SUPPLEMENTAL DATA

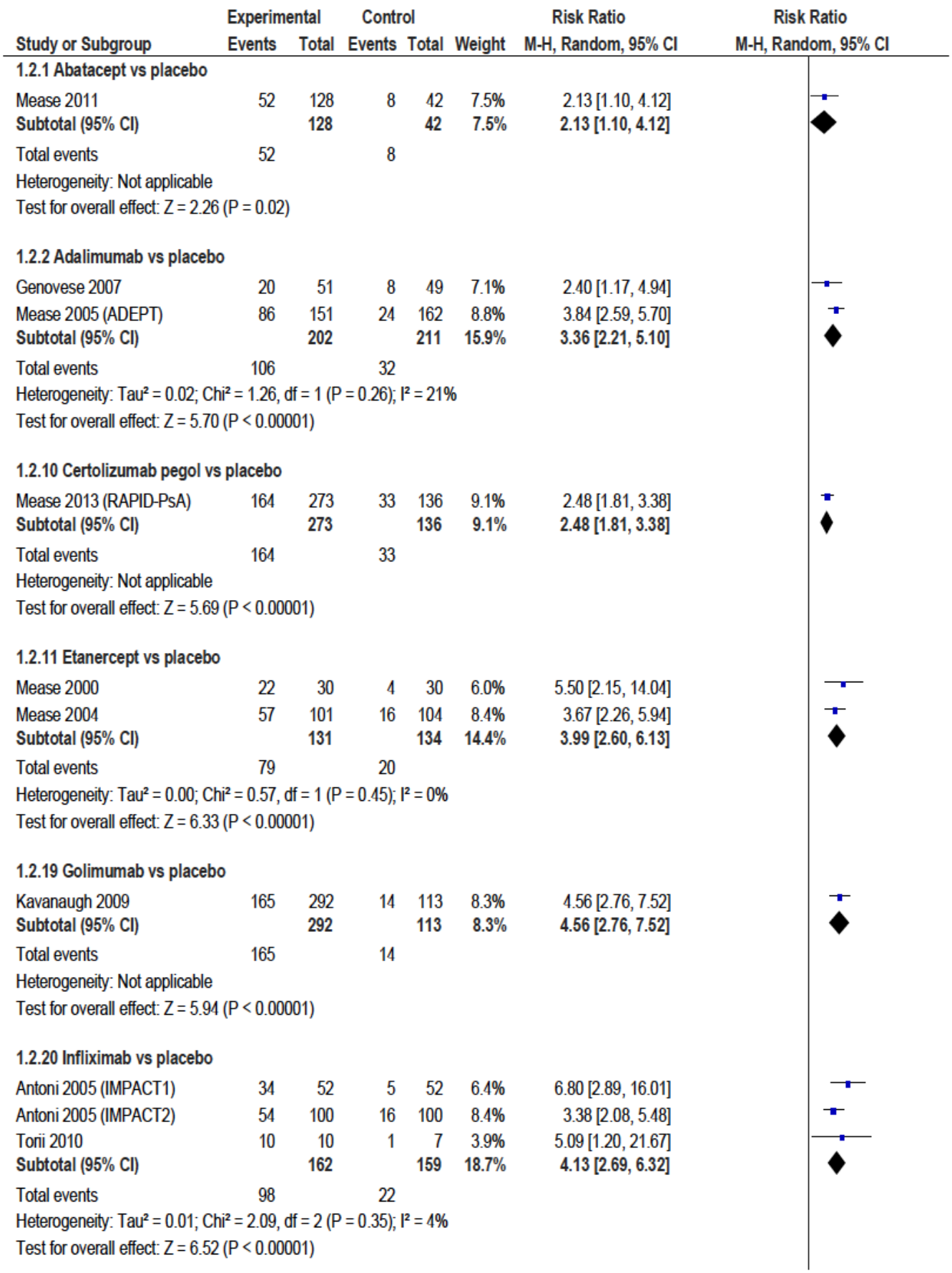
Table 1A: Features of Patients in the Included Studies

First author	Year	Age (y)	Children	Males	Psoriatic arthritis	Moderate or severe plaque psoriasis	Duration (y)
Antoni (IMPACT1)	2005	45	No	58%	100%	38%	11
Antoni (IMPACT2)	2005	47	No	40%	100%	85%	8
Asahina	2010	45	No	85%	23%	100%	14
Atteno	2010	49	No	40%	100%	NA	NA
Atzeni	2011	52	No	53%	100%	100%	10
Bagel	2012	40	No	55%	NA	100%	14
Baranauskaite	2012	41	No	55%	100%	62%	3
Barker	2011	43	No	68%	NA	100%	NA
Bissonnette	2011	54	No	38%	0%	100%	NA
Bissonnette	2013	56	No	77%	NA	100%	NA
Caproni	2009	NA	No	NA	NA	100%	NA
Chaudhari	2001	45	No	70%	NA	100%	NA
Genovese	2007	48	No	53%	100%	NA	7
Gisondi	2008	54	No	55%	NA	100%	21
Gordon	2006	44	No	68%	28%	100%	18
Gordon	2012	45	No	69%	30%	100%	19
Gottlieb	2003	47	No	63%	31%	100%	21
Gottlieb	2004	44	No	70%	31%	100%	17
Gottlieb	2009	49	No	44%	100%	85%	5
Gottlieb	2011	43	No	67%	21%	100%	17
Gottlieb	2012	44	No	67%	22%	100%	17
Griffiths	2010	45	No	66%	28%	100%	19
Igarashi	2012	46	No	80%	9%	100%	16
Kavanaugh	2009	47	No	60%	100%	69%	8
Kimball	2008	47	No	75%	29%	100%	21
Leonardi	2003	45	No	66%	NA	100%	19
Leonardi	2008	45	No	70%	34%	100%	19
Leonardi	2011	53	No	39%	9%	100%	13
McInnes	2013	47	No	36%	100%	NA	24
Mease	2000	45	No	57%	100%	47%	10
Mease	2004	47	No	51%	100%	62%	9
Mease	2005	49	No	55%	100%	44%	9
Mease	2011	51	No	54%	100%	21%	8
Mease	2013	47	No	55%	100%	61%	8
Menter	2007	44	No	67%	27%	100%	18
Menter	2008	45	No	66%	28%	100%	18
Ortonne	2003	NA	No	NA	NA	100%	20
Ortonne	2013	46	No	73%	NA	100%	NA
Paller	2008	13	Yes	51%	9%	100%	6
Papp	2008	46	No	68%	24%	100%	20
Reich	2005	43	No	73%	30%	100%	19
Reich	2011	44	No	70%	16%	100%	19
Saurat	2008	41	No	65%	20%	100%	19
Schlessinger	2007	48	No	NA	NA	100%	NA
Sterry	2010	46	No	63%	100%	100%	7
Strober	2011	45	No	64%	27%	100%	16
Torii	2010	45	No	69%	34%	100%	13
Tsai	2011	41	No	85%	14%	100%	13
Tyring	2006	46	No	68%	34%	100%	19
van de Kerkhof	2008	44	No	58%	13%	100%	18
Yang	2012	40	No	74%	NA	100%	16
Zhu	2013	NA	No	NA	NA	100%	NA

NA=not applicable or available.

