ACELYRIN

Accelerating Medicines to Transform Patients' Lives

Corporate Overview

June 15, 2024

Forward Looking Statements & Disclaimer

This presentation contains statements that are not of historical facts, considered forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements include, but are not limited to, statements about our expectations regarding the potential benefits, effectiveness, and safety of our product candidates including with respect to lonigutamab's potential for its composition and subcutaneous administration to provide for sustained and/or improved treatment over time, or potential for a longer-term treatment duration and generally well-tolerated safety profile; izokibep's ability to offer clinically meaningful, differentiated benefits, and/or deepening of response over time, and its safety profile; our expectations with regard to our research, development and regulatory plans, including the design (including, potentially registrational design) of preclinical and clinical trials, anticipated commencement of trials, the timing and availability of data from such trials, and the timing or likelihood of regulatory filings and approvals for our product candidates; our expectations with regard to our ability to enter into additional partnerships, and license, acquire, discover, and develop additional product candidates; the potential market size and size of the potential patient populations for our product candidates and any future product candidates and those indications we target; our expectations about our ability to maintain existing, and establish new, strategic collaborations, licensing, or other arrangements; the scope of protection we are able to establish and maintain for intellectual property ("IP") rights covering our product candidates and any future product candidates; our business strategy; and our future results of operations and financial position.

Such statements reflect the current views of ACELYRIN with respect to future events, and are subject to known and unknown risks (including, without limitation, business, regulatory, economic and competitive risks), uncertainties, assumptions and contingencies about ACELYRIN (including, without limitation, those associated with our successful completion of development and regulatory activities for our product candidates, maintaining and defending IP protection, ability to timely secure adequate supply of our product candidates, legal proceedings, government investigations, macroeconomic conditions, market volatility) and other risks and uncertainties described under the heading "Risk Factors" in the Company's most recent Quarterly Report on Form 10-Q for the quarter ended March 31, 2024 filed with the U.S. Securities and Exchange Commission ("SEC") and in subsequent filings made by us with the SEC, which are available on the SEC's website at www.sec.gov.

In light of these risks and uncertainties, many of which are beyond our control, the plans, intentions, expectations or other events described in or implied by our forward-looking statements may not occur. Actual results or events could differ materially and adversely from those expressed in any forward-looking statements. New risks may occur at any time, and we anticipate that subsequent events and developments could cause our views to change. Any reader of this presentation is cautioned not to place undue reliance on these forward-looking statements, which speak to our current beliefs and expectations only as of the date of this presentation. Except as required by law, we disclaim any intention or responsibility for the accuracy and completeness of the forward-looking statements in this presentation, or to update or revise any forward-looking statements in the event of new information, future developments or otherwise.

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“ACELYRIN is a Leading Clinical-Stage Biopharma Company Focused on Identifying, Acquiring, and Accelerating the Development and Commercialization of Transformative Medicines in Immunology”

Creating an Industry Leading Immunology Company

- **Team of veteran biopharma executives** who together bring exceptional track records of developing some of the most successful medicines within immunology and beyond

- **Building a portfolio of potential new medicines that we think have the opportunity to provide clinically meaningfully differentiated benefit to patients**
  - **We seek "diamonds in the rough"** where, based on molecule characteristics, our collective experience and expertise, and the evolving scientific and medical understanding, we can test hypotheses around clinical differentiation for patients

- **Robust pipeline of clinical programs** across several indications representing multi-billion-dollar opportunities in the aggregate
  - **Izokibep is a "pipeline-in-a-program"** in late-stage development for multiple immunological indications including psoriatic arthritis (PsA), hidradenitis suppurativa (HS), axial spondyloarthritis (AxSpA) and uveitis
  - **Lonigutamab has demonstrated proof-of-concept** as a subcutaneously delivered therapy for thyroid eye disease (TED) with the goal to improve upon efficacy, safety as well as convenience for patients
  - **SLRN-517 is an early program** targeting mast cell-driven diseases

- **Well-capitalized** having secured more than $1 billion in private and public capital since founding in 2020

Experienced Leadership Team

Successful Track Record of Delivering Some of the Most Transformative Medicines for Patients

Mina Kim
CEO

Melanie Gloria
COO

Gil Labrucherie
CFO & CBO

Ken Lock
CCO

Shep Mpofu | MD, MRCP, FRCP
CMO

Sanam Pangali
CLO & Head of People

Patricia Turney
CTOO

Leaders In Immunology

AMGEN · abbvie · HORIZON · NOVARTIS · NEKTAR · GILEAD · zymergen · Pfizer

HUMIRA (adalimumab) · Skyrizi (risankizumab-rzaa) · TEPEZZA (teprotumumab-trbw) · Cosentyx (secukinumab) · RINVOQ (upadacitinib) · Enbrel (etanercept) · SILIQ (brodalumab) injection · KRYSTEXXA (pegloticase)

Board of Directors

Mina Kim · Bruce C. Cozadd · Dan Becker · Alan Colowick · Henry Gosebruch · Patrick Machado · Beth Seidenberg · Dawn Svoronos · Lynn Tetrault

Executing With a Sense of Urgency for Patients

2020

October 2020
Series A Completed

July 2020
ACELYRIN Founded

2021

December 2021
Positive Phase 2 Top-line Data For izokibep in PsA

October 2021
$250 Million Series B

August 2021
First Program, izokibep, Licensed

2022

November 2022
Add'l Phase 2 RCT PsA Endpoint & QoL Data Presented at ACR

September 2022
$300 Million Committed In Series C; Accelerated PsA Phase 2b/3 Into 2022

June 2022
Phase 2 RCT PsA Data Presented At EULAR

2023

September 2023
Announced HS Part B Data

May 2023
$621 Million IPO

April 2023
Announced 46-Week Phase 2 PsA Data

March 2023
Positive Phase 2b/3 Part A Data For izokibep In Hidradenitis Suppurativa

January 2023
Expanded Portfolio With An All-stock Company Acquisition, Adding Lonigutamab And SLRN-517

2024

4Q 2024
Anticipated Izokibep Uveitis Phase 2b/3 Data

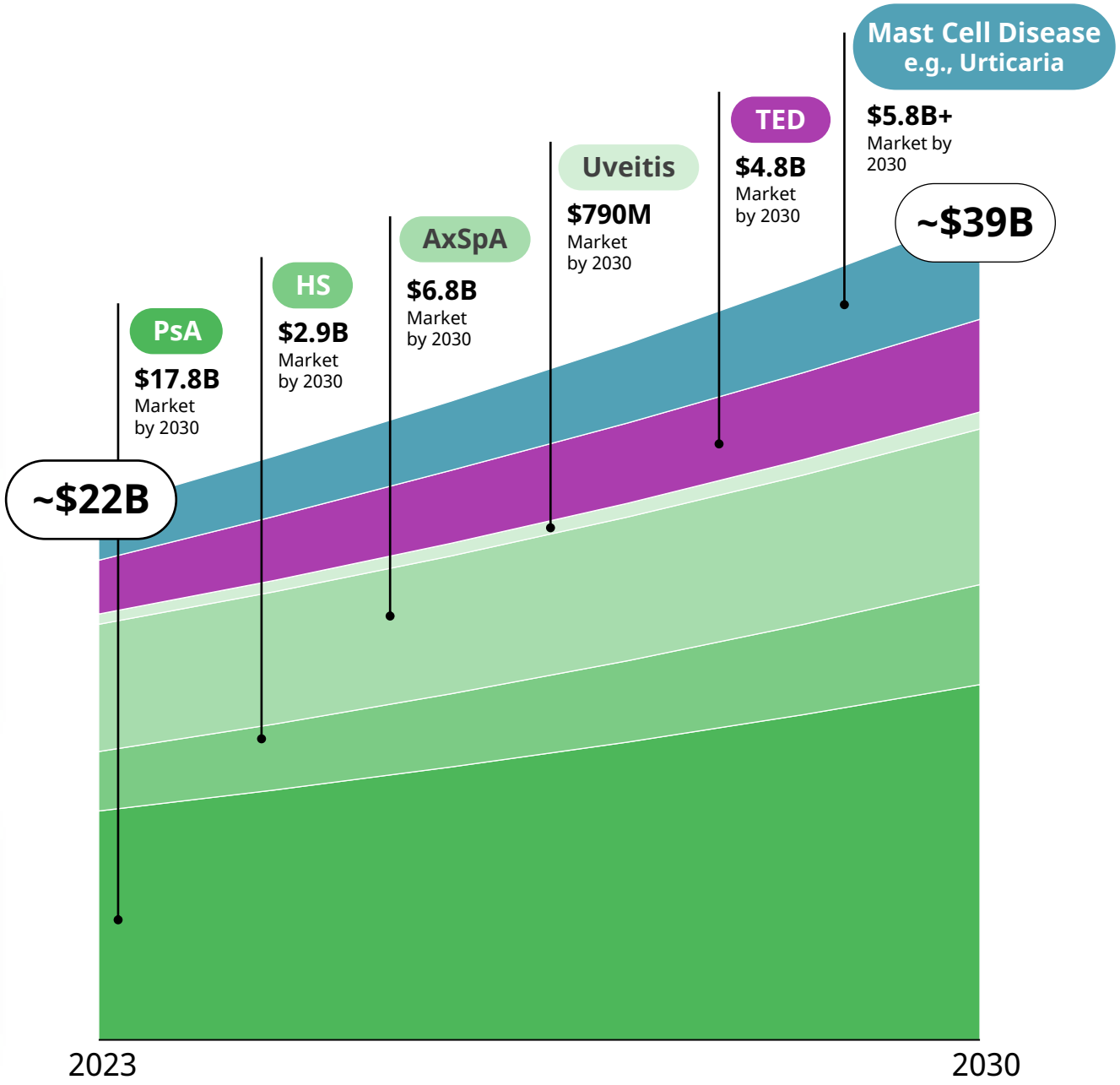
3Q 2024
- Anticipated Izokibep HS Phase 3 Data
- Anticipated Additional Data from lonigutamab Phase 1/2

March 2024
- Lonigutamab Phase 1/2 Data
- Izokibep PsA Phase 2b/3 Data
- Izokibep HS 32-week Data

RCT: Randomized Controlled Trial; **QoL:** Quality of Life

Total Addressable Markets are Significant and Growing

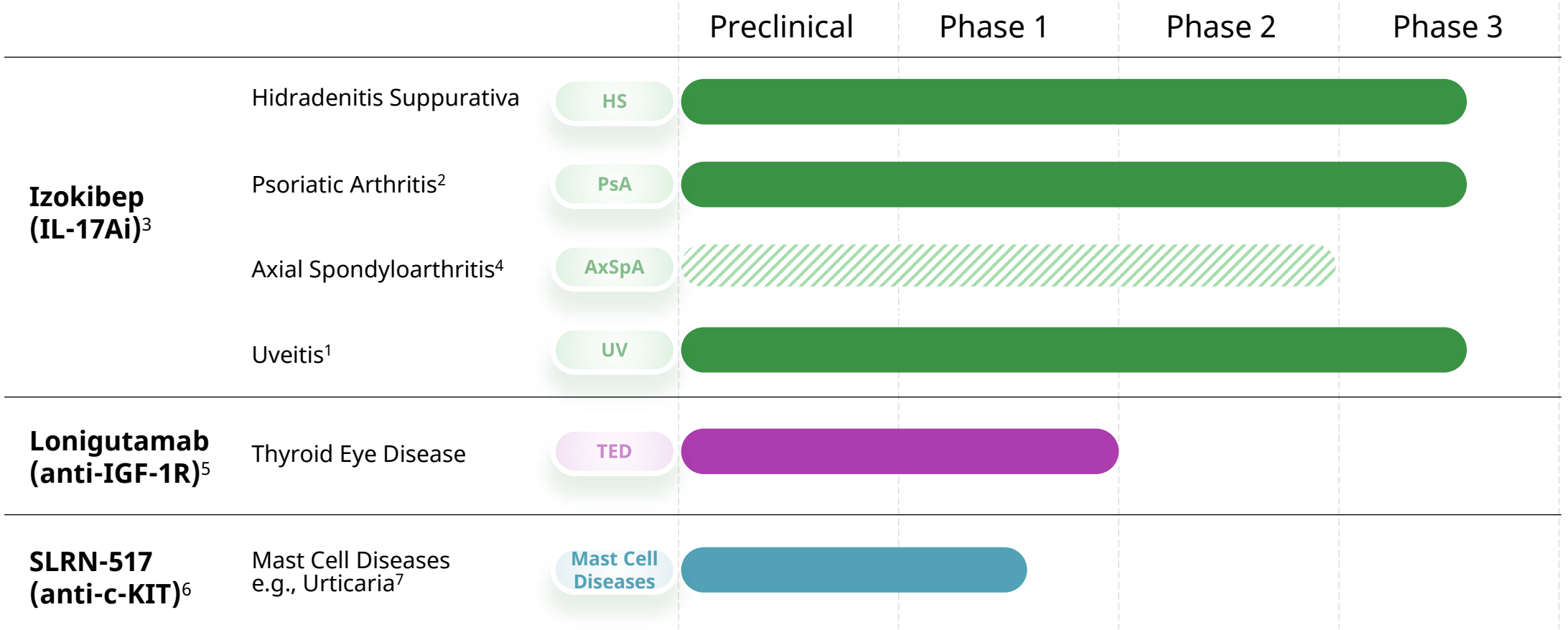
- Pursuing multiple indications with significant unmet need for izokibep and announced positive Phase 2b/3 topline data in PsA and long-term data in HS in 1Q24
- Proof-of-concept for lonigutamab in Thyroid Eye Disease achieved in 1Q24
- Strong financial position of $678.5 million in cash on March 31, 2024 expected to fund operations through key value-driving milestones across our portfolio.



[1] GlobalData Epidemiology Estimates; Helmick C. 2014; Perros P, 2017; Chin Y, 2020; Bartley GB, 1994
See Note 2 on Slide 15 regarding the Phase 2b/3 trial in PsA.

[2] Active PsA Market - Emergen Research, 2022; Global AxSpA Market - iHealthcare Analyst, Nov 2022; HS Market Outlook - DelveInsight, Jan 2023; HS Opportunity Analysis - GlobalData 2019; CSU Market - DelveInsight, Dec 2022, Uveitis Global Drug Forecast - GlobalData, June 2021; Tepezza Consensus Sales Forecast compiled by GlobalData

Robust Portfolio of Clinical Programs With Multiple Indications in Late Stage



[1] Phase 2b/3 trial in uveitis. Planned inclusion into registrational package for non-infectious uveitis (as applicable) if granted orphan drug designation and following consultation with relevant health authorities. We have not previously completed any clinical trials for uveitis and are currently conducting our first Phase 2b/3 trial.

[2] Phase 2b/3 trial in PsA.

[3] IL-17A Inhibitor; Excludes (i) development, commercialization and manufacturing rights in mainland China, Hong Kong, Macau, South Korea and Taiwan, and (ii) development rights in certain other Asia Pacific countries including, without limitation, Australia, India, New Zealand and Singapore. We retain decision making authority for izokibep global development. Potential opportunity to extend certain IP protection into early 2040's.

[4] Based on data from our Phase 2 and ongoing Phase 2b/3 trials in PsA, we intend to discuss with the FDA initiation of the Phase 3 program in AxSpA without completing earlier clinical trials in AxSpA. The FDA may require us to complete a Phase 2 trial in AxSpA prior to initiating our planned Phase 3 program.

[5] Worldwide rights to non-oncology indications. Potential opportunity to extend certain IP protection into 2043.

[6] Potential opportunity to extend certain IP protection to 2039.

[7] Based on preclinical studies demonstrating highly potent inhibition of the c-KIT pathway targeting mast cell proliferation and degranulation across mast-cell driven diseases such as Chronic Urticaria, an inflammatory disease that is driven by the release of histamine and other vasoactive molecules produced by mast cells

Izokibep

Izokibep's High Potency & Small Size Enables Potential to Improve Clinical Response With SC Exposures Others Require IV to Achieve

Validated Target

IL-17A is associated with autoimmune inflammation. Marketed monoclonal antibodies have demonstrated targeting IL-17A results in dose-responsive increases in efficacy without dose-limiting toxicity.

Targeting more broadly than IL-17A as a means to more effectively inhibit the IL-17 axis has demonstrated risk for increased fungal infection, suicidal ideation & behavior, and liver toxicity with a requirement for routine monitoring – all raising the potential of association specifically with inhibition of IL-17F.

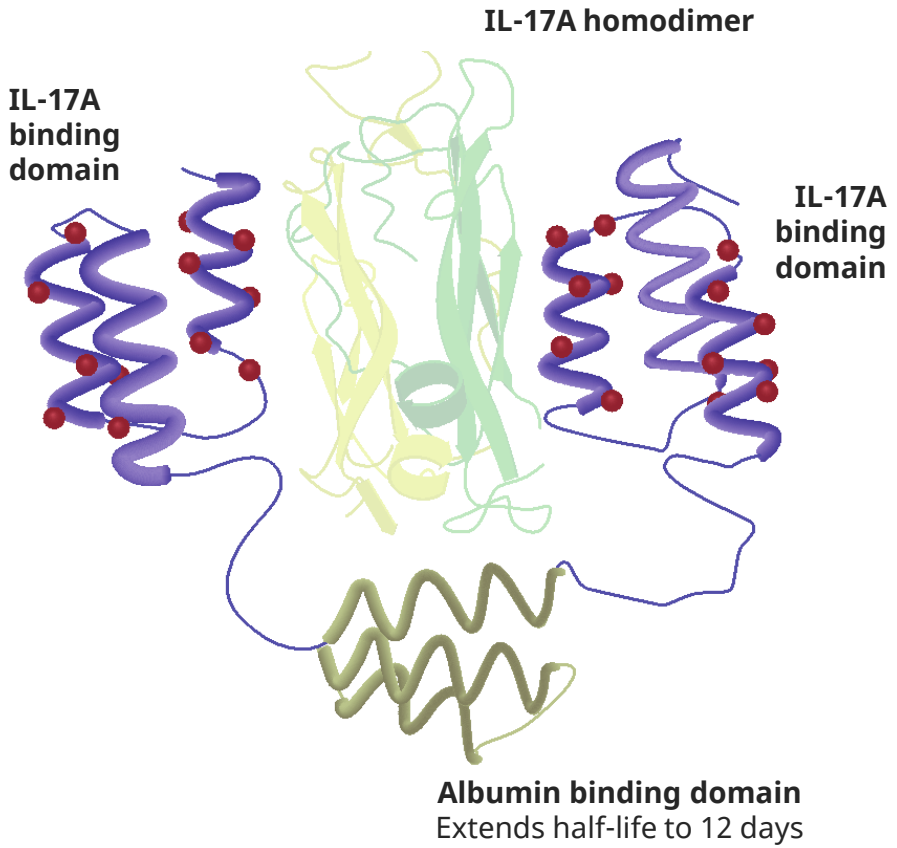
Hitting IL-17A the hardest may be the sweet spot of achieving increased exposure/efficacy without introducing additional or new safety liability. The high potency and small size of izokibep has the potential to impact clinical response.

High Potency

Blocks the homodimeric IL-17A target protein by binding to both sub-units simultaneously with the high affinity (KD: 0.3 pM) versus other IL-17A inhibitors.

Small Size

~1/10th the size of a mAb (~18.6 kD) enabling potential to reach difficult to treat tissues.

