

Target journal: Alimentary Pharmacology & Therapeutics Panaccione R

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3 and treated in the long-term extension: nonresponder imputation  
4 analysis with dose adjustment considered to be a treatment failure  
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7 Supplemental Figure S3: Mean daily prednisone-equivalent corticosteroid dose (mg/day)  
8 through Week 92 among for all patients randomized to  
9 ustekinumab maintenance therapy and treated in the long-term  
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15 concentrations from Week 44 through Week 92; randomized for all  
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22 patients randomized to ustekinumab maintenance therapy and  
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26 Supplemental Figure S6: Rates of symptomatic remission from Week 44 through Week 92  
27 or up to the time of dose adjustment for all patients randomized to  
28 ustekinumab maintenance therapy and treated in the long-term  
29 extension (A) and by biologic treatment history subgroup (B):  
30 observed case analysis  
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34 Supplemental Figure S7: Rates of symptomatic remission from Week 44 through Week 92  
35 or up to the time of dose adjustment for all patients randomized to  
36 ustekinumab maintenance therapy and treated in the long-term  
37 extension (A) and by biologic treatment history subgroup (B):  
38 modified observed case analysis  
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Supplemental Table S1: Ulcerative colitis disease characteristics at long-term extension baseline (maintenance Week 44); patients who were treated in the long-term extension

	Randomized patients †					Non-randomized patients		
	Placebo SC ‡ (N=115)	Ustekinumab				Placebo SC § (N=73)	Responders to Week 16 responders ¶	
		90 mg SC					Overall total (N=588)	
		p12w (N=141)	90 mg SC q8w (N=143)	Combined (N=284)	Total (N=399)			Ustekinumab 90 mg SC q8w (N=116)
<b>LTE baseline (Maintenance Week 44)</b>								
Mayo score (0-12)								
Mean (SD)	3.2 (2.52)	2.6 (2.07)	2.4 (1.95)	2.5 (2.01)	2.7 (2.19)	3.6 (2.48)	3.2 (2.33)	2.9 (2.28)
Clinical remission, †† n (%)	40 (34.8)	65 (46.1)	75 (52.4)	140 (49.3)	180 (45.1)	20 (27.4)	45 (38.8)	245 (41.7)
Endoscopic improvement,								
n (%)	55 (47.8)	80 (56.7)	88 (61.5)	168 (59.2)	223 (55.9)	28 (38.4)	55 (47.4)	306 (52.0)
C-Reactive Protein (mg/L)								
N	114	138	143	281	395	73	114	582
Median	2.56	1.47	1.41	1.41	1.56	2.10	1.72	1.69
(IQ range)	(0.69; 6.61)	(0.68; 3.82)	(0.70; 3.59)	(0.70; 3.79)	(0.70; 4.31)	(0.81; 5.12)	(0.62; 4.68)	(0.69; 4.51)
Abnormal CRP¶, n (%)	50 (43.9)	43 (31.2)	44 (30.8)	87 (31.0)	137 (34.7)	28 (38.4)	39 (34.2)	204 (35.1)
Fecal calprotectin (mg/kg)								
N	111	131	131	262	373	66	112	551
Median	368.00	118.00	158.00	141.50	174.00	462.50	324.00	233.00
(IQ range)	(78.00; 1562.00)	(42.00; 658.00)	(43.00; 613.00)	(43.00; 613.00)	(54.00; 936.00)	(92.00; 1357.00)	(93.50; 1021.50)	(63.00; 970.00)
Abnormal fecal calprotectin,								
## n (%)	62 (55.9)	46 (35.1)	55 (42.0)	101 (38.5)	163 (43.7)	43 (65.2)	61 (54.5)	267 (48.5)

Supplemental Table S1: Ulcerative colitis disease characteristics at long-term extension baseline (maintenance Week 44); patients who were treated in the long-term extension

	Randomized patients †					Non-randomized patients		
	Placebo SC ‡ (N=115)	Ustekinumab			Total (N=399)	Responders to placebo IV induction	Week 16 responders ¶	Overall total (N=588)
		90 mg SC p12w (N=141)	90 mg SC q8w (N=143)	Combined (N=284)		Placebo SC § (N=73)	Ustekinumab 90 mg SC q8w (N=116)	
Fecal lactoferrin (µg/g)								
N	112	133	131	264	376	66	111	553
Median	28.95	9.08	13.30	10.31	13.31	31.72	30.06	17.37
(IQ range)	(1.91; 166.46)	(1.13; 61.24)	(1.27; 58.94)	(1.20; 59.81)	(1.42; 84.92)	(11.89; 123.54)	(3.16; 91.08)	(1.84; 95.76)
Abnormal fecal lactoferrin††, n (%)	72 (64.3)	69 (51.9)	77 (58.8)	146 (55.3)	218 (58.0)	52 (78.8)	74 (66.7)	344 (62.2)

† Patients who were in clinical response to ustekinumab IV induction dosing based on the treatment assignment by IWRS on entry into the maintenance study, regardless whether patients had a dose adjustment during the long-term extension.

‡ Patients who were in clinical response to ustekinumab IV induction dosing and were randomized to placebo SC on entry into the maintenance.

§ Patients who were in clinical response to placebo IV induction dosing and received placebo SC on entry into the maintenance study.

¶ Patients who were not in clinical response to ustekinumab at I-8 but were in clinical response at I-16 after a SC administration of ustekinumab at I-8.

†† Mayo score ≤2 points, with no individual subscore >1.

‡‡ Abnormal values for: CRP, >3 mg/L; fecal calprotectin, > 250 mg/kg; fecal lactoferrin, >7.24 µg/g.

Key: CRP, C-reactive protein; IQ, interquartile; I-8, induction Week 8; I-16, induction Week 16; IV, intravenous; IWRS, interactive web response system; LTE, long-term extension; q8w, every 8 weeks; q12w, every 12 weeks; SC, subcutaneous;

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Supplemental Table S2: Symptomatic remission, partial Mayo scores, fecal calprotectin, and C-reactive protein levels following dose adjustment; randomized patients who were treated with ustekinumab in the long-term extension

