Treatment Options for Atopic Dermatitis Patients with an Inadequate Response to *Dupilumab*:

Exploring the Potential of *Eblasakimab* in this Sizable New Market

May 7, 2024

8:00 AM ET

NASDAQ: ASLN

ASLAN PHARMACEUTICALS

Dr Seth Orlow
New York University

8:00	**Welcome**
8:05	Introduction
8:10	Case studies: inadequate responders to *dupilumab*
8:25	Interim results of TREK-DX Phase 2 study of *eblasakimab* in *dupilumab*-experienced AD patients
8:35	Panel discussion of TREK-DX results
8:50	Q&A

Dr Karen Veverka
VP Medical
ASLAN Pharmaceuticals

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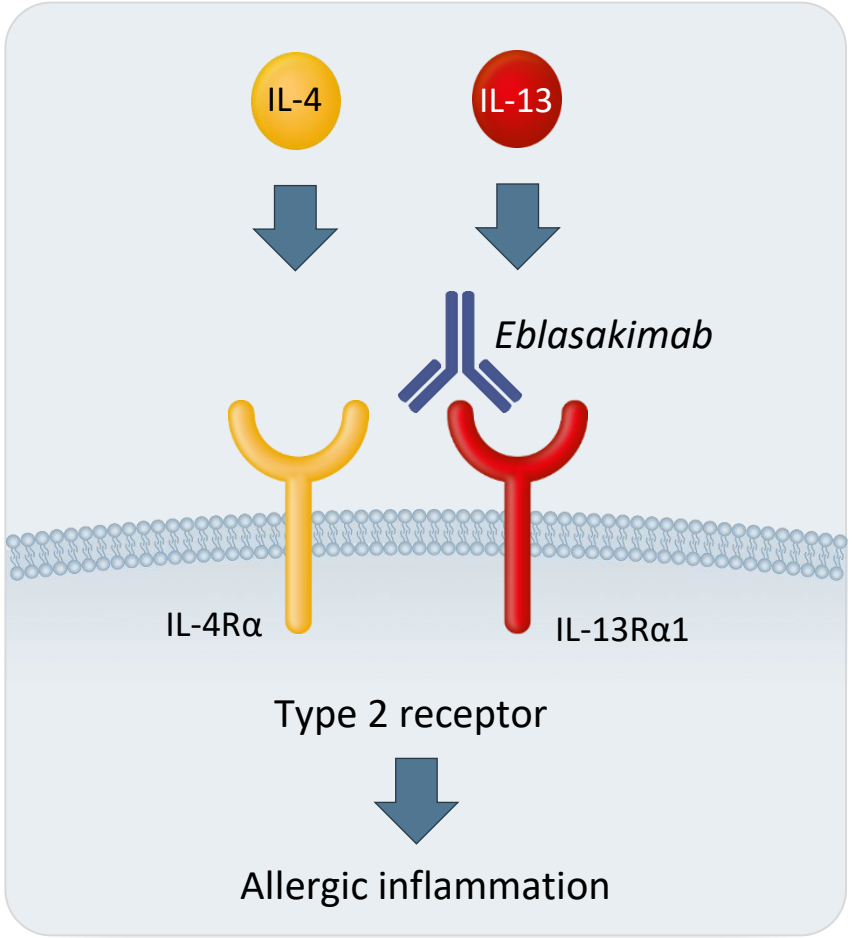
Eblasakimab is the only monoclonal antibody in the clinic targeting the IL-13 receptor [1]



- IL-4 and IL-13 are central to triggering allergy and symptoms of atopic dermatitis (AD)
- By targeting the IL-13 receptor, *eblasakimab*'s novel approach efficiently blocks the Type 2 receptor, preventing signaling through **both** IL-4 and IL-13, while sparing the Type 1 receptor
- Translational data in AD skin biopsies demonstrates ***eblasakimab* may be more effective** at downregulating inflammatory markers than *dupilumab*
- Positive TREK-AD Phase 2b dose-ranging study of *eblasakimab* in moderate-to-severe AD patients met the primary endpoint, with 2-weekly and monthly regimens demonstrating competitive efficacy

1 Based on search of Clarivate and BiomedTracker databases

Eblasakimab could be a treatment option for patients with an inadequate response to *dupilumab*

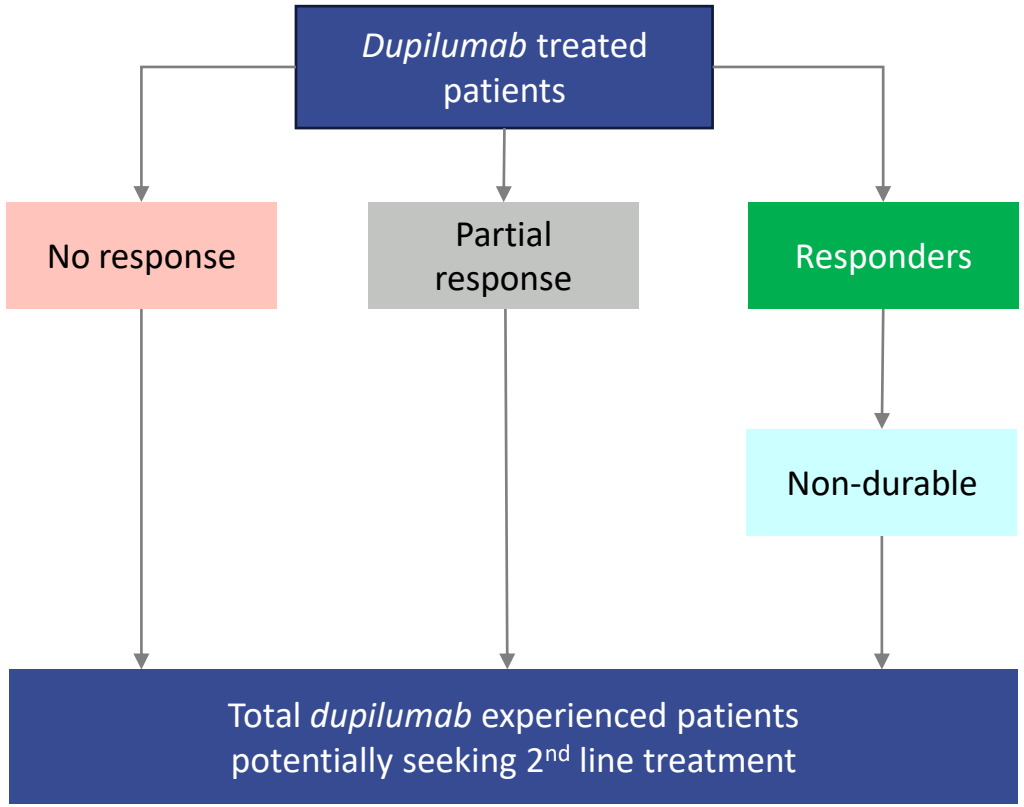
Supported by translational data	*Eblasakimab*'s MoA has potential to be effective in *dupilumab* refractory patients
Significant unmet need	Inadequate responders have few treatment options, estimated to represent $10B market by 2029 [1]
Positive clinical data from pioneering trial	TREK-DX is only randomized, placebo-controlled study of AD patients previously treated with *dupilumab*

1 Decision Resources Group, December 2022 and supported by internal estimates of 150,000 AD patients with inadequate *dupilumab* response seeking alternative biologic treatment

Patients in need of second line biologics [1] treatment lack safe long-term options

- *Dupilumab* has established standard-of-care for AD patients
- Around 270,000 AD patients are being treated with *dupilumab* [2]
- However, 63% of *dupilumab*-treated patients do not achieve IGA 0/1 [3] within 16 weeks and of those that do, only 54% maintain the response at week 52 [4]
- Many of these patients may respond but may not be satisfied with their response and will seek alternative treatments
- In market research survey, 56% of current *dupilumab* users and 56% of lapsed *dupilumab* users are willing or very willing to switch to a treatment with *eblasakimab*'s target profile [5]

Based on market research [5], we believe around 150,000 patients who are currently using or have used dupilumab could switch to an alternative biologic treatment

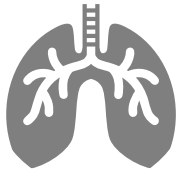


1. Second line market here refers to a second systemic therapy following inadequate response to *dupilumab*
2. Sanofi investor presentations (Dec 2023), based on prevalence numbers of uncontrolled moderate-to-severe AD patients in US, EU and JP markets, and 9% penetration rate of Dupixent
3. Thaci et al (2019) J Dermatol Sci 94(2):266-275
4. Worm et al (2020) JAMA Derm 156(2):131-143
5. Market research conducted by ASLAN from May-August 2023 with 83 AD patients in the US (27% patients severe, 69% moderate, 5% mild) in different treatment cohorts. Patients were asked to rate on a scale from 1-7, where 1= very unwilling and 7= very willing, their willingness to switch from current treatment to a treatment with *eblasakimab*'s target profile, % of patients selecting rating of 6 or 7 shown above

What do patients with inadequate response to *dupilumab* look for?

