

Supplementary Table

Table S1. Patients Characteristics

Biologics	No biologics (n=124)	TCZ (n=26)	TNFi (n=12)	ABT (n=12)
Age, mean \pm SD	57.0 \pm 13.7	58.8 \pm 10.2	52.3 \pm 15.2	62.4 \pm 11.7
Female, n (%)	99/124 (79.8)	20/26 (76.9)	10/12 (83.3)	7/12 (58.3)
Disease duration (months) [#]	39 (1-1286)	59 (4-754)	52 (3-241)	112 (39-309)
RF positive, n (%)	112/123 (91.1)	22/26 (84.6)	10/11 (90.9)	11/12 (91.7)
ACPA positive n (%)	95/111 (85.6)	20/25 (80.0)	10/11 (90.9)	7/9 (77.8)
CRP (mg/ml) [#]	1.44 (0.0-14.58)	1.52 (0.07-14.58)	2.4 (0.2-7.61)	1.5 (0.0-14.45)
MTX users, n (%) (mg/week) [#]	76/124 (61.3) 6.0 (0-20)	18/26 (69.2) 6.0 (0-20)	12/12 (100) 14 (6-20)	7/12 (58.3) 5.0 (0-18)
PSL users, n (%) (mg/day) [#]	47/124 (37.9) 0 (0-15)	13/26 (50.0) 0 (0-15)	4/12 (33.3) 0 (0-10)	10/12 (83.3) 5 (0-10)
DAS-28 (ESR) (0w) [#]	4.88 (0.0-8.41)	5.09 (2.97-7.84)	5.69 (4.04-8.14)	5.37 (4.1-8.41)
DAS-28 (ESR) (12w) [#]	NA	2.47 (0.38-4.63)	2.59 (1.13-5.81)	3.24 (2.22-4.97)

[#]Data indicate median values (inter-quartile range). RF=rheumatoid factor, ACPA=anti-CCP antibody, CRP=C-reactive protein, MTX=methotrexate, PSL=prednisolone, DAS=disease activity score, ESR=erythrocyte sedimentation rate, NA=not applicable.

Table S2. Antibodies used in this study

Antigen	Provider	Clone
Murine CD3	BD Biosciences	145-2C11
Murine CD4	BD Biosciences	H129.19
Murine CD8	BD Biosciences	53-6.7
Murine CD28	BD Biosciences	37.51
Murine CD45.1	BioLegend	A20
Murine CD45.2	BioLegend	104
Murine CD103	BioLegend	2E7
Murine GITR	BD Biosciences	DTA-1
Murine FR4	BioLegend	12A5
Murine GARP	BioLegend	F011-5
Murine IL-4	BD Biosciences	11B11
Murine IL-6	BioLegend	MP5-20F3
Murine IL-17A	BioLegend	TC11-18H10.1
Murine IFN- γ	BD Biosciences	XMG1.2
Murine Foxp3	BD Biosciences	259D/C7
Murine/Human Helios	BioLegend	22F6
Human CD2	BioLegend	RPA-2.10
Human CD3	BioLegend	OKT3
Human CD4	Invitrogen	S3.5
Human CD28	BioLegend	CD28.2
Human IL-4	BioLegend	8D4-8
Human IL-10	BioLegend	JES3-19F1
Human IL-17A	eBioscience	eBio64CAP17
Human IFN- γ	BioLegend	B27
Human Foxp3	BioLegend	259D

Table S3. Sequences of PCR Primers for qPCR assays

Primer name	Primer sequence
β -actin forward	TGTTACCAACTGGGACGACA
β -actin reverse	CCATCACAATGCCTGTGGTA
ROR γ t forward	TGCAAGACTCATCGACAAGGC
ROR γ t reverse	AGCTTTTCCACATGTTGGCT
Foxp3 forward	ATCCAGCCTGCCTCTGACAAGAACC
Foxp3 reverse	GGGTTGTCCAGTGGACGCACTTGGAGC
Ikaros forward	CATAAAGAGCGATGCCACAA
Ikaros reverse	CAGGACAAGGGACCTCTCTG
Helios forward	ACACCTCAGGACCCATTCTG
Helios reverse	TCCATGCTGACATTCTGGAG
Aiolos forward	ACAGCAGACCAACCGGTGGGAA
Aiolos reverse	ACTGGAACGGGCGTTCGC
Eos forward	GAGGAGCACAAGGAGAGGTG
Eos reverse	CATCTCCAGGTCACGGATTT
Pegasus forward	CCAGAGCCTTTGGACTTTGTAA
Pegasus reverse	AACTGATCCCGAAATCATGTTCA
GITR forward	AAGGTTCAGAACGGAAGTG
GITR reverse	GGGTCTCCACAGTGGTACT
CD103 forward	ACATGGATGGGACCACAGAT
CD103 reverse	TCAGTGTGTGTGCCAAGGAG
GARP forward	TCAGCGTCGAGAGCAAGTG
GARP reverse	GTAGAGAGCTTGGATGTCCAGT
FR4 forward	CACTGTGGACTGCTGA
FR4 reverse	GGCTCAAACCACTTCTG
GPR83 forward	ACCCTCCCCAGTTCCTTCCTTCAG
GPR83 reverse	GGCCACAACGGGTTCCACAGAT
CD25 forward	CCAGCAACTCCCATGACAAA
CD25 reverse	GCTCTTTCTGGTGTTCAGTTGAG
CD39 forward	TACCACCCCATCTGGTCATT
CD39 reverse	GGACGTTTTGTTTGGTTGGT
CD73 forward	CAAATCCCACACAACCACTG
CD73 reverse	TGCTCACTTGGTCACAGGAC
CD101 forward	ACAGAGCCGAAGGTTACCCT
CD101 reverse	GACCCTGATGACCACTTACGG
Lag3 forward	TCCGCCTGCGCGTCG
Lag3 reverse	GACCCAATCAGACAGCTTGAGGAC
IL-2 forward	TCTGCGGCATGTTCTGGATTT
IL-2 reverse	ATGTGTTGTCAGAGCCCTTTAG
TGF- β forward	TCATGTCTCAGTTCATCTAGT
TGF- β reverse	GAGAGCGAGGCCATCAGTC
IL-10 forward	ACCTGCTCCACTGCCTTGCT
IL-10 reverse	GGTTGCCAAGCCTTATCGGA