	Ustekinumab dose adjustment	
	90 mg SC q12w → 90 mg SC q8w	90 mg SC q8w → 90 mg SC q8w (sham adjustment)
No. with ≥16 weeks follow-up after dose adjustment <sup>†</sup> , n	20	28
No. (%) in symptomatic remission at the time of dose adjustment <sup>†,‡,§</sup>	11 (55.0)	18 (64.3)
No. (%) in symptomatic remission at first visit ≥16 weeks after dose adjustment) <sup>†,‡,§</sup>	14 (70.0)	20 (71.4)
No. in symptomatic remission ≥16 weeks after dose adjustment among those <b>with</b> symptomatic remission at the time of dose adjustment, n/N (%) <sup>†,‡,§</sup>	10/11 (90.9)	14/18 (77.8)
No. in symptomatic remission ≥16 weeks after dose adjustment among those <b>without</b> symptomatic remission at the time of dose adjustment, n/N (%) <sup>†,‡,§</sup>	4/9 (44.4)	6/10 (60.0)
Biologic failure patients in symptomatic remission at first visit ≥16 weeks after dose adjustment, n/N (%) <sup>†,‡,§</sup>	7/10 (70.0)	13/18 (72.2)
Biologic naïve patients in symptomatic remission at first visit ≥16 weeks after dose adjustment, n/N (%) <sup>†,‡,§</sup>	7/10 (70.0)	7/10 (70.0)
Partial Mayo score, n <sup>†,‡,§</sup>	20	28
At time of dose adjustment, mean (SD)	2.4 (1.31)	2.5 (1.80)
At first visit ≥16 weeks after dose adjustment, mean (SD)	2.0 (1.78)	2.0 (1.84)
C-reactive protein (mg/L), n <sup>†,‡,§</sup>	22	28
At time of dose adjustment, median (IQR), mg/L	3.1 (1.5;7.4)	2.3 (1.3;5.8)
At first visit ≥16 weeks after dose adjustment, median (IQR), mg/L	2.6 (1.2;16.9)	1.8 (1.1;4.1)
Fecal calprotectin (mg/kg), n <sup>†,‡,§</sup>	20	28
At time of dose adjustment, median (IQR), mg/L	604.5 (171.5; 1492.5)	414.5 (138.5; 952.5)
At first visit ≥16 weeks after dose adjustment, median (IQR), mg/L	850.0 (91.0; 1594.5)	396.5 (108.5; 1480.0)

<sup>†</sup> Includes all patients who were dose-adjusted before or at Week 76 and had data at least 16 weeks after dose adjustment.

<sup>‡</sup> Defined as Mayo stool frequency subscore of 0 or 1 and a rectal bleeding subscore of 0.

<sup>§</sup> Patients who had an ostomy or colectomy, or discontinued study agent due to lack of therapeutic effect or due to an AE of worsening of UC prior to the Week 92 visit were considered not to be in symptomatic remission or had their partial Mayo score, CRP, or fecal calprotectin value from induction Week 0 carried forward from the time of the event onward.

Key: AE, adverse event; CRP, C-reactive protein; IQR, interquartile range; IV, intravenous; q8w, every 8 weeks; q12w, every 12 weeks; SC, subcutaneous; SD, standard deviation; UC, ulcerative colitis.

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Supplemental Table S3: Symptomatic remission, partial Mayo scores, fecal calprotectin, and C-reactive protein levels following dose interruption; Patients who responded to ustekinumab IV induction at Week 8, were randomized to placebo SC at maintenance study baseline, entered the long-term extension, and dose-adjusted to SC ustekinumab 90 mg q8w (Week 56 or later)

	Ustekinumab dose interruption
	IV ustekinumab responder→ SC placebo→90 mg q8w
No. with ≥16 weeks follow-up after dose adjustment <sup>†</sup> , n	42
No. (%) in symptomatic remission at the time of dose adjustment <sup>‡,§</sup>	17 (40.5)
No. (%) in symptomatic remission at first visit ≥16 weeks after dose adjustment <sup>‡,§</sup>	30 (71.4)
No. in symptomatic remission ≥16 weeks after dose adjustment among those <b>with</b> symptomatic remission at the time of dose adjustment, n/N (%) <sup>‡,§</sup>	14/17 (82.4)
No. in symptomatic remission ≥16 weeks after dose adjustment among those <b>without</b> symptomatic remission at the time of dose adjustment, n/N (%) <sup>†,‡,§</sup>	16/25 (64.0)
Biologic failure patients in symptomatic remission at first visit ≥16 weeks after dose adjustment, n/N (%) <sup>†,‡,§</sup>	14/22 (63.6)
Biologic naïve patients in symptomatic remission at first visit ≥16 weeks after dose adjustment, n/N (%) <sup>†,‡,§</sup>	16/20 (80.0)
Partial Mayo score, n <sup>†,§</sup>	42
At time of dose adjustment, mean (SD)	3.2 (1.89)
At first visit ≥16 weeks after dose adjustment, mean (SD)	1.5 (1.69)
C-reactive protein, n <sup>†,§</sup>	42
At time of dose adjustment, median (IQR), mg/L	3.6 (0.7; 7.5)
At first visit ≥16 weeks after dose adjustment, median (IQR), mg/L	2.0 (0.8; 3.0)
Fecal calprotectin <sup>†,§</sup>	40
At time of dose adjustment, median (IQR), mg/kg	1016.5 (195.0; 2452.5)
At first visit ≥16 weeks after dose adjustment, median (IQR), mg/kg	355.0 (78.0; 1029.5)

<sup>†</sup> Includes all patients who were dose-adjusted before or at Week 76 and had data at least 16 weeks after dose adjustment.

<sup>‡</sup> Defined as Mayo stool frequency subscore of 0 or 1 and a rectal bleeding subscore of 0.

<sup>§</sup> Patients who had an ostomy or colectomy, or discontinued study agent due to lack of therapeutic effect or due to an AE of worsening of UC prior to the designated visit were considered not to be in symptomatic remission or had their partial Mayo score, CRP, or fecal calprotectin value from induction Week 0 carried forward from the time of the event onward.

Key: AE, adverse event; CRP, C-reactive protein; IQR, interquartile range; IV, intravenous; q8w, every 8 weeks; SC, subcutaneous; SD, standard deviation; UC, ulcerative colitis.

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Supplemental Table S4: Summary of serum ustekinumab concentrations ( $\mu\text{g/ml}$ ) at weeks 44, 68, and 92; randomized patients in maintenance who received ustekinumab in the long-term extension

Randomized patients in maintenance who received ustekinumab in the long-term extension	90 mg SC q12w † (N=141)	90 mg SC q8w † (N=143)
Week 44		
N	127	134
Mean (SD)	3.02 (2.070)	8.84 (3.561)
Median	2.50	9.41
IQ range	(1.74; 3.82)	(5.92; 11.33)
Range	(0.0; 10.3)	(1.8; 20.1)
Week 68		
N	113	109
Mean (SD)	2.98 (2.072)	6.72 (2.743)
Median	2.59	6.38
IQ range	(1.81; 3.62)	(5.33; 8.54)
Range	(0.0; 14.5)	(0.3; 14.7)
Week 92		
N	59	54
Mean (SD)	2.55 (1.736)	6.61 (2.481)
Median	2.13	6.65
IQ range	(1.49; 2.74)	(5.22; 8.53)
Range	(0.2; 8.4)	(0.6; 13.4)

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Supplemental Table S4: Summary of serum ustekinumab concentrations ( $\mu\text{g/ml}$ ) at weeks 44, 68, and 92; randomized patients in maintenance who received ustekinumab in the long-term extension

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† Includes data from Week 44 through Week 92, or up to the time of dose adjustment for patients who had a dose adjustment to ustekinumab 90 mg SC q8w (or a sham dose adjustment for the ustekinumab 90 mg SC q8w group) during the long-term extension.  
Key: IQ, interquartile; q8w, every 8 weeks; q12w, every 12 weeks; SC, subcutaneous; SD, standard deviation.

