

Supplementary file 1. ex-vivo cytokine production dataset.

RPMI + IgG: Negative control.

C. albicans + IgG: Stimulation with *C. albicans*.

C. albicans + bDMARD: Stimulation with *C. albicans* and inhibition by a bDMARD.

Pam3Cys + IgG: Stimulation with Pam3Cys.

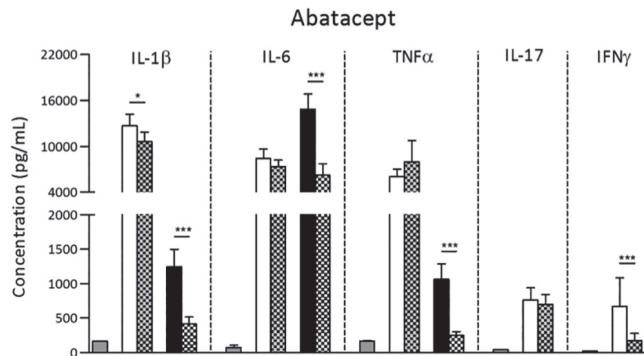
Pam3Cys + bDMARD: Stimulation with Pam3Cys and inhibition by a bDMARD.

Data presented as mean + standard error of the mean (SEM).

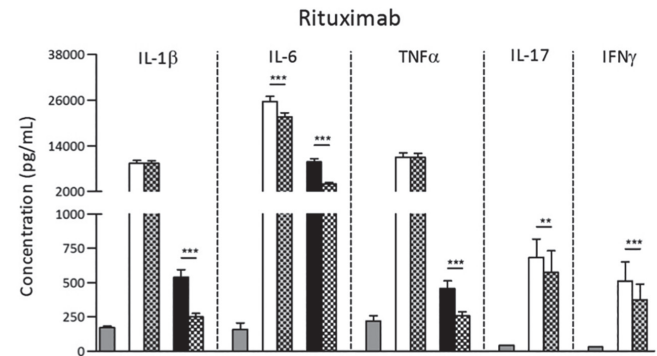
P values calculated using Wilcoxon signed-rank test. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

■ RPMI + IgG □ *C. albicans* + IgG ▨ *C. albicans* + bDMARD ■ Pam3Cys + IgG ▩ Pam3Cys + bDMARD

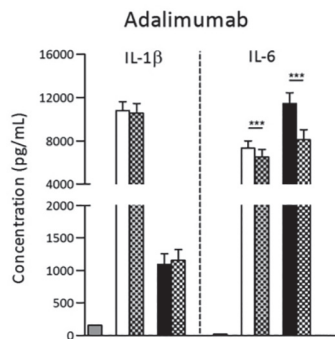
A. RA patients who started treatment with abatacept (n=25).



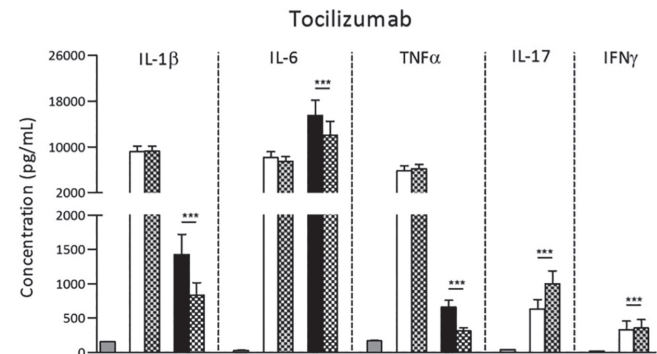
D. RA patients who started treatment with rituximab (n=88).



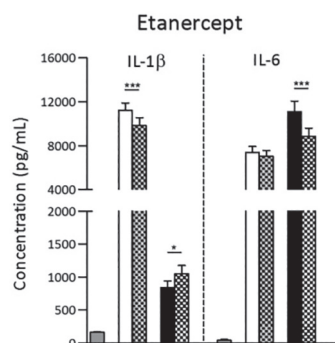
B (left panel). RA patients who started treatment with adalimumab (n=62).



E. RA patients who started treatment with tocilizumab (n=38).



C. (right panel). RA patients who started treatment with etanercept (n=117).



Supplementary file 2. Predictive value of *ex-vivo* cytokine production for clinical response to a biological DMARD in RA patients.

