Additional file 1: Characteristics of randomized controlled trials included in this meta-analysis.

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **First author** | **Year** | **Treatment** | **n** | **Control** | **n** | **Study protocol with doses** | **Duration (wk)** |
| Van der Heijde D.26 | 2006 | Adalimumab | 208 | Placebo | 107 | ADA 40 mg / wk Placebo | 24 |
| Sieper J.27 | 2012 | Adalimumab | 95 | Placebo | 97 | ADA 40 mg / wk Placebo | 12 |
| Huang F.25 | 2013 | Adalimumab | 229 | Placebo | 115 | ADA 40 mg / wk Placebo | 12 |
| Landewé R.31 | 2013 | Certolizumab | 218 | Placebo | 107 | CZP 200 mg / 2 wk CZP 400 mg / 4 wk  Placebo | 24 |
| Deodhar A.22 | 2019 | Certolizumab | 159 | Placebo | 158 | CZP 400 mg at wk 0, 2 and 4 then CZP 200 mg / 2 wk Placebo | 52 |
| Inman A.28 | 2008 | Golimumab | 278 | Placebo | 77 | GOL 50 mg / 4 wk GOL 100 mg / 4 wk  Placebo | 24 |
| Deodhar A.33 | 2017 | Golimumab | 105 | Placebo | 103 | GOL IV 2 mg/kg at wk 0, 4, 12 and then / 8 wk Placebo | 28 |
| Sieper J.23 | 2015 | Golimumab | 97 | Placebo | 100 | GOL 50 mg / 4 wk Placebo | 16 |
| Bao C.34 | 2014 | Golimumab | 169 | Placebo | 44 | GOL 50 mg / 4 wk  Placebo | 16 |
| Van der Heijde D.29 | 2005 | Infliximab | 202 | Placebo | 75 | IFX 5 mg/kg at wk 0, 2, 6, 12, 18 Placebo | 24 |
| Barckham N.24 | 2009 | Infliximab | 20 | Placebo | 20 | IFX 5 mg / kg at wk 0, 2, 6, 12 Placebo | 12 |
| Inman R.21 | 2010 | Infliximab | 39 | Placebo | 37 | IFX 3 mg / kg at wk 0, 2, 6 Placebo | 12 |
| Marzo-Ortega H.32 | 2005 | Infliximab | 28 | Placebo | 14 | IFX 5 mg / kg at wk 0, 2, 6, 14 and 22 Placebo | 30 |
| Sieper J.30 | 2012 | Infliximab | 105 | Placebo | 52 | IFX 5 mg / kg at wk 0, 2, 6, 12, 18 and 24 Placebo | 28 |
| Braun J.35 | 2002 | Infliximab | 34 | Placebo | 35 | IFX 5 mg / kg at wk 0, 2, 6 | 12 |
| Jennifer D.46 | 2002 | Etanercept | 20 | Placebo | 20 | ETN 25mg 2x/wk Placebo | 16 |
| Davis J.C.43 | 2003 | Etanercept | 138 | Placebo | 139 | ETN 25mg 2x/wk Placebo | 24 |
| Brandt J.44 | 2003 | Etanercept | 14 | Placebo | 16 | ETN 25mg 2x/wk Placebo | 12 |
| Calin A.42 | 2004 | Etanercept | 45 | Placebo | 39 | ETN 25mg 2x/wk Placebo | 12 |
| Van der Heijde D.40 | 2006 | Etanercept | 305 | Placebo | 51 | ETN 50mg/wk ETN 25mg/wk Placebo | 12 |
| Barckham N.38 | 2010 | Etanercept | 15 | Placebo | 17 | ETN 25mg 2x/wk Placebo | 12 |
| Dougados M.39 | 2011 | Etanercept | 39 | Placebo | 43 | ETN 50mg/wk Placebo | 12 |
| Dougados M.41 | 2014 | Etanercept | 42 | Placebo | 48 | ETN 50mg/wk Placebo | 8 |
| Dougados M.45 | 2014 | Etanercept | 106 | Placebo | 109 | ETN 50mg/wk Placebo | 12 |
| Deodhar A.47 | 2019 | Ixekizumab | 212 | Placebo | 104 | IXEQ 80mg/2wk IXEQ 80mg/4wk Placebo | 16 |
| Van der Heijde D.37 | 2018 | Ixekizumab/ Adalimumab | 164 IXE 90 ADA | Placebo | 86 | IXEQ 80mg/2wk IXEQ 80mg/4wk ADA 40mg/2wk Placebo | 16 |
| Deodhar A.53 | 2019 | Ixekizumab | 198 | Placebo | 104 | IXE 80mg/2wk  IXE 80mg/4wk  Placebo | 52 |
| Deodhar A.52 | 2019 | Secukinumab | 369 | Placebo | 186 | SCK 150mg at wk 0,1,2,3 and then /4wk  SCK 150mg at wk 0 and then /4wk  Placebo | 52 |
| Baeten D.51 | 2013 | Secukinumab | 24 | Placebo | 6 | SCK IV 10 mg/kg /3wk Placebo | 28 |
| Baeten D.50 | 2015 | Secukinumab | 394 | Placebo | 196 | SCK IV 10 mg/kg /2wk 3x then  150 mg/4wk SCK IV 10 mg/kg /2wk 3x then 75 mg/4wk SCK 150 mg at wk 0,1,2,3 and then /4wk SCK 75 mg at wk 0,1,2,3 and then /4wk Placebo | 16 |
| Pavelka K.49 | 2017 | Secukinumab | 150 | Placebo | 75 | SCK IV 10 mg/kg /2wk 3x then  150 mg/4wk SCK IV 10 mg/kg /2wk 3x then 75 mg/4wk Placebo | 16 |
| Kivitz A.48 | 2018 | Secukinumab | 233 | Placebo | 117 | SCK 150 mg at wk 0,1,2,3 and then /4wk with loading dose SCK 150 mg at wk 0,1,2,3 and then /4wk Placebo | 16 |
| Giardina A.36 | 2010 | Infliximab | 25 | Etanercept | 25 | IFX 5 mg/wk at wk 0,2,6 and /6wk ETN 50mg/wk | 12 |

Wk : weeks