

## Appendix

**Table I.** PICOS criteria for study selection.

Criteria	Inclusion	Exclusion	
PATIENT POPULATION	Abstract and full-text selection	Adult patients (18 years or older); Active rheumatoid arthritis; Inadequate response or intolerance to methotrexate; Patients for whom information on ACPA status/level is available.	Patients without RA; Patients with disease other than RA; Patients for whom subgroup data on ACPA status and/or levels is not available; Patients not being treated with an intervention of interest; Children and adolescents.
INTERVENTION	Abstract and full-text selection	Abatacept; TNF- $\alpha$ inhibitors: etanercept, adalimumab, infliximab, golimumab, certolizumab pegol. <i>Concomitant treatment with MTX is allowed</i>	Interventions not listed under inclusion criteria; Non-pharmaceutical interventions
COMPARISON	Abstract and full-text selection	No selection of comparators made	No selection of comparators made
OUTCOMES	Abstract selection Full-text selection	No selection made ACR20/50/70 response; DAS28 remission or response; EULAR response; HAQ-DI change from baseline	No selection made Studies reporting none of the outcomes listed under inclusion criteria; Studies reporting outcomes for the overall RA population but not for the ACPA subgroups (separately)
STUDY DESIGN	Abstract and full-text selection	RCTS; Observational studies: Prospective and retrospective cohort studies; Single arm studies; Case control studies; Registries; Retrospective studies; Post-hoc analyses; Prognostic studies; Cross sectional studies; SLRs and meta-analyses. <i>Studies should report data for the ACPA subgroups separately</i>	Observational studies not reporting data for the ACPA subgroup population separately; Case series/reports, letters to editor, commentary, editorials; Preclinical/Pharmacokinetic/ Pharmacogenomics studies; Animal or <i>in vitro</i> studies.

**Table II.** Quality appraisal using the QUIPS tool (red: high risk of bias, yellow, moderate risk of bias and green: low risk of bias).

Author	Study participation	Study attrition	Prognostic factor measurement	Outcomes measurement	Study confounding	Statistical analysis and presentation
Canhao 2012	●	●	●	●	●	●
Sato 2014	●	●	●	●	●	●
Sato 2013/Sato 2014	●	●	●	●	●	●
Matsutani 2013	●	●	●	●	●	●
Smolen 2014	●	●	●	●	●	●
Takahashi 2011	●	●	●	●	●	●
Klaasen 2009	●	●	●	●	●	●
Potter 2009	●	●	●	●	●	●
Bobbio-Pallavicini 2007	●	●	●	●	●	●
Avila-Pedretti 2015	●	●	●	●	●	●
Takahashi 2014	●	●	●	●	●	●
Pomirleanu 2013	●	●	●	●	●	●
Gottenberg 2012	●	●	●	●	●	●
Gremese 2013	●	●	●	●	●	●
Klaasen 2011	●	●	●	●	●	●
Soto 2011	●	●	●	●	●	●
Cuchacovich 2008	●	●	●	●	●	●
Atzeni 2005	●	●	●	●	●	●
Braun-Moscovici 2005	●	●	●	●	●	●
Bruns 2009	●	●	●	●	●	●
Bos 2008	●	●	●	●	●	●
Vasilopoulos 2011	●	●	●	●	●	●
Wijbrandts 2008	●	●	●	●	●	●
Lequerre 2007	●	●	●	●	●	●
Gottenberg 2016	●	●	●	●	●	●
Sekiguchi 2016	●	●	●	●	●	●
Sokolove 2016	●	●	●	●	●	●
Alten 2017	●	●	●	●	●	●
Shim 2017	●	●	●	●	●	●
Harrold 2017	●	●	●	●	●	●