Efficacy and Safety of Guselkumab in Participants with Active Psoriatic Arthritis and Inadequate Response and/or Intolerance to One Prior Tumor Necrosis Factor Inhibitor

Alexis Ogdie[1], Joseph F. Merola[2], Philip J. Mease[3,4], Christopher T. Ritchlin[5], Jose U. Scher[6], Kimberly Parnell Lafferty[7], Daphne Chan[7], Soumya D. Chakravarty[7,8], Wayne Langholff[9], Yanli Wang[9], Olivia Choi[7], Yevgeniy Krol[7], Alice B. Gottlieb[10]

[1]University of Pennsylvania School of Medicine, Philadelphia, PA, USA; [2]UT Southwestern Medical Center and O'Donnell School of Public Health, Department of Dermatology and Department of Medicine, Division of Rheumatology, Dallas, Texas, USA; [3]Providence Swedish Medical Center, Rheumatology Research, Seattle, WA, USA; [4]University of Washington School of Medicine, Seattle, WA, USA; [5]University of Rochester Medical Center, Rochester, NY, USA; [6]New York University School of Medicine, New York, NY, USA; [7]Johnson & Johnson, Horsham, PA, USA; [8]Drexel University College of Medicine, Philadelphia, PA, USA; [9]Johnson & Johnson, Spring House, PA, USA; [10]UT Southwestern Medical Center, Department of Dermatology, Dallas, Texas, USA

Key Takeaways

- In the SOLSTICE TNFi-IR PsA population, GUS demonstrated superior efficacy vs PBO for improving signs and symptoms of peripheral arthritis and skin PsO
- At W24, significantly greater proportions of pts achieved an ACR20 response in both GUS Q4W and Q8W groups vs PBO, with separation from PBO observed as early as W4
- Consistent treatment effect through W24 was observed with both GUS dosing regimens vs PBO with no new safety signals identified through W24

Background

- Psoriatic arthritis (PsA) is a chronic, heterogeneous, inflammatory disease that affects the joints and skin[1,2]
- Guselkumab (GUS), a fully human interleukin (IL)-23p19-subunit inhibitor, has shown efficacy in significantly improving PsA signs and symptoms with 2 dosing regimens: 100 mg every 4 weeks (Q4W) or 100 mg at Week (W)0, W4, then Q8W (Food and Drug Administration-approved on- label dosing regimen[3]), in the pivotal Phase 3 DISCOVER-1&2 studies[4,5]
  - GUS is indicated to treat moderate-to-severe plaque psoriasis (PsO), active PsA, and moderately-to-severely active Chrohn's disease and ulcerative colitis[3]
- Post hoc analyses of the phase 3, randomized, placebo (PBO)-controlled DISCOVER-1 study, suggested that participants (pts) who were inadequate responders (IR [inadequate efficacy/intolerance]) to a tumor necrosis factor inhibitor (TNFi) may derive incremental benefit from the more frequent Q4W dosing regimen, particularly for achieving stringent response outcomes such as ≥50%/70% improvement in the ACR response criteria (ACR50/70) and minimal disease activity (MDA)[4,6]

Objective

- Report findings through W24 of SOLSTICE, an ongoing, phase 3b, randomized, double-blind, PBO-controlled study designed to further assess GUS Q4W and Q8W efficacy and safety in a dedicated pt population with active PsA who were IR to 1 prior TNFi

Methods

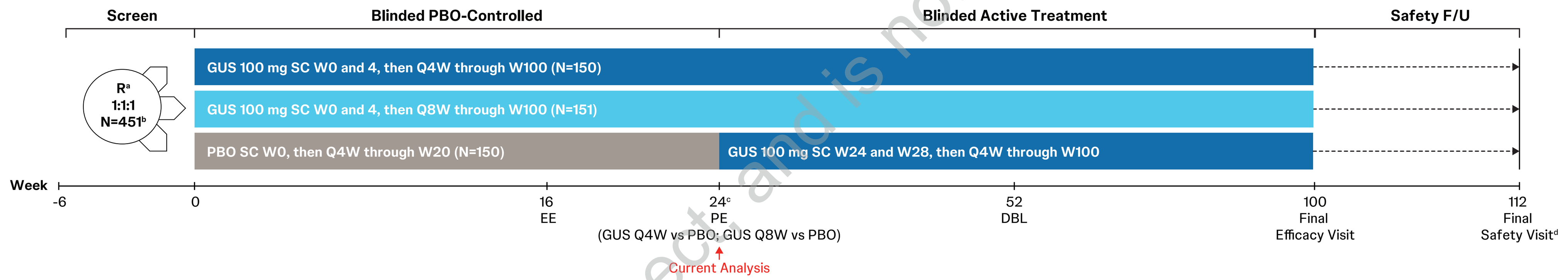
Inclusion Criteria
- ✓ Age ≥18 years
- ✓ Active PsA (≥3 SJC; ≥3 TJC; CRP ≥0.3 mg/dL); CASPAR criteria met
- ✓ **Inadequate response and/or intolerance to 1 prior TNFi therapy**
- ✓ Active (≥1 PsO plaque ≥2 cm and/or nail PsO) or history of PsO

Primary Endpoint (multiplicity controlled)
- ACR20 response at W24

Major Secondary Endpoints (multiplicity controlled)
- IGA 0/1 Response (IGA 0 or 1 and ≥2-grade reduction from BL) at W24
- PASI 90 at W24
- MDA at W24

Major Secondary Endpoints (weakly controlled)[a]
- ACR20 at W16
- ACR50 at W24
- ACR70 at W24

