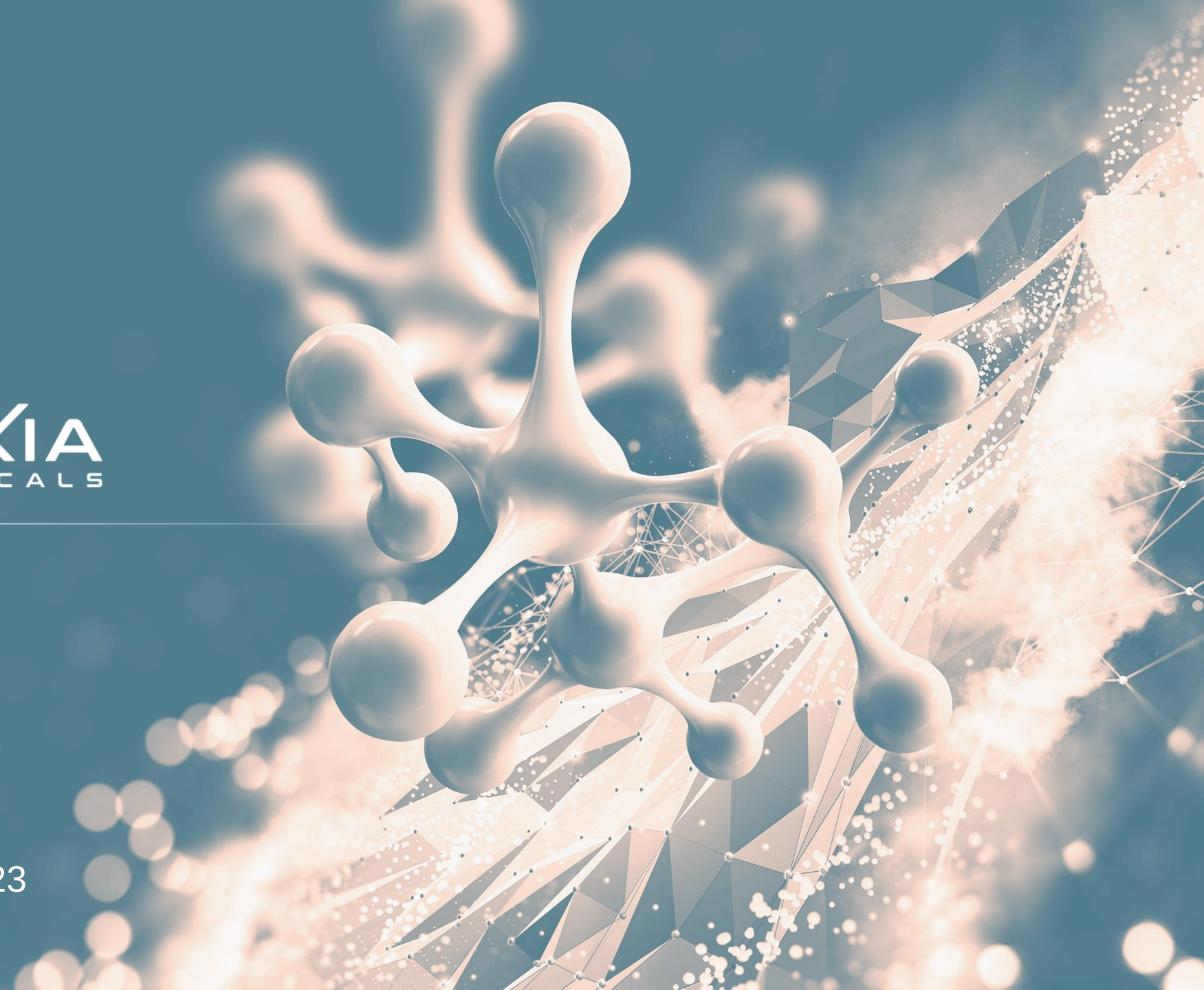
EUPRAXIA PHARMACEUTICALS

Phase 2b Results

Presentation | June 26, 2023



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The safety, efficacy and effectiveness of the Company’s products (including EP-104) are still under investigation and market authorization has not yet been granted by Health Canada in Canada or the US Food and Drug Administration in the United States.

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Forward-looking statements may include, but are not limited to, statements regarding the Company’s business strategy and objectives, including current and future plans and opportunities, expectations and intentions; the Company’s Phase 2 clinical trials; the ability of the Company to execute on its business strategy; the potential of the Company’s product candidates; the Company’s expectations regarding its product designs, including with respect to patient benefit, duration, safety, effectiveness and tolerability; the results gathered from studies of Eupraxia’s product candidates and their potential support for dosing and target population; the Company’s beliefs with respect to treatment of knee OA; the Company’s initiation of its Phase 3 study; and the Company’s planned future milestones and timing thereof.

Such statements and information are based on the current expectations of Eupraxia's management, and are based on assumptions, including but not limited to: future research and development plans for the Company proceeding substantially as currently envisioned; industry growth trends, including with respect to projected and actual industry sales; the Company’s ability to obtain positive results from the Company’s research and development activities, including clinical trials; and the Company’s ability to protect patents and proprietary rights. Although Eupraxia's management believes that the assumptions underlying these statements and information are reasonable, they may prove to be incorrect. The forward-looking events and circumstances discussed in this presentation may not occur by certain dates or at all and could differ materially as a result of known and unknown risk factors and uncertainties affecting Eupraxia, including, but not limited to: the Company’s limited operating history; the Company’s novel technology with uncertain market acceptance; if the Company breaches any of the agreements under which it licenses rights to its product candidates or technology from third parties, the Company could lose license rights that are important to its business; the Company’s current license agreement may not provide an adequate remedy for its breach by the licensor; the Company’s technology may not be successful for its intended use; the Company’s future technology will require regulatory approval, which is costly and the Company may not be able to obtain it; the Company may fail to obtain regulatory approvals or only obtain approvals for limited uses or indications; the Company’s clinical trials may fail to demonstrate adequately the safety and efficacy of its product candidates at any stage of clinical development; the Company may be required to suspend or discontinue clinical trials due to side effects or other safety risks; the Company completely relies on third parties to provide supplies and inputs required for its products and services; the Company relies on external contract research organizations to provide clinical and non-clinical research services; the Company may not be able to successfully execute its business strategy; the Company will require additional financing, which may not be available; any therapeutics the Company develops will be subject to extensive, lengthy and uncertain regulatory requirements, which could adversely affect the Company’s ability to obtain regulatory approval in a timely manner, or at all; the impact of the COVID-19 pandemic on the Company’s operations; and other risks and uncertainties described in more detail in Eupraxia’s public filings on SEDAR (www.sedar.com). Although Eupraxia has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking statements and information, there may be other factors that cause actions, events or results to differ from those anticipated, estimated or intended. No forward-looking statement or information can be guaranteed. Except as required by applicable securities laws, forward-looking statements and information speak only as of the date on which they are made and Eupraxia undertakes no obligation to publicly update or revise any forward-looking statement or information, whether as a result of new information, future events or otherwise.

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MARKET AND INDUSTRY DATA

This presentation also contains estimates and other statistical data made by independent parties and by the Company relating to share value and other data about our industry. The Company has not independently verified any of the data from third party sources referred to in this presentation or ascertained the underlying assumptions relied upon by such sources. This data involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates.

