementary Figure 49: Forest plot of odds ratios for PASI 75 at 24 weeks for methotrexate use (%)



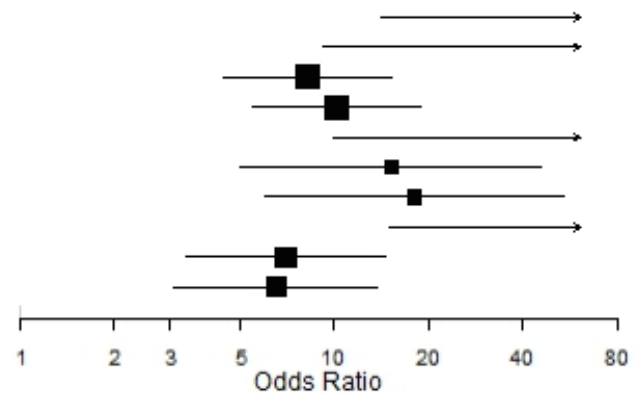
Supplementary Figure 50: Forest plot of odds ratios for PASI 75 at 24 weeks for prior anti-TNF use (%)



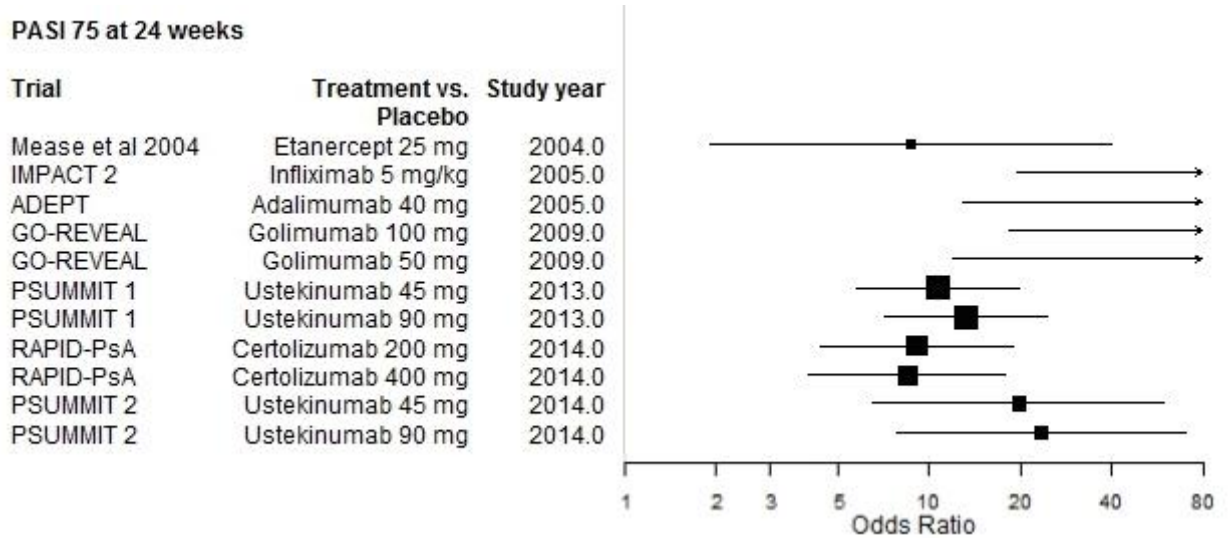
Supplementary Figure 51: Forest plot of odds ratios for PASI 75 at 24 weeks for DAS

PASI 75 at 24 weeks

Trial	Treatment vs. Placebo	DAS
GO-REVEAL	Golimumab 100 mg	4.3
GO-REVEAL	Golimumab 50 mg	4.3
PSUMMIT 1	Ustekinumab 45 mg	5.2
PSUMMIT 1	Ustekinumab 90 mg	5.2
ADEPT	Adalimumab 40 mg	5.4
PSUMMIT 2	Ustekinumab 45 mg	5.4
PSUMMIT 2	Ustekinumab 90 mg	5.4
IMPACT 2	Infliximab 5 mg/kg	5.7
RAPID-PsA	Certolizumab 200 mg	5.8
RAPID-PsA	Certolizumab 400 mg	5.8

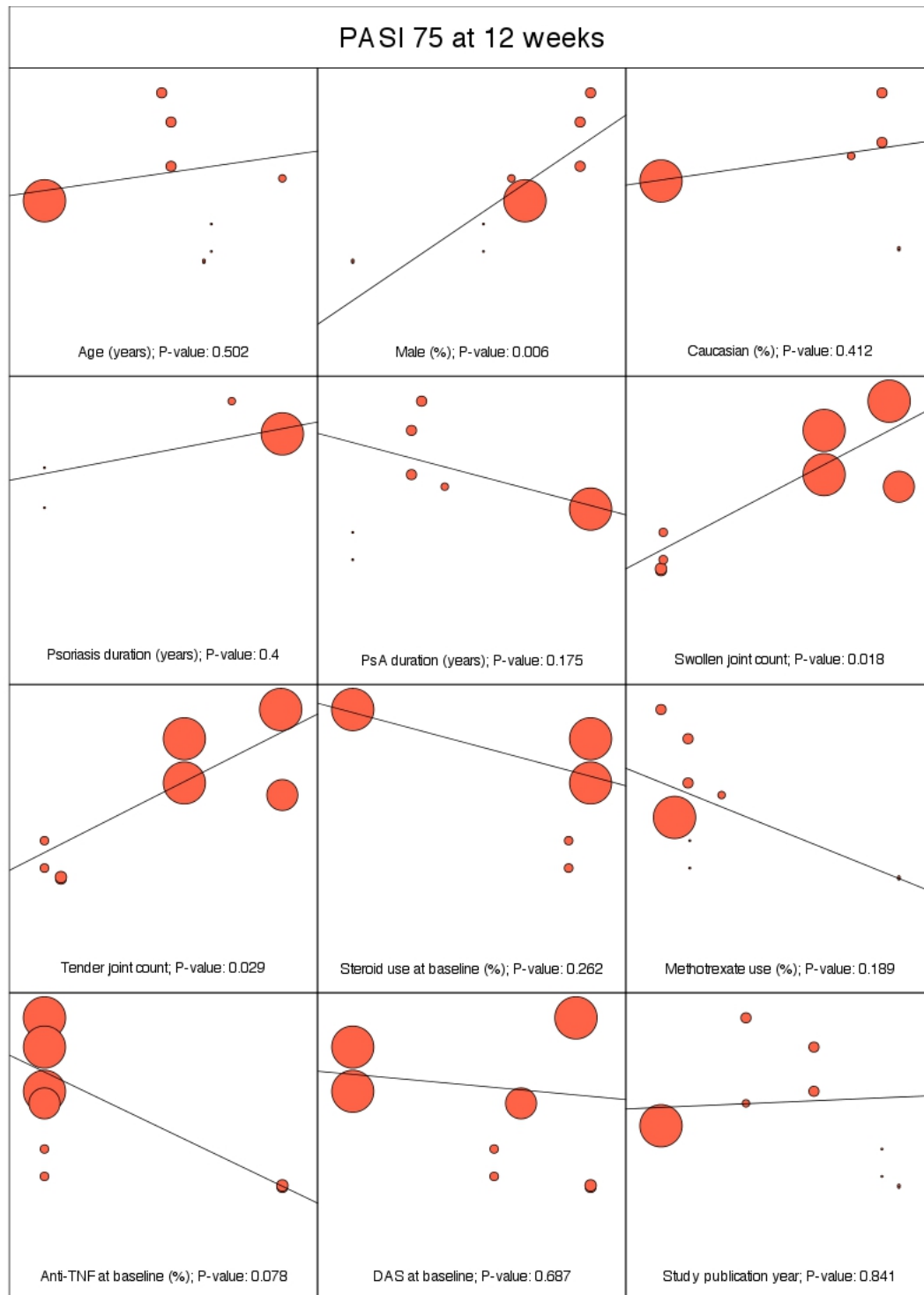


Supplementary Figure 52: Forest plot of odds ratios for PASI 75 at 24 weeks for publication year



Appendix 8: L'Abbe plots for PASI 75

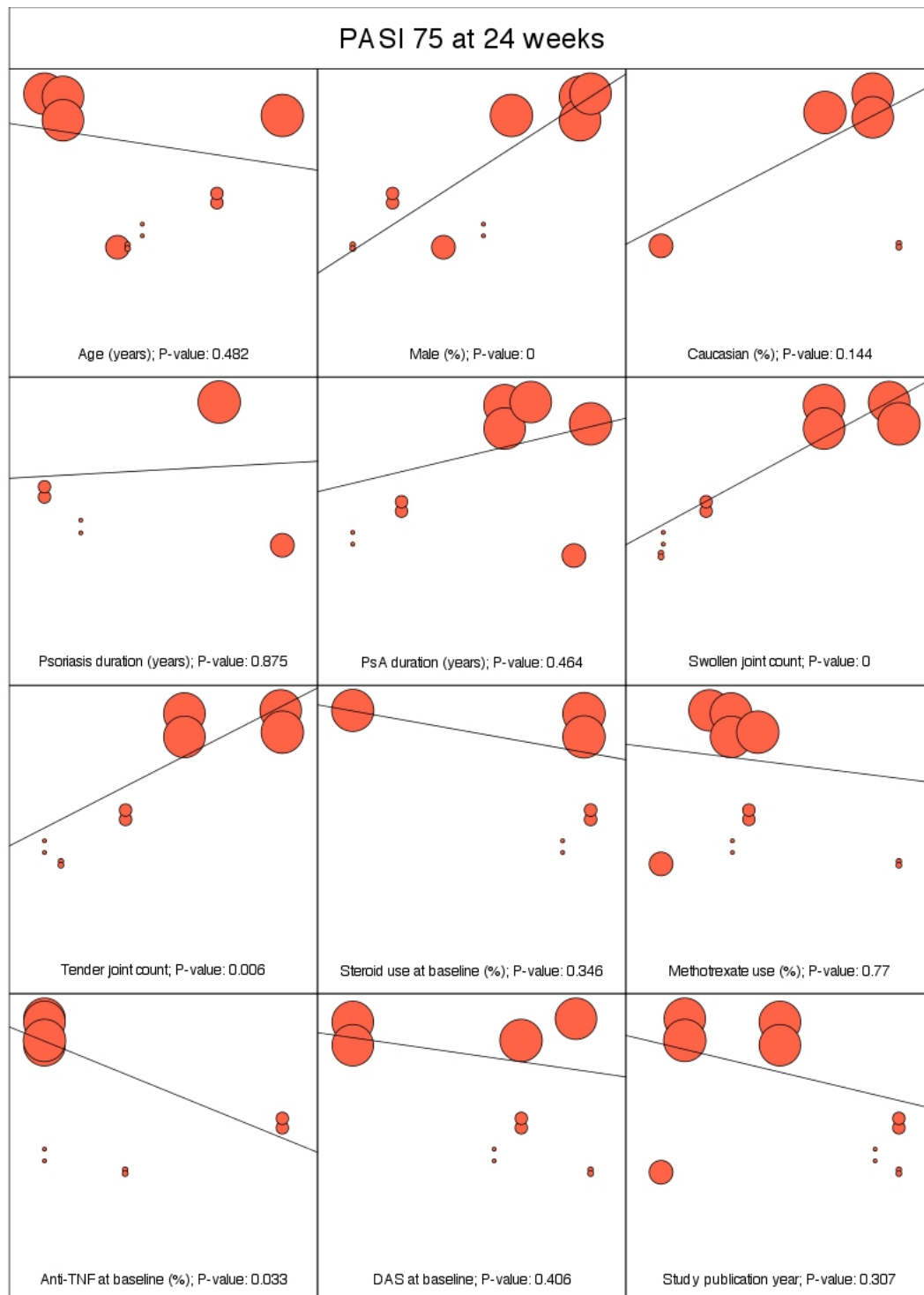
Supplementary Figure 53: Meta-regression (L'Abbé) plots of log odds ratios (y-axis) against the underlying covariate value (x-axis) for the PASI 75 at 12 weeks



Treatment Modifying Factors in Psoriatic Arthritis

Note: Lines are provided by a weighted linear regression, with weights being inversely proportional to the variance in each estimate.