[a]Weakly controlled endpoints were not part of the sequential testing procedures but prespecified to be tested upon achieving statistical significance of the strongly controlled primary endpoints (ACR20 response at W24); p-values are not considered nominal. **ACR20**=≥20% in American College of Rheumatology response criteria, **BL**=baseline, **CASPAR**=ClASsification criteria for Psoriatic ARthritis, **CRP**=C-reactive protein, **IGA**=Investigator's Global Assessment of psoriasis, **MDA**=Minimal Disease Activity, **PASI 90**=≥90% improvement in Psoriasis Area and Severity Index, **SJC**=swollen joint count, **TJC**=tender joint count

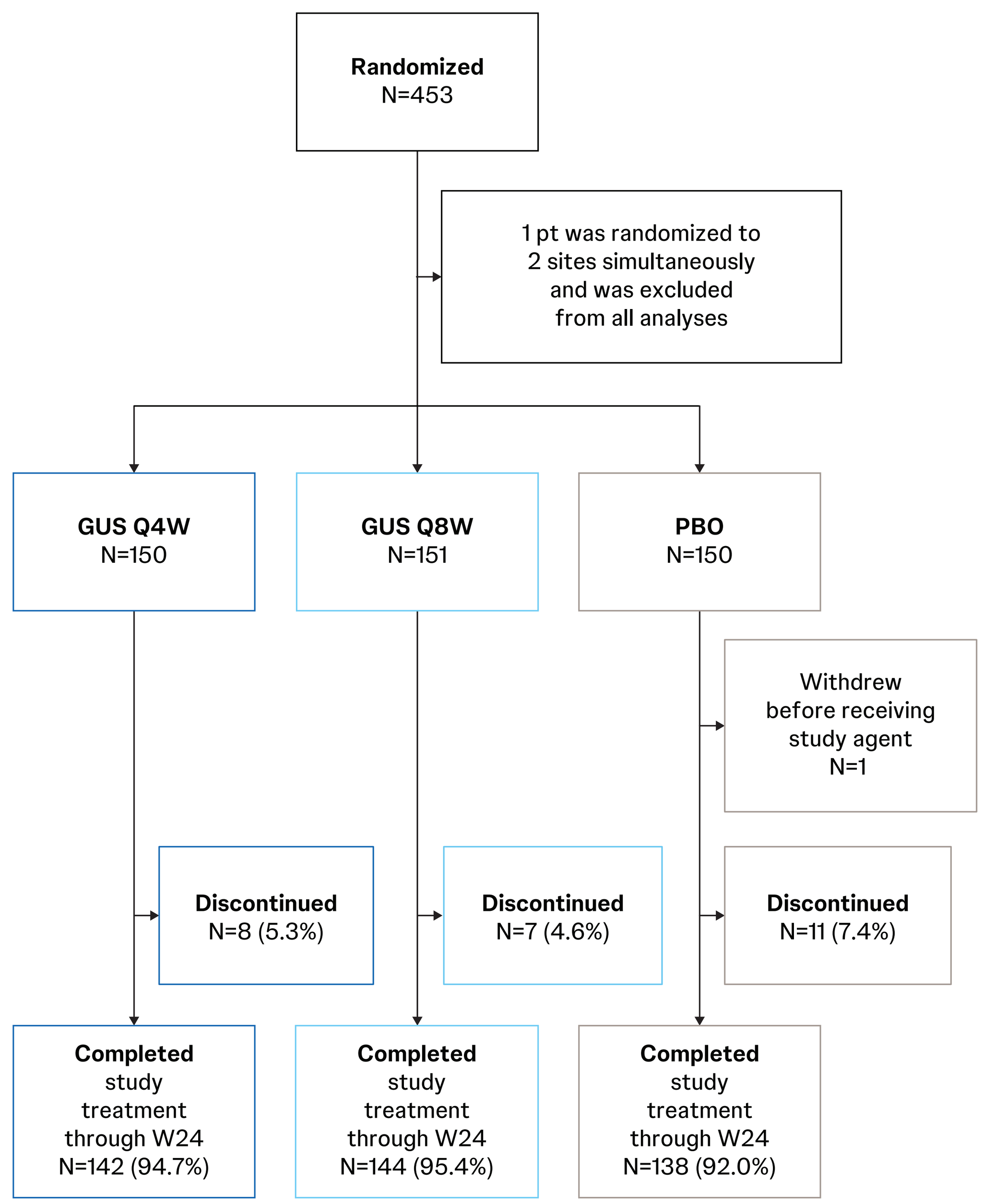

Screen
Blinded PBO-Controlled
Blinded Active Treatment
Safety F/U
R[a] 1:1:1 N=451[b]
GUS 100 mg SC W0 and 4, then Q4W through W100 (N=150)
GUS 100 mg SC W0 and 4, then Q8W through W100 (N=151)
PBO SC W0, then Q4W through W20 (N=150)
GUS 100 mg SC W24 and W28, then Q4W through W100
Week
-6
0
16 EE
24[c] PE (GUS Q4W vs PBO; GUS Q8W vs PBO)
Current Analysis
52 DBL
100 Final Efficacy Visit
112 Final Safety Visit[d]

- **Efficacy analysis set:** All randomized pts; 1 pt was randomized to 2 treatment groups simultaneously and was excluded from all analyses
- **Safety analysis set:** All pts who received ≥1 administration of any study intervention; 1 pt was randomized to 2 treatment groups simultaneously and was excluded from all analyses
- After applying treatment failure rules (no change from BL or nonresponder), data impacted by ND/MD were imputed using MI; other missing data were imputed using NRI

