Table SI. Baseline patient characteristics of the total sample (N=886)

Age at start TE, yrs, mean ± SD	49.0 ± 13.8
Disease duration until start first TE, yrs, median [IQR][a]	18.9 [18.2]
Sex, male, n(%)[a]	554 (62.6)
Family history of psoriasis, yes, n(%)[a]	519 (58.6)
PsA confirmed by rheumatologist, yes, n(%)[a]	223 (25.2)
BMI, kg/m^2, median [IQR][a]	27.9 [7.1]
Baseline PASI, median [IQR]	
Overall	9.0 [8.4]
Biologic naive patients (n=483)	9.8 [8.5]
Biologic non-naive patients (n=403)	8.3 [8.5]
Biologic naivety, yes, n(%)	483 (54.5)
Number of previously used unique biologics, n(%)	
0	483 (54.5)
1	245 (27.7)
2	84 (9.5)
3+	74 (8.3)

[a]Missing values: Disease duration until start first TE 49; Sex 12; Family history of psoriasis 72; PsA 101; BMI 228
BMI: Body Mass Index; IQR: interquartile range; PsA: psoriatic arthritis; PASI: Psoriasis Area and Severity Index; SD: standard deviation; TE: treatment episode; yrs: years

Table SII. Baseline treatment characteristics of the total sample (N=1169)

	TNFα-inhibitor	IL12/23-inhibitor	IL23-inhibitors		IL17-inhibitors		
	ADA N=435 TEs 1404.2 PY	**UST** N=372 TEs 1430.4 PY	**GUS** N=73 TEs 170.7 PY	**RIS** N=73 TEs 127.3 PY	**SEC** N=90 TEs 221.4 PY	**IXE** N=93 TEs 237.8 PY	**BRO** N=33 TEs 72.4 PY
Age at start TE, yrs, median [IQR][a]	48.0 ± 13.9	48.9 ± 14.1	49.3 ± 12.9	51.8 ± 12.3	49.7 ± 11.8	48.2 ± 12.7	53.9 ± 11.6
Disease duration until start TE, yrs, median [IQR][a]	18.7 [18.0]	17.6 [17.5]	20.3 [16.2]	21.9 [23.5]	20.9 [17.9]	20.3 [17.6]	21.8 [18.2]
Sex, male, n(%)[a]	266 (61.1)	232 (62.4)	44 (60.3)	45 (61.6)	44 (52.2)	56 (60.2)	18 (54.5)
Academic hospital, n(%)	322 (74.0)	213 (57.3)	38 (52.1)	64 (87.7)	62 (68.9)	69 (74.2)	19 (57.6)
Family history of psoriasis, yes, n(%)[a]	258 (59.3)	231 (62.1)	34 (46.6)	46 (63.0)	53 (58.9)	46 (49.5)	22 (66.7)
PsA confirmed by rheumatologist, yes, n(%)[a]	111 (25.5)	98 (26.3)	25 (34.2)	17 (23.3)	32 (35.6)	39 (36.8)	7 (21.2)
Baseline BMI, kg/m^2, median [IQR][a]	28.1 [7.4]	27.9 [7.1]	28.1 [6.1]	28.7 [8.0]	28.1 [7.1]	28.7 [5.8]	28.0 [8.4]
Baseline PASI score, median [IQR]	9.3 [8.0]	10.1 [10.1]	7.0 [7.6]	6.4 [7.1]	8.0 [6.9]	6.6 [6.5]	4.0 [6.2]
Biologic naive, yes, n(%)	263 (60.5)	173 (46.5)	8 (11.0)	13 (17.8)	9 (10.0)	14 (15.1)	3 (9.1)
Number of previously used unique biologics, n(%)							
0	263 (60.5)	173 (46.5)	8 (11.0)	13 (17.8)	9 (10.0)	14 (15.1)	3 (9.1)
1	134 (30.8)	92 (24.7)	16 (21.9)	18 (24.7)	24 (26.7)	23 (24.7)	17 (51.5)
2	23 (5.3)	80 (21.5)	15 (20.5)	10 (13.7)	17 (18.9)	19 (20.4)	4 (12.1)
3+	15 (3.4)	27 (7.3)	34 (46.6)	32 (43.8)	40 (44.4)	37 (39.8)	9 (27.3)

