Efficacy and Safety after Switch from Reference Ustekinumab to Ustekinumab Biosimilar (CT-P43) in comparison with the Maintenance Group (CT-P43 or Reference Ustekinumab) in Patients with Moderate-to-Severe Plaque Psoriasis: 1-Year Result

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INTRODUCTION

- CT-P43 is a proposed biosimilar to the reference ustekinumab (UST).
- Therapeutic equivalence of CT-P43 to UST has been shown in patients with chronic moderate to severe plaque psoriasis through primary endpoint in terms of the mean percent improvement from baseline in Psoriasis Area Severity Index (PASI) score at Week 12 (EADV congress 2022, abstract number 3534).
- Efficacy and safety results focusing on the data period from the single transition from UST to CT-P43 up to Week 52 are presented.

MATERIALS AND METHODS

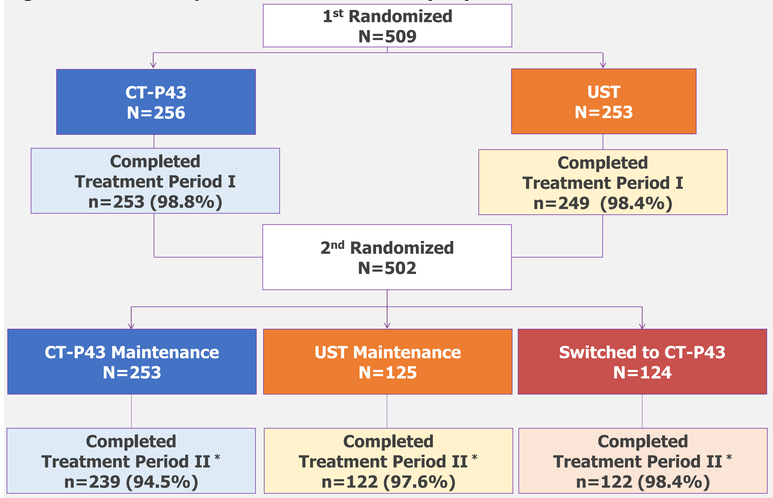
- Patients with chronic moderate to severe plaque psoriasis who were candidates for phototherapy or systemic therapy were randomly assigned in a 1:1 ratio to receive 45 mg or 90 mg of CT-P43 or UST based on patient's baseline body weight.
- Prior to dosing at Week 16, patients in UST group were re-randomized in a ratio of 1:1 to either to continue receiving UST or to switch to CT-P43 until end of study.
- All patients initially randomized to CT-P43 group continued CT-P43. Efficacy and safety were evaluated up to Week 52.

RESULTS

Demographic and Baseline Characteristics

- A total of 509 patients were randomized (CT-P43: 256, UST: 253) and followed the single transition at Week 16 (CT-P43 maintenance: 253, UST maintenance: 125, Switched from UST to CT-P43: 124).
- The demographics and baseline characteristics were well balanced among the 3 groups.

Figure 1. Patient Disposition: Intent-to-treat (ITT) set



*The most common reason for study termination was withdrawal by patients.

Table 1. Patients Characteristics (ITT set)

Category		CT-P43 Maintenance (N=253)	UST Maintenance (N=125)	Switched to CT-P43 (N=124)
Age (years)	Mean (min, max)	42.4 (18, 74)	43.0 (18, 77)	41.5 (18, 76)
Gender, n (%)	Male	161 (63.6)	86 (68.8)	83 (66.9)
Race, n (%)	White Asian	230 (90.9) 23 (9.1)	115 (92.0) 10 (8.0)	113 (91.1) 11 (8.9)
Ethnicity, n (%)	Not Hispanic or Latino	252 (99.6)	124 (99.2)	124 (100)
BMI	Mean (min, max)	28.3 (15.8, 46.5)	28.7 (18.2, 44.3)	28.5 (15.9, 48.4)
Prior Biologics for Ps Treatment, n (%)	Yes	38 (15.0)	21 (16.8)	23 (18.5)
Presence of PsA, n (%)	Yes	80 (31.6)	44 (35.2)	39 (31.5)
Ps duration (years)	Mean (SD)	17.9 (12.2)	15.7 (11.5)	15.6 (11.8)
BSA with Ps involvement (%)	Mean (SD)	26.1 (14.2)	23.2 (12.2)	25.5 (14.2)
PASI score at Week 16	Mean (SD)	2.0 (2.9)	2.4 (3.5)	2.8 (4.3)

Abbreviations: BMI, body mass index; BSA, body surface area; max, maximum; min, minimum; PASI, Psoriasis Area Severity Index; Ps, psoriasis; PsA, psoriatic arthritis; SD, standard deviation.

Efficacy

- Comparable mean percent improvement in PASI score was shown in each treatment group through Week 52 (90.6%, 88.0% and 88.2% at Week 16 and 93.8%, 93.4%, and 91.6% at Week 52, respectively) (**Figure 2**).
- Additional efficacy endpoints through Week 52 were generally similar among the groups (**Table 2**).