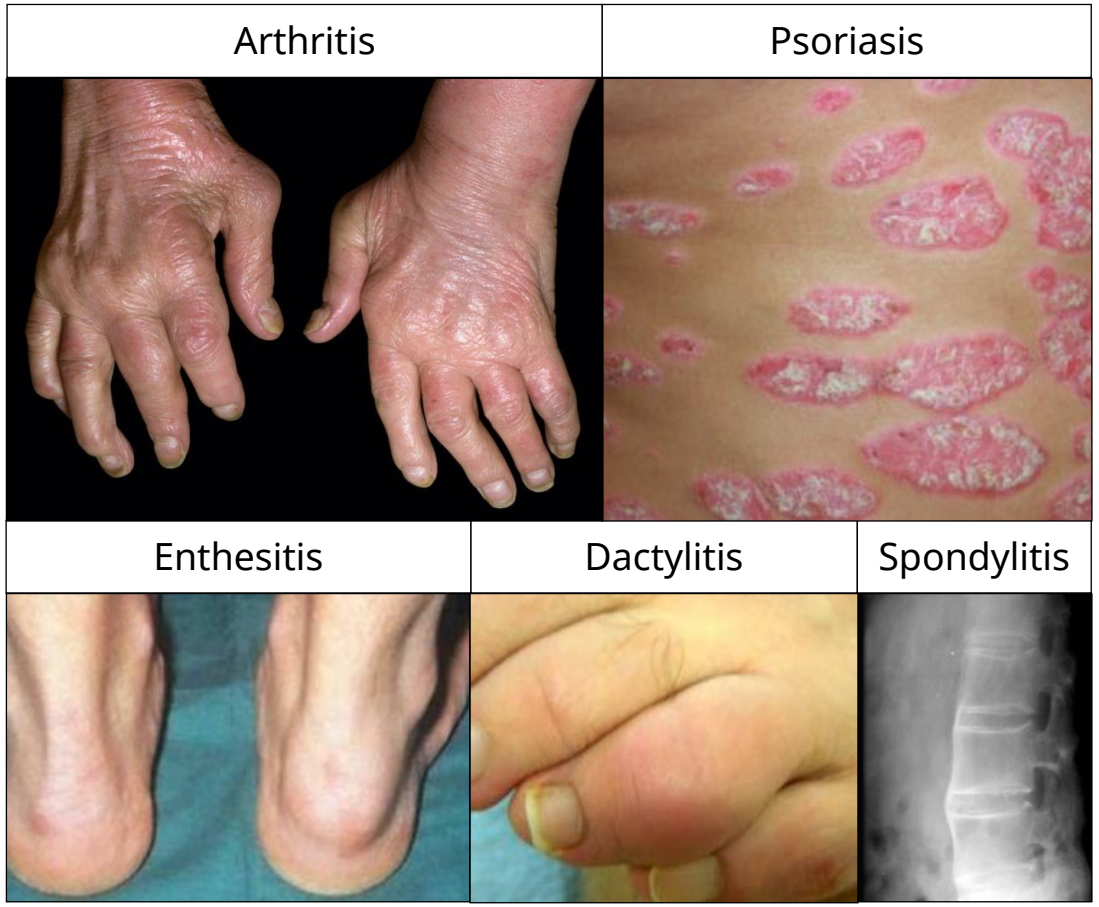


pM, picomolar; kD, kilodalton

Psoriatic Arthritis

Psoriatic Arthritis is a Disease With Multiple Manifestations

Addressing Totality of Manifestations is Necessary to Achieve Disease Control & Restore Quality of Life



- Psoriatic arthritis (PsA) is **a chronic, inflammatory disease with multiple clinical manifestations** including arthritis, psoriasis, enthesitis (inflammation of dense, non-vascular tissues that connect ligaments and tendons to bone), spondylitis, and dactylitis
- **~1.6M PsA patients in the U.S.**
- Among moderate-to-severe PsA patients, **over a third fail non-biologic therapy**
- **More complete and faster resolution of disease symptoms** manifesting in dense tissues (e.g., enthesitis) remain an unmet need
- **Addressing totality of manifestations is the goal** for patients

Addressing All Manifestations Particularly Those That are Historically Difficult to Treat is Important to Improving Quality of Life for Patients

Peripheral Arthritis

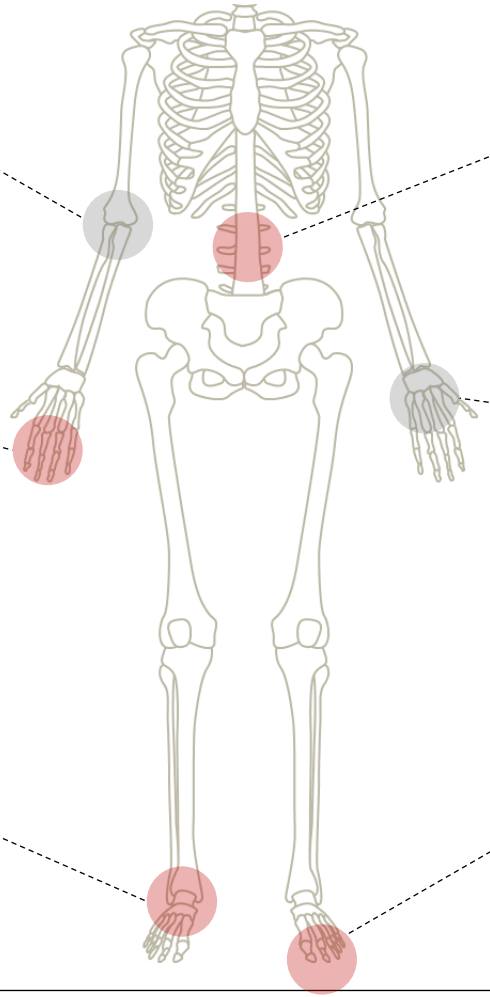
Painful swelling and stiffness of the joints of the arms and legs, including the elbows, wrists, hands and feet

Dactylitis

A hallmark symptom of PsA characterized by diffuse swelling along the entire length of fingers leading to "sausage-like" digits

Enthesitis

An early sign of PsA leading to a disabling and painful inflammation at sites where tendons, ligaments, or fascia insert into bones



Spondylitis

Inflammation of the axial skeleton (sacroiliac joints and spine) leading to severe back pain and stiffness

Skin Psoriasis

Chronic, inflammatory skin lesions (psoriasis), usually red, scaly thickened plaques on scalp, trunk, and extremities.

Nail Psoriasis

A serious functional impairment that affects a patient's quality of life and cause pitting, crumbling, and loosening of the nail plate

Historically difficult to treat

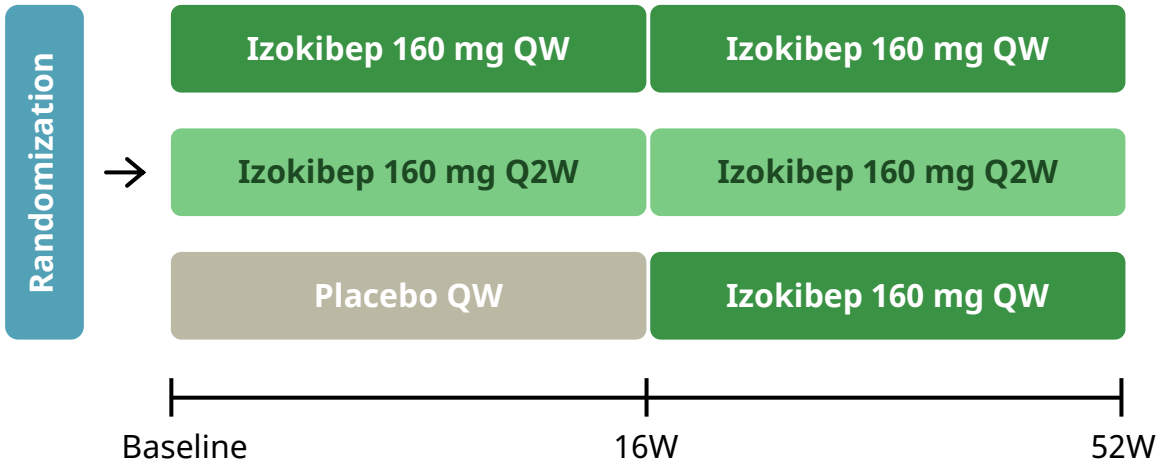
Izokibep PsA

Positive Topline Data From Global Phase 2b/3 Announced 1Q24

Confirmatory Phase 3 Trial Expected to Initiate by the end of 2024

Screening/ Eligibility

- Moderate-Active PsA (CASPAR criteria)
- > 3 TJC68 and > 3 SJC66
- RF and anti-CCP negative at screening
- Previous failure to NSAID or csDMARD or TNFi



Efficacy Endpoints

Primary & secondary endpoints, all week 16

- ACR50 (primary)
- PASI90
- Resolution of enthesitis (LEI=0)
- MDA
- ACR20
- PsAID response
- HAQ-DI change from baseline

Safety Endpoints

All secondary endpoints

- TEAEs, events of interest, and SAEs
- Laboratory values and vital signs at collected timepoints
- Treatment-emergent ADAs

Note: A fourth trial arm evaluating izokibep at 80 mg Q4W (equivalent to ~20 mg Q2W) was also included in study design to enable dose modeling but not shown here due to small sample size, n=8
CASPAR, ClASsification criteria for Psoriatic Arthritis; **QW,** Every Week; **Q2W,** Every Two Weeks; ; **SJC/66**, swollen joint count, assessing 66 joints; **TJC/68**, tender joint count, assessing 68 joints; **RF,** Rheumatoid Factor; **CCP**, Cyclic Citrullinated Peptide; **NSAID,** non-steroidal anti-inflammatory drugs; **csDMARD,** conventional synthetic disease modifying anti-rheumatic drug; **TNFi,** TNF inhibitor; **ACR50,** ≥50% improvement based on American College of Rheumatology criteria; **PASI90**, ≥90% improvement based on Psoriasis Area and Severity Index; **LEI,** Leeds Enthesitis Index; **MDA**, minimal disease activity; **ACR20,** ≥50% improvement based on American College of Rheumatology criteria; **PsAID**, PsA Impact of Disease; **HAQ-DI**, Health Assessment Questionnaire Disability Index; **TEAE**, treatment-emergent adverse event; **SAE**, serious adverse event; **ADA**, anti-drug antibodies

Positive Results for Izokibep Global Phase 2b/3 in PsA

Positive topline results

- Study met primary endpoint of ACR50 at 16 weeks with high statistical significance
- Significant, multidomain responses achieved for the high hurdles of ACR70, PASI90, PASI100 and MDA
- Improvement in magnitude of responses relative to Phase 2 notable given higher burden of disease in Phase 2b/3
- Expected to be the first of two registrational trials in psoriatic arthritis; 160mg Q2W appears to be optimal dose

Differentiated profile

- Izokibep IL-17A inhibition alone achieves rapid improvement in resolution across manifestations of disease
- Pre-specified analyses support the potential for differentiation in enthesitis resolution
- Higher clinical responses than reported by the IL-17A agents
- Results comparable to those reported by the IL-17A&F agents but without the associated safety liabilities

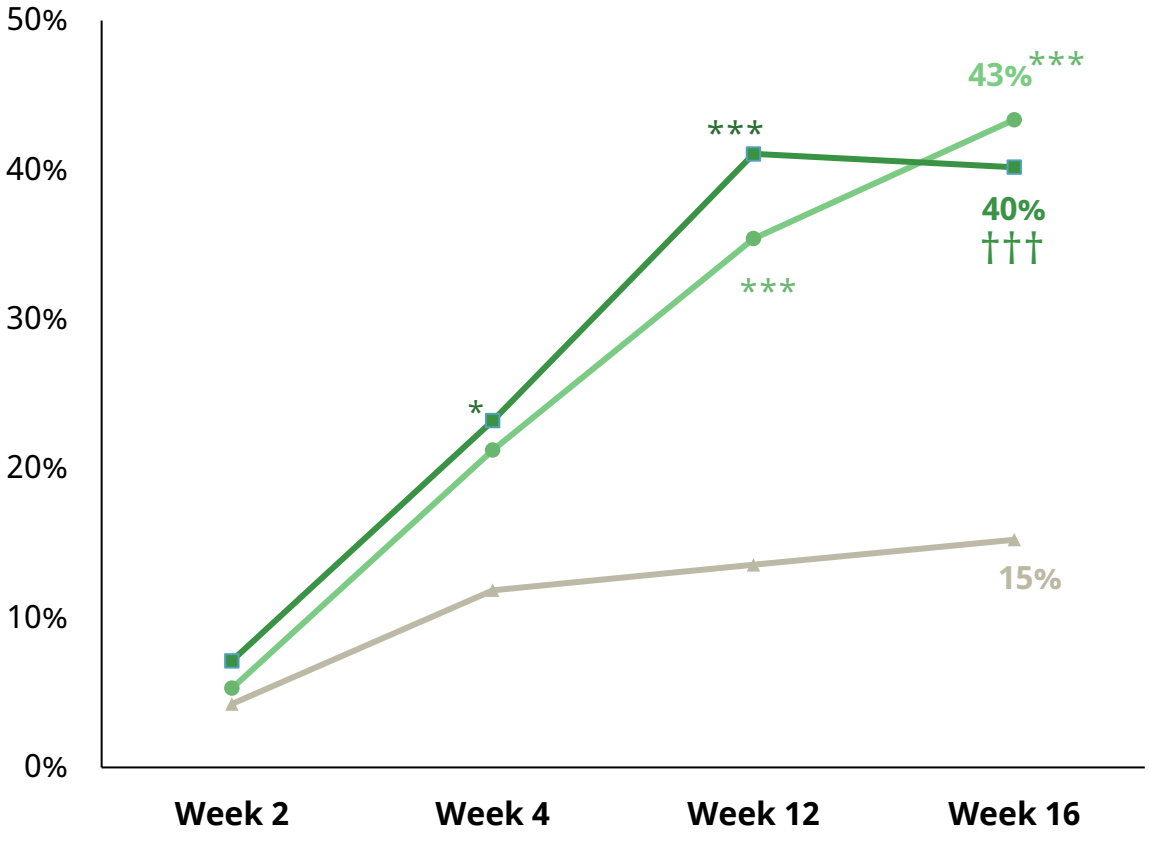
Deep and durable responses

- Robust clinical responses in high hurdle composite endpoints (ACR50/PASI100 and MDA)
- No safety limitation to long term treatment seen to date
- Longer duration of therapy has previously demonstrated the potential for even further improvements over time

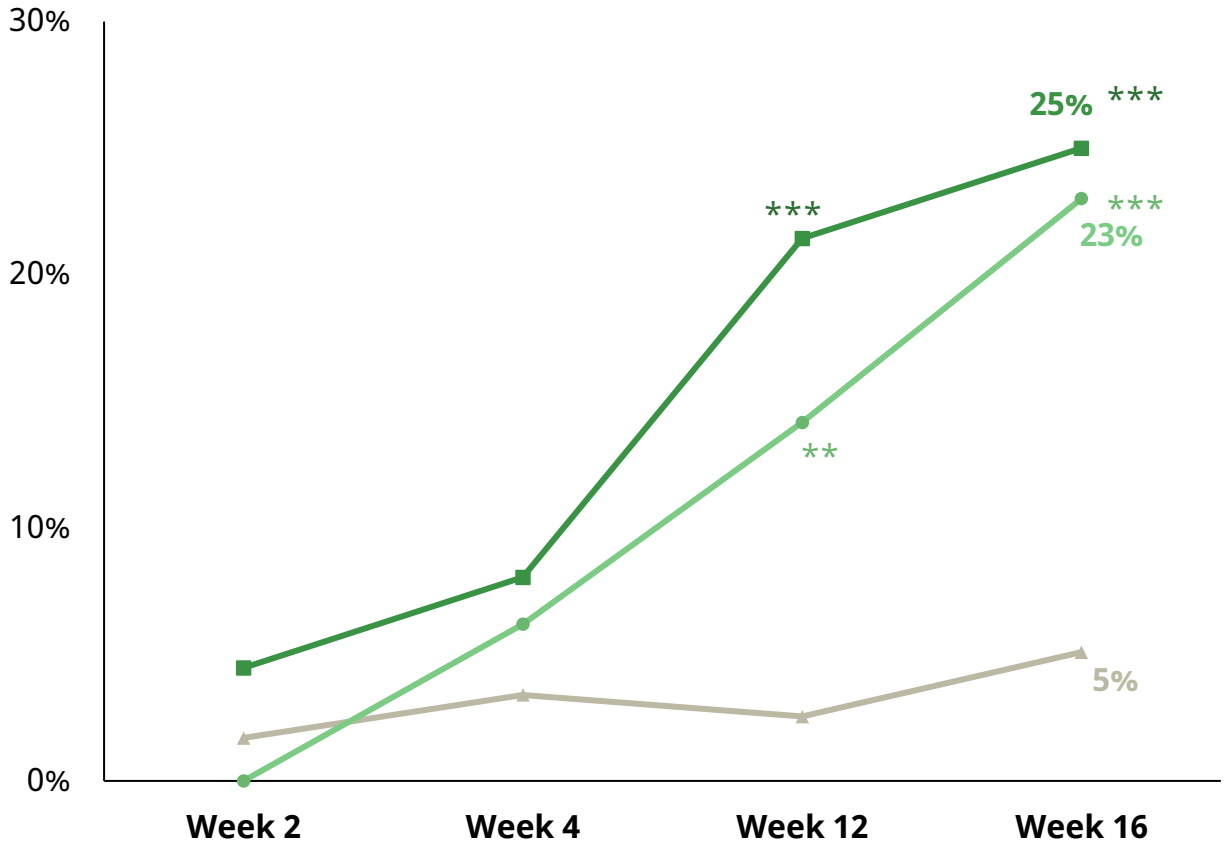
ACR50 and ACR70 at Primary Endpoint

Registrational Endpoint of ACR50 in Joints Showed Rapid and Robust Improvement; Achievement of ACR70 Demonstrates Even Deeper Levels of Response

Improvement in ACR50 through Wk 16 (1)



Improvement in ACR70 through Wk 16 (1)



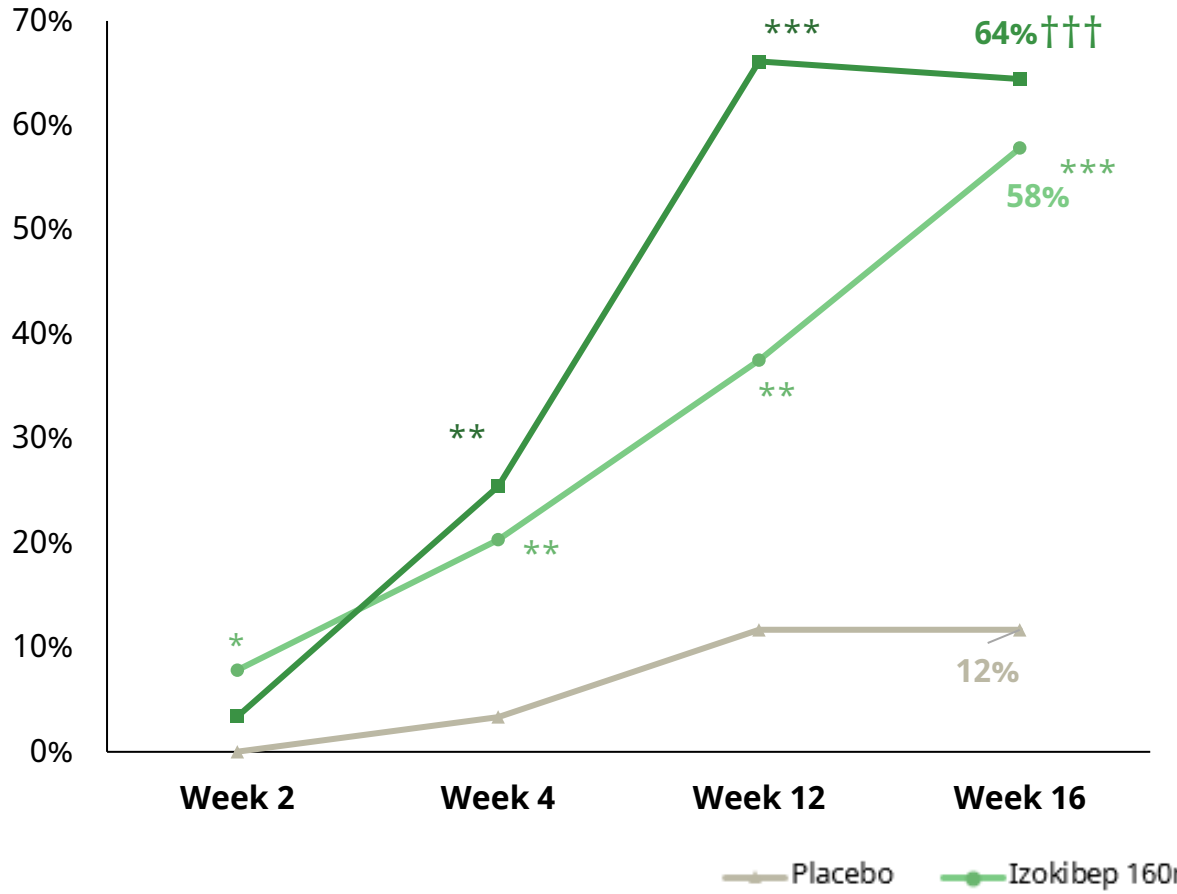
Placebo — Izokibep 160mg Q2W — Izokibep 160mg QW

(1) Week 16 data are from the full analysis set using non-responder imputation (NRI). Significance per prespecified statistical hierarchy: †††P<0.0001 vs placebo. Nominal significance: *P<0.05, **P<0.01, ***P<0.0001 vs placebo (stratified test of risk differences).