Abatacept n=21	Adalimumab n=55	Etanercept n=112	Rituximab n=86	Tocilizumab n=32
Can_IgG_IL-1 β AUC 0.30 (0.07-0.53)	Can_IgG_IL-1 β AUC 0.37 (0.22-0.52)	Can_IgG_IL-1 β AUC 0.49 (0.38-0.60)	Can_IgG_IL-1 β AUC 0.42 (0.29-0.56)	Can_IgG_IL-1 β AUC 0.48 (0.26-0.71)
Can_change_IL-1 β AUC 0.85 (0.60-1.00)	Can_change_IL-1 β AUC 0.53 (0.35-0.70)	Can_change_IL-1 β AUC 0.42 (0.31-0.52)	Can_change_IL-1 β AUC 0.38 (0.25-0.51)	Can_change_IL-1 β AUC 0.41 (0.20-0.62)
Pam_IgG_IL-1 β AUC .59 (0.30-0.88)	Pam_IgG_IL-1 β AUC 0.64 (0.47-0.81)	Pam_IgG_IL-1 β AUC 0.53 (0.43-0.64)	Pam_IgG_IL-1 β AUC 0.53 (0.40-0.66)	Pam_IgG_IL-1 β AUC 0.42 (0.22-0.66)
Pam_change_IL-1 β AUC 0.43 (0.11-0.75)	Pam_change_IL-1 β AUC 0.37 (0.19-0.55)	Pam_change_IL-1 β AUC 0.41 (0.31-0.52)	Pam_change_IL-1 β AUC 0.48 (0.34-0.61)	Pam_change_IL-1 β AUC 0.60 (0.41-0.80)
Can_IgG_IL-6 AUC 0.41 (0.09-0.73)	Can_IgG_IL-6 AUC 0.48 (0.31-0.66)	Can_IgG_IL-6 AUC 0.48 (0.38-0.59)	Can_IgG_IL-6 AUC 0.61 (0.48-0.74)	Can_IgG_IL-6 AUC 0.48 (0.27-0.69)
Can_change_IL-6 AUC 0.59 (0.18-1.00)	Can_change_IL-6 AUC 0.53 (0.35-0.71)	Can_change_IL-6 AUC 0.47 (0.36-0.58)	Can_change_IL-6 AUC 0.41 (0.26-0.55)	Can_change_IL-6 AUC 0.42 (0.21-0.63)
Pam_IgG_IL-6 AUC 0.51 (0.16-0.87)	Pam_IgG_IL-6 AUC 0.50 (0.32-0.68)	Pam_IgG_IL-6 AUC 0.53 (0.42-0.63)	Pam_IgG_IL-6 AUC 0.52 (0.39-0.65)	Pam_IgG_IL-6 AUC 0.47 (0.26-0.68)
Pam_change_IL-6 AUC 0.65 (0.16-1.00)	Pam_change_IL-6 AUC 0.56 (0.39-0.73)	Pam_change_IL-6 AUC 0.46 (0.36-0.57)	Pam_change_IL-6 AUC 0.49 (0.36-0.62)	Pam_change_IL-6 AUC 0.56 (0.34-0.78)
Can_IgG_TNF- α AUC 0.70 (0.42-0.98)			Can_IgG_TNF- α AUC 0.42 (0.29-0.55)	Can_IgG_TNF- α AUC 0.38 (0.17-0.60)
Can_change_TNF- α AUC 0.40 (0.06-0.74)			Can_change_TNF- α AUC 0.47 (0.34-0.60)	Can_change_TNF- α AUC 0.61 (0.39-0.83)
Pam_IgG_TNF- α AUC 0.68 (0.29-0.96)			Pam_IgG_TNF- α AUC 0.45 (0.30-0.59)	Pam_IgG_TNF- α AUC 0.46 (0.25-0.67)
Pam_change_TNF- α AUC 0.35 (0.07-0.63)			Pam_change_TNF- α AUC 0.58 (0.44-0.72)	Pam_change_TNF- α AUC 0.63 (0.43-0.82)
Can_IgG_IL-17 AUC 0.58 (0.24-0.92)			Can_IgG_IL-17 AUC 0.67 (0.54-0.80) n=84	Can_IgG_IL-17 AUC 0.54 (0.33-0.76) n=31
Can_change_IL-17 AUC 0.31 (0.05-0.56)			Can_change_IL-17 AUC 0.35 (0.21-0.49) n=84	Can_change_IL-17 AUC 0.46 (0.25-0.68) n=31
Can_IgG_IFN γ AUC 0.49 (0.15-0.82)			Can_IgG_IFN γ n=84 AUC 0.48 (0.35-0.60)	Can_IgG_IFN γ AUC 0.18 (0.03-0.33) n=31
Can_change_IFN γ AUC 0.57 (0.25-0.89)			Can_change_IFN γ n=84 AUC 0.46 (0.33-0.59)	Can_change_IFN γ AUC 0.51 (0.26-0.77) n=31

Area under the receiver operating characteristic curves (AUCs) were generated to evaluate the predictive value of *ex-vivo* cytokine production (both stimulated cytokine concentrations and absolute changes in cytokine concentrations after inhibition by a bDMARD) for EULAR good response [yes versus no] at month 6. Data presented as AUC (95% CI). Potential *ex-vivo* predictors (AUC confidence interval contains no 0.50) are displayed in bold. Can_IgG_IL-1 β , *C. albicans*-induced IL-1 β production for clinical response to the bDMARD; Can_change_IL-1 β , change in *C. albicans*-induced IL-1 β production after inhibition by the administered bDMARD for response to the bDMARD; Pam_IgG_IL-1 β , Pam3Cys-induced IL-1 β production for clinical response to the bDMARD; Pam_change_IL-1 β , change in Pam3Cys-induced IL-1 β production after inhibition by the administered bDMARD for response to the bDMARD. The other definitions are composed in the same way.