

Table S1**Baseline characteristics of PsA patients at the start of 2nd TNFi treatment, stratified by registry**

	ARTIS	BIOBADAS ER	Biorx.si	DANBIO	ICEBIO	NOR- DMARD	Reuma.pt	ROB-FIN	RRBR	SCQM	TURKBIO	ATTR A
Country	Sweden	Spain	Slovenia	Denmark	Iceland	Norway	Portugal	Finland	Romania	Switzerland	Turkey	Czech Republi c
All patients, 2nd treatment series (n)	2370	174	106	1060	144	197	139	150	16*	514	129	234
Age, years	51(42-59)	52(43-58)	51(45-58)	50(41-58)	51(43-60)	50(41-58)	51(42-56)	50(44-57)	-	49(41-59)	45(36-54)	50(41- 58)
Male (%)	44	43	46	38	36	38	38	47	-	44	26	47
BMI, kg/m2	NA	27(24-31)	27(24-29)	28(24-32)	30(27-34)	26(23-30)	27(24-32)	29(25-32)	-	27(24-31)	29(27-32)	27(25- 31)
Concomitant csDMARD (%)	49	56	58	59	47	60	50	76	-	48	51	69
Time since diagnosis, years	4(2-10)**	7(4-13)	9(4-15)	4(2-10)	6(3-13)	6(3-12)	7(3-11)	10(5-15)	-	4(2-9)	7(3-11)	9(5-15)
Current smoking (%)	13	15	12	26	26	22	21	-	-	14	22	15
Infliximab (%)	10	12	19	12	26	17	9	5	-	13	18	9
Etanercept (%)	42	32	25	41	51	27	31	37	-	26	34	32
Adalimumab (%)	34	34	37	32	17	16	42	43	-	35	31	26
Certolizumab (%)	4	5	2	7	0	23	2	5	-	3	12	8
Golimumab (%)	10	17	18	8	6	17	17	9	-	23	5	25
DAS28	4.0(3.2-4.8)	3.6(2.6-4.2)	4.7(3.4-5.3)	4.2(3.2-5.1)	3.7(2.9-4.4)	3.5(2.7-4.4)	4.6(3.4-5.2)	3.5(2.6-4.5)	-	3.3(2.2-4.4)	3.5(2.6-4.7)	4.6(3.6- 5.4)
DAPSA28	24.5 (16.2-35.8)	NA	29.2 (16.1-44.5)	26.6 (16.8-39.9)	23.2 (14.7-30.6)	19.8 (13.7-29.4)	29.5 (16.8-41.7)	18.6(10.6-29.9)	-	17.9 (7.4-27.0)	18 (12.6-29.4)	29.8 (17.5- 45.8)
DAPSA	22.5 (15.3-31.6)	NA	NA	28.6 (19.1-38.8)	24.2 (21.3-33.5)	NA	27.1 (16.5-35.1)	NA	-	19.1 (9.3-28.4)	19.7 (15.2-31.7)	NA

CRP, mg/l	5(2-13)	2(1-4)	5(2-16)	5(2-12)	4(2-8)	4(2-11)	8(2-20)	5(3-14)	-	5(3-8)	9(3-27)	9(3-22)
SJC (0-28)	2(0-4)	1(0-4)	4(1-6)	1(0-4)	2(0-4)	1(0-3)	4(1-5)	2(0-4)	-	1(0-3)	0(0-2)	4(1-8)
TJC (0-28)	4(1-8)	3(1-7)	8(2-12)	5(1-11)	4(1-6)	3(0-7)	5(2-11)	2(0-5)	-	2(0-6)	2(0-6)	7(3-12)
SJC (0-66)	2(0-5)	NA	NA	2(0-6)	6(3-8)	NA	4(0-6)	NA	-	2(0-5)	0(0-0)	NA
TJC (0-68)	6(2-11)	NA	NA	9(4-17)	8(5-12)	NA	7(2-13)	NA	-	4(1-10)	3(0-17)	8(3-16)
Pain score (VAS 0-100 mm)	65(43-78)	NA	70(50-80)	64(40-80)	62(36-80)	56(37-70)	60(40-80)	46(20-70)	-	60(30-70)	60(42-75)	55(35-75)
Fatigue score (VAS 0-100 mm)	66(43-80)	NA	NA	72(52-86)	67(42-82)	60(40-76)	NA	NA	-	65(50-100)	52(29-70)	55(36-75)
12-month retention rate	69(67-71)	72(65-79)	68(59-77)	60(57-63)	72(64-80)	48(42-56)	74(67-82)	85(79-91)	-	73(69-77)	79(72-86)	76(70-82)
6-month DAS28 remission rate (crude/LUNDEX)	47%/34%	73%/57%	49%/42%	45%/31%	29%/21%	52%/32%	44%/36%	50%/42%	-	54%/43%	62%/52%	62%/48%

Data are as observed, median (IQR) or percentage; csDMARD: conventional synthetic Disease Modifying Anti Rheumatic Drug; TNFi: tumor necrosis factor inhibitor; SJC: swollen joint count; TJC: tender joint count; VAS: visual analogue scale; BMI: Body Mass Index; CRP: C-Reactive Protein; DAS28: Disease Activity Score 28 joint-count; DAPSA28: Disease Activity index for Psoriatic Arthritis 28 joint-count; PsA: Psoriatic Arthritis; NA: not available. * < 50 patients; **Time since inclusion in ARTIS

Table S2**Baseline characteristics of PsA patients at the start of 3rd TNFi treatment, stratified by registry**