[a]Randomization was stratified by BL use of csDMARDs. [b]Total number randomized=453, the full analysis set of 451 excludes 1 pt who was double randomized. [c]Crossover. [d]Final safety F/U at W112 is 12W after final study agent administration. **csDMARDs**=conventional synthetic disease-modifying antirheumatic drugs, **DBL**=database lock, **EE**=early escape, **F/U**=follow-up, **MD**=Major Disruption (Ukraine and neighboring countries/territories beginning 24 February 2022), **MI**=multiple imputation, **ND**=Natural Disaster (COVID-19 site access restrictions), **NRI**=nonresponder imputation, **PE**=primary endpoint, **R**=randomization, **SC**=subcutaneous

Results

Treatment completion rates were comparable across both GUS treatment groups

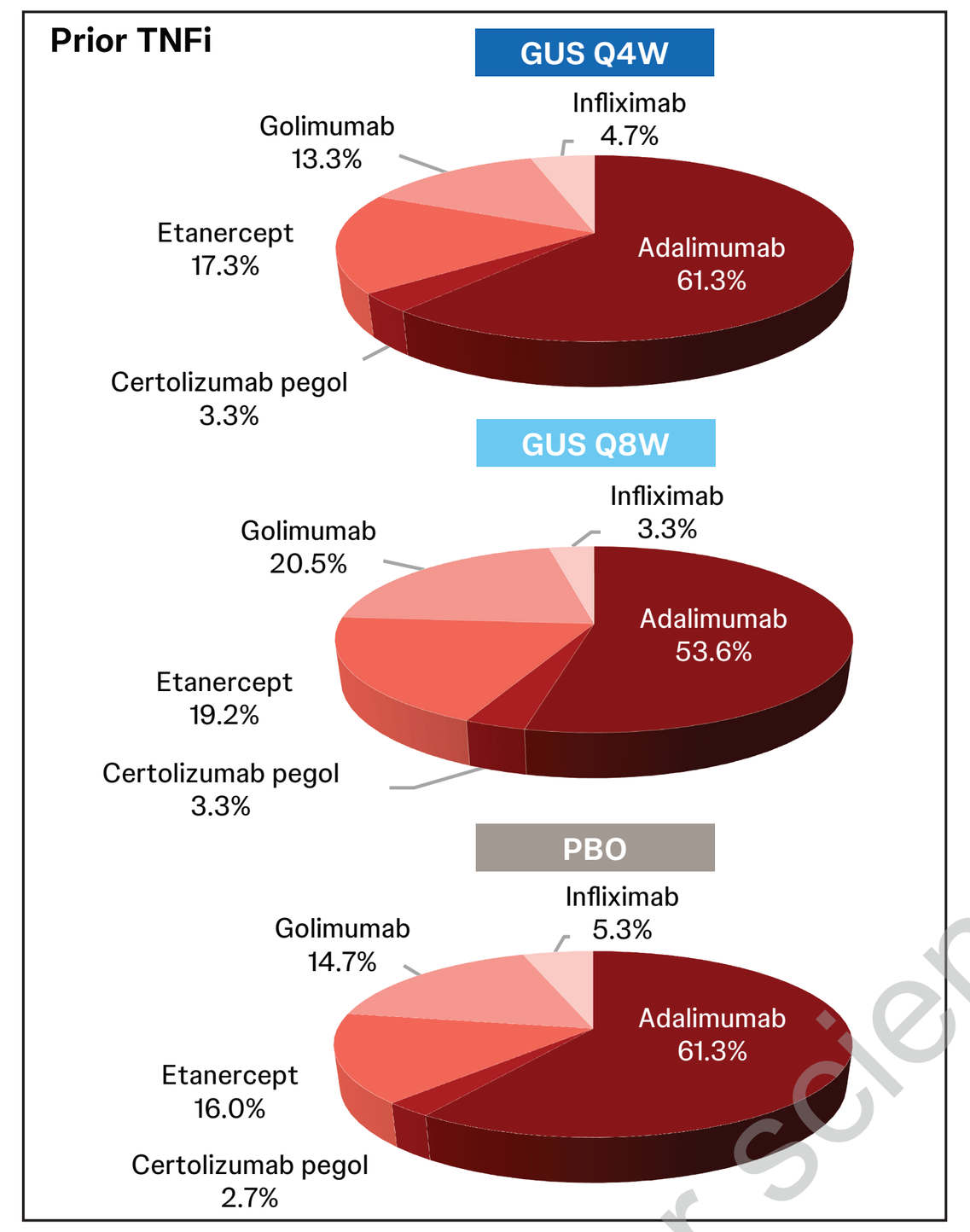

Randomized N=453
1 pt was randomized to 2 sites simultaneously and was excluded from all analyses
GUS Q4W N=150
GUS Q8W N=151
PBO N=150
Withdrew before receiving study agent N=1
Discontinued N=8 (5.3%)
Discontinued N=7 (4.6%)
Discontinued N=11 (7.4%)
Completed study treatment through W24 N=142 (94.7%)
Completed study treatment through W24 N=144 (95.4%)
Completed study treatment through W24 N=138 (92.0%)

BL demographics and disease characteristics were well balanced among treatment groups