Table 2A: Design Features of Included Studies

First author	Year	Setting	Blinding	Control
Antoni (IMPACT1)	2005	Multicenter	Double-blind	Placebo
Antoni (IMAPCT2)	2005	Multicenter	Double-blind	Placebo
Asahina	2010	Multicenter	Double-blind	Placebo
Atteno	2010	Single center	Open-label	Active treatment
Atzeni	2011	Multicenter	Open-label	Active control
Bagel	2012	Multicenter	Double-blind	Placebo
Baranauskaite	2012	Multicenter	Open-label	Active control
Barker	2011	Multicenter	Open-label	Active control
Bissonnette	2011	Multicenter	Double-blind	Placebo
Bissonnette	2013	Single center	Open-label	Standard therapy
Caproni	2009	Single center	Open-label	Active control
Chaudhari	2001	Multicenter	Double-blind	Placebo
Genovese	2007	Multicenter	Double-blind	Placebo
Gisondi	2008	Single center	Open-label	Active control
Gordon	2006	Multicenter	Double-blind	Placebo
Gordon	2012	Multicenter	Double-blind	Placebo
Gottlieb	2003	Multicenter	Double-blind	Placebo
Gottlieb	2004	Multicenter	Double-blind	Placebo
Gottlieb	2009	Multicenter	Double-blind	Placebo
Gottlieb	2011	Multicenter	Double-blind	Placebo
Gottlieb	2012	Multicenter	Double-blind	Placebo
Griffiths	2010	Multicenter	Double-blind	Placebo
Igarashi	2012	Multicenter	Double-blind	Placebo
Kavanaugh	2009	Multicenter	Double-blind	Placebo
Kimball	2008	Multicenter	Double-blind	Placebo
Leonardi	2003	Multicenter	Double-blind	Placebo
Leonardi	2008	Multicenter	Double-blind	Placebo
Leonardi	2011	Multicenter	Double-blind	Placebo
McInnes	2013	Multicenter	Double-blind	Placebo
Mease	2000	Single center	Double-blind	Placebo
Mease	2004	Multicenter	Double-blind	Placebo
Mease	2005	Multicenter	Double-blind	Placebo
Mease	2011	Multicenter	Double-blind	Placebo
Mease	2013	Multicenter	Double-blind	Placebo
Menter	2007	Multicenter	Double-blind	Placebo
Menter	2008	Multicenter	Double-blind	Placebo
Ortonne	2003	Multicenter	Double-blind	Placebo
Ortonne	2013	Multicenter	Open-label	Active control
Paller	2008	Multicenter	Double-blind	Placebo
Papp	2008	Multicenter	Double-blind	Placebo
Reich	2005	Multicenter	Double-blind	Placebo
Reich	2011	Multicenter	Open-label	Active control
Saurat	2008	Multicenter	Double-blind	Placebo
Schlessinger	2007	Multicenter	Double-blind	Placebo
Sterry	2010	Multicenter	Double-blind	Active control
Strober	2011	Multicenter	Double-blind	Placebo
Torii	2010	Multicenter	Double-blind	Placebo
Tsai	2011	Multicenter	Double-blind	Placebo
Tyring	2006	Multicenter	Double-blind	Placebo
van de Kerkhof	2008	Multicenter	Double-blind	Placebo
Yang	2012	Multicenter	Double-blind	Placebo
Zhu	2013	Multicenter	Double-blind	Placebo


Experimental
Control
Risk Ratio
Risk Ratio
Study or Subgroup
Events Total Events Total Weight M-H, Random, 95% CI
M-H, Random, 95% CI
1.2.1 Abatacept vs placebo
Mease 2011 52 128 8 42 7.5% 2.13 [1.10, 4.12]
Subtotal (95% CI) 128 42 7.5% 2.13 [1.10, 4.12]
Total events 52 8
Heterogeneity: Not applicable
Test for overall effect: Z = 2.26 (P = 0.02)
1.2.2 Adalimumab vs placebo
Genovese 2007 20 51 8 49 7.1% 2.40 [1.17, 4.94]
Mease 2005 (ADEPT) 86 151 24 162 8.8% 3.84 [2.59, 5.70]
Subtotal (95% CI) 202 211 15.9% 3.36 [2.21, 5.10]
Total events 106 32
Heterogeneity: Tau² = 0.02; Chi² = 1.26, df = 1 (P = 0.26); I² = 21%
Test for overall effect: Z = 5.70 (P < 0.00001)
1.2.10 Certolizumab pegol vs placebo
Mease 2013 (RAPID-PsA) 164 273 33 136 9.1% 2.48 [1.81, 3.38]
Subtotal (95% CI) 273 136 9.1% 2.48 [1.81, 3.38]
Total events 164 33
Heterogeneity: Not applicable
Test for overall effect: Z = 5.69 (P < 0.00001)
1.2.11 Etanercept vs placebo
Mease 2000 22 30 4 30 6.0% 5.50 [2.15, 14.04]
Mease 2004 57 101 16 104 8.4% 3.67 [2.26, 5.94]
Subtotal (95% CI) 131 134 14.4% 3.99 [2.60, 6.13]
Total events 79 20
Heterogeneity: Tau² = 0.00; Chi² = 0.57, df = 1 (P = 0.45); I² = 0%
Test for overall effect: Z = 6.33 (P < 0.00001)
1.2.19 Golimumab vs placebo
Kavanaugh 2009 165 292 14 113 8.3% 4.56 [2.76, 7.52]
Subtotal (95% CI) 292 113 8.3% 4.56 [2.76, 7.52]
Total events 165 14
Heterogeneity: Not applicable
Test for overall effect: Z = 5.94 (P < 0.00001)
1.2.20 Infliximab vs placebo
Antoni 2005 (IMPACT1) 34 52 5 52 6.4% 6.80 [2.89, 16.01]
Antoni 2005 (IMPACT2) 54 100 16 100 8.4% 3.38 [2.08, 5.48]
Torii 2010 10 10 1 7 3.9% 5.09 [1.20, 21.67]
Subtotal (95% CI) 162 159 18.7% 4.13 [2.69, 6.32]
Total events 98 22
Heterogeneity: Tau² = 0.01; Chi² = 2.09, df = 2 (P = 0.35); I² = 4%
Test for overall effect: Z = 6.52 (P < 0.00001)

(Figure 1A). Continued.