Safe for long-term use

Effective in patients with inadequate response to *dupilumab*



Potential to treat comorbidities

Rapid speed of onset

Dr Raj Chovatiya
Rosalind Franklin University Chicago School of Medicine

Dr Peter Lio
Northwestern University

Dr Lisa Beck
University of Rochester

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8:25	Interim results of TREK-DX Phase 2 study of *eblasakimab* in *dupilumab*-experienced AD patients
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Case Study 1: inadequate responder

Patient History:

- 77-year-old female with 12-year duration of atopic dermatitis (EASI 16.4, vIGA 3, PP-NRS 7)
- Other Medical History: hayfever
- Experience with dupilumab: 6 months of treatment

Reason for discontinuation:

- Inadequate improvement (EASI-50)

Treatment post dupilumab discontinuation: tralokinumab

- EASI-75 at 3 months
- EASI-90 at 6 months

Case Study 2: inadequate responder and intolerant

Patient History:

- 55-year-old female with 35-year duration of AD (EASI 12, vIGA 3, PP-NRS 8)
- Other Medical History: none
- Experience with dupilumab: 8 months of treatment

Reason for discontinuation:

- inadequate improvement (EASI-25)
- psoriasis-like eruption on the legs and trunk

Treatment post dupilumab discontinuation: upadacitinib

- EASI-75 at 1 month
- EASI-90 at 3 months
- EASI-100 at 6 months

Case Study 3: initial improvement but limited control of itch

Patient History:

- 18-year-old male with very itchy, dry skin, father notes that he constantly scratches and is often up in the middle of the night with itching
- He is exhausted mentally and physically, and is angry that everyone seems to keep giving him prescriptions for triamcinolone…
- He first developed eczema patches as a baby
- Beyond the sleep issues, he is having lots of problems at school
- Triamcinolone 2-3x per day to the areas for many months, Tacrolimus & Pimecrolimus do not seem to work, Crisaborole does not seem to help much, but did sting and burn, takes 50 mg of hydroxyzine morning and night; has done so for the past 6 months
- Takes 50 mg of hydroxyzine morning and night; has done so for the past 6 months

Reason for discontinuation:

- AD control tool (ADCT) is 20 so…started on Dupilumab 600mg SC x 1 then 300mg SC Q2W and had initial improvement…
- But 6 months in, still having significant itch, still having some trouble sleeping at night and ADCT score is now 12

Treatment post dupilumab discontinuation:

- Offered Upadacitinib but family is concerned about side effects

Case Study 4: intolerant to dupilumab

Patient History:

- 47-year-old with AD onset as a toddler, has severe disease with BSA of 52% and IGA score of 4
- Has multiple other allergic co-morbidities including allergic rhinitis, allergic eye conditions, asthma, and food allergies
- Was on dupilumab for 3 years

Reason for discontinuation of dupilumab:

- Adverse event- conjunctivitis

Treatment post dupilumab discontinuation:

- Rinvoq, stopped after a few months

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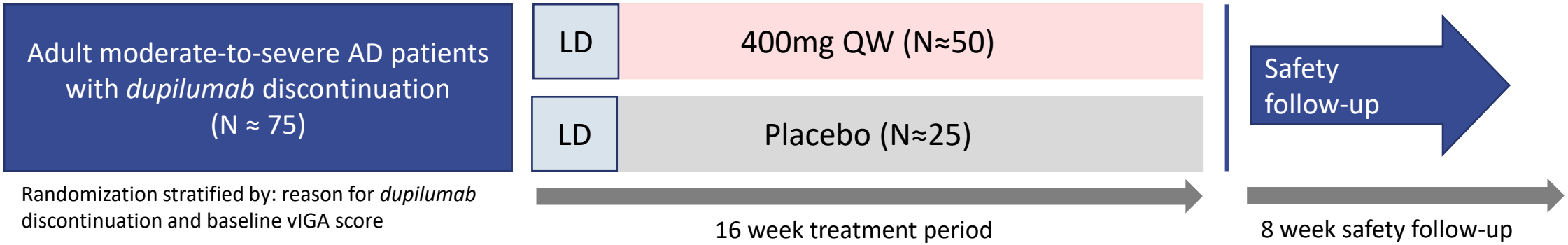
TREK-DX: Phase 2 study in *dupilumab* experienced patients testing higher dose regimen ongoing



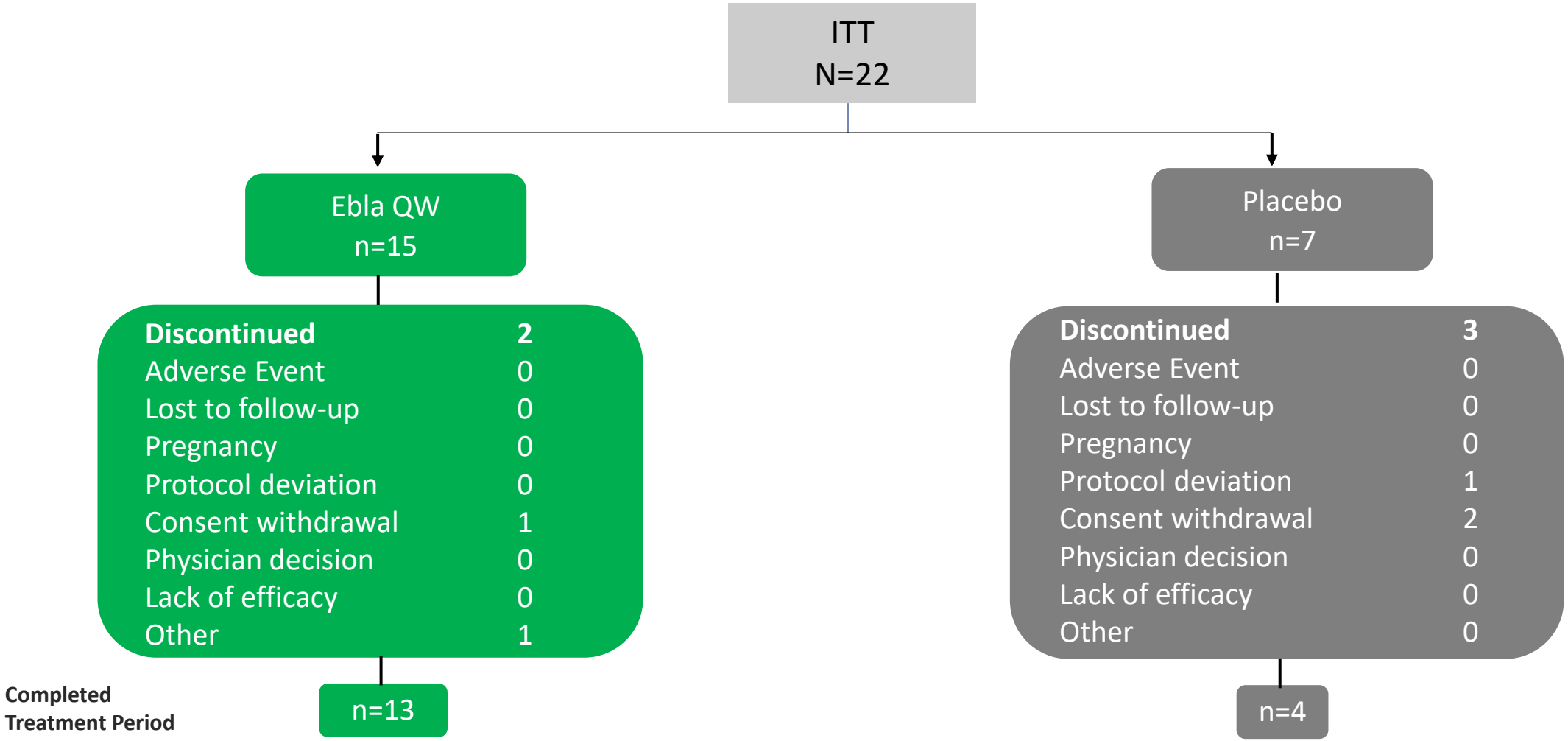
Key Inclusion/ Exclusion Criteria	EASI ≥16, BSA ≥10% of AD involvement, vIGA 3 or 4 at screening and baseline
Endpoints	Primary: % change from baseline in EASI at 16 weeks Secondary: EASI-75, EASI-90, vIGA-0/1, PP-NRS (itch)
Dosing	400mg QW
Interim analysis populations[1]	ITT : 22 patients EASI ≥18 population : 15 patients

1 Participants included in the interim analysis (IA) of TREK-DX all enrolled under original criteria; protocol amendment requires EASI ≥18 for all participants beyond IA