[a]Missing values for ADA, UST, GUS, RIS, SEC, IXE, and BRO respectively: Disease duration until start TE 16. 25, 5, 0, 1, 1, 4; Sex 6, 3, 0, 0, 2, 1, 1; Family history of psoriasis 23, 32, 11, 3, 6, 7, 4; PsA 53, 38, 8, 5, 10, 5, 6; Baseline BMI 103, 96, 20, 20, 27, 26, 5

ADA: adalimumab; BMI: body mass index; BRO: brodalumab; GUS: guselkumab; IXE: ixekizumab; IQR: interquartile range; PASI: Psoriasis Area and Severity Index; PsA: psoriatic arthritis; PY: patient years; RIS: risankizumab; SD: standard deviation; SEC: secukinumab; TE: treatment episode; UST: Ustekinumab; yrs, years

Section SIII. Dose adjustment factors

Table SIIIa. Dose adjustment factors primary analyses

	Treatment	Number of TEs on which dose adjustment factor was based/for which dosing regimen was known	Dose adjustment factor
TNFα-inhibitor	ADA	321	1.08
IL12/23-inhibitor	UST *flat price*	254	1.01
	UST *non flat price*	254	1.09
IL23-inhibitors	GUS	57	1.00
	RIS	62	1.11
IL17-inhibitors	SEC	69	0.99
	IXE	78	1.00
	BRO	29	0.96

ADA: adalimumab; BRO: brodalumab; CPR: cost per responder; GUS: guselkumab; IXE: ixekizumab; RIS: risankizumab; SEC: secukinumab; TE: treatment episode; UST: ustekinumab

Table SIIIb. Dose adjustment factors analyses with non-responder imputation (NRI)

	Treatment	Number of TEs on which dose adjustment factor is based/for which dosing regimen was known	Dose adjustment factor
TNFα-inhibitor	ADA	407	1.13
IL12/23-inhibitor	UST *flat price*	276	1.02
	UST *non flat price*	276	1.09
IL23-inhibitors	GUS	70	1.00
	RIS	65	1.10
IL17-inhibitors	SEC	84	0.99
	IXE	87	1.03
	BRO	31	0.99

ADA: adalimumab; BRO: brodalumab; GUS, guselkumab; IXE: ixekizumab; NRI: non-responder imputation; RIS: risankizumab; SEC: secukinumab; TE: treatment episode; UST: ustekinumab

Table SIIIc. Dose adjustment factors subgroup with 0-1 prior biologic

	Treatment	Number of TEs on which dose adjustment factor is based/for which dosing regimen was known	Dose adjustment factor
TNFα-inhibitor	ADA	294	1.06
IL12/23-inhibitor	UST *flat price*	189	1.00
	UST *non flat price*	189	1.08
IL23-inhibitors	GUS	21	0.98
	RIS	27	1.13
IL17-inhibitors	SEC	26	1.00
	IXE	30	0.97
	BRO	15	0.96

ADA: adalimumab; BRO: brodalumab; GUS, guselkumab; IXE: ixekizumab; RIS: risankizumab; SEC: secukinumab; TE: treatment episode; UST: ustekinumab

Table SIIId. Dose adjustment factors subgroup with ≥2 prior biologics

	Treatment	Number of TEs on which dose adjustment factor is based/for which dosing regimen was known	Dose adjustment factor
TNFα-inhibitor	ADA	27	1.27
IL12/23-inhibitor	UST *flat price*	65	1.05
	UST *non flat price*	65	1.12
IL23-inhibitors	GUS	36	1.00
	RIS	35	1.08
IL17-inhibitors	SEC	43	0.98
	IXE	48	1.03
	BRO	14	0.95

ADA: adalimumab; BRO: brodalumab; GUS, guselkumab; IXE: ixekizumab; RIS: risankizumab; SEC: secukinumab; TE: treatment episode; UST: ustekinumab

Section SIV. Response rates

Table SIVa. Response rates at week 12; subgroup with available PASI score at week 12

