

1 **Response Types and Factors Associated with Response Types to Biologic**
2 **Therapies in Patients with Moderate-to-Severe Plaque Psoriasis from Two**
3 **Randomized Clinical Trials: Supplementary Material**

4 **Authors:** Alexander Egeberg, MD,^{1,2} Curdin Conrad, MD,³ Patricia Gorecki, DMD,⁴ Sven Wegner, MD,⁵
5 Jozefien Buyze, PhD,⁶ Lorenzo Acciarri, MSc,⁷ and Diamant Thaçi, MD⁸

6

7 1. Department of Dermatology, Bispebjerg Hospital, Copenhagen, Denmark

8 a. ORCID: 0000-0001-8257-1816

9 2. Department of Clinical Medicine, University of Copenhagen, Copenhagen, Denmark

10 3. Department of Dermatology, Lausanne University Hospital CHUV, Lausanne, Switzerland

11 ORCID: 0000-0002-2547-3440

12 4. Janssen-Cilag Ltd, High Wycombe, UK

13 ORCID: 0000-0002-5657-5001

14 5. Janssen-Cilag GmbH, Neuss, Germany

15 ORCID: 0000-0002-9510-9310

16 6. Janssen Pharmaceutica NV, Beerse, Belgium

17 ORCID: 0000-0001-6780-380X

18 7. Valos Srl (Johnson & Johnson partner company), Genoa, Italy

19 ORCID: 0009-0002-2654-9459

20 8. Institute and Comprehensive Center of Inflammation Medicine, University of Lübeck, Lübeck, Germany

21 ORCID: 0000-0001-8513-550X

22 ***Corresponding Author:***

23 Alexander Egeberg

24 • Email address: alexander.egeberg@gmail.com

25 • Postal address: Department of Dermatology, Bispebjerg Hospital, Nielsine Nielsens Vej 9, 2400

26 Copenhagen, Denmark

27 Telephone number: 0045 38 63 61 73

28 **Contents**

- 29 • eMethods: Heatmap Visualization
- 30 • Supplementary Figure 1. Proportion of Patients in Each Efficacy RT, by Treatment
- 31 • Supplementary Figure 2. Sankey Diagram of Patients Categorized into RT Groups Based on aPASI and
32 DLQI Scores
- 33 • Supplementary Table 1. Baseline Characteristics by Efficacy RT of Patients in ECLIPSE Who
34 Received Treatment Through Week 48 (Short Term)
- 35 • Supplementary Table 2. Baseline Characteristics by Efficacy RT of Patients in VOYAGE 1 Who
36 Received Treatment Through Week 48 (Short Term)
- 37 • Supplementary Table 3. Baseline Demographic and Clinical Characteristics by Efficacy RT of Patients
38 in ECLIPSE Who Received Treatment Through Week 48 (Short Term) by Treatment Arm
- 39 • Supplementary Table 4. Baseline Demographic and Clinical Characteristics by Efficacy RT of Patients
40 in VOYAGE 1 Who Received Treatment Through Week 48 (Short Term) by Treatment Arm
- 41 • Supplementary Table 5. Baseline Characteristics by Efficacy RT of Patients in VOYAGE 1 Who
42 Received Treatment Through Week 252 (Long Term) Based on aPASI Criteria
- 43 • Supplementary Table 6. Baseline Demographic and Clinical Characteristics by Efficacy RT of Patients
44 in VOYAGE 1 Who Received Treatment Through Week 252 (Long Term) Based on aPASI and DLQI
45 Criteria
- 46 • Supplementary Figure 3. Mean aPASI for Patients Receiving Guselkumab in Each RT, Categorized
47 Using aPASI and DLQI Score in the VOYAGE 1 OLE
- 48 • Supplementary Figure 4. aPASI Heatmap Analysis of the Six Efficacy RTs in ECLIPSE (Short Term)
49 to Week 48
- 50 • Supplementary Figure 5. aPASI Heatmap Analysis of the Six Efficacy RTs in the (a) and (b) Groups in
51 VOYAGE 1 (Short Term) to Week 48
- 52 • Supplementary Figure 6. aPASI Heatmap Analysis of the Four Efficacy RTs in the Continuous
53 Guselkumab Group in the VOYAGE 1 OLE to Week 252
- 54 • Supplementary Figure 7. Mean DLQI Over Time for the VOYAGE 1 OLE with RT Groups Based on
55 aPASI and DLQI Score

- 56 • Supplementary Figure 8. DLQI Heatmap Analyses of the Efficacy RTs in VOYAGE 1 (Short Term) to
57 Week 48
- 58 • Supplementary Figure 9. Association of Factors with RTs in Studies: Full Model
- 59

DRAFT

60 ***eMethods: Heatmap visualization***

61 In ECLIPSE, absolute Psoriasis Area and Severity Index (aPASI) scores were obtained weekly from baseline to
62 week 4 and every 4 weeks thereafter until week 48. Visual heatmaps of patient-level efficacy data show aPASI
63 values, with individual values represented in a gradual color scheme. In VOYAGE 1 and the VOYAGE 1 OLE,
64 aPASI scores were obtained at baseline, week 2, every 4 weeks from week 4 to week 52, and then every 8
65 weeks to week 252. Similar to ECLIPSE, VOYAGE 1 and the VOYAGE 1 OLE aPASI values were translated
66 into visual heatmaps of patient-level efficacy data, with individual values represented in a gradual color scheme
67 from red to green across five levels: aPASI >10; aPASI >5–10; aPASI >2–5; aPASI >0–2; and aPASI 0.

68 Dermatology Life Quality Index (DLQI) scores were not obtained in ECLIPSE. In VOYAGE 1 and the
69 VOYAGE 1 OLE, DLQI scores were obtained at baseline and weeks 8, 16, 24, and 48; in the OLE, scores were
70 obtained at baseline and weeks 8, 16, 24, 28, 32, 36, 40, 44, and 48. DLQI scores were translated into visual
71 heatmaps of patient-level efficacy data, with individual values represented in a gradual color scheme from red to
72 green across five levels: DLQI >10; DLQI >5–10; DLQI >2–5; DLQI >0–2; and DLQI 0.

73

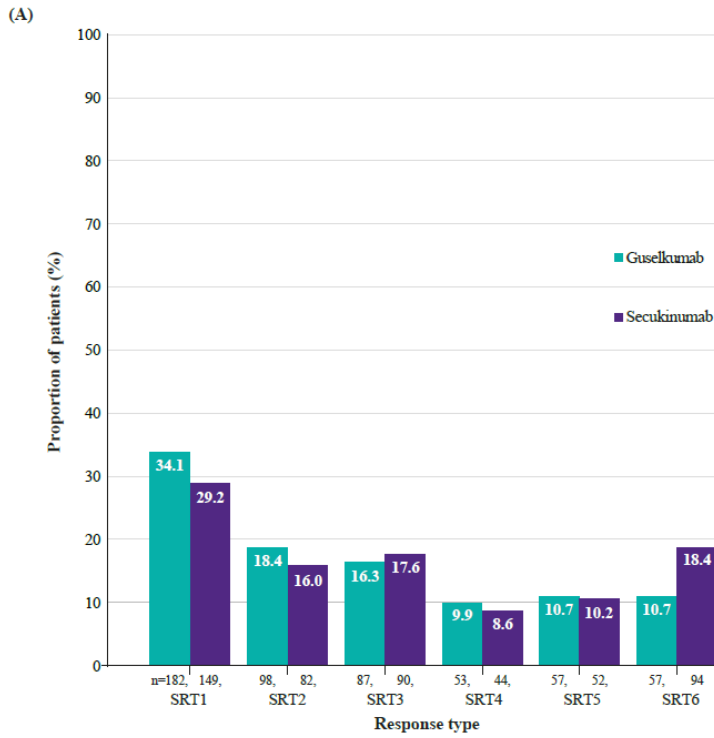
74 **Supplementary Figure 1. Proportion of Patients in Each Efficacy RT, by Treatment**

75 Bar charts showing that, in ECLIPSE and VOYAGE 1, the proportion of patients achieving SRT1 was higher

76 for guselkumab than for secukinumab or adalimumab. A similar trend was observed for guselkumab vs.

77 adalimumab in VOYAGE 1. In the VOYAGE 1 OLE, the majority of patients achieved either LRT1 or LRT2.

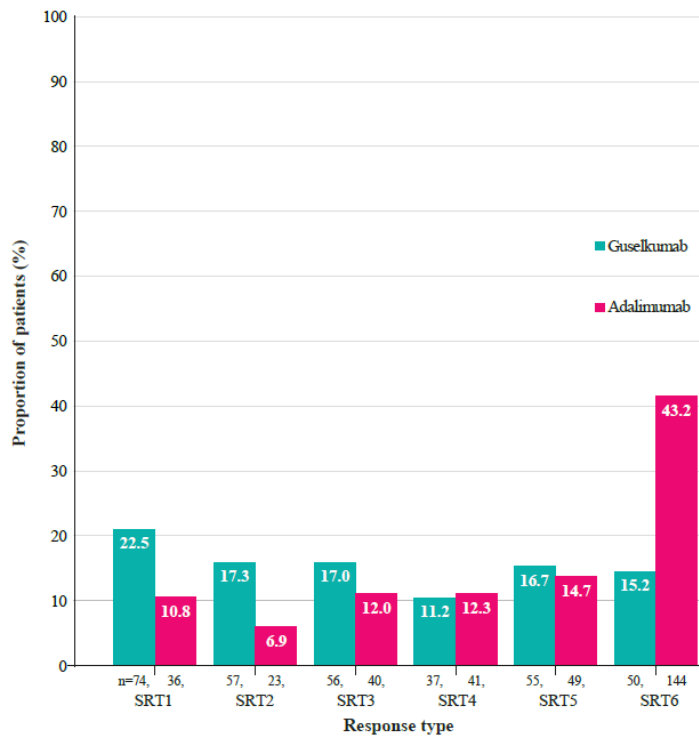
78 a ECLIPSE, Including Guselkumab and Secukinumab Groups



79

80

81 b VOYAGE 1, Including Guselkumab and Adalimumab Groups



91

92

93

94

95

96

97

98

99

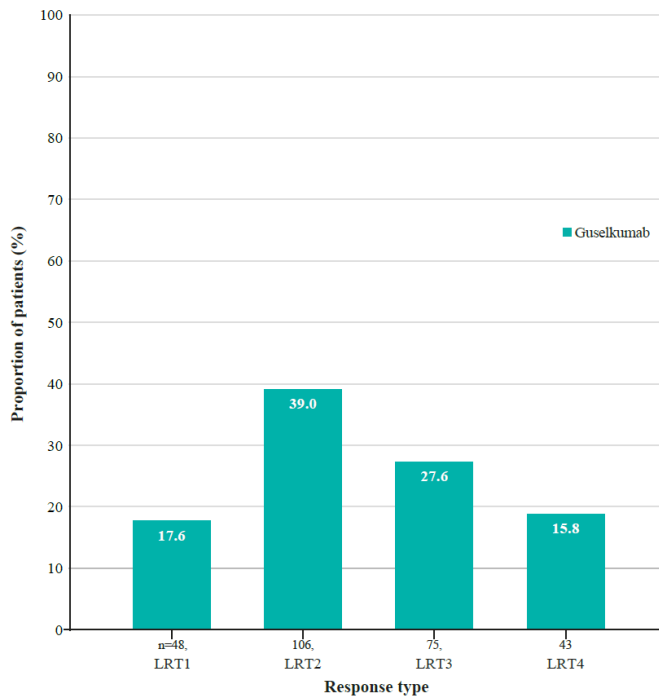
100

101

102

103

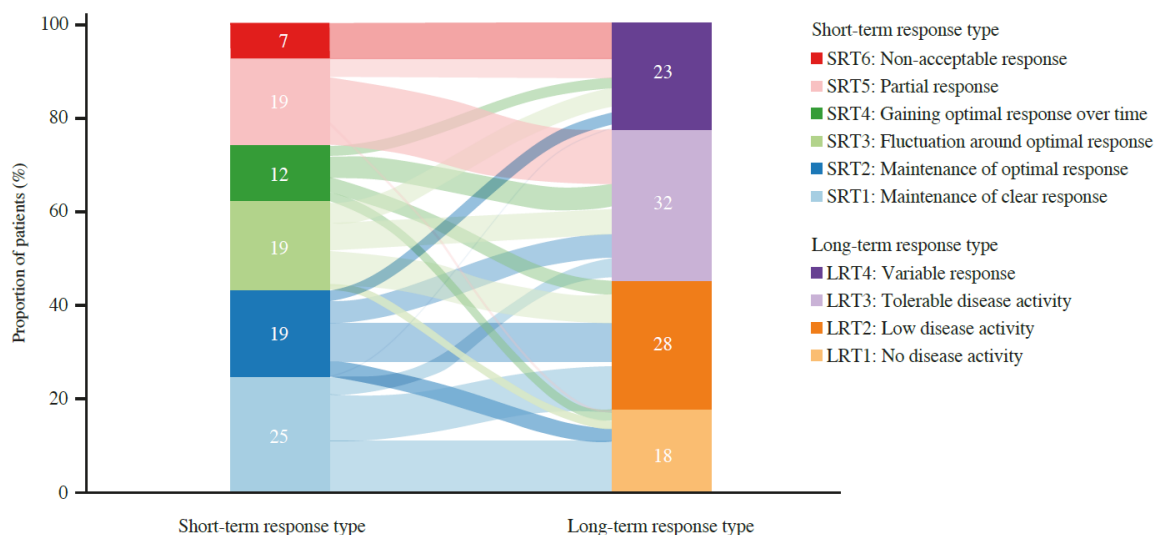
104 c VOYAGE 1 OLE, Including the Continuous Guselkumab Group