Patient baseline characteristics

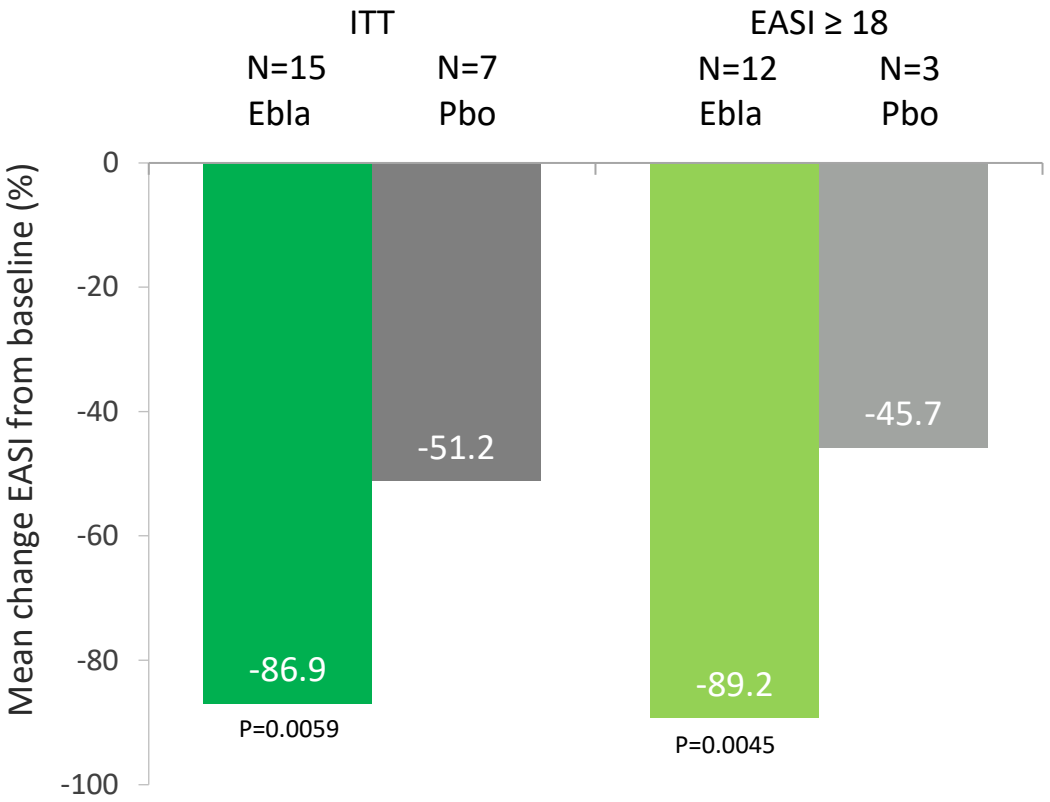
	ITT (n=22)	EASI ≥ 18 (n=15)	dupilumab inadequate response (n=9)
Age (yrs) – mean (SD)	47.1 (18.9)	43.9 (20.2)	40.8 (18.1)
Male – n (%)	9 (40.9%)	6 (40.0%)	5 (55.6%)
BW (kg) – mean (SD)	84.4 (24.0)	89.6 (26.9)	79.1 (17.5)
AD duration (years) – mean (SD)	20.0 (18.3)	18.4 (16.7)	8.21(6.1)
AD onset (years) – mean (SD)	27.8 (22.7)	26.2 (22.6)	33.2 (22.3)
EASI score – mean (SD)	22.0 (8.2)	24.4 (9.1)	20.8 (3.7)
– median	19.7	23.2	20.0
IGA score – n (%)			
3 Moderate	15 (68.2%)	8 (53.3%)	5 (55.6%)
4 Severe	7 (31.8%)	7 (46.7%)	4 (44.4%)

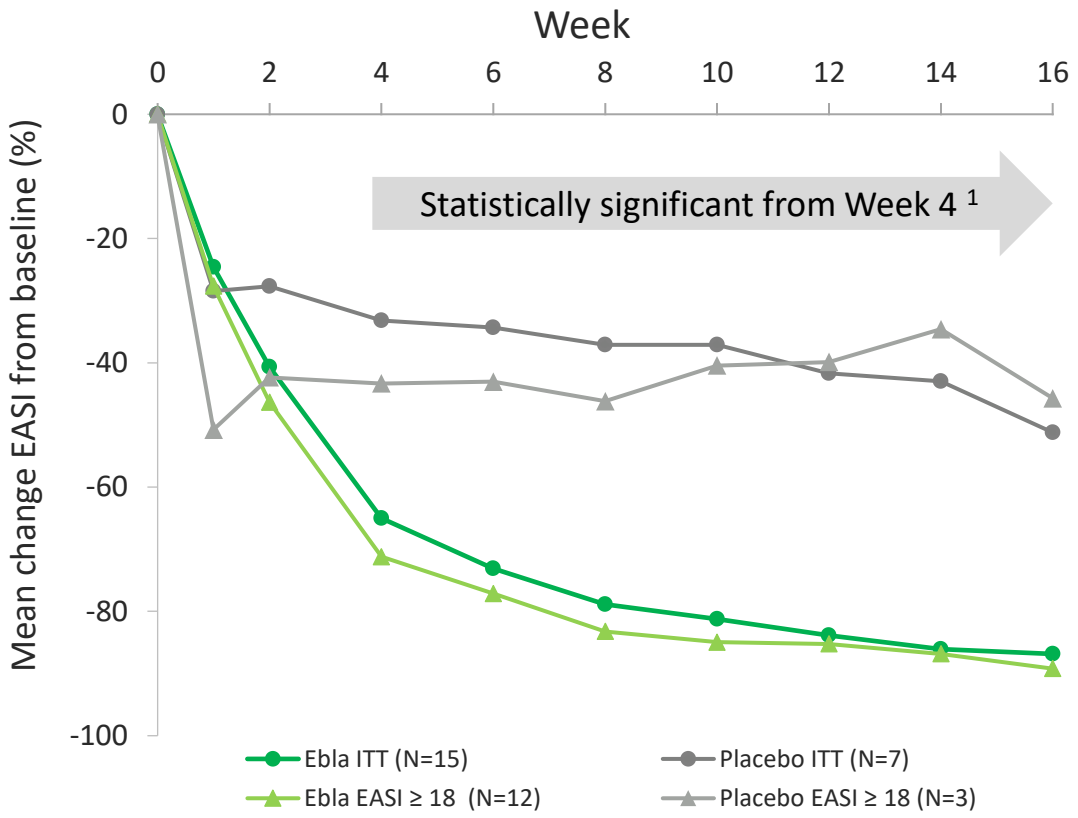
Patient flow



Eblasakimab achieved rapid and significant reduction of EASI scores in *dupilumab* experienced AD patients in the interim analysis

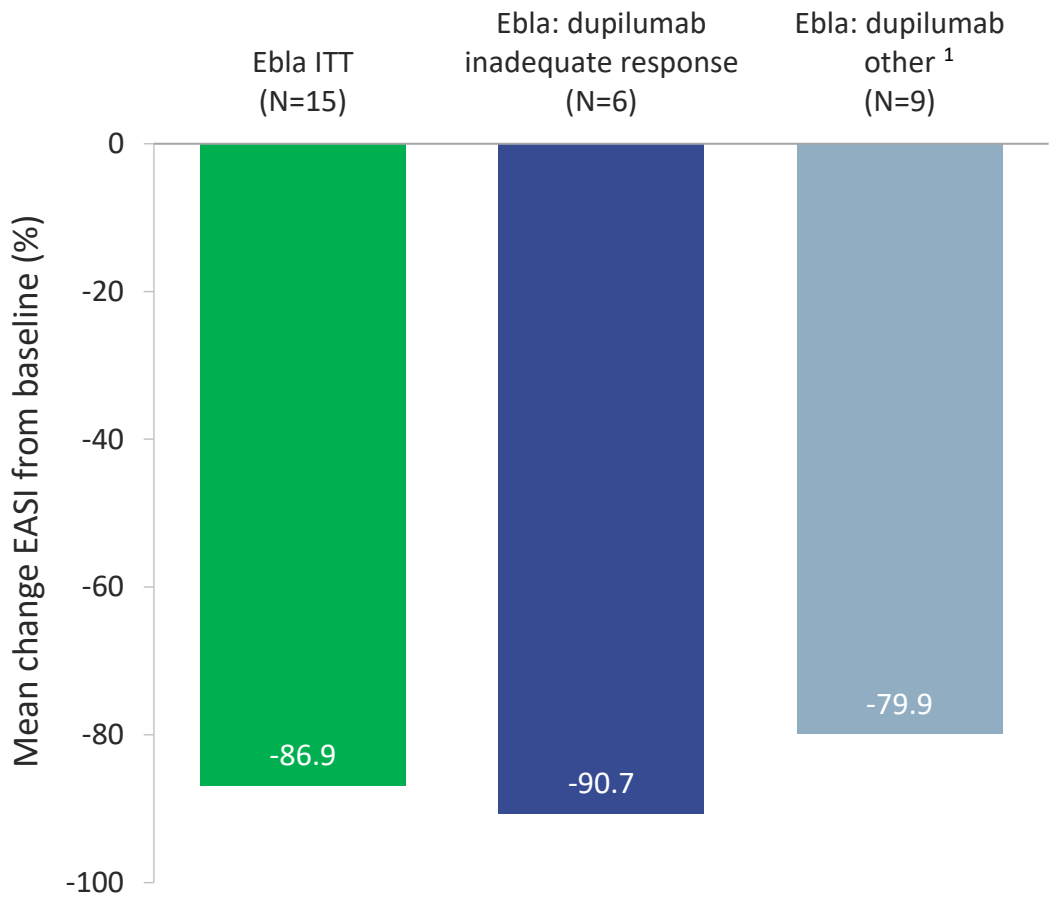
At Week 16 (primary endpoint)