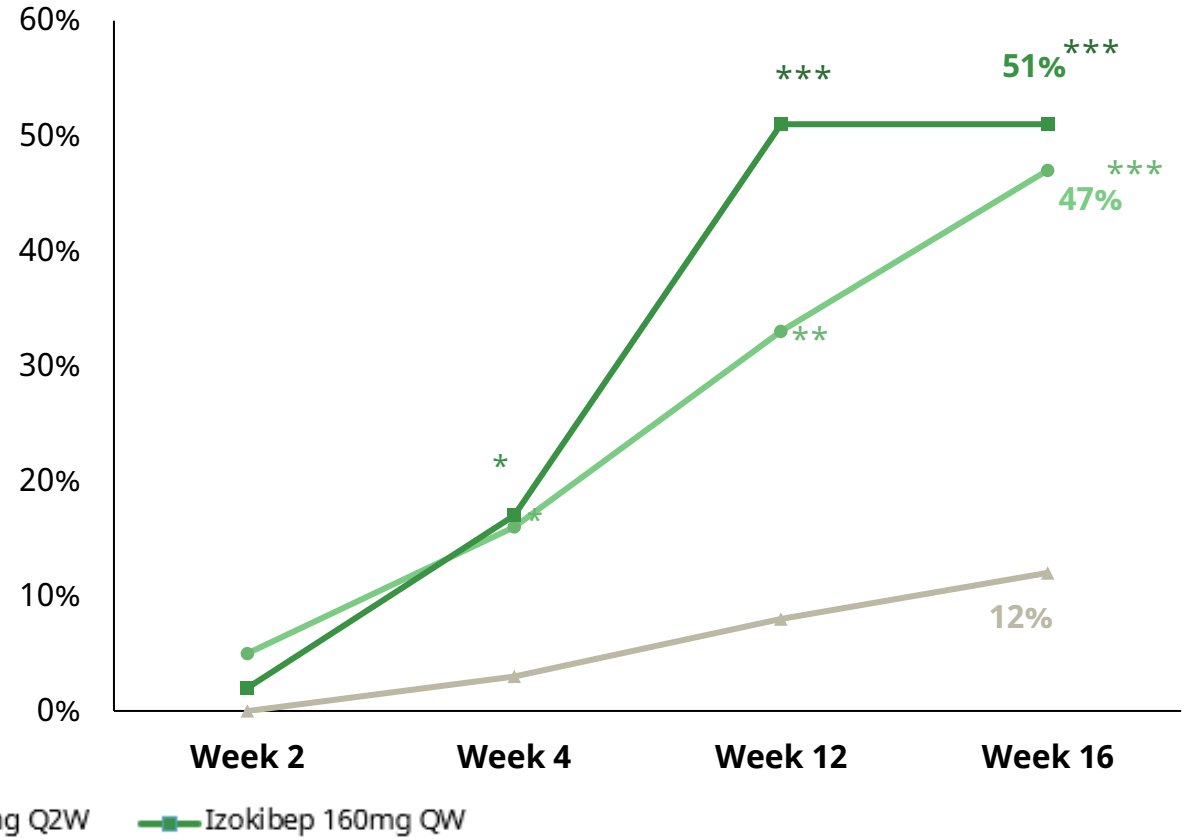
PASI90 and PASI100 at Primary Endpoint

Rapid and Robust Achievement of All-Clear Skin

Improvement in PASI90 through Wk 16 (1)



Improvement in PASI100 through Wk 16 (1)



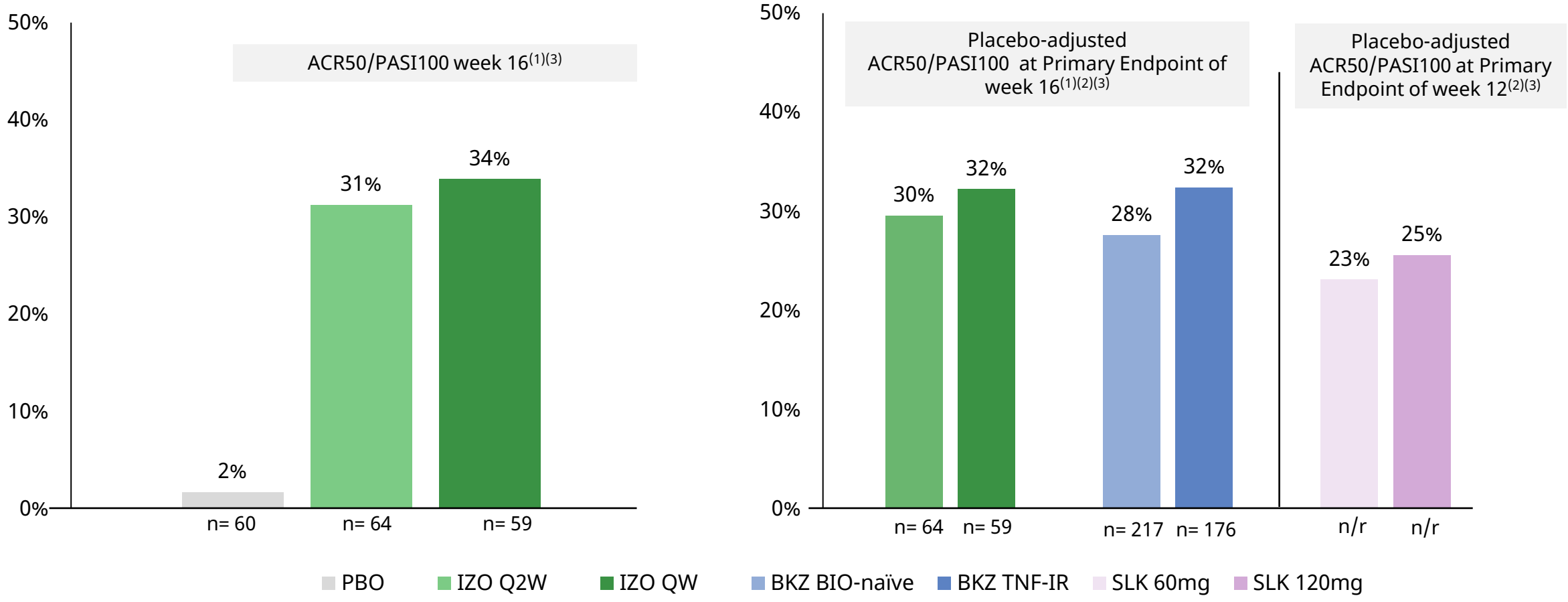
Placebo — Izokibep 160mg Q2W — Izokibep 160mg QW

(1) Week 16 data are from the full analysis set using prespecified non-responder imputation (NRI) in patients with BSA ≥3% at baseline. Significance per prespecified statistical hierarchy: †††P<0.0001 vs placebo. Nominal significance: *P<0.05; **P<0.01; ***P<0.0001 vs placebo (stratified test of risk differences).

BSA, body surface area; **PASI90/100**, ≥90%/100% reduction from baseline in Psoriasis Area and Severity Index.

ACR50 and PASI100 Composite at Primary Endpoint

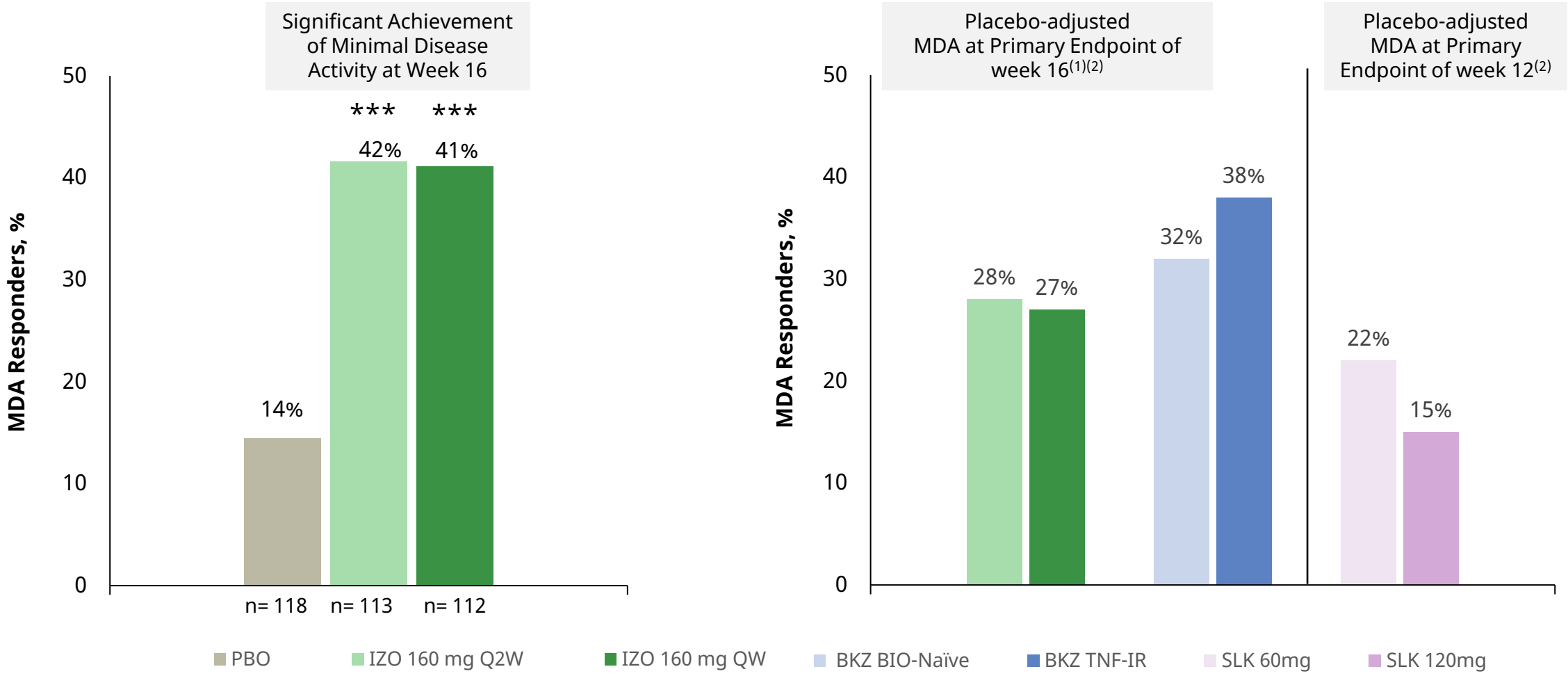
Robust Composite Responses of Joint and Skin Without the Safety Liabilities of IL-17 A&F Inhibition



(1) Week 16 data are from the full analysis set using prespecified non-responder imputation (NRI).
(2) Comparisons across trials, with inherent limitations. Not head-to-head trials. Bimekizumab and Sonelokimab data from public source: Ritchlin CT, Coates LC, McInnes IB, et al. Ann Rheum Dis 2023;82:1404–1414 BE OPTIMAL; Merola et al Lancet 2023 401: 38–48 BE COMPLETE. Moonlake R&D day March 10, 2024.
(3) In patients with psoriasis involving at least 3% body surface area (BSA) at baseline

Minimal Disease Activity at Primary Endpoint

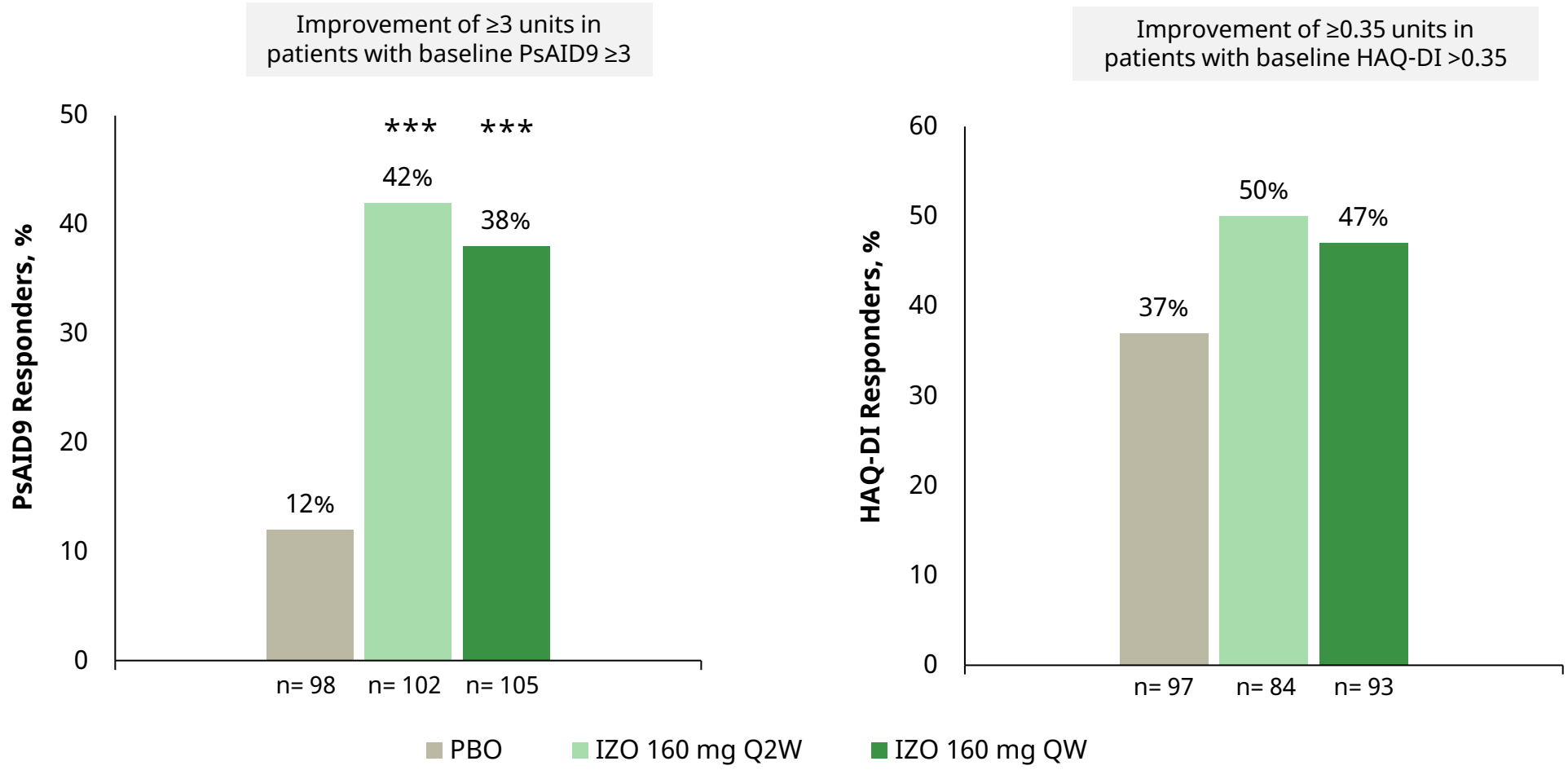
Improving the Totality of Manifestations is the Goal for Minimizing Disease Activity for Patients



(1) Week 16 data are from the full analysis set using prespecified non-responder imputation (NRI). Nominal significance: ***P<0.0001 vs. placebo (stratified test of risk differences)
(2) Comparisons across trials, with inherent limitations. Not head-to-head trials. Bimekizumab and Sonelokimab data from public source: Ritchlin CT, Coates LC, McInnes IB, et al. Ann Rheum Dis 2023;82:1404–1414 BE OPTIMAL; Merola et al Lancet 2023 401: 38–48 BE COMPLETE. Moonlake R&D day March 10, 2024.

Patient-Reported Disease Burden and Physical Function

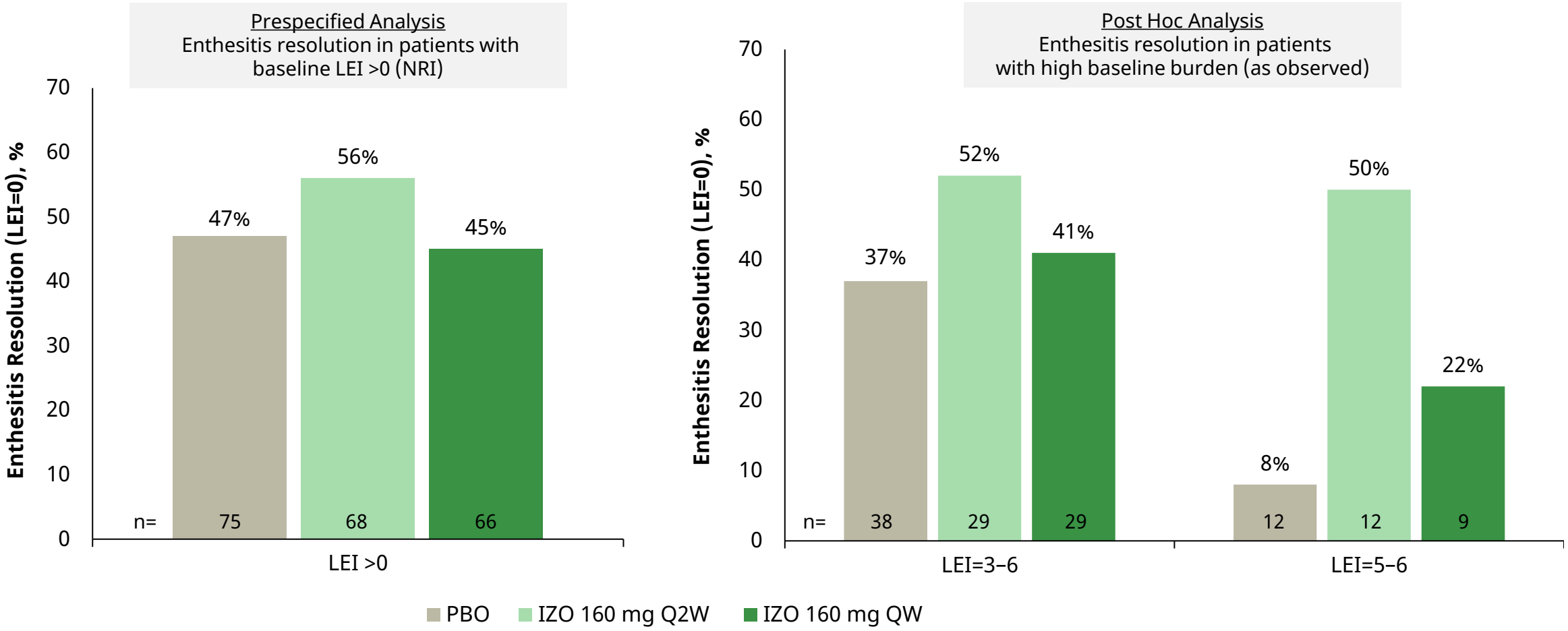
Clinically Meaningful Improvement in PsAID9 and HAQ-DI at Week 16



Data are from the full analysis set using nonresponse imputation. Nominal significance: ***P<0.0001 vs placebo (stratified test of risk differences)
PsAID9, Psoriatic Arthritis Impact of Disease based on 9 numerical rating scales

Izokibep Demonstrated Resolution Despite Highest Burden Of Enthesitis[1]

Improvement Relative to PBO in Highest Burden of Disease not Previously Reported by Other Agents[2]



(1) Enthesitis resolution overall in Phase 2b/3 was not statistically significant due to high placebo response
(2) Coates et al. Arthritis Research & Therapy (2019) 21:266 - Secukinumab demonstrated no difference between placebo and active in higher burden enthesitis subgroups. Data for Bimekizumab not available.
Data are from the full analysis set.