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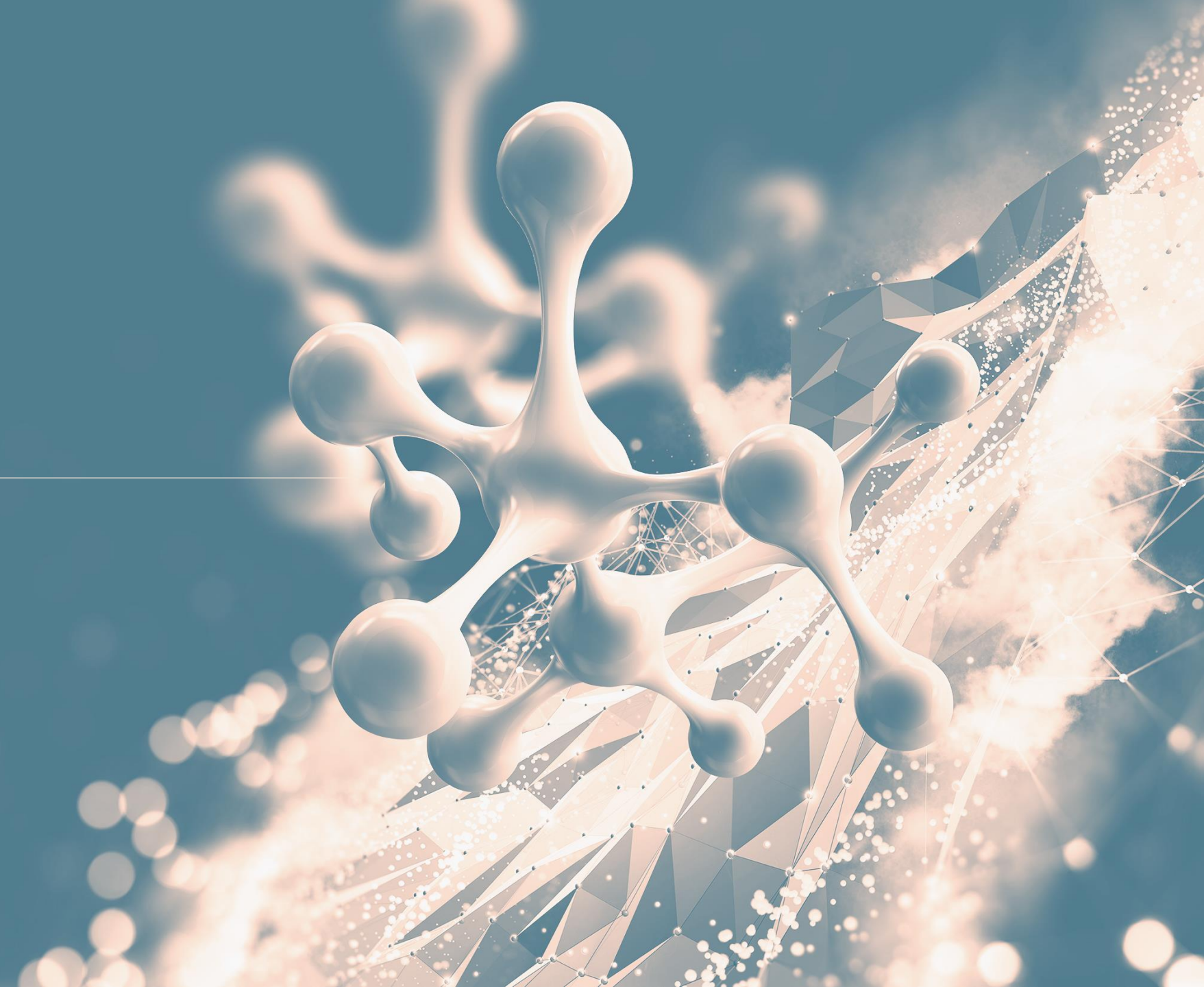
PHASE 2B RESULTS



Osteoarthritis
A leading cause of disability worldwide

#1
REASON FOR DOCTOR VISITS

#1
CAUSE FOR PAIN

32+ million[4]
PATIENTS IN NORTH AMERICA HAVE OSTEOARTHRITIS

Knee OA accounts for ~80% of the total OA therapeutics market[5]

- 70% have bilateral disease[6]
- ~50% have moderate disease severity[7]

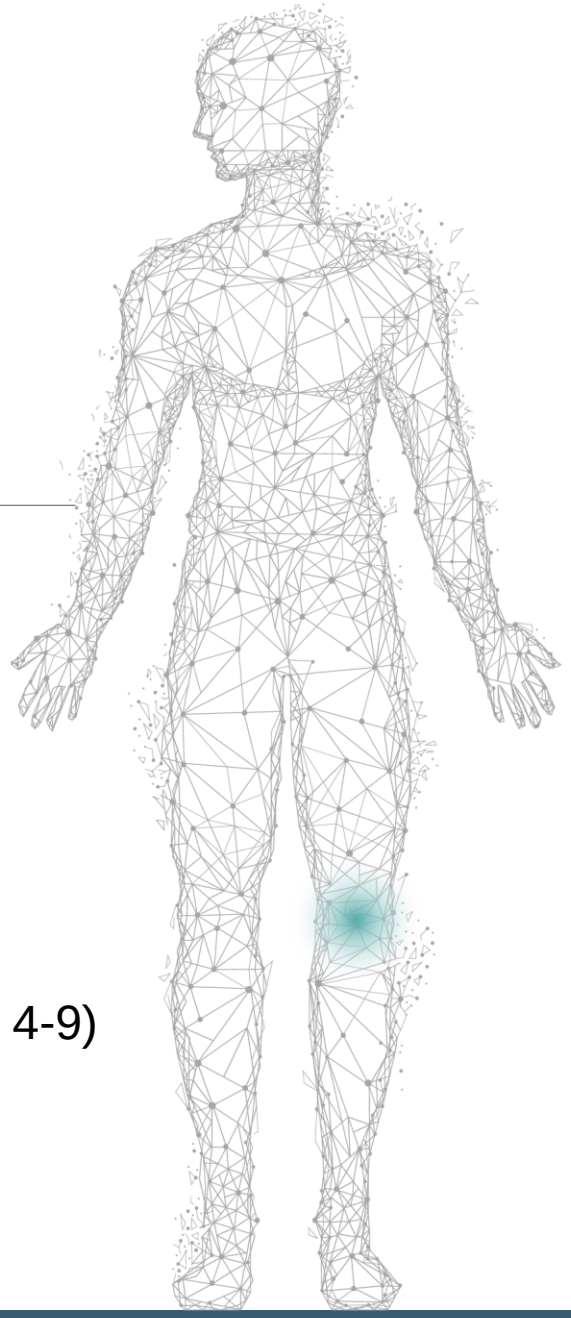
>50% of OA patients use prescription NSAIDs to control pain, which can have serious side effects:

- 41% of cardiovascular events in OA patients have NSAID causation[1]
- Up to 10% annual risk of gastrointestinal bleeding[3]
- Up to 5% of NSAID users develop kidney injury[2]

Few safe and effective therapies for this disease

1 Atiquzzaman M, Kopec J, Karim ME, Wong H, Anis A. OP0190 The role of nsaids in the association between osteoarthritis and cardiovascular diseases: a population-based cohort study.
2 Green GA. Understanding NSAIDs: from aspirin to COX-2. Clinical cornerstone. 2001 Jan 1;3(5):50-9.
3 Singh G, Triadafilopoulos G. Epidemiology of NSAID induced gastrointestinal complications. The Journal of rheumatology. Supplement. 1999 Apr 1;56:18-24.
4 Centers for Disease Control and Prevention, A National Public Health Agenda for Osteoarthritis: 2020 Update. https://www.cdc.gov/arthritis/docs/oaagenda2020.pdf. Accessed June 22, 2023
5 Osteoarthritis Therapeutics Market – Global Forecast to 2025 – Markets and Markets
6 Metcalfe et al. BMC Musculoskeletal Disorders 2012, 13:153. http://www.biomedcentral.com/1471-2474/13/153
7 Sadosky et al. Arthritis Research & Therapy 2010, 12:R162. http://arthritis-research.com/content/12/4/R162

Phase 2b Study
Adequate and well-controlled



Study Design

- Double-blind, placebo-controlled
- Target 300 patients, 1:1 randomization
  - 80% power to detect 0.8-point change
  - Assumed 20% withdrawal rate
- 25 mg vs placebo (vehicle)
- 6-month follow-up
- Moderate OA (K-L Grade 2-3)
- Moderate to severe pain (WOMAC Pain 4-9)

Endpoints

Primary:

- Change in WOMAC Pain at Week 12

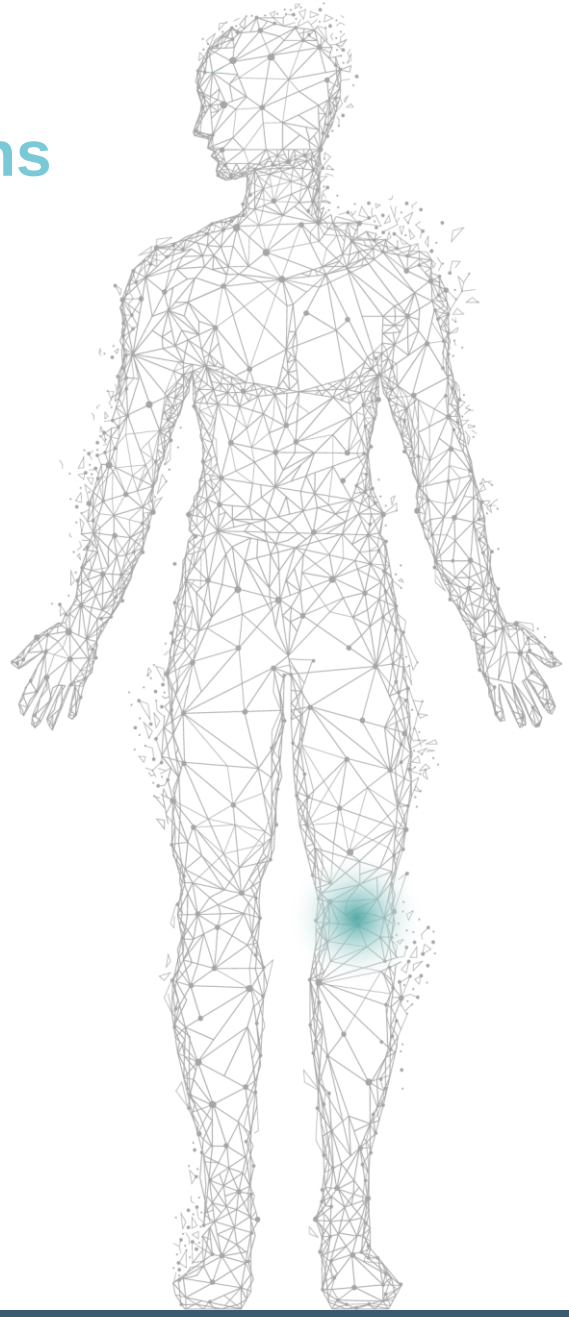
Key Secondary:

