

**Table S1** Clinical characteristics of the study patients with rheumatoid arthritis

	All patients	Non-responder	Responder	<i>P</i> <sup>†</sup>
Samples, N	357	32	325	
Age at symptom onset, mean ± SD (years)	41.76 ± 13.62	42.75 ± 14.07	41.66 ± 13.60	0.68
Female, N	312 (87.4%)	27 (84.4%)	285 (87.7%)	0.79
BMI, kg/m <sup>2</sup>	22.51 ± 3.53	22.70 ± 4.22	22.50 ± 3.46	0.81
Anti-cyclic citrullinated peptide-antibody, N (%)	307 (86.0%)	26 (81.3%)	281 (86.5%)	0.59
Methotrexate, N (%)	338 (94.7%)	28 (87.5%)	310 (95.4%)	0.14
Disease duration, years	8.21 ± 7.58	6.03 ± 5.75	8.43 ± 7.72	0.035*
Anti-TNF				
Adalimumab, N (%)	60 (16.8%)	5 (15.6%)	55 (16.9%)	1.0
Etanercept, N (%)	260 (72.8%)	23 (71.9%)	237 (72.9%)	1.0
Golimumab, N (%)	19 (5.3%)	3 (9.4%)	16 (4.92%)	0.51
Infiximab, N (%)	18 (5.0%)	1 (3.1%)	17 (5.2%)	0.92
DAS28				
Baseline	6.24 ± 0.89	6.08 ± 0.86	6.26 ± 0.90	0.28
Δ DAS28	2.48 ± 1.31	0.34 ± 0.76	2.78 ± 1.06	< 2.2×10 <sup>-16</sup> *
CDAI				
Baseline	32.85 ± 11.83	27.67 ± 7.76	33.60 ± 12.14	8.0×10 <sup>-3</sup> *
Δ CDAI	21.52 ± 12.91	3.60 ± 9.87	24.1 ± 11.13	< 3.9×10 <sup>-14</sup> *

<sup>†</sup>Each of p-values provided was obtained by either the chi-square test using categorical data or the t-test in numerical data.

\*Significant (<0.05).

SD, standard deviation, BMI, Body mass index, TNF, tumor necrosis factor, DAS28, Disease Activity Scores based on 28 joint counts, CDAI, Clinical disease activity index.

**Table S2** The number of variants and subjects in a quality control (QC) procedure. We note that all the 370 subjects treated with TNF- $\alpha$  blockers were retained and used to call copy number variation in subsequent analyses.

**Table S2a** Sample QC Summary

QC step	Samples removed, N	Samples retained, N
		922 (initial size)
Low call rate (< 95%)	0	922
Excessive heterozygosity	4	918
Multidimensional scale	16	902
Excessive singleton	1	901
Cryptic relatedness	1	900
Gender mismatch	0	900
Summary	22	900

**Table S2b** Marker QC Summary

QC step	Variants removed, N	Variants retained, N
		2,623,498 (initial size)
Duplicated SNPs	48,514	2,574,984
Low call rate (< 95%), HWE ( $P_{\text{HWE}} < 1 \times 10^{-6}$ )	110,058	2,464,926
Summary	158,572	2,464,926

HWE, Hardy Weinberg equilibrium