Figure 2. Mean (±SD) percentage improvement from baseline in PASI score through Week 52 (Full analysis set)

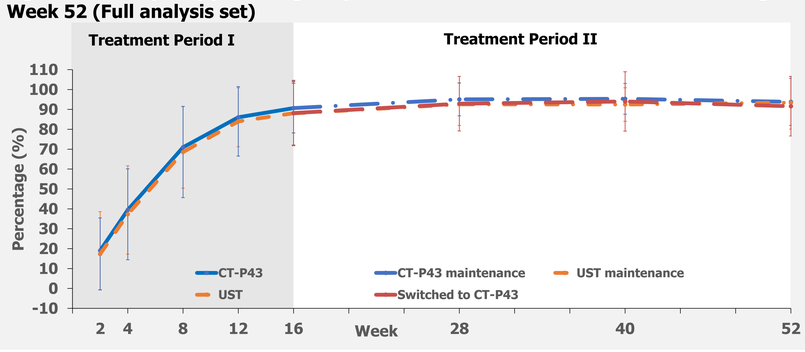


Table 2. Efficacy Results at Week 16 and Week 52 (Full analysis set)

	Week 16 (2nd Randomization)			Week 52		
Category	CT-P43 Maintenance (N=253)	UST Maintenance (N=125)	Switched to CT-P43 (N=124)	CT-P43 Maintenance (N=253)	UST Maintenance (N=125)	Switched to CT-P43 (N=124)
Improvement in PASI score, n (%)						
PASI 50	250 (98.8)	120 (96.0)	120 (96.8)	236 (93.3)	118 (94.4)	119 (96.0)
PASI 75	225 (88.9)	104 (83.2)	105 (84.7)	226 (89.3)	116 (92.8)	111 (89.5)
PASI 90	170 (67.2)	80 (64.0)	74 (59.7)	201 (79.4)	102 (81.6)	95 (76.6)
PASI 100	75 (29.6)	28 (22.4)	33 (26.6)	120 (47.4)	59 (47.2)	43 (34.7)
Percentage improvement in PASI score from baseline						
Mean (SD)	90.6 (12.5)	88.0 (16.5)	88.2 (15.9)	93.8 (11.8)	93.4 (15.0)	91.6 (13.3)
Proportion of sPGA scores, n (%)						
Clear (0) or Almost clear (1)	227 (89.7)	104 (83.2)	104 (83.9)	215 (85.0)	110 (88.0)	96 (77.4)
Change in DLQI score from baseline						
Mean (SD)	-9.9 (7.1)	-8.4 (6.9)	-8.6 (6.5)	-10.5 (7.2)	-8.5 (7.2)	-9.2 (6.9)

Abbreviations: DLQI, Dermatology Life Quality Index; PASI, Psoriasis Area and Severity Index; SD, standard deviation; sPGA, static Physician's Global Assessment.

Safety

- No notable safety issue was observed with following transition from UST to CT-P43 compared with CT-P43 maintenance and UST maintenance groups. The safety profile of each group was in line with the known safety profile of UST (**Table 3**).
- Majority of events were mild or moderate in intensity.

Table 3. Overview of TEAEs through Week 52 (Safety set)

	Treatment Period I		Treatment Period II		
Patients, n (%)	CT-P43 Maintenance (N=256)	UST Maintenance (N=253)	CT-P43 Maintenance (N=253)	UST Maintenance (N=125)	Switched to CT-P43 (N=124)
TEAEs	95 (37.1)	75 (29.6)	86 (34.0)	51 (40.8)	52 (41.9)
TESAEs	4 (1.6)	4 (1.6)	5 (2.0)	3 (2.4)	2 (1.6)
TEAE leading to Study Drug Discontinuation	0	0	5 (2.0)	1 (0.8)	1 (0.8)
TEAE classified as Infections	34 (13.3)	32 (12.6)	39 (15.4)	23 (18.4)	24 (19.4)
TEAE classified as ISR	3 (1.2)	2 (0.8)	1 (0.4)	0	2 (1.6)
TEAE classified as Hypersensitivity reactions	0	0	1 (0.4)	0	0
TEAE classified as Malignancies	0	0	1 (0.4)	0	0

Abbreviations: ISR, injection site reaction; TEAE, treatment-emergent adverse event; TESAE, treatment-emergent serious adverse event.

Immunogenicity

- The number of patients who showed at least one ADA positive result obtained up to Week 52 were lower in CT-P43 maintenance compared to UST maintenance groups and were comparable between UST maintenance and Switched to CT-P43 groups (**Table 4**).
- Of the patients who had all ADA negative results before single transition at Week 16, a similarly small number of patients reported at least 1 ADA or NAb positive result up to Week 52.