- Change in WOMAC Function at Week 12
- WOMAC Pain Area under the Curve (AUC) at Week 12
- Composite pain/function score (OMERACT-OARSI strict responders) at Week 12
- Change in WOMAC Pain at Week 24

Study Demographics

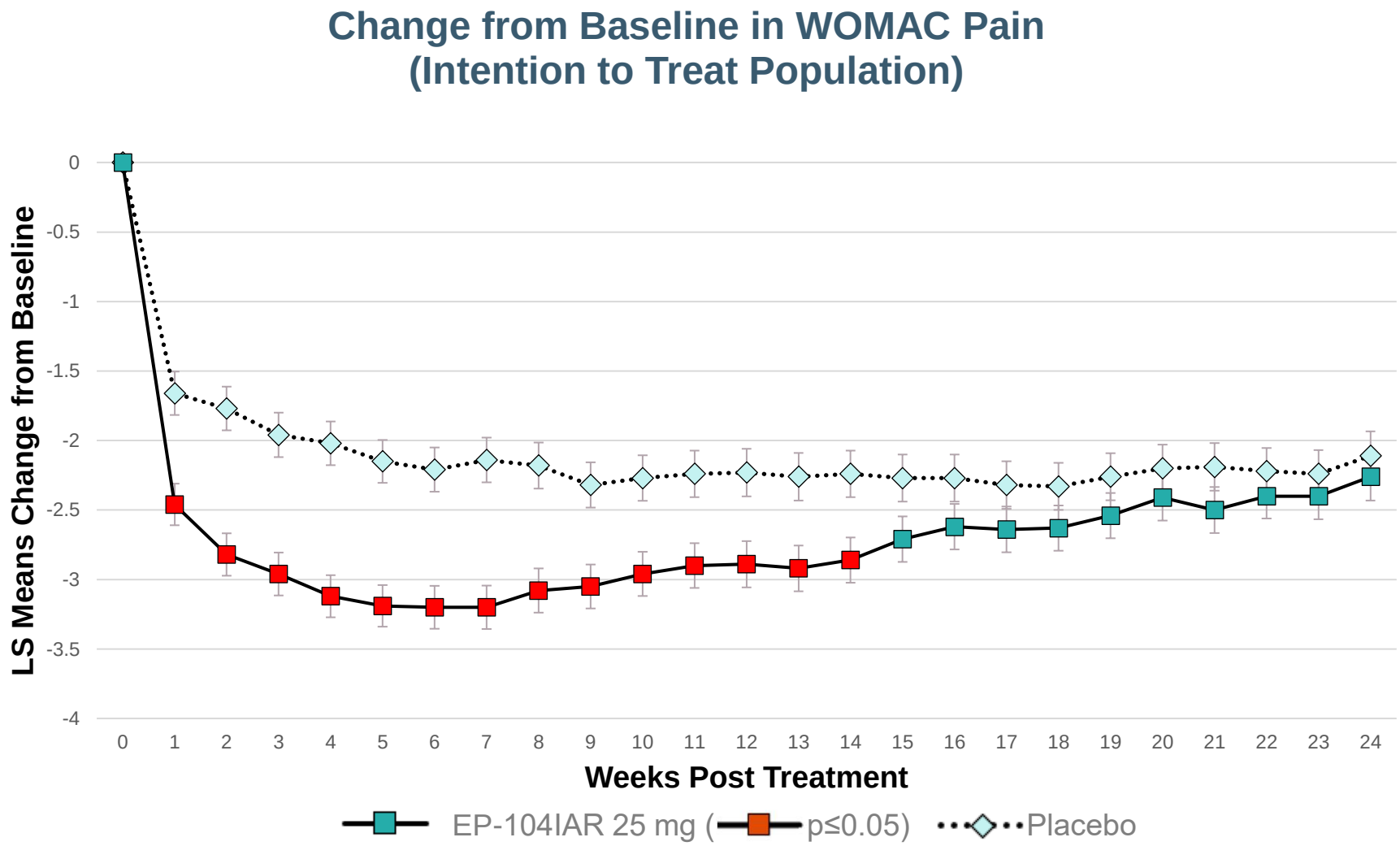
Balanced treatment groups; zero drug-related discontinuations

	EP-104IAR 25 mg	Placebo	Total
Enrolled	163	155	318
Completed	156	148	304
Discontinued	7 (4.3%) (0 drug related)	7 (4.5%)	14 (4.4%)
Mean Dose	26.3 mg	-	-
Mean Age	64.0 years	63.2 years	63.6 years
Gender	42%M 58%F	43%M 57%F	57.5%M 42.5%F
Mean Body Mass Index	29.9	29.9	29.9
Mean K-L OA Rating	2-47.2% 3-52.8%	2-49.0% 3-50.3%	2-48.1% 3-51.6%
% Moderate / Severe	64% / 36%	71% / 29%	68% / 32%



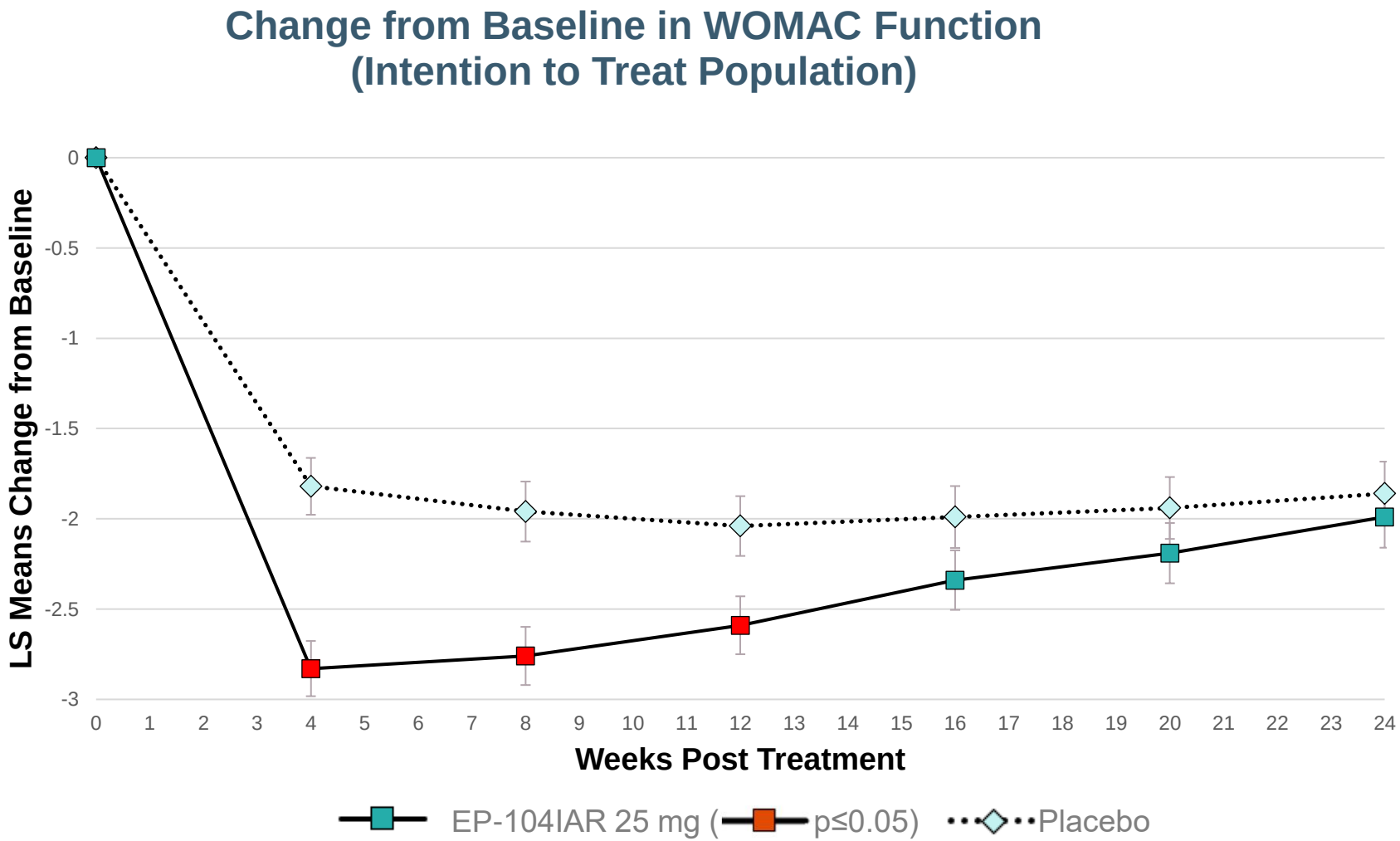
Primary Endpoint Achieved: Change in WOMAC Pain at 12 Weeks (p=0.004)