For Peer Review

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Supplemental Table S5: Number of patients in symptomatic remission at Week 92 by antibody to ustekinumab status through Week 96; randomized patients in maintenance who were treated in the long-term extension

	Ustekinumab					
	Placebo SC †	90 mg SC q12w †	90 mg SC q8w †	Placebo SC → Ustekinumab 90 mg SC q8w ‡	90 mg SC q12w → 90 mg SC q8w ‡	90 mg SC q8w → 90 mg SC q8w ‡
Randomized patients in maintenance who were treated in the long-term extension	62	101	106	53	40	37
Through Week 96						
Patients with appropriate samples §	62	101	106	53	40	37
Patients positive for antibodies to ustekinumab at any time ¶,††	5 (8.1%)	5 (5.0%)	5 (4.7%)	7 (13.2%)	3 (7.5%)	2 (5.4%)
Patients in symptomatic remission at Week 92 §§, ¶¶, †††, ‡‡‡	3 (60.0%)	4 (80.0%)	4 (80.0%)	3 (42.9%)	2 (66.7%)	2 (100.0%)
Patients negative for antibodies to ustekinumab ††,‡‡	57 (91.9%)	96 (95.0%)	101 (95.3%)	46 (86.8%)	37 (92.5%)	35 (94.6%)
Patients in symptomatic remission at Week 92 §§, ¶¶, †††, §§§	24 (42.1%)	82 (85.4%)	88 (87.1%)	31 (67.4%)	23 (62.2%)	25 (71.4%)



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Supplemental Table S5: Number of patients in symptomatic remission at Week 92 by antibody to ustekinumab status through Week 96;  
randomized patients in maintenance who were treated in the long-term extension

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† Patients who were in clinical response to ustekinumab IV induction dosing and were randomized to the specified treatment group on entry into maintenance and did not have a dose adjustment during the long-term extension.

‡ Patients who had a dose adjustment to ustekinumab 90 mg SC q8w (or with a sham dose adjustment for the ustekinumab 90 mg SC q8w group) during the long-term extension.

§ Patients who had 1 or more samples obtained after their first study agent administration of the induction study through the evaluation visit.

¶ Patients who had at least 1 positive sample at any time after their first study agent administration of the induction study through the evaluation visit.

†† Denominator is patients with appropriate samples.

‡‡ Excludes patients who were positive for antibodies at any time.

§§ Symptomatic remission is defined as a stool frequency subscore of 0 or 1 and a rectal bleeding subscore of 0.

¶¶ Patients who had an ostomy or colectomy, or discontinued study agent due to lack of therapeutic effect or due to an AE of worsening of UC prior to Week 92, were considered not to be in symptomatic remission.

††† Patients who had both stool frequency and rectal bleeding subscores missing at Week 92 were considered not to be in symptomatic remission.

‡‡‡ Denominator is patients who were positive for antibodies to ustekinumab at any time.

§§§ Denominator is patients who were negative for antibodies to ustekinumab at any time.

Key: AE, adverse event; IV, intravenous; q8w, every 8 weeks; q12w, every 12 weeks; SC, subcutaneous; UC, ulcerative colitis.

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Supplemental Table S6: Key safety findings per hundred patient-years of follow-up from Week 44 through Week 96; patients who were treated in the long-term extension

	Placebo SC <sup>†</sup>		Ustekinumab	
	90 mg SC q12w <sup>‡</sup>	90 mg SC q8w <sup>§</sup>	90 mg SC q8w <sup>§</sup>	Combined
	(N=188)	(N=141)	(N=353)	(N=454)
Avg duration of follow-up (weeks)	37.1	44.5	45.3	49.1
Total patient-years of follow-up	134.0	120.6	307.6	428.3
No. events per hundred patient-years of follow-up (95% CI)				
¶				
Adverse events	267.93	223.82	268.17	255.68
	(240.93, 297.13)	(197.91, 252.17)	(250.18, 287.11)	(240.76, 271.28)
Most frequently reported adverse events <sup>††</sup>				
Ulcerative colitis	42.54	15.75	18.53	17.75
Nasopharyngitis	19.40	29.01	27.95	28.25
URTI	5.22	4.97	8.78	7.71
Influenza	7.46	3.32	6.18	5.37
Headache	9.70	5.80	5.85	5.84
Serious adverse events	12.69	5.80	10.73	9.34
	(7.39, 20.31)	(2.33, 11.96)	(7.38, 15.06)	(6.67, 12.72)
Infections <sup>‡‡</sup>	80.60	81.24	90.69	88.03
	(66.12, 97.31)	(65.95, 99.00)	(80.36, 101.98)	(79.36, 97.38)
Serious infections <sup>‡‡</sup>	2.99	3.32	1.95	2.33
	(0.81, 7.64)	(0.90, 8.49)	(0.72, 4.25)	(1.12, 4.29)
Adverse events leading to discontinuation of study agent	7.46	4.97	4.23	4.44
	(3.58, 13.72)	(1.83, 10.83)	(2.25, 7.23)	(2.67, 6.93)
Death	0.00	0.00	0.33	0.23
	(0.00, 2.24)	(0.00, 2.48)	(0.01, 1.81)	(0.01, 1.30)
All malignancies	1.49	0.83	0.98	0.93
	(0.18, 5.39)	(0.02, 4.62)	(0.20, 2.85)	(0.25, 2.39)
Excluding nonmelanoma skin cancer	0.75	0.00	0.00	0.00
	(0.02, 4.16)	(0.00, 2.48)	(0.00, 0.97)	(0.00, 0.70)
Nonmelanoma skin cancer	0.75	0.83	0.98	0.93
	(0.02, 4.16)	(0.02, 4.62)	(0.20, 2.85)	(0.25, 2.39)

