CONNECT BIOPHARMA

Developing next-generation therapeutics for T cell driven inflammatory diseases

Topline Results of Phase 2b Trial of Rademikibart in Asthma

December 12, 2023

Forward-Looking Statements

- This presentation regarding Connect Biopharma Holdings Limited ("Connect," "we," "us" or "our") has been prepared solely for informational purposes.
- This presentation contains forward-looking statements that involve substantial risks and uncertainties. All statements other than statements of historical facts contained in this presentation, including statements regarding the potential of rademikibart (formerly CBP-201) to achieve a differentiated, competitive, or favorable benefit or profile or trend, including on safety, tolerability, improvement, maintenance, clinical response, dosing, efficacy and/or convenience, are forward-looking statements. Forward-looking statements can be identified by words such as: “anticipate,” “believe,” “contemplate,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “plan,” “potential,” “predict,” “project,” “should,” “target,” “will,” or “would” or the negative of these terms or other similar expressions. The forward-looking statements in this presentation are only predictions. We have based these forward-looking statements largely on our current expectations and projections about future events and trends. These forward-looking statements are inherently subject to a number of risks, uncertainties and assumptions, some of which cannot be predicted or quantified and some of which are beyond our control, including, among other things: the ability of our clinical trials to demonstrate safety and efficacy of our product candidates, and other positive results; our ability to obtain and maintain regulatory approval of our product candidates; existing regulations and regulatory developments in the United States, the PRC, Europe and other jurisdictions; uncertainties regarding the interpretation and enforcement of PRC laws, rules and regulations; risks associated with the COVID-19 outbreak, which has and may continue to materially and adversely impact our business, preclinical studies and clinical trials; our plans and ability to obtain, maintain, protect and enforce our intellectual property rights and our proprietary technologies, including extensions of existing patent terms where available; our continued reliance on third parties to conduct additional clinical trials of our product candidates, and for the manufacture of our product candidates for preclinical studies and clinical trials; and the degree of market acceptance of our product candidates by physicians, patients, healthcare payors and others in the medical community. These risks are not exhaustive.
- The inclusion of forward-looking statements should not be regarded as a representation by Connect that any of its expectations, projections or plans will be achieved. Actual results may differ from those expectations, projections or plans due to the risks and uncertainties inherent in Connect’s business and other risks described in Connect’s filings with the SEC.
- New risk factors emerge from time to time and it is not possible for our management to predict all risk factors, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in, or implied by, any forward-looking statements. You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. Except as required by law, we undertake no obligation to update publicly any forward-looking statements for any reason after the date of this presentation.
- In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this presentation, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements.
- We have not conducted a head-to-head study of rademikibart versus dupilumab or any other biologics. Comparisons of rademikibart to dupilumab or any other biologics contained herein are based on analysis of data from separate studies. Such data may not be directly comparable due to differences in the phases of clinical trials, study protocols, conditions and patient populations. Accordingly, cross-trial comparisons may not be reliable predictors of the relative efficacy or safety of rademikibart compared to dupilumab or any other biologics.
- The potential benefits of CBP-201 do not imply an expectation of regulatory approval, which is solely within the authority of the FDA (or applicable foreign regulator).

Rademikibart Shows Best-in-Class Potential in Patients with Moderate-to-Severe Asthma

