

**Title:**

Guselkumab Efficacy in Biologic-Naïve Participants With Psoriatic Arthritis and Severe Disease Activity: Post hoc Analysis of a Phase 3 Study

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37 **Supplementary tables**

| <b>Supplementary Table S1: Baseline demographic and disease characteristics of participants in the DISCOVER-2 population with severe disease as defined by cDAPSA &gt;27, by treatment group</b> |                                   |                                   |                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----------------------------------|----------------------------|
| <b>Parameter</b>                                                                                                                                                                                 | <b>Guselkumab Q4W<br/>(N=211)</b> | <b>Guselkumab Q8W<br/>(N=211)</b> | <b>Placebo<br/>(N=226)</b> |
| <b>Demographics</b>                                                                                                                                                                              |                                   |                                   |                            |
| Age (years)                                                                                                                                                                                      | 45.6 (11.2)                       | 44.7 (11.7)                       | 45.8 (11.6)                |
| Male, n (%)                                                                                                                                                                                      | 122 (58)*                         | 112 (53)                          | 106 (47)                   |
| Female, n (%)                                                                                                                                                                                    | 89 (42)                           | 99 (47)                           | 120 (53)                   |
| <b>PsA characteristics</b>                                                                                                                                                                       |                                   |                                   |                            |
| PsA duration (years)                                                                                                                                                                             | 5.4 (5.9)                         | 5.1 (5.7)                         | 5.6 (5.6)                  |
| CRP (mg/dL)                                                                                                                                                                                      | 1.8 (2.0)                         | 2.1 (2.4)                         | 2.2 (2.8)                  |
| SJC (0-66)                                                                                                                                                                                       | 13.9 (8.0)                        | 12.6 (7.0)                        | 12.8 (6.9)                 |
| TJC (0-68)                                                                                                                                                                                       | 24.6 (13.4)                       | 21.8 (11.7)                       | 22.8 (12.9)                |
| BSA with PsO (%)                                                                                                                                                                                 | 18.6 (21.0)                       | 18.3 (21.9)                       | 17.8 (20.4)                |
| PASI score (0-72)                                                                                                                                                                                | 11.0 (12.0)                       | 10.3 (12.2)                       | 9.7 (10.1)                 |
| Dactylitis, n (%)                                                                                                                                                                                | 111 (53)*                         | 102 (48)                          | 95 (42)                    |
| DSS (0-60) <sup>a</sup>                                                                                                                                                                          | 8.7 (9.4)                         | 8.4 (9.9)                         | 8.5 (9.5)                  |
| Enthesitis, n (%)                                                                                                                                                                                | 152 (72)                          | 143 (68)                          | 167 (74)                   |
| LEI (0-6) <sup>b</sup>                                                                                                                                                                           | 3.1 (1.7)                         | 2.7 (1.5)                         | 2.9 (1.6)                  |
| <b>Composite disease measures</b>                                                                                                                                                                |                                   |                                   |                            |
| cDAPSA <sup>c</sup>                                                                                                                                                                              | 51.8 (19.8)                       | 48.0 (17.9)                       | 48.7 (18.7)                |
| PASDAS (0-10) <sup>d</sup>                                                                                                                                                                       | 6.8 (1.0)                         | 6.8 (1.0)                         | 6.7 (0.9)                  |
| <b>Patient-reported outcomes</b>                                                                                                                                                                 |                                   |                                   |                            |
| FACIT-Fatigue (0-52) <sup>e</sup>                                                                                                                                                                | 29.6 (9.4)                        | 28.1 (9.6)                        | 28.5 (9.3)                 |
| Pain (0-100 VAS)                                                                                                                                                                                 | 65.2 (17.4)                       | 67.0 (17.7)                       | 64.5 (16.8)                |
| PtGA                                                                                                                                                                                             | 70.0 (17.4)                       | 71.6 (18.2)                       | 70.0 (17.0)                |
| Arthritis+Psoriasis<br>(0-100 VAS) <sup>f</sup>                                                                                                                                                  |                                   |                                   |                            |
| <b>Baseline medications, %</b>                                                                                                                                                                   |                                   |                                   |                            |
| csDMARDs                                                                                                                                                                                         | 72                                | 69                                | 70                         |
| Corticosteroids                                                                                                                                                                                  | 19                                | 19                                | 20                         |
| NSAIDs                                                                                                                                                                                           | 70                                | 67                                | 69                         |