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- † Includes 1) data from Week 44 through Week 96, or up to the dose adjustment if patients had a dose adjustment during the long-term extension, for patients who were in clinical response to ustekinumab IV induction dosing and were randomized to placebo SC on entry into the maintenance study; and 2) data from Week 44 through Week 96 for patients who were in clinical response to placebo IV induction dosing and received placebo SC on entry into the maintenance study.
- ‡ Includes data from Week 44 through Week 96, or up to the dose adjustment if patients had a dose adjustment during the long-term extension for patients who were in clinical response to ustekinumab IV induction dosing and were randomized to ustekinumab 90 mg SC q12w on entry into the maintenance study.
- § Includes: 1) Patients who were in clinical response to ustekinumab IV induction dosing and were randomized to receive ustekinumab 90 mg SC q8w on entry into the maintenance study, with data from Week 44 through Week 96; 2) Patients who were in clinical response to ustekinumab IV induction dosing, randomized to receive placebo SC or ustekinumab 90 mg SC q12w on entry into the maintenance study, and had a dose adjustment to ustekinumab 90 mg SC q8w, with data from the time of dose adjustment onward; 3) Patients who were not in clinical response to ustekinumab at I-8 but were in clinical response at I-16 after a SC administration of ustekinumab at I-8 and received ustekinumab 90 mg SC q8w on entry into the maintenance study with data from Week 44 through Week 96.
- ¶ Confidence intervals based on an exact method assuming that the observed number of events follows a Poisson distribution.
- †† Most frequently reported adverse events were those reported at a rate of at least 5 events per hundred patient-years of follow-up in any dose group.
- ‡‡ Infection as assessed by the investigator.
- Note: Combined column summarizes data from maintenance week 0 to week 96 in both ustekinumab SC 90 mg q12w and q8w groups.
- Key: CI, confidence interval; IV, intravenous; I-8, induction Week 8; I-16, induction Week 16, q8w, every 8 weeks; q12w, every 12 weeks; SC, subcutaneous; URTI, upper respiratory tract infection.

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Supplemental Table S7: Injections with injection-site reactions from Week 44 through Week 96 by antibody to ustekinumab status through Week 96; patients who received ustekinumab SC in the long-term extension

	Randomized patients	Non-randomized patients	
	Ustekinumab SC (90 mg SC q12w or q8w) †	Week 16 responders received 90 mg SC q8w ‡	Total
	(N=337)	(N=116)	(N=453)
Through Week 96			
Patients with appropriate samples, n (%) §	337 (100.0)	116 (100.0)	453 (100.0)
Patients positive for antibodies to ustekinumab at any time ¶:††	22 (6.5)	7 (6.0)	29 (6.4)
Patients with injection-site reactions	1 (4.5)	1 (14.3)	2 (6.9)
Patients with severe injection-site reactions	0	0	0
Patients with serious injection-site reactions	0	0	0
Total number of ustekinumab injections	124	48	172
Injections with injection-site reactions	1 (0.8)	0	1 (0.6)
Total number of placebo injections	107	18	125
Injections with injection-site reactions	1 (0.9)	1 (5.6)	2 (1.6)
Patients negative for antibodies to ustekinumab, n (%) ††	315 (93.5)	109 (94.0)	424 (93.6)
Patients with injection-site reactions	7 (2.2)	2 (1.8)	9 (2.1)
Patients with severe injection-site reactions	0	0	0
Patients with serious injection-site reactions	0	0	0
Total number of ustekinumab injections	1779	752	2531
Injections with injection-site reactions, n (%)	11 (0.6)	2 (0.3)	13 (0.5)
Total number of placebo injections	1512	394	1906
Injections with injection-site reactions, n (%)	3 (0.2)	0	3 (0.2)

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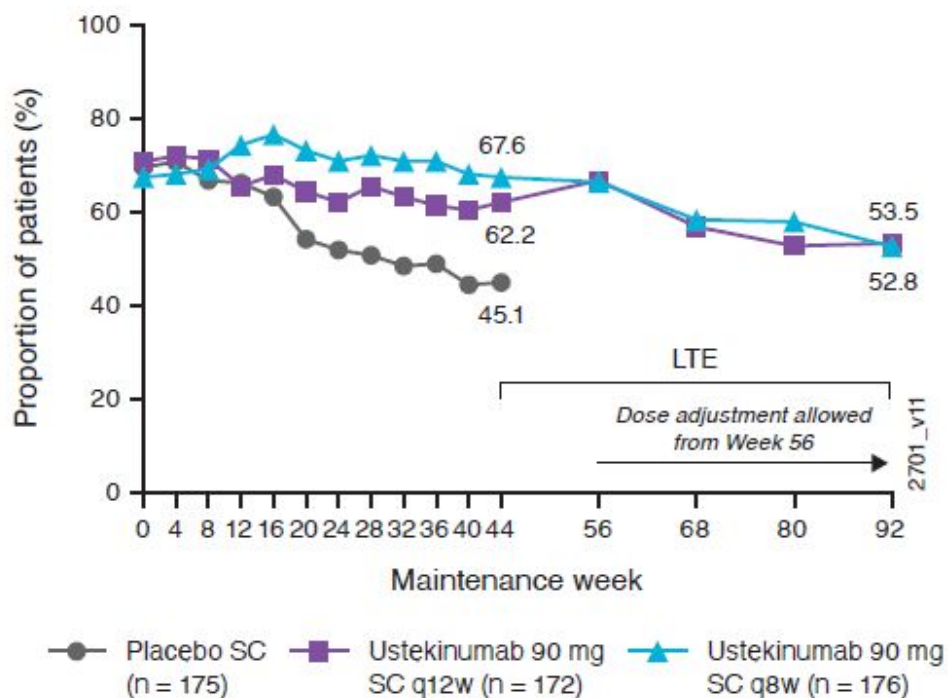
Supplemental Table S7: Injections with injection-site reactions from Week 44 through Week 96 by antibody to ustekinumab status through Week 96; patients who received ustekinumab SC in the long-term extension

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- † Includes data from Week 44 through Week 96, or from the time of dose adjustment onward for patients who were randomized to receive placebo SC on entry into the maintenance study and had a dose adjustment to ustekinumab 90 mg SC q8w during the long-term extension.
- ‡ Patients who were not in clinical response to ustekinumab at I-8 but were in clinical response at I-16 after a SC administration of ustekinumab at I-8, initiate ustekinumab 90 mg SC q8w on entry into the maintenance.
- § Patients who had 1 or more samples obtained after their first study agent administration of the induction study through the evaluation visit.
- ¶ Patients who had at least 1 positive sample at any time after their first study agent administration of the induction study through the evaluation visit.
- †† Denominator is patients with appropriate samples.
- ‡‡ Excludes patients who were positive for antibodies at any time.
- Key: I-8, induction Week 8; I-16, induction Week 16, q8w, every 8 weeks; q12w, every 12 weeks; SC, subcutaneous.

