Supplementary Information

Efficacy, safety, and immunogenicity of AVT02 versus originator adalimumab in subjects with moderate to severe chronic plaque psoriasis: a multicentre, double-blind, randomised, parallel group, active control, Phase 3 study.

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Statistical Analysis

Therapeutic equivalence was evaluated at Weeks 16, 32, and 50 by providing the two-sided 95% confidence interval (CI) of the differences between the ABP 501 and adalimumab groups. The 95% CIs of the differences were estimated using an ANCOVA model that contained all three treatments and adjusted for baseline scores and stratification factors as covariates. The details of this calculation are as follows: The treatment difference in mean change from baseline in % PASI improvement at Week 16 between ABP 501 and originator adalimumab was - 2.18%. A 95% CI around this treatment difference was calculated to be -7.39 % to 3.02%. The standard deviation for percentage improvement based on a reverse calculation from the 95% CI is then 24%.

Safety Results

Laboratory Values Over Time: No clinically meaningful changes from BL over time were observed across the treatment groups in any haematology, chemistry, and urinalysis values during the study.

Vital Signs: No meaningful changes from baseline over time were observed across the treatment groups in vital signs during the study Across all treatment groups, most assessments had a mean change from baseline that was similar through the study.

Physical Findings: No differences were seen in physical examinations

Electrocardiograms: No differences were seen in ECG findings. Most ECG interpretations were normal or abnormal NCS at all the timepoints. Most assessments remained as they were assessed at Baseline through the study with minimal changes.

Table S1 – Sensitivity analysis: MMRM analysis of observed data, and ANCOVA analysis of the per protocol set, measuring percent improvement in PASI from baseline to Week 16.

	MMRM/ FAS (observed data)		ANCOVA/ PPS	
	AVT02 N = 205	**Originator N = 207**	**AVT02 N = 199**	**Originator N = 199**
n	201	201	199	199
LS Mean (SE)	90.3 (1.17)	89.6 (1.32)	90.9 (1.22)	90.6 (1.25)
LS Mean Difference (SE; AVT02 vs originator)	0.7 (1.43)		0.3 (1.39)	
90% confidence interval	-1.69, 3.03		-1.96, 2.62	
95% confidence interval	-2.15, 3.49		-2.40, 3.06	

ANCOVA Analysis of Covariance, *FAS* full analysis set, *LS mean* least squares mean, *MMRM* mixed model for repeated measures, *n* number of evaluable subjects, *N* number of subjects in treatment group, *PASI* Psoriasis Area and Severity Index, *PPS* per protocol set, *SE* standard error

The two-sided 90% and 95% confidence intervals of the differences of LS means between the AVT02 and originator adalimumab groups are from the MMRM or ANCOVA model including percent improvement as response variable, treatment and two stratification factors as factors and baseline PASI score as explanatory variables (MMRM) or covariate (ANCOVA). An unstructured covariance structure is used to model the within-subject errors. Missing PASI not imputed.

Table S2 – Change from baseline in %BSA affected by psoriasis evaluation from baseline to Week 16 (full analysis set)

	Change from Baseline			
	n	**Mean (SD)**	**Median**	**Min, Max**
AVT02 (N = 205)				
Week 4	205	-8.1 (10.67)	-5.0	-59, 14
Week 8	203	-18.8 (15.19)	-15.0	-82, 13
Week 12	201	-24.3 (16.71)	-21.0	-82, 25
Week 16	201	-27.2 (17.10)	-25.0	-82, 40
Originator (N = 207)				
Week 4	204	-8.9 (11.45)	-5.0	-74, 6
Week 8	203	-19.4 (16.02)	-15.0	-83, 5
Week 12	202	-24.5 (16.67)	-19.0	-84, 1
Week 16	201	-27.7 (17.14)	-22.0	-82, 0

BSA body surface area, *n* number of evaluable subjects, *N* number of subjects in treatment group, *SD* standard deviation

Table S3 – Percentage and number of subjects achieving PASI 50, PASI 75, PASI 90, and PASI 100 in in Stage 1/ through Week 16 and Stage 2/ Week 16 to Week 54 of the study (full analysis set)