Supplementary Figure 54: Meta-regression (L'Abbé) plots of log odds ratios (y-axis) against the underlying covariate value (x-axis) for the PASI 75 at 24 weeks



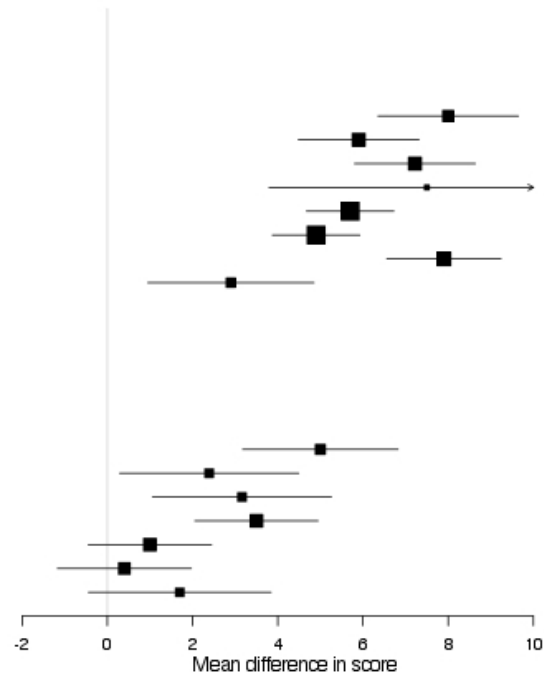
Note: Lines are provided by a weighted linear regression, with weights being inversely proportional to the variance in each estimate.

Appendix 9: Forest plots for SF-36 PCS and SF-36 MCS

Supplementary Figure 55: Forest plot of mean change from baseline in SF-36 PCS and SF-36 MCS scores at 12 weeks for age (years)

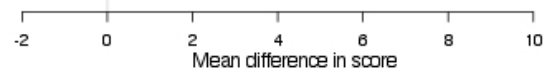
SF-36 PCS at 12 weeks

Trial	Treatment vs. Placebo	Age (years)
IMPACT 2	Infliximab 5 mg/kg	46.8
GO-REVEAL	Golimumab 50 mg	47.0
GO-REVEAL	Golimumab 100 mg	47.0
McInnes et al 2014	Secukinumab 10 mg	47.0
RAPID-PsA	Certolizumab 200 mg	47.5
RAPID-PsA	Certolizumab 400 mg	47.5
ADEPT	Adalimumab 40 mg	48.9
Genovese et al 2007	Adalimumab 40 mg	49.0



SF-36 MCS at 12 weeks

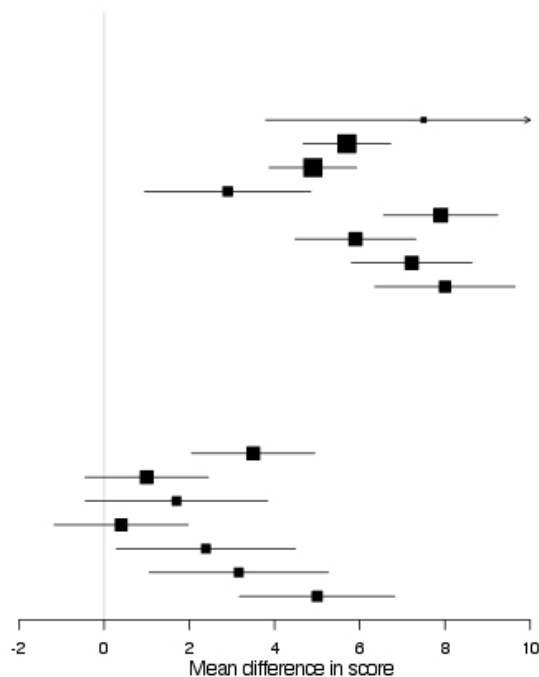
Trial	Treatment vs. Placebo	Age (years)
IMPACT 2	Infliximab 5 mg/kg	46.8
GO-REVEAL	Golimumab 50 mg	47.0
GO-REVEAL	Golimumab 100 mg	47.0
RAPID-PsA	Certolizumab 200 mg	47.5
RAPID-PsA	Certolizumab 400 mg	47.5
ADEPT	Adalimumab 40 mg	48.9
Genovese et al 2007	Adalimumab 40 mg	49.0



Supplementary Figure 56: Forest plot of mean change from baseline in SF-36 PCS and SF-36 MCS scores at 12 weeks for male (%)

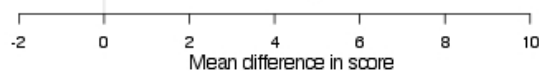
SF-36 PCS at 12 weeks

Trial	Treatment vs. Placebo	Male (%)
McInnes et al 2014	Secukinumab 10 mg	35.7
RAPID-PsA	Certolizumab 200 mg	44.7
RAPID-PsA	Certolizumab 400 mg	44.7
Genovese et al 2007	Adalimumab 40 mg	54.0
ADEPT	Adalimumab 40 mg	55.6
GO-REVEAL	Golimumab 50 mg	60.3
GO-REVEAL	Golimumab 100 mg	60.3
IMPACT 2	Infliximab 5 mg/kg	61.0



SF-36 MCS at 12 weeks

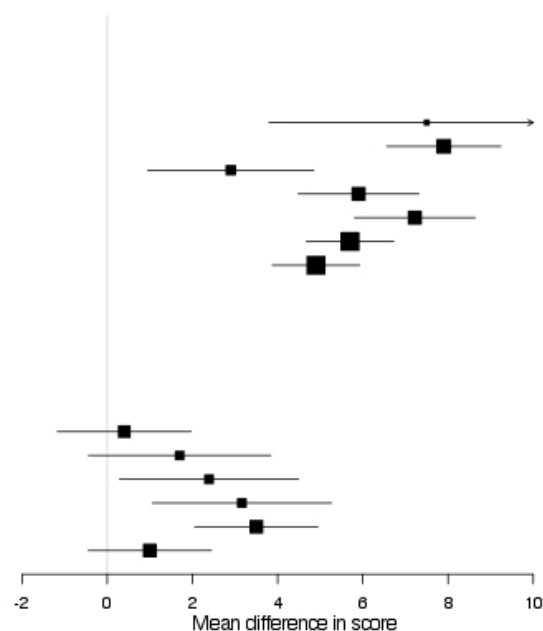
Trial	Treatment vs. Placebo	Male (%)
RAPID-PsA	Certolizumab 200 mg	44.7
RAPID-PsA	Certolizumab 400 mg	44.7
Genovese et al 2007	Adalimumab 40 mg	54.0
ADEPT	Adalimumab 40 mg	55.6
GO-REVEAL	Golimumab 50 mg	60.3
GO-REVEAL	Golimumab 100 mg	60.3
IMPACT 2	Infliximab 5 mg/kg	61.0



Supplementary Figure 57: Forest plot of mean change from baseline in SF-36 PCS and SF-36 MCS scores at 12 weeks for Caucasian (%)

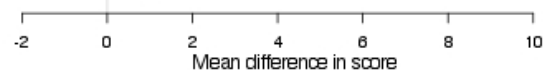
SF-36 PCS at 12 weeks

Trial	Treatment vs. Placebo	Caucasian (%)
McInnes et al 2014	Secukinumab 10 mg	93.0
ADEPT	Adalimumab 40 mg	95.5
Genovese et al 2007	Adalimumab 40 mg	96.0
GO-REVEAL	Golimumab 50 mg	97.0
GO-REVEAL	Golimumab 100 mg	97.0
RAPID-PsA	Certolizumab 200 mg	97.8
RAPID-PsA	Certolizumab 400 mg	97.8

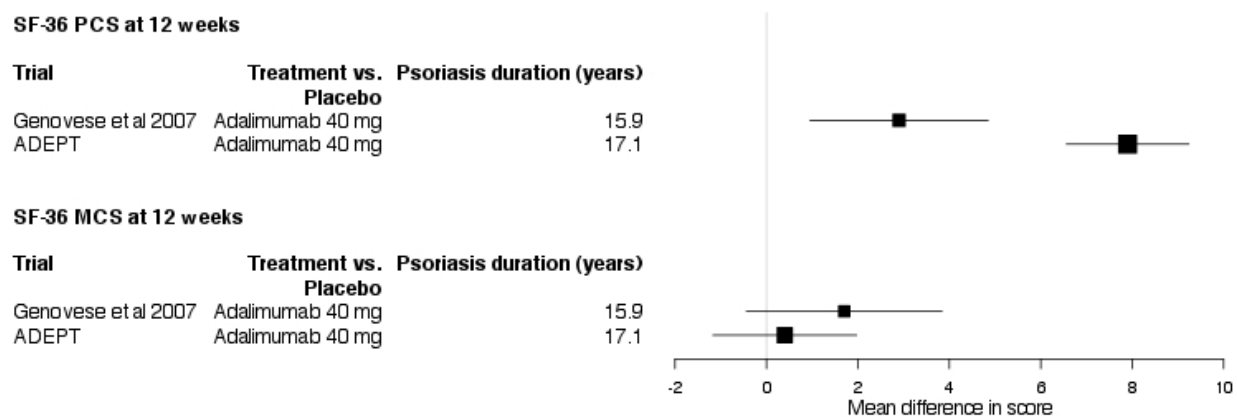


SF-36 MCS at 12 weeks

Trial	Treatment vs. Placebo	Caucasian (%)
ADEPT	Adalimumab 40 mg	95.5
Genovese et al 2007	Adalimumab 40 mg	96.0
GO-REVEAL	Golimumab 50 mg	97.0
GO-REVEAL	Golimumab 100 mg	97.0
RAPID-PsA	Certolizumab 200 mg	97.8
RAPID-PsA	Certolizumab 400 mg	97.8



Supplementary Figure 58: Forest plot of mean change from baseline in SF-36 PCS and SF-36 MCS scores at 12 weeks for psoriasis disease duration (years)



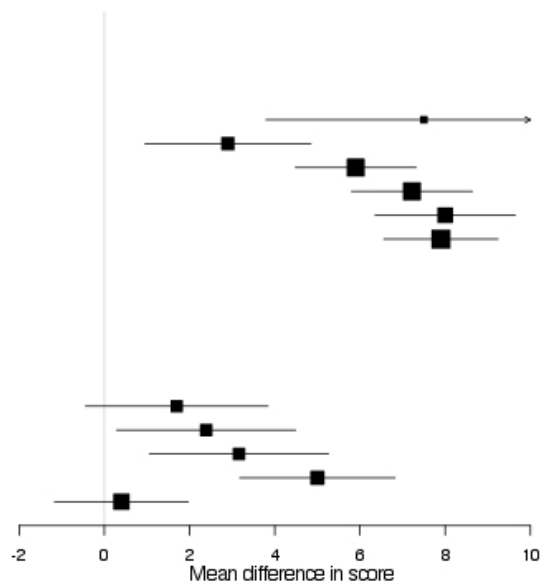
Supplementary Figure 59: Forest plot of mean change from baseline in SF-36 PCS and SF-36 MCS scores at 12 weeks for PsA disease duration (years)