	GUS 100 mg Q4W	GUS 100 mg Q8W	PBO
Pts, N	150	151	150
Demographics			
Age, years	50.6 (13.3)	51.9 (12.9)	49.2 (12.6)
Female, n (%)	75 (50.0)	77 (51.0)	85 (56.7)
Weight,[a] kg	86.5 (20.8)	89.5 (19.8)	85.9 (21.1)
Disease Characteristics			
PsA disease duration, years	8.8 (8.3)	8.3 (7.5)	7.0 (6.6)
SJC (0-66)	10.7 (7.8)	10.3 (6.6)	10.2 (6.4)
TJC (0-68)	18.1 (12.6)	17.1 (11.2)	16.8 (11.6)
Pt Assessment of Pain [VAS; 0-10cm]	6.1 (2.0)	6.2 (2.0)	6.2 (2.0)
PtGA arthritis [VAS; 0-10cm]	6.1 (2.1)	6.2 (2.1)	6.2 (1.9)
PhGA arthritis[b] [VAS; 0-10cm]	6.5 (1.5)	6.7 (1.6)	6.5 (1.6)
HAQ disability index [0-3]	1.3 (0.6)	1.3 (0.6)	1.3 (0.6)
CRP [mg/dL]	1.2 (1.6)	1.3 (1.7)	1.4 (1.9)
IGA ≥2,[c] n (%)	106 (71.1)	105 (70.0)	111 (76.6)
BSA,[d] n (%)	12.4 (16.9)	10.7 (16.0)	9.6 (10.8)
PASI[e] [0-72]	7.29 (8.6)	6.69 (8.4)	6.05 (6.2)
FACIT-F [0-52]	28.3 (10.1)	28.2 (11.6)	27.6 (10.6)
SF-36 PCS [0-100]	34.2 (8.1)	33.6 (7.6)	33.9 (7.5)
DAPSA [HDA >28]	114 (76.0)	116 (76.8)	117 (78.0)
PASDAS[f] [0-10]	6.2 (0.9)	6.2 (1.0)	6.2 (0.9)

*Data reported as mean (SD) unless otherwise noted. [a]PBO N=148. [b]GUS Q4W N=149, PBO N=147. [c]GUS Q4W N=149, GUS Q8W N=150, PBO N=145. [d]GUS Q4W N=149, GUS Q8W N=150, PBO N=146. [e]GUS Q4W N=149, GUS Q8W N=150, PBO N=146. [f]GUS Q4W N=149, PBO N=147. **BSA**=body surface area, **DAPSA**=Disease Activity Index for Psoriatic Arthritis (remission: ≤4, Low Disease Activity: >4 to ≤14, Moderate Disease Activity: >14 to ≤28, HDA: >28), **FACIT-F**=Functional Assessment of Chronic Illness Therapy-Fatigue, **HAQ-DI**=health assessment questionnaire disability index, **HDA**=high disease activity, **PASDAS**=Psoriatic Arthritis Disease Activity Score, **PhGA**=Physician's global assessment (arthritis), **PtGA**=patient's global assessment (arthritis), **SD**=standard deviation, **SF-36 PCS**=36-item Short-Form Health Survey Physical Component Summary, **VAS**=Visual analog scale*

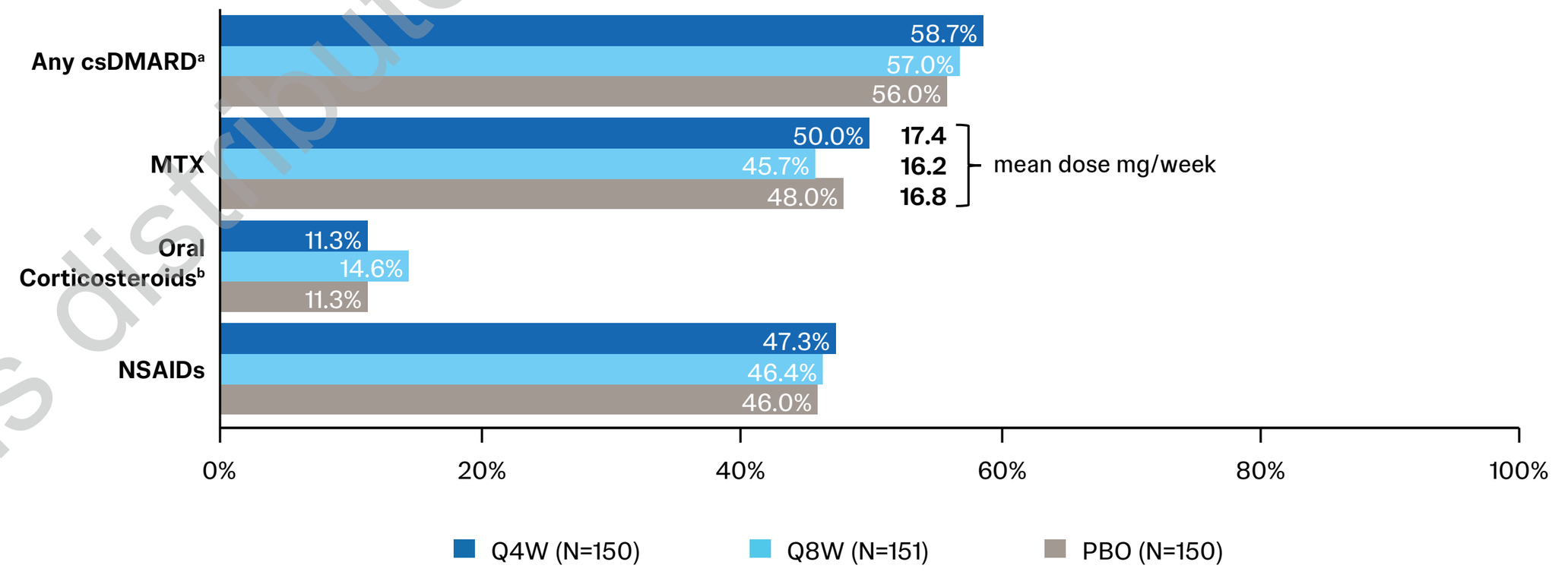
Adalimumab was the most common prior TNFi; ~80% of pts discontinued their prior TNFi due to inadequate response