105

106 All data presented are for aPASI-defined RTs; **a** and **b** present the proportion of patients within each treatment
107 subgroup and not the whole population. LRTs are defined by aPASI only. *aPASI* absolute Psoriasis Area and
108 Severity Index, *LRT* long-term RT, *OLE* open-label extension, *RT* response type, *SRT* short-term RT.

109 **Supplementary Figure 2. Sankey Diagram of Patients in VOYAGE 1 Categorized into RT**
 110 **Groups Based on aPASI and DLQI Scores**
 111 **Sankey diagram depicting proportion of patients receiving guselkumab in VOYAGE 1**
 112 **according to each SRT and their recategorization into an LRT in the VOYAGE 1 OLE. A**
 113 **large proportion of patients in VOYAGE 1 who achieved a specific SRT went on to achieve**
 114 **a similar or comparable LRT. Only patients who were in the study for ≥ 156 weeks, received**
 115 **guselkumab, and included in both the short- and long-term analyses are included. SRTs**
 116 **and LRTs were defined based on aPASI and DLQI scores.**



117
 118 *aPASI* absolute Psoriasis Area and Severity Index, *DLQI* Dermatology Life Quality Index, *LRT* long-term RT,
 119 *OLE* open-label extension, *RT* response type, *SRT* short-term RT

120

121 ***Supplementary Table 1. Baseline Characteristics by Efficacy RT of Patients in ECLIPSE Who Received Treatment Through Week 48 (Short***
 122 ***Term)***

123 ***A table of baseline characteristics for each short-term response type in ECLIPSE, showing that mean age, BMI, aPASI score, and BSA at baseline were lower for SRT1***
 124 ***than for SRT6***

	SRT1 (n = 331)	SRT2 (n=180)	SRT3 (n=177)	SRT4 (n=97)	SRT5 (n=109)	SRT6 (n=151)
Mean age (SD), y	43.8 (13.9)	44.2 (13.8)	45.5 (13.2)	47.5 (12.8)	48.2 (12.9)	49.3 (13.3)
Age <45 years, No. (%)	177 (53.5)	99 (55.0)	78 (44.1)	37 (38.1)	39 (35.8)	58 (38.4)
Sex – male, No. (%)	221 (66.8)	120 (66.7)	115 (65.0)	77 (79.4)	78 (71.6)	93 (61.6)
Race, No. (%)						
Asia Pacific	20 (6.0)	15 (8.3)	17 (9.6)	9 (9.3)	3 (2.8)	7 (4.6)
Eastern Europe	135 (40.8)	69 (38.3)	46 (26.0)	25 (25.8)	28 (25.7)	35 (23.2)
North American	112 (33.8)	47 (26.1)	67 (37.9)	31 (32.0)	54 (49.5)	78 (51.7)
Western Europe	64 (19.3)	49 (27.2)	47 (26.6)	32 (33.0)	24 (22.0)	31 (20.5)
Mean weight, No. (SD)	85.7 (20.1)	86.3 (18.7)	89.3 (22.2)	92.4 (19.8)	94.3 (21.5)	94.6 (26.6)

Response Types in Patients with Plaque Psoriasis: supplement

	SRT1 (n = 331)	SRT2 (n=180)	SRT3 (n=177)	SRT4 (n=97)	SRT5 (n=109)	SRT6 (n=151)
Mean BMI, kg/m ² (SD)	28.6 (6.3)	29.2 (5.8)	29.9 (6.6)	30.5 (6.4)	32.0 (7.5)	31.6 (7.6)
BMI, No. (%)						
Normal	97 (29.3)	42 (23.3)	37 (21.1)	21 (21.6)	17 (15.6)	29 (19.2)
Overweight	115 (34.7)	71 (39.4)	63 (36.0)	29 (29.9)	33 (30.3)	41 (27.2)
Obese	119 (36.0)	67 (37.2)	75 (42.9)	47 (48.5)	59 (54.1)	81 (53.6)
Smoking history, No. (%)						
Current	117 (35.3)	62 (34.4)	60 (34.1)	27 (27.8)	32 (29.4)	46 (30.5)
Former	62 (18.7)	50 (27.8)	43 (24.4)	24 (24.7)	31 (28.4)	46 (30.5)
Never	152 (45.9)	68 (37.8)	73 (41.5)	46 (47.4)	46 (42.2)	59 (39.1)
Alcohol history, No. (%)						
Current	212 (64.0)	109 (60.6)	117 (66.5)	69 (71.1)	69 (63.3)	91 (60.3)
Former	21 (6.3)	11 (6.1)	8 (4.5)	13 (13.4)	9 (8.3)	10 (6.6)

Response Types in Patients with Plaque Psoriasis: supplement

	SRT1 (n = 331)	SRT2 (n=180)	SRT3 (n=177)	SRT4 (n=97)	SRT5 (n=109)	SRT6 (n=151)
Never	98 (29.6)	60 (33.3)	51 (29.0)	15 (15.5)	31 (28.4)	50 (33.1)
Mean psoriasis duration (SD), y	16.9 (11.7)	16.8 (11.3)	19.2 (12.6)	16.8 (12.2)	20.5 (12.0)	21.7 (14.2)
Mean age at psoriasis diagnosis (SD), y	26.9 (14.3)	27.5 (15.0)	26.4 (14.3)	30.8 (16.2)	27.7 (14.5)	27.6.8 (16.0)
Mean aPASI score (SD)	19.8 (7.2)	19.4 (7.7)	19.1 (5.8)	19.7 (5.8)	20.8 (8.2)	21.8 (9.3)
PsA – yes, No. (%)	56 (16.9)	22 (12.2)	35 (19.8)	14 (14.4)	27 (24.8)	22 (14.6)
Mean IGA score (SD)	3.2 (0.4)	3.2 (0.4)	3.3 (0.4)	3.2 (0.4)	3.3 (0.5)	3.3 (0.4)
Mean BSA, (SD)	22.7 (12.5)	23.3 (13.7)	22.6 (11.5)	23.5 (12.1)	26.7 (16.1)	27.9 (15.6)
Systemic naive, No. (%)	121 (36.6)	77 (42.8)	79 (44.6)	29 (29.9)	38 (34.9)	44 (29.1)
Biologic naive, No. (%)	242 (73.1)	141 (78.3)	135 (76.3)	86 (88.7)	77 (70.6)	101 (66.9)

Response Types in Patients with Plaque Psoriasis: supplement

	SRT1 (n = 331)	SRT2 (n=180)	SRT3 (n=177)	SRT4 (n=97)	SRT5 (n=109)	SRT6 (n=151)
Number of prior biologics (%)						
1	61 (18.4)	34 (18.9)	31 (17.5)	9 (9.3)	23 (21.1)	24 (15.9)
2	27 (8.2)	4 (2.2)	9 (5.1)	1 (1.0)	8 (7.3)	19 (12.6)
≥3	1 (0.3)	1 (0.6)	2 (1.1)	1 (1.0)	1 (0.9)	7 (4.6)

125 SRT1: Maintenance of clear response; SRT2: Maintenance of optimal response; SRT3: Fluctuation around optimal response; SRT4: Gaining optimal response over time;

126 SRT5: Partial response; SRT6: Non-acceptable response. *aPASI* absolute Psoriasis Area and Severity Index, *BMI* body mass index, *BSA* body surface area, *GUS* guselkumab,

127 *IGA* Investigator's Global Assessment, *PsA* psoriatic arthritis, *RT* response type, *SEC* secukinumab, *SRT* short-term RT

128 **Supplementary Table 2. Baseline Characteristics by Efficacy RT of Patients in VOYAGE 1 Who Received Treatment Through Week 48**

129 **(Short Term)**

130 **A table of baseline characteristics for each short-term response type in VOYAGE 1, showing that mean age, BMI, aPASI score, and BSA at baseline were lower for**

131 **SRT1 than for SRT6**

	SRT1 (n=110)	SRT2 (n=80)	SRT3 (n=96)	SRT4 (n=78)	SRT5 (n=104)	SRT6 (n=194)
Mean age (SD), y	41.6 (12.4)	42.1 (12.4)	41.6 (12.9)	44.9 (12.5)	45.1 (11.1)	44.3 (12.5)
Age <45 years, No. (%)	63 (57.3)	50 (62.5)	54 (56.3)	41 (52.6)	49 (47.1)	98 (50.5)
Sex – male, No. (%)	86 (78.2)	52 (65.0)	74 (77.1)	56 (71.8)	83 (79.8)	137 (70.6)
Race, No. (%)						
Asia Pacific	9 (8.2)	16 (20.0)	20 (20.8)	17 (21.8)	27 (26.0)	34 (17.5)
Eastern Europe	44 (40.0)	30 (37.5)	27 (28.1)	23 (29.5)	21 (20.2)	60 (30.9)
North American	44 (40.0)	20 (25.0)	35 (36.5)	22 (28.2)	36 (34.6)	73 (37.6)

Response Types in Patients with Plaque Psoriasis: supplement

	SRT1 (n=110)	SRT2 (n=80)	SRT3 (n=96)	SRT4 (n=78)	SRT5 (n=104)	SRT6 (n=194)
Western Europe	13 (11.8)	14 (17.5)	14 (14.6)	16 (20.5)	20 (19.2)	27 (13.9)
Mean weight (SD), kg	86.6 (19.2)	84.5 (19.6)	85.9 (18.9)	89.7 (19.0)	94.0 (20.3)	94.1 (23.5)
Mean BMI (SD), kg/m ²	28.8 (6.0)	28.4 (6.1)	28.6 (6.0)	30.0 (6.0)	30.2 (5.6)	31.2 (7.1)
BMI, No. (%)						
Normal	30 (27.3)	25 (31.3)	32 (33.3)	16 (20.5)	14 (13.5)	33 (17.0)
Overweight	40 (36.4)	32 (40.0)	32 (33.3)	25 (32.1)	44 (42.3)	61 (31.4)
Obese	40 (36.4)	23 (28.8)	32 (33.3)	37 (47.4)	46(44.2)	100 (51.5)
Smoking history, No. (%)						
Current	30 (27.3)	18 (22.5)	27 (28.1)	33 (42.3)	31 (29.8)	67 (34.5)
Former	15 (13.6)	22 (27.5)	25 (26.0)	17 (21.8)	30 (28.8)	37 (19.1)