SF-36 PCS at 12 weeks

Trial	Treatment vs. Placebo	PsA duration (years)
McInnes et al 2014	Secukinumab 10 mg	6.0
Genovese et al 2007	Adalimumab 40 mg	7.3
GO-REVEAL	Golimumab 50 mg	7.5
GO-REVEAL	Golimumab 100 mg	7.5
IMPACT 2	Infliximab 5 mg/kg	8.1
ADEPT	Adalimumab 40 mg	9.5

SF-36 MCS at 12 weeks

Trial	Treatment vs. Placebo	PsA duration (years)
Genovese et al 2007	Adalimumab 40 mg	7.3
GO-REVEAL	Golimumab 50 mg	7.5
GO-REVEAL	Golimumab 100 mg	7.5
IMPACT 2	Infliximab 5 mg/kg	8.1
ADEPT	Adalimumab 40 mg	9.5



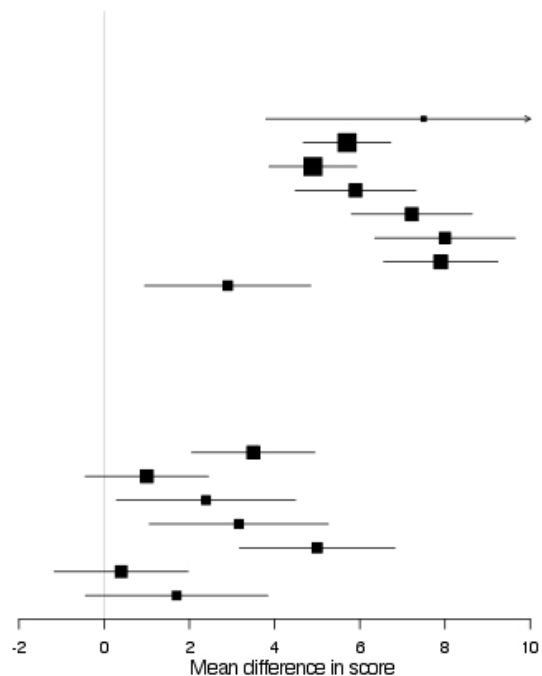
Supplementary Figure 60: Forest plot of mean change from baseline in SF-36 PCS and SF-36 MCS scores at 12 weeks for swollen joint count

SF-36 PCS at 12 weeks

Trial	Treatment vs. Placebo	Swollen joint count
McInnes et al 2014	Secukinumab 10 mg	8.7
RAPID-PsA	Certolizumab 200 mg	10.6
RAPID-PsA	Certolizumab 400 mg	10.6
GO-REVEAL	Golimumab 50 mg	13.2
GO-REVEAL	Golimumab 100 mg	13.2
IMPACT 2	Infliximab 5 mg/kg	14.2
ADEPT	Adalimumab 40 mg	14.3
Genovese et al 2007	Adalimumab 40 mg	18.3

SF-36 MCS at 12 weeks

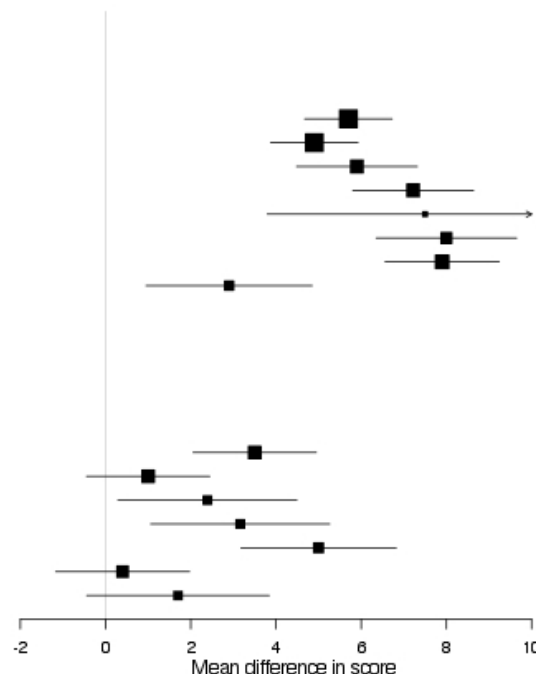
Trial	Treatment vs. Placebo	Swollen joint count
RAPID-PsA	Certolizumab 200 mg	10.6
RAPID-PsA	Certolizumab 400 mg	10.6
GO-REVEAL	Golimumab 50 mg	13.2
GO-REVEAL	Golimumab 100 mg	13.2
IMPACT 2	Infliximab 5 mg/kg	14.2
ADEPT	Adalimumab 40 mg	14.3
Genovese et al 2007	Adalimumab 40 mg	18.3



Supplementary Figure 61: Forest plot of mean change from baseline in SF-36 PCS and SF-36 MCS scores at 12 weeks for tender joint count

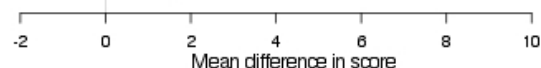
SF-36 PCS at 12 weeks

Trial	Treatment vs. Placebo	Tender joint count
RAPID-PsA	Certolizumab 200 mg	20.3
RAPID-PsA	Certolizumab 400 mg	20.3
GO-REVEAL	Golimumab 50 mg	22.9
GO-REVEAL	Golimumab 100 mg	22.9
McInnes et al 2014	Secukinumab 10 mg	23.2
IMPACT 2	Infliximab 5 mg/kg	24.9
ADEPT	Adalimumab 40 mg	24.9
Genovese et al 2007	Adalimumab 40 mg	27.3

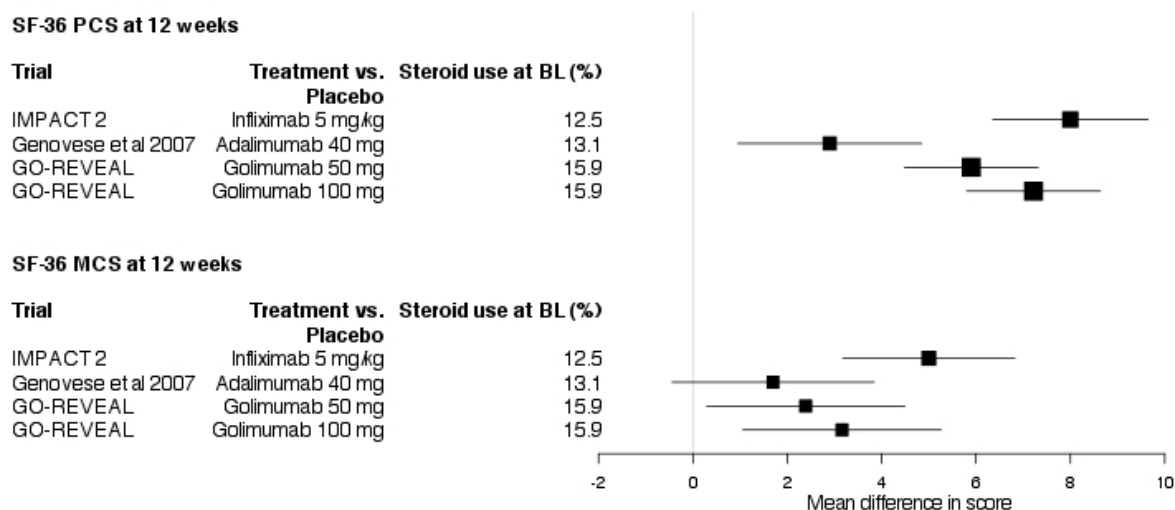


SF-36 MCS at 12 weeks

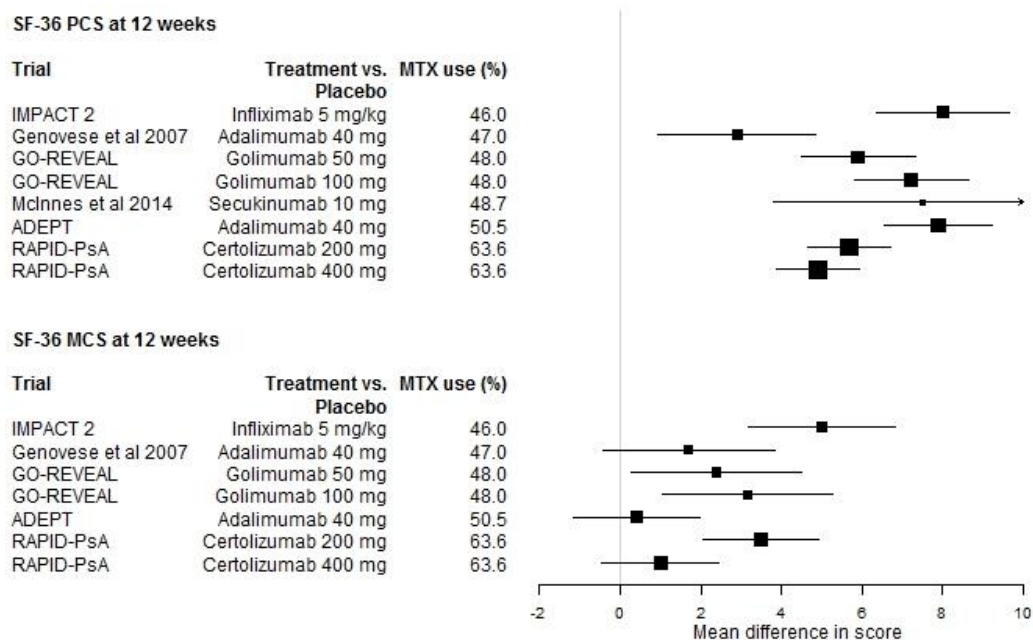
Trial	Treatment vs. Placebo	Tender joint count
RAPID-PsA	Certolizumab 200 mg	20.3
RAPID-PsA	Certolizumab 400 mg	20.3
GO-REVEAL	Golimumab 50 mg	22.9
GO-REVEAL	Golimumab 100 mg	22.9
IMPACT 2	Infliximab 5 mg/kg	24.9
ADEPT	Adalimumab 40 mg	24.9
Genovese et al 2007	Adalimumab 40 mg	27.3