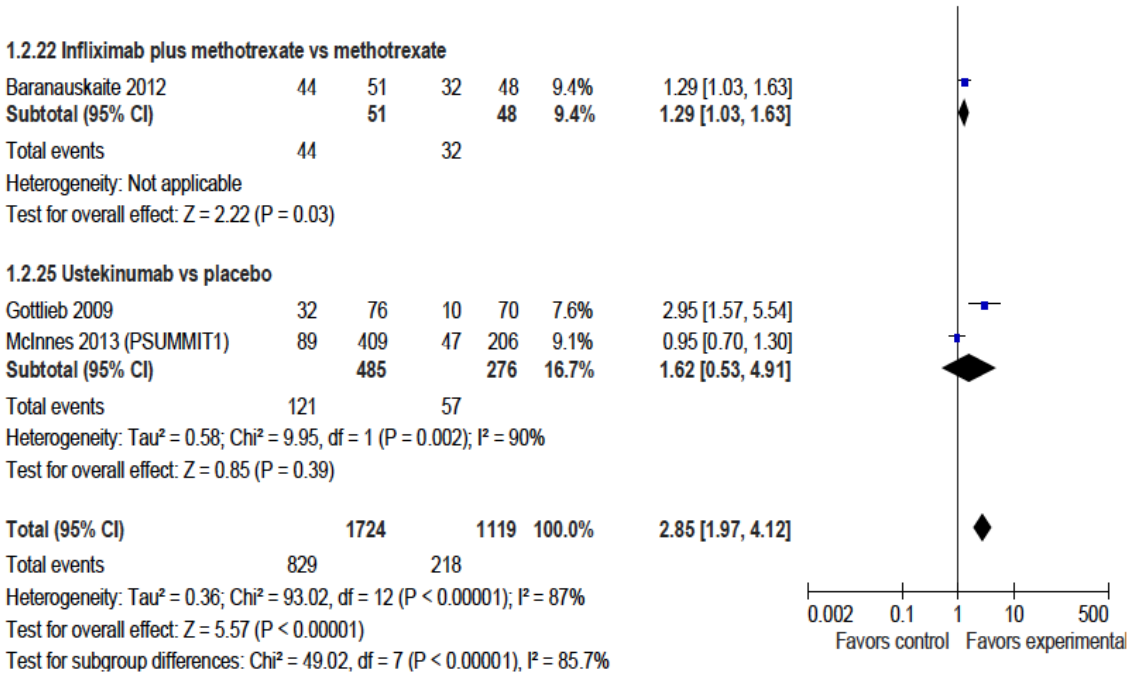


Figure 1A: Forest plot for improvement ≥20% in the American College of Rheumatology core set of outcomes (ACR20). CI=confidence interval; df=degrees of freedom; M-H=Mantel-Haenszel.

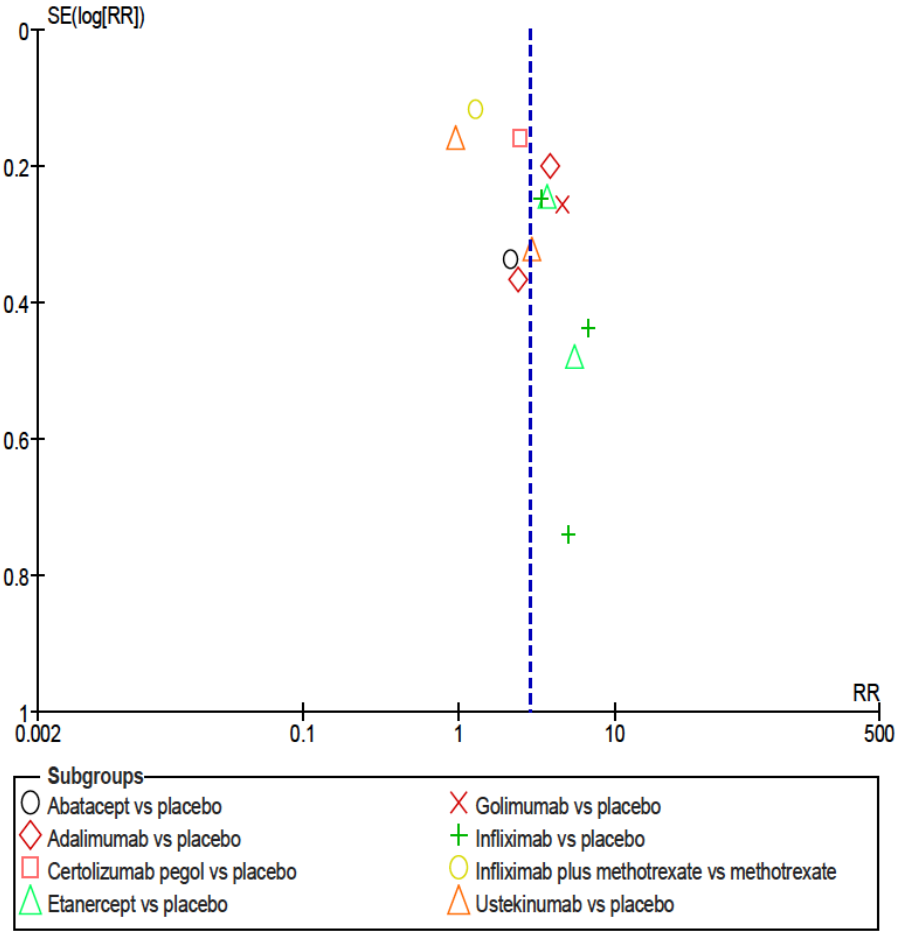
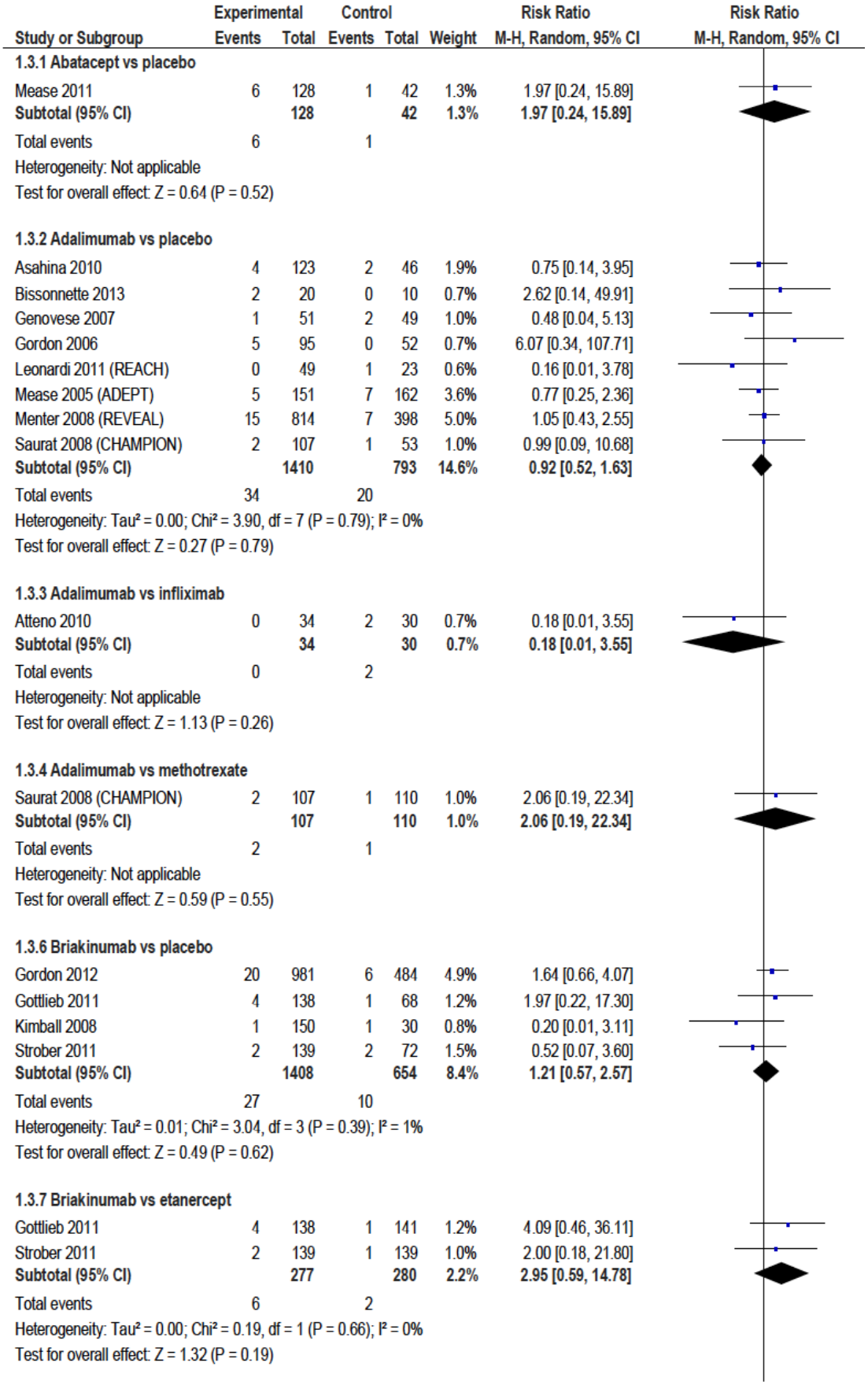
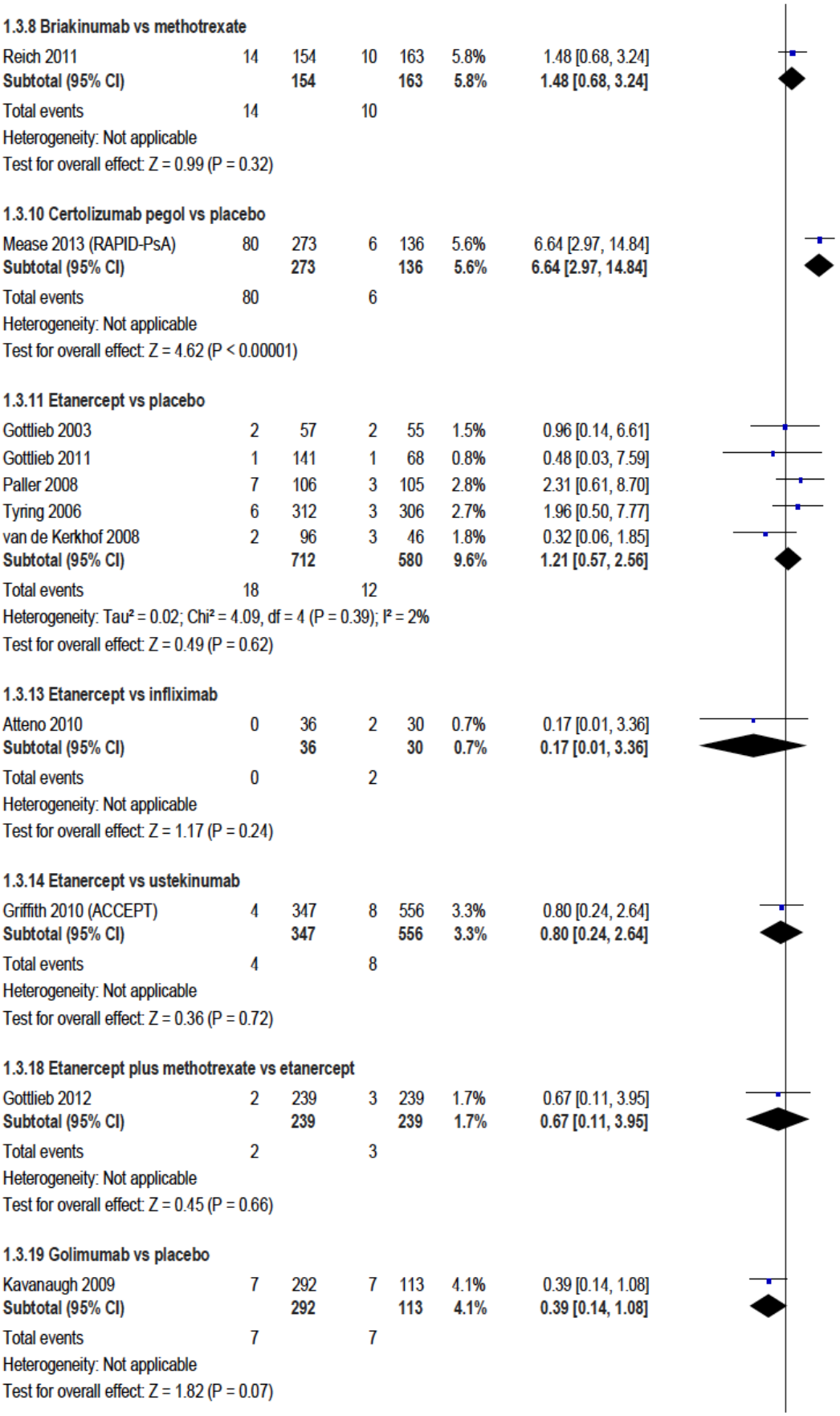