Prior TNFi
GUS Q4W
Infliximab 4.7%
Golimumab 13.3%
Etanercept 17.3%
Adalimumab 61.3%
Certolizumab pegol 3.3%
GUS Q8W
Infliximab 3.3%
Golimumab 20.5%
Etanercept 19.2%
Adalimumab 53.6%
Certolizumab pegol 3.3%
PBO
Infliximab 5.3%
Golimumab 14.7%
Etanercept 16.0%
Adalimumab 61.3%
Certolizumab pegol 2.7%

Reason for Discontinuation of Prior TNFi, %

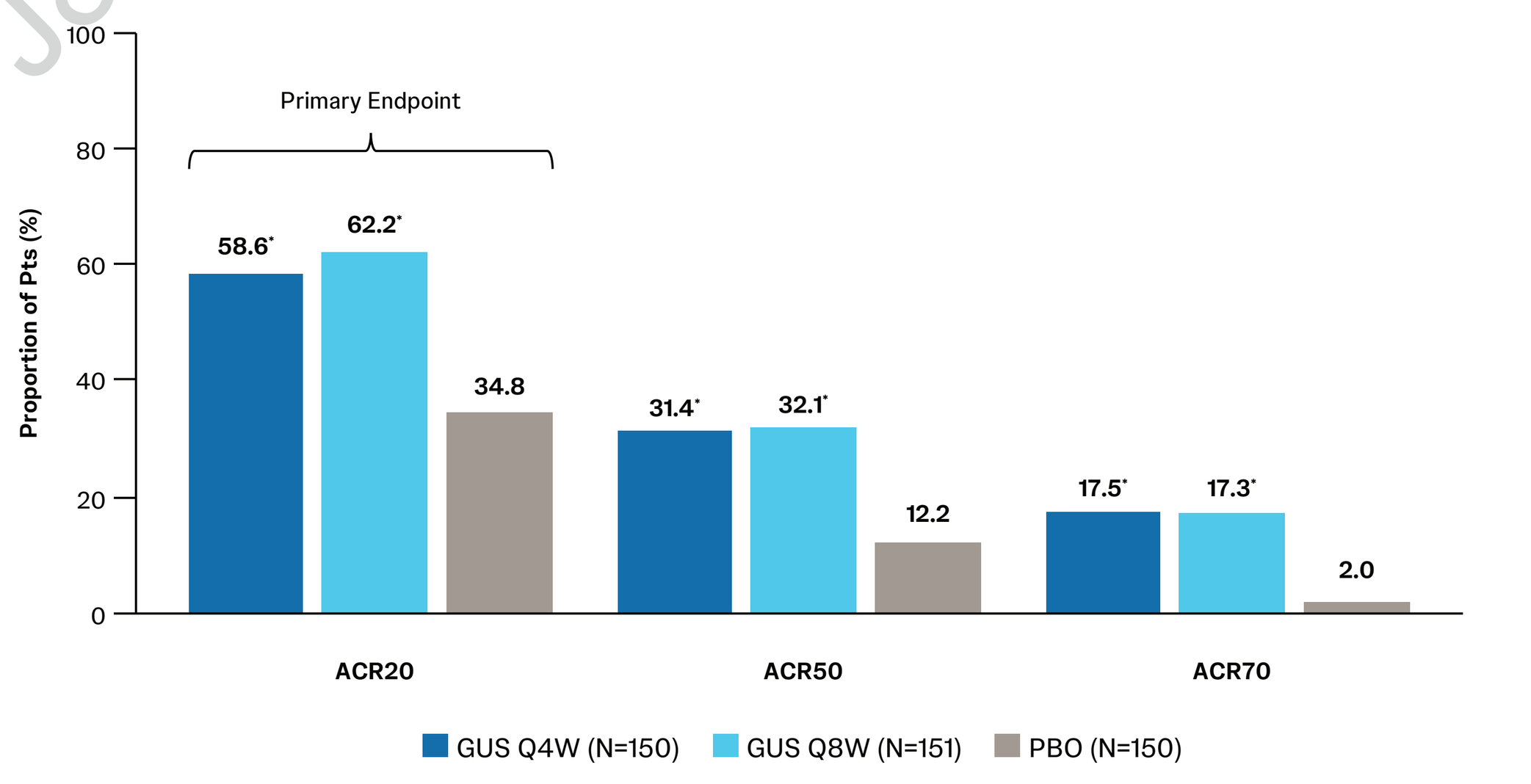
	GUS 100 mg Q4W	GUS 100 mg Q8W	PBO
Pts, N	150	151	150
Inadequate Response	84.0	80.1	78.7
Intolerance	13.3	19.9	18.7
Both	2.7	0	2.7

Stable doses of concomitant csDMARDs, oral corticosteroids, and NSAIDs at BL were allowed, but not required