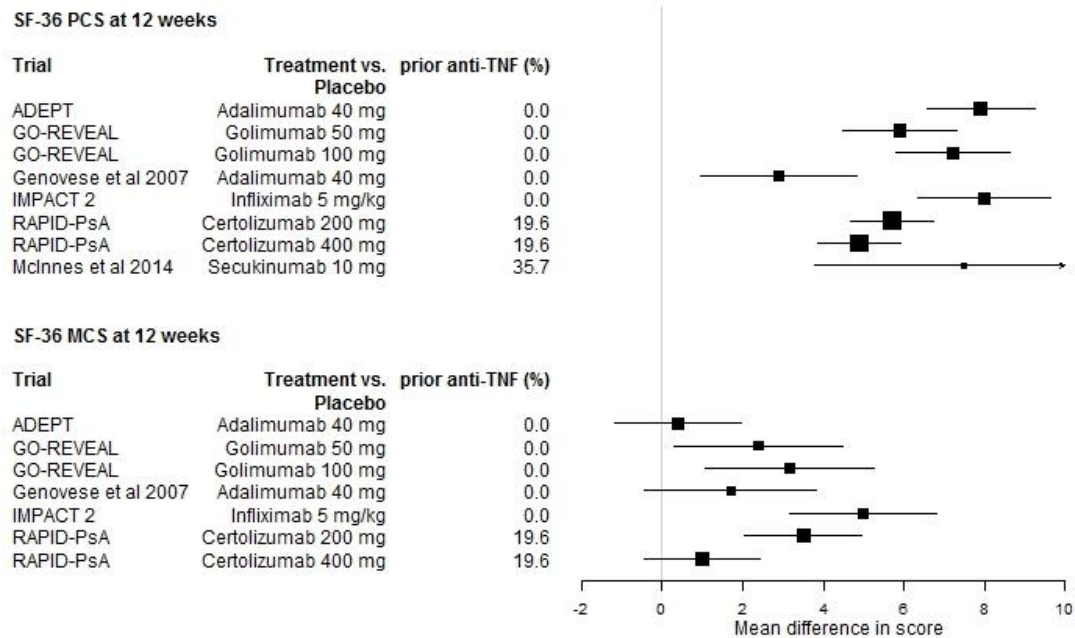
Supplementary Figure 62: Forest plot of mean change from baseline in SF-36 PCS and SF-36 MCS scores at 12 weeks for steroid use at baseline (%)



Supplementary Figure 63: Forest plot of mean change from baseline in SF-36 PCS and SF-36 MCS scores at 12 weeks for methotrexate use (%)



Supplementary Figure 64: Forest plot of mean change from baseline in SF-36 PCS and SF-36 MCS scores at 12 weeks for prior anti-TNF use (%)



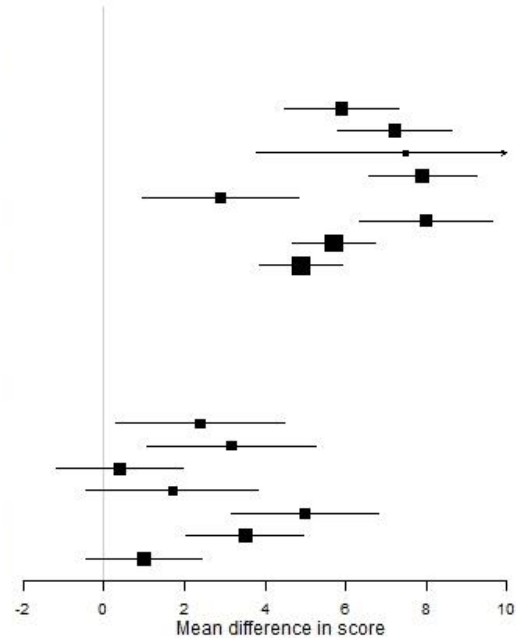
Supplementary Figure 65: Forest plot of mean change from baseline in SF-36 PCS and SF-36 MCS scores at 12 weeks for DAS

SF-36 PCS at 12 weeks

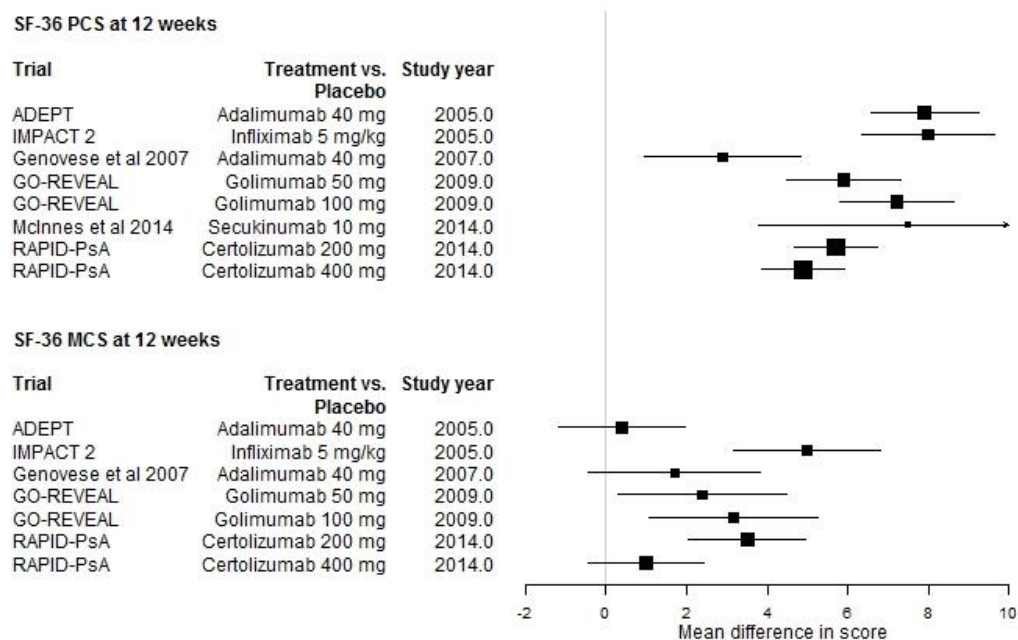
Trial	Treatment vs. Placebo	DAS
GO-REVEAL	Golimumab 50 mg	4.3
GO-REVEAL	Golimumab 100 mg	4.3
McInnes et al 2014	Secukinumab 10 mg	4.8
ADEPT	Adalimumab 40 mg	5.4
Genovese et al 2007	Adalimumab 40 mg	5.5
IMPACT 2	Infliximab 5 mg/kg	5.7
RAPID-PsA	Certolizumab 200 mg	5.8
RAPID-PsA	Certolizumab 400 mg	5.8

SF-36 MCS at 12 weeks

Trial	Treatment vs. Placebo	DAS
GO-REVEAL	Golimumab 50 mg	4.3
GO-REVEAL	Golimumab 100 mg	4.3
ADEPT	Adalimumab 40 mg	5.4
Genovese et al 2007	Adalimumab 40 mg	5.5
IMPACT 2	Infliximab 5 mg/kg	5.7
RAPID-PsA	Certolizumab 200 mg	5.8
RAPID-PsA	Certolizumab 400 mg	5.8



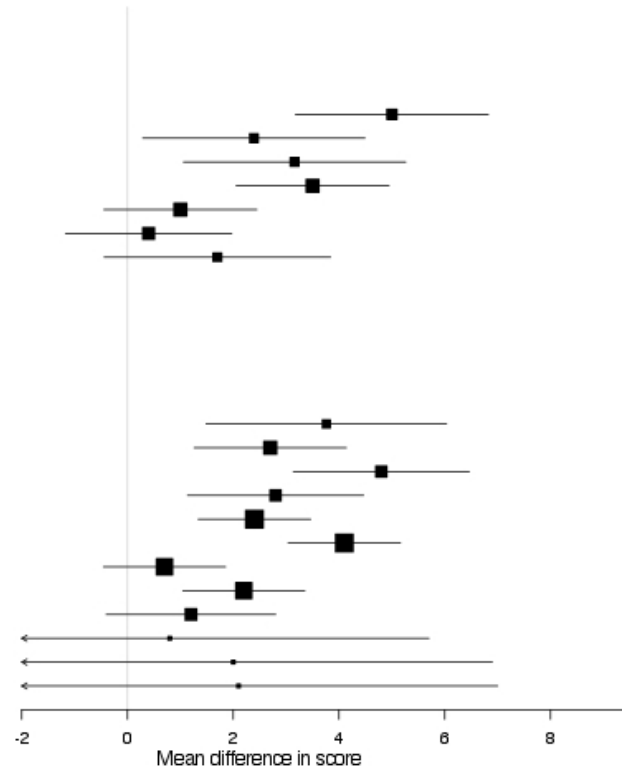
Supplementary Figure 66: Forest plot of mean change from baseline in SF-36 PCS and SF-36 MCS scores at 12 weeks for publication year



Supplementary Figure 67: Forest plot of mean change from baseline in SF-36 PCS and SF-36 MCS scores at 24 weeks for age (years)

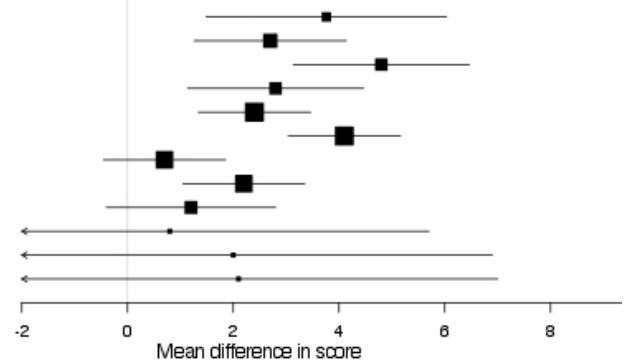
SF-36 PCS at 24 weeks

Trial	Treatment vs. Placebo	Age (years)
IMPACT 2	Infliximab 5 mg/kg	46.8
GO-REVEAL	Golimumab 50 mg	47.0
GO-REVEAL	Golimumab 100 mg	47.0
RAPID-PsA	Certolizumab 200 mg	47.5
RAPID-PsA	Certolizumab 400 mg	47.5
ADEPT	Adalimumab 40 mg	48.9
Genovese et al 2007	Adalimumab 40 mg	49.0



SF-36 MCS at 24 weeks

Trial	Treatment vs. Placebo	Age (years)
IMPACT 2	Infliximab 5 mg/kg	46.8
Mease et al 2004	Etanercept 25 mg	47.5
RAPID-PsA	Certolizumab 200 mg	47.5
RAPID-PsA	Certolizumab 400 mg	47.5
PSUMMIT 1	Ustekinumab 45 mg	47.7
PSUMMIT 1	Ustekinumab 90 mg	47.7
PSUMMIT 2	Ustekinumab 45 mg	48.3
PSUMMIT 2	Ustekinumab 90 mg	48.3
ADEPT	Adalimumab 40 mg	48.9
Mease et al 2011	Abatacept 10 mg/kg	51.3
Mease et al 2011	Abatacept 3 mg/kg	51.3
Mease et al 2011	Abatacept 30/10 mg/kg	51.3



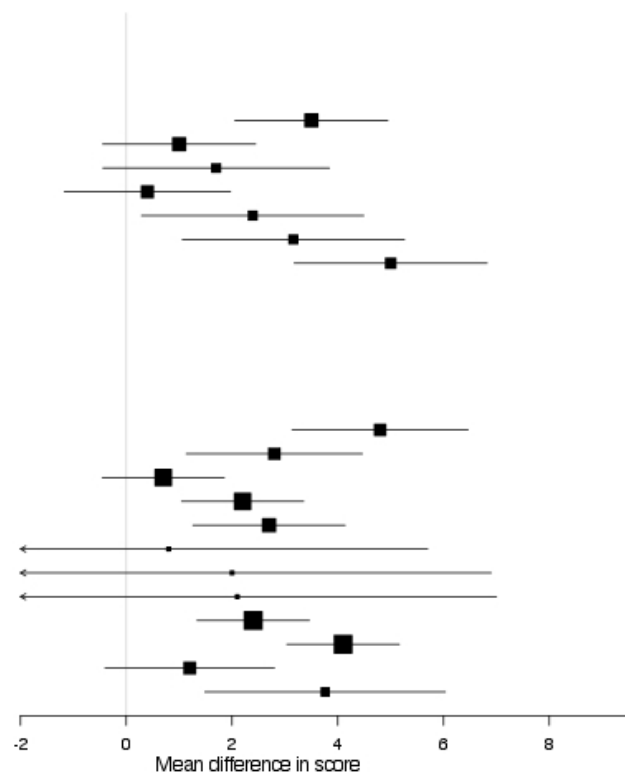
Supplementary Figure 68: Forest plot of mean change from baseline in SF-36 PCS and SF-36 MCS scores at 24 weeks for male (%)