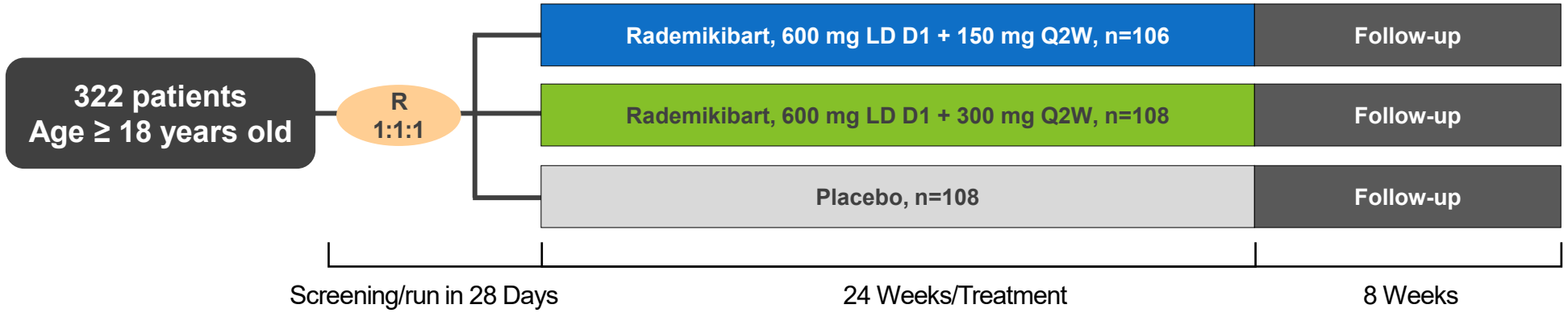
Strong, Rapid and Sustained Improvement in Lung Function	**Clinically meaningful improvements** • Primary endpoint of change from baseline in FEV_1 at Week 12 was met with robust statistical significance • Significant improvements were observed as early as Week 1 and were sustained through Week 24 (secondary endpoint)
Reduced Exacerbations	**Strong trends in exacerbations were noted** • Annualized exacerbation rate was reduced by ~50% in the rademikibart groups • Prolonged time to first exacerbation in both rademikibart treatment groups
Improved Asthma Control	**Significant improvement in asthma symptoms** • Statistically significant improvement in ACQ scores from Week 2 through Week 24
Safety Data	Rademikibart was generally well tolerated, with no new safety signals with 24-week treatment patients with moderate-to-severe asthma

FEV_1 - Forced expiratory volume in one second.

CONNECT BIOPHARMA

Rademikibart: Global Phase 2b Asthma Trial Design

Efficacy and Safety Study of CBP-201 (rademikibart) in Patients With Moderate to Severe Persistent Asthma (NCT04773678)



Key Inclusion Criteria:

- Moderate to severe uncontrolled asthma
  - Existing treatment with medium to high dose ICS in combination with a second controller (e.g., LABA, LTRA, or theophylline) for at least 3 months with a stable dose ≥1 month prior to the screening visit.
  - Pre-bronchodilator FEV_1 40 to 85% of predicted normal at Visits 1 and 2, prior to randomization.
  - Screening or historical blood eosinophil count ≥150 cells/μL
    - No eosinophil count requirement for patients on maintenance OCS
  - ACQ score ≥1.5 at Visits 1 and 2, prior to randomization.
  - At least 1 documented asthma exacerbation in the 12 months prior to the date of informed consent that required use of a systemic corticosteroid

Primary Endpoints:

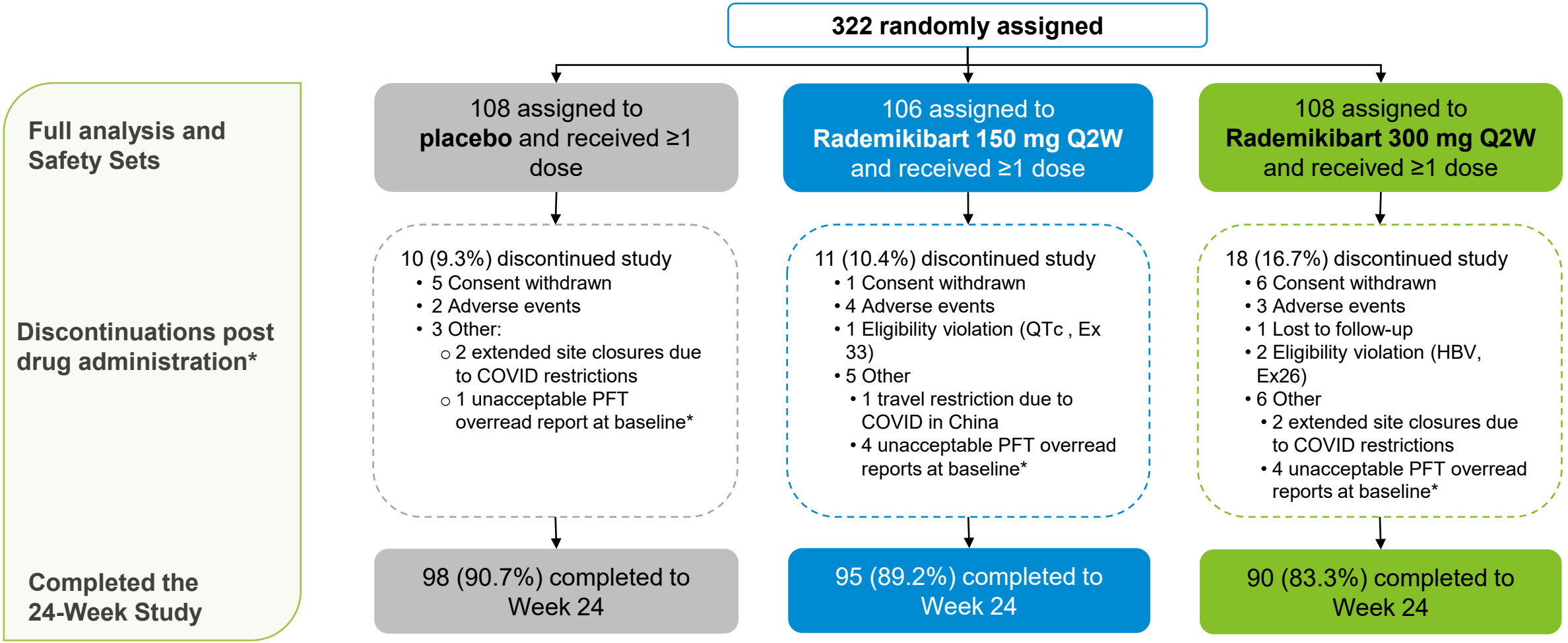
- Change from Baseline in FEV_1 at Week 12
  (in clinic with central overread)

Secondary Efficacy Endpoints:

- Change from Baseline in FEV_1 at other timepoints
- Asthma Exacerbations
- PROs (ACQ, symptom diary, at home lung function)
- PD markers (FENO, eosinophils, ECP, periostin, TARC)
- Rescue medication use