Summary Of Safety Through Week 16

n (%)	Placebo n=118	Izokibep 160 mg Q2W n=113	Izokibep 160 mg QW n=112
Any TEAEs	48 (40.7)	75 (66.4)	81 (72.3)
Serious	1 (0.8)	2 (1.8)	3 (2.7)
TEAEs leading to study discontinuation	0	5 (4.4)	8 (7.1)
General disorders and administration site conditions leading to study discontinuation[a]	0	1 (0.9)	5 (4.5)
Deaths	0	0	0
Preferred Term (≥5%)[b]			
Injection site erythema	0	44 (38.9)	60 (53.6)
Injection site pruritus	1 (0.8)	19 (16.8)	24 (21.4)
Injection site swelling	0	8 (7.1)	9 (8.0)
Injection site pain	1 (0.8)	6 (5.3)	7 (6.3)
Upper respiratory tract infection	4 (3.4)	3 (2.7)	6 (5.4)
Injection site rash	0	7 (6.2)	2 (1.8)
Injection site reaction	1 (0.8)	2 (1.8)	6 (5.4)
Fatigue	0	7 (6.2)	2 (1.8)
Any TEAEs of special interest[c]	2 (1.7)	5 (4.4)	6 (5.4)
Oral candidiasis	0	0	1 (0.9)
Skin candidiasis	1 (0.8)	0	0
Colitis ulcerative	0	1 (0.9)	1 (0.9)

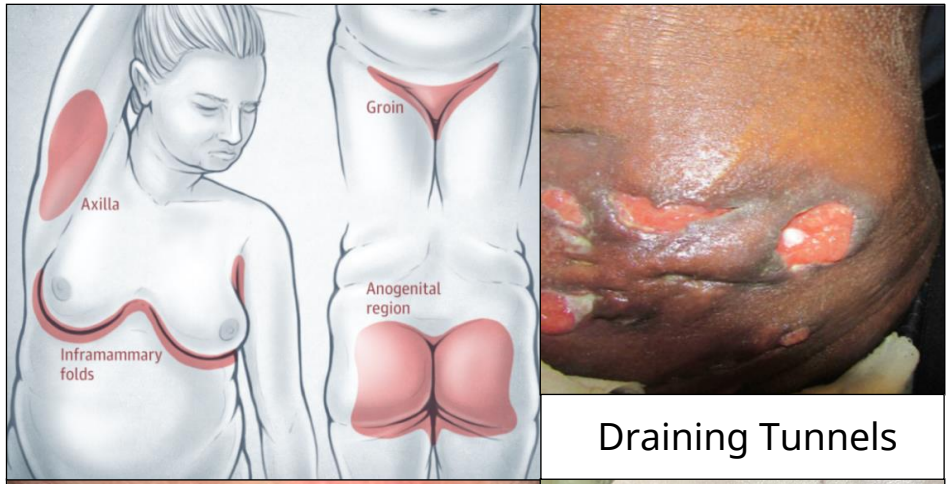
Safety Set. [a] Include Injection site reaction, erythema, and pruritus. [b] Most commonly reported TEAEs occurring in ≥5.0% of patients in any group to week 16. [c] Only select TEAEs of special interest are shown.

Hidradenitis Suppurativa

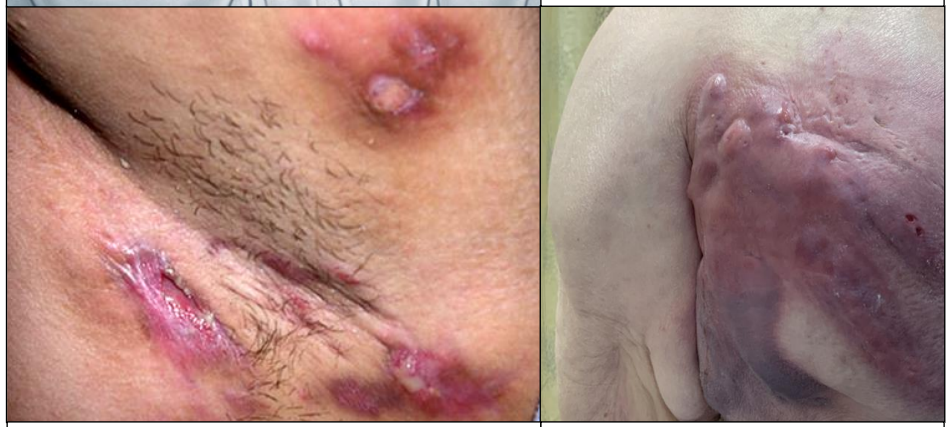
Izokibep HS

Hidradenitis Suppurativa is a Devastating Disease Where Exposures Matter

High Potency and Small Size of Izokibep Could Improve Patient Outcomes



Draining Tunnels



Inflammatory Nodules

Abscesses

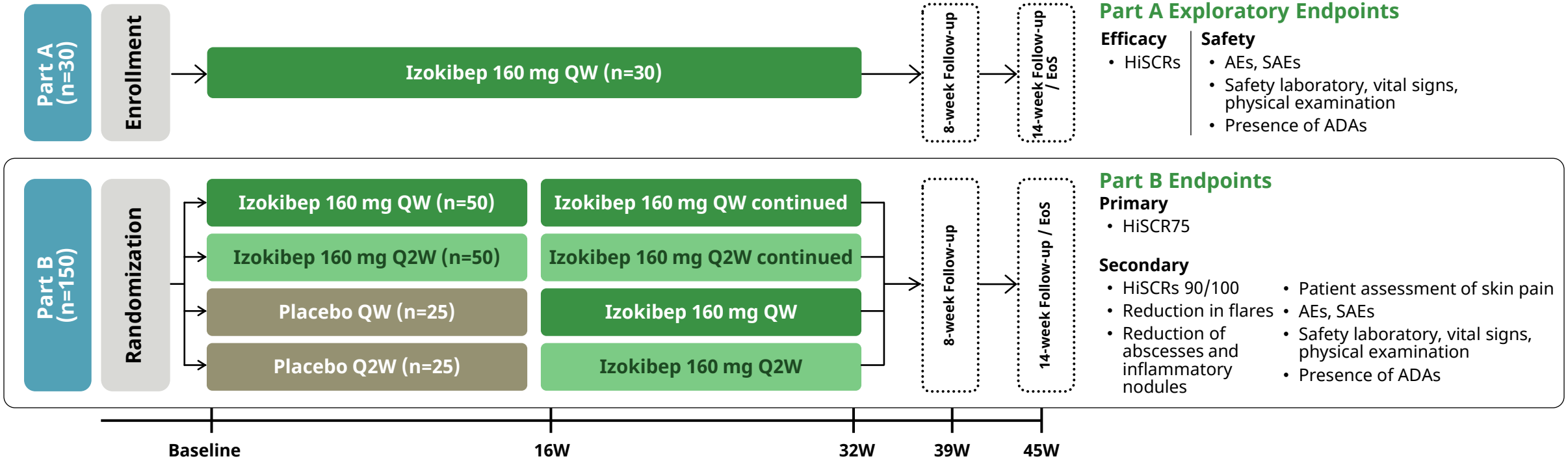
- Chronic Inflammatory disease characterized by skin abscesses, inflammatory nodules, fistulae, scar tissue, malodor and pain, often resulting in permanent disfigurement and social stigma negatively impacting quality of life
- **~370,000 HS patients in the U.S.**; approximately half of patients are considered to have moderate-to-severe disease
- Diagnosis rates are estimated to **increase 1-3% annually**
- **Current therapy options are limited**; more complete and faster resolution of disease symptoms remain an unmet need for patients

Izokibep Phase 2b Hidradenitis Suppurativa Trial

Positive 32-Week Data From Global Study Announced 1Q24

Screening/ Eligibility

- Moderate-to-severe HS
- Diagnosis of HS for ≥ 1 year prior to first dose
- HS lesions present in ≥ 2 distinct anatomic areas, one of which is Hurley Stage II or III
- Minimum abscess/ nodule (AN) count of 3 (Part A) or 5 (Part B)
- Inadequate response, intolerance or contraindication to oral antibiotics



Part A Exploratory Endpoints

Efficacy
- HiSCRs

Safety
- AEs, SAEs
- Safety laboratory, vital signs, physical examination
- Presence of ADAs

Part B Endpoints

Primary
- HiSCR75

Secondary
- HiSCRs 90/100
- Reduction in flares
- Reduction of abscesses and inflammatory nodules
- Patient assessment of skin pain
- AEs, SAEs
- Safety laboratory, vital signs, physical examination
- Presence of ADAs

QW, once every week; **Q2W**, once every 2 weeks; **ADA**, anti-drug antibodies; **AE**, adverse event; **SAE**, serious adverse event; **AN**, total abscess and inflammatory nodule count; **EoS**, end of study; **HiSCR**, Hidradenitis Suppurativa Clinical Response; **HiSCR75**, ≥75% reduction in total abscess and inflammatory nodule (AN) count; **HiSCR90**, ≥90% reduction in total abscess and inflammatory nodule (AN) count; **HiSCR100**, 100% reduction in total abscess and inflammatory nodule (AN) count

HS 32-Week Data Demonstrate Sustained & Deepening Responses

Improvements across manifestations of disease

- Rapid, dose ordered improvement across manifestations through week 32
- HiSCR100 consistently achieved in about 1/3 of patients on 160mg QW including in pbo switch from week 16
- Consistent improvement in resolution of abscesses, nodules, and draining tunnels
- Robust reduction in skin pain and remarkable improvement in overall quality of life

Differentiated profile

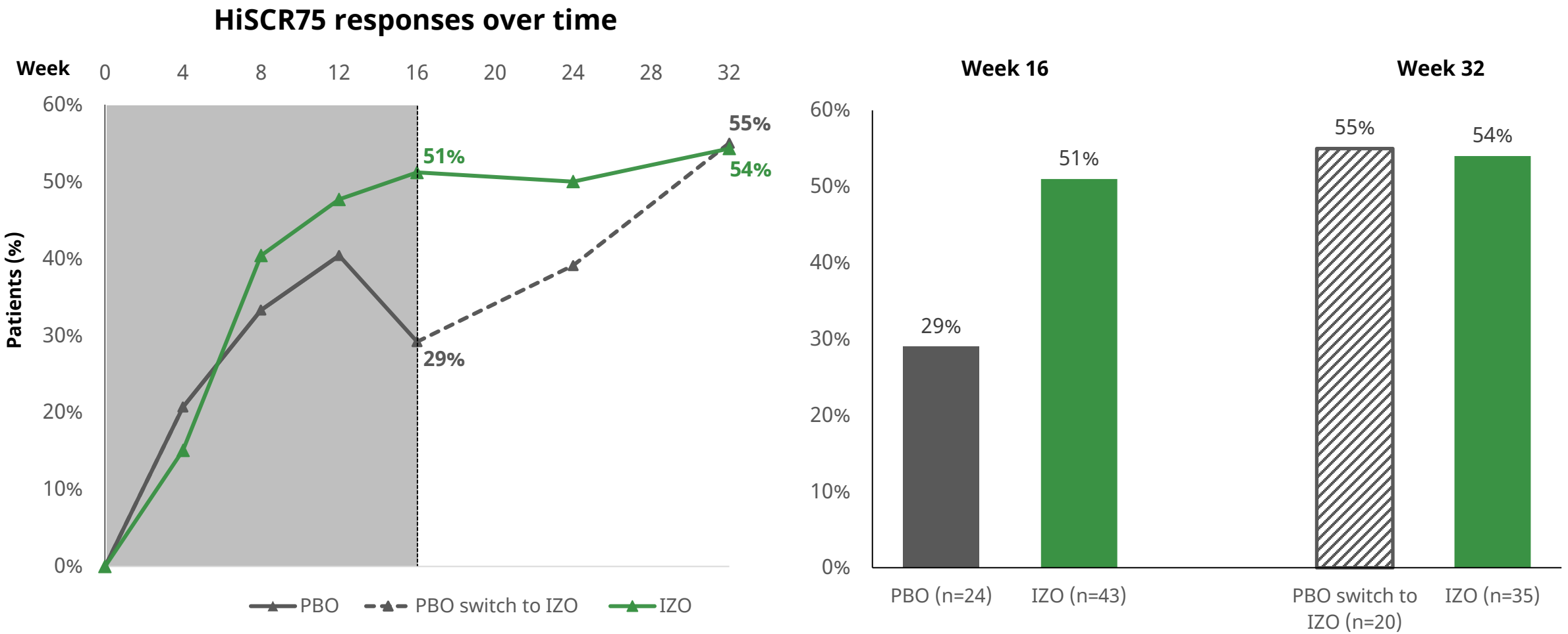
- Magnitude and depth of responses support hypothesis that the characteristics of izokibep – including small size and highly potent inhibition of IL-17A alone – could deliver differentiated clinical benefit
- Resolution of abscesses and nodules (HiSCR100) achieved more rapidly than the other IL-17A agents and than the IL-17A&F agents without the associated safety liabilities such as dose-dependent increased risk of fungal infection, for which HS patients are predisposed

Path forward

- A phase 3 trial in HS is ongoing and topline data is expected by end of 2024
- We are planning a confirmatory phase 3 trial of approximately 400 patients to address FDA guidance

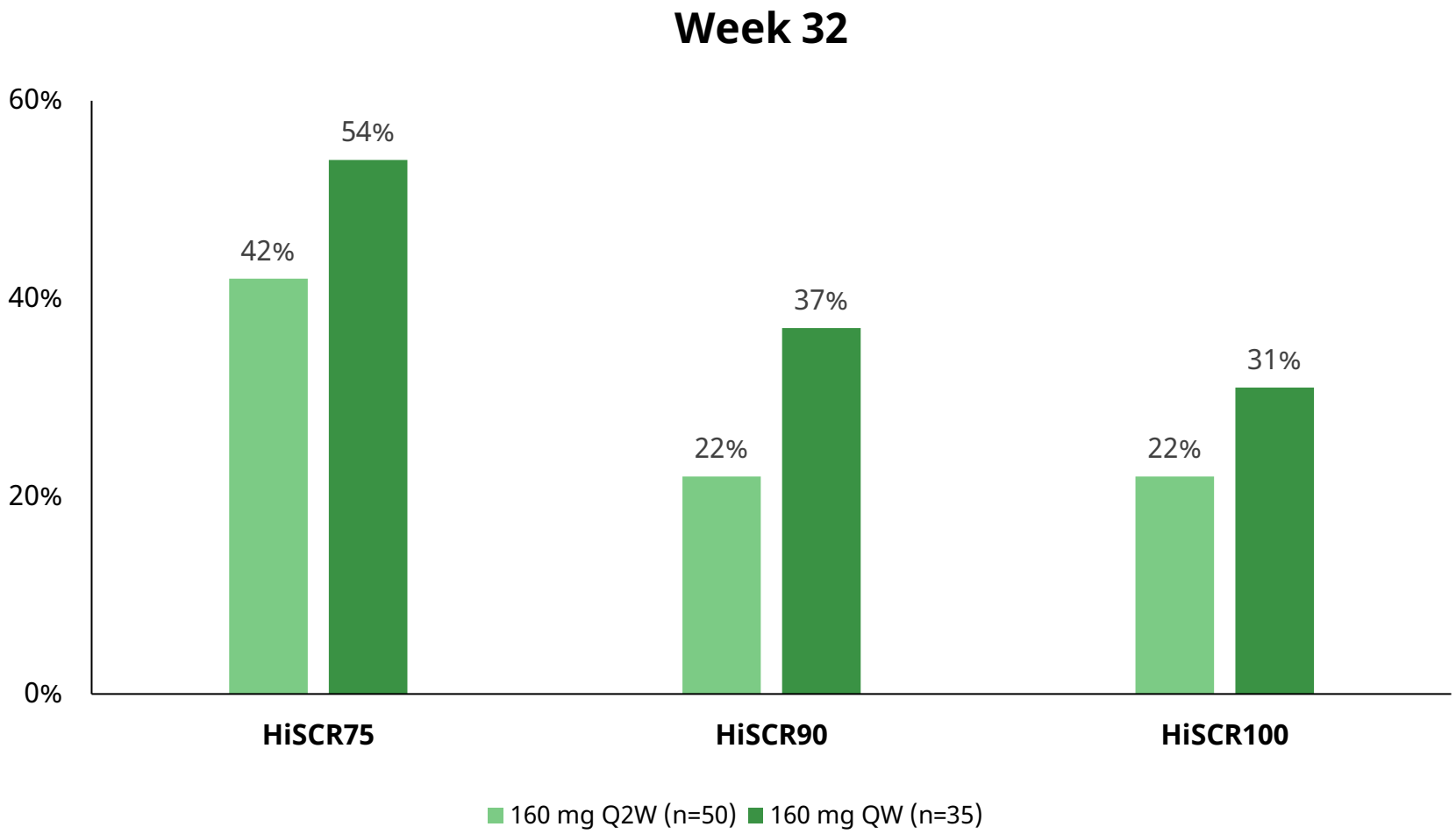
HiSCR75 Response With 160 mg QW Sustained Through Week 32

Placebo Switch Attained Clinically Meaningful Comparable Responses



Source: Results from an open label extension and include all subjects through week 32. Data are from the full analysis set and presented as observed. IZO week 16 data is also on an as-observed basis and differs from, and is not a substitute for, the week 16 topline results in the NRI primary analysis we announced in Q3 2023.
PBO, placebo; **IZO**, izokibep

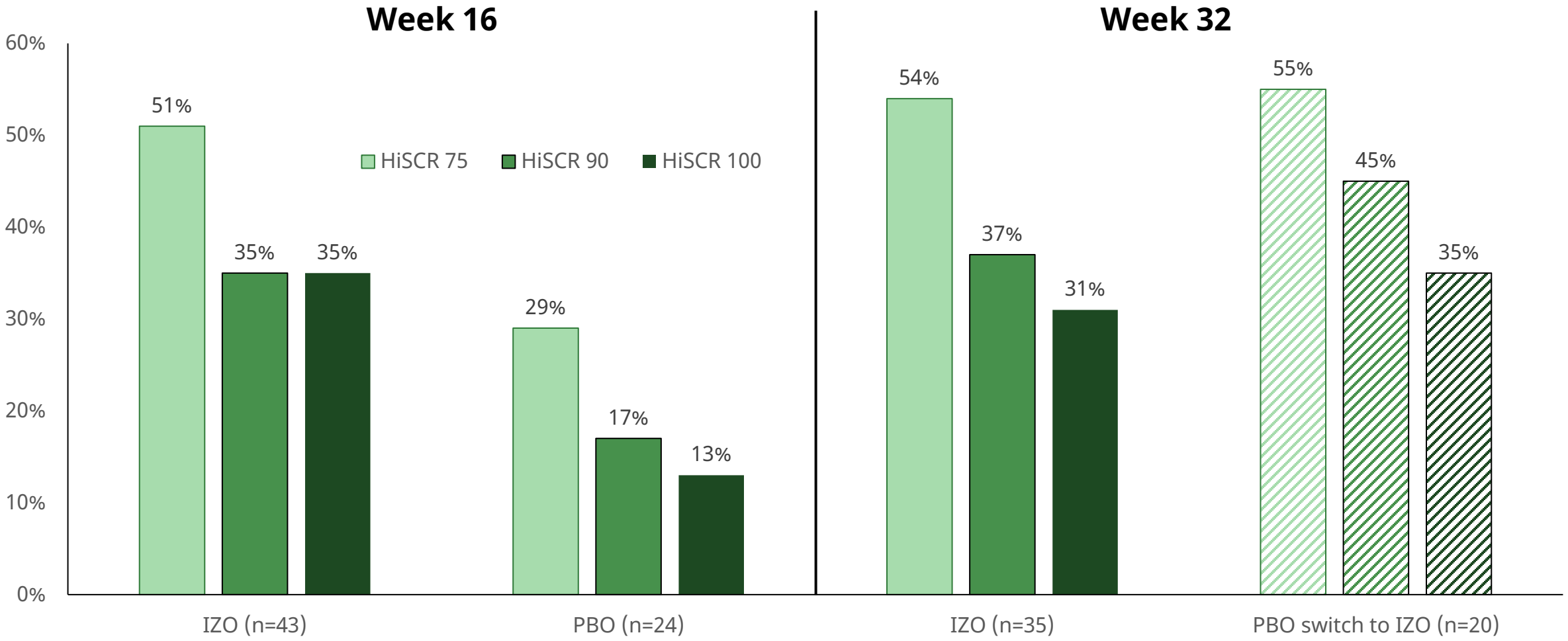
HiSCR Responses Were Robust and Dose Ordered



Source: Results from an open label extension and include all subjects through week 32 Data are from the full analysis set and presented as observed.