SF-36 PCS at 24 weeks

Trial	Treatment vs. Male (%)	
	Placebo	
RAPID-PsA	Certolizumab 200 mg	44.7
RAPID-PsA	Certolizumab 400 mg	44.7
Genovese et al 2007	Adalimumab 40 mg	54.0
ADEPT	Adalimumab 40 mg	55.6
GO-REVEAL	Golimumab 50 mg	60.3
GO-REVEAL	Golimumab 100 mg	60.3
IMPACT 2	Infliximab 5 mg/kg	61.0

SF-36 MCS at 24 weeks

Trial	Treatment vs. Male (%)	
	Placebo	
RAPID-PsA	Certolizumab 200 mg	44.7
RAPID-PsA	Certolizumab 400 mg	44.7
PSUMMIT 2	Ustekinumab 45 mg	47.4
PSUMMIT 2	Ustekinumab 90 mg	47.4
Mease et al 2004	Etanercept 25 mg	50.9
Mease et al 2011	Abatacept 10 mg/kg	53.5
Mease et al 2011	Abatacept 3 mg/kg	53.5
Mease et al 2011	Abatacept 30/10 mg/kg	53.5
PSUMMIT 1	Ustekinumab 45 mg	53.7
PSUMMIT 1	Ustekinumab 90 mg	53.7
ADEPT	Adalimumab 40 mg	55.6
IMPACT 2	Infliximab 5 mg/kg	61.0



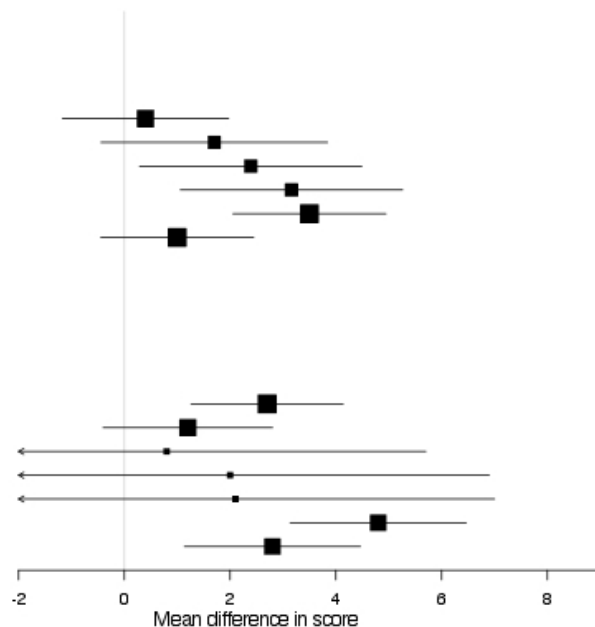
Supplementary Figure 69: Forest plot of mean change from baseline in SF-36 PCS and SF-36 MCS scores at 24 weeks for Caucasian (%)

SF-36 PCS at 24 weeks

Trial	Treatment vs. Placebo	Caucasian (%)
ADEPT	Adalimumab 40 mg	95.5
Genovese et al 2007	Adalimumab 40 mg	96.0
GO-REVEAL	Golimumab 50 mg	97.0
GO-REVEAL	Golimumab 100 mg	97.0
RAPID-PsA	Certolizumab 200 mg	97.8
RAPID-PsA	Certolizumab 400 mg	97.8

SF-36 MCS at 24 weeks

Trial	Treatment vs. Placebo	Caucasian (%)
Mease et al 2004	Etanercept 25 mg	90.5
ADEPT	Adalimumab 40 mg	95.5
Mease et al 2011	Abatacept 10 mg/kg	97.8
Mease et al 2011	Abatacept 3 mg/kg	97.8
Mease et al 2011	Abatacept 30/10 mg/kg	97.8
RAPID-PsA	Certolizumab 200 mg	97.8
RAPID-PsA	Certolizumab 400 mg	97.8



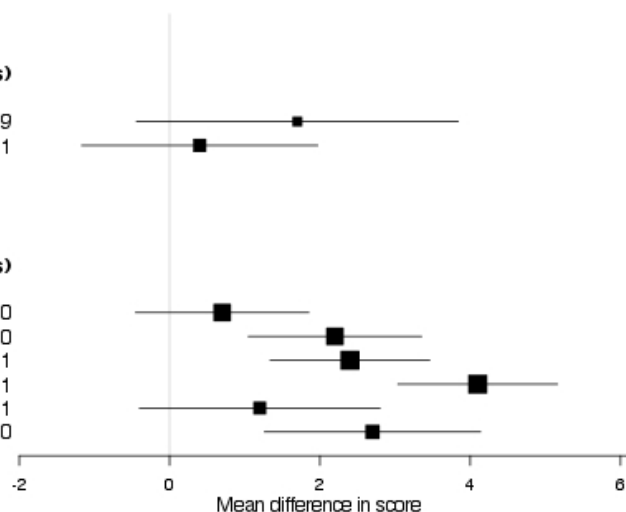
Supplementary Figure 70: Forest plot of mean change from baseline in SF-36 PCS and SF-36 MCS scores at 24 weeks for psoriasis disease duration (years)

SF-36 PCS at 24 weeks

Trial	Treatment vs. Placebo	Psoriasis duration (years)
Genovese et al 2007	Adalimumab 40 mg	15.9
ADEPT	Adalimumab 40 mg	17.1

SF-36 MCS at 24 weeks

Trial	Treatment vs. Placebo	Psoriasis duration (years)
PSUMMIT 2	Ustekinumab 45 mg	12.0
PSUMMIT 2	Ustekinumab 90 mg	12.0
PSUMMIT 1	Ustekinumab 45 mg	13.1
PSUMMIT 1	Ustekinumab 90 mg	13.1
ADEPT	Adalimumab 40 mg	17.1
Mease et al 2004	Etanercept 25 mg	19.0



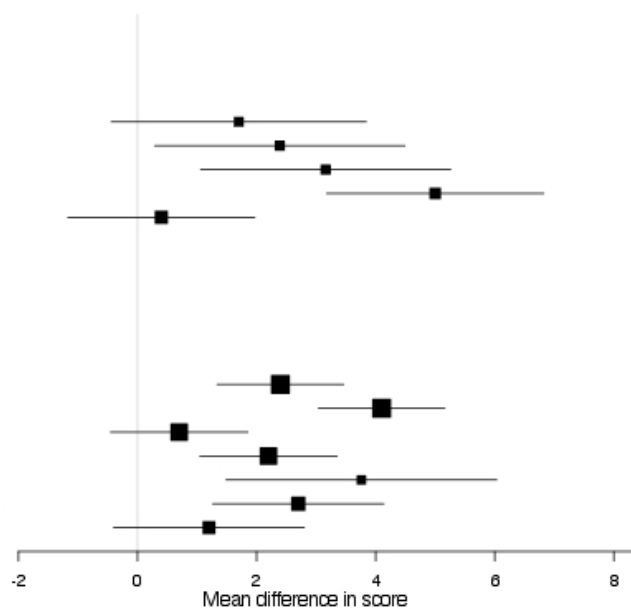
Supplementary Figure 71: Forest plot of mean change from baseline in SF-36 PCS and SF-36 MCS scores at 24 weeks for PsA disease duration (years)

SF-36 PCS at 24 weeks

Trial	Treatment vs. Placebo	PsA duration (years)
Genovese et al 2007	Adalimumab 40 mg	7.3
GO-REVEAL	Golimumab 50 mg	7.5
GO-REVEAL	Golimumab 100 mg	7.5
IMPACT 2	Infliximab 5 mg/kg	8.1
ADEPT	Adalimumab 40 mg	9.5

SF-36 MCS at 24 weeks

Trial	Treatment vs. Placebo	PsA duration (years)
PSUMMIT 1	Ustekinumab 45 mg	4.0
PSUMMIT 1	Ustekinumab 90 mg	4.0
PSUMMIT 2	Ustekinumab 45 mg	5.1
PSUMMIT 2	Ustekinumab 90 mg	5.1
IMPACT 2	Infliximab 5 mg/kg	8.1
Mease et al 2004	Etanercept 25 mg	9.1
ADEPT	Adalimumab 40 mg	9.5



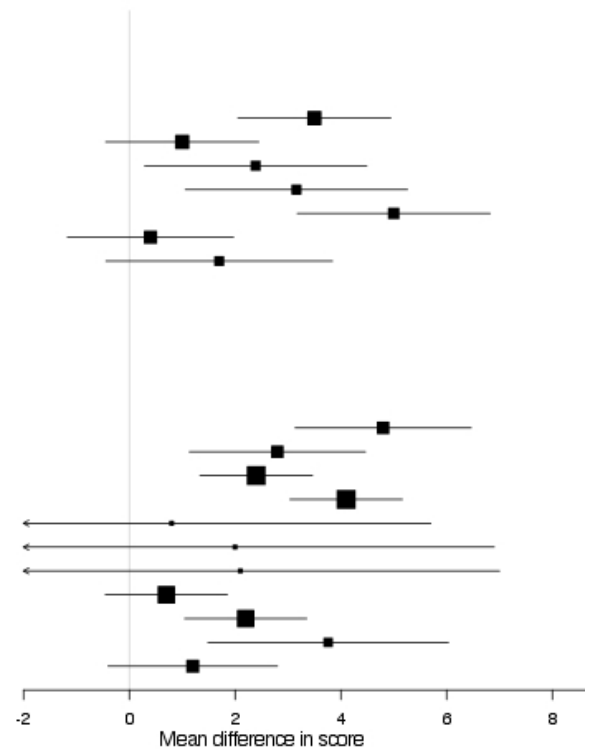
Supplementary Figure 72: Forest plot of mean change from baseline in SF-36 PCS and SF-36 MCS scores at 24 weeks for swollen joint count

SF-36 PCS at 24 weeks

Trial	Treatment vs. Placebo	Swollen joint count
RAPID-PsA	Certolizumab 200 mg	10.6
RAPID-PsA	Certolizumab 400 mg	10.6
GO-REVEAL	Golimumab 50 mg	13.2
GO-REVEAL	Golimumab 100 mg	13.2
IMPACT 2	Infliximab 5 mg/kg	14.2
ADEPT	Adalimumab 40 mg	14.3
Genovese et al 2007	Adalimumab 40 mg	18.3

SF-36 MCS at 24 weeks

Trial	Treatment vs. Placebo	Swollen joint count
RAPID-PsA	Certolizumab 200 mg	10.6
RAPID-PsA	Certolizumab 400 mg	10.6
PSUMMIT 1	Ustekinumab 45 mg	10.7
PSUMMIT 1	Ustekinumab 90 mg	10.7
Mease et al 2011	Abatacept 10 mg/kg	10.9
Mease et al 2011	Abatacept 3 mg/kg	10.9
Mease et al 2011	Abatacept 30/10 mg/kg	10.9
PSUMMIT 2	Ustekinumab 45 mg	11.3
PSUMMIT 2	Ustekinumab 90 mg	11.3
IMPACT 2	Infliximab 5 mg/kg	14.2
ADEPT	Adalimumab 40 mg	14.3