	Treatment	N (Week 12)	PASI75 (Week 12)	PASI90 (Week 12)	PASI100 (Week 12)	PASI≤3 (Week 12)	PASI≤1 (Week 12)
TNFα-inhibitor	ADA	372	30.1%	11.0%	3.0%	44.4%	13.4%
IL12/23-inhibitor	UST	324	26.9%	8.3%	2.2%	38.6%	10.8%
IL23-inhibitors	GUS	54	22.2%	14.8%	1.9%	46.3%	9.3%
	RIS	59	22.0%	11.9%	5.1%	55.9%	16.9%
IL17-inhibitors	SEC	75	34.7%	14.7%	5.3%	50.7%	25.3%
	IXE	76	47.4%	28.9%	13.2%	68.4%	40.8%
	BRO	29	55.2%	41.4%	24.1%	79.3%	55.2%

ADA: adalimumab; BRO: brodalumab; GUS, guselkumab; IL: interleukin; IXE: ixekizumab; PASI: Psoriasis Area and Severity Index; RIS: risankizumab; SEC: secukinumab; TE: treatment episode; TNF: Tumor Necrosis Factor; UST: ustekinumab

Table SIVb. Response rates at week 52; subgroup with available PASI score at week 52

	Treatment	N (Week 52)	PASI75 (Week 52)	PASI90 (Week 52)	PASI100 (Week 52)	PASI≤3 (Week 52)	PASI≤1 (Week 52)
TNFα-inhibitor	ADA	212	55.7%	28.8%	12.3%	69.3%	29.7%
IL12/23-inhibitor	UST	208	49.0%	25.5%	10.1%	61.5%	26.0%
IL23-inhibitors	GUS	39	59.0%	43.6%	23.1%	71.8%	46.2%
	RIS	37	62.2%	40.5%	21.6%	83.8%	62.2%
IL17-inhibitors	SEC	46	43.5%	23.9%	15.2%	56.5%	26.1%
	IXE	49	57.1%	28.6%	12.2%	81.6%	51.0%
	BRO	15	60.0%	53.3%	20.0%	86.7%	66.7%

ADA: adalimumab; BRO: brodalumab; GUS, guselkumab; IL: interleukin; IXE: ixekizumab; PASI: Psoriasis Area and Severity Index; RIS: risankizumab; SEC: secukinumab; TE: treatment episode; TNF: Tumor Necrosis Factor; UST: ustekinumab

Table SIVc. Response rates at week 52; subgroup sensitivity analyses incorporating NRI

	Treatment	N (Week 52)	PASI75 (Week 52)	PASI90 (Week 52)	PASI100 (Week 52)	PASI≤3 (Week 52)	PASI≤1 (Week 52)
TNFα-inhibitor	ADA	303	38.9%	20.1%	8.6%	48.5%	20.8%
IL12/23-inhibitor	UST	235	43.4%	22.6%	8.9%	54.5%	23.0%
IL23-inhibitors	GUS	52	44.2%	32.7%	17.3%	53.8%	34.6%
	RIS	40	57.5%	37.5%	20.0%	77.5%	57.5%
IL17-inhibitors	SEC	62	32.3%	17.7%	11.3%	41.9%	19.4%
	IXE	59	47.5%	23.7%	10.2%	67.8%	42.4%
	BRO	17	52.9%	47.1%	17.6%	76.5%	58.8%

ADA: adalimumab; BRO: brodalumab; GUS, guselkumab; IL: interleukin; IXE: ixekizumab; NRI: non-responder imputation; PASI: Psoriasis Area and Severity Index; RIS: risankizumab; SEC: secukinumab; TE: treatment episode; TNF: Tumor Necrosis Factor; UST: ustekinumab

Table SIVd. Response rates at week 52; subgroup with 0-1 prior biologic

	Treatment	N (Week 52)	PASI75 (Week 52)	PASI90 (Week 52)	PASI100 (Week 52)	PASI≤3 (Week 52)	PASI≤1 (Week 52)
TNFα-inhibitor	ADA	192	57.3%	29.7%	13.5%	70.3%	30.2%
IL12/23-inhibitor	UST	141	55.3%	31.2%	14.2%	69.5%	31.9%
IL23-inhibitors	GUS	12	75.0%	66.7%	50.0%	91.7%	75.0%
	RIS	19	84.2%	52.6%	31.6%	89.5%	73.7%
IL17-inhibitors	SEC	16	62.5%	37.5%	25.0%	68.8%	37.5%
	IXE	20	65.0%	40.0%	15.0%	90.0%	65.0%
	BRO	7	57.1%	57.1%	14.3%	85.7%	57.1%