Figure 2A: Funnel plot for ≥20% in the American College of Rheumatology core set of outcomes (ACR20). RR=relative risk; SE=standard error.


Experimental
Control
Risk Ratio
Risk Ratio
Study or Subgroup
Events Total Events Total Weight M-H, Random, 95% CI
M-H, Random, 95% CI
1.3.1 Abatacept vs placebo
Mease 2011 6 128 1 42 1.3% 1.97 [0.24, 15.89]
Subtotal (95% CI) 128 42 1.3% 1.97 [0.24, 15.89]
Total events 6 1
Heterogeneity: Not applicable
Test for overall effect: Z = 0.64 (P = 0.52)
1.3.2 Adalimumab vs placebo
Asahina 2010 4 123 2 46 1.9% 0.75 [0.14, 3.95]
Bissonnette 2013 2 20 0 10 0.7% 2.62 [0.14, 49.91]
Genovese 2007 1 51 2 49 1.0% 0.48 [0.04, 5.13]
Gordon 2006 5 95 0 52 0.7% 6.07 [0.34, 107.71]
Leonardi 2011 (REACH) 0 49 1 23 0.6% 0.16 [0.01, 3.78]
Mease 2005 (ADEPT) 5 151 7 162 3.6% 0.77 [0.25, 2.36]
Menter 2008 (REVEAL) 15 814 7 398 5.0% 1.05 [0.43, 2.55]
Saurat 2008 (CHAMPION) 2 107 1 53 1.0% 0.99 [0.09, 10.68]
Subtotal (95% CI) 1410 793 14.6% 0.92 [0.52, 1.63]
Total events 34 20
Heterogeneity: Tau² = 0.00; Chi² = 3.90, df = 7 (P = 0.79); I² = 0%
Test for overall effect: Z = 0.27 (P = 0.79)
1.3.3 Adalimumab vs infliximab
Atteno 2010 0 34 2 30 0.7% 0.18 [0.01, 3.55]
Subtotal (95% CI) 34 30 0.7% 0.18 [0.01, 3.55]
Total events 0 2
Heterogeneity: Not applicable
Test for overall effect: Z = 1.13 (P = 0.26)
1.3.4 Adalimumab vs methotrexate
Saurat 2008 (CHAMPION) 2 107 1 110 1.0% 2.06 [0.19, 22.34]
Subtotal (95% CI) 107 110 1.0% 2.06 [0.19, 22.34]
Total events 2 1
Heterogeneity: Not applicable
Test for overall effect: Z = 0.59 (P = 0.55)
1.3.6 Briakinumab vs placebo
Gordon 2012 20 981 6 484 4.9% 1.64 [0.66, 4.07]
Gottlieb 2011 4 138 1 68 1.2% 1.97 [0.22, 17.30]
Kimball 2008 1 150 1 30 0.8% 0.20 [0.01, 3.11]
Strober 2011 2 139 2 72 1.5% 0.52 [0.07, 3.60]
Subtotal (95% CI) 1408 654 8.4% 1.21 [0.57, 2.57]
Total events 27 10
Heterogeneity: Tau² = 0.01; Chi² = 3.04, df = 3 (P = 0.39); I² = 1%
Test for overall effect: Z = 0.49 (P = 0.62)
1.3.7 Briakinumab vs etanercept
Gottlieb 2011 4 138 1 141 1.2% 4.09 [0.46, 36.11]
Strober 2011 2 139 1 139 1.0% 2.00 [0.18, 21.80]
Subtotal (95% CI) 277 280 2.2% 2.95 [0.59, 14.78]
Total events 6 2
Heterogeneity: Tau² = 0.00; Chi² = 0.19, df = 1 (P = 0.66); I² = 0%
Test for overall effect: Z = 1.32 (P = 0.19)

(Figure 3A). Continued.