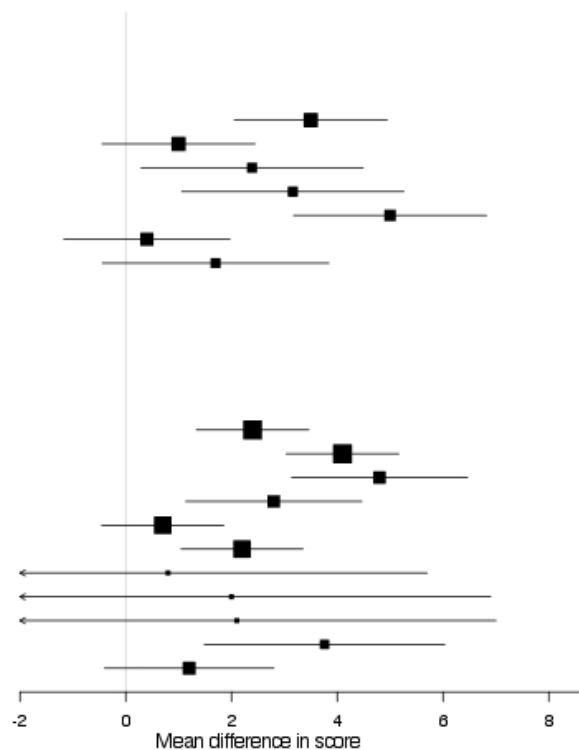
Supplementary Figure 73: Forest plot of mean change from baseline in SF-36 PCS and SF-36 MCS scores at 24 weeks for tender joint count

SF-36 PCS at 24 weeks

Trial	Treatment vs. Placebo	Tender joint count
RAPID-PsA	Certolizumab 200 mg	20.3
RAPID-PsA	Certolizumab 400 mg	20.3
GO-REVEAL	Golimumab 50 mg	22.9
GO-REVEAL	Golimumab 100 mg	22.9
IMPACT 2	Infliximab 5 mg/kg	24.9
ADEPT	Adalimumab 40 mg	24.9
Genovese et al 2007	Adalimumab 40 mg	27.3

SF-36 MCS at 24 weeks

Trial	Treatment vs. Placebo	Tender joint count
PSUMMIT 1	Ustekinumab 45 mg	20.0
PSUMMIT 1	Ustekinumab 90 mg	20.0
RAPID-PsA	Certolizumab 200 mg	20.3
RAPID-PsA	Certolizumab 400 mg	20.3
PSUMMIT 2	Ustekinumab 45 mg	21.7
PSUMMIT 2	Ustekinumab 90 mg	21.7
Mease et al 2011	Abatacept 10 mg/kg	22.2
Mease et al 2011	Abatacept 3 mg/kg	22.2
Mease et al 2011	Abatacept 30/10 mg/kg	22.2
IMPACT 2	Infliximab 5 mg/kg	24.9
ADEPT	Adalimumab 40 mg	24.9



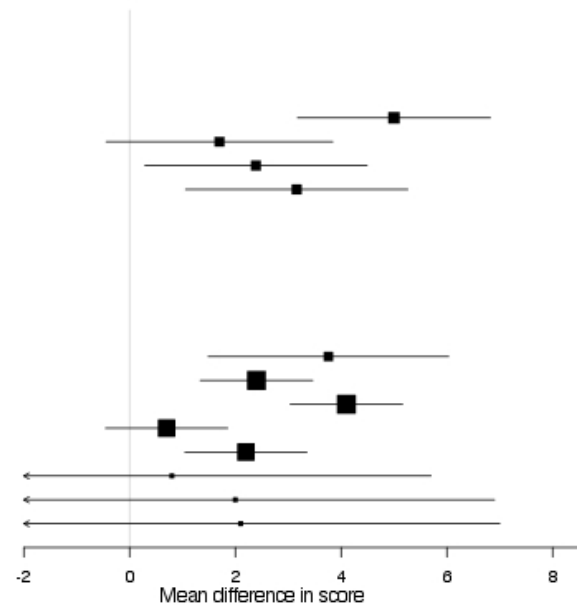
Supplementary Figure 74: Forest plot of mean change from baseline in SF-36 PCS and SF-36 MCS scores at 24 weeks for steroid use at baseline (%)

SF-36 PCS at 24 weeks

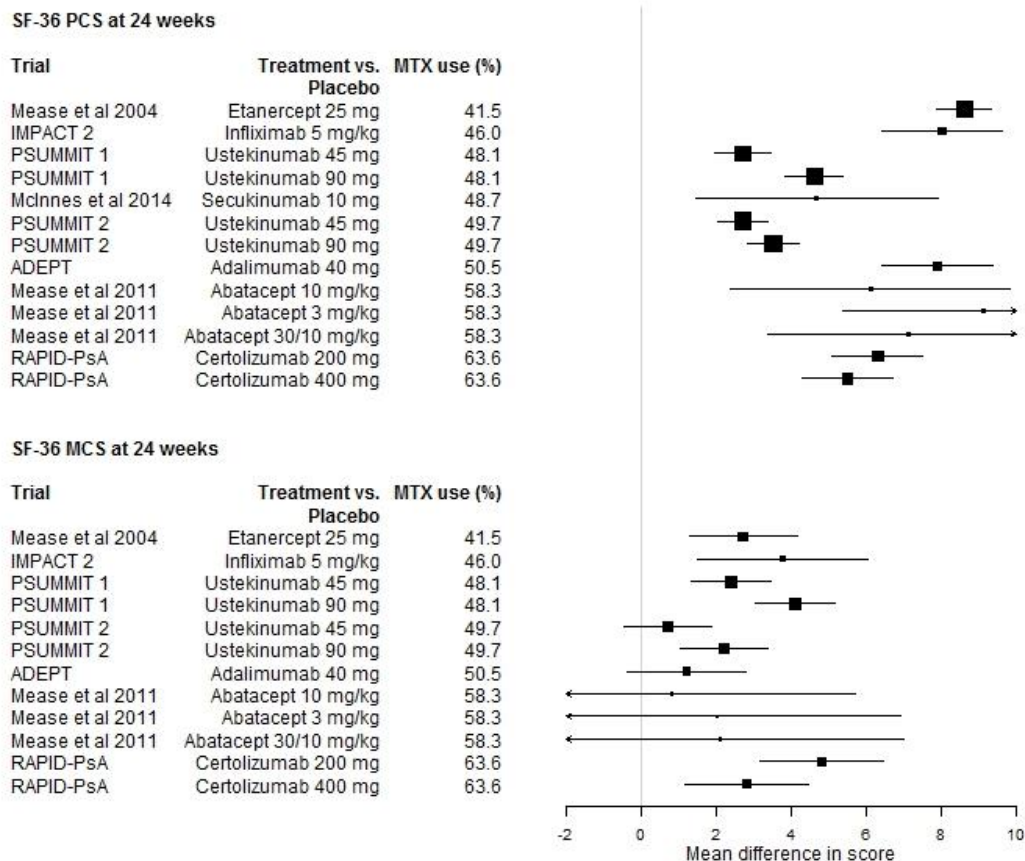
Trial	Treatment vs. Placebo	Steroid use at BL (%)
IMPACT 2	Infliximab 5 mg/kg	12.5
Genovese et al 2007	Adalimumab 40 mg	13.1
GO-REVEAL	Golimumab 50 mg	15.9
GO-REVEAL	Golimumab 100 mg	15.9

SF-36 MCS at 24 weeks

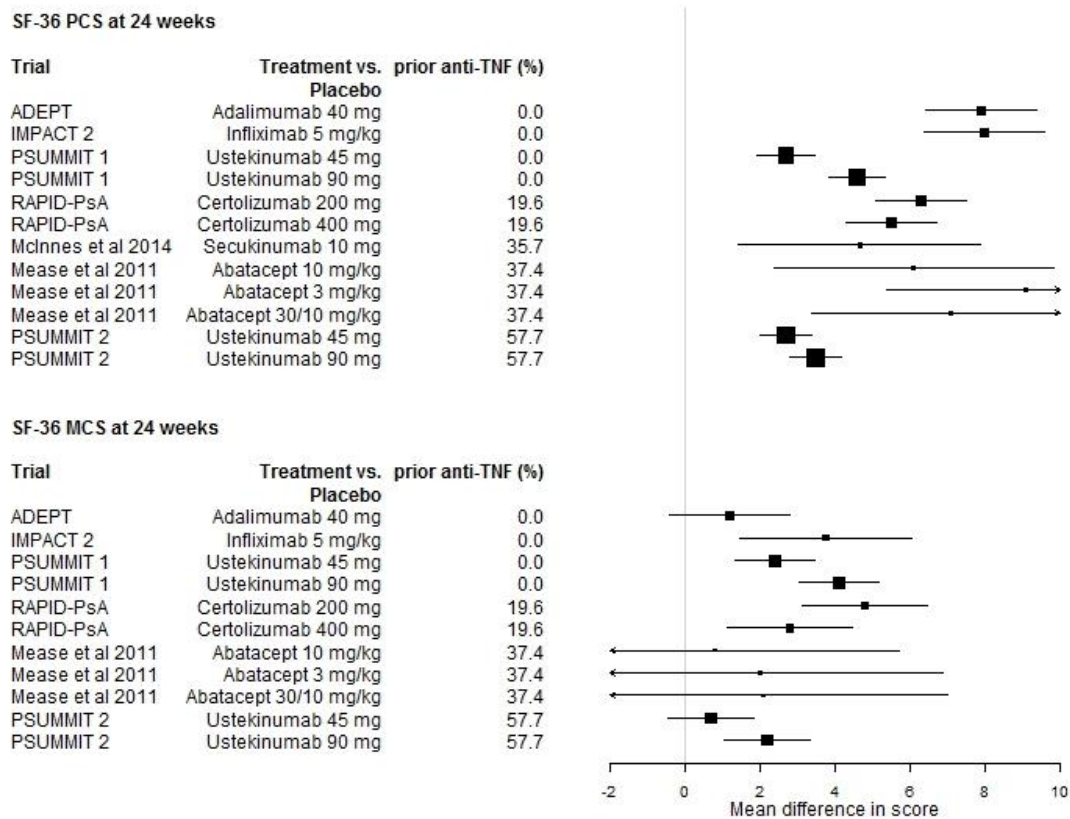
Trial	Treatment vs. Placebo	Steroid use at BL (%)
IMPACT 2	Infliximab 5 mg/kg	12.5
PSUMMIT 1	Ustekinumab 45 mg	15.6
PSUMMIT 1	Ustekinumab 90 mg	15.6
PSUMMIT 2	Ustekinumab 45 mg	16.0
PSUMMIT 2	Ustekinumab 90 mg	16.0
Mease et al 2011	Abatacept 10 mg/kg	23.7
Mease et al 2011	Abatacept 3 mg/kg	23.7
Mease et al 2011	Abatacept 30/10 mg/kg	23.7



Supplementary Figure 75: Forest plot of mean change from baseline in SF-36 PCS and SF-36 MCS scores at 24 weeks for methotrexate use (%)