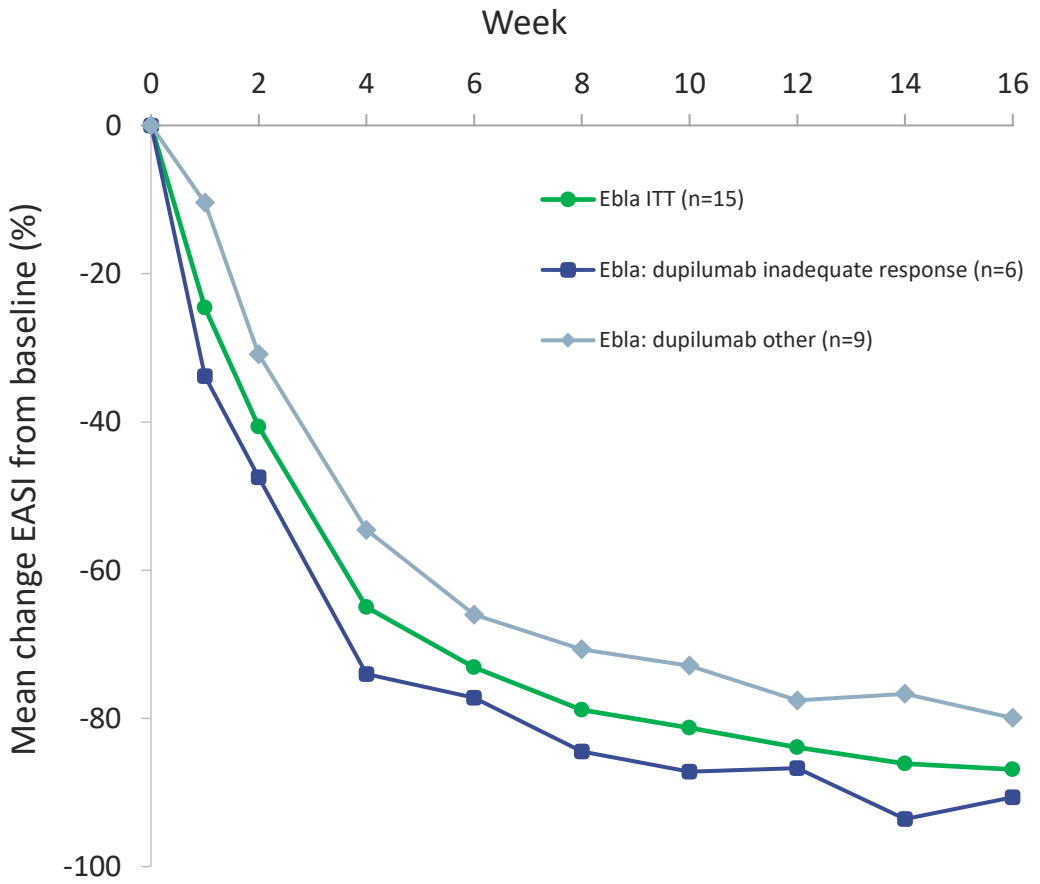




1 Significant from week 4 for ITT population and from week 6 for EASI ≥ 18 population
Least squares mean values using LOCF for missing data. Pbo: Placebo
Interim analysis readout April 2024

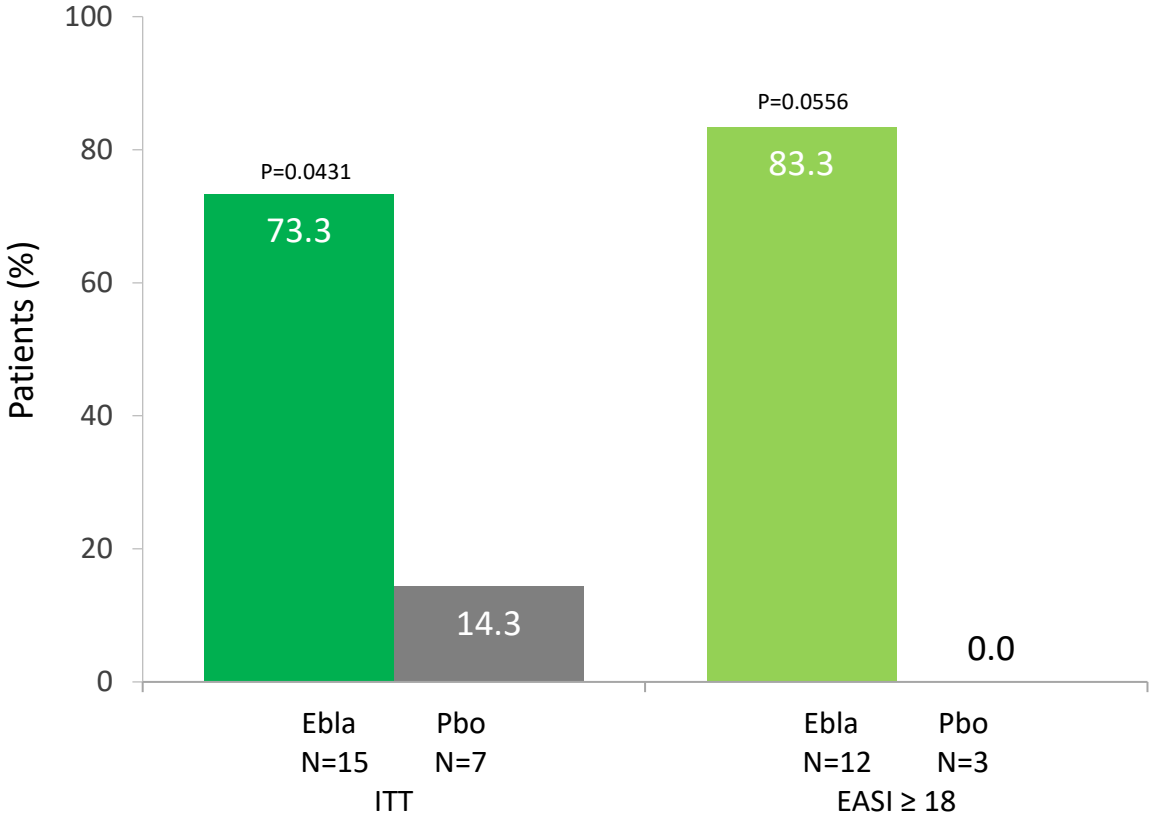
Patients with prior inadequate response to *dupilumab* also showed rapid reductions in EASI scores with *eblasakimab* treatment

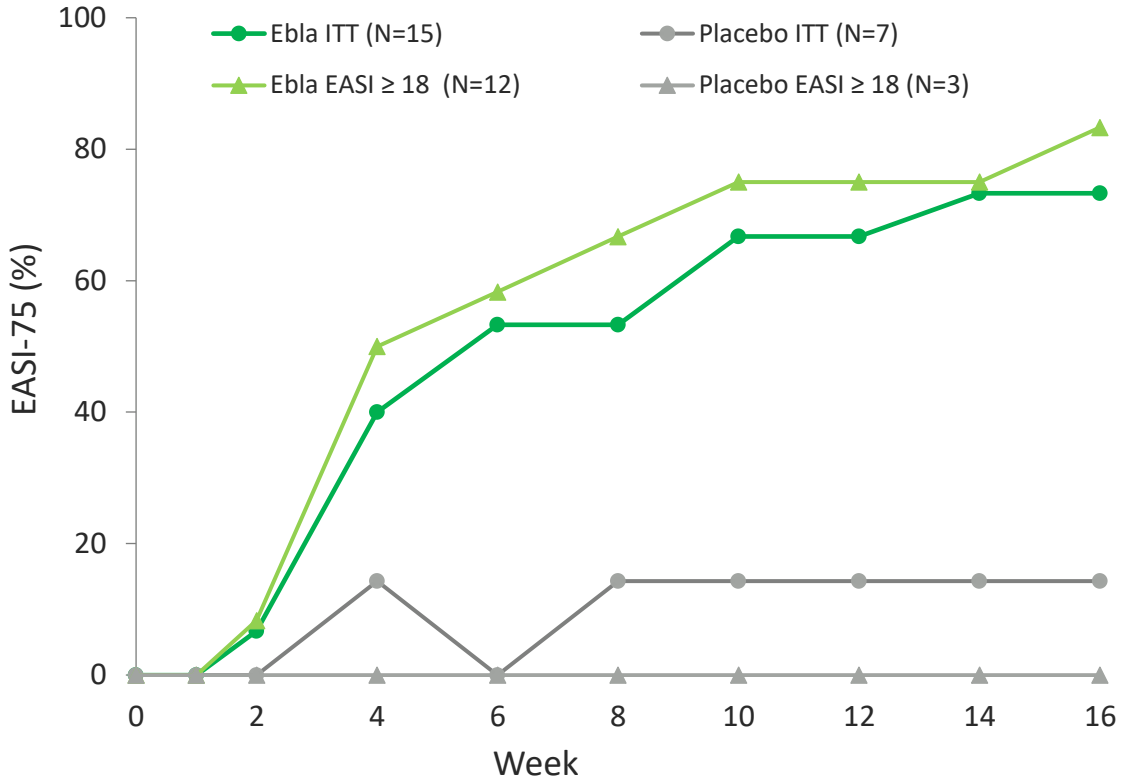




1 Patients that discontinued *dupilumab* due to reasons other than inadequate response
Least squares mean values using LOCF for missing data.
Interim analysis readout April 2024