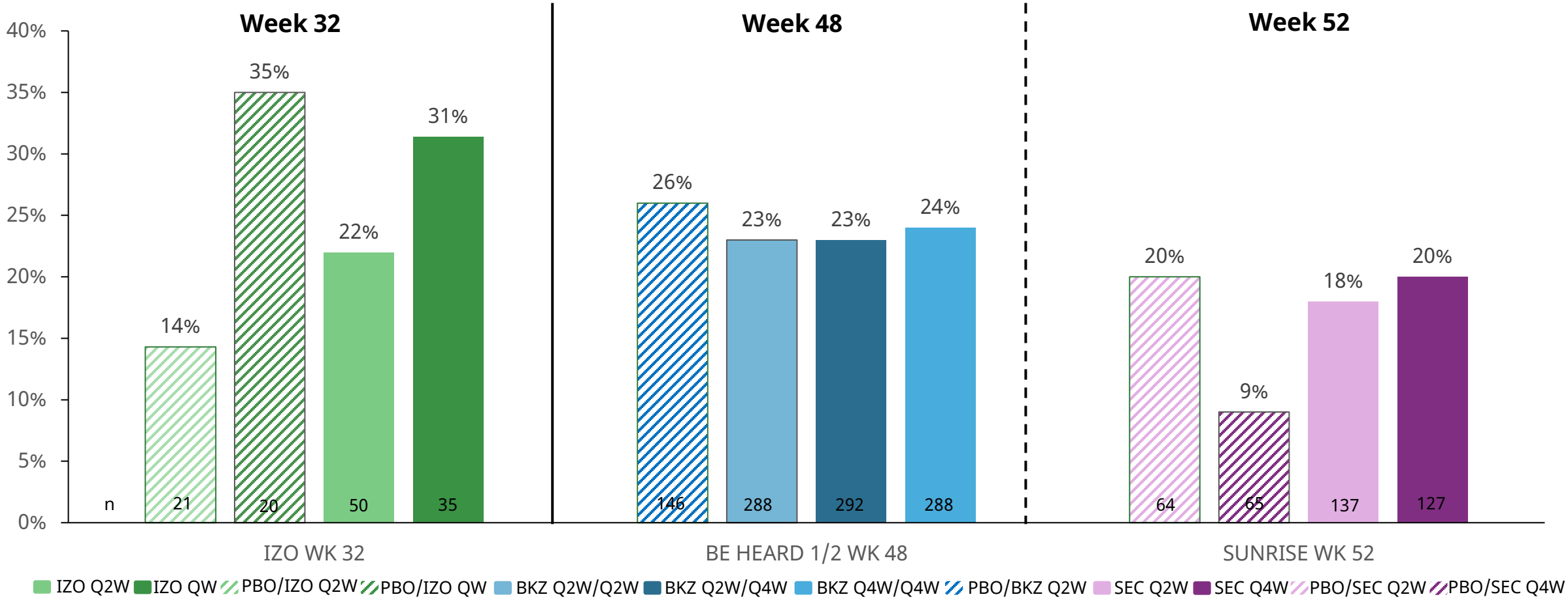
High Order HiSCR Responses Sustained Through Week 32

Rapid Achievement of HiSCR100 in ~1/3 of Patients on 160 mg QW, Including Placebo Switch to Active



Source: Results from an open label extension and include all subjects through week 32. Data are from the full analysis set and presented as observed. IZO week 16 data is also on an as-observed basis and differs from, and is not a substitute for, the week 16 topline results in the NRI primary analysis we announced in Q3 2023.

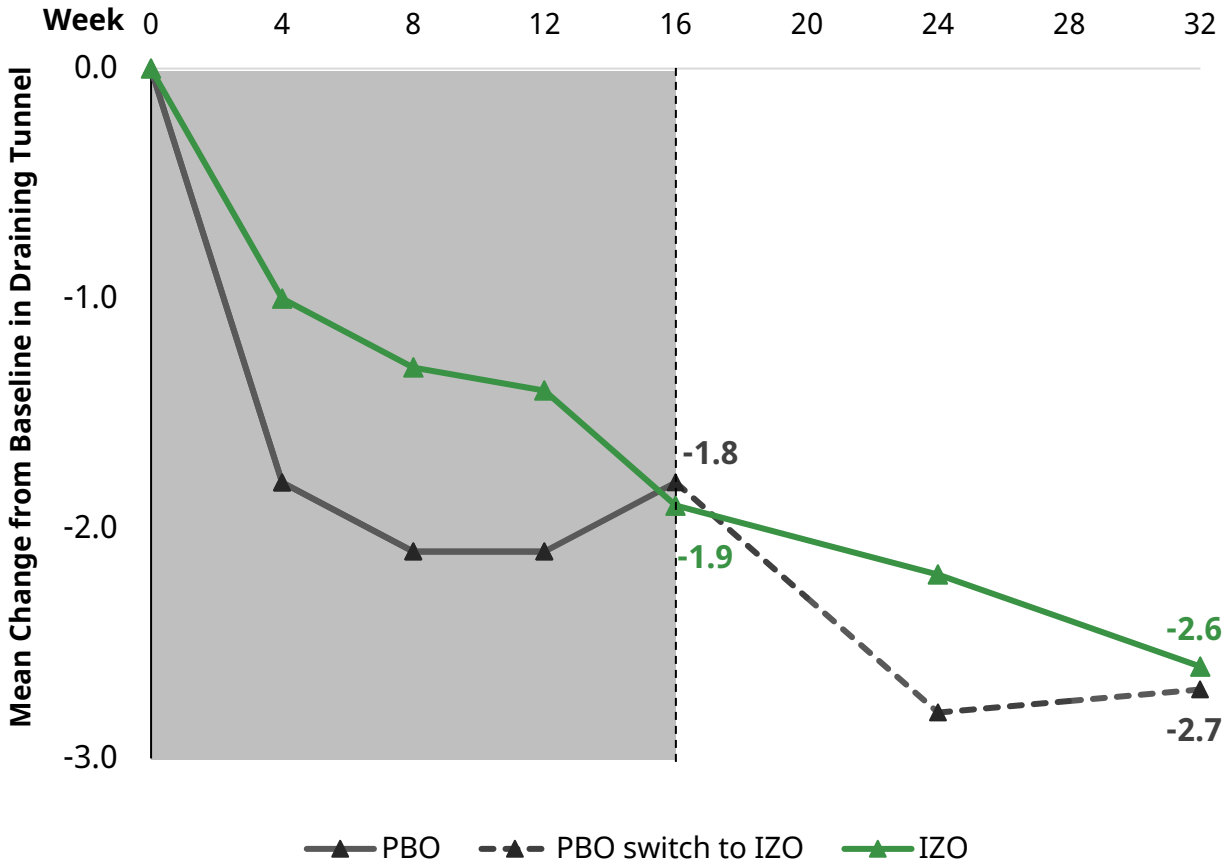
Izokibep Reaches Magnitudes of HiSCR100 Other Agents Have Not Achieved Despite Longer Exposures

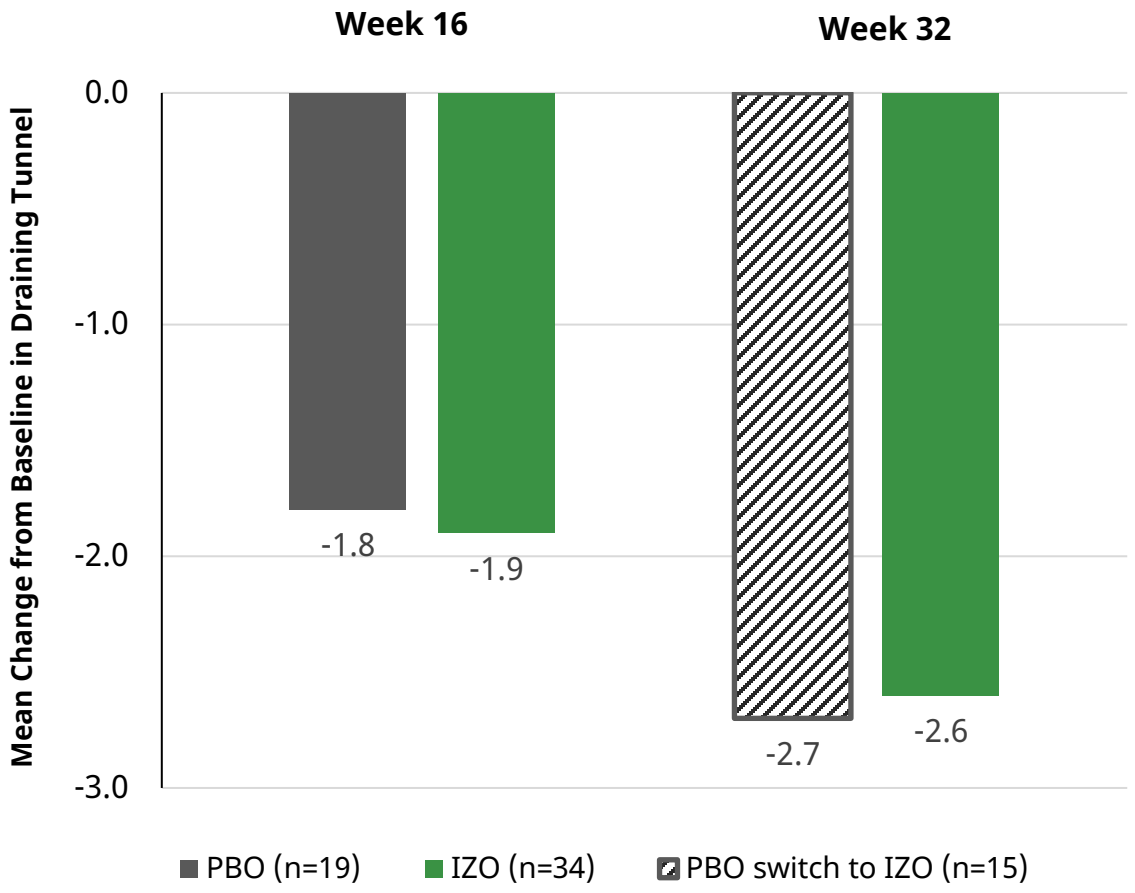


Source: Results from an open label extension and include all subjects through week 32. Data are from the full analysis set and presented as observed. IZO week 16 data is also on an as-observed basis and differs from, and is not a substitute for the week 16 topline results in the NRI primary analysis we announced in Q3 2023.
BKZ, bimekizumab; **SEC**, secukinumab; **Q4W,** every 4 weeks; **PBO/IZO**, placebo switch to izokibep; **PBO/BKZ**, placebo switch to bimekizumab; **PBO/SEC**, placebo switch to secukinumab
Comparisons across trials, with inherent limitations. Not head-to-head trials. BKZ data from Zouboulis CC, et al. EADV 2023, FC03.5 (modified-NRI). SEC data from EADV 2023 Ingram JR, et al. FC03.1 (MI data for SEC week 16 and as observed for week 52). As observed data for IZO.

Draining Tunnel Resolution With 160 mg QW Continued to Improve Through Week 32

(Patients With ≥1 Draining Tunnel at Baseline)

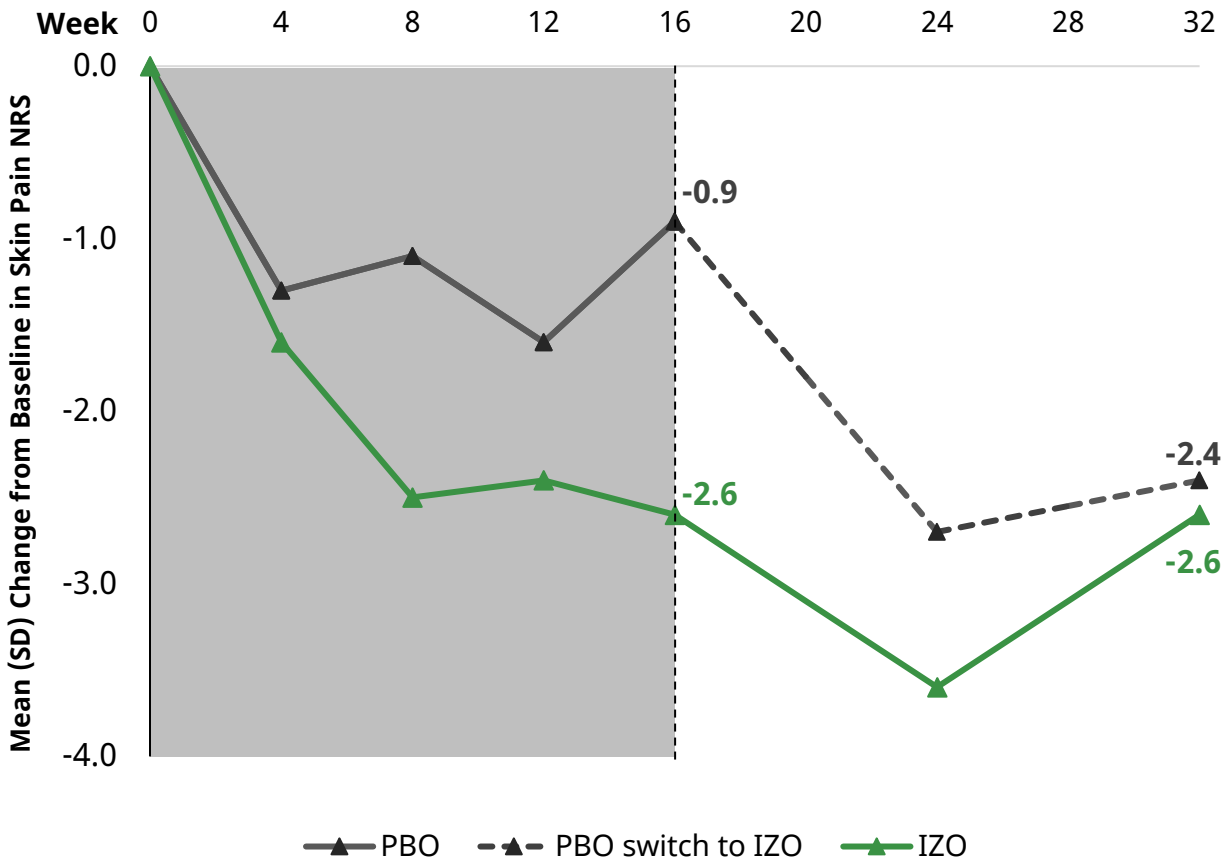


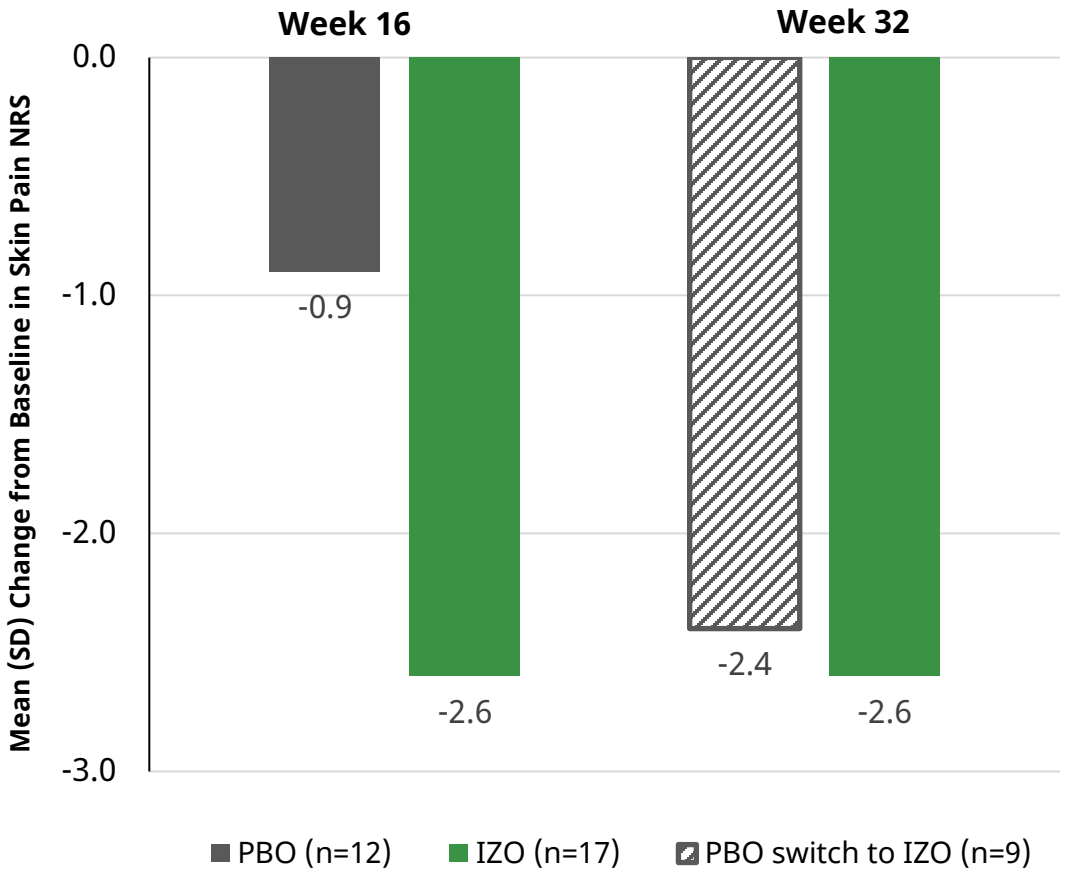


Source: Results from an open label extension and include all subjects through week 32. Data are from the full analysis set and presented on an as observed basis.
DT, draining tunnels

Reductions in Skin Pain With 160 mg QW Sustained Through Week 32

(Patients With NRS ≥4 at Baseline)