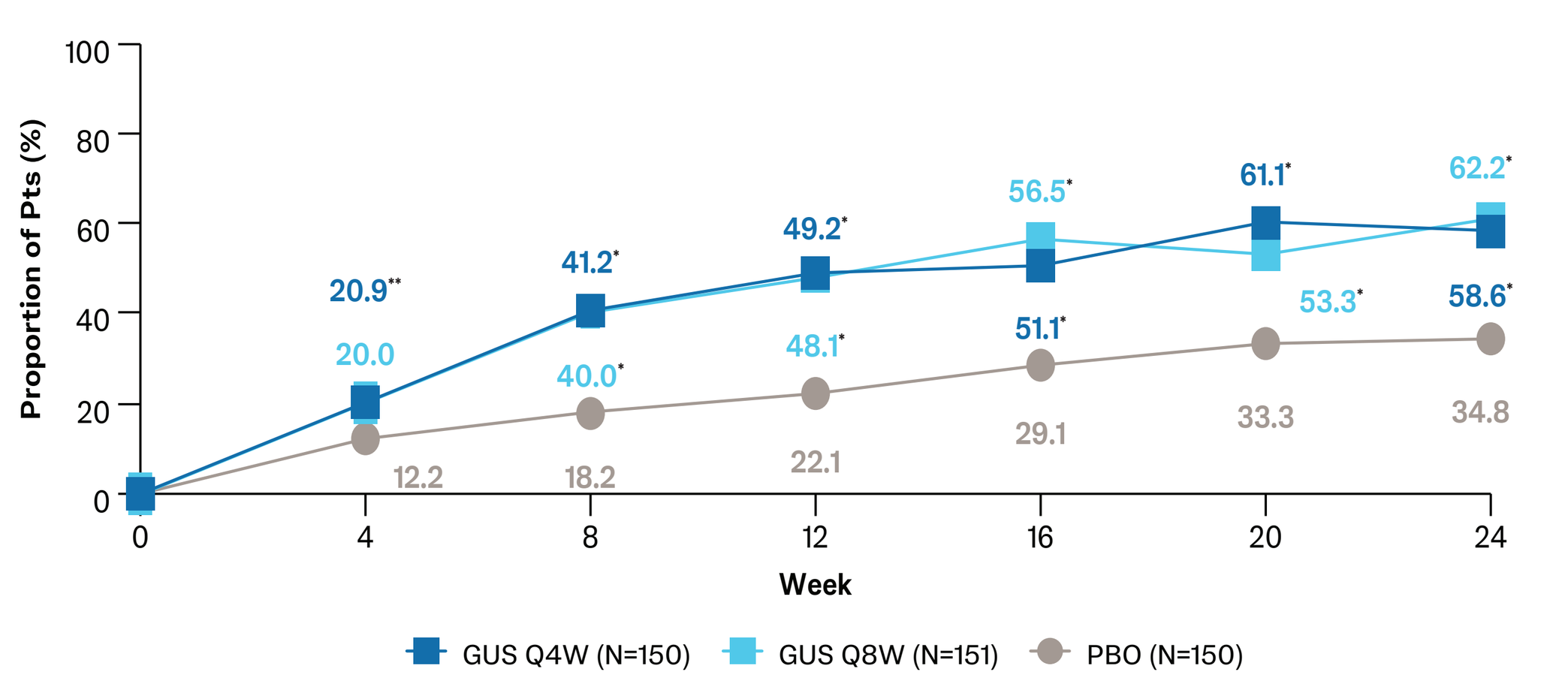
[a]Methotrexate (MTX), sulfasalazine; hydroxychloroquine, and leflunomide. [b]≤10 mg/day prednisone equivalent. **NSAIDs**=Nonsteroidal anti-inflammatory drugs

Significantly greater proportions of pts in both GUS groups vs PBO achieved ACR20/50/70 responses at W24