(Figure 3A). Continued.

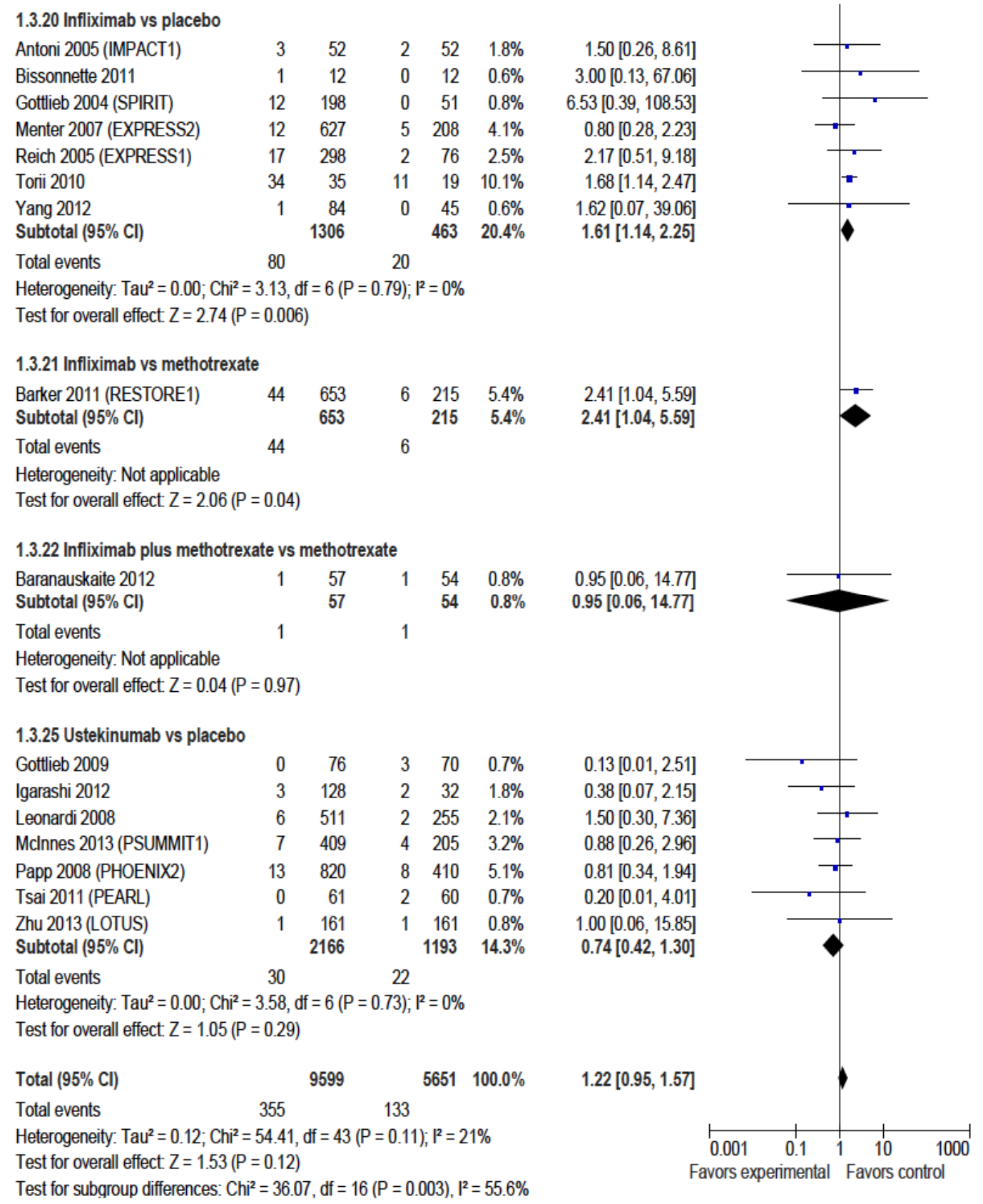


Figure 3A: Forest plot for serious adverse events (SAE). CI=confidence interval; df=degrees of freedom; M-H=Mantel-Haenszel.