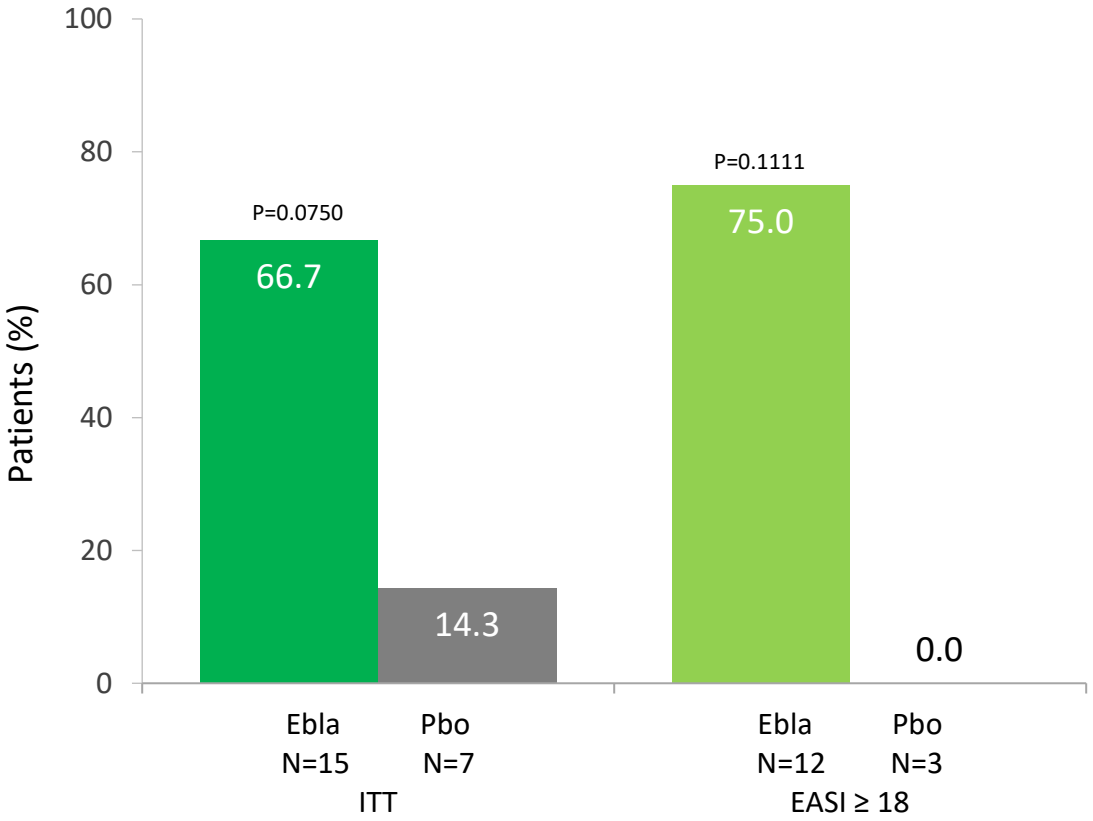
Over half patients achieve EASI-75 by week 6, 73% patients achieve EASI-75 by week 16

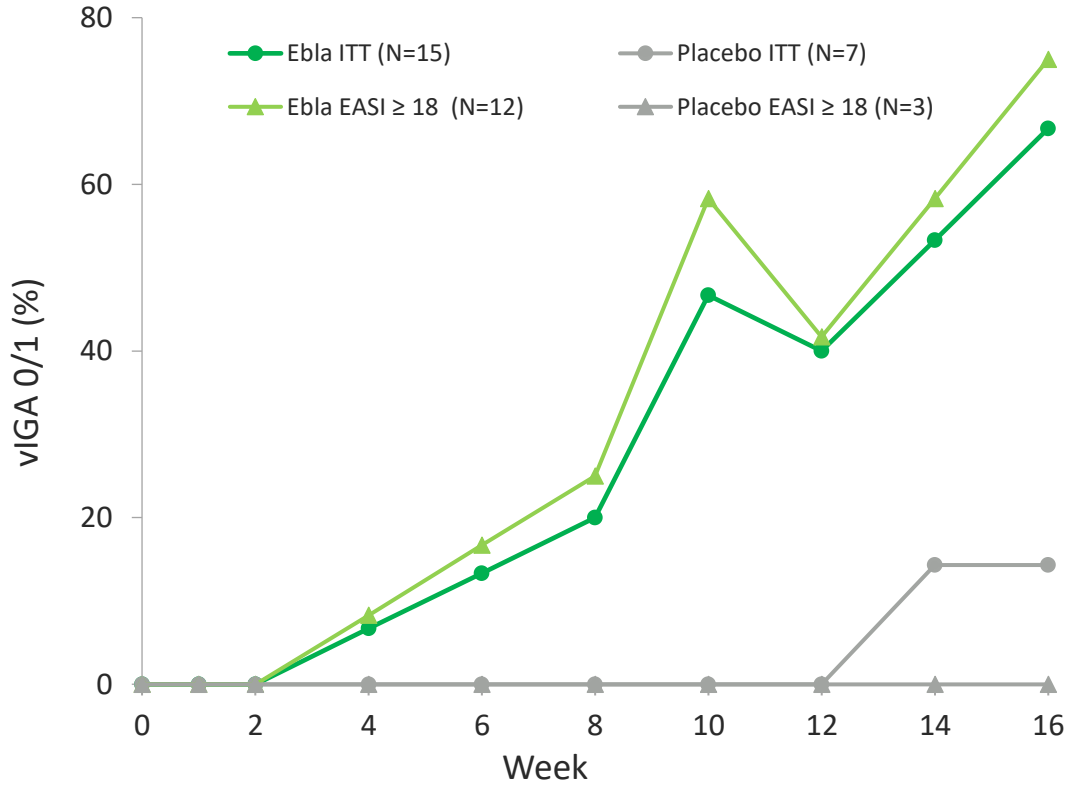




Binary endpoints analyzed using NRI/LOCF
Interim analysis readout April 2024

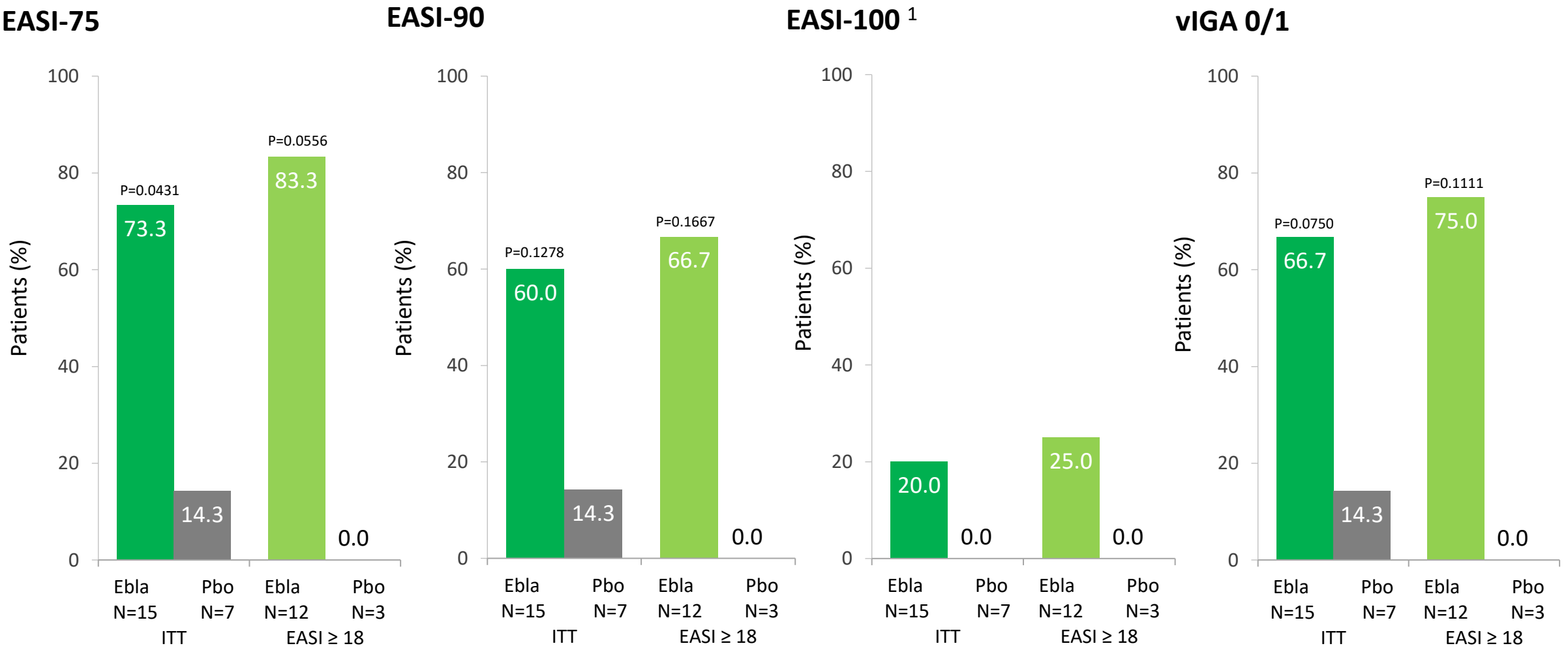
Most patients treated with *eblasakimab* achieved vIGA 0/1