	Stage 1						Stage 2								
	AVT02			Originator				AVT02/AVT02			Originator/AVT02			Originator/Originator		
	m	n	p	m	n	p		m	n	p	m	n	p	m	n	p
Week 4							Week 16									
PASI 50	205	102	49.8	204	92	45.1	PASI 50	197	196	99.5	97	97	100.0	98	98	100.0
PASI 75	205	36	17.6	204	34	16.7	PASI 75	197	185	93.9	97	90	92.8	98	88	89.8
PASI 90	205	7	3.4	204	9	4.4	PASI 90	197	153	77.7	97	81	83.5	98	77	78.6
PASI 100	205	1	0.5	204	0	0	PASI 100	197	86	43.7	97	46	47.4	98	44	44.9
Week 8							Week 24									
PASI 50	203	173	85.2	203	186	91.6	PASI 50	194	190	97.9	96	94	97.9	96	95	99.0
PASI 75	203	125	61.6	203	133	65.5	PASI 75	194	182	93.8	96	87	90.6	96	88	91.7
PASI 90	203	81	39.9	203	78	38.4	PASI 90	194	157	80.9	96	76	79.2	96	77	80.2
PASI 100	203	30	14.8	203	25	12.3	PASI 100	194	99	51.0	96	43	44.8	96	47	49.0
Week 12							Week 32									
PASI 50	201	191	95.0	202	196	97.0	PASI 50	184	177	96.2	92	89	96.7	91	87	95.6
PASI 75	201	169	84.1	202	167	82.7	PASI 75	184	165	89.7	92	85	92.4	91	82	90.1
PASI 90	201	121	60.2	202	128	63.4	PASI 90	184	149	81.0	92	69	75.0	91	75	82.4
PASI 100	201	61	30.3	202	62	30.7	PASI 100	184	102	55.4	92	41	44.6	91	46	50.5
Week 16							Week 42									
PASI 50	201	197	98.0	201	195	97.0	PASI 50	182	173	95.1	91	89	97.8	89	88	98.9
PASI 75	201	185	92.0	201	178	88.6	PASI 75	182	166	91.2	91	79	86.8	89	80	89.9
PASI 90	201	153	76.1	201	158	78.6	PASI 90	182	143	78.6	91	70	76.9	89	69	77.5

	Stage 1						Stage 2									
	AVT02			Originator				AVT02/AVT02			Originator/AVT02			Originator/Originator		
PASI 100	201	86	42.8	201	90	44.8	PASI 100	182	96	52.7	91	48	52.7	89	42	47.2
							Week 50									
							PASI 50	181	174	96.1	90	87	96.7	87	83	95.4
							PASI 75	181	163	90.1	90	78	86.7	87	78	89.7
							PASI 90	181	143	79.0	90	64	71.1	87	63	72.4
							PASI 100	181	90	49.7	90	43	47.8	87	45	51.7

m number of subjects in treatment group with assessment at both baseline and the specified time point and is used as the denominator for percentage calculations, *n* number of subjects achieving PASI 50, PASI 75, PASI 90 or PASI 100 at time point, *p* percentage of subjects achieving PASI 50, PASI 75, PASI 90 or PASI 100, *PASI* Psoriasis Area and Severity Index

Table S4 – Change from baseline in sPGA response in Stage 1/ through Week 16 and Stage 2/ Week 16 to Week 54 of the study (full analysis set)

	Change from Baseline			
	n	**Mean (SD)**	**Median**	**Min, Max**
	Stage 1			
AVT02 (N = 205)				
Week 4	205	-1.3 (0.88)	-1.0	-5, 0
Week 8	203	-2.2 (1.13)	-2.0	-5, 0
Week 12	201	-2.7 (1.00)	-3.0	-5, 0
Week 16	201	-3.0 (0.99)	-3.0	-5, 0
Originator (N = 207)				
Week 4	204	-1.3 (0.85)	-1.0	-4, 0
Week 8	203	-2.3 (1.09)	-2.0	-5, 0
Week 12	202	-2.6 (1.13)	-3.0	-5, 1
Week 16	201	-2.9 (1.02)	-3.0	-5, 0
	Stage 2			
AVT02/AVT02 (N = 197)				
Week 24	194	-3.0 (1.07)	-3.0	-5, 0
Week 32	184	-2.9 (1.13)	-3.0	-5, 0
Week 42	182	-2.9 (1.17)	-3.0	-5, 0
Week 50	181	-2.9 (1.12)	-3.0	-5, 0
Originator/AVT02 (N = 97)				
Week 24	96	-2.8 (1.06)	-3.0	-5, 1
Week 32	92	-2.7 (1.22)	-3.0	-5, 1
Week 42	91	-2.8 (1.09)	-3.0	-5, 0
Week 50	90	-2.7 (1.14)	-3.0	-5, 0
Originator/originator (N = 98)				
Week 24	96	-3.0 (1.08)	-3.0	-5, 0
Week 32	91	-3.0 (1.12)	-3.0	-5, 0
Week 42	89	-2.9 (1.13)	-3.0	-5, 0
Week 50	87	-2.9 (1.12)	-3.0	-5, 0