Significant, durable and meaningful pain relief to 14 weeks



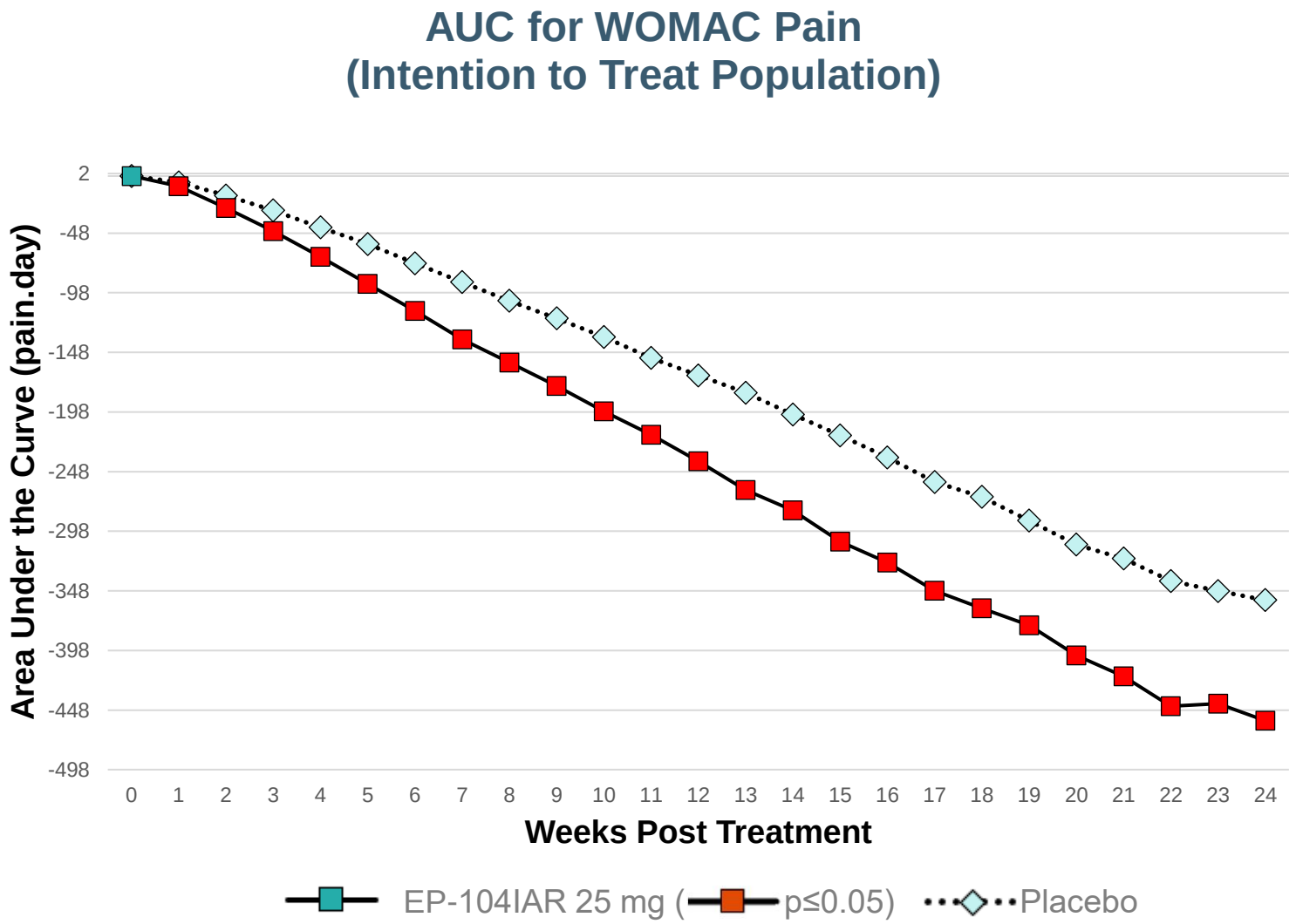
Secondary Endpoint Achieved: WOMAC Function at 12 Weeks (p=0.014)

Functional improvements support a better quality of life



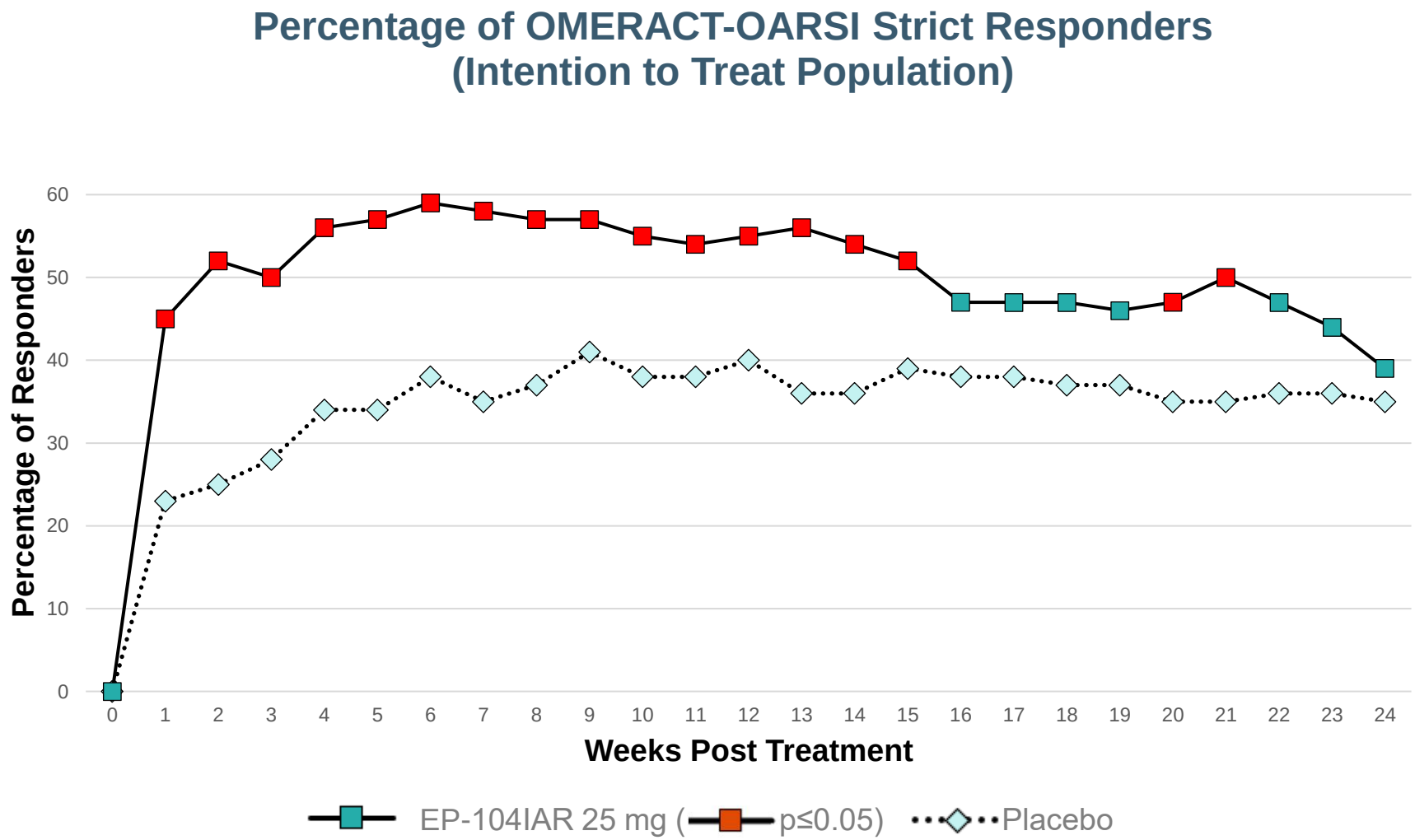
Secondary Endpoint Achieved: AUC for WOMAC Pain at 12 Weeks (p<0.001)