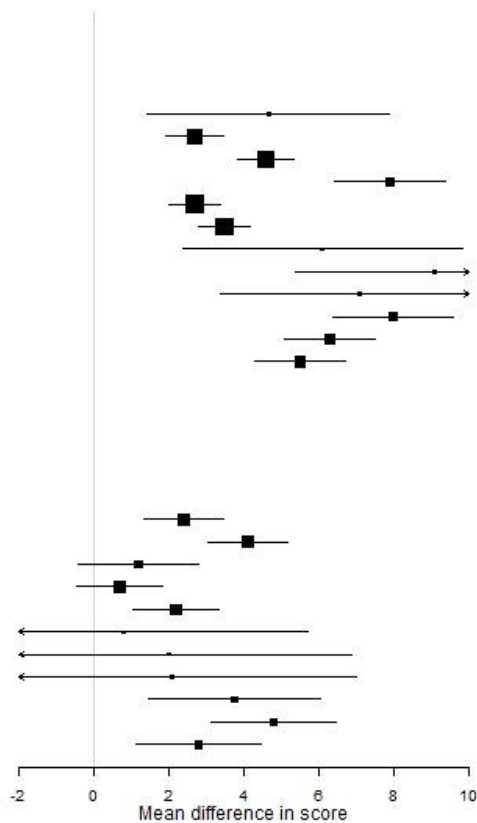
Supplementary Figure 76: Forest plot of mean change from baseline in SF-36 PCS and SF-36 MCS scores at 24 weeks for prior anti-TNF use (%)



Supplementary Figure 77: Forest plot of mean change from baseline in SF-36 PCS and SF-36 MCS scores at 24 weeks for DAS

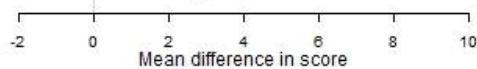
SF-36 PCS at 24 weeks

Trial	Treatment vs. Placebo	DAS
McInnes et al 2014	Secukinumab 10 mg	4.8
PSUMMIT 1	Ustekinumab 45 mg	5.2
PSUMMIT 1	Ustekinumab 90 mg	5.2
ADEPT	Adalimumab 40 mg	5.4
PSUMMIT 2	Ustekinumab 45 mg	5.4
PSUMMIT 2	Ustekinumab 90 mg	5.4
Mease et al 2011	Abatacept 10 mg/kg	5.5
Mease et al 2011	Abatacept 3 mg/kg	5.5
Mease et al 2011	Abatacept 30/10 mg/kg	5.5
IMPACT 2	Infliximab 5 mg/kg	5.7
RAPID-PsA	Certolizumab 200 mg	5.8
RAPID-PsA	Certolizumab 400 mg	5.8



SF-36 MCS at 24 weeks

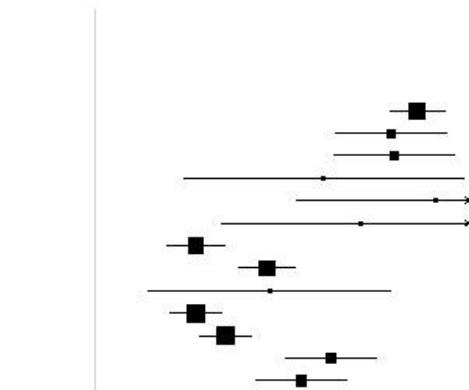
Trial	Treatment vs. Placebo	DAS
PSUMMIT 1	Ustekinumab 45 mg	5.2
PSUMMIT 1	Ustekinumab 90 mg	5.2
ADEPT	Adalimumab 40 mg	5.4
PSUMMIT 2	Ustekinumab 45 mg	5.4
PSUMMIT 2	Ustekinumab 90 mg	5.4
Mease et al 2011	Abatacept 10 mg/kg	5.5
Mease et al 2011	Abatacept 3 mg/kg	5.5
Mease et al 2011	Abatacept 30/10 mg/kg	5.5
IMPACT 2	Infliximab 5 mg/kg	5.7
RAPID-PsA	Certolizumab 200 mg	5.8
RAPID-PsA	Certolizumab 400 mg	5.8



Supplementary Figure 78: Forest plot of mean change from baseline in SF-36 PCS and SF-36 MCS scores at 24 weeks for publication year

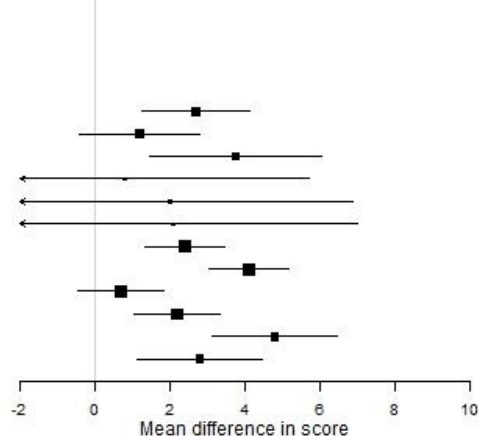
SF-36 PCS at 24 weeks

Trial	Treatment vs. Placebo	Study year
Mease et al 2004	Etanercept 25 mg	2004.0
ADEPT	Adalimumab 40 mg	2005.0
IMPACT 2	Infliximab 5 mg/kg	2005.0
Mease et al 2011	Abatacept 10 mg/kg	2011.0
Mease et al 2011	Abatacept 3 mg/kg	2011.0
Mease et al 2011	Abatacept 30/10 mg/kg	2011.0
PSUMMIT 1	Ustekinumab 45 mg	2013.0
PSUMMIT 1	Ustekinumab 90 mg	2013.0
McInnes et al 2014	Secukinumab 10 mg	2014.0
PSUMMIT 2	Ustekinumab 45 mg	2014.0
PSUMMIT 2	Ustekinumab 90 mg	2014.0
RAPID-PsA	Certolizumab 200 mg	2014.0
RAPID-PsA	Certolizumab 400 mg	2014.0



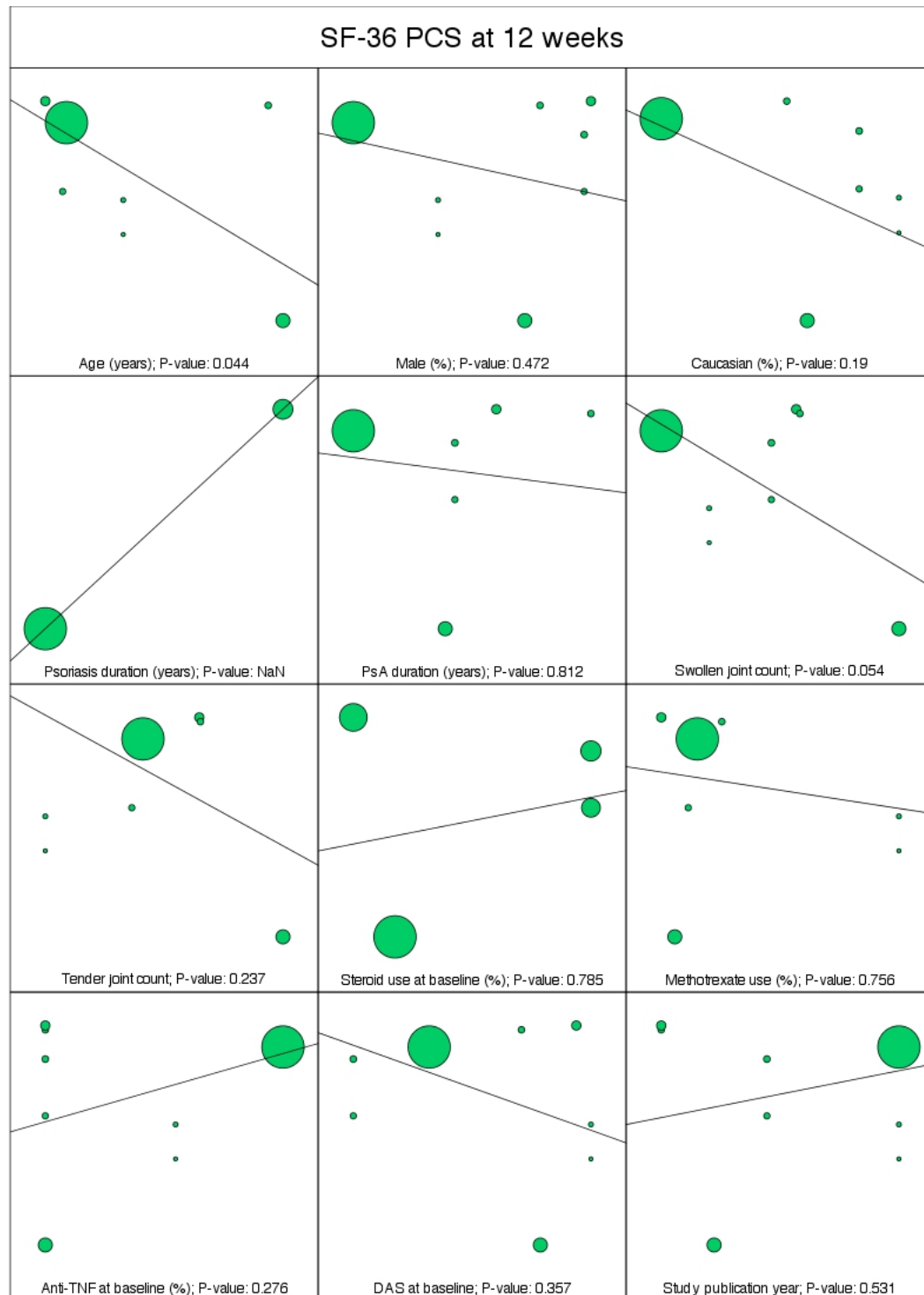
SF-36 MCS at 24 weeks

Trial	Treatment vs. Placebo	Study year
Mease et al 2004	Etanercept 25 mg	2004.0
ADEPT	Adalimumab 40 mg	2005.0
IMPACT 2	Infliximab 5 mg/kg	2005.0
Mease et al 2011	Abatacept 10 mg/kg	2011.0
Mease et al 2011	Abatacept 3 mg/kg	2011.0
Mease et al 2011	Abatacept 30/10 mg/kg	2011.0
PSUMMIT 1	Ustekinumab 45 mg	2013.0
PSUMMIT 1	Ustekinumab 90 mg	2013.0
PSUMMIT 2	Ustekinumab 45 mg	2014.0
PSUMMIT 2	Ustekinumab 90 mg	2014.0
RAPID-PsA	Certolizumab 200 mg	2014.0
RAPID-PsA	Certolizumab 400 mg	2014.0