Response Types in Patients with Plaque Psoriasis: supplement

	SRT1 (n=110)	SRT2 (n=80)	SRT3 (n=96)	SRT4 (n=78)	SRT5 (n=104)	SRT6 (n=194)
Never	65 (59.1)	40 (50.0)	44 (45.8)	28 (35.9)	43 (41.3)	90 (46.4)
Alcohol history, No. (%)						
Current	72 (65.5)	42 (52.5)	66 (68.8)	55 (70.5)	70 (67.3)	106 (54.6)
Former	11 (10.0)	7 (8.8)	2 (2.1)	4 (5.1)	8 (7.7)	21 (10.8)
Never	27 (24.5)	31 (38.8)	28 (29.2)	19 (24.4)	26 (25.0)	67 (34.5)
Mean psoriasis duration, years (SD)	14.5 (10.0)	18.0 (11.7)	18.8 (13.6)	19.3 (12.3)	19.4 (12.1)	16.5 (11.1)
Mean age at psoriasis diagnosis, years (SD)	27.2 (12.8)	24.3 (12.8)	22.8 (12.3)	25.8 (13.3)	25.8 (11.5)	28.0 (14.2)
Mean aPASI score (SD)	21.2 (7.5)	21.1 (8.9)	22.2 (10.0)	22.1 (9.2)	21.8 (7.9)	23.6 (10.4)

Response Types in Patients with Plaque Psoriasis: supplement

	SRT1 (n=110)	SRT2 (n=80)	SRT3 (n=96)	SRT4 (n=78)	SRT5 (n=104)	SRT6 (n=194)
PsA – yes, No. (%)	23 (20.9)	15 (18.8)	16 (16.7)	12 (15.4)	17 (16.3)	44 (22.7)
Nail psoriasis – yes, No. (%)	50 (45.5)	51 (63.8)	60 (62.5)	53 (67.9)	71 (68.3)	109 (56.2)
Mean NAPSI score (SD)	4.9 (2.0)	4.3 (1.9)	4.1 (2.0)	5.4 (1.9)	4.9 (2.1)	4.5 (1.9)
Mean DLQI score (SD)	12.9 (7.3)	13.8 (7.1)	15.3 (7.3)	15.7 (7.9)	13.3 (7.3)	14.3 (7.3)
Mean IGA score (SD)	3.2 (0.4)	3.2 (0.4)	3.2 (0.4)	3.3 (0.5)	3.3 (0.5)	3.3 (0.4)
Mean BSA, No. (%)	26.8 (14.3)	25.4 (13.3)	26.5 (15.9)	29.7 (18.3)	28.6 (15.8)	31.1 (19.5)
Prior systemic naive, No. (%)	31 (28.2)	13 (16.3)	31 (32.3)	21 (26.9)	35 (33.7)	69 (35.6)

Response Types in Patients with Plaque Psoriasis: supplement

	SRT1 (n=110)	SRT2 (n=80)	SRT3 (n=96)	SRT4 (n=78)	SRT5 (n=104)	SRT6 (n=194)
Biologic naive, No. (%)	78 (70.9)	65 (81.3)	78 (81.3)	72 (92.3)	80 (76.9)	148 (76.3)
Number of prior biologics, No. (%)						
1	25 (22.7)	12 (15.0)	14 (14.6)	6 (7.7)	21 (20.2)	31 (16.0)
2	6 (5.5)	3 (3.8)	3 (3.1)	0	2 (1.9)	8 (4.1)
≥3	1 (0.9)	0	1 (1.0)	0	1 (1.0)	7 (3.6)

132 SRT1: Maintenance of clear response; SRT2: Maintenance of optimal response; SRT3: Fluctuation around optimal response; SRT4: Gaining optimal response over time;
 133 SRT5: Partial response; SRT6: Non-acceptable response. *ADA* adalimumab, *aPASI* absolute Psoriasis Area and Severity Index, *BMI* body mass index, *BSA* body surface area,
 134 *DLQI* Dermatology Life Quality Index, *GUS* guselkumab, *IGA* Investigator’s Global Assessment, *NAPSI* Nail Psoriasis Severity Index, *PsA* psoriatic arthritis, *RT* response
 135 type, *SRT* short-term RT

136

137 **Supplementary Table 3. Baseline Demographic and Clinical Characteristics by Efficacy RT of Patients in ECLIPSE Who Received**

138 **Treatment Through Week 48 (Short Term) by Treatment Arm**

139 A table of baseline characteristics for each short-term response type in ECLIPSE, showing that psoriasis duration was lowest in SRT1 for patients receiving secukinumab,
 140 and lowest in SRT4 for patients receiving guselkumab

	SRT1		SRT2		SRT3		SRT4		SRT5		SRT6	
	GUS (n=182)	SEC (n=149)	GUS (n=98)	SEC (n=82)	GUS (n=87)	SEC (n=90)	GUS (n=53)	SEC (n=44)	GUS (n=57)	SEC (n=52)	GUS (n=57)	SEC (n=94)
Mean age (SD), y	44.9 (14.5)	42.5 (13.1)	45.1 (14.4)	43.2 (13.1)	46.8 (13.4)	44.2 (13.0)	46.1 (11.5)	49.1 (14.2)	48.4 (11.8)	48.0 (14.1)	50.4 (13.2)	48.6 (13.4)
Age <45 years, No. (%)	87 (47.8)	90 (60.4)	48 (49.0)	51 (62.2)	31 (35.6)	47 (52.2)	23 (43.4)	14 (31.8)	18 (31.6)	21 (40.4)	19 (33.3)	39 (41.5)
Sex – male, No. (%)	124 (68.1)	97 (65.1)	64 (65.3)	56 (68.3)	56 (64.4)	59 (65.6)	41 (77.4)	36 (81.8)	46 (80.7)	32 (61.5)	34 (59.6)	59 (62.8)
Race, No. (%)												
Asia Pacific	10 (5.5)	10 (6.7)	8 (8.2)	7 (8.5)	9 (10.3)	8 (8.9)	6 (11.3)	3 (6.8)	1 (1.8)	2 (3.8)	1 (1.8)	6 (6.4)

Response Types in Patients with Plaque Psoriasis: supplement

	SRT1		SRT2		SRT3		SRT4		SRT5		SRT6	
	GUS (n=182)	SEC (n=149)	GUS (n=98)	SEC (n=82)	GUS (n=87)	SEC (n=90)	GUS (n=53)	SEC (n=44)	GUS (n=57)	SEC (n=52)	GUS (n=57)	SEC (n=94)
Eastern Europe	70 (38.5)	65 (43.6)	42 (42.9)	27 (32.9)	20 (23.0)	26 (28.9)	16 (30.2)	9 (20.5)	13 (22.8)	15 (28.8)	10 (17.5)	25 (26.6)
North American	63 (34.6)	49 (32.9)	24 (24.5)	23 (28.0)	36 (41.4)	31 (34.4)	15 (28.3)	16 (36.4)	28 (49.1)	26 (50.0)	33 (57.9)	45 (47.9)
Western Europe	39 (21.4)	25 (16.8)	24 (24.5)	25 (30.5)	22 (25.3)	25 (27.8)	16 (30.2)	16 (36.4)	15 (26.3)	9 (17.3)	13 (22.8)	18 (19.1)
Mean weight (SD), kg	86.0 (20.9)	85.2 (19.2)	84.2 (20.3)	88.9 (16.3)	90.2 (24.5)	88.5 (19.8)	94.4 (21.6)	89.9 (17.1)	94.7 (24.0)	93.9 (18.5)	97.1 (27.6)	93.1 (26.0)
Mean BMI (SD), kg/m ²	28.6 (6.6)	28.6 (5.9)	28.6 (6.1)	29.9 (5.5)	30.2 (7.6)	29.7 (5.5)	30.9 (7.0)	30.1 (5.8)	31.5 (8.1)	32.6 (6.9)	32.4 (7.4)	31.2 (7.7)
BMI, No. (%)												
Normal	53 (29.1)	44 (29.5)	30 (30.6)	12 (14.6)	22 (25.6)	15 (16.9)	11 (20.8)	10 (22.7)	10 (17.5)	7 (13.5)	8 (14.0)	21 (22.3)
Overweight	65 (35.7)	50 (33.6)	36 (36.7)	35 (42.7)	26 (30.2)	37 (41.6)	16 (30.2)	13 (29.5)	20 (35.1)	13 (25.0)	13 (22.8)	28 (29.8)
Obese	64 (35.2)	55 (36.9)	32 (32.7)	35 (42.7)	38 (44.2)	37 (41.6)	26 (49.1)	21 (47.7)	27 (47.4)	32 (61.5)	36 (63.2)	45 (47.9)

Response Types in Patients with Plaque Psoriasis: supplement

	SRT1		SRT2		SRT3		SRT4		SRT5		SRT6	
	GUS (n=182)	SEC (n=149)	GUS (n=98)	SEC (n=82)	GUS (n=87)	SEC (n=90)	GUS (n=53)	SEC (n=44)	GUS (n=57)	SEC (n=52)	GUS (n=57)	SEC (n=94)
Smoking history, No. (%)												
Current	70 (38.5)	47 (31.5)	38 (38.8)	24 (29.3)	31 (35.6)	29 (32.6)	17 (32.1)	10 (22.7)	12 (21.1)	20 (38.5)	12 (21.1)	34 (36.2)
Former	36 (19.8)	26 (17.4)	24 (24.5)	26 (31.7)	20 (23.0)	23 (25.8)	14 (26.4)	10 (22.7)	16 (28.1)	15 (28.8)	16 (28.1)	30 (31.9)
Never	76 (41.8)	76 (51.0)	36 (36.7)	32 (39.0)	36 (41.4)	37 (41.6)	22 (41.5)	24 (54.5)	29 (50.9)	17 (32.7)	29 (50.9)	30 (31.9)
Alcohol history, No. (%)												
Current	117 (64.3)	95 (63.8)	57 (58.2)	52 (63.4)	65 (74.7)	52 (58.4)	37 (69.8)	32 (72.7)	35 (61.4)	34 (65.4)	31 (54.4)	60 (63.8)
Former	12 (6.6)	9 (6.0)	8 (8.2)	3 (3.7)	3 (3.4)	5 (5.6)	9 (17.0)	4 (9.1)	4 (7.0)	5 (9.6)	4 (7.0)	6 (6.4)
Never	53 (29.1)	45 (30.2)	33 (33.7)	27 (32.9)	19 (21.8)	32 (36.0)	7 (13.2)	8 (18.2)	18 (31.6)	13 (25.0)	22 (38.6)	28 (29.8)
Mean psoriasis duration (SD), y	17.8 (11.9)	15.9 (11.4)	16.8 (11.3)	16.8 (11.3)	20.0 (13.4)	18.4 (11.9)	16.4 (11.6)	17.2 (13.0)	21.8 (11.8)	19.2 (12.3)	20.1 (12.9)	22.6 (15.0)

Response Types in Patients with Plaque Psoriasis: supplement

	SRT1		SRT2		SRT3		SRT4		SRT5		SRT6	
	GUS (n=182)	SEC (n=149)	GUS (n=98)	SEC (n=82)	GUS (n=87)	SEC (n=90)	GUS (n=53)	SEC (n=44)	GUS (n=57)	SEC (n=52)	GUS (n=57)	SEC (n=94)
Mean age at psoriasis diagnosis (SD), y	27.1 (14.4)	26.8 (14.2)	28.4 (15.4)	26.5 (14.6)	26.9 (14.3)	25.9 (14.3)	29.8 (15.8)	32.0 (16.9)	26.6 (12.4)	28.9 (16.5)	30.3 (16.2)	26.0 (15.7)
Mean aPASI score (SD)	19.7 (7.2)	19.9 (7.1)	20.2 (7.7)	18.4 (7.7)	18.8 (5.8)	19.4 (5.8)	19.7 (6.1)	19.7 (5.6)	21.0 (7.7)	20.6 (8.8)	21.2 (9.9)	22.2 (9.0)
PsA – yes, No. (%)	33 (18.1)	23 (15.4)	14 (14.3)	8 (9.8)	19 (21.8)	16 (17.8)	6 (11.3)	8 (18.2)	17 (29.8)	10 (19.2)	8 (14.0)	14 (14.9)
Mean IGA score (SD)	3.2 (0.4)	3.3 (0.4)	3.2 (0.4)	3.2 (0.4)	3.3 (0.4)	3.2 (0.4)	3.2 (0.4)	3.3 (0.5)	3.3 (0.5)	3.3 (0.4)	3.3 (0.5)	3.2 (0.4)
Mean BSA (SD)	22.7 (12.3)	22.6 (12.8)	24.9 (13.5)	21.2 (13.7)	21.2 (10.6)	24.0 (12.3)	24.5 (12.9)	22.3 (11.1)	26.5 (14.4)	26.8 (17.8)	25.5 (14.3)	29.4 (16.2)