Better average pain relief than placebo to 24 weeks



Secondary Endpoint Achieved: OMERACT-OARSI Strict Responders* to 12 weeks (p=0.011)

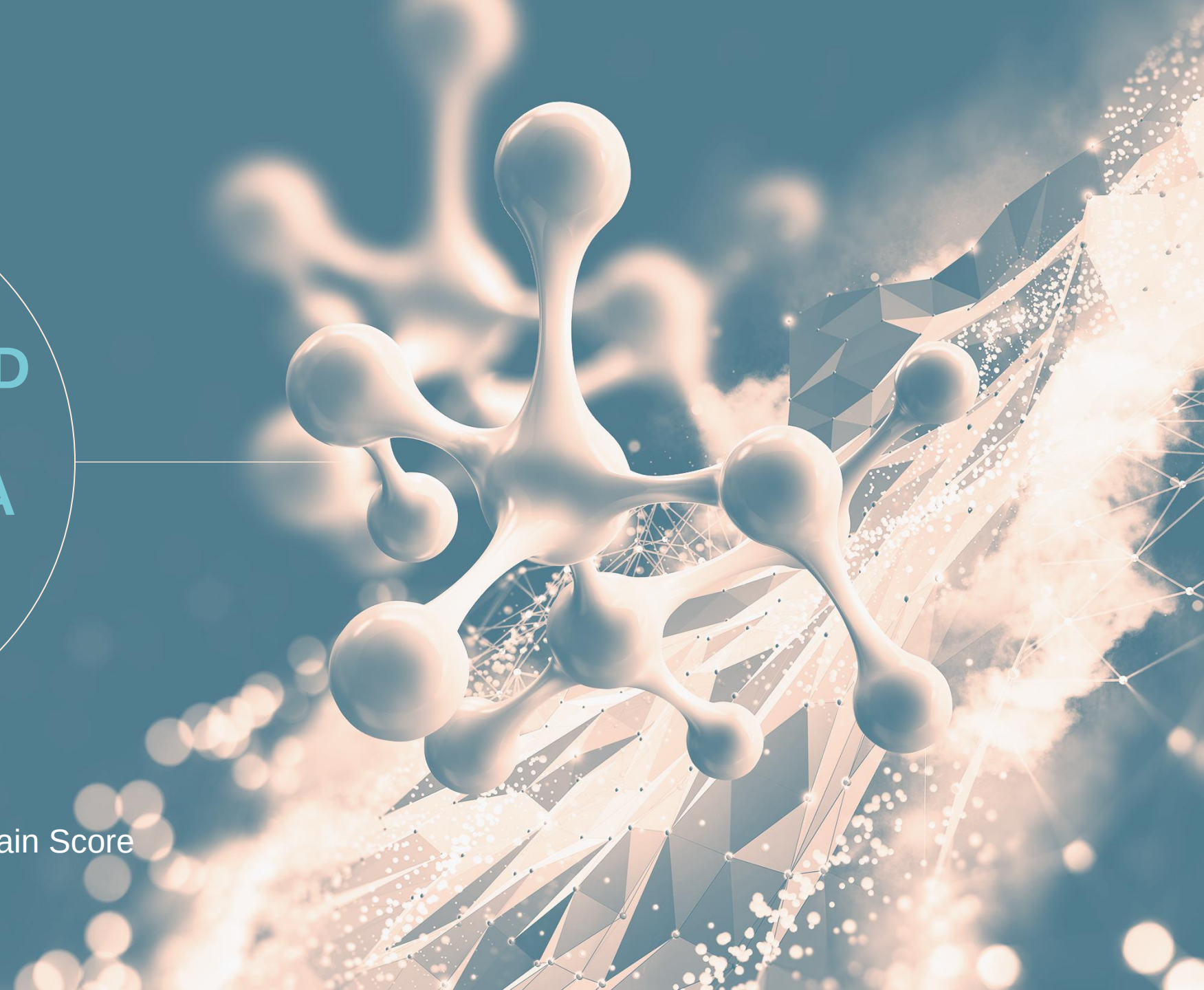
Clinically meaningful[1] and significant improvements in pain



*≥50% improvement and an absolute change of ≥2 points in WOMAC Pain

[1]Pham T, D van der Heijde, Altman R.D et al. OMERACT-OARSI Initiative: Osteoarthritis Research Society International set of responder criteria for osteoarthritis clinical trials revisited. Osteoarthritis and cartilage. 2004 May 12;5:389-399.

PRE-SPECIFIED ANALYSES OF MODERATE OA PATIENTS

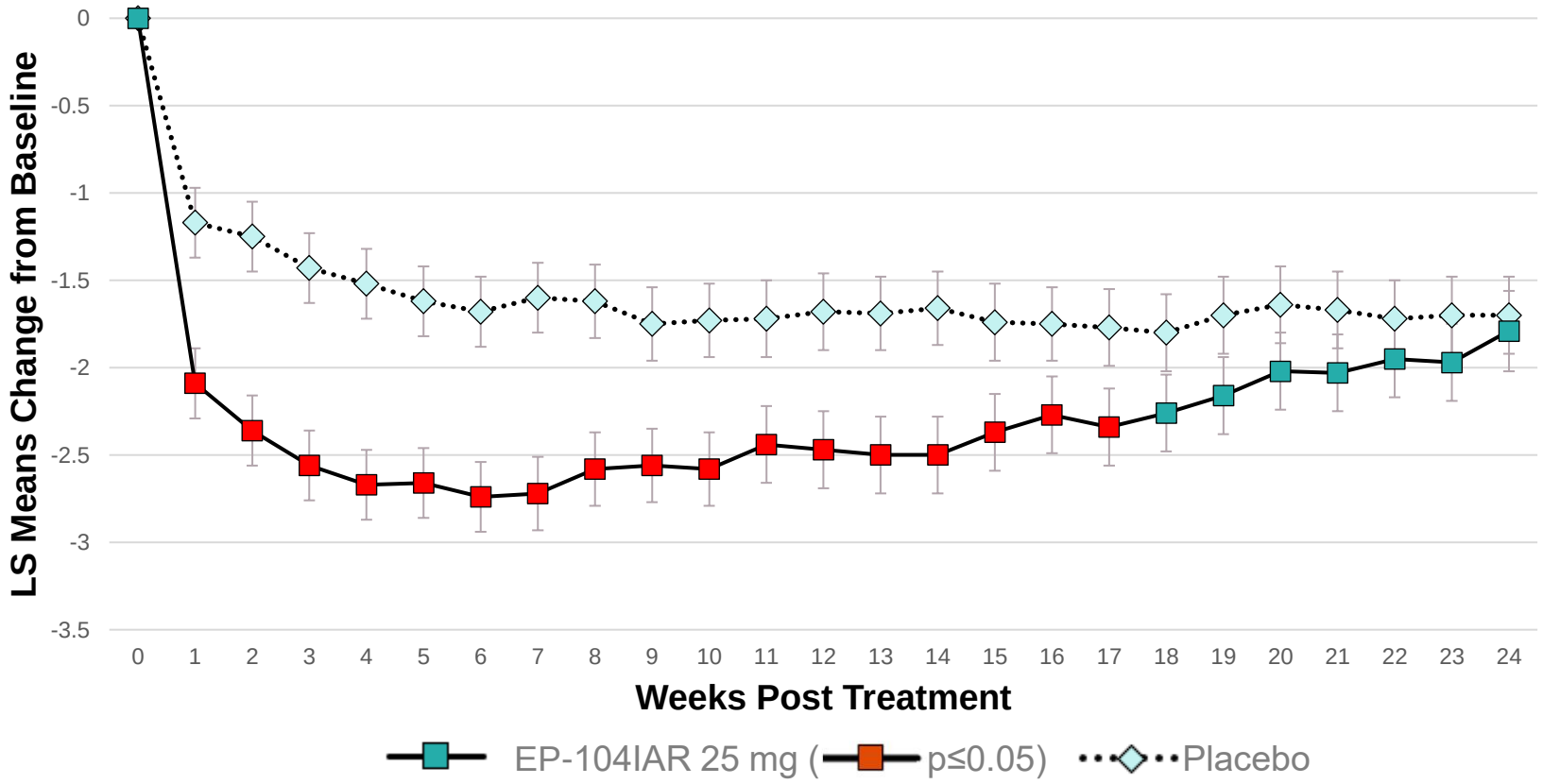


Moderate Patients:
3.5-6.5 on Baseline WOMAC Pain Score
N=214 (68%)