Data are mean (SD) unless otherwise specified. \* $p < 0.05$  vs. placebo. BSA: body surface area; cDAPSA: clinical Disease Activity Index for Psoriatic Arthritis; CRP: C-reactive protein; csDMARD: conventional synthetic disease-modifying antirheumatic drugs; DSS: dactylitis severity score; FACIT: Functional Assessment of Chronic Illness Therapy; LEI: Leeds Enthesitis Index; NSAID: non-steroidal anti-inflammatory drug; PASDAS: Psoriatic Arthritis Disease Activity Score; PASI: Psoriasis Area Severity Index; PsA: psoriatic arthritis; PsO: psoriasis; PtGA: patient global assessment; Q4W: every 4 weeks; Q8W: every 8 weeks; SD: standard deviation; SJC: swollen joint count; TJC: tender joint count; VAS: visual analog scale. <sup>a</sup> Among 111, 102, and 95 participants in the Q4W, Q8W and placebo groups, respectively. <sup>b</sup> Among 148, 142, and 164 participants in the Q4W, Q8W and placebo groups, respectively. <sup>c</sup> cDAPSA disease states: remission:  $\leq 4$ ; low:  $>4$  to  $\leq 13$ ; moderate:  $>13$  to  $\leq 27$ ; high:  $>27$  [26]. <sup>d</sup> PASDAS disease activity: very low:  $\leq 1.9$ ; low:  $>1.9$  to  $\leq 3.2$ ; moderate:  $>3.2$  to  $<5.4$ ; high:  $\geq 5.4$  [28]. <sup>e</sup> Higher scores indicate less fatigue [25]. <sup>f</sup> PtGA VAS: no symptoms: 0; minimal/no disease activity:  $\leq 20$  mm; mild:  $>20$  to  $<40$  mm; moderate:  $\geq 40$  to  $<80$  mm; severe:  $\geq 80$  to  $\leq 100$  mm.

**Supplementary Table S2: Baseline demographic and disease characteristics of participants in the DISCOVER-2 population with severe disease as defined by PASDAS  $\geq 5.4$ , by treatment group**

| Parameter                                            | Guselkumab Q4W<br>(N=212) | Guselkumab<br>Q8W (N=210) | Placebo<br>(N=217) |
|------------------------------------------------------|---------------------------|---------------------------|--------------------|
| <b>Demographics</b>                                  |                           |                           |                    |
| Age (years)                                          | 46.2 (11.4)               | 44.7 (11.8)               | 45.7 (11.6)        |
| Male, n (%)                                          | 122 (58)*                 | 110 (52)                  | 103 (48)           |
| Female, n (%)                                        | 90 (42)                   | 100 (48)                  | 114 (52)           |
| <b>PsA characteristics</b>                           |                           |                           |                    |
| PsA duration (years)                                 | 5.4 (5.9)                 | 5.2 (5.8)                 | 5.6 (5.5)          |
| CRP (mg/dL)                                          | 2.0 (2.3)                 | 2.2 (2.4)                 | 2.3 (2.8)          |
| SJC (0-66)                                           | 13.5 (8.0)                | 12.3 (7.1)                | 12.7 (7.0)         |
| TJC (0-68)                                           | 23.7 (13.6)               | 21.3 (12.0)               | 22.6 (12.8)        |
| BSA with PsO (%)                                     | 18.9 (21.0)               | 18.2 (21.7)               | 18.3 (20.8)        |
| PASI score (0-72)                                    | 11.1 (12.0)               | 10.2 (12.0)               | 9.9 (10.2)         |
| Dactylitis                                           | 116 (55)*                 | 104 (50)                  | 96 (44)            |
| DSS (0-60) <sup>a</sup>                              | 8.6 (9.2)                 | 8.2 (9.8)                 | 8.4 (9.4)          |
| Enthesitis                                           | 156 (74)                  | 145 (69)                  | 162 (75)           |
| LEI (0-6) <sup>b</sup>                               | 3.0 (1.7)                 | 2.7 (1.5)                 | 2.9 (1.6)          |
| <b>Composite disease measures</b>                    |                           |                           |                    |
| cDAPSA <sup>c</sup>                                  | 50.4 (20.6)               | 47.2 (18.6)               | 48.4 (18.7)        |
| PASDAS (0-10) <sup>e</sup>                           | 6.9 (0.9)                 | 6.8 (0.9)                 | 6.8 (0.8)          |
| <b>Patient-reported outcomes</b>                     |                           |                           |                    |
| FACIT-Fatigue (0-52) <sup>e</sup>                    | 29.6 (9.4)                | 28.2 (9.6)                | 28.4 (9.5)         |
| Pain (0-100 VAS)                                     | 64.8 (17.0)               | 66.8 (17.2)               | 64.7 (16.4)        |
| PtGA Arthritis+Psoriasis<br>(0-100 VAS) <sup>f</sup> | 70.7 (16.6)               | 71.8 (17.7)               | 71.1 (16.3)        |
| <b>Baseline medications, %</b>                       |                           |                           |                    |
| csDMARDs                                             | 73                        | 69                        | 71                 |
| Corticosteroids                                      | 20                        | 21                        | 21                 |
| NSAIDs                                               | 71                        | 66                        | 68                 |