Response Types in Patients with Plaque Psoriasis: supplement

	SRT1		SRT2		SRT3		SRT4		SRT5		SRT6	
	GUS (n=182)	SEC (n=149)	GUS (n=98)	SEC (n=82)	GUS (n=87)	SEC (n=90)	GUS (n=53)	SEC (n=44)	GUS (n=57)	SEC (n=52)	GUS (n=57)	SEC (n=94)
Systemic naive, No. (%)	65 (35.7)	56 (37.6)	44 (44.9)	33 (40.2)	41 (47.1)	38 (42.2)	16 (30.2)	13 (29.5)	24 (42.1)	14 (26.9)	16 (28.1)	28 (29.8)
Biologic naive, No. (%)	129 (70.9)	113 (75.8)	82 (83.7)	59 (72.0)	63 (72.4)	72 (80.0)	46 (86.8)	40 (90.9)	41 (71.9)	36 (69.2)	38 (66.7)	63 (67.0)
Number of prior biologics, No. (%)												
1	35 (19.2)	26 (17.4)	15 (15.3)	19 (23.2)	17 (19.5)	14 (15.6)	7 (13.2)	2 (4.5)	11 (19.3)	12 (23.1)	11 (19.3)	13 (13.8)
2	18 (9.9)	9 (6.0)	1 (1.0)	3 (3.7)	5 (5.7)	4 (4.4)	0	1 (2.3)	4 (7.0)	4 (7.7)	5 (8.8)	14 (14.9)
≥3	0	1 (0.7)	0	1 (1.2)	2 (2.3)	0	0	1 (2.3)	1 (1.8)	0	3 (5.3)	4 (4.3)

141 SRT1: Maintenance of clear response; SRT2: Maintenance of optimal response; SRT3: Fluctuation around optimal response; SRT4: Gaining optimal response over time;
 142 SRT5: Partial response; SRT6: Non-acceptable response. *aPASI* absolute Psoriasis Area and Severity Index, *BMI* body mass index, *BSA* body surface area, *GUS* guselkumab,
 143 *IGA* Investigator's Global Assessment, *PsA* psoriatic arthritis, *RT* response type, *SEC* secukinumab, *SRT* short-term RT

144

145 **Supplementary Table 4. Baseline Demographic and Clinical Characteristics by Efficacy RT of Patients in VOYAGE 1 Who Received**

146 **Treatment Through Week 48 (Short Term) by Treatment Arm**

147 A table of baseline characteristics for each short-term response type in VOYAGE 1, showing that psoriasis duration was lowest in SRT1 for patients treated with adalimumab
 148 or guselkumab

	SRT1		SRT2		SRT3		SRT4		SRT5		SRT6	
	GUS (n=74)	ADA (n=36)	GUS (n=57)	ADA (n=23)	GUS (n=56)	ADA (n=40)	GUS (n=37)	ADA (n=41)	GUS (n=55)	ADA (n=49)	GUS (n=50)	ADA (n=144)
Mean age (SD), y	41.7 (12.7)	41.3 (12.1)	42.4 (12.4)	41.6 (12.9)	42.9 (13.6)	39.7 (11.9)	45.8 (12.4)	44.2 (12.7)	45.9 (11.5)	44.1 (10.7)	46.3 (13.4)	43.6 (13.4)
Age <45 years, No. (%)	43 (58.1)	20 (55.6)	35 (61.4)	15 (65.2)	30 (53.6)	24 (60.0)	20 (54.1)	21 (51.2)	24 (43.6)	25 (51.0)	22 (44.0)	76 (52.8)
Sex – male, No. (%)	55 (74.3)	31 (86.1)	39 (68.4)	13 (56.5)	44 (78.6)	30 (75.0)	27 (73.0)	29 (70.7)	43 (78.2)	40 (81.6)	32 (64.0)	105 (72.9)
Race, No. (%)												
Asia Pacific	7 (9.5)	2 (5.6)	14 (24.6)	2 (8.7)	16 (28.6)	4 (10.0)	8 (21.6)	9 (22.0)	13 (23.6)	14 (28.6)	8 (16.0)	26 (18.1)

Response Types in Patients with Plaque Psoriasis: supplement

	SRT1		SRT2		SRT3		SRT4		SRT5		SRT6	
	GUS (n=74)	ADA (n=36)	GUS (n=57)	ADA (n=23)	GUS (n=56)	ADA (n=40)	GUS (n=37)	ADA (n=41)	GUS (n=55)	ADA (n=49)	GUS (n=50)	ADA (n=144)
Eastern Europe	27 (36.5)	17 (47.2)	21 (36.8)	9 (39.1)	12 (21.4)	15 (37.5)	8 (21.6)	15 (36.6)	14 (25.5)	7 (14.3)	17 (34.0)	43 (29.9)
North American	29 (39.2)	15 (41.7)	15 (26.3)	5 (21.7)	20 (35.7)	15 (37.5)	14 (37.8)	8 (19.5)	19 (34.5)	17 (34.7)	18 (36.0)	55 (38.2)
Western Europe	11 (14.9)	2 (5.6)	7 (12.3)	7 (30.4)	8 (14.3)	6 (15.0)	7 (18.9)	9 (22.0)	9 (16.4)	11 (22.4)	7 (14.0)	20 (13.9)
Mean weight (SD) , kg	88.4 (21.1)	83.0 (14.3)	87.6 (19.8)	76.7 (17.2)	87.9 (19.4)	83.1 (17.9)	92.5 (20.4)	87.2 (17.6)	92.2 (17.4)	96.0 (23.1)	89.8 (22.6)	95.6 (23.6)
Mean BMI (SD), kg/m ²	29.2 (6.4)	28.0 (4.9)	29.6 (6.5)	25.5 (3.9)	29.3 (5.8)	27.7 (6.1)	30.3 (6.2)	29.6 (5.8)	30.0 (5.0)	30.3 (6.3)	30.2 (7.4)	31.5 (6.9)
BMI, No. (%)												
Normal	17 (23.0)	13 (36.1)	13 (22.8)	12 (52.2)	13 (23.2)	19 (47.5)	7 (18.9)	9 (22.0)	6 (10.9)	8 (16.3)	13 (26.0)	20 (13.9)

Response Types in Patients with Plaque Psoriasis: supplement

	SRT1		SRT2		SRT3		SRT4		SRT5		SRT6	
	GUS (n=74)	ADA (n=36)	GUS (n=57)	ADA (n=23)	GUS (n=56)	ADA (n=40)	GUS (n=37)	ADA (n=41)	GUS (n=55)	ADA (n=49)	GUS (n=50)	ADA (n=144)
Overweight	27 (36.5)	13 (36.1)	23 (40.4)	9 (39.1)	20 (35.7)	12 (30.0)	12 (32.4)	13 (31.7)	25 (45.5)	19 (38.8)	14 (28.0)	47 (32.6)
Obese	30 (40.5)	10 (27.8)	21 (36.8)	2 (8.7)	23 (41.1)	9 (22.5)	18 (48.6)	19 (46.3)	24 (43.6)	22 (44.9)	23 (46.0)	77 (53.5)
Smoking history, No. (%)												
Current	24 (32.4)	6 (16.7)	13 (22.8)	5 (21.7)	20 (35.7)	7 (17.5)	18 (48.6)	15 (36.6)	18 (32.7)	13 (26.5)	13 (26.0)	54 (37.5)
Former	13 (17.6)	2 (5.6)	18 (31.6)	4 (17.4)	14 (25.0)	11 (27.5)	10 (27.0)	7 (17.1)	14 (25.5)	16 (32.7)	11 (22.0)	26 (18.1)
Never	37 (50.0)	28 (77.8)	26 (45.6)	14 (60.9)	22 (39.3)	22 (55.0)	9 (24.3)	19 (46.3)	23 (41.8)	20 (40.8)	26 (52.0)	64 (44.4)
Alcohol history, No. (%)												
Current	51 (68.9)	21 (58.3)	31 (54.4)	11 (47.8)	40 (71.4)	26 (65.0)	25 (67.6)	30 (73.2)	34 (61.8)	36 (73.5)	24 (48.8)	82 (56.9)
Former	4 (5.4)	7 (19.4)	6 (10.5)	1 (4.3)	1 (1.8)	1 (2.5)	1 (2.7)	3 (7.3)	8 (14.5)	0	3 (6.0)	18 (12.5)
Never	19 (25.7)	8 (22.2)	20 (35.1)	11 (47.8)	15 (26.8)	13 (32.5)	11 (29.7)	8 (19.5)	13 (23.6)	13 (26.5)	23 (46.0)	44 (30.6)

Response Types in Patients with Plaque Psoriasis: supplement

	SRT1		SRT2		SRT3		SRT4		SRT5		SRT6	
	GUS (n=74)	ADA (n=36)	GUS (n=57)	ADA (n=23)	GUS (n=56)	ADA (n=40)	GUS (n=37)	ADA (n=41)	GUS (n=55)	ADA (n=49)	GUS (n=50)	ADA (n=144)
Mean psoriasis duration (SD), y	14.8 (10.5)	13.9 (8.9)	18.1 (12.1)	17.6 (10.8)	19.5 (14.8)	18.0 (12.0)	18.8 (12.4)	19.7 (12.4)	18.7 (11.9)	20.1 (12.4)	18.9 (12.0)	15.6 (10.7)
Mean age at psoriasis diagnosis (SD), y	27.0 (13.4)	27.5 (11.6)	24.4 (12.8)	24.0 (12.9)	23.5 (13.5)	21.8 (10.4)	27.0 (15.0)	24.6 (11.7)	27.2 (11.8)	24.2 (11.1)	27.5 (14.8)	28.2 (14.0)
Mean aPASI score (SD)	20.2 (7.1)	23.3 (8.0)	21.0 (9.0)	21.4 (9.0)	23.1 (11.6)	21.0 (7.2)	21.4 (7.9)	22.8 (10.2)	22.4 (8.8)	21.1 (6.6)	25.2 (11.6)	23.0 (10.0)
PsA – yes, No. (%)	15 (20.3)	8 (22.2)	12 (21.1)	3 (13.0)	9 (16.1)	7 (17.5)	5 (13.5)	7 (17.1)	8 (14.5)	9 (18.4)	15 (30.0)	29 (20.1)