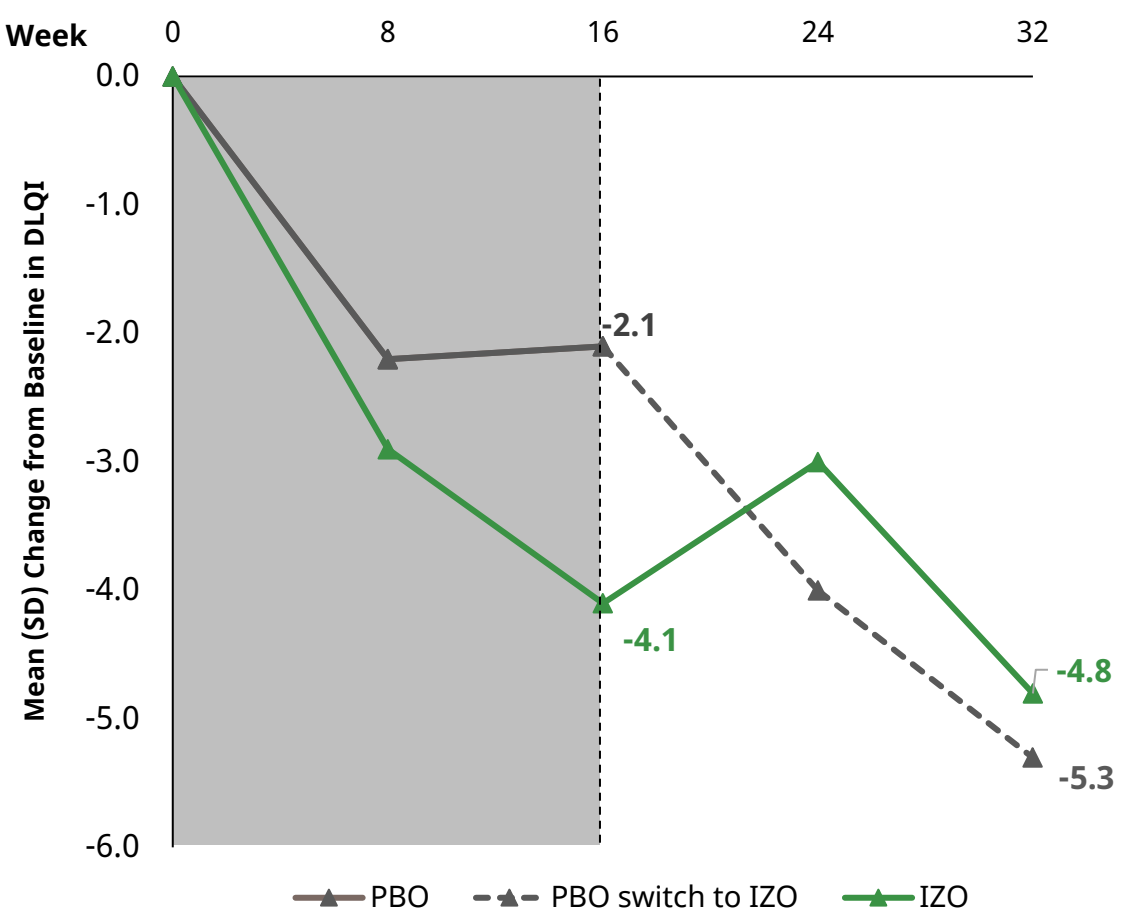


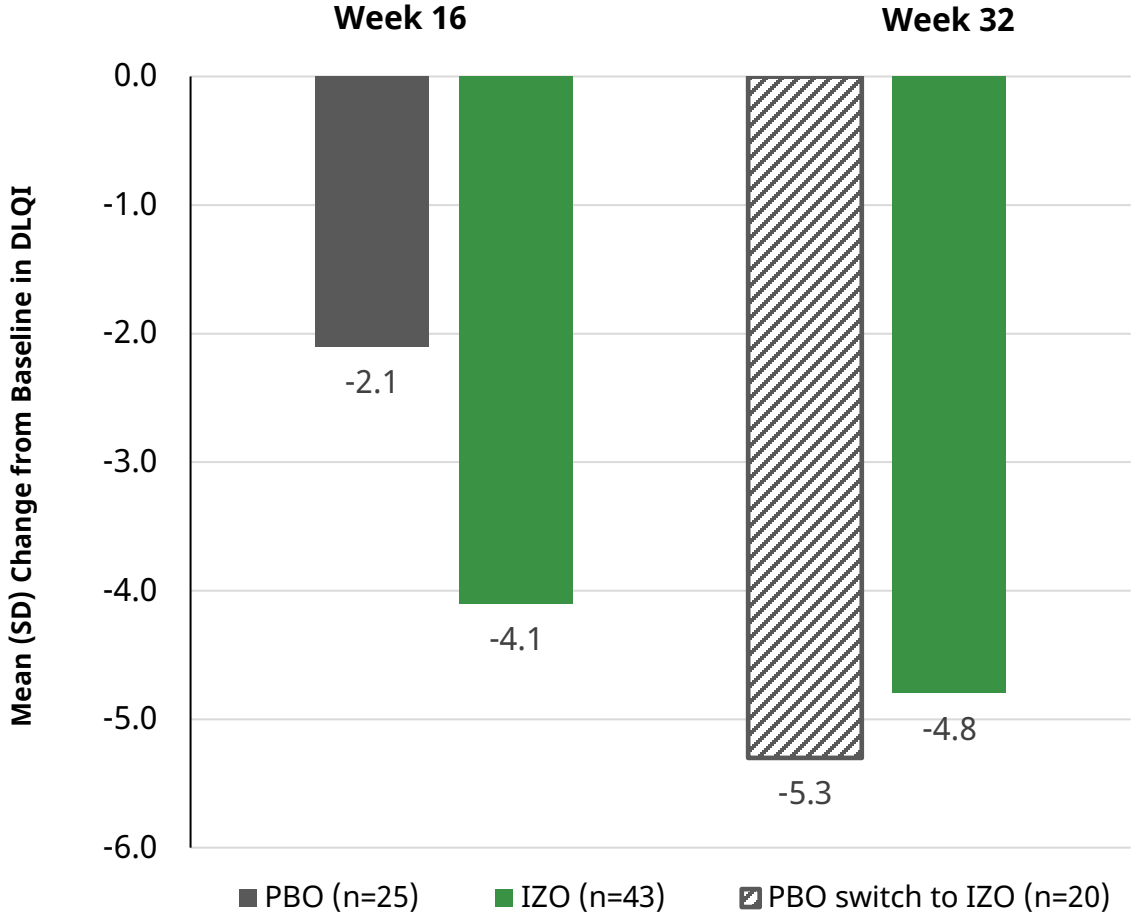


Source: Results from an open label extension and include all subjects through week 32. Data are from the full analysis set and presented on an as observed basis.

DLQI With 160 mg QW Continued to Improve Through Week 32

Responses Across Manifestations Drove Clinically Meaningful Improvement in QOL





Source: Results from an open label extension and include all subjects through week 32 Data are from the full analysis set and presented as observed.

Summary of Safety Data Between Week 16 and Week 32[1]

- Izokibep was well-tolerated with a favorable safety profile consistent with previous experience and the IL-17A class
- There were no deaths and majority of adverse events (AE) were mild-to-moderate in each arm
- There were 5 discontinuations due to AE, 2 in placebo QW cross-over arm and 3 in QW arm
- There were 2 serious adverse events (SAE) reported related to treatment and 3 SAEs that were not related to treatment

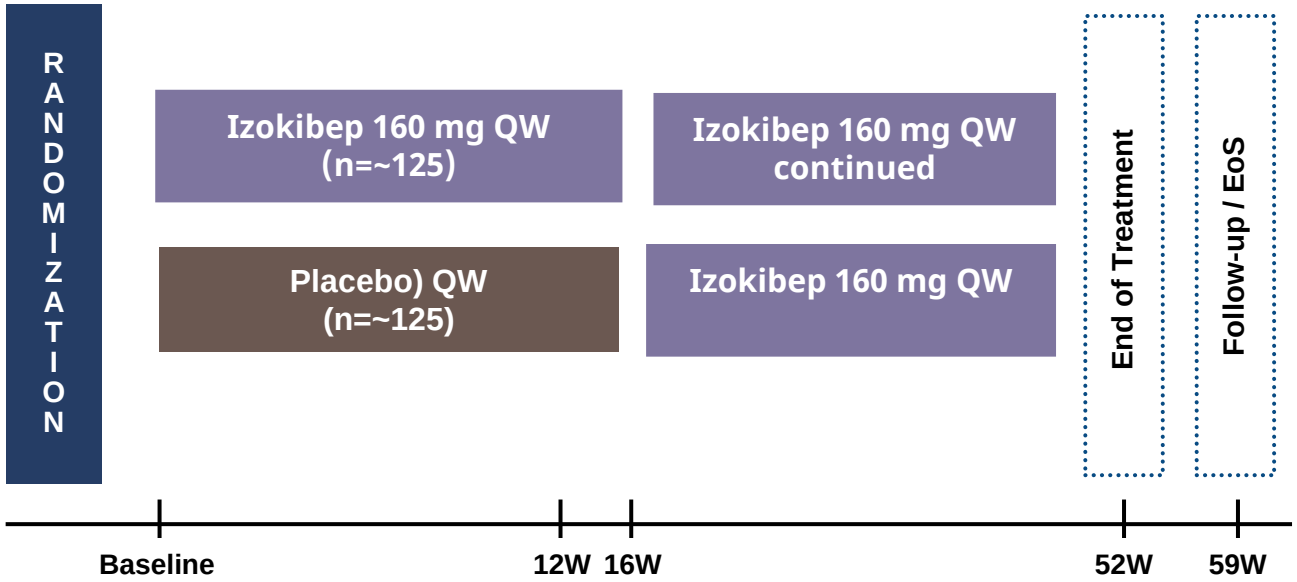
Source: Results from an open label extension and include all subjects through week 32. Data are from the full analysis set and presented as observed. 1 Safety follow up visits remain ongoing.

Izokibep Phase 3 Hidradenitis Suppurativa Trial Ongoing

Topline Data Expected in 3Q24; Second Phase 3 Trial Expected to Initiate by YE24

Screening/ Eligibility

- Moderate-to-severe HS
- HS ≥ 6 months
- HS lesions in ≥ 2 distinct anatomic areas, one of which is Hurley Stage II or III
- Minimum abscess/ nodule (AN) count of 5
- Inadequate response, intolerance or contraindication to oral antibiotics allowed in 30%



Endpoints

Primary

- HiSCR75 response

Secondary

- HiSCR50, 90, 100
- Reduction in flares
- Skin pain response
- TEAEs, SAEs

Exploratory

- Presence of ADAs

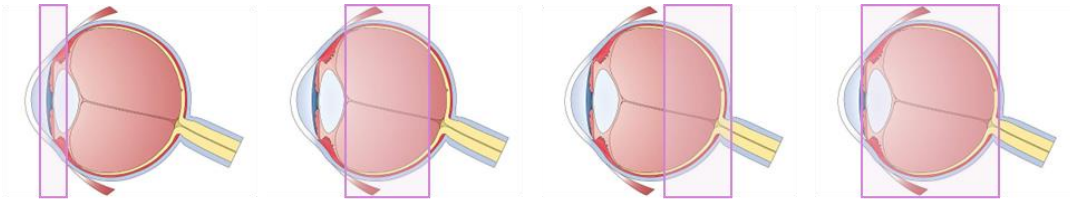
ADA, anti-drug antibodies; **AE,** adverse event; **AN**, total abscess and inflammatory nodule count; **EoS**, end of study; **HiSCR**, Hidradenitis Suppurativa Clinical Response; **HS,** hidradenitis suppurativa; **QW**, once every week; **TEAE**, treatment emergent adverse event; **SAE**, serious adverse event.

Uveitis

Izokibep UV

Uveitis is Inflammation in the Eye With High Unmet Need

Phase 3 Trial in Non-Infectious Uveitis Ongoing; Topline Data Expected in 4Q24



Anterior Uveitis
Anterior chamber (iris, ciliary body)

Intermediate Uveitis
Vitreous Chamber

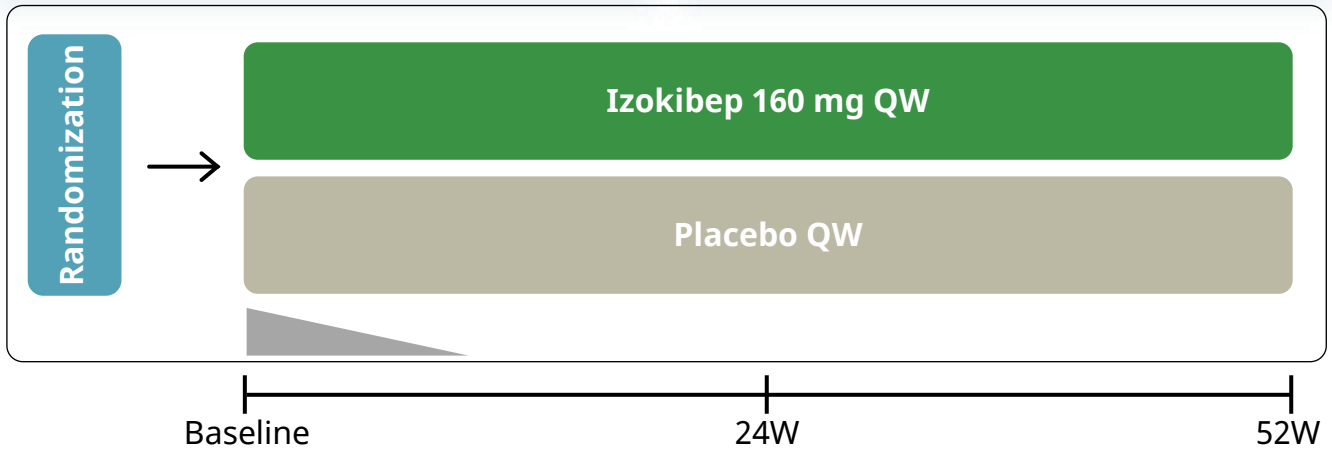
Posterior Uveitis
Retina or choroid

Panuveitis
Anterior or vitreous chamber, retina or choroid

- Inflammation that **can lead to vision loss;** demands more efficacious therapies/persistent responses
- More than **90% of uveitis cases have been reported to be non-infectious, chronic and recurrent** in nature
- **~300K uveitis patients in the U.S;** nearly a third are treated with biologics today
- Only approved treatments are corticosteroids and adalimumab; **~40% fail available biologics**
- More complete **reduction in haze without increased steroid use & disease worsening is the unmet need**

Screening/ Eligibility

- Active non-infectious uveitis
- Anterior chamber cells
- Abnormal fluorescein angiogram
- Macular edema on CT
- Failure of corticosteroids or TNFi



Efficacy Endpoints*
- Time to treatment failure (Primary)
- Quiescence
- BCVA
- NEI VFQ-25 score
- Central retinal thickness

*Primary and secondary endpoints

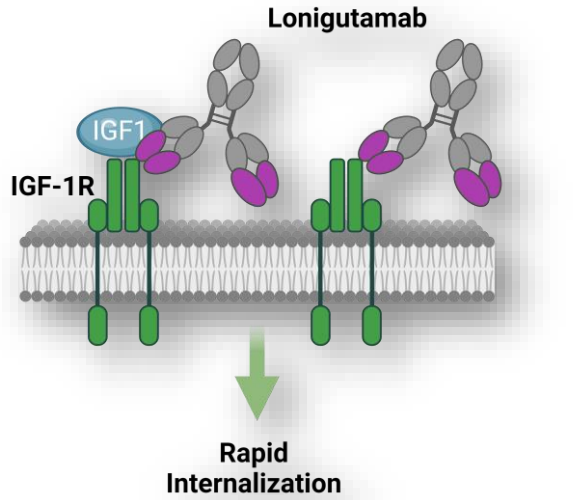
Safety Endpoints*
- TEAEs, events of special interest and SAEs
- Laboratory values and vital signs at collected timepoints

*Secondary endpoint

Lonigutamab

Lonigutamab Uniquely Impacts the IGF-1R Axis

Provides Opportunity to Optimize Benefit-Risk



High binding potency
Lonigutamab binds IGF-1R with high affinity (30 pM)[1]

Unique binding epitope
In contrast to other anti-IGF-1Rs, which compete for IGF-1 binding site, lonigutamab binds peripheral to the IGF-1 binding site

Efficient receptor internalization within minutes[1]

Depth and Durability of Clinical Response

- Current treatment response is limited by short-term, fixed, IV dosing
- SC enables long-term treatment - we hypothesize could allow for prolonged and deep clinical benefit

Optimization of Benefit-Risk

- IGF-1 in the inner ear supports regeneration following injury
- SC administration may minimize blood-labyrinth barrier penetration to the inner ear by reducing C_{max} compared to IV

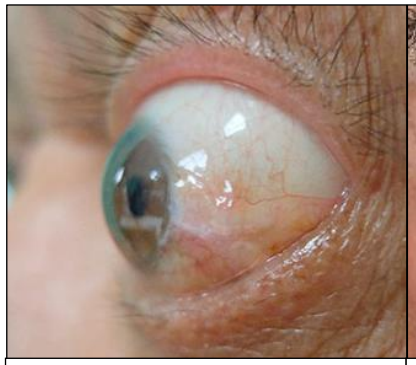
Maximization of Patient Convenience

Patient-delivered, at-home, via pre-filled syringe or autoinjector offers a more convenient option to IV therapy

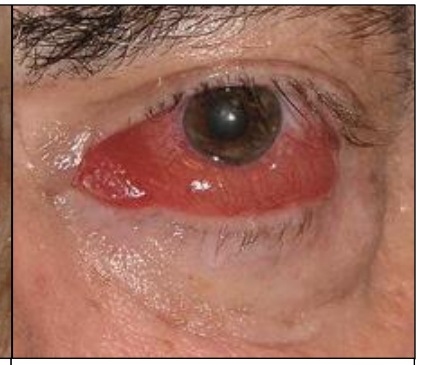
1 Akla 2020

Thyroid Eye Disease is a Vision-Threatening Autoimmune Disease

Unmet Efficacy and Safety Needs Persist for TED Patients



Proptosis



Redness

Diplopia

TED is a debilitating disease with many life-impacting manifestations

- Characterized by progressive inflammation that can lead to **irreversible damage to tissues around the eye**, threatening vision
- Impacts >100,000 patients in the U.S.