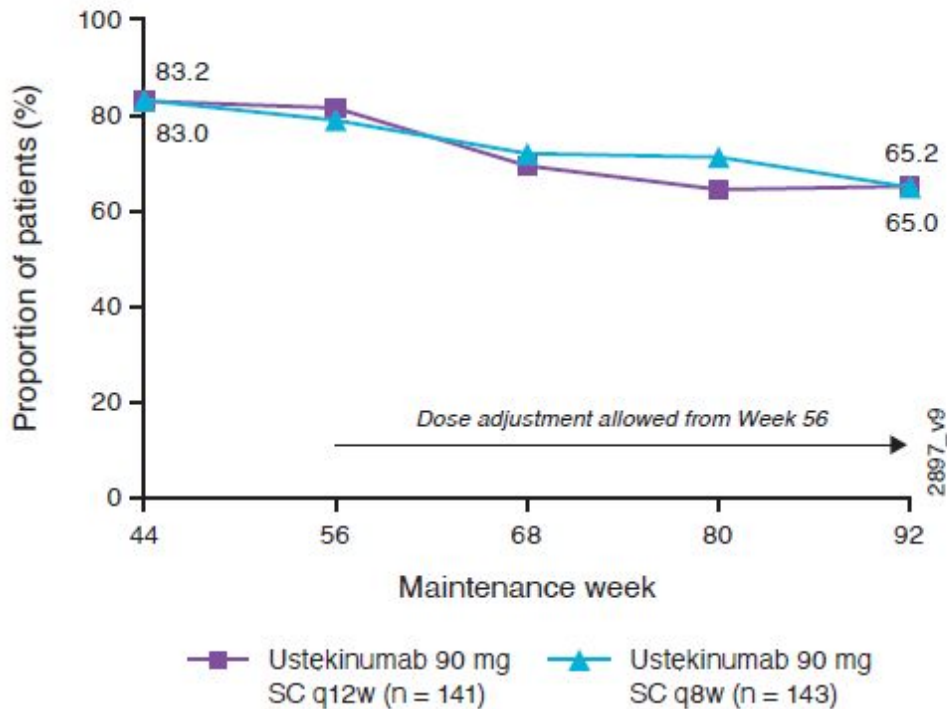
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Supplemental Figure S1: Rates of symptomatic remission<sup>†, ‡, §, ¶, ††, †††</sup> through Week 92 for all patients randomized in maintenance study (intent-to-treat analysis): nonresponder imputation analysis with dose adjustment considered to be a treatment failure



- † Patients who were in clinical response to ustekinumab IV induction dosing and were randomized to placebo SC on entry into the maintenance study.
- ‡ Data are displayed by randomized group at maintenance Week 0 regardless of whether patients had a dose adjustment during the long-term extension. Between Weeks 56 and 92, 40 patients in the q12w group received dose adjustment to q8w.
- § Symptomatic remission is defined as a stool frequency subscore of 0 or 1 and a rectal bleeding subscore of 0.
- ¶ Patients who had both stool frequency and rectal bleeding subscores missing at a visit were considered not to be in symptomatic remission for that visit.
- †† Patients who had a prohibited change in UC medication, an ostomy or colectomy, or used a rescue medication after clinical flare, or discontinued study agent due to lack of therapeutic effect or due to an AE of worsening of UC prior to the Week 44 visit were considered not to be in symptomatic remission.
- ††† Patients who had an ostomy or colectomy, or discontinued study agent due to lack of therapeutic effect or due to an AE of worsening of UC or were dose adjusted (only occurred from Week 56 onward) after Week 44 and prior to the designated visit, were considered not to be in symptomatic remission.
- Key: AE, adverse event; IV, intravenous; LTE, long-term extension; q8w, every 8 weeks; q12w, every 12 weeks; SC, subcutaneous; UC, ulcerative colitis.

Supplemental Figure S2: Rates of symptomatic remission<sup>†, ‡, §, ¶</sup> from Week 44 through Week 92 for all randomized to ustekinumab maintenance therapy and treated in the long-term extension: nonresponder imputation analysis with dose adjustment considered to be a treatment failure



<sup>†</sup> Data are displayed by randomized group at maintenance Week 0 regardless of whether patients had a dose adjustment during the long-term extension. Between Weeks 56 and 92, 40 patients in the q12w group received dose adjustment to q8w.

<sup>‡</sup> Symptomatic remission is defined as a stool frequency subscore of 0 or 1 and a rectal bleeding subscore of 0.

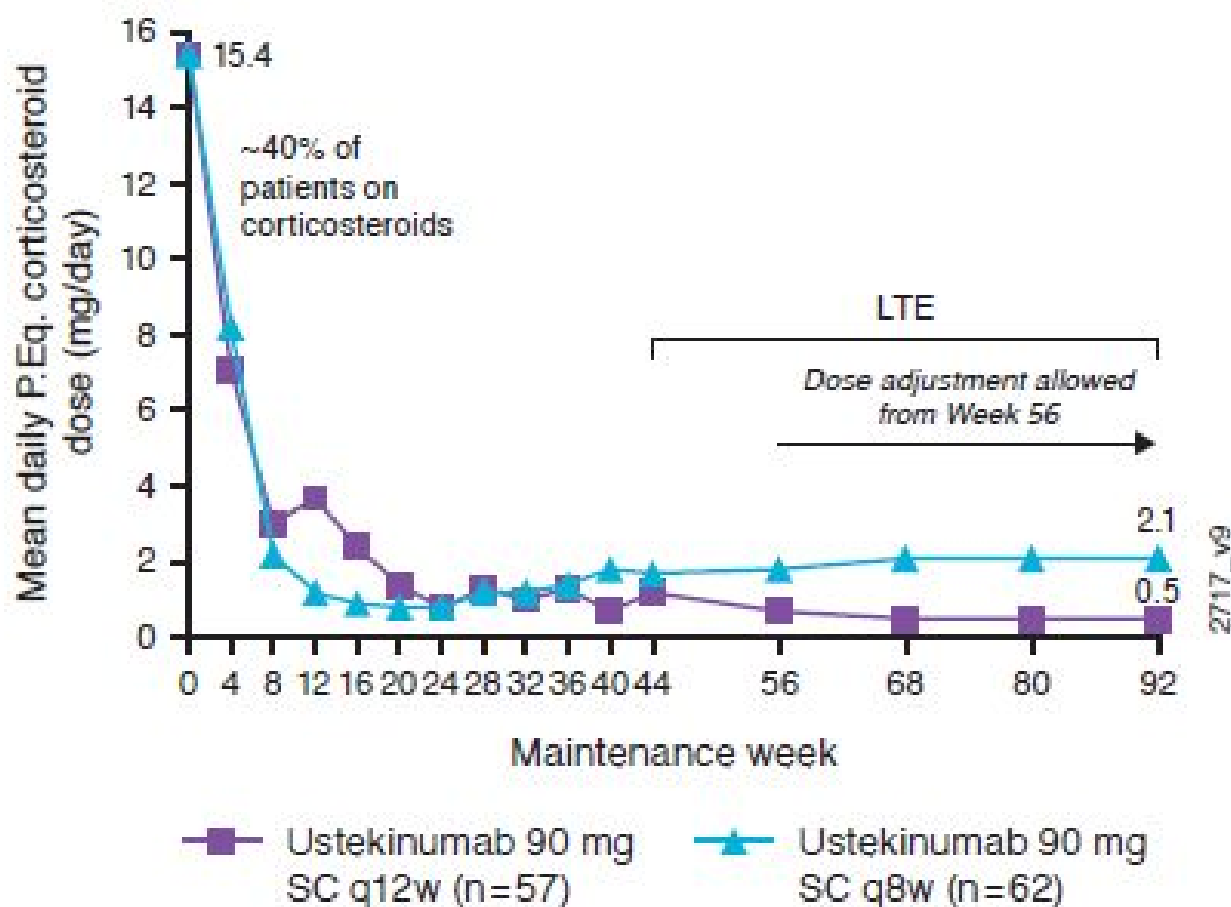
<sup>§</sup> Patients who had both stool frequency and rectal bleeding subscores missing at a visit were considered not to be in symptomatic remission for that visit.