	ARTIS	BIOBADASER	Biorx.si	DANBIO	ICEBIO	NOR-DMARD	Reuma.pt	ROB-FIN	RRBR	SCQM	TURKBIO	ATTRA
Country	Sweden	Spain	Slovenia	Denmark	Iceland	Norway	Portugal	Finland	Romania	Switzerland	Turkey	Czech Republic
All patients, 3 rd treatment series (n)	906	66	30*	407	55	42*	37*	35*	1*	202	50	75
Age, years	51(42-59)	53(41-59)	-	50(42-57)	51(42-62)	-	-	-	-	52(42-59)	46(40-57)	52(43-58)
Male	40	41	-	33	33	-	-	-	-	40	26	49
BMI, kg/m ²	NA	27(25-31)	-	28(25-32)		-	-	-	-	26(24-30)	-	27(24-29)
Concomitant csDMARD	45	58	-	60	40	-	-	-	-	47	64	73
prior csDMARD	88	NA	-	100	100	-	-	-	-	64	100	NA
Time since diagnosis, years	6(3-11)**	10(6-15)	-	7(3-12)	8(4-10)	-	-	-	-	6(3-11)	-	11(7-15)
Current smoking	14	15	-	27		-	-	-	-	16	-	21
Infliximab	14	21	-	20	16	-	-	-	-	21	16	25
Etanercept	30	29	-	29	25	-	-	-	-	20	20	17
Adalimumab	30	2	-	11	47	-	-	-	-	9	6	16
Certolizumab	9	2	-	11	0	-	-	-	-	9	6	16
Golimumab	16	23	-	19	11	-	-	-	-	28	24	25
DAS28	4.1(3.2-5)	3.5(2.7-4.5)	-	4.5(3.5-5.4)	-	-	-	-	-	3.2(2.4-4.2)		4.6(3.7-5.2)
DAPSA28	25.5(16.4-36.7)	NA	-	30.1(19-44.5)	-	-	-	-	-	15.6(9-26.7)		27.4(18.8-40.5)
CRP, mg/l	5(2-14)	3(2-8)	-	5(2-10)	-	-	-	-	-	5(2-9)		12(5-21)
SJC (0-28)	2(0-5)	1(0-4)	-	1(0-4)	-	-	-	-	-	1(0-3)		4(1-7)

TJC (0-28)	4(1-9)	2(1-8)	-	7(2-13)	-	-	-	-	-	2(0-5)		6(4-11)
SJC (0-66)	2(0-5)	NA	-	2(0-8)	-	-	-	-	-	2(0-6)		NA
TJC (0-68)	5(2-10)	NA	-	13(4-25)	-	-	-	-	-	4(1-8)		9(4-14)
Pain score (VAS 0-100 mm)	66(46-80)	NA	-	70(48-82)	-	-	-	-	-	50(30-70)		55(25-70)
Fatigue score (VAS 0-100 mm)	69(48-81)	NA	-	77(58-89)	-	-	-	-	-	NA		55(31-70)

Data are as observed, median (IQR) or percentage; csDMARD: conventional synthetic Disease Modifying Anti Rheumatic Drug; TNFi: tumor necrosis factor inhibitor; TJC: tender joint count; PtGL: Patient Global; PhGL: Physician Global; VAS: visual analogue scale; BMI: Body Mass Index; CRP: C-Reactive Protein; DAS28: Disease Activity Score 28 joint-count; DAPSA28: Disease Activity index for Psoriatic Arthritis 28 joint-count; PsA: Psoriatic Arthritis; NA: not available. *removed from the table because of < 50 patients; **Time since inclusion in ARTIS

Table S3	
Available data in patients with PsA on 2nd or 3rd TNFi treatment	
2nd TNF inhibitor - all patients	Number of patients (n1 / n2 / n3 / n4)*
DAS28 remission after 6 months	1037 / 2161 / 3838 / 5233
DAS28 remission after 12 months	853 / 1667 / 2987 / 5233
DAS28 remission after 24 months	707 / 1290 / 2120 / 5233
DAPSA remission at 6 months	126 / 720 / 3838 / 5233
DAPSA remission at 12 months	113 / 571 / 2987 / 5233
DAPSA remission at 24 months	97 / 425 / 2120 / 5233
DAPSA28 remission after 6 months	383 / 2068 / 3838 / 5233
DAPSA28 remission after 12 months	317 / 1566 / 2987 / 5233
DAPSA28 remission after 24 months	279 / 1224 / 2120 / 5233
3rd TNF inhibitor - all patients	Number of patients (n1 / n2 / n3 / n4)*
DAS28 remission after 6 months	276 / 734 / 1361 / 1906
DAS28 remission after 12 months	228 / 565 / 1024 / 1906
DAS28 remission after 24 months	200 / 417 / 685 / 1906
DAPSA remission at 6 months	28 / 201 / 1361 / 1906
DAPSA remission at 12 months	30 / 201 / 1024 / 1906
DAPSA remission at 24 months	27 / 159 / 685 / 1906
DAPSA28 remission after 6 months	93 / 712 / 1361 / 1906
DAPSA28 remission after 12 months	81 / 542 / 1024 / 1906
DAPSA28 remission after 24 months	71 / 399 / 685 / 1906
*n1: number of patients who have achieved outcome in remission; n2: number of patients with available data at timepoint of assessment; n3: number of patients still treated at time (t= 6 months, 12 months or 24 months); n4: number of patients starting TNF treatment;	