Response Types in Patients with Plaque Psoriasis: supplement

	SRT1		SRT2		SRT3		SRT4		SRT5		SRT6	
	GUS (n=74)	ADA (n=36)	GUS (n=57)	ADA (n=23)	GUS (n=56)	ADA (n=40)	GUS (n=37)	ADA (n=41)	GUS (n=55)	ADA (n=49)	GUS (n=50)	ADA (n=144)
Nail psoriasis – yes, No. (%)	32 (43.2)	18 (50.0)	37 (64.9)	14 (60.9)	36 (64.3)	24 (60.0)	26 (70.3)	27 (65.9)	37 (67.3)	34 (69.4)	30 (60.0)	79 (54.9)
Mean NAPSI score (SD)	(n=22) 5.2 (2.0)	(n=15) 4.5 (2.0)	(n=27) 4.2 (1.8)	(n=6) 4.7 (2.7)	(n=20) 4.0 (2.1)	(n=16) 4.3 (2.1)	(n=17) 5.2 (2.0)	(n=11) 5.6 (1.7)	(n=19) 4.7 (2.2)	(n=20) 5.1 (2.0)	(n=15) 5.1 (1.7)	(n=42) 4.3 (1.9)
Mean DLQI score (SD)	(n=72) 12.9 (7.8)	(n=35) 12.8 (6.2)	(n=55) 14.3 (7.3)	(n=23) 12.6 (6.7)	(n=55) 14.4 (7.6)	(n=39) 16.5 (6.7)	(n=37) 14.8 (7.2)	(n=39) 16.6 (8.5)	(n=54) 13.2 (7.0)	(n=47) 13.3 (7.8)	(n=49) 14.7 (7.8)	(n=144) 14.2 (7.1)
Mean IGA score (SD)	3.2 (0.4)	3.4 (0.5)	3.2 (0.4)	3.2 (0.5)	3.3 (0.4)	3.2 (0.4)	3.3 (0.5)	3.3 (0.5)	3.3 (0.4)	3.3 (0.5)	3.2 (0.4)	3.3 (0.4)
Mean BSA, No. (%)	25.6 (13.3)	29.2 (16.3)	25.4 (13.6)	25.3 (12.6)	26.9 (17.3)	25.9 (13.7)	28.4 (18.3)	30.8 (18.5)	29.4 (16.8)	27.7 (14.8)	35.9 (22.5)	29.4 (18.1)
Prior systemic naive, No. (%)	23 (31.1)	8 (22.2)	12 (21.1)	1 (4.3)	19 (33.9)	12 (30.0)	11 (29.7)	10 (24.4)	18 (32.7)	17 (34.7)	17 (34.0)	52 (36.1)

Response Types in Patients with Plaque Psoriasis: supplement

	SRT1		SRT2		SRT3		SRT4		SRT5		SRT6	
	GUS (n=74)	ADA (n=36)	GUS (n=57)	ADA (n=23)	GUS (n=56)	ADA (n=40)	GUS (n=37)	ADA (n=41)	GUS (n=55)	ADA (n=49)	GUS (n=50)	ADA (n=144)
Biologic naive, No. (%)	54 (73.0)	24 (66.7)	46 (80.7)	19 (82.6)	44 (78.6)	34 (85.0)	35 (94.6)	37 (90.2)	44 (80.0)	36 (73.5)	35 (70.0)	113 (78.5)
Number of prior biologics, No. (%)												
1	16 (21.6)	9 (25.0)	9 (15.8)	3 (13.0)	8 (14.3)	6 (15.0)	2 (5.4)	4 (9.8)	11 (20.0)	10 (20.4)	11 (22.0)	20 (13.9)
2	3 (4.1)	3 (8.3)	2 (3.5)	1 (4.3)	3 (5.4)	0	0	0	0	2 (4.1)	4 (8.0)	4 (2.8)
≥3	1 (1.4)	0	0	0	1 (1.8)	0	0	0	0	1 (2.0)	0	7 (4.9)

149 SRT1: Maintenance of clear response; SRT2: Maintenance of optimal response; SRT3: Fluctuation around optimal response; SRT4: Gaining optimal response over time;

150 SRT5: Partial response; SRT6: Non-acceptable response. ADA adalimumab, aPASI absolute Psoriasis Area and Severity Index, BMI body mass index, BSA body surface area,

151 DLQI Dermatology Life Quality Index, GUS guselkumab, IGA Investigator's Global Assessment, NAPSI Nail Psoriasis Severity Index, PsA psoriatic arthritis, PsO psoriasis,

152 RT response type, SRT short-term RT.

153 ***Supplementary Table 5. Baseline Characteristics by Efficacy RT of Patients in VOYAGE 1 Who Received Treatment Through Week 252***154 ***(Long Term) Based on aPASI Criteria***

155 A table of baseline characteristics for each LRT in VOYAGE 1, showing patients in LRT4 had higher mean age, BMI, and aPASI at baseline versus all other LRTs, and the
 156 proportion of patients without nail psoriasis was highest in LRT1 and LRT2

Characteristic	LRT1 (n=48)	LRT2 (n=106)	LRT3 (n=75)	LRT4 (n=43)
Mean age (SD), y	43.3 (12.5)	43.7 (13.9)	43.0 (11.9)	46.3 (11.4)
Age <45 years, No. (%)	26 (54.2)	58 (54.7)	39 (52.0)	19 (44.2)
Sex – male, No. (%)	38 (79.2)	75 (70.8)	53 (70.7)	37 (86.0)
Race, No. (%)				
Asia Pacific	6 (12.5)	18 (17.0)	21 (28.0)	13 (30.2)
Eastern Europe	25 (52.1)	30 (28.3)	19 (25.3)	12 (27.9)
North American	12 (25.0)	39 (36.8)	25 (33.3)	13 (30.2)
Western Europe	5 (10.4)	19 (17.9)	10 (13.3)	5 (11.6)
Mean weight, kg (SD)	85.4 (17.6)	90.9 (21.1)	90.0 (18.5)	94.3 (21.7)

Response Types in Patients with Plaque Psoriasis: supplement

Characteristic	LRT1 (n=48)	LRT2 (n=106)	LRT3 (n=75)	LRT4 (n=43)
Mean BMI (SD) , kg/m ²	28.0 (5.2)	30.3 (6.5)	29.7 (5.4)	30.7 (7.2)
BMI, No. (%)				
Normal	11 (22.9)	19 (17.9)	13 (17.3)	10 (23.3)
Overweight	20 (41.7)	40 (37.7)	33 (44.0)	11 (25.6)
Obese	17 (35.4)	47 (44.3)	29 (38.7)	22 (51.2)
Smoking history, No. (%)				
Current	17 (35.4)	34 (32.1)	23 (30.7)	15 (34.9)
Former	9 (18.8)	24 (22.6)	17 (22.7)	15 (34.9)
Never	22 (45.8)	48 (45.3)	35 (46.7)	13 (30.2)
Alcohol history, No. (%)				
Current	28 (58.3)	65 (61.3)	50 (66.7)	23 (53.5)
Former	3 (6.3)	7 (6.6)	4 (5.3)	6 (14.0)

Response Types in Patients with Plaque Psoriasis: supplement

Characteristic	LRT1 (n=48)	LRT2 (n=106)	LRT3 (n=75)	LRT4 (n=43)
Never	17 (35.4)	34 (32.1)	21 (28.0)	14 (32.6)
Mean psoriasis duration (SD), y	18.4 (10.5)	16.2 (12.7)	18.6 (13.0)	19.3 (11.5)
Mean age at psoriasis diagnosis (SD), y	25.0 (11.8)	27.6 (14.2)	24.5 (12.1)	27.1 (13.2)
Mean aPASI score (SD)	21.7 (6.7)	21.4 (10.0)	20.8 (7.1)	28.3 (12.0)
PsA – yes, No. (%)	10 (20.8)	15 (14.2)	16 (21.3)	9 (20.9)
Nail psoriasis – yes, No. (%)	21 (43.8)	61 (57.5)	52 (69.3)	29 (67.4)
Mean NAPSII score (SD)	5.1 (2.1)	4.4 (2.3)	4.6 (1.9)	5.1 (2.0)
Mean DLQI score (SD)	13.3 (7.5)	(n=101) 14.0 (7.8)	(n=74) 13.9 (6.8)	13.9 (6.9)
Mean IGA score (SD)	3.3 (0.4)	3.2 (0.4)	3.2 (0.4)	3.2 (0.4)
Mean BSA, (SD)	27.8 (13.6)	25.6 (14.7)	26.4 (14.5)	39.7 (20.7)
Prior systemic naïve, No. (%)	10 (20.8)	37 (34.9)	21 (28.0)	11 (25.6)
Biologic naïve, No. (%)	33 (68.8)	95 (89.6)	56 (74.7)	32 (74.4)

Response Types in Patients with Plaque Psoriasis: supplement

Characteristic	LRT1 (n=48)	LRT2 (n=106)	LRT3 (n=75)	LRT4 (n=43)
Number of previous biologics, No. (%)				
1	12 (25.0)	8 (7.5)	16 (21.3)	8 (18.6)
2	2 (4.2)	2 (1.9)	3 (4.0)	3 (7.0)
≥3	1 (2.1)	1 (0.9)	0	0

157 All patients in the VOYAGE 1 OLE were treated with guselkumab. LRT1: No disease activity; LRT2: Low disease activity; LRT3: Tolerable disease activity; LRT4:
 158 Variable response. *aPASI* absolute PASI, *BMI* body mass index, *BSA* body surface area, *DLQI* Dermatology Life Quality Index, *IGA* Investigator’s Global Assessment, *LRT*
 159 long-term RT, *NAPSI* Nail Psoriasis Severity Index, *OLE* open-label extension, *PASI* Psoriasis Area and Severity Index, *PsA* psoriatic arthritis, *RT* response type

160

161

162 ***Supplementary Table 6. Baseline Demographic and Clinical Characteristics by Efficacy RT of Patients in VOYAGE 1 Who Received***

163 ***Treatment Through Week 252 (Long Term) Based on aPASI and DLQI Criteria***

164 A table of baseline characteristics for each LRT in VOYAGE 1, showing that when using observed aPASI and DLQI scores to categorize patients into LRTs, patients in

165 LRT4 had the highest baseline aPASI scores, and LRT4 included the highest proportion of patients with nail psoriasis at baseline versus other LRTs

Characteristic	LRT1 (n=48)	LRT2 (n=75)	LRT3 (n=86)	LRT4 (n=63)
Mean age (SD), y	43.3 (12.5)	42.7 (13.7)	43.4 (12.6)	46.2 (11.8)
Age <45 years, No. (%)	26 (54.2)	42 (56.0)	48 (55.8)	26 (41.3)
Sex – male, No. (%)	38 (79.2)	57 (76.0)	66 (76.7)	42 (66.7)
Race, No. (%)				
Asia Pacific	6 (12.5)	10 (13.3)	25 (29.1)	17 (27.0)
Eastern Europe	25 (52.1)	18 (24.0)	21 (24.4)	22 (34.9)
North American	12 (25.0)	32 (42.7)	30 (34.9)	15 (23.8)
Western Europe	5 (10.4)	15 (20.0)	10 (11.6)	9 (14.3)
Mean weight (SD), kg	85.4 (17.6)	92.1 (21.5)	89.9 (19.3)	92.1 (20.7)

Response Types in Patients with Plaque Psoriasis: supplement

Characteristic	LRT1 (n=48)	LRT2 (n=75)	LRT3 (n=86)	LRT4 (n=63)
Mean BMI (SD), kg/m ²	28.0 (5.2)	30.3 (6.7)	29.5 (5.2)	31.1 (7.0)
Smoking history, No. (%)				
Current	17 (35.4)	23 (30.7)	28 (32.6)	21 (33.3)
Former	9 (18.8)	18 (24.0)	20 (23.3)	18 (28.6)
Never	22 (45.8)	34 (45.3)	38 (44.2)	24 (38.1)
Alcohol history, No. (%)				
Current	28 (58.3)	52 (69.3)	56 (65.1)	30 (47.6)
Former	3 (6.3)	5 (6.7)	5 (5.8)	7 (11.1)
Never	17 (35.4)	18 (24.0)	25 (29.1)	26 (41.3)
Mean psoriasis duration (SD), y	18.4 (10.5)	16.4 (13.0)	17.5 (12.1)	19.0 (12.8)
Mean age at psoriasis diagnosis (SD), y	25.0 (11.8)	26.5 (14.2)	25.9 (12.4)	27.3 (13.8)
Mean aPASI score (SD)	21.7 (6.7)	20.4 (10.1)	20.5 (7.4)	27.8 (10.9)