Moderate Patients: WOMAC Pain

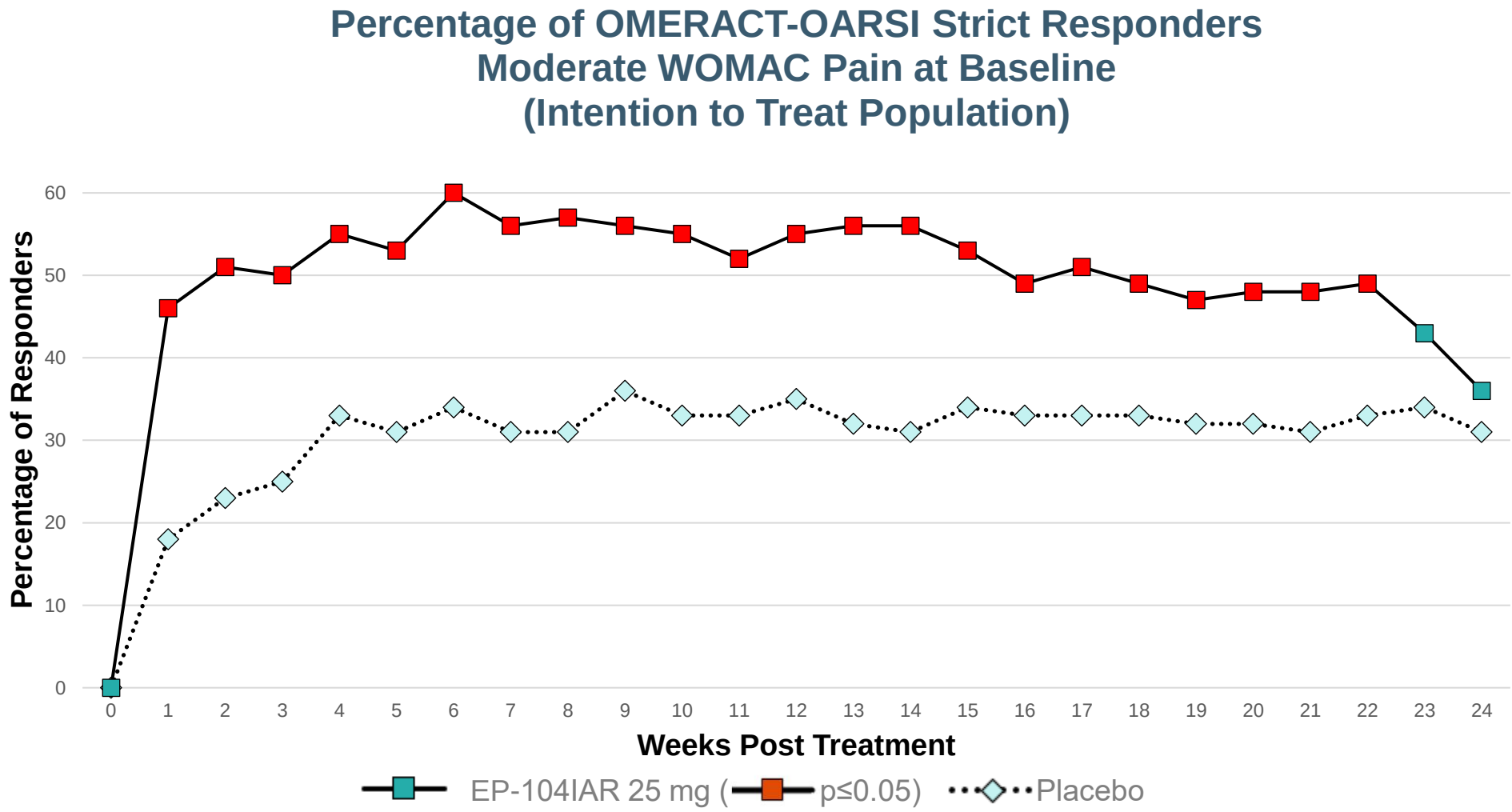
Significant, durable and meaningful pain relief to 17 weeks

Change from Baseline in WOMAC Pain
Moderate WOMAC Pain at Baseline
(Intention to Treat Population)



Moderate Patients: OMERACT-OARSI Strict Responders*

Clinically meaningful[1] and significant improvement in pain to 22 weeks



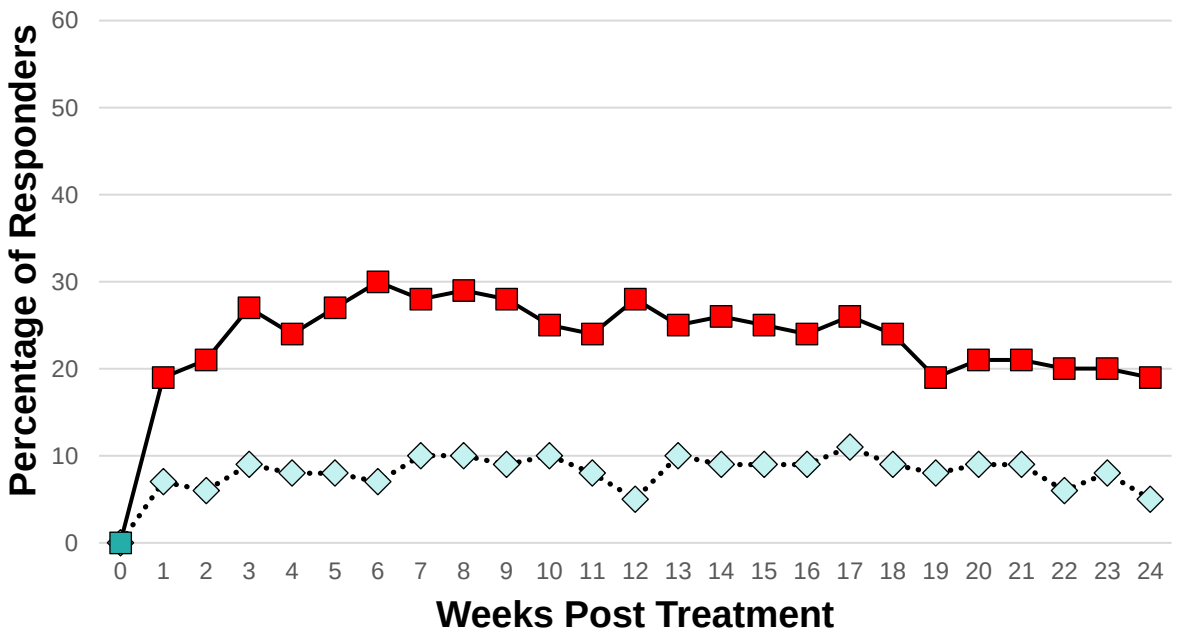
*≥50% improvement and an absolute change of ≥2 points in WOMAC Pain

[1]Pham T, D van der Heijde, Altman R.D et al. OMERACT-OARSI Initiative: Osteoarthritis Research Society International set of responder criteria for osteoarthritis clinical trials revisited. Osteoarthritis and cartilage. 2004 May 12;5:389-399.