Available treatment options are suboptimal

- Steroids (variable efficacy with long term safety limitations)
- IV anti-IGF-1R (short-term fixed treatment course limits depth and durability of response, safety limitations, and high patient burden)
- Surgery (complex and not curative)

Leading to important opportunities for patient impact

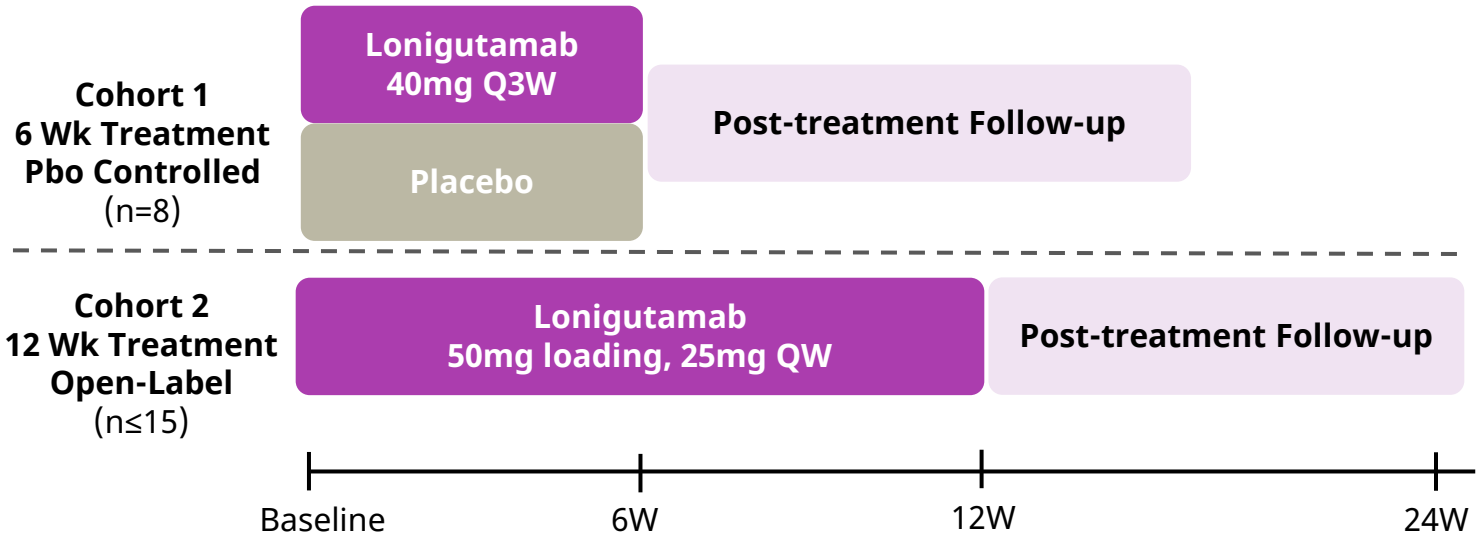
- **Durability of response:** TED is a chronic inflammatory condition requiring long-term treatment that could be enabled by at-home subcutaneous administration
- **Depth of response:** Opportunity for profound treatment benefit with an optimized dosing regimen, providing disease modification holistically across signs and symptoms of TED
- **Optimization of benefit-risk:** Recent safety updates to SoC label highlight hearing impairment as serious, potentially permanent effect

Phase 1/2 Trial Evaluating Lonigutamab in Thyroid Eye Disease

Positive Proof of Concept Announced 1Q24; Phase 2b/3 Trial Expected to Initiate in 2H24

Screening/ Eligibility

- Proptosis defined in the study eye as ≥3 mm above normal
- Clinical Activity Score (CAS) ≥4 (using a 7-item scale) for the most severely affected eye
- Onset of active TED symptoms within 15 months prior to the baseline



Efficacy Endpoints

- Proptosis (reduction in eye bulging)
- Clinical Activity Score (change in CAS)
- Diplopia (reduction in double vision)

Safety

- Incidence and characterization of nonserious and serious treatment emergent adverse events (TEAEs)

Proptosis measured by hertel exophthalmometer
Cohort 3 evaluating monthly dosing ongoing
Two Dose Healthy Subject PK study completed; data not included in this presentation

Lonigutamab TED

Positive Phase 1/2 Proof-of-Concept Data for Lonigutamab

First Subcutaneous Anti-IGF-1R to Report Clinical Data in Thyroid Eye Disease[1]

Positive Proof of Concept for Lonigutamab

- Rapid and meaningful clinical responses for Proptosis, Clinical Activity Score, and Diplopia versus placebo
- Responses observed within 3 weeks after first subcutaneous dose and were maintained through 12 weeks; six weeks after last dose
- Well-tolerated safety profile

Potential for Differentiated Profile

- High potency anti-IGF-1R with unique impact on the IGF-1R Axis enabling the potential to optimize benefit-risk towards more complete resolution of disease
- Clinically meaningful responses achieved at lower exposures relative to standard of care:
  - Maximizing clinical benefit by enabling greater depth and durability of response with longer term treatment beyond the fixed regimen of standard of care
  - Minimizing safety liability by reducing C_{max} compared to IV therapy and penetration to the inner ear which may drive hearing impairment

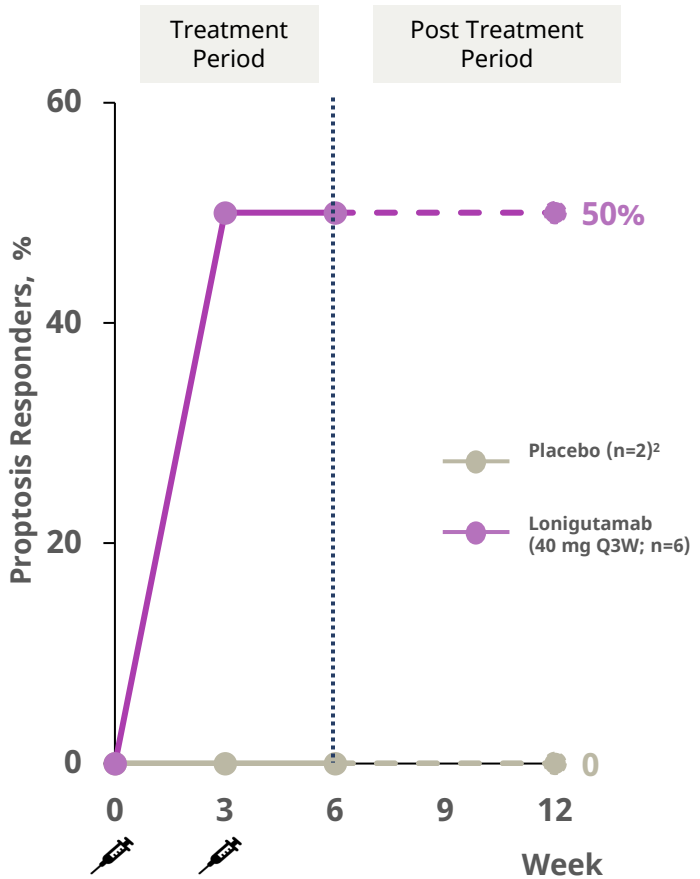
Next Steps

- Proof of concept achieved with placebo-controlled Cohort 1; supports monthly dosing and the potential to optimize clinical benefit-risk for patients
- Cohort 2 data further validates POC and enables continued refinement of dose level and regimen
- Phase 2b/3 trial in Thyroid Eye Disease planned to be initiated in the second half of 2024; designed to be the first of 2 registrational studies

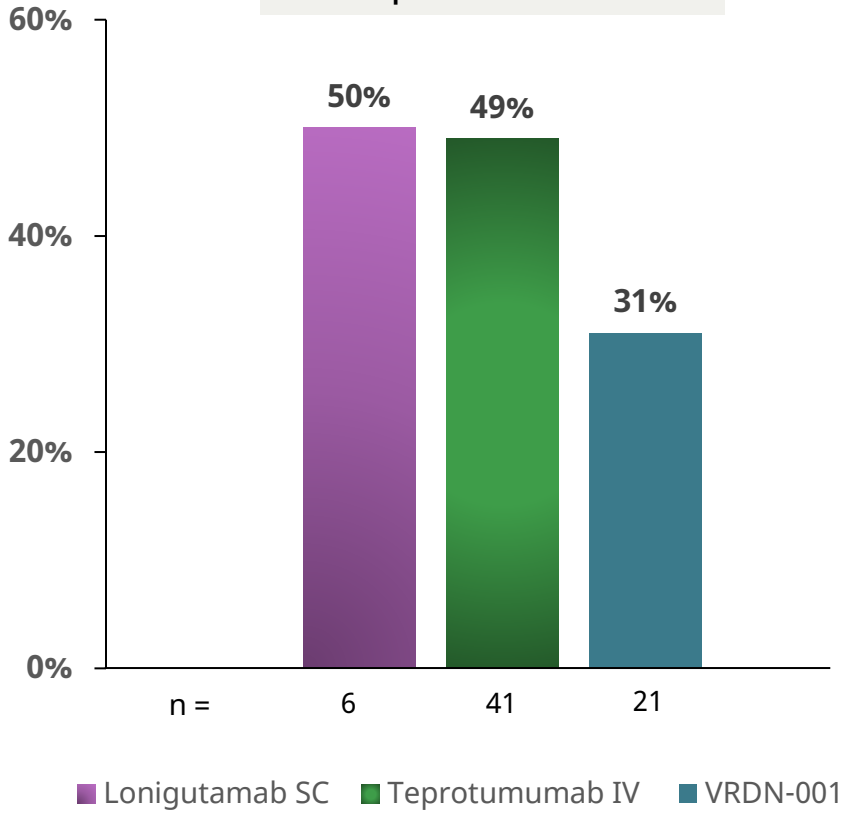
1 Based on publicly reported data in the U.S. and EU. **PoC,** Proof of Concept

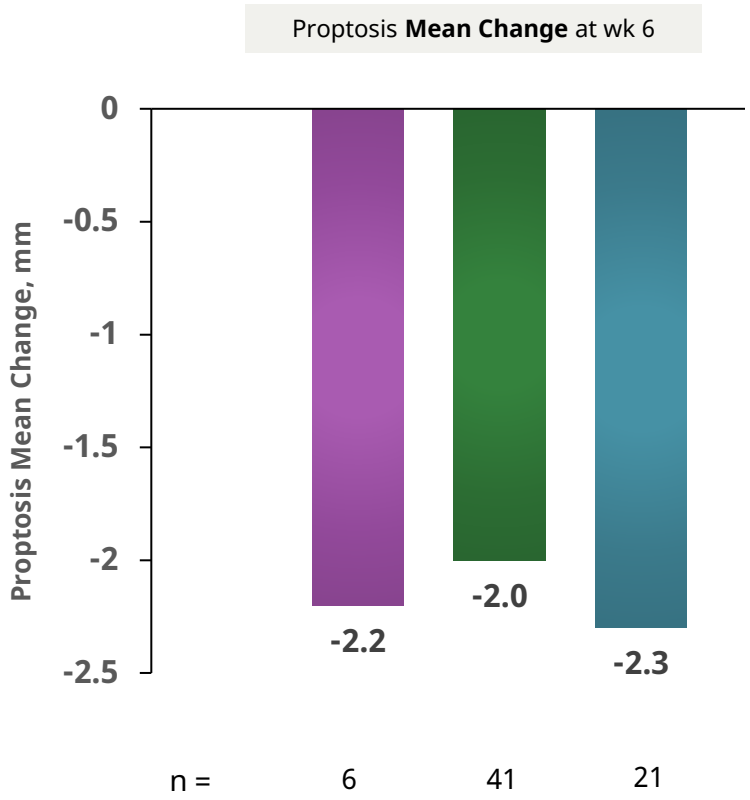
Cohort 1: Proptosis Response Maintained Through and Post-Treatment Periods

50% of Patients Achieved Response Within 3 weeks After a Single 40mg Subcutaneous Injection



Proptosis Response[1]
(defined as ≥2-mm reduction in proptosis)

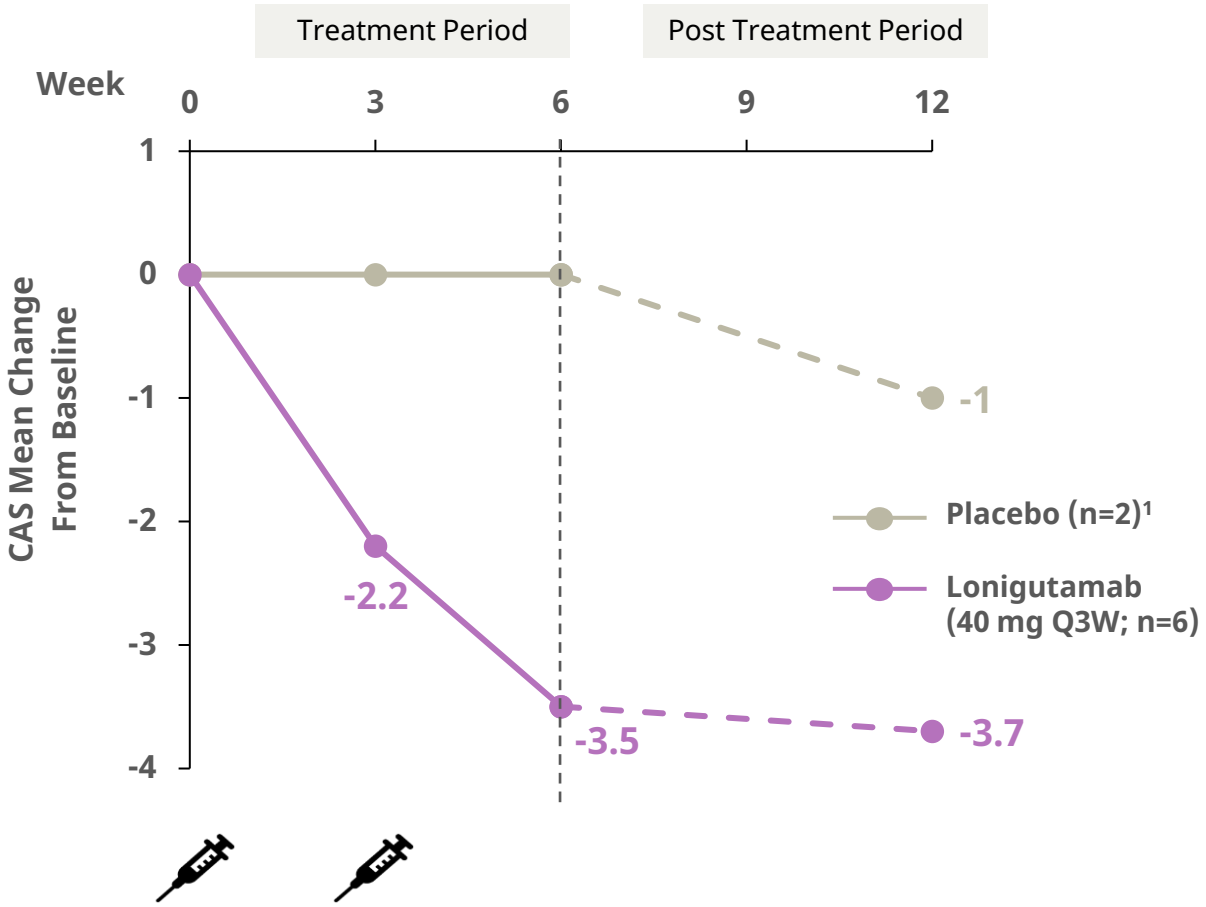


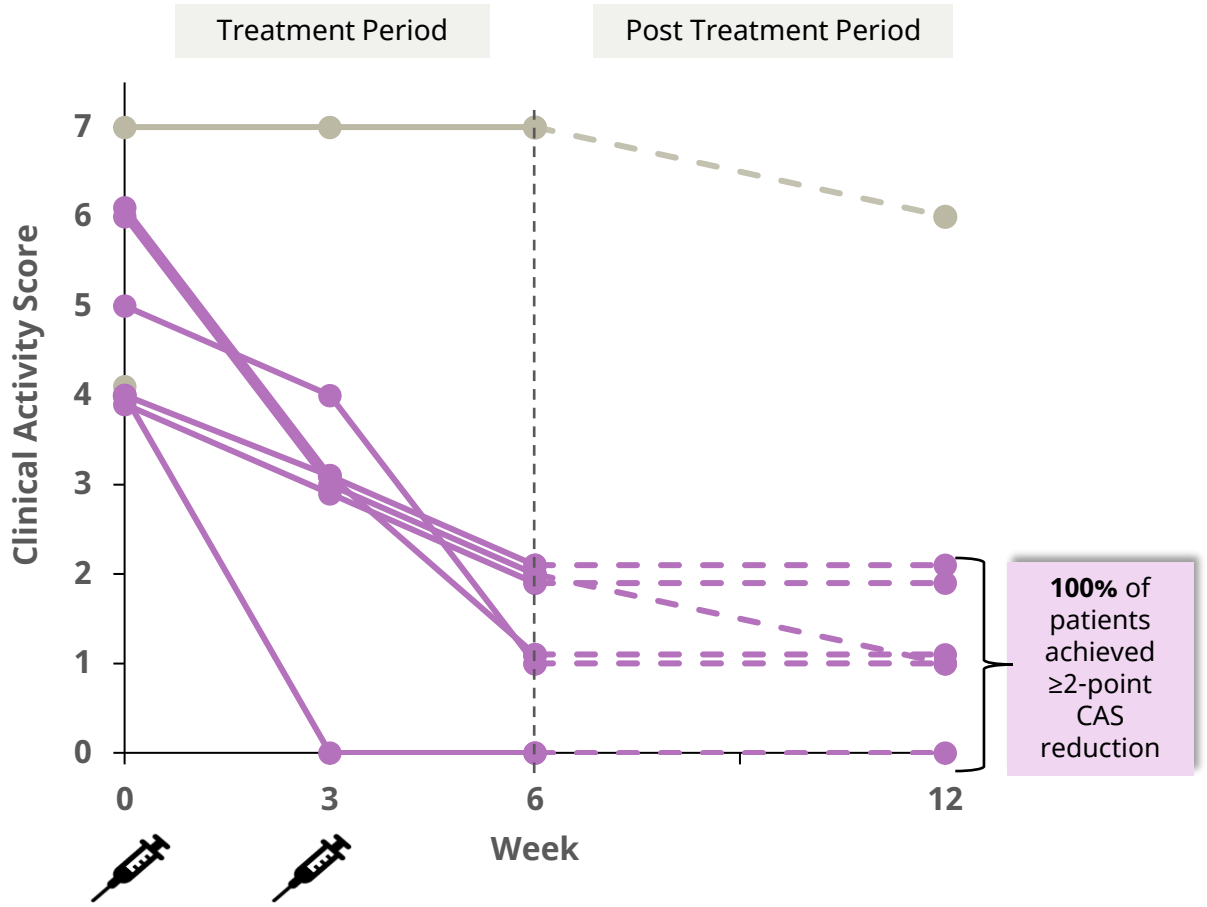


1 Proptosis was measured via Hertel exophthalmometer.
2 One patient in the placebo group had no post-baseline data and was imputed as a non responder. Q3W, every 3 weeks
3 Comparisons across trials, with inherent limitations. Not head-to-head trials. Teprotumumab data from public source: Douglas NEJM 2020 382:341:52. VRDN-001 data from public source: Kossler AAO 2023, pooled doses

Cohort 1: Clinical Activity Score – Changes From Baseline

100% of Patients Achieved Clinically Meaningful CAS Reduction Within 6 Weeks After 2 SC Injections

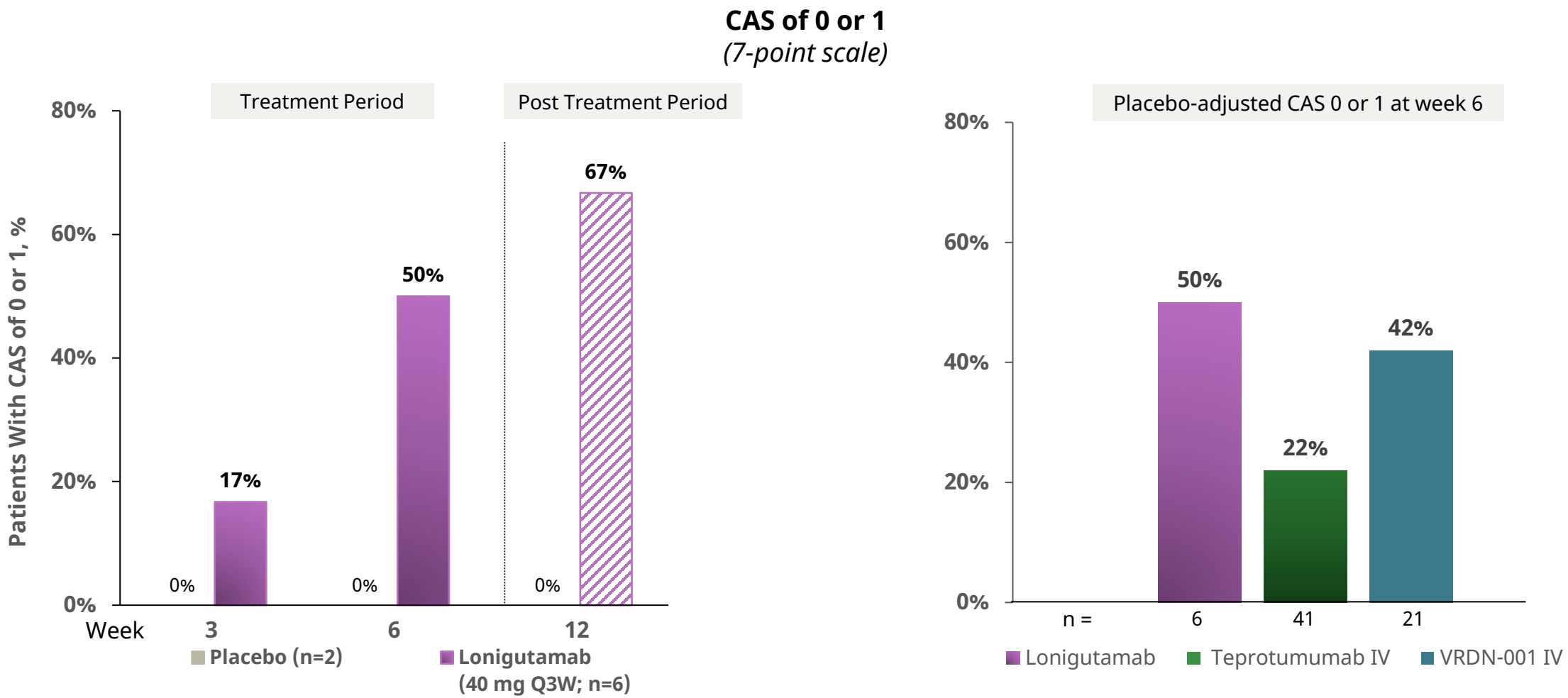




CAS Responders: patients with ≥2 pt CAS reduction considered clinically meaningful
1 One patient in the placebo group had no post-baseline data.
CAS, Clinical Activity Score; Q3W, every 3 weeks