Response Types in Patients with Plaque Psoriasis: supplement

Characteristic	LRT1 (n=48)	LRT2 (n=75)	LRT3 (n=86)	LRT4 (n=63)
PsA – yes, No. (%)	10 (20.8)	8 (10.7)	16 (18.6)	16 (25.4)
Nail psoriasis – yes, No. (%)	21 (43.8)	41 (54.7)	57 (66.3)	44 (69.8)
Mean NAPSII score (SD)	(n=21) 5.1 (2.1)	(n=41) 4.4 (2.4)	(n=57) 4.7 (2.0)	(n=44) 4.8 (2.0)
Mean DLQI score (SD)	13.3 (7.5)	(n=71) 13.5 (8.1)	(n=84) 13.6 (6.8)	14.9 (6.9)
Mean IGA score (SD)	3.3 (0.4)	3.2 (0.4)	3.2 (0.4)	3.3 (0.4)
Mean BSA (SD)	27.8 (13.6)	24.0 (14.2)	25.3 (14.2)	38.5 (18.8)
Systemic naive, No. (%)	10 (20.8)	28 (37.3)	25 (29.1)	16 (25.4)
Biologic naive, No. (%)	33 (68.8)	68 (90.7)	68 (79.1)	47 (74.6)
Number of prior biologics, No. (%)				
1	12 (25.0)	4 (5.3)	16 (18.6)	12 (19.0)
2	2 (4.2)	2 (2.7)	2 (2.3)	4 (6.3)
≥3	1 (2.1)	1 (1.3)	0	0

Response Types in Patients with Plaque Psoriasis: supplement

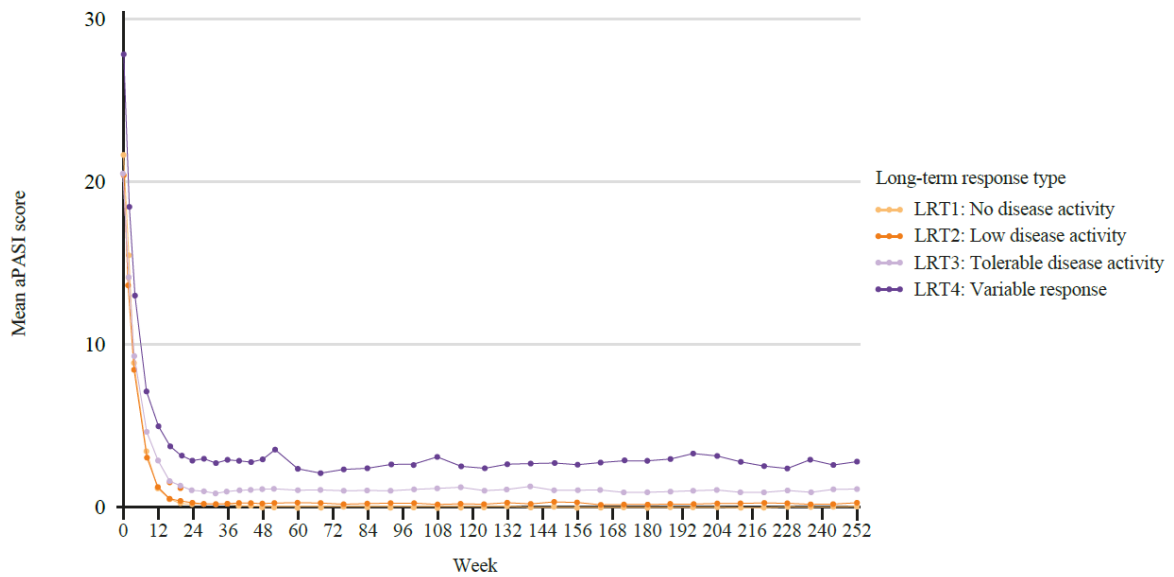
Characteristic	LRT1 (n=48)	LRT2 (n=75)	LRT3 (n=86)	LRT4 (n=63)
Topical, No. (%)	42 (87.5)	69 (92.0)	81 (94.2)	57 (90.5)
Phototherapy, No. (%)	25 (52.1)	37 (49.3)	56 (65.1)	40 (63.5)
Small molecules, No. (%)	2 (4.2)	5 (6.7)	10 (11.6)	1 (1.6)
Non-biologic systemics, No. (%)	31 (64.6)	35 (46.7)	46 (53.6)	42 (66.7)

166 LRT1: No disease activity; LRT2: Low disease activity; LRT3: Tolerable disease activity; LRT4: Variable response. *aPASI* absolute PASI, *BMI* body mass index, *BSA* body
 167 surface area, *DLQI* Dermatology Life Quality Index, *IGA* Investigator’s Global Assessment, *LRT* long-term response type, *NAPSI* Nail Psoriasis Severity Index, *PASI*
 168 Psoriasis Area and Severity Index, *PsA* psoriatic arthritis

169

170

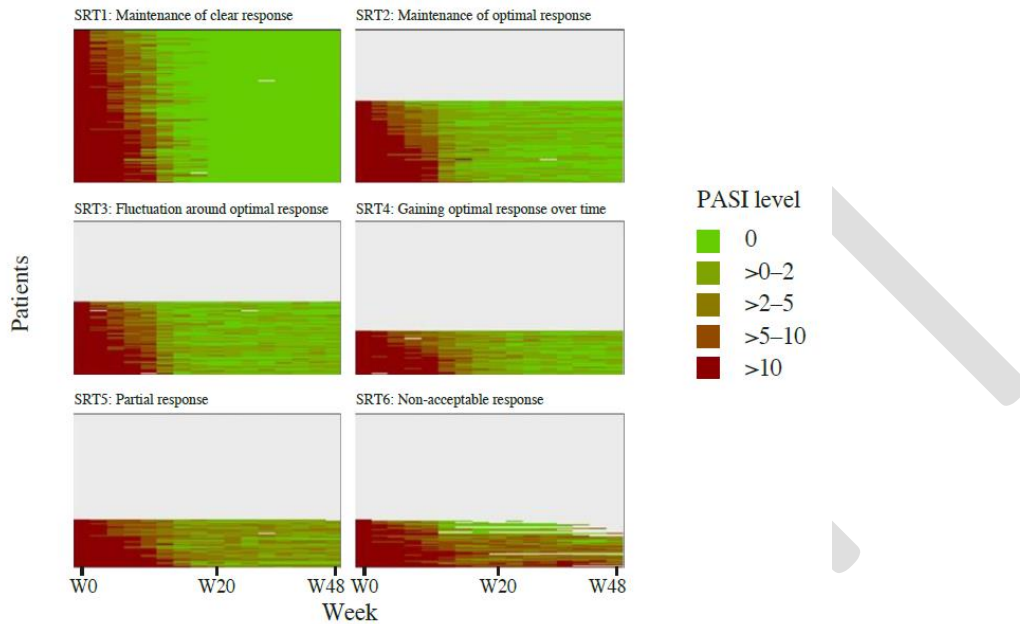
171 **Supplementary Figure 3. Mean aPASI for Patients Receiving Guselkumab in Each RT,**
172 **Categorized Using aPASI and DLQI Score in the VOYAGE 1 OLE**
173 **Graph shows that when patients were categorized into LRTs based on observed aPASI and DLQI scores in**
174 **the VOYAGE 1 OLE, aPASI score improved over time from baseline to Week 252 in all LRTs**



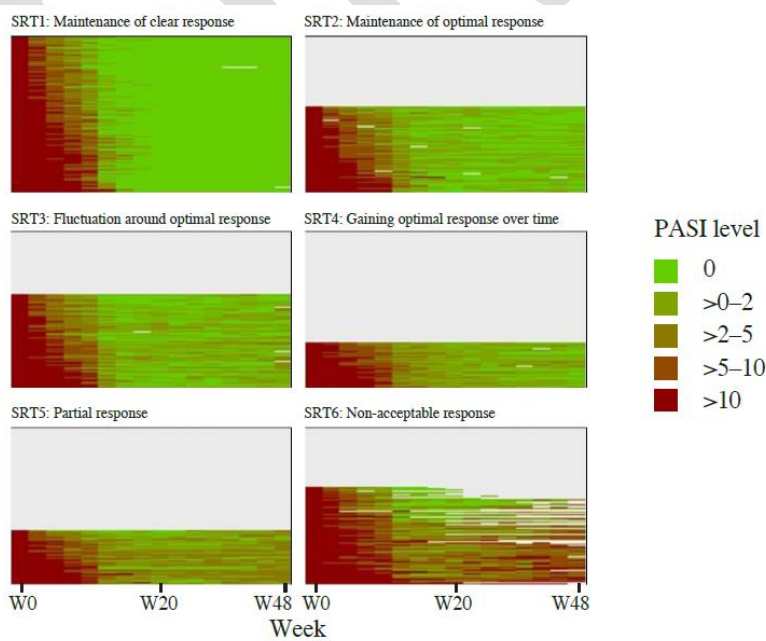
175
176 *aPASI* absolute Psoriasis Area and Severity Index, *DLQI* Dermatology Life Quality Index, *LRT* long-term
177 response type, *OLE*, open-label extension, *RT* response type

178

179 **Supplementary Figure 4. *a*PASI Heatmap Analysis of the Six Efficacy RTs in ECLIPSE**
180 **(Short Term) to Week 48**
181 **Heatmaps show that more patients were categorized into SRT1 and SRT2 with guselkumab**
182 **versus secukinumab in ECLIPSE**
183 (a) Guselkumab Group



184
185 (b) Secukinumab Group

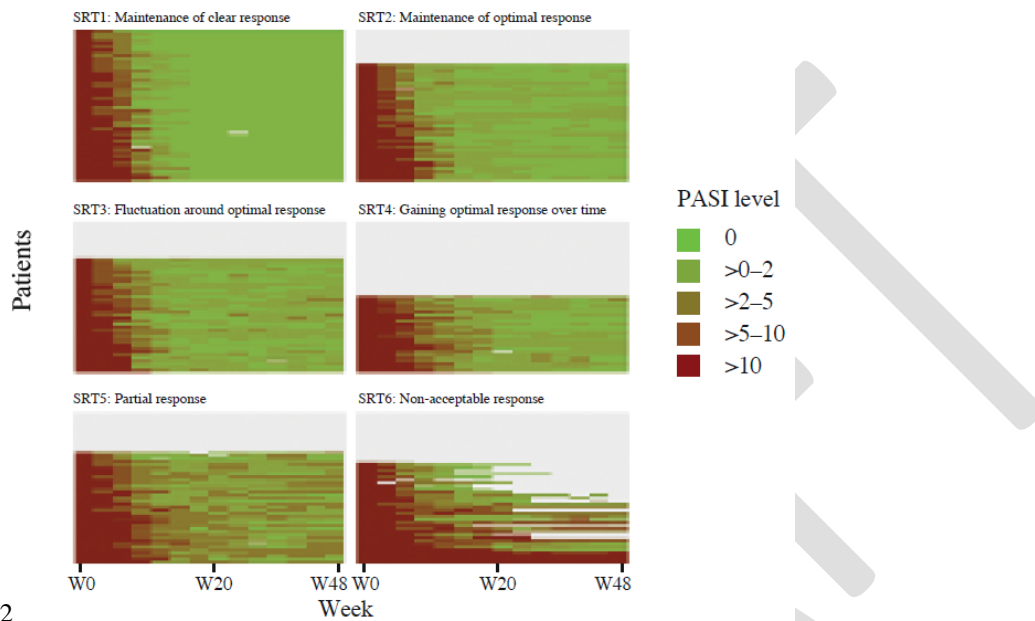


186 *a*PASI absolute Psoriasis Area and Severity Index, RT response type, SRT short-term RT, W week

187 **Supplementary Figure 5. aPASI Heatmap Analysis of the Six Efficacy RTs in the (a) and**
188 **(b) Groups in VOYAGE 1 (Short Term) to Week 48**

189 **Heatmaps show that more patients were categorized into SRT1 and SRT2 with guselkumab versus**
190 **adalimumab in VOYAGE 1**