<sup>¶</sup> Patients who had an ostomy or colectomy, or discontinued study agent due to lack of therapeutic effect or due to an AE of worsening of UC, or were dose adjusted (only occurred from Week 56 onward) prior to the designated visit were considered not to be in symptomatic remission.

Key: AE, adverse event; q8w, every 8 weeks; q12w, every 12 weeks; SC, subcutaneous; UC, ulcerative colitis.

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Supplemental Figure S3: Mean daily prednisone-equivalent corticosteroid dose (mg/day) through Week 92 among randomized to ustekinumab maintenance therapy and treated in the long-term extension who were receiving corticosteroids at maintenance baseline<sup>†, ‡, §, ¶</sup>



† Patients who had an ostomy or colectomy, or discontinued study agent due to lack of therapeutic effect or due to an AE of worsening of UC, or were dose adjusted (only occurred from Week 56 onward) prior to the Week 92 visit had their Week 0 value of the induction study carried forward from the time of the event onward.

‡ Analysis of patients who were receiving corticosteroid at baseline. Corticosteroid includes prednisone only; excludes budesonide and beclomethasone dipropionate.

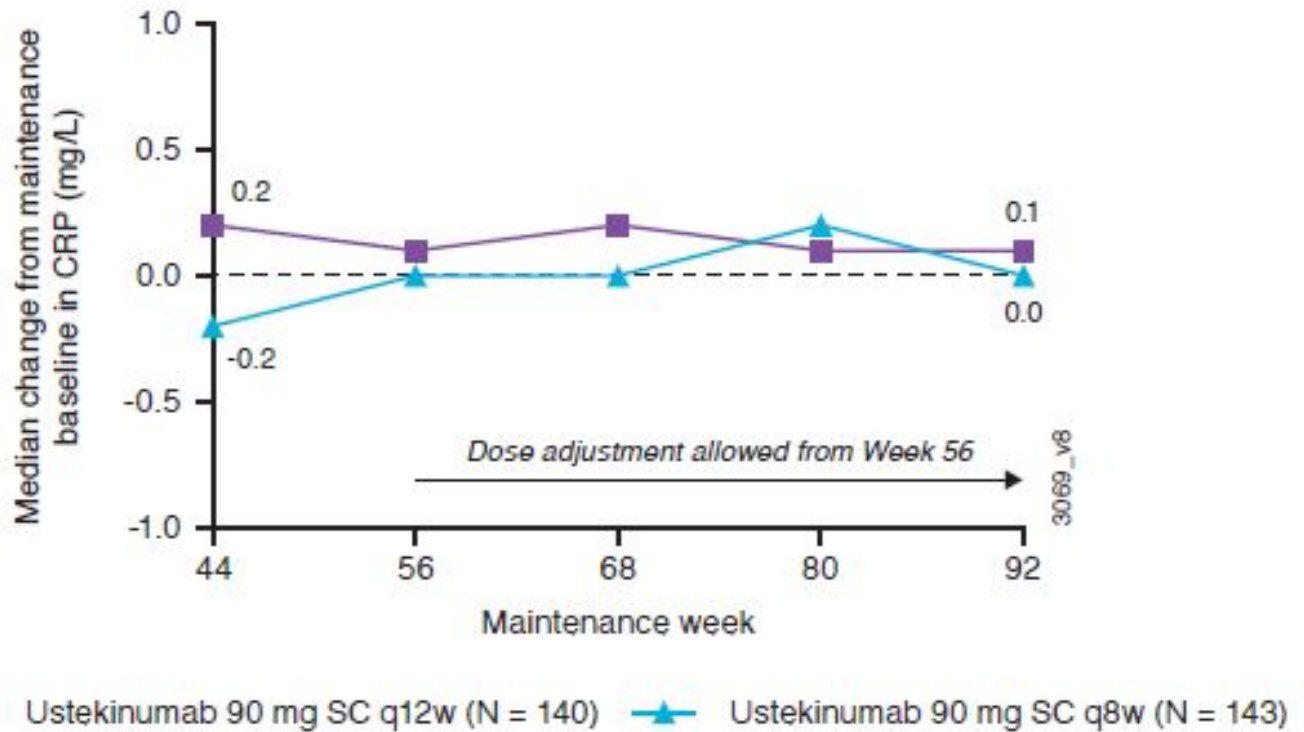
§ Data are displayed by randomized group at maintenance Week 0 regardless of whether patients had a dose adjustment during the long-term extension. Between Weeks 56 and 92, 20 patients in the q12w group received dose adjustment to q8w.

¶ Patients who had a missing value in corticosteroid use at a timepoint had their last available value carried forward to that timepoint.

Key: LTE, long-term extension; PEq, prednisone equivalent; q8w, every 8 weeks; q12w, every 12 weeks; SC, subcutaneous.