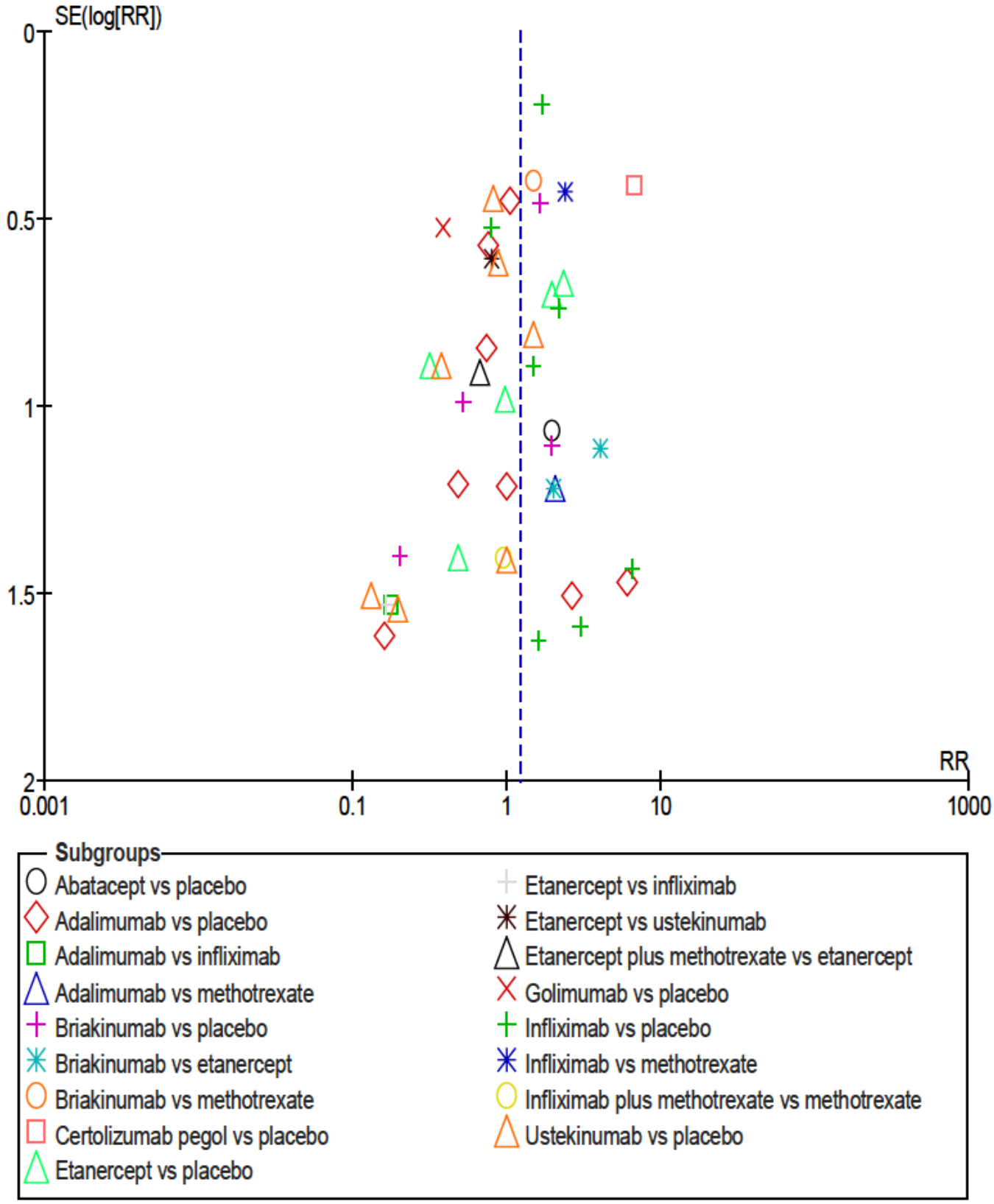
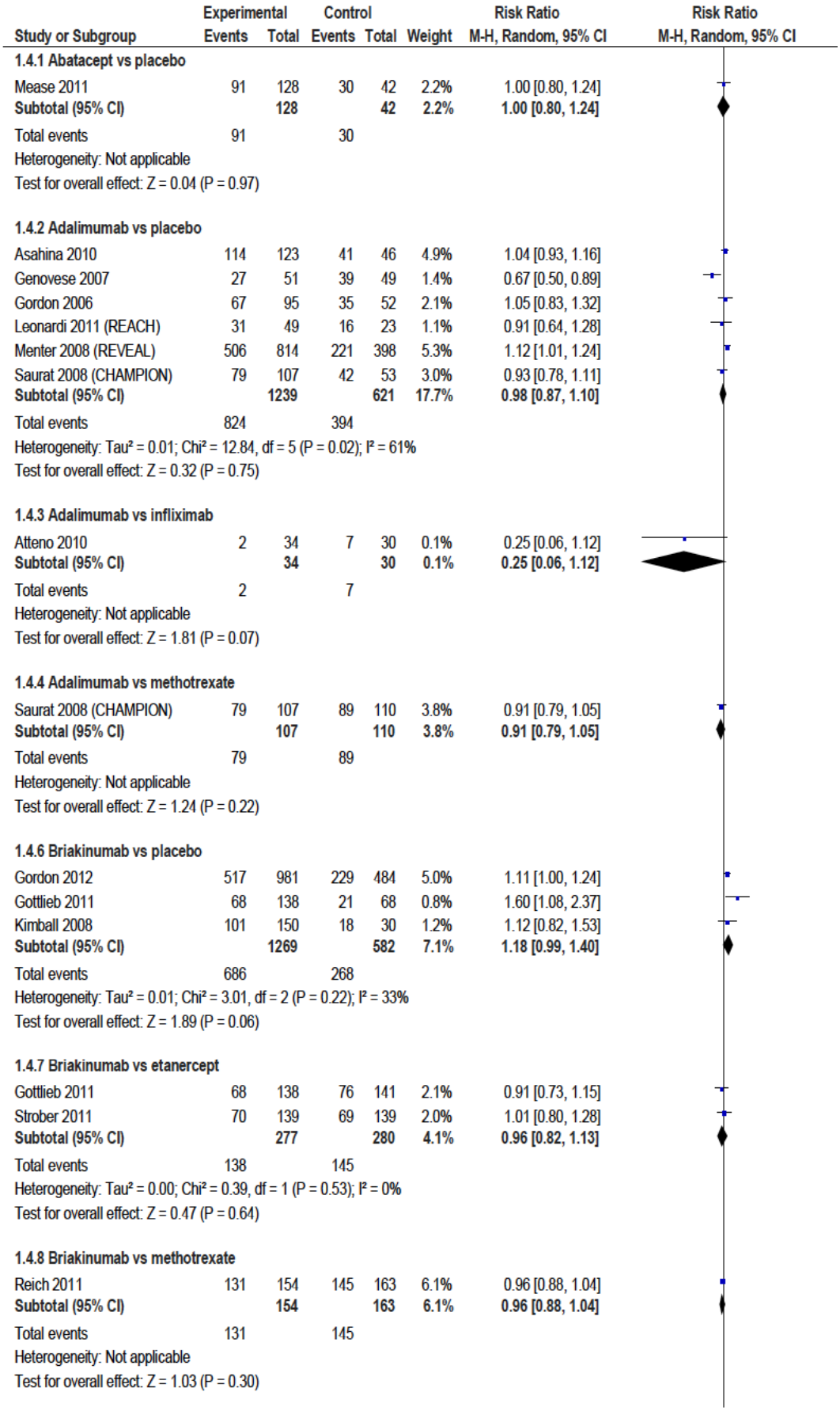
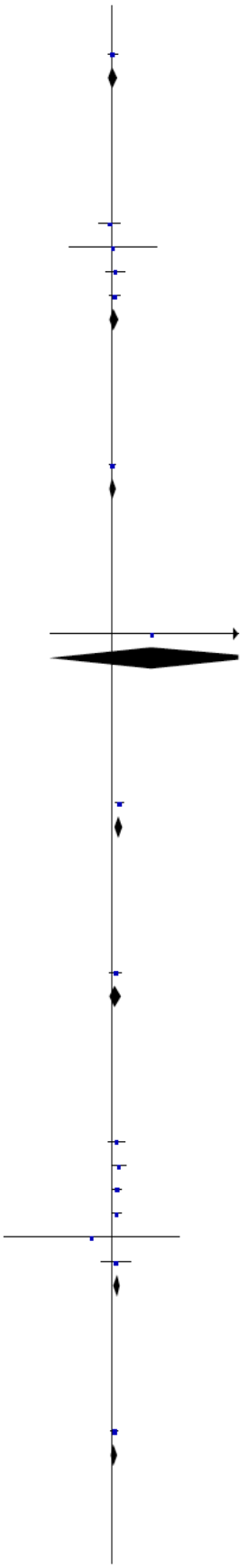


Figure 4A: Funnel plot for serious adverse events (SAE). RR=relative risk; SE=standard error.