Data are mean (SD) unless otherwise specified. \* $p < 0.05$  vs. placebo. BSA: body surface area; cDAPSA: clinical Disease Activity Index for Psoriatic Arthritis; CRP: C-reactive protein; csDMARD: conventional synthetic disease-modifying antirheumatic drugs; DSS: dactylitis severity score; FACIT: Functional Assessment of Chronic Illness Therapy; LEI: Leeds Enthesitis Index; NSAID: non-steroidal anti-inflammatory drug; PASDAS: Psoriatic Arthritis Disease Activity Score; PASI: Psoriasis Area Severity Index; PsA: psoriatic arthritis; PsO: psoriasis; PtGA: patient global assessment; Q4W: every 4 weeks; Q8W: every 8 weeks; SD: standard deviation; SJC: swollen joint count; TJC: tender joint count; VAS: visual analog scale. <sup>a</sup> Among 116, 104, and 96 participants in the Q4W, Q8W and placebo groups, respectively. <sup>b</sup> Among 156, 145, and 162 participants in the Q4W, Q8W and placebo groups, respectively. <sup>c</sup> cDAPSA disease states: remission:  $\leq 4$ ; low:  $>4$  to  $\leq 13$ ; moderate:  $>13$  to  $\leq 27$ ; high:  $>27$  [26]. <sup>d</sup> PASDAS disease activity: very low:  $\leq 1.9$ ; low:  $>1.9$  to  $\leq 3.2$ ; moderate:  $>3.2$  to  $<5.4$ ; high:  $\geq 5.4$  [28]. <sup>e</sup> Higher scores indicate less fatigue [25]. <sup>f</sup> PtGA VAS: no symptoms: 0; minimal/no disease activity:  $\leq 20$  mm; mild:  $>20$  to  $<40$  mm; moderate:  $\geq 40$  to  $<80$  mm; severe:  $80$  to  $\leq 100$  mm.

| <b>Supplementary Table S3: Baseline demographic and disease characteristics of participants in the DISCOVER-2 population with severe disease as defined by with PtGA <math>\geq 80</math> mm, by treatment group</b> |                                  |                                  |                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----------------------------------|---------------------------|
| <b>Parameter</b>                                                                                                                                                                                                     | <b>Guselkumab Q4W<br/>(N=65)</b> | <b>Guselkumab Q8W<br/>(N=83)</b> | <b>Placebo<br/>(N=70)</b> |
| <b>Demographics</b>                                                                                                                                                                                                  |                                  |                                  |                           |
| Age (years)                                                                                                                                                                                                          | 46.9 (11.0)                      | 44.8 (12.0)                      | 44.1 (10.3)               |
| Male, n (%)                                                                                                                                                                                                          | 36 (55)                          | 46 (55)                          | 37 (53)                   |
| Female, n (%)                                                                                                                                                                                                        | 29 (45)                          | 37 (45)                          | 33 (47)                   |
| <b>PsA characteristics</b>                                                                                                                                                                                           |                                  |                                  |                           |
| PsA duration (years)                                                                                                                                                                                                 | 4.5 (5.1)                        | 5.2 (6.0)                        | 6.1 (5.8)                 |
| CRP (mg/dL)                                                                                                                                                                                                          | 2.0 (2.8)*                       | 2.7 (2.8)                        | 3.1 (3.2)                 |
| SJC (0-66)                                                                                                                                                                                                           | 13.2 (8.6)                       | 13.0 (7.9)                       | 13.6 (6.9)                |
| TJC (0-68)                                                                                                                                                                                                           | 25.0 (14.9)                      | 23.5 (13.2)                      | 24.1 (12.6)               |
| BSA with PsO (%)                                                                                                                                                                                                     | 23.9 (24.8)                      | 24.3 (26.1)                      | 25.0 (24.3)               |
| PASI (0-72)                                                                                                                                                                                                          | 14.3 (14.0)                      | 13.7 (13.4)                      | 15.6 (13.0)               |
| Dactylitis, n (%)                                                                                                                                                                                                    | 36 (55)                          | 41 (49)                          | 31 (44)                   |
| DSS (0-60) <sup>a</sup>                                                                                                                                                                                              | 9.4 (11.0)                       | 10.1 (11.9)                      | 10.7 (13.1)               |
| Enthesitis, n (%)                                                                                                                                                                                                    | 46 (71)                          | 56 (68)                          | 47 (67)                   |
| LEI (0-6) <sup>b</sup>                                                                                                                                                                                               | 3.2 (1.8)                        | 3.2 (1.7)                        | 3.2 (1.7)                 |
| <b>Composite disease measures</b>                                                                                                                                                                                    |                                  |                                  |                           |
| cDAPSA <sup>c</sup>                                                                                                                                                                                                  | 54.1 (22.4)                      | 52.9 (20.4)                      | 53.2 (18.2)               |
| PASDAS (0-10) <sup>d</sup>                                                                                                                                                                                           | 7.3 (1.0)                        | 7.4 (0.9)                        | 7.3 (0.8)                 |
| <b>Patient-reported outcomes</b>                                                                                                                                                                                     |                                  |                                  |                           |
| FACIT-Fatigue (0-52) <sup>e</sup>                                                                                                                                                                                    | 25.1 (10.0)                      | 23.1 (8.8)                       | 23.2 (9.6)                |
| Pain (0-100 VAS)                                                                                                                                                                                                     | 77.4 (13.3)                      | 79.7 (12.9)*                     | 75.0 (14.1)               |
| PtGA Arthritis+Psoriasis (0-100 VAS) <sup>f</sup>                                                                                                                                                                    | 89.3 (6.6)                       | 88.7 (6.4)                       | 89.0 (7.1)                |
| <b>Baseline medications, %</b>                                                                                                                                                                                       |                                  |                                  |                           |
| csDMARDs                                                                                                                                                                                                             | 66                               | 58                               | 66                        |
| Corticosteroids                                                                                                                                                                                                      | 15                               | 22                               | 16                        |
| NSAIDs                                                                                                                                                                                                               | 69                               | 70                               | 74                        |