Table 4. Overall Immunogenicity Results through Week 52 (Safety set)

	ADA Positive			NAb Positive		
Category	CT-P43 (N=256)	UST (N=253)		CT-P43 (N=256)	UST (N=253)	
Treatment Period I						
At Least 1 Positive	29 (11.3)	76 (30.0)		16 (6.3)	36 (14.2)	
	ADA Positive			**NAb Positive**		
Category	CT-P43 Maintenance (N=253)	UST Maintenance (N=125)	Switched to CT-P43 (N=124)	CT-P43 Maintenance (N=253)	UST Maintenance (N=125)	Switched to CT-P43 (N=124)
Treatment Period II (from single transition at Week 16 to Week 52)						
At Least 1 Positive	27 (10.7)	27 (21.6)	25 (20.2)	17 (6.7)	16 (12.8)	12 (9.7)
Overall period through Week 52						
At Least 1 Positive	33 (13.0)	43 (34.4)	42 (33.9)	20 (7.9)	22 (17.6)	23 (18.5)

Abbreviations: ADA, anti-drug antibody; NAb, neutralizing antibody.

CONCLUSION

- Efficacy and safety of CT-P43 were comparable to UST up to Week 52.
- Following single transition from UST to CT-P43, similar efficacy results were observed and no notable safety issue or increase in immunogenicity was observed compared with the UST maintenance group.

REFERENCE

[1] D Thaçi et al, EADV2022 abstract no. 3534.

DISCLOSURE

K Papp: consultant and/or speaking bureau and/or clinical research grants and/or honoraria and/or scientific officer and/or steering committees and/or advisory boards from AbbVie, Acelyrin, Akros, Amgen, Anacor, Aralez Pharmaceuticals, Arcutis, Avillion, Bausch Health/Valeant, Boehringer Ingelheim, Bristol-Myers Squibb, Can-Fite Biopharma, Celgene, Celltrion, Coherus, Dermavant, Dermira, Dice Pharmaceuticals, Dow Pharma, Eli Lilly, Evelo, Forbion, Galderma, Gilead, GSK, Incyte, Janssen, Kyowa Hakko Kirin, Leo, Meiji Seika Pharma, Merck (MSD), Mitsubishi Pharma, Novartis, Pfizer, Regeneron, Reistone, Roche, Sanofi-Aventis/Genzyme, Sandoz, Sun Pharma, Takeda, UCB, vTv Therapeutics, Xencor., M Lebwohl: employee of Mount Sinai and receives research funds and/or consultant from Abbvie, Aditum Bio, Almirall, AltruBio Inc., Amgen, AnaptysBio, Arcutis, Inc., Aristea Therapeutics, Avotres, Brickell Biotech, Boehringer-Ingelheim, Bristol-Myers Squibb, Cara Therapeutics, Castle Biosciences, Celltrion, Corevitas, Dermavant Sciences, Dr. Reddy, EPI, Eli Lilly, Evommune, Inc., Facilitatation of International Dermatology Education, Forte Biosciences, Foundation for Research and Education in Dermatology, Galderma, Genentech, Helsinn, Incyte, Janssen Research & Development, LLC, LEO Pharma, Meiji Seika Pharma, Mindera, Ortho Dermatologics, Pfizer, Regeneron, Seanergy, Strata, Trevi, UCB and Verrica., D Thaçi: honoraria from AbbVie, Almirall, Amgen, Biogen Idec, Boehringer Ingelheim, Bristol Myers Squibb, Celltrion, Janssen, Leo Pharma, Novartis, Pfizer, Roche-Posay, Sandoz-Hexal, Sanofi, Target-Solution, and UCB., J Jaworski: Investigator fees from Celltrion, Inc., B Kwiek: Investigator fees from Celltrion, Leo, Galderma, Abbvie, Phizer, Janssen., J Trefler: Investigator fees from Celltrion, Inc., A Dudek: Investigator fees from Celltrion, Inc., J Szepietowski: advisory Board and consultant and/or speaker and/or investigator fees from Abbvie,Amgen, BMS, Celtrion, Eli-Lilly, Galderma, Galapagos, Incyte, InfraRX, Janssen-Cilag, Menlo Therapeutics, Leo Pharma, Merck, Novartis, Pfizer, Pierre-Fabre, Regeneron, Sanofi-Genzyme, Trevi, Vifor and UCB., N Reznichenko: Investigator fees from Celltrion, Inc., J Narbutt: Investigator fees from Celltrion, Inc., W Baran: Investigator fees from Celltrion, Inc., J Kolinek: Investigator fees from Celltrion, Inc., S Daniluk: Investigator fees from Celltrion, Inc., K Bartnicka-Maslowska: Investigator fees from Celltrion, Inc., A Reich: Investigator fees from Celltrion, Inc., Y Andrashko: Investigator fees from Celltrion, Inc., SH Kim, YJ Bae, DB Jeon, JS Jung, HS Lee, T Pyo, WR Ko: Employed by Celltrion,Inc.