n number of evaluable subjects, *N* number of subjects in treatment group, *SD* standard deviation, *sPGA* static Physician's Global Assessment

Table S5 – Percent improvement from baseline in PASI in Stage 2/ Week 16 through Week 50 of the study (full analysis set)

	Change from Baseline			
	n	**Mean (SD)**	**Median**	**Min, Max**
AVT02/AVT02 (N = 197)				
Week 16	197	93.64 (10.041)	98.25	48.3, 100.0
Week 24	194	93.45 (12.906)	100.00	11.3, 100.0
Week 32	184	92.43 (15.542)	100.00	20.0, 100.0
Week 42	182	91.99 (16.502)	100.00	-8.7, 100.0
Week 50	181	91.64 (17.792)	99.62	-6.4, 100.0
Originator/AVT02 (N = 97)				
Week 16	97	94.86 (8.870)	98.43	55.3, 100.0
Week 24	96	92.83 (12.388)	98.51	40.8, 100.0
Week 32	92	91.25 (17.909)	97.85	-19.7, 100.0
Week 42	91	92.20 (14.844)	100.00	23.1, 100.0
Week 50	90	90.75 (15.676)	98.85	21.5, 100.0
Originator/originator (N = 98)				
Week 16	98	93.68 (9.773)	98.93	62.1, 100.0
Week 24	96	93.18 (13.558)	99.13	5.3, 100.0
Week 32	91	93.16 (12.989)	100.00	42.9, 100.0
Week 42	89	92.97 (12.048)	99.23	35.1, 100.0
Week 50	87	90.82 (16.598)	100.00	22.0, 100.0

n number of evaluable subjects, *N* number of subjects in treatment group, *PASI* Psoriasis Area and Severity Index, *SD* standard deviation

Table S6 – Change from baseline in %BSA affected by psoriasis evaluation in Stage 2/ Week 16 through Week 50 of the study

	Change from Baseline			
	n	**Mean (SD)**	**Median**	**Min, Max**
AVT02/AVT02 (N = 197)				
Week 24	194	-28.4 (16.52)	-26.0	-82, -2
Week 32	184	-28.1 (16.61)	-26.0	-83, -1
Week 42	181	-28.0 (16.79)	-27.0	-83, 2
Week 50	181	-28.1 (17.18)	-26.0	-83, 2
Originator/AVT02 (N = 97)				
Week 24	96	-27.3 (18.31)	-21.0	-83, -2
Week 32	92	-28.1 (18.76)	-22.5	-82, 8
Week 42	91	-28.5 (18.11)	-22.0	-77, -2
Week 50	90	-28.1 (17.49)	-22.0	-75, -2
Originator/originator (N = 98)				
Week 24	96	-29.2 (16.39)	-24.5	-81, -1
Week 32	91	-30.2 (16.42)	-25.0	-82, -6
Week 42	89	-29.4 (16.55)	-24.0	-82, -8
Week 50	87	-29.8 (16.85)	-25.0	-82, -8

BSA body surface area, *n* number of evaluable subjects, *N* number of subjects in treatment group, *SD* standard deviation

Table S7 – Percent improvement from baseline in PASI in PsA (+) subjects in Stage 1/ through Week 16 of the study (LOCF data)