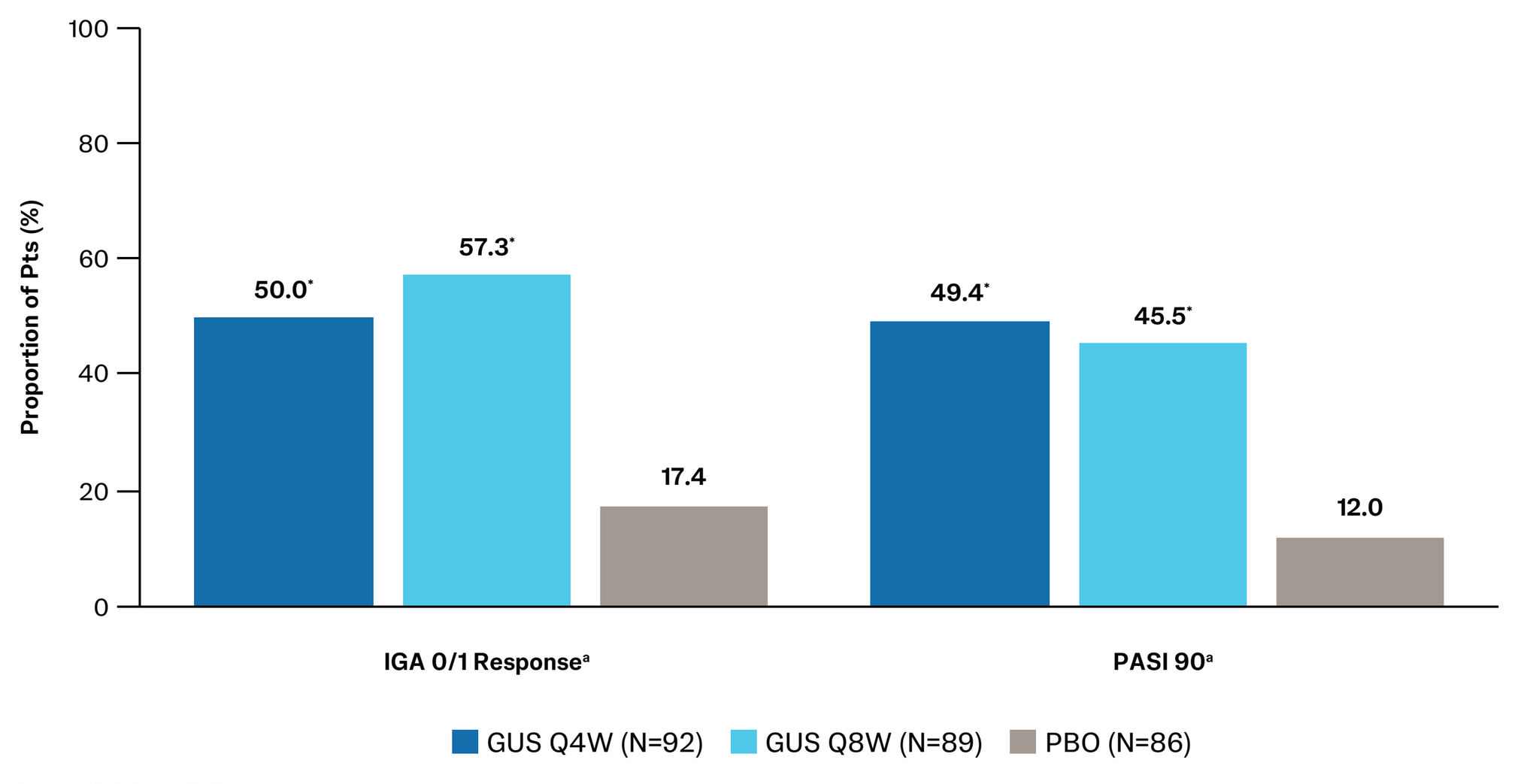
*$p<0.001$ vs PBO

ACR20 response was achieved in both GUS treatment groups with separation from PBO seen as early as W4



*$p<0.001$ vs PBO. **$p=0.042$ vs PBO. ACR20 at W24 was multiplicity controlled, and ACR20 at W16 was weakly controlled; all other p-values are nominal.

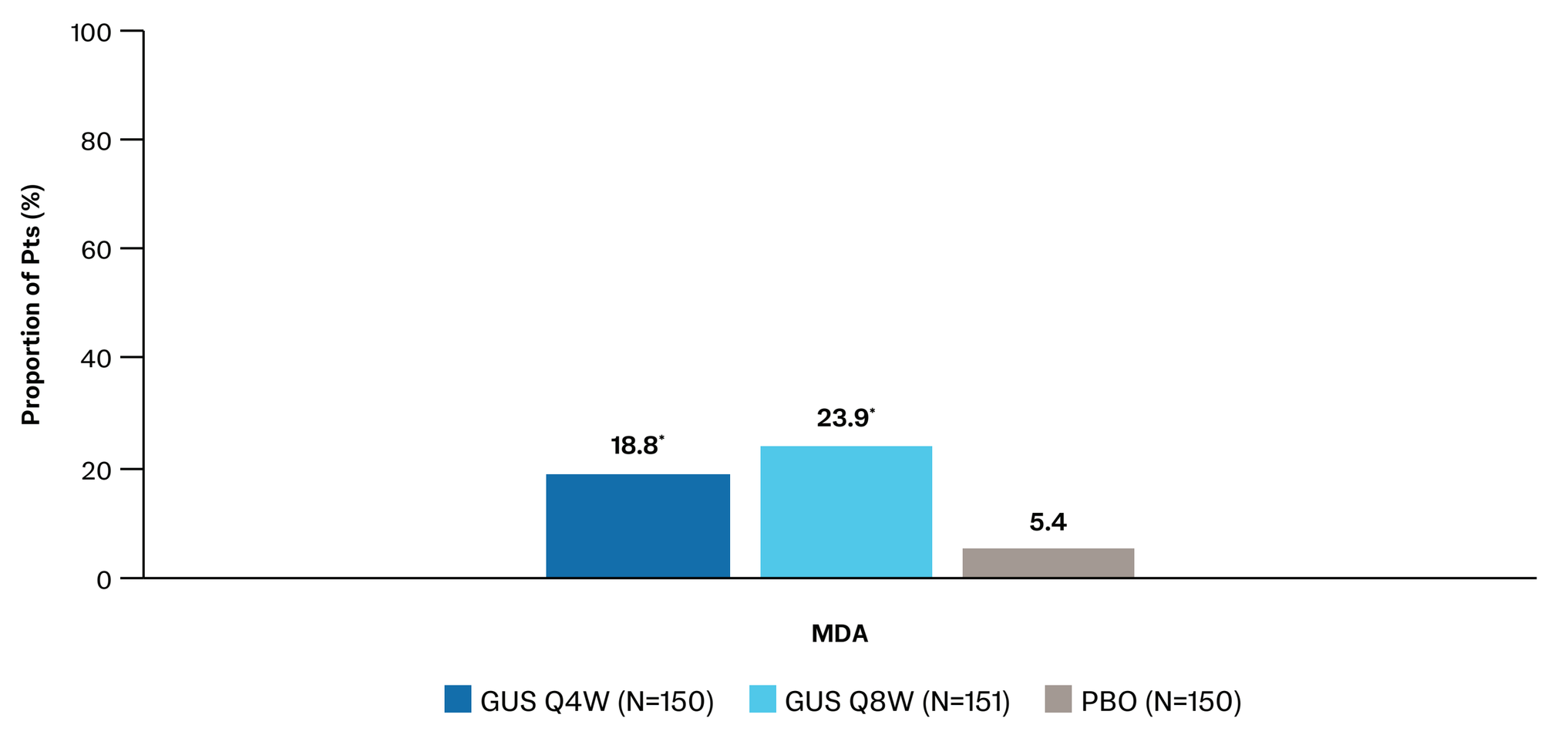
Significantly greater proportions of GUS- vs PBO-treated pts achieved almost clear or clear skin at W24



*$p<0.001$ vs PBO

[a]Among pts with ≥3% BSA affected by PsO and ≥2 IGA at BL.