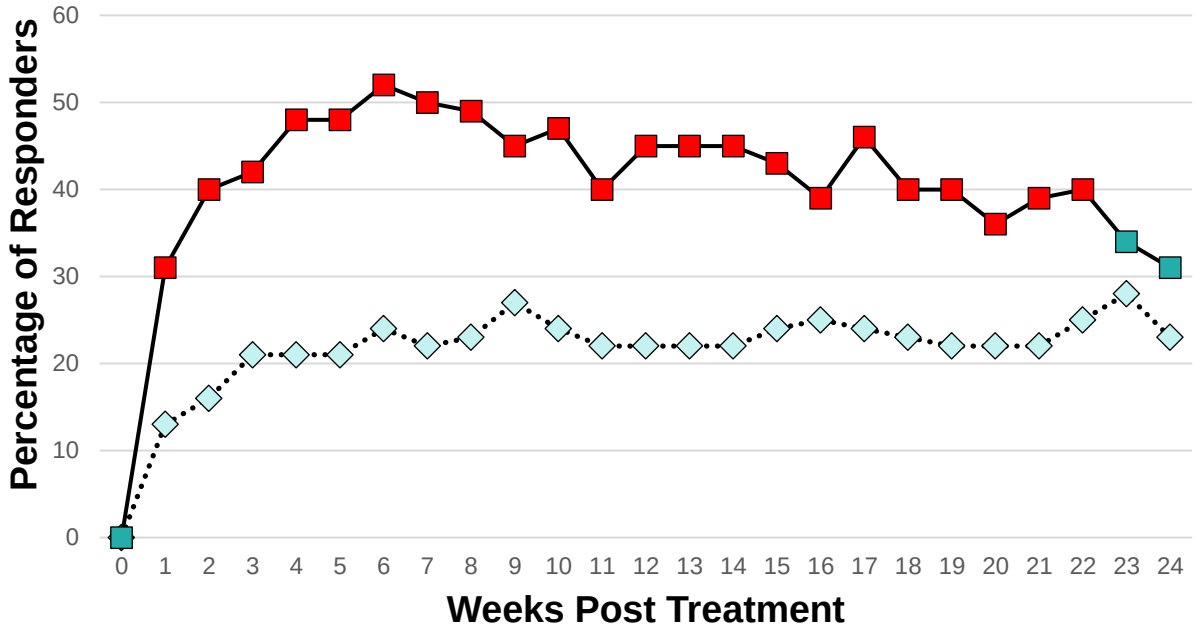
Moderate Patients: Patients Achieving Near-Complete Pain Relief

A significant portion of patients maintained minimal pain to 24 weeks

Percentage of Patients with WOMAC Pain ≤1
Moderate WOMAC Pain at Baseline
(Intention to Treat Population)



Percentage of Patients with WOMAC Pain ≤2
Moderate WOMAC Pain at Baseline
(Intention to Treat Population)



EP-104IAR 25 mg (p≤0.05) Placebo

Safety: Overall Summary of Adverse Events by Treatment Group

EP-104IAR well-tolerated; no treatment related serious Adverse Events

Adverse Events by Treatment Group (Safety Population)

	EP-104IAR 25 mg n=163	Placebo n=155	Overall N=318
Subjects with at least 1 TEAE*	106 (65.0%)	89 (57.4%)	195 (61.3%)
Mild	47 (28.8%)	33 (21.3%)	
Moderate	57 (35.0%)	55 (35.5%)	
Severe	2 (1.2%)	1 (0.6%)	
	0 Drug related		
Subjects with at least 1 Serious TEAE	4 (2.5%)	1 (0.6%)	5 (1.6%)
	0 Drug related		
Subjects with study medication-related TEAE	15 (9.2%)	11 (7.1%)	26 (8.2%)
Subjects with at least 1 TEAE leading to withdrawal	2 (1.2%)	0	2 (0.6%)
	0 Drug related		

*Treatment-Emergent Adverse Event: following injection of placebo or EP-104IAR

Safety: Adverse Events by Preferred Term (incidence ≥ 5%)

EP-104IAR well-tolerated; Adverse Events similar to placebo

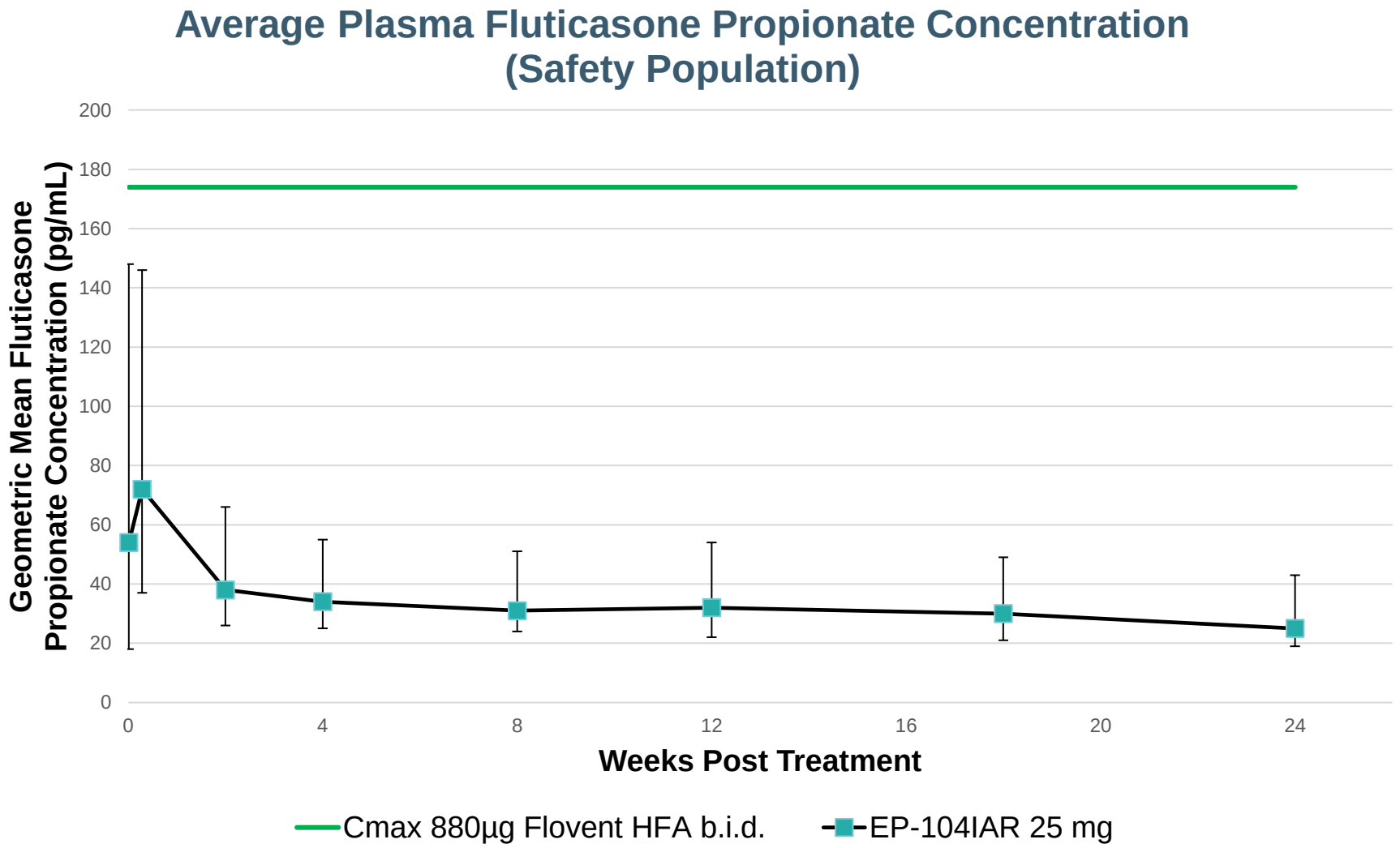
Adverse Events by Treatment Group (Safety Population)

Adverse Events with Incidence ≥5%	EP-104IAR 25 mg n=163	Placebo n=155	Overall N=318
Arthralgia	38 (23.3%)	23 (14.8%)	61 (19.2%)
Index knee,	24 (14.7%)	16 (10.3%)	40 (12.6%)
Index knee, treatment-related*	9 (5.5%)	9 (5.8%)	18 (5.3%)
Covid-19	14 (8.6%)	14 (9.0%)	28 (8.8%)
Nasopharyngitis	14 (8.6%)	12 (7.7%)	26 (8.2%)
Influenza	6 (3.7%)	9 (5.8%)	15 (4.7%)
Influenza like illness	4 (2.5%)	10 (6.5%)	14 (4.4%)

*Based on investigator assessment of relatedness (possible, probable/likely, definite)