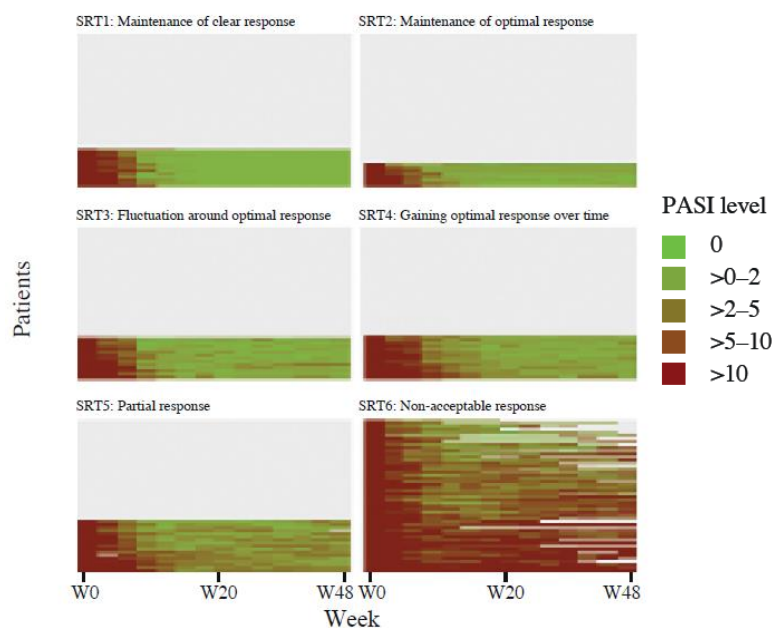
191 (a) Guselkumab Group



192

193

194 (b) Adalimumab Group



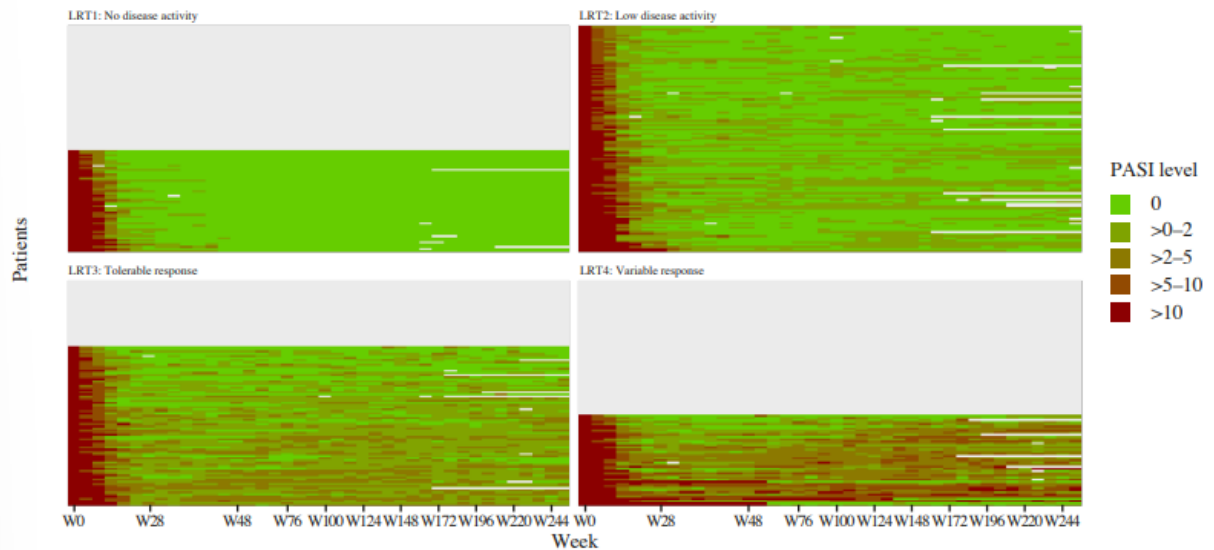
195

196 *aPASI* indicates absolute PASI, *PASI* Psoriasis Area and Severity Index, *RT* response type, *SRT* short-term RT

DRAFT

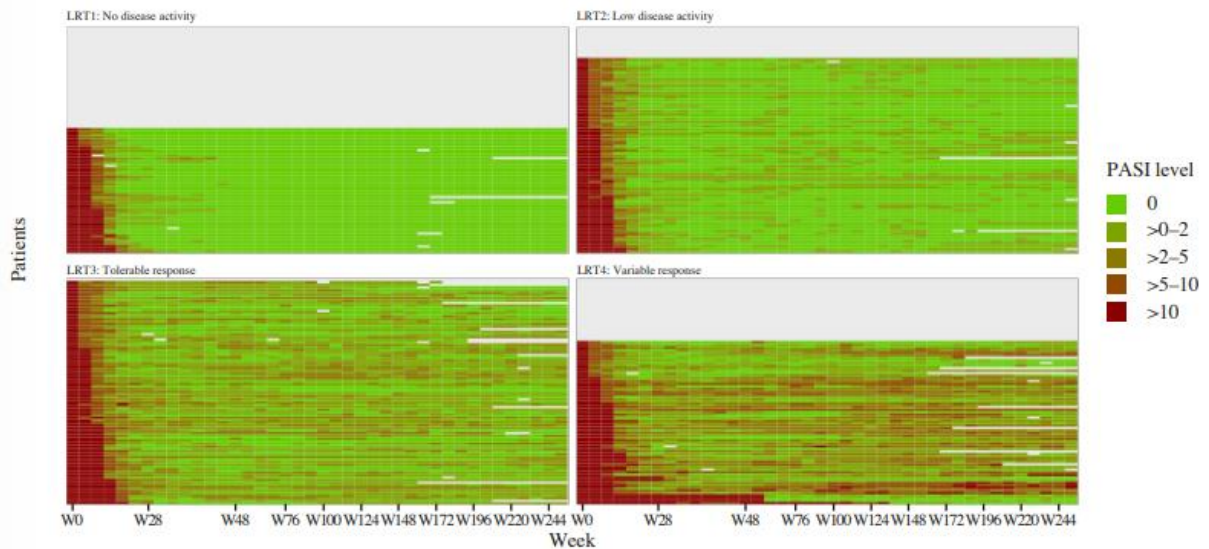
197 **Supplementary Figure 6. aPASI Heatmap Analysis of the Four Efficacy RTs in the**
198 **Continuous Guselkumab Group in the VOYAGE 1 OLE to Week 252**
199 **Heatmaps show that when patients were categorized into LRTs based on observed aPASI and DLQI scores in**
200 **the VOYAGE 1 OLE, most patients were categorized into LRT2 based on aPASI score**

201 (a) RT Groups Categorized by aPASI Only



202

203 (b) RT Groups Categorized by aPASI and DLQI Score



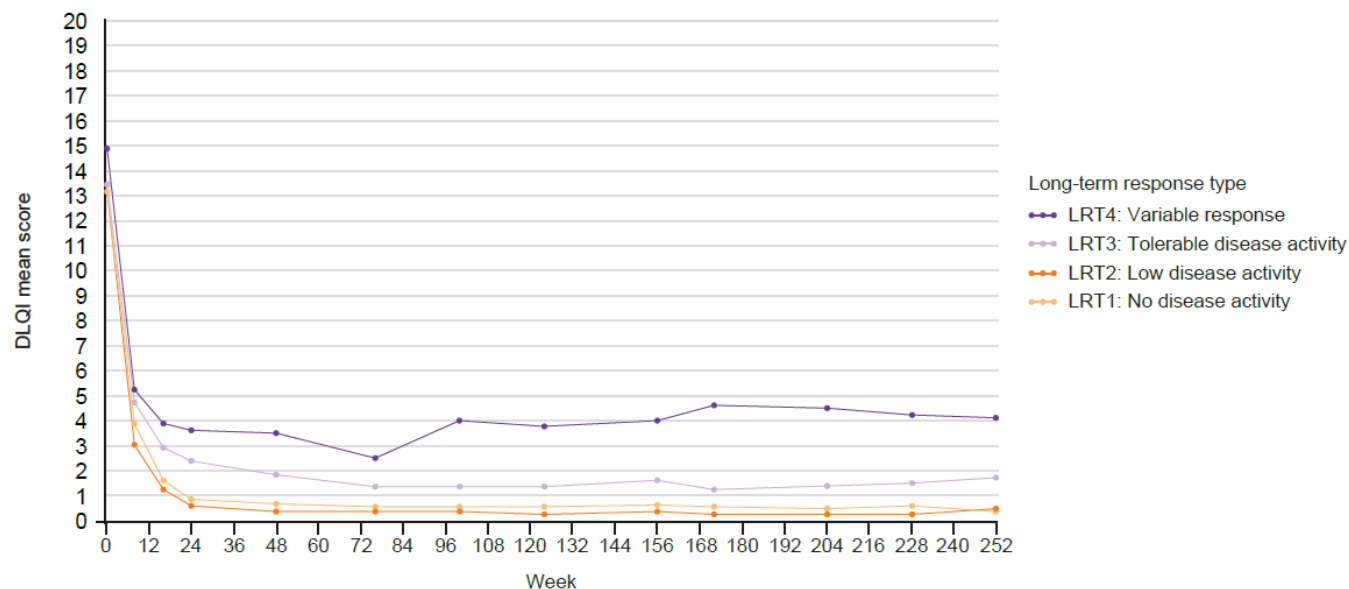
204

205 *aPASI* absolute PASI, *DLQI* Dermatology Life Quality Index, *OLE* open-label extension, *PASI* Psoriasis Area
206 and Severity Index, *RT* response type, *W* week

207 **Supplementary Figure 7. Mean DLQI Over Time for the VOYAGE 1 OLE with RT Groups Based on aPASI and DLQI Score**

208 **Graph shows that the mean DLQI scores over time for each LRT in the VOYAGE 1 OLE, demonstrating that when RTs were based on**

209 **aPASI and DLQI scores, the DLQI results were similar to those with RTs based on aPASI score alone**

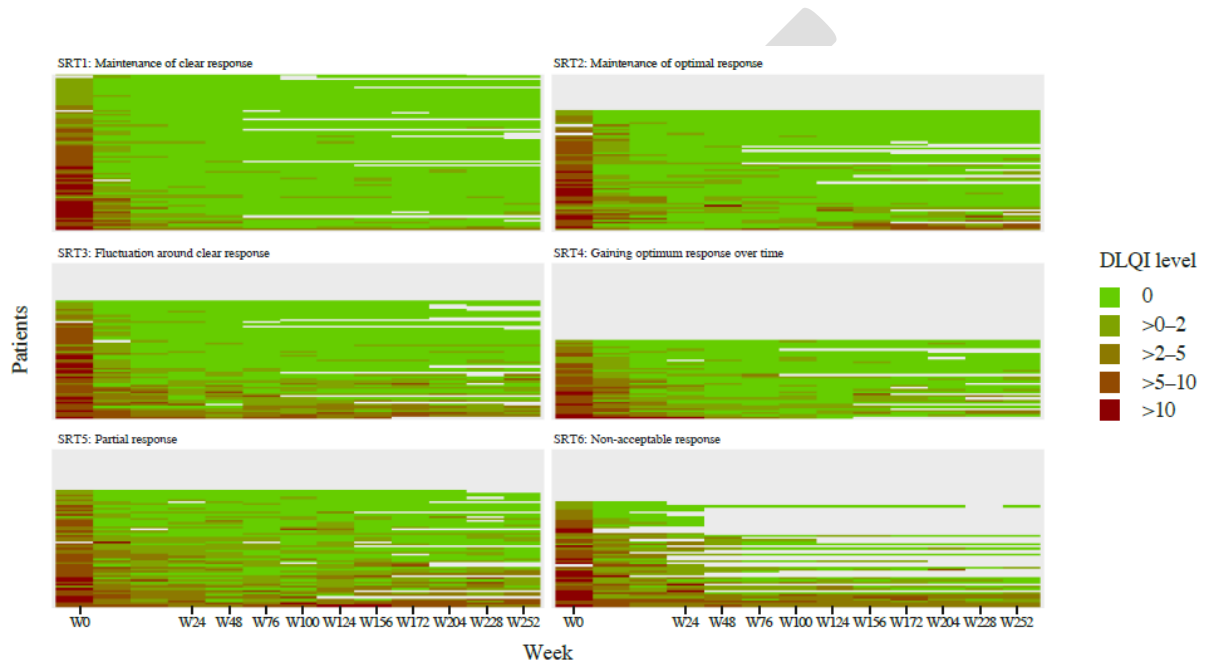


210

211 *aPASI* absolute Psoriasis Area and Severity Index, *DLQI* Dermatology Life Quality Index, *OLE* open-label extension, *RT* response type