Significantly greater proportions of pts achieved MDA at W24 in both GUS dosing regimens vs PBO



*$p<0.001$ vs PBO

The frequencies of AEs and SAEs were similar across both GUS treatment groups and comparable to PBO

	GUS 100 mg Q4W	GUS 100 mg Q8W	PBO
Safety Analysis Set, N[a]	**150**	**151**	**149**
Mean weeks of follow-up	24.0	23.7	23.6
Mean number of GUS administrations	5.7	3.8	0.0
Pts with ≥1 of the following:			
AE	70 (46.7)	81 (53.6)	72 (48.3)
SAE	2 (1.3)	4 (2.6)	6 (4.0)
AE leading to discontinuation of study agent	1 (0.7)	2 (1.3)	3 (2.0)
Infections	35 (23.3)	43 (28.5)	44 (29.5)
Opportunistic infections	0	0	0
Injection site reactions	1 (0.7)	2 (1.3)	1 (0.7)

- Study remains blinded through W112
- 2 pts with serious infections; 1 malignancy[b], 1 VTE; 1 MACE[c]
- No cases of active tuberculosis, opportunistic infections, clinically important hepatic disorders, serum sickness reactions, or anaphylaxis

*Data reported as n (%) unless otherwise noted. Includes all pts who received ≥1 study agent administration. [a]Pts are counted only once for any given event, regardless of the number of times they actually experienced the event. [b]Non-melanoma skin cancer. [c]MACE resulted in death. AEs are coded using Medical Dictionary for Regulatory Activities Version 27.0. **AE**=adverse event, **MACE**=Major adverse cardiovascular event (cardiovascular death, nonfatal myocardial infarction, and nonfatal stroke), **SAE**=Serious adverse event, **VTE**=Venous thromboembolism events.*

PRESENTED AT: CCR-West; September 18-21, 2025; Huntington Beach, California, USA. **PRESENTER:** Dr. Stacey L Fitch; employee of Johnson & Johnson and owns stock in Johnson & Johnson.
REFERENCES: 1. Gladman DD, et al. *Q J Med.* 1987;62:127-41. **2.** Ritchlin CT, et al. *J Rheumatol.* 2008;35:1434-7. **3.** Tremyfa: Package insert. Horsham, PA: Janssen Biotech, Inc.; 2025. **4.** Deodhar A, et al. *Lancet.* 2020;1115-25. **5.** Mease PJ, et al. *Lancet.* 2020;395:1126–36. **6.** Ritchlin CT, et al. *RMD Open.* 2021;7:e001457.
ACKNOWLEDGMENTS: Medical writing support was provided by Kristin Leppard, M.S., under the direction of the authors in accordance with Good Publication Practice guidelines (*Ann Intern Med.* 2022;175:1298-1304). Sponsored by Johnson & Johnson. **DISCLOSURES: AO:** consulting fees: AbbVie, Amgen, Bristol Myers Squibb, CorEvitas, Eli Lilly, Gilead, GlaxoSmithKline, Johnson & Johnson, Novartis, Pfizer, and UCB; advisory board fees: AbbVie, Amgen, Bristol Myers Squibb, Eli Lilly, Gilead, GlaxoSmithKline, Johnson & Johnson, Novartis, Pfizer, and UCB; grants: AbbVie, Pfizer, and Novartis (all to University of Pennsylvania), and Amgen(to Forward/NDB); and other funding: NIAMS, Rheumatology Research Foundation, National Psoriasis Foundation, University of Pennsylvania. **JFM:** consultant and/or investigator: AbbVie, Amgen, Astra-Zeneca, Biogen, Boehringer Ingelheim, Bristol Myers Squibb, Dermavant, Eli Lilly, Galderma, Johnson & Johnson, Moonlake, Novartis, Oruka, Pfizer, Regeneron, Sanofi, Sun Pharma, and UCB. **PJM:** grants: AbbVie, Acelyrin, Amgen, Bristol Myers Squibb, Eli Lilly, Johnson & Johnson, Novartis, and UCB; consulting fees: AbbVie, Acelyrin, Amgen, Bristol Myers Squibb, Century, Cullinan, Eli Lilly, Inmagene, Johnson & Johnson, Novartis, Pfizer, Spyre, Takeda, and UCB; speaker fees: AbbVie, Amgen, Eli Lilly, Johnson & Johnson, Novartis, Pfizer, and UCB. **CTR:** grant/research support: AbbVie, Amgen, and UCB; consulting fees: AbbVie, Amgen, Eli Lilly, Gilead, Johnson & Johnson, Novartis, Pfizer, and UCB. **JUS:** consultant: Bristol Myers Squibb, Johnson & Johnson, Pfizer and UCB; funding for investigator-initiated studies: Johnson & Johnson and Pfizer. **KPL:** employee of Johnson & Johnson and owns stock in Johnson & Johnson. **DC:** employee of Johnson & Johnson and owns stock in Johnson & Johnson. **SDC:** employee of Johnson & Johnson and owns stock in Johnson & Johnson. **WL:** employee of Johnson & Johnson and owns stock in Johnson & Johnson. **YW:** employee of IQVIA providing statistical support (funded by Johnson & Johnson). **OC:** employee of Johnson & Johnson at the time study was conducted; owns stock in Johnson & Johnson; currently an employee of Apogee Therapeutics Inc. **YK:** employee of Johnson & Johnson and owns stock in Johnson & Johnson. **ABG:** research/educational grants: Avalo Therapeutics, Bristol Myers Squibb, Johnson & Johnson, Moonlake, and UCB (all paid to Mount Sinai School of Medicine until May 1, 2025); honoraria as an advisory board member and consultant/speaker fees: Amgen, Bristol Myers Squibb, Eli Lilly, Highlights Therapeutics, Johnson & Johnson, Novartis, Sanofi, Sun Pharma, Takeda, Teva, and UCB. Previously presented at Congress of Clinical Rheumatology (CCR) -West 2025; Huntington Beach, CA, USA; September 18-21, 2025.