Pharmacokinetics

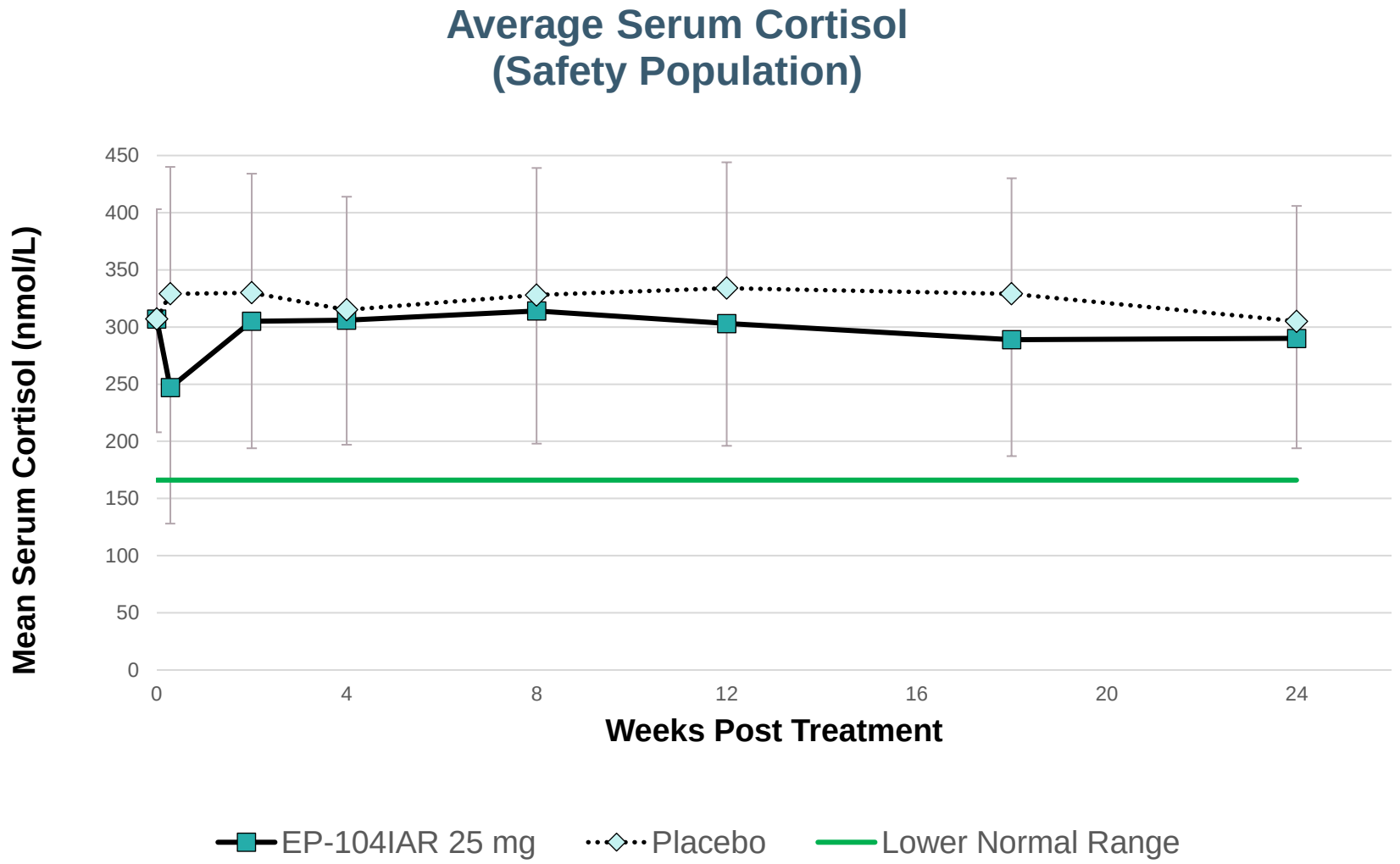
Extended-release to 24+ weeks; large systemic safety margin



*Bars show inter-quartile range

Safety: Serum Cortisol

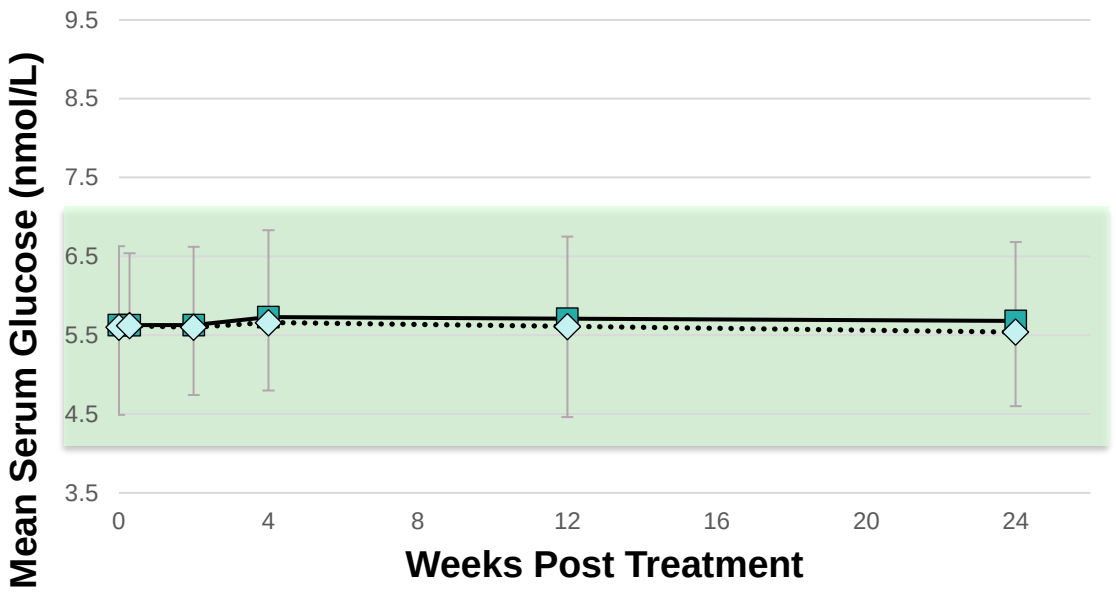
Minimal, transient effects normalized by 2 weeks



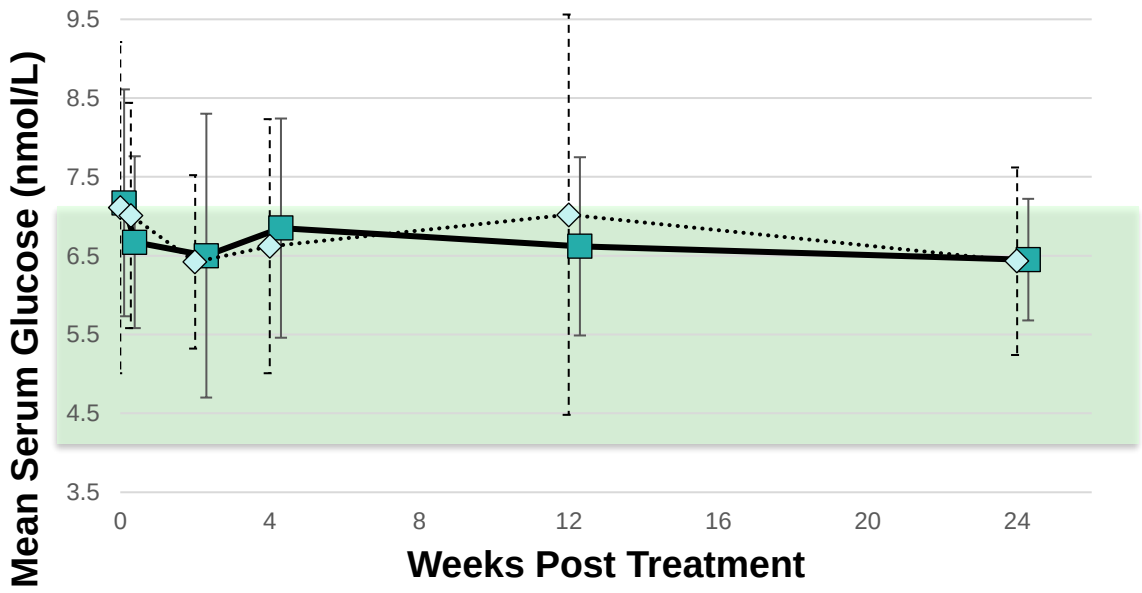
Safety: Serum Glucose

No effect on glucose metabolism, including diabetic patients (n=26)

Average Serum Glucose (Safety Population)



Average Serum Glucose (Diabetic Population)



EP-104IAR 25 mg Placebo Normal Range (3.9 – 7.2 nmol/L)

Market Position: Targeting to be "Best in Class" Corticosteroid for OA

EP-104IAR has a safety and efficacy profile that could allow physicians to obtain treatment objectives that are beyond the scope of existing therapy, based on:

- Superior efficacy, in terms of both magnitude and duration
- Superior safety, both locally and systemically

Moderate OA	• Earlier initiation of treatment due to improved safety profile • More patients reaching minimal (<2) pain scores, and lasting up to 4-6 months • Potential to supplant NSAIDs and intra-articular treatments
Bilateral OA	• Concurrent treatment of both knees without major safety considerations
High-risk patients (diabetic, hypertensive)	• Significantly reduced risk due to cortisol suppression and glucose derangement

Next Steps

Eupraxia believes that the Phase 2b study is an adequate and well-controlled study that, with agreement from the FDA, could act as a pivotal study.

CURRENTLY PLANNED MILESTONES

H2 2023

Consult with FDA to agree on the program for NDA submission

H1 2024

Initiate Phase 3 study

Initiate additional PK, efficacy studies to support marketing and launch

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