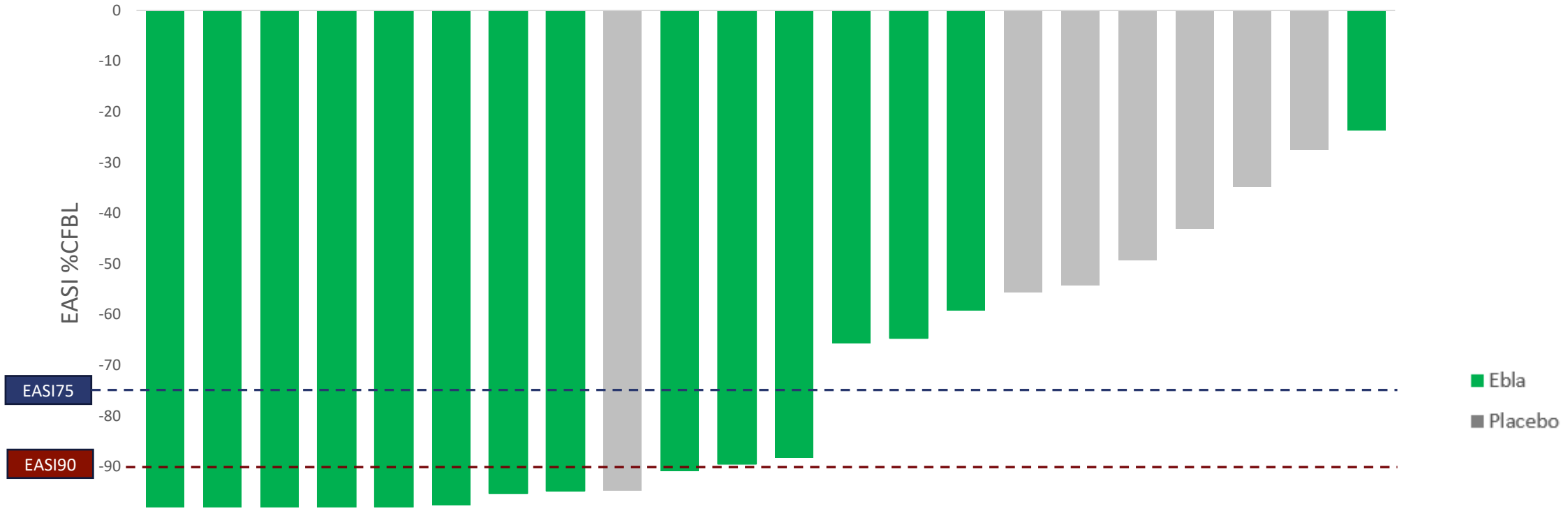
Binary endpoints analyzed using NRI/LOCF
Interim analysis readout April 2024

Over 60% of *eblasakimab* treated patients achieved EASI-90 and vIGA 0/1 – unprecedented in prior AD studies with biologics

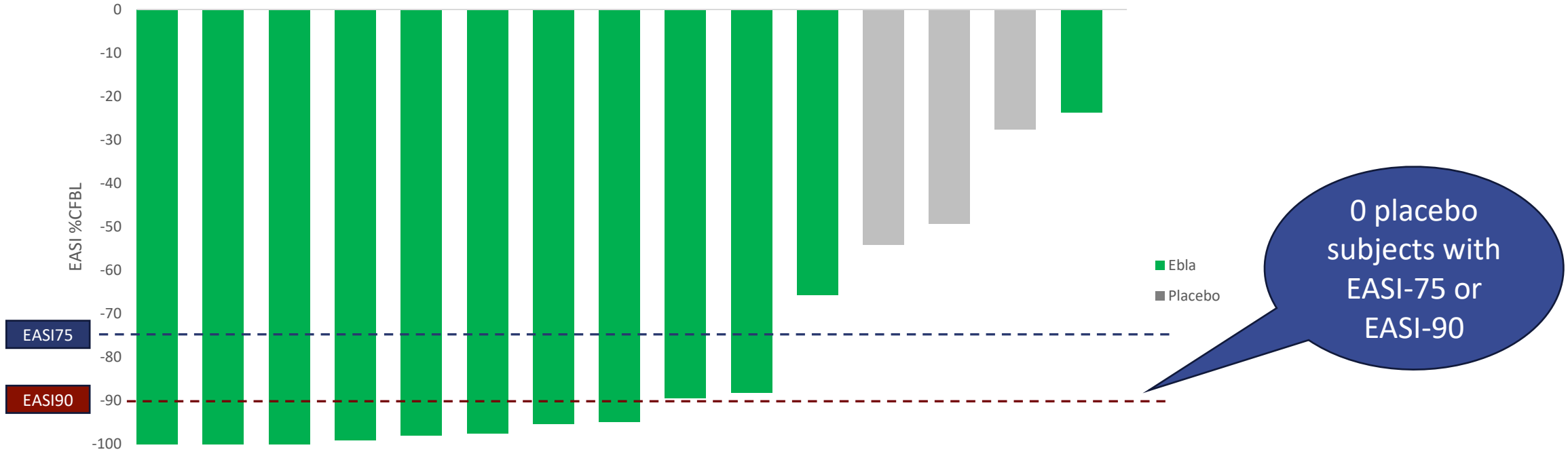


1 EASI-100 was not a prespecified endpoint and statistical tests were not performed
Binary endpoints analyzed using NRI/LOCF
Interim analysis readout April 2024