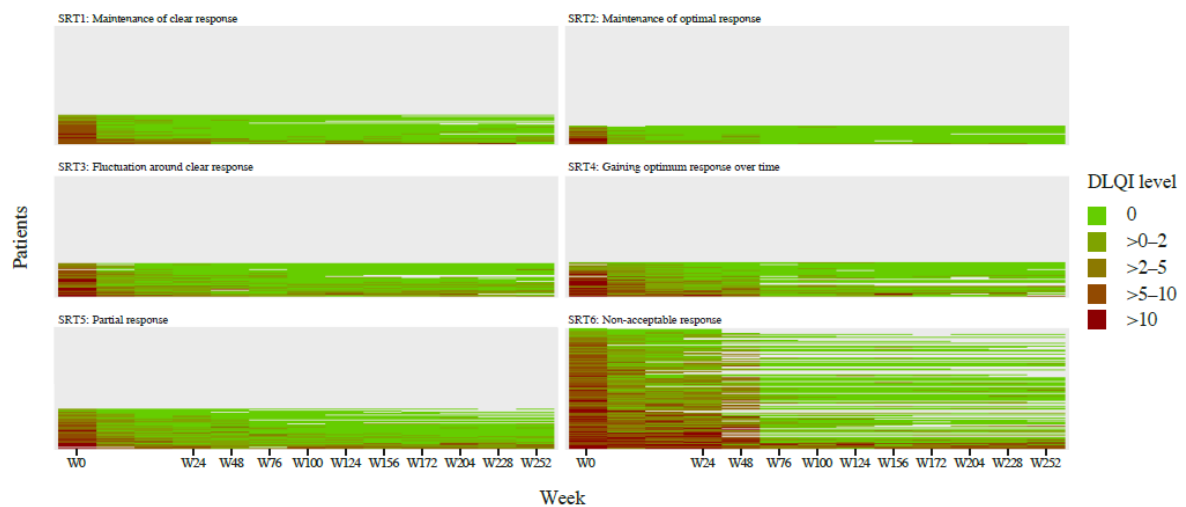
212 **Supplementary Figure 8. DLQI Heatmap Analyses of the Efficacy RTs in VOYAGE 1**
213 **(Short Term) to Week 48**
214 **Heatmaps show that greater proportions of patients in SRT1 achieved DLQI=0 versus**
215 **SRT6, and that a greater proportion of patients treated with guselkumab achieved SRT1**
216 **versus those treated with adalimumab**

217 (a) Guselkumab Group



218

219 (b) Adalimumab Group



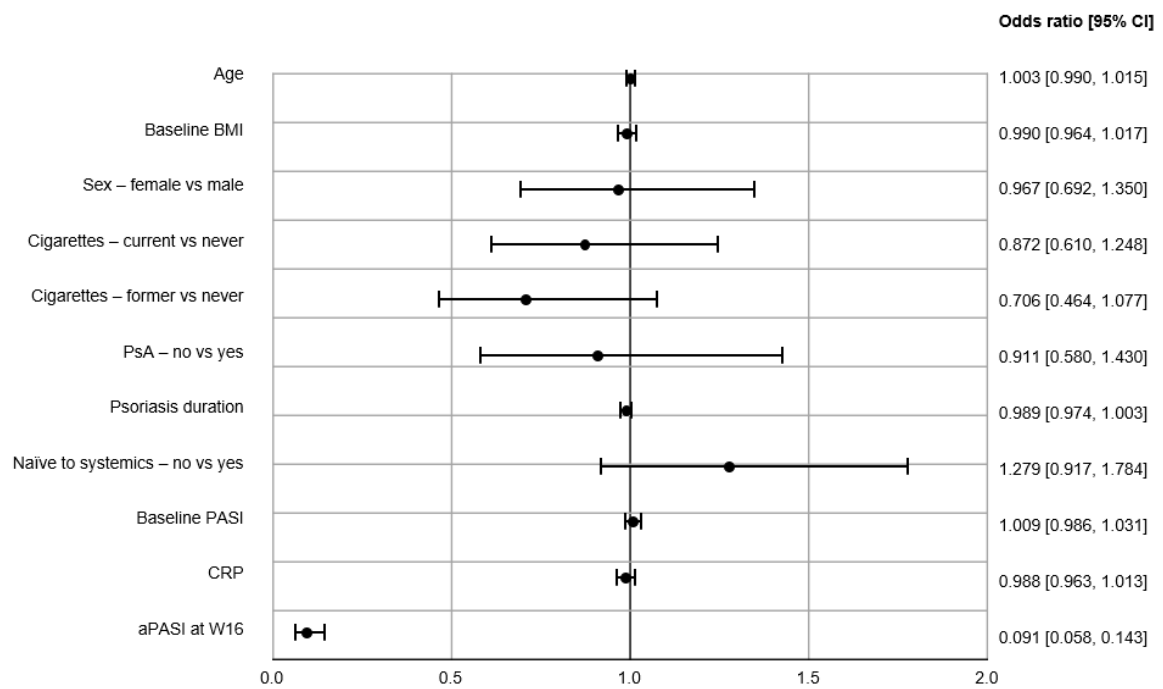
220

221 *DLQI* Dermatology Life Quality Index, *RT* response type, *W* week

Supplementary Figure 9. Association of Factors with RTs in Studies: Full Model

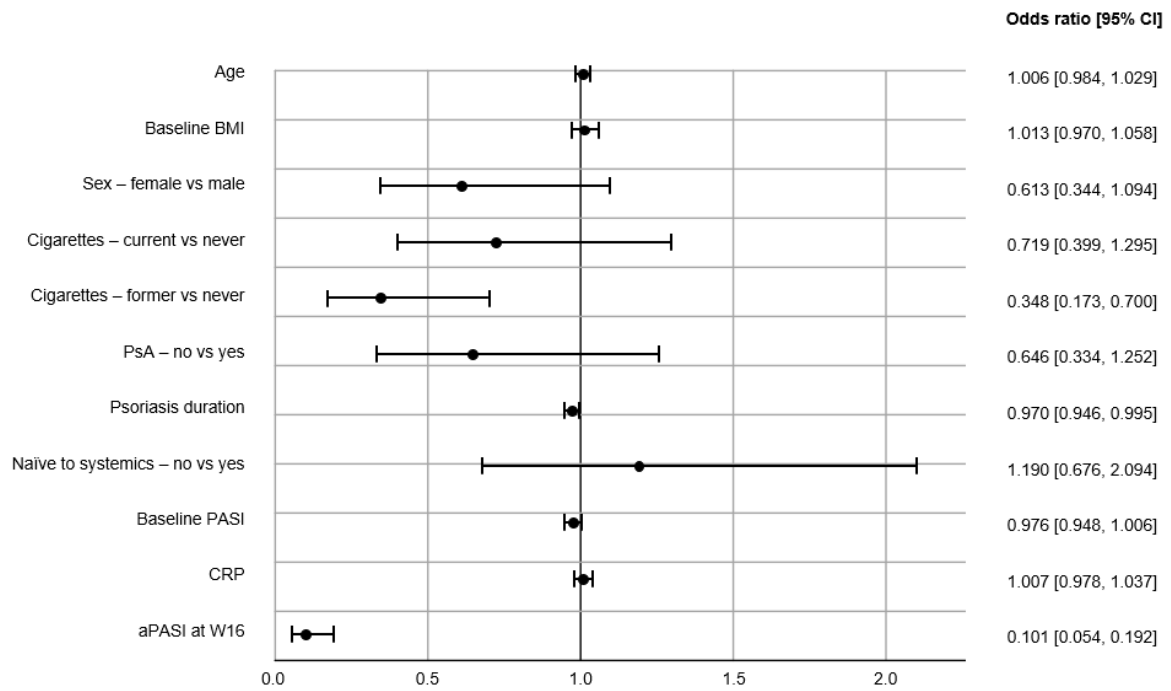
Forest plots demonstrate that in ECLIPSE, achieving SRT1 was associated with aPASI score at Week 16. In VOYAGE 1, aPASI score at Week 16 and former smoking status at baseline were associated with achieving SRT1. In the VOYAGE 1 OLE, aPASI score at Week 16 was associated with achieving LRT1

(a) SRT1 in ECLIPSE

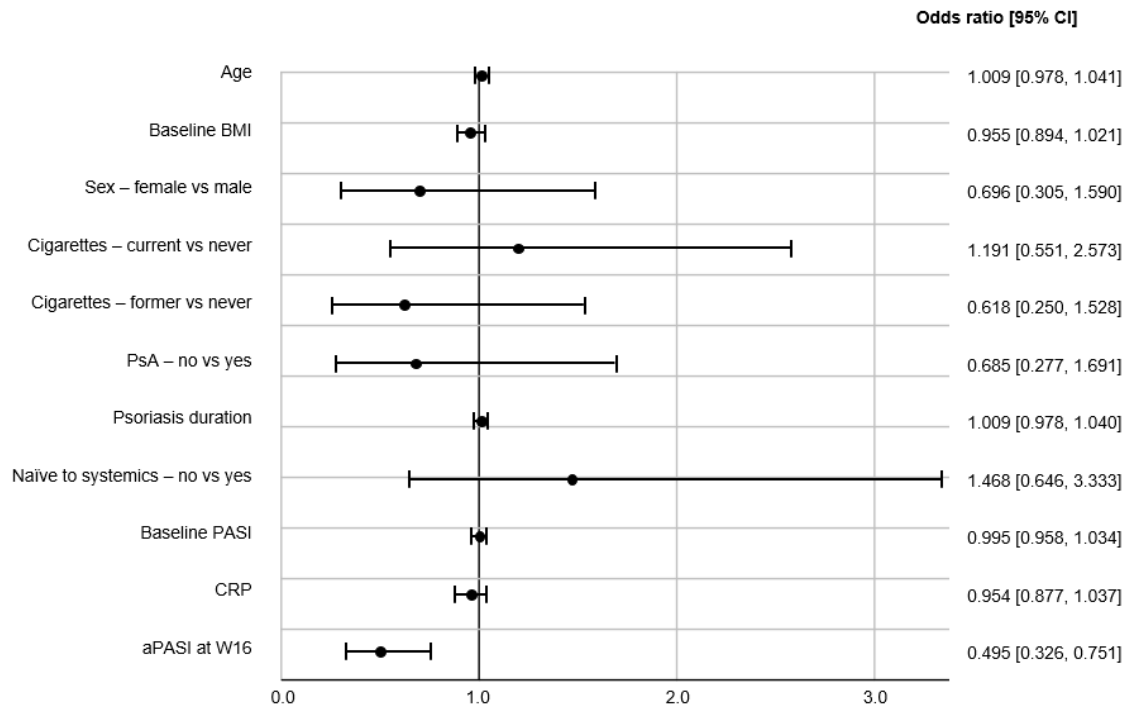


Response Types in Patients with Plaque Psoriasis

(b) SRT1 in VOYAGE 1



(c) LRT1 in the VOYAGE 1 OLE



No difference was observed between the models for LRTs based on aPASI only and aPASI and DLQI. The model for the SRT is based on patients receiving guselkumab or secukinumab in ECLIPSE and guselkumab or

Response Types in Patients with Plaque Psoriasis

adalimumab in VOYAGE 1; the model for the LRT is based on patients receiving guselkumab in the VOYAGE 1 OLE. *aPASI* absolute Psoriasis Area and Severity Index, *BMI* body mass index, *CI* confidence interval, *CRP* C-reactive protein, *DLQI* Dermatology Life Quality Index, *LRT* long-term response type, *OLE* open-label extension, *PASI* Psoriasis Area and Severity Index, *PsA* psoriatic arthritis, *PsO* psoriasis, *SRT* short-term response type, *W* week