Experimental
Control
Risk Ratio
Risk Ratio
Study or Subgroup
Events Total Events Total Weight M-H, Random, 95% CI
M-H, Random, 95% CI
1.4.1 Abatacept vs placebo
Mease 2011 91 128 30 42 2.2% 1.00 [0.80, 1.24]
Subtotal (95% CI) 128 42 2.2% 1.00 [0.80, 1.24]
Total events 91 30
Heterogeneity: Not applicable
Test for overall effect: Z = 0.04 (P = 0.97)
1.4.2 Adalimumab vs placebo
Asahina 2010 114 123 41 46 4.9% 1.04 [0.93, 1.16]
Genovese 2007 27 51 39 49 1.4% 0.67 [0.50, 0.89]
Gordon 2006 67 95 35 52 2.1% 1.05 [0.83, 1.32]
Leonardi 2011 (REACH) 31 49 16 23 1.1% 0.91 [0.64, 1.28]
Menter 2008 (REVEAL) 506 814 221 398 5.3% 1.12 [1.01, 1.24]
Saurat 2008 (CHAMPION) 79 107 42 53 3.0% 0.93 [0.78, 1.11]
Subtotal (95% CI) 1239 621 17.7% 0.98 [0.87, 1.10]
Total events 824 394
Heterogeneity: Tau² = 0.01; Chi² = 12.84, df = 5 (P = 0.02); I² = 61%
Test for overall effect: Z = 0.32 (P = 0.75)
1.4.3 Adalimumab vs infliximab
Atteno 2010 2 34 7 30 0.1% 0.25 [0.06, 1.12]
Subtotal (95% CI) 34 30 0.1% 0.25 [0.06, 1.12]
Total events 2 7
Heterogeneity: Not applicable
Test for overall effect: Z = 1.81 (P = 0.07)
1.4.4 Adalimumab vs methotrexate
Saurat 2008 (CHAMPION) 79 107 89 110 3.8% 0.91 [0.79, 1.05]
Subtotal (95% CI) 107 110 3.8% 0.91 [0.79, 1.05]
Total events 79 89
Heterogeneity: Not applicable
Test for overall effect: Z = 1.24 (P = 0.22)
1.4.6 Briakinumab vs placebo
Gordon 2012 517 981 229 484 5.0% 1.11 [1.00, 1.24]
Gottlieb 2011 68 138 21 68 0.8% 1.60 [1.08, 2.37]
Kimball 2008 101 150 18 30 1.2% 1.12 [0.82, 1.53]
Subtotal (95% CI) 1269 582 7.1% 1.18 [0.99, 1.40]
Total events 686 268
Heterogeneity: Tau² = 0.01; Chi² = 3.01, df = 2 (P = 0.22); I² = 33%
Test for overall effect: Z = 1.89 (P = 0.06)
1.4.7 Briakinumab vs etanercept
Gottlieb 2011 68 138 76 141 2.1% 0.91 [0.73, 1.15]
Strober 2011 70 139 69 139 2.0% 1.01 [0.80, 1.28]
Subtotal (95% CI) 277 280 4.1% 0.96 [0.82, 1.13]
Total events 138 145
Heterogeneity: Tau² = 0.00; Chi² = 0.39, df = 1 (P = 0.53); I² = 0%
Test for overall effect: Z = 0.47 (P = 0.64)
1.4.8 Briakinumab vs methotrexate
Reich 2011 131 154 145 163 6.1% 0.96 [0.88, 1.04]
Subtotal (95% CI) 154 163 6.1% 0.96 [0.88, 1.04]
Total events 131 145
Heterogeneity: Not applicable
Test for overall effect: Z = 1.03 (P = 0.30)

(Figure 5A). Continued.



1.4.10 Certolizumab pegol vs placebo						
Mease 2013 (RAPID-PsA)	190	273	92	136	4.0%	1.03 [0.89, 1.18]
Subtotal (95% CI)		**273**		**136**	**4.0%**	**1.03 [0.89, 1.18]**
Total events	190		92			
Heterogeneity: Not applicable						
Test for overall effect: Z = 0.40 (P = 0.69)						
1.4.11 Etanercept vs placebo						
Bagel 2012	32	62	34	62	1.1%	0.94 [0.68, 1.31]
Mease 2004	4	101	4	104	0.1%	1.03 [0.26, 4.01]
Strober 2011	69	139	32	72	1.3%	1.12 [0.82, 1.52]
Tyring 2006	153	312	137	306	3.2%	1.10 [0.93, 1.30]
Subtotal (95% CI)		**614**		**544**	**5.7%**	**1.07 [0.94, 1.23]**
Total events	258		207			
Heterogeneity: Tau² = 0.00; Chi² = 0.73, df = 3 (P = 0.87); I² = 0%						
Test for overall effect: Z = 1.01 (P = 0.31)						
1.4.14 Etanercept vs ustekinumab						
Griffith 2010 (ACCEPT)	243	347	378	556	5.9%	1.03 [0.94, 1.13]
Subtotal (95% CI)		**347**		**556**	**5.9%**	**1.03 [0.94, 1.13]**
Total events	243		378			
Heterogeneity: Not applicable						
Test for overall effect: Z = 0.65 (P = 0.52)						
1.4.17 Etanercept plus cyclosporine vs etanercept plus methotrexate						
Atzeni 2011	1	19	0	22	0.0%	3.45 [0.15, 80.03]
Subtotal (95% CI)		**19**		**22**	**0.0%**	**3.45 [0.15, 80.03]**
Total events	1		0			
Heterogeneity: Not applicable						
Test for overall effect: Z = 0.77 (P = 0.44)						
1.4.18 Etanercept plus methotrexate vs etanercept						
Gottlieb 2012	179	239	143	239	4.4%	1.25 [1.10, 1.42]
Subtotal (95% CI)		**239**		**239**	**4.4%**	**1.25 [1.10, 1.42]**
Total events	179		143			
Heterogeneity: Not applicable						
Test for overall effect: Z = 3.46 (P = 0.0005)						
1.4.19 Golimumab vs placebo						
Kavanaugh 2009	194	292	67	113	3.1%	1.12 [0.94, 1.33]
Subtotal (95% CI)		**292**		**113**	**3.1%**	**1.12 [0.94, 1.33]**
Total events	194		67			
Heterogeneity: Not applicable						
Test for overall effect: Z = 1.29 (P = 0.20)						
1.4.20 Infliximab vs placebo						
Antoni 2005 (IMPACT1)	38	52	33	52	1.7%	1.15 [0.88, 1.50]
Gottlieb 2004 (SPIRIT)	154	198	32	51	2.1%	1.24 [0.99, 1.55]
Menter 2007 (EXPRESS2)	412	627	116	208	4.2%	1.18 [1.03, 1.35]
Reich 2005 (EXPRESS1)	244	298	54	76	3.6%	1.15 [0.99, 1.34]
Torii 2010	1	35	1	19	0.0%	0.54 [0.04, 8.20]
Yang 2012	36	84	17	45	0.7%	1.13 [0.72, 1.78]
Subtotal (95% CI)		**1294**		**451**	**12.3%**	**1.17 [1.08, 1.28]**
Total events	885		253			
Heterogeneity: Tau² = 0.00; Chi² = 0.64, df = 5 (P = 0.99); I² = 0%						
Test for overall effect: Z = 3.68 (P = 0.0002)						
1.4.21 Infliximab vs methotrexate						
Barker 2011 (RESTORE1)	466	653	142	215	5.1%	1.08 [0.97, 1.20]
Subtotal (95% CI)		**653**		**215**	**5.1%**	**1.08 [0.97, 1.20]**
Total events	466		142			
Heterogeneity: Not applicable						
Test for overall effect: Z = 1.41 (P = 0.16)						

(Figure 5A). Continued.