Individual data for ITT population

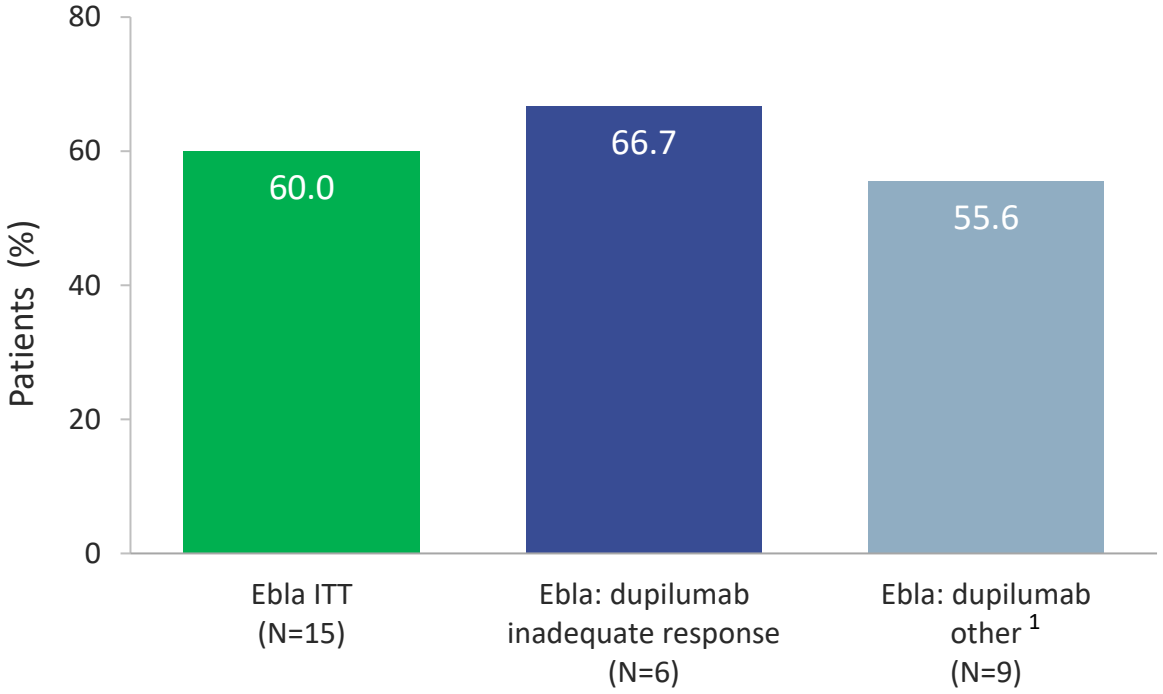


Individual data for EASI ≥ 18 population

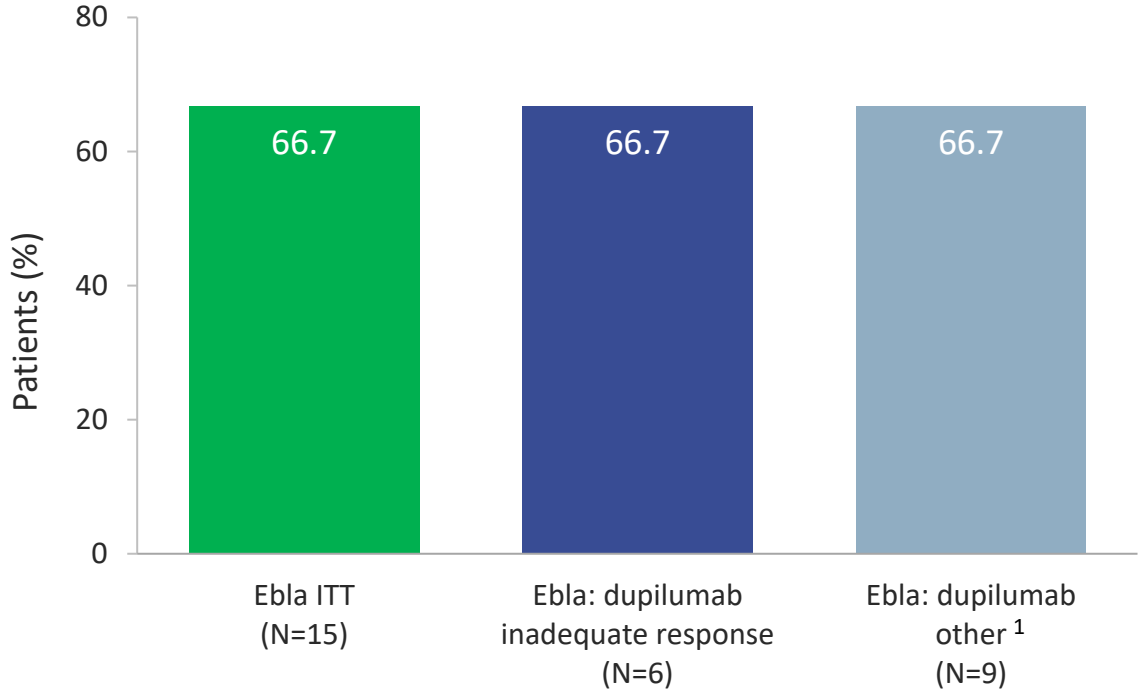


Eblasakimab was equally effective in patients who have an inadequate response to *dupilumab*

EASI-90



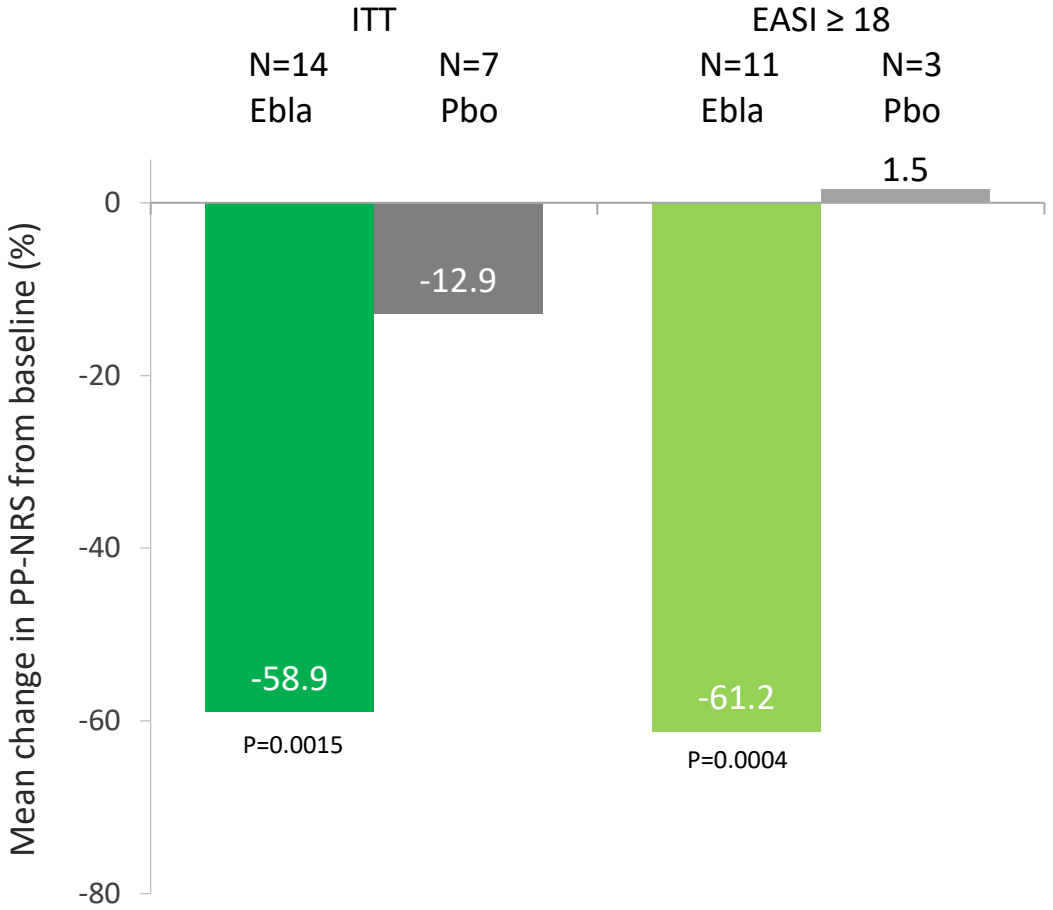
vIGA 0/1

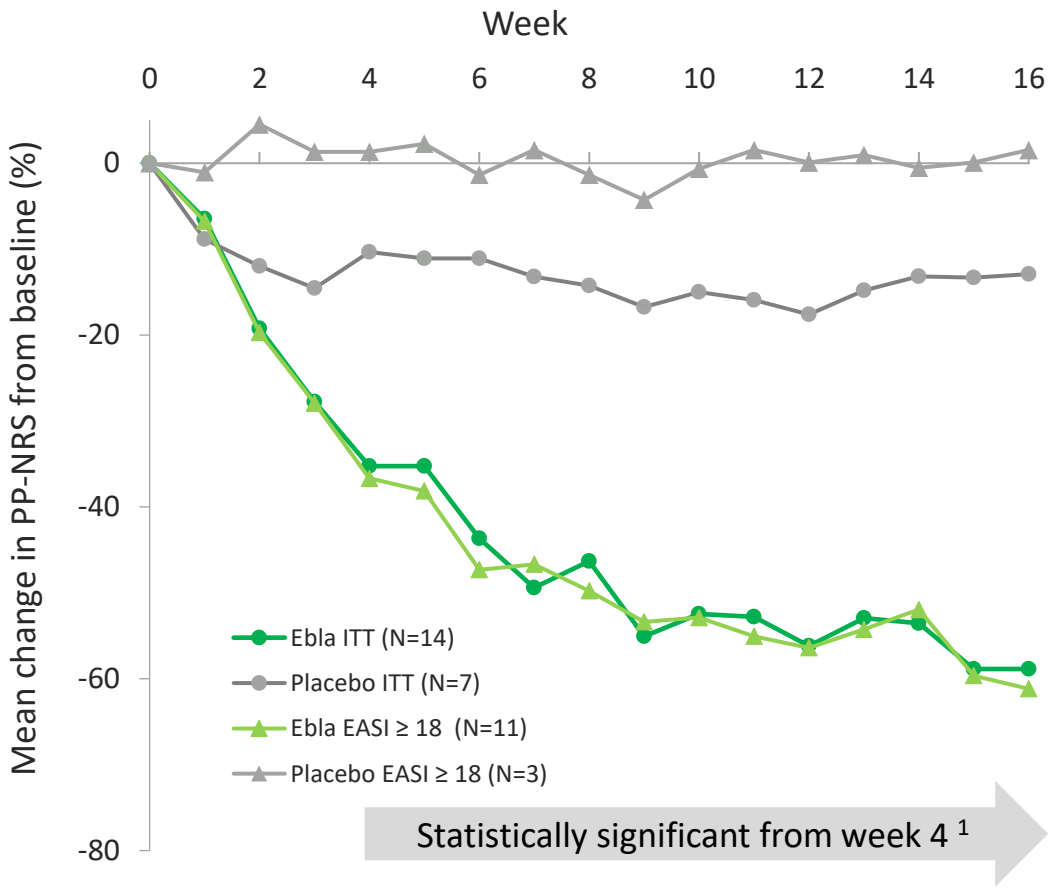


Two thirds of patients treated with *eblasakimab* achieved EASI-90 and vIGA 0/1 even after they previously had an inadequate response to *dupilumab*

1 Patients that discontinued *dupilumab* due to reasons other than inadequate response
Binary endpoints analyzed using NRI/LOCF
Interim analysis readout April 2024