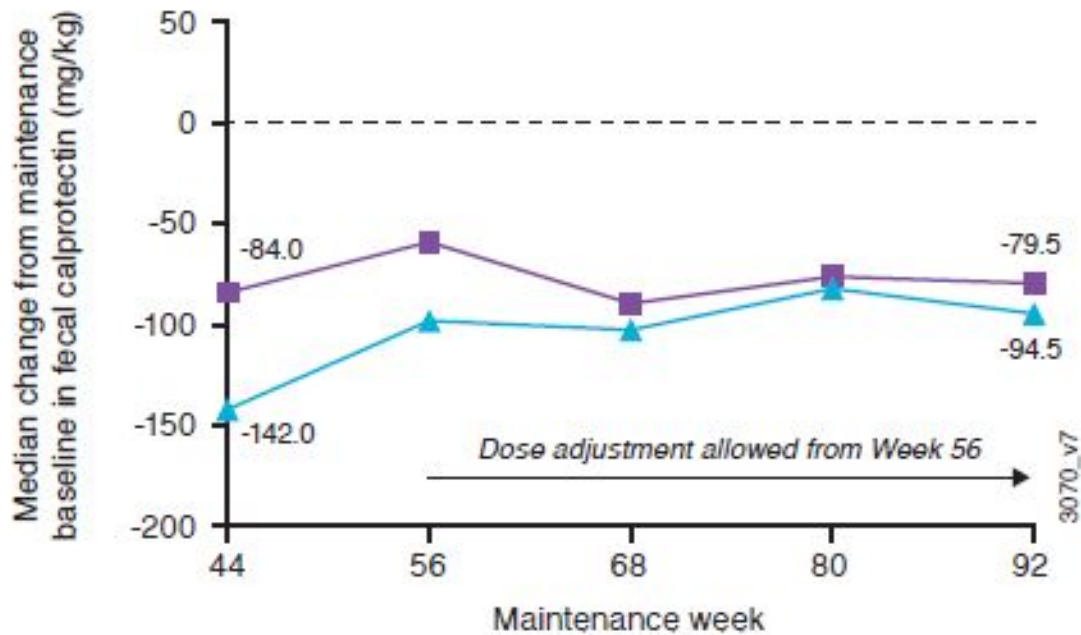
Supplemental Figure S4: Change from maintenance baseline in C-reactive protein (CRP) concentrations from Week 44 through Week 92; patients randomized to ustekinumab maintenance therapy and treated in the long-term extension<sup>†, ‡, §</sup>



- † Randomized group at maintenance Week 0 regardless of whether patients had a dose adjustment during the long-term extension. Between Weeks 56 and 92, 40 patients in the q12w group received dose adjustment to q8w.
- ‡ Patients who had an ostomy or colectomy, or discontinued study agent due to lack of therapeutic effect or due to an AE of worsening of UC, or were dose adjusted (only occurred from Week 56 onward) prior to the Week 92 visit had their Week 0 value of the induction study carried forward from the time of the event onward.
- § Patients who had a missing C-reactive protein value at the designated analysis timepoint had their last value carried forward.
- Key: AE, adverse event; q8w, every 8 weeks; q12w, every 12 weeks; SC, subcutaneous; UC, ulcerative colitis.

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Supplemental Figure S5: Change from maintenance baseline in fecal calprotectin concentrations from Week 44 through Week 92; patients randomized to ustekinumab maintenance therapy and treated in the long-term extension<sup>†, ‡, §</sup>

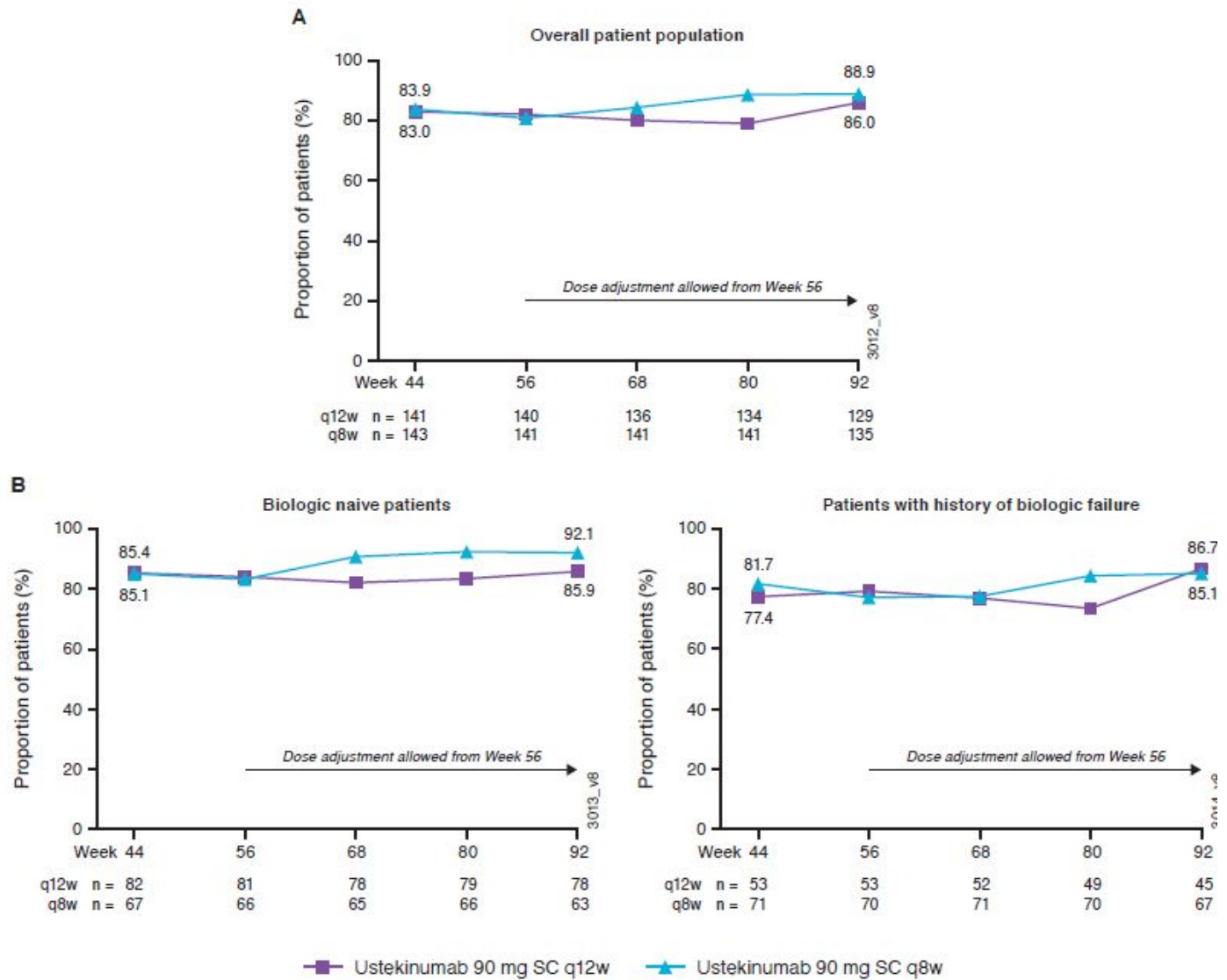


■ Ustekinumab 90 mg SC q12w (N = 140) ▲ Ustekinumab 90 mg SC q8w (N = 143)

- † Randomized group at maintenance Week 0 regardless of whether patients had a dose adjustment during the long-term extension. Between Weeks 56 and 92, 40 patients in the q12w group received dose adjustment to q8w.
- ‡ Patients who had an ostomy or colectomy, or discontinued study agent due to lack of therapeutic effect or due to an adverse event of worsening of ulcerative colitis, or were dose adjusted (only occurred from Week 56 onward) prior to the Week 92 visit had their Week 0 value of the induction study carried forward from the time of the event onward.
- § Patients who had a missing fecal calprotectin value at the designated analysis timepoint had their last value carried forward.