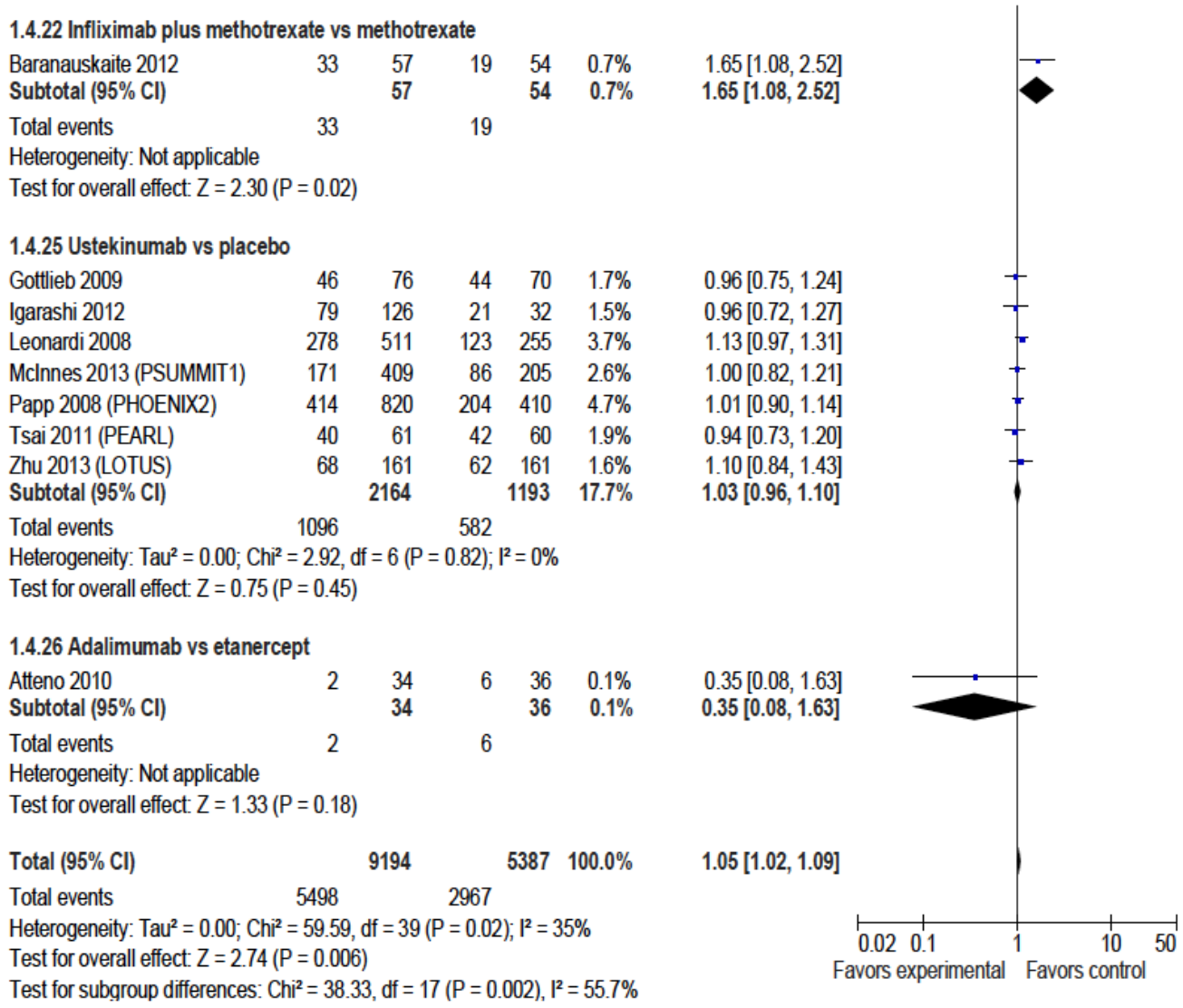


Figure 5A: Forest plot for adverse events (AE). CI=confidence interval; df=degrees of freedom; M-H=Mantel-Haenszel.

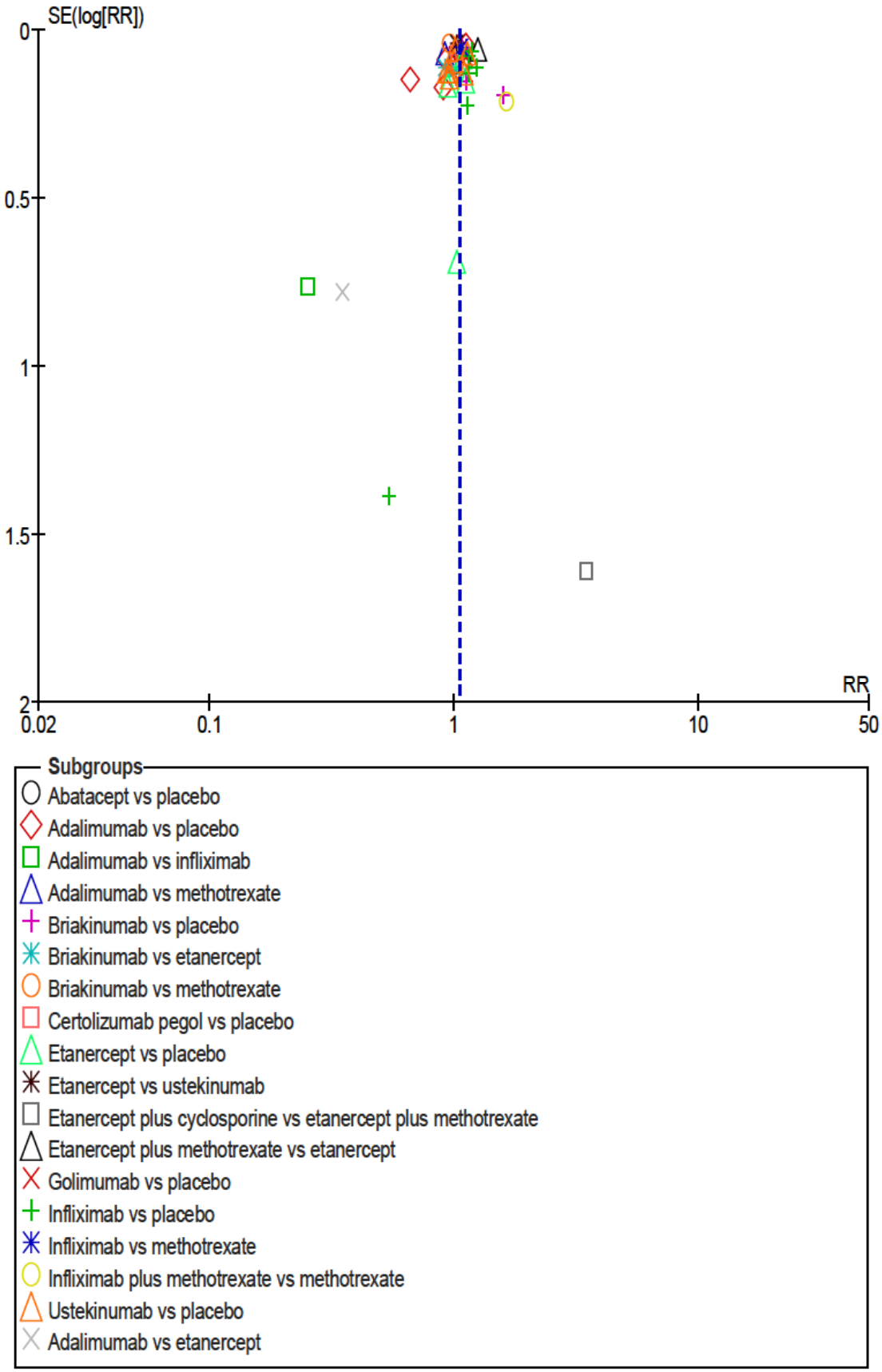


Figure 6A: Funnel plot for adverse events (AE). RR=relative risk; SE=standard error.