Appendix 10: L'Abbe plots for SF-36 PCS and SF-36 MCS

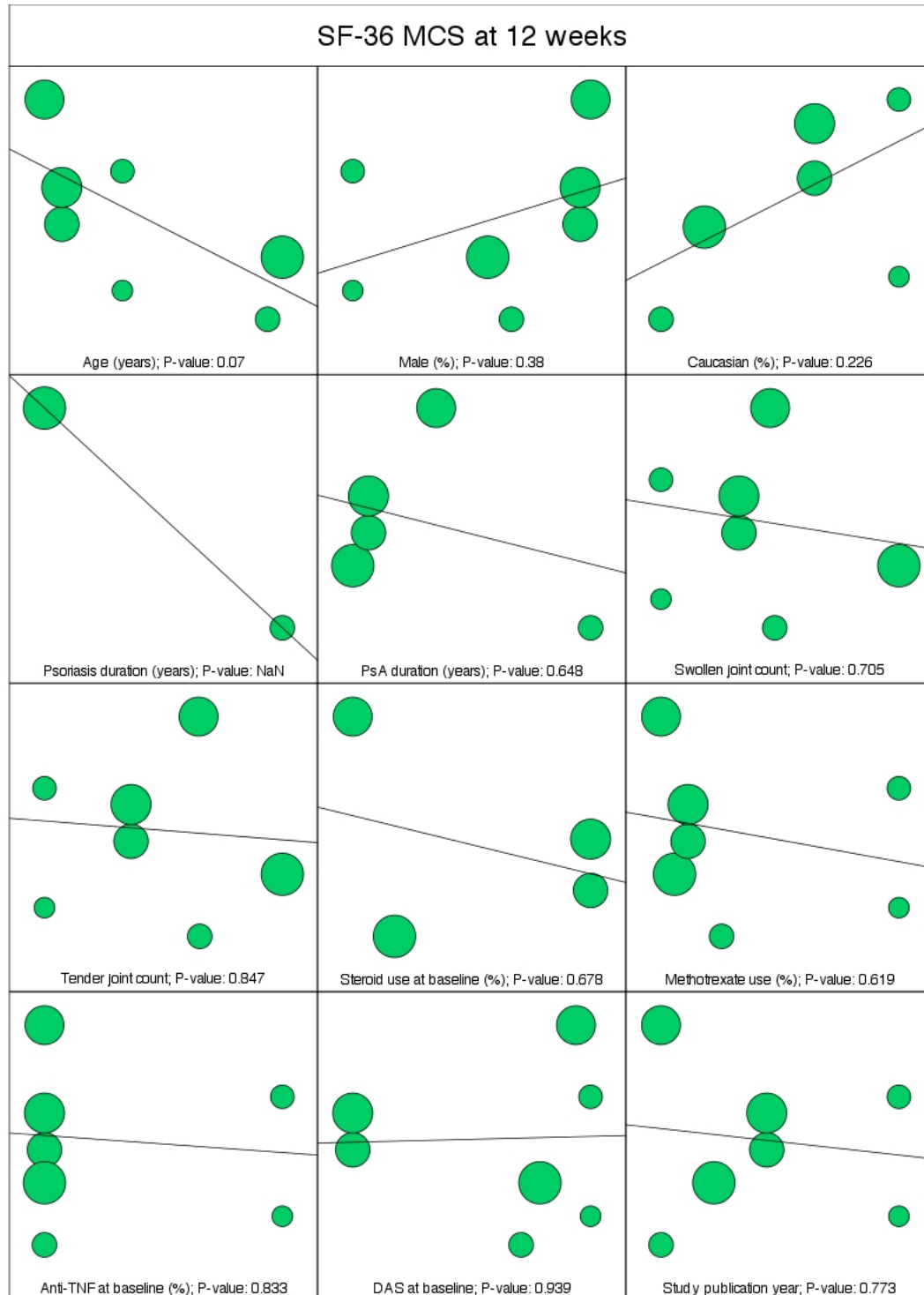
Supplementary Figure 79: Meta-regression (L'Abbé) plots of mean change from baseline in SF-36 PCS scores (y-axis) against the underlying covariate value (x-axis) at 12 weeks



Treatment Modifying Factors in Psoriatic Arthritis

Note: Lines are provided by a weighted linear regression, with weights being inversely proportional to the variance in each estimate.

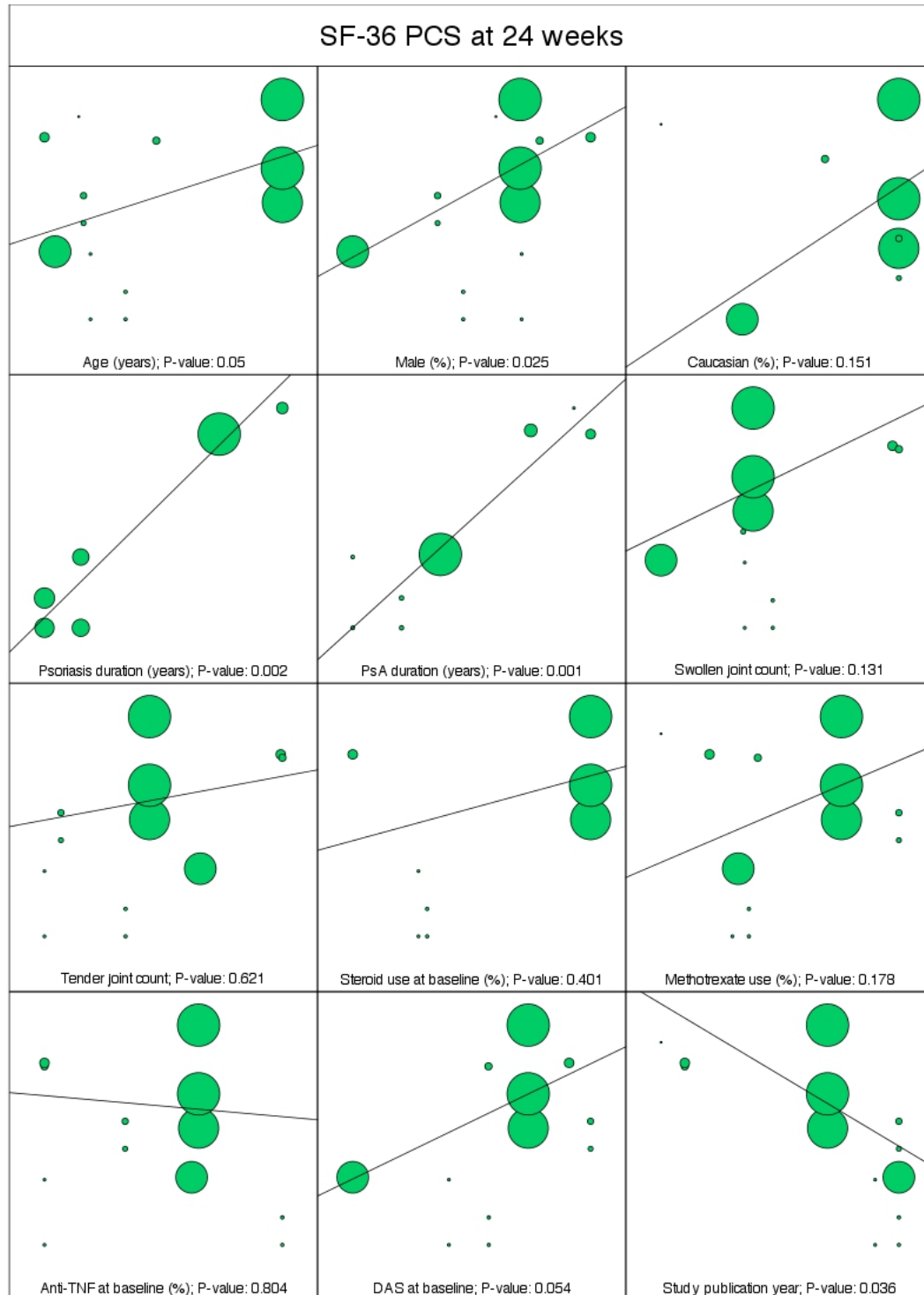
Supplementary Figure 80: Meta-regression (L'Abbé) plots of mean change from baseline in SF-36 MCS scores (y-axis) against the underlying covariate value (x-axis) at 12 weeks



Treatment Modifying Factors in Psoriatic Arthritis

Note: Lines are provided by a weighted linear regression, with weights being inversely proportional to the variance in each estimate.

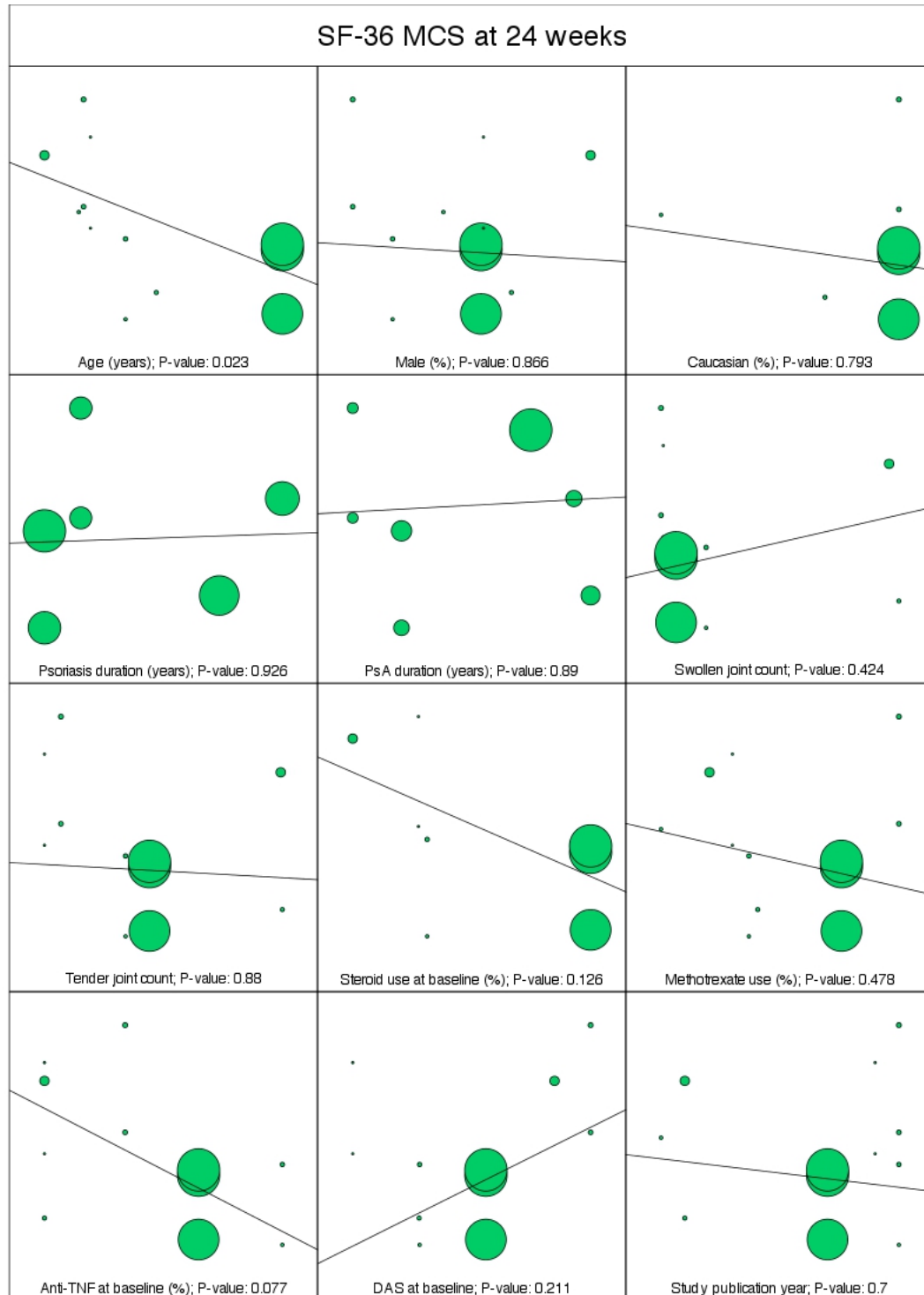
Supplementary Figure 81: Meta-regression (L'Abbé) plots of mean change from baseline in SF-36 PCS scores (y-axis) against the underlying covariate value (x-axis) at 24 weeks



Treatment Modifying Factors in Psoriatic Arthritis

Note: Lines are provided by a weighted linear regression, with weights being inversely proportional to the variance in each estimate.

Supplementary Figure 82: Meta-regression (L'Abbé) plots of mean change from baseline in SF-36 MCS scores (y-axis) against the underlying covariate value (x-axis) at 24 weeks



Treatment Modifying Factors in Psoriatic Arthritis

Note: Lines are provided by a weighted linear regression, with weights being inversely proportional to the variance in each estimate.