Key: q8w, every 8 weeks; q12w, every 12 weeks; SC, subcutaneous.

Supplemental Figure S6: Rates of symptomatic remission from Week 44 through Week 92 or up to the time of dose adjustment for patients randomized to ustekinumab maintenance therapy and treated in the long-term extension (A) and by biologic treatment history subgroup (B): observed case analysis<sup>†, ‡, §</sup>



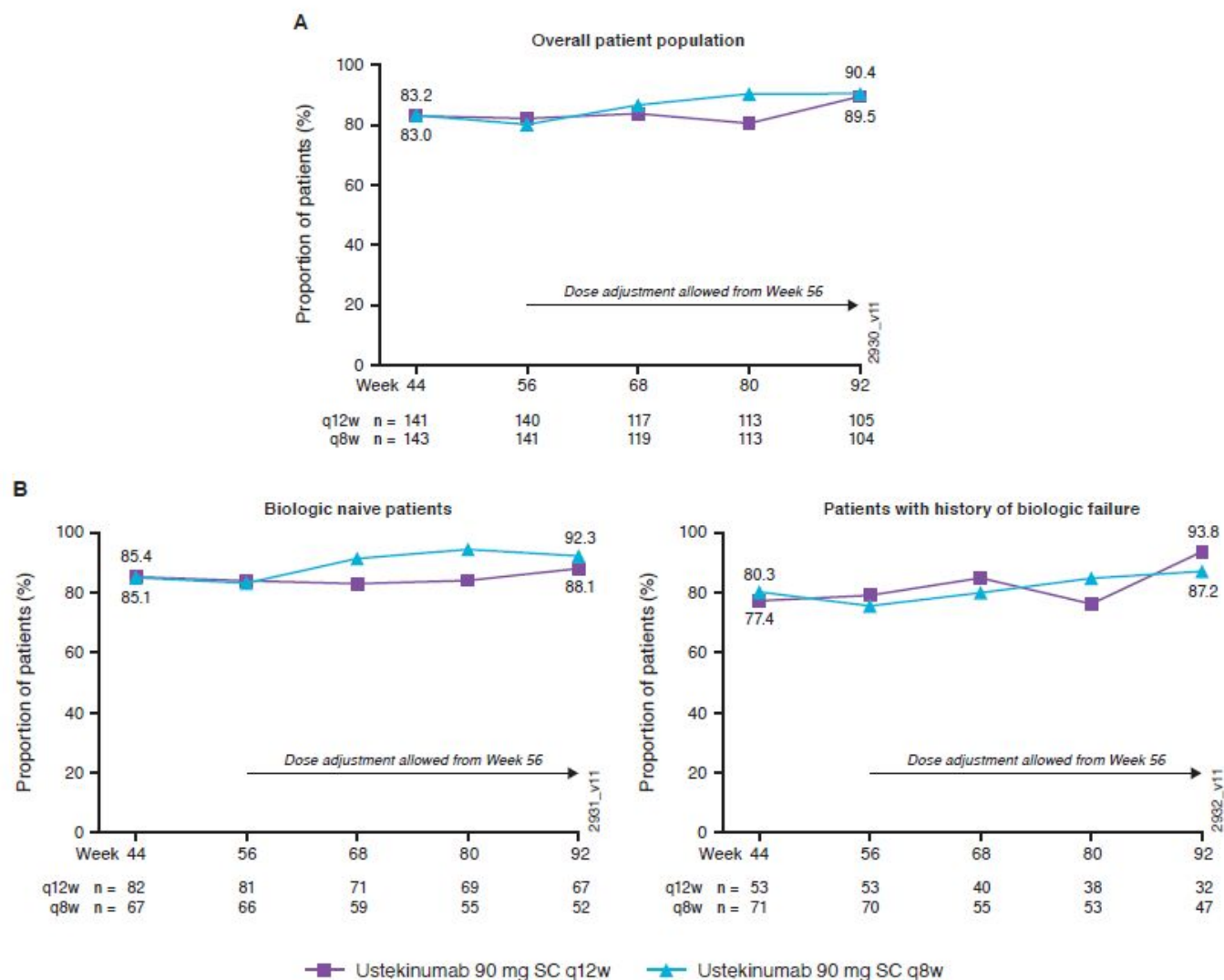
<sup>†</sup> Data are displayed by randomized group at maintenance Week 0 regardless of whether patients had a dose adjustment during the long-term extension. Between Weeks 56 and 92, 40 patients in the q12w group received dose adjustment to q8w.

<sup>‡</sup> Includes data from maintenance Week 44 through Week 92.

Key: q8w, every 8 weeks; q12w, every 12 weeks; SC, subcutaneous

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Supplemental Figure S7: Rates of symptomatic remission from Week 44 through Week 92 or up to the time of dose adjustment for patients randomized to ustekinumab maintenance therapy and in the long-term extension (A) and by biologic treatment history subgroup (B): modified observed case analysis<sup>†</sup>, <sup>‡</sup>, <sup>§</sup>, <sup>¶</sup>, <sup>††</sup>



<sup>†</sup> The observed data exclude patients who have missing data and have not had treatment failure (i.e. an ostomy or colectomy, or discontinued study agent due to lack of therapeutic effect or due to an AE of worsening of UC) prior to the designated visit.

<sup>‡</sup> Data are displayed by randomized group at maintenance Week 0 regardless of whether patients had a dose adjustment during the long-term extension. Between Weeks 56 and 92, 40 patients in the q12w group received dose adjustment to q8w.

<sup>§</sup> Includes data from maintenance Week 44 through Week 92, or up to the time of dose adjustment for patients who had a dose adjustment to ustekinumab 90 mg SC q8w (or a sham dose adjustment for the ustekinumab 90 mg SC q8w group) during the long-term extension.

<sup>¶</sup> Symptomatic remission is defined as a stool frequency subscore of 0 or 1 and a rectal bleeding subscore of 0.

<sup>††</sup> Patients who had an ostomy or colectomy, or discontinued study agent due to lack of therapeutic effect or due to an AE of worsening of UC prior to the designated visit, were considered not to be in symptomatic remission.

Key: AE, adverse event; M-0, maintenance Week 0; q8w, every 8 weeks; q12w, every 12 weeks; SC, subcutaneous; UC, ulcerative colitis