ADA: adalimumab; BRO: brodalumab; GUS, guselkumab; IL: interleukin; IXE: ixekizumab; PASI: Psoriasis Area and Severity Index; RIS: risankizumab; SEC: secukinumab; TE: treatment episode; TNF: Tumor Necrosis Factor; UST: ustekinumab

Table SIVe. Response rates at week 52; subgroup with ≥2 prior biologics

	Treatment	N (Week 52)	PASI75 (Week 52)	PASI90 (Week 52)	PASI100 (Week 52)	PASI≤3 (Week 52)	PASI≤1 (Week 52)
TNFα-inhibitor	ADA	20	40.0%	20.0%	0.0%	60.0%	25.0%
IL12/23-inhibitor	UST	67	35.8%	13.4%	1.5%	44.8%	13.4%
IL23-inhibitors	GUS	27	51.9%	33.3%	11.1%	63.0%	33.3%
	RIS	18	38.9%	27.8%	11.1%	77.8%	50.0%
IL17-inhibitors	SEC	30	33.3%	16.7%	10.0%	50.0%	20.0%
	IXE	29	51.7%	20.7%	10.3%	75.9%	41.4%
	BRO	8	62.5%	50.0%	25.0%	87.5%	75.0%

ADA: adalimumab; BRO: brodalumab; GUS, guselkumab; IL: interleukin; IXE: ixekizumab; PASI: Psoriasis Area and Severity Index; RIS: risankizumab; SEC: secukinumab; TE: treatment episode; TNF: Tumor Necrosis Factor; UST: ustekinumab

Table SIVf. Response rates at week 12; subgroup with 0-1 prior biologic

	Treatment	N (Week 12)	PASI75 (Week 12)	PASI90 (Week 12)	PASI100 (Week 12)	PASI≤3 (Week 12)	PASI≤1 (Week 12)
TNFα-inhibitor	ADA	341	30.5%	11.1%	2.9%	45.2%	13.2%
IL12/23-inhibitor	UST	233	25.8%	8.2%	1.7%	42.5%	10.7%
IL23-inhibitors	GUS	16	12.5%	12.5%	6.3%	50.0%	12.5%
	RIS	23	34.8%	21.7%	13.0%	78.3%	30.4%
IL17-inhibitors	SEC	28	46.4%	17.9%	10.7%	71.4%	28.6%
	IXE	32	53.1%	34.4%	12.5%	71.9%	40.6%
	BRO	18	50.0%	38.9%	22.2%	77.8%	44.4%

ADA: adalimumab; BRO: brodalumab; GUS, guselkumab; IL: interleukin; IXE: ixekizumab; PASI: Psoriasis Area and Severity Index; RIS: risankizumab; SEC: secukinumab; TE: treatment episode; TNF: Tumor Necrosis Factor; UST: ustekinumab

Table SIVg. Response rates at week 12; subgroup with ≥2 prior biologics

	Treatment	N (Week 12)	PASI75 (Week 12)	PASI90 (Week 12)	PASI100 (Week 12)	PASI≤3 (Week 12)	PASI≤1 (Week 12)
TNFα-inhibitor	ADA	31	25.8%	9.7%	2.9%	35.5%	16.1%
IL12/23-inhibitor	UST	91	29.7%	8.2%	3.3%	28.6%	11.0%
IL23-inhibitors	GUS	38	26.3%	15.8%	0.0%	44.7%	7.9%
	RIS	36	13.9%	5.6%	0.0%	41.7%	8.3%
IL17-inhibitors	SEC	47	27.7%	12.8%	2.1%	38.3%	23.4%
	IXE	44	43.2%	25.0%	13.6%	65.9%	40.9%
	BRO	11	63.6%	45.5%	27.3%	81.8%	72.7%

ADA: adalimumab; BRO: brodalumab; GUS, guselkumab; IL: interleukin; IXE: ixekizumab; PASI: Psoriasis Area and Severity Index; RIS: risankizumab; SEC: secukinumab; TE: treatment episode; TNF: Tumor Necrosis Factor; UST: ustekinumab