Data are mean (SD) unless otherwise specified. \* $p < 0.05$  vs. placebo. BSA: body surface area; cDAPSA: clinical Disease Activity Index for Psoriatic Arthritis; CRP: C-reactive protein; csDMARD: conventional synthetic disease-modifying antirheumatic drugs; DSS: dactylitis severity scale; FACIT: Functional Assessment of Chronic Illness Therapy; LEI: Leeds Enthesitis Index; NSAID: non-steroidal anti-inflammatory drug; PASDAS: Psoriatic Arthritis Disease Activity Score; PASI: Psoriasis Area Severity Index; PsA: psoriatic arthritis; PsO: psoriasis; PtGA: patient global assessment; Q4W: every 4 weeks; Q8W: every 8 weeks; SD: standard deviation; SJC: swollen joint count; TJC: tender joint count; VAS: visual analog scale. <sup>a</sup> Among 36, 41, and 31 participants in the Q4W, Q8W and placebo groups, respectively. <sup>b</sup> Among 45, 56, and 46 participants in the Q4W, Q8W and placebo groups, respectively. <sup>c</sup> cDAPSA disease states: remission:  $\leq 4$ ; low:  $>4$  to  $\leq 13$ ; moderate:  $>13$  to  $\leq 27$ ; high:  $>27$  [26]. <sup>d</sup> PASDAS disease activity: very low:  $\leq 1.9$ ; low:  $>1.9$  to  $\leq 3.2$ ; moderate:  $>3.2$  to  $<5.4$ ; high:  $\geq 5.4$  [28]. <sup>e</sup> Higher scores indicate less fatigue [25]. <sup>f</sup> PtGA VAS: no symptoms: 0; minimal/no disease activity:  $\leq 20$  mm; mild:  $>20$  to  $<40$  mm; moderate:  $\geq 40$  to  $<80$  mm; severe:  $\geq 80$  to  $\leq 100$  mm.

**Supplementary Figure S1: Outcome measures and disease activity thresholds used in the present analysis**

cDAPSA: clinical Disease Activity Index for Psoriatic Arthritis; CRP: C-reactive protein; LDA: low disease activity; LEI: Leeds Enthesitis Index; ModDA: moderate disease activity; PASDAS: Psoriatic Arthritis Disease Activity Score; PhGA: physician global assessment; PtGA: patient global assessment; REM: remission; SF-36 PCS: 36-Item Short Form Survey Physical Component Score; SJC: swollen joint count; TJC: tender joint count; VAS: visual analog scale; VLDA: very low disease activity