Cohort 1: Clinical Activity Score – 0 or 1 Through Week 12

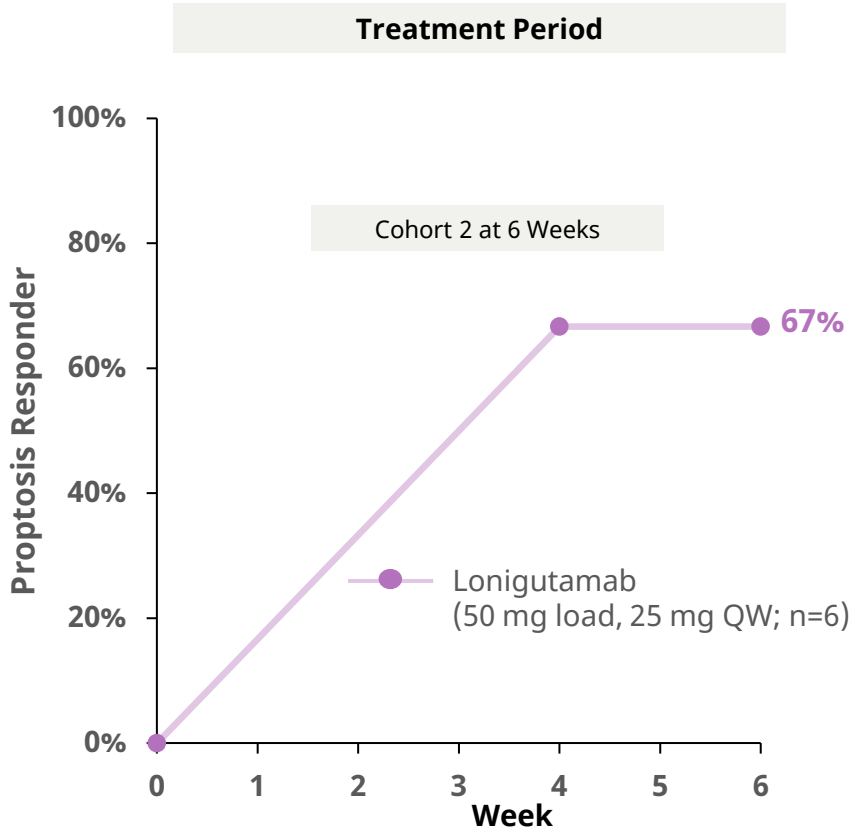
Low Disease Activity (CAS 0 or 1) Achieved at Week 6 and Improved Over Time

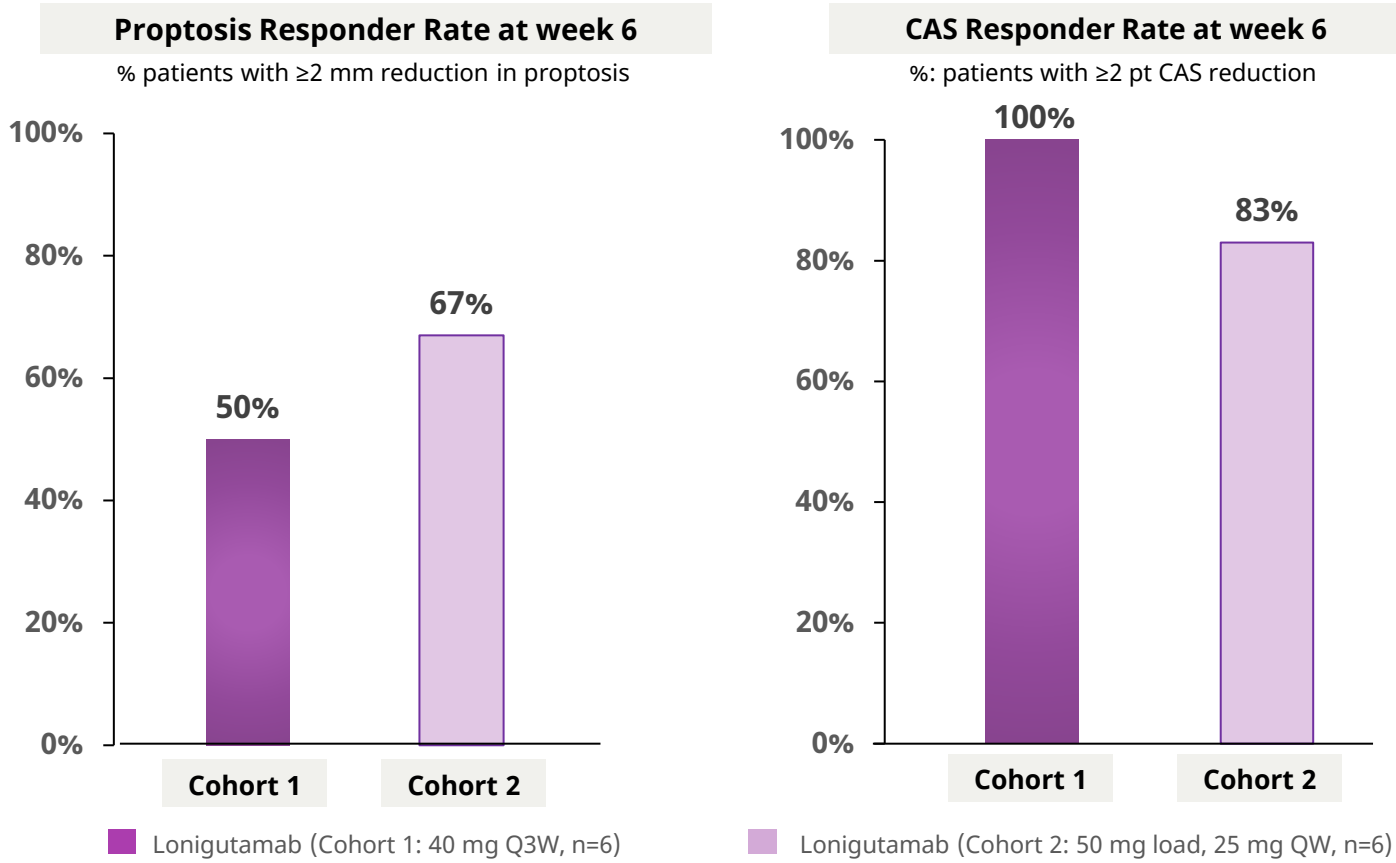


One patient in the placebo group had no post-baseline data and was imputed as a non responder. Q3W, every 3 weeks
Comparisons across trials, with inherent limitations. Not head-to-head trials. Teprotumumab data from public source: Douglas NEJM 2020 382:341:52. VRDN-001 data from public source: Kossler AAO 2023.

Cohort 1 & 2: Proptosis and CAS Responses Seen at Week 6

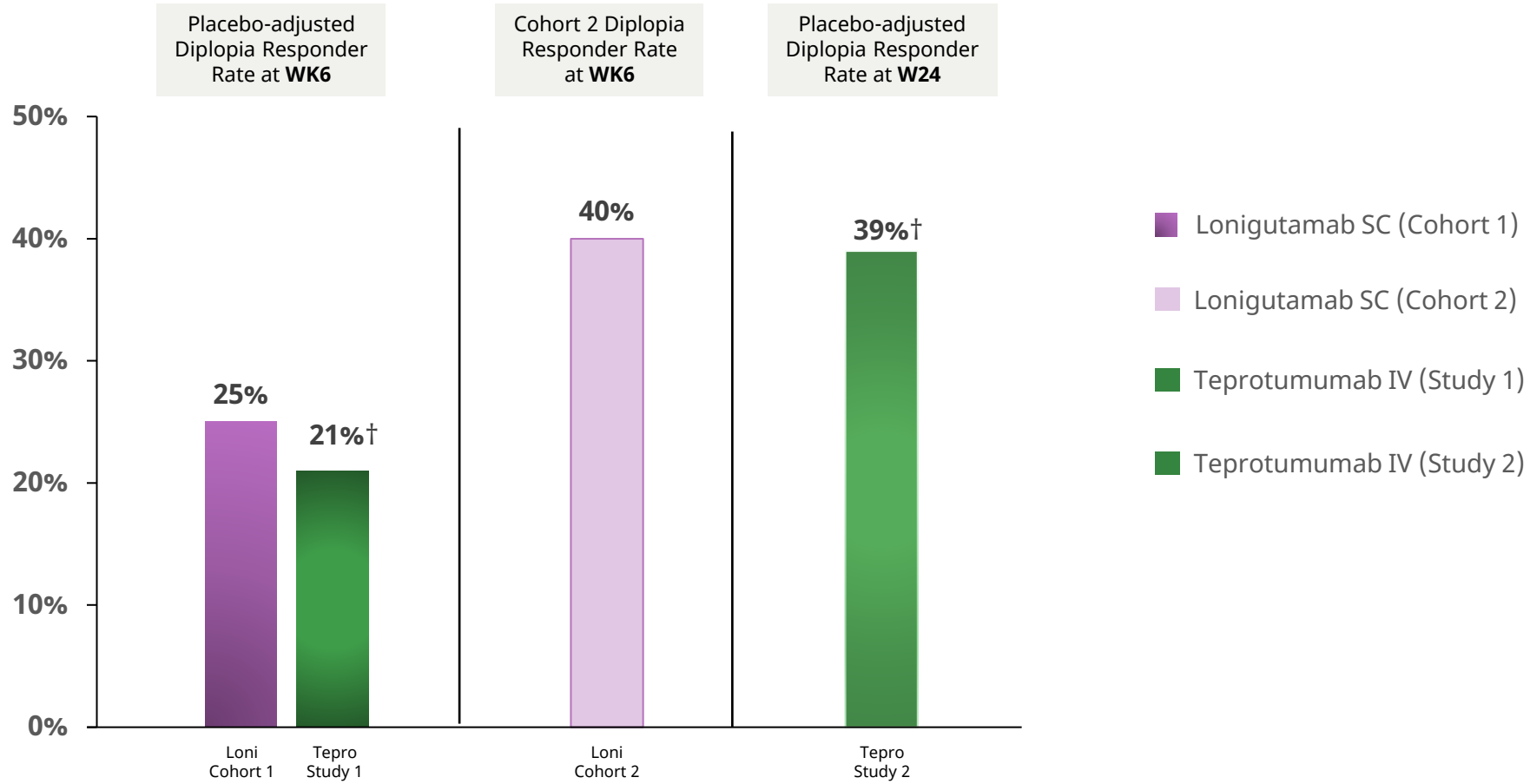
Data Consistent With Cohort 1 and Allows for Regimen Exploration





Proptosis was measured via Hertel exophthalmometer. Proptosis responder rate: % patients with ≥2 mm reduction in proptosis Q3W, every 3 weeks; QW, weekly.
CAS Responder rate: % patients with ≥2 pt CAS reduction considered clinically meaningful.

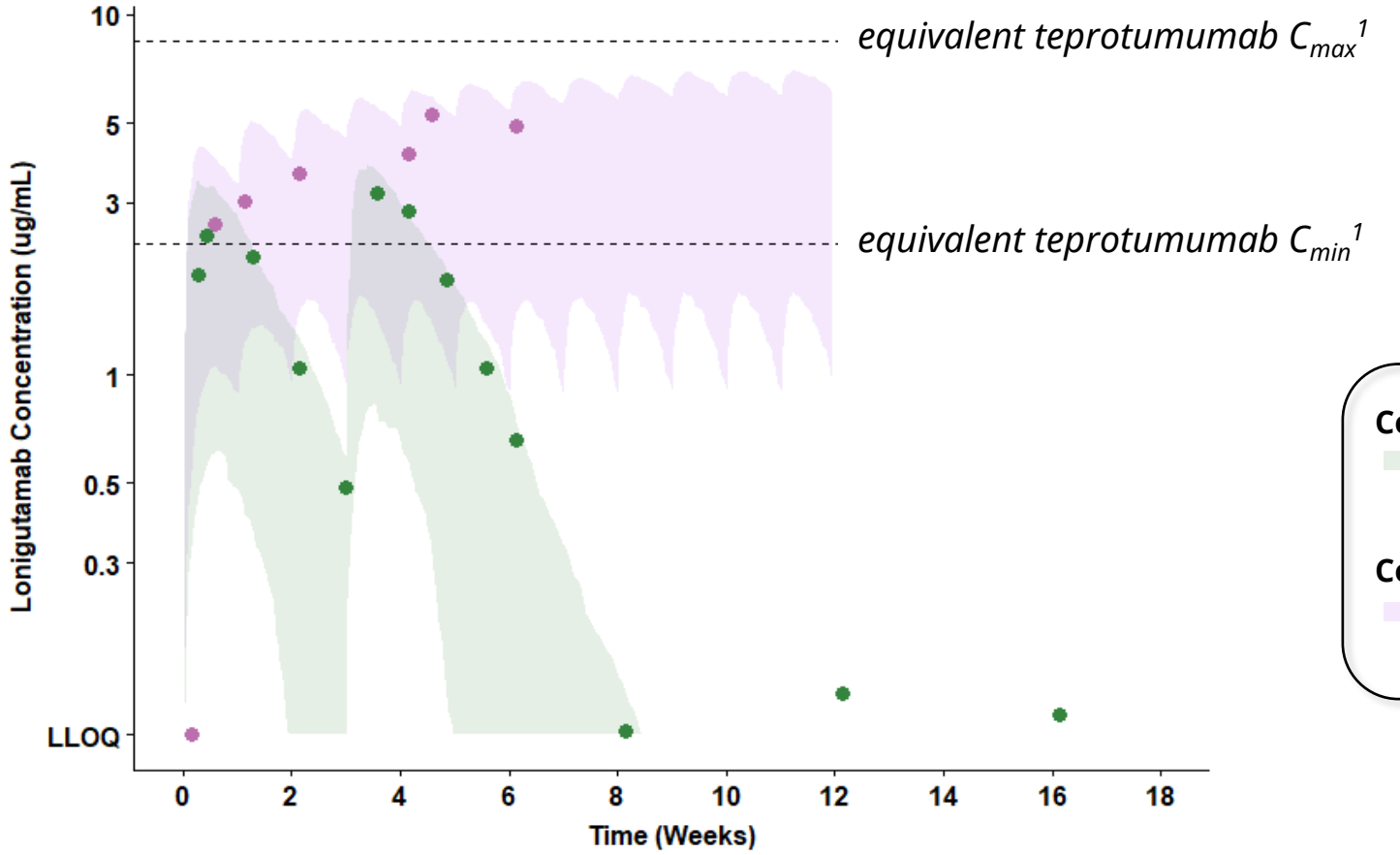
Clinically Meaningful Diplopia Responses Observed in Both Cohorts by Week 6[1]



1 Comparisons across trials, with inherent limitations. Diplopia Response defined as improvement in >1 Bahn Gorman grade.
†Teprotumumab: Ph2 Smith, et al NEJM 2017 376:1748-61, Ph3 Douglas NEJM 2020 382:341:52

SC Exposure Achieves Responses Enabling Optimization of Benefit-Risk

Lonigutamab Achieves Robust Responses at Exposures Below Teprotumumab Cmax



Cohort 1: 40 mg Q3W
simulated 90% prediction interval
observed

Cohort 2: 50 mg load + 25 mg QW
simulated 90% prediction interval
observed

1 Comparisons across trials, with inherent limitations. Not head-to-head trials. Teprotumumab data from public source: FDA Tepezza Clinical Pharmacology review, Teprotumumab Cmax and Cmin from approved dosing regimen (10 mg/kg followed by 20 mg/kg Q3W). Equivalence calculated by ~75x scaled potency. Cohort 1: intensive sampling, Cohort 2: Cmin, through W6. LLOQ, lower limit of quantitation for the assay. Preliminary PK data from an ongoing study.

Summary of Safety

n (%)	Placebo (Cohort 1) n=2	Lonigutamab (Cohort 1: 40 mg Q3W) n=6	Lonigutamab (Cohort 2: 50 mg load, 25 mg QW) n =6
Any TEAEs	2 (100.0)	4 (66.7)	5 (83.3)
Serious	0	0	0
Any grade 2	0	1 (16.7)	2 (33.3)
Any grade 3	0	0	0
TEAEs leading to study drug discontinuation			
Optic neuropathy	1 (50.0)	0	0
TEAEs leading to death	0	0	0

- Majority of events were mild. No interruptions to study drug except the optic neuropathy in the placebo patient
- No hearing impairment, no hyperglycemia events, and no serious adverse events

Most common events (reported in 2 or more subjects on lonigutamab) were headache, injection site reactions, muscle spasms and tinnitus. Tinnitus was reported in 3 subjects all were mild and resolved without intervention. Injection site reactions were all mild. Grade 2 events included headache, joint swelling, and nausea
Q3W, every 3 weeks; TEAE, treatment-emergent adverse event; TED, thyroid eye disease.

SLRN-517

SLRN-517 Targets Mast Cell-Driven Diseases

Ongoing Phase 1/2 Single Ascending Dose Trial in Healthy Volunteers, Followed by Multiple Dose Evaluation

Fully Human IgG1
No agonism of mast cell degranulation, potential for reduced immunogenicity potentially limiting acute reactions to the drug itself, and potent antagonism of mast cell proliferation and degranulation

High Potency to Maximize Efficacy and Convenience Blocks stem cell factor by binding to c-KIT with high affinity (K_D ~1.55 pM) enabling low volume SC dose and potential for greater exposures

Minimize On-Target Safety Impact
Combined with high potency, human half-life anticipated to be ~16 days, potentially enabling rapid depletion of mast cells while limiting opportunity for other effects on c-KIT or other sensitive tissues (spermatogenesis, hair color, hematopoietic cells (neutropenia))

SAD Screening/ Eligibility

- Healthy Subjects: 18-65 years
- Males and Females
- No chronic medical conditions or con meds

SAD

Cohort 1: Single dose SC
Healthy Subjects N=8 (incl 2 placebo)

Cohort 2: Single dose SC
Healthy Subjects N=8 (incl 2 placebo)

Cohort 3: Single dose SC
Healthy Subjects N=8 (incl 2 placebo)

Cohort 4: Single dose SC
Healthy Subjects N=8
(incl 2 placebo)

Efficacy Endpoints

- Tryptase Levels

Safety Endpoints

- Incidence and characterization of nonserious and serious treatment emergent adverse events (TEAEs)

ACELYRIN is a Late-Stage Clinical Biopharma Company Creating an Industry Leading Immunology Portfolio

Focused Strategy and Experience

- Experienced management team
- Identifying, acquiring, and accelerating development and commercialization of potentially transformative therapies

Attractive Pipeline

- Izokibep is a “pipeline-in-a-program” where we hypothesize that high potency and small size could lead to improved outcomes
- Lonigutamab is a subcutaneous anti-IGF-1R program with the potential to optimize benefit-risk profile toward more complete resolution of TED
- SLRN-517 is an early program targeting mast cell-driven diseases

Positioned for Growth

- Robust immunology portfolio covers areas of significant unmet need and includes several multi-billion-dollar indications
- Uniquely positioned with catalysts across multiple indications in 2024
- Well-capitalized having secured more than $1 billion in private and public capital since founding in 2020
- Continuing to attract leading talent, build capabilities, and seek additional partnership opportunities

ACELYRIN

Thank You

Contact

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