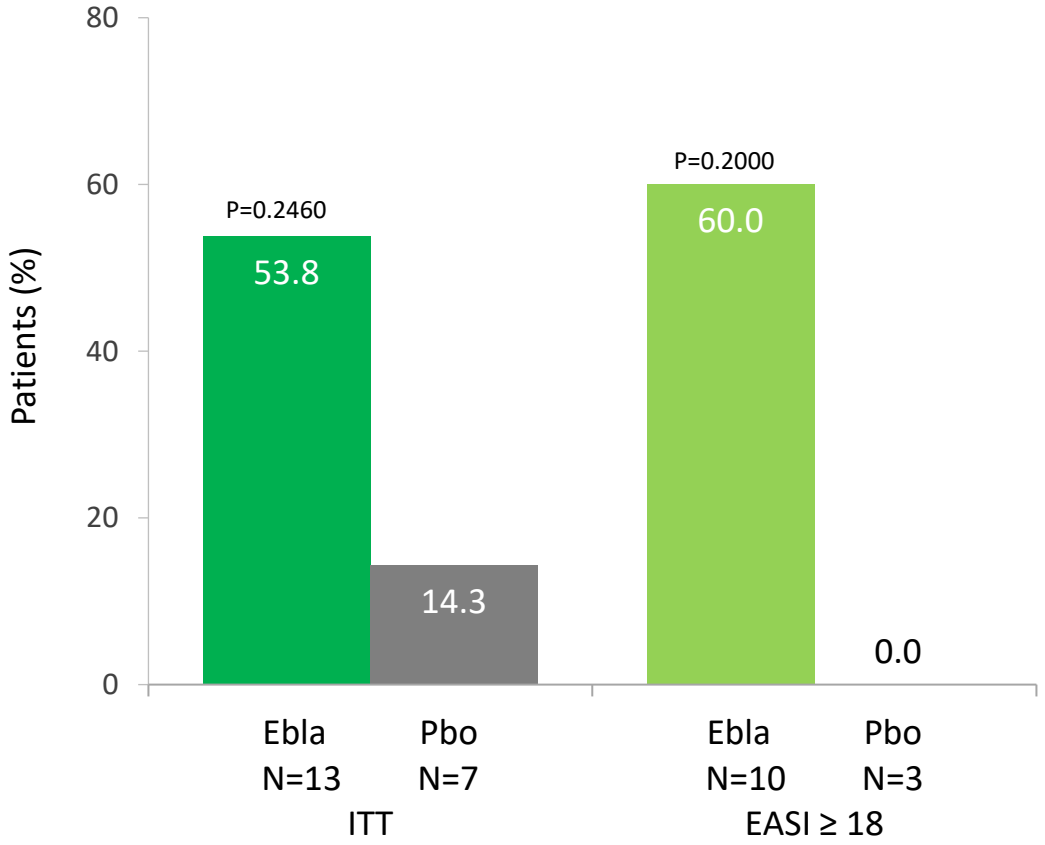
Eblasakimab produced rapid and clinically meaningful relief in itch – one of the most burdensome symptoms of AD

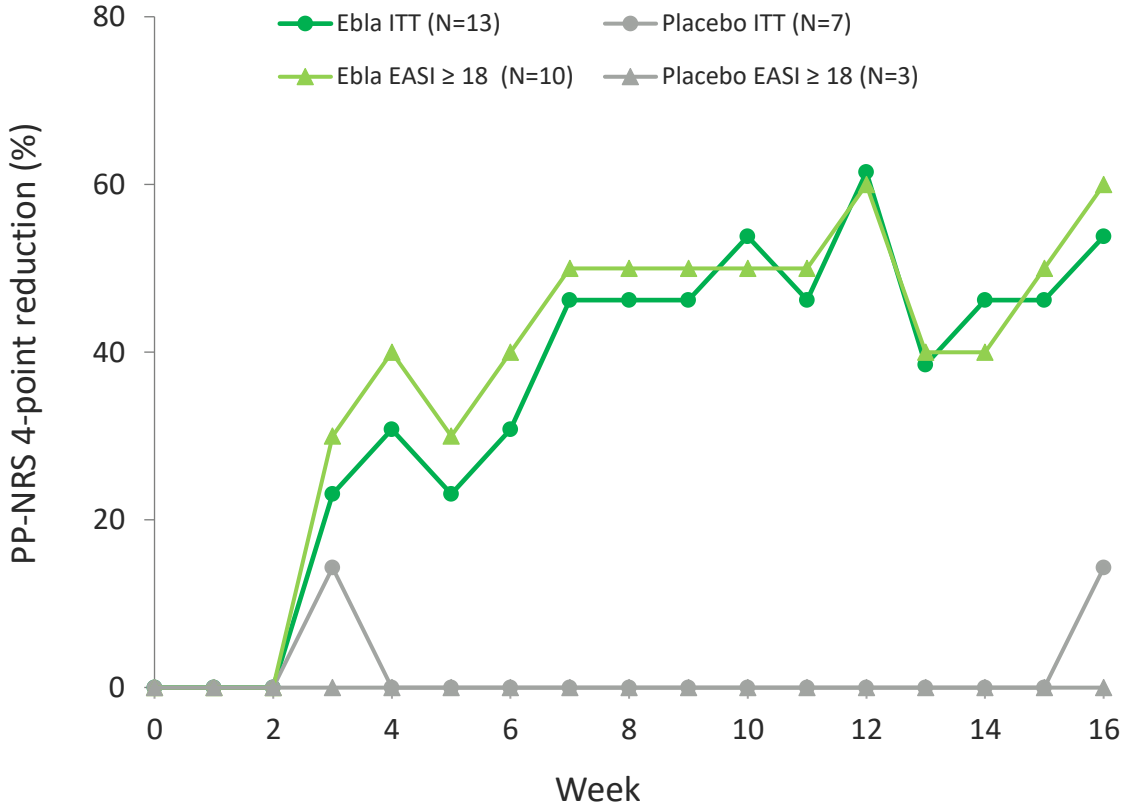




1 statistically significant from week 4 for EASI ≥ 18 population and from week 6 for ITT population
Least squares mean values using LOCF for missing data.
Interim analysis readout April 2024

Proportion with a 4-point reduction in PP-NRS





Binary endpoints analyzed using NRI/LOCF
Interim analysis readout April 2024

Safety

- No conjunctivitis reported
- No ISRs
- One SAE (diverticulitis) reported – not considered related to randomized treatment
- No new safety signals identified

We believe *eblasakimab* can be initially positioned as the therapy of choice for patients that have inadequate response to *dupilumab*

Translational data supports positioning

Eblasakimab has a **unique mechanism of action** compared to *dupilumab*

- Translational data in AD skin biopsies demonstrates ***eblasakimab* is more effective** at downregulating inflammatory markers than *dupilumab*
- *Eblasakimab*'s MoA has potential to be effective in *dupilumab* refractory patients

Initially targeting $10B second line market [1]

***Eblasakimab* is the first antibody to target the IL-13 receptor** with potential to become a **leading therapy** in treating atopic dermatitis (AD) and other allergic disease

- **Potential to be leading second line biologic therapy** for patients with inadequate response to *dupilumab*
- Second line market is substantial with potential to be **$10B by 2029** [2]
- Prescriber experience in second line could enhance use in first line treatment

Pioneering trial in 2nd line with positive interim data

TREK-DX - Phase 2 study of *eblasakimab* in *dupilumab*-experienced AD patients is currently ongoing

- Only randomized, placebo-controlled study of patients previously treated with *dupilumab*
- Interim readout of 22 patients shows **numbers unprecedented in other AD studies** with biologics: over 60% patients treated with *eblasakimab* achieved EASI-90 and vIGA0/1

1 Second line market here refers to a second systemic therapy following inadequate response to *dupilumab*
2 Decision Resources Group, December 2022

Dr Seth Orlow
New York University

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Dr Lisa Beck
University of Rochester

Lisa Beck, MD is the Carol A & Lowell A. Goldsmith Professor of Dermatology, with secondary appointments in Medicine (Allergy, Immunology, Rheumatology) and Pathology. She has a longstanding interest in atopic dermatitis (AD) focusing on the dynamic interaction between skin epithelial abnormalities and innate and type 2 immune inflammation. She was the first to describe and characterize epidermal tight junction (TJ) defects in patients with AD. Dr. Beck is the Co-Director of the URMC Center for Allergic Disease Research. She is secretary of the International Eczema Council since 2014, emeritus member of National Eczema Association's Scientific Advisory committee, and Past - President of the Society of Investigative Dermatology. She was lead author of the 2014 *NEJM* paper that set the stage for FDA approval of dupilumab, the first biologic used to treat patients with moderate to severe AD. She has had continuous NIH funding since 1994 and has also received funding from foundations and industry. She has been co-PI of the NIH/NIAID-funded Atopic Dermatitis Research Network (ADRN) since its inception in 2004, which has amassed the largest registry and biobank of deeply phenotyped AD subjects in the world (housed at URMC).

Dr Peter Lio
Northwestern University

Peter A Lio, MD is a Clinical Assistant Professor of Dermatology & Pediatrics at Northwestern University Feinberg School of Medicine. Dr. Lio received his medical degree from Harvard Medical School, completed his internship in Pediatrics at Boston Children's Hospital, and his Dermatology training at Harvard where he served as Chief Resident in Dermatology. While at Harvard, he received formal training in acupuncture. Dr. Lio is the founding director of the Chicago Integrative Eczema Center and a founding partner of Medical Dermatology Associates of Chicago. He serves as a board member and scientific advisory committee member emeritus for the National Eczema Association. He is a member of the American Academy of Dermatology's Atopic Dermatitis Expert Resource Group and a founding faculty member of the Integrative Dermatology Certificate Program. He has over 200 publications and three textbooks.

Dr Raj Chovatiya
Rosalind Franklin University
Chicago School of Medicine

Raj Chovatiya, MD, PhD, MSCI is Clinical Associate Professor of Medicine at Rosalind Franklin University Chicago Medical School and Founder and Director of the Center for Medical Dermatology and Immunology Research in Chicago, Illinois. His clinical and research focus includes the intersection of cutaneous immunology and inflammatory disease. He received his MD and PhD in immunology from Yale and completed his residency, postdoctoral research fellowship, and MS in Clinical Investigation at Northwestern University where he also served as Chief Resident. Dr. Chovatiya has a particular interest in optimizing patient-centered care, understanding chronic disease burden especially in understudied inflammatory diseases, exploring health and social disparities, and improving care across diverse skin types. He has published numerous abstracts and manuscripts and has been nationally and internationally recognized for his contributions as a clinician, educator, researcher, and leader.

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