	Change from Baseline			
	n	**Mean (SD)**	**Median**	**Min, Max**
AVT02 (N = 43)				
Week 4	43	39.55 (25.202)	41.41	0.0, 89.7
Week 8	43	74.60 (26.180)	85.78	-5.4, 100.0
Week 12	43	86.15 (20.289)	92.26	-5.4, 100.0
Week 16	43	90.19 (19.765)	96.35	-5.4, 100.0
Originator (N = 41)				
Week 4	41	43.47 (24.715)	40.53	0.0, 89.5
Week 8	41	75.58 (24.194)	76.47	0.0, 100.0
Week 12	41	84.20 (21.922)	95.71	0.0, 100.0
Week 16	41	86.62 (23.177)	97.67	0.0, 100.0

n number of evaluable subjects, *N* number of subjects in treatment group, *PASI* Psoriasis Area and Severity Index, *PsA* psoriatic arthritis, *SD* standard deviation

Table S8 – Percentage of subjects achieving sPGA responses of Clear (0) or Almost Clear (1) over time in PsA (+) subjects in Stage 1/ through Week 16 of the study (full analysis set)

	AVT02 (N = 43)			Originator (N = 41)		
	m	**n**	**p**	**m**	**n**	**p**
Week 4	43	6	14.0	40	8	20.0
Week 8	43	23	53.5	40	25	62.5
Week 12	42	30	71.4	40	27	67.5
Week 16	42	37	88.1	40	32	80.0

m number of subjects in treatment group with PsA with assessment at both baseline and the specified time point and is used as the denominator for percentage calculations, *n* number of subjects achieving sPGA responses of clear (0) or almost clear (1) at time point, *N* number of subjects in treatment group, *p* percentage of subjects achieving sPGA responses of clear (0) or almost clear (1), *PsA* psoriatic arthritis, *SD* standard deviation, *sPGA* static Physician's Global Assessment

Table S9 – Change from baseline in DLQI in PsA (+) subjects in Stage 1/ through Week 16 (full analysis set)

	Change from Baseline			
	n	**Mean (SD)**	**Median**	**Min, Max**
AVT02 (N = 43)				
Week 16	42	11.8 (7.40)	12.0	-1, 29
Originator (N = 41)				
Week 16	40	11.3 (7.60)	10.5	-4, 26

DLQI Dermatology Life Quality Index, *n* number of evaluable subjects, *N* number of subjects in treatment group, *PsA* psoriatic arthritis, *SD* standard deviation

Table S10 – Change in baseline in RAPID3 in PsA (+) subjects at Week 12 (full analysis set)

	Change from Baseline			
	n	**Mean (SD)**	**Median**	**Min, Max**
AVT02 (N = 43)				
Week 12	42	-2.53 (2.150)	-2.05	-6.9, 1.0
Originator (N = 41)				
Week 12	39	-2.36 (1.838)	-2.10	-7.3, 0.7

n number of evaluable subjects, *N* number of subjects in treatment group, *PsA* psoriatic arthritis, *RAPID3* Routine Assessment of Patient Index Data 3, *SD* standard deviation

Table S11 – Percent improvement from baseline in PASI in PsA (+) subjects in Stage 2/ Week 16 to Week 50 of the study (full analysis set)

	Change from Baseline			
	n	**Mean (SD)**	**Median**	**Min, Max**
AVT02/AVT02 (N = 40)				
Week 4	40	93.72 (10.187)	100.00	50.3, 100.0
Week 8	38	94.65 (8.772)	100.00	69.9, 100.0
Week 12	37	96.34 (7.565)	100.00	62.8, 100.0
Week 16	37	93.83 (14.345)	100.00	29.2, 100.0
Originator/AVT02 (N = 19)				
Week 4	19	90.31 (14.654)	95.83	47.3, 100.0
Week 8	18	88.73 (20.930)	100.00	19.0, 100.0
Week 12	18	90.11 (17.222)	100.00	35.1, 100.0
Week 16	17	90.66 (17.713)	100.00	35.1, 100.0
Originator/originator (N = 18)				
Week 4	18	94.37 (11.615)	100.00	55.5, 100.0
Week 8	17	92.24 (15.802)	100.00	48.2, 100.0
Week 12	17	93.98 (9.991)	100.00	68.9, 100.0
Week 16	17	90.85 (15.048)	100.00	55.6, 100.0

n number of evaluable subjects, *N* number of subjects in treatment group, *PASI* Psoriasis Area and Severity Index, *PsA* psoriatic arthritis, *SD* standard deviation