FEV1: Forced expiratory volume at 1 second
ACQ :Asthma Control Questionnaire

Global Phase 2b Asthma Trial – Patient Disposition

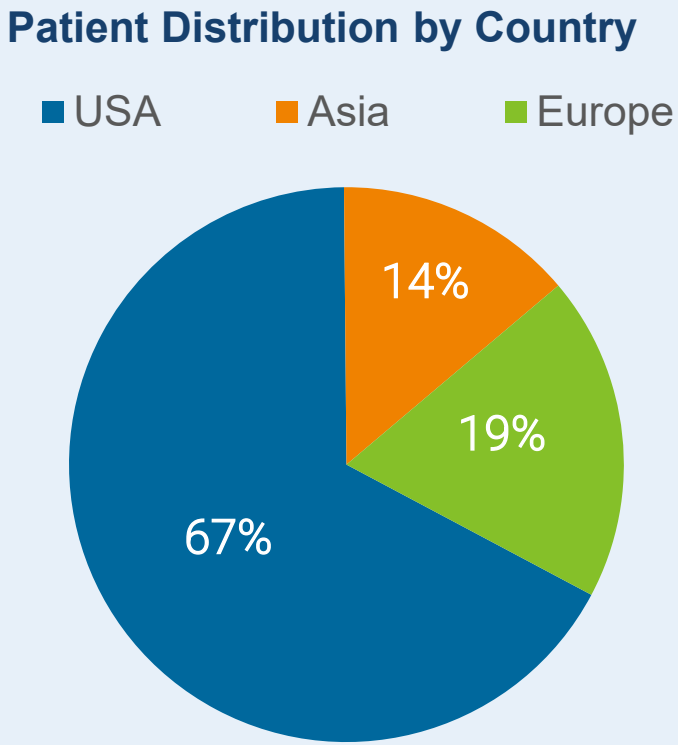


* Failed eligibility criteria on quality overread of lung function report after receiving at least 1 dose of drug Q2W, every 2 weeks.

Global Phase 2b Asthma Trial Enrollment

Good representation across North America, Asia Pacific and European regions with 67% Patients Enrolled in the US

Baseline Characteristics*	Placebo (N = 108) n (%)	Rademikibart 150 mg (N = 106) n (%)	Rademikibart 300 mg (N = 108) n (%)	Overall Population (N=322) n (%)
American Indian or Alaska Native	1 (0.9)	0	0	1 (0.3)
Asian	17 (15.7)	18 (17.0)	14 (13.0)	49 (15.2)
Black or African American	10 (9.3)	6 (5.7)	5 (4.6)	21 (6.5)
Native Hawaiian or Other Pacific Islander	0	0	1 (0.9)	1 (0.3)
White	79 (73.1)	82 (77.4)	88 (81.5)	249 (77.3)
Other	1 (0.9)	0	0	1 (0.3)



Global Phase 2b Asthma Trial – Baseline Demographics

Baseline Characteristics*	Placebo (n=108)	Rademikibart 150 mg Q2W (n=106)	Rademikibart 300 mg Q2W (n=108)	Overall Population (N=322)
Age, mean (SD)	54.8 (12.4)	51.6 (12.0)	52.7 (12.9)	53.0 (12.5)
Female, n (%)	60 (55.6)	70 (66.0)	68 (63.0)	198 (61.5)
Body-mass index (kg/m²), mean (SD)	30.5 (7.4)	30.4 (6.8)	30.5 (6.6)	30.5 (6.9)
Pre-bronchodilator FEV_1 (mL), mean (SD)	1836.3 (577.8)	1908.3 (646.8)	1901.9 (589.5)	1882.0 (604.2)
Percent Predicted FEV_1, mean (SD)	61.6 (10.8)	63.3 (10.9)	64.7 (12.4)	63.1 (11.4)
FEV_1 Reversibility (%) at screening, mean (SD)	28.0 (14.9)	24.4 (11.2)	27.5 (15.4)	26.6 (14.0)
FeNO (ppb), mean (SD)	31.6 (31.5)	35.8 (35.1)	33.8 (32.7)	33.7 (33.0)
ACQ Score, mean (SD)	2.72 (0.64)	2.71 (0.72)	2.68 (0.71)	2.70 (0.67)
Eosinophil count (cells/µL) , mean (SD)	299 (229)	268 (179)	320 (220)	296 (211)
Eosinophil Counts, n (%) < 150 cells/µL 150 - < 300 cells/µL ≥ 300 cells/µL	 26 (24.1) 41 (38.0) 41 (38.0)	 26 (24.5) 42 (39.6) 38 (35.8)	 23 (21.3) 35 (32.4) 50 (46.3)	 75 (23.3) 118 (36.6) 129 (40.1)
Presence of Atopic Medical Condition, n (%)	62 (57.4)	65 (61.3)	63 (58.3)	190 (59.0)
Use of Maintenance Oral/Systemic Corticosteroids at Randomization, n (%)	21 (19.4)	15 (14.1)	10 (9.2)	46 (14.3)
Exacerbations in last 12 months prior to screening mean (SD)	1.13 (0.39)	1.11 (0.35)	1.10 (0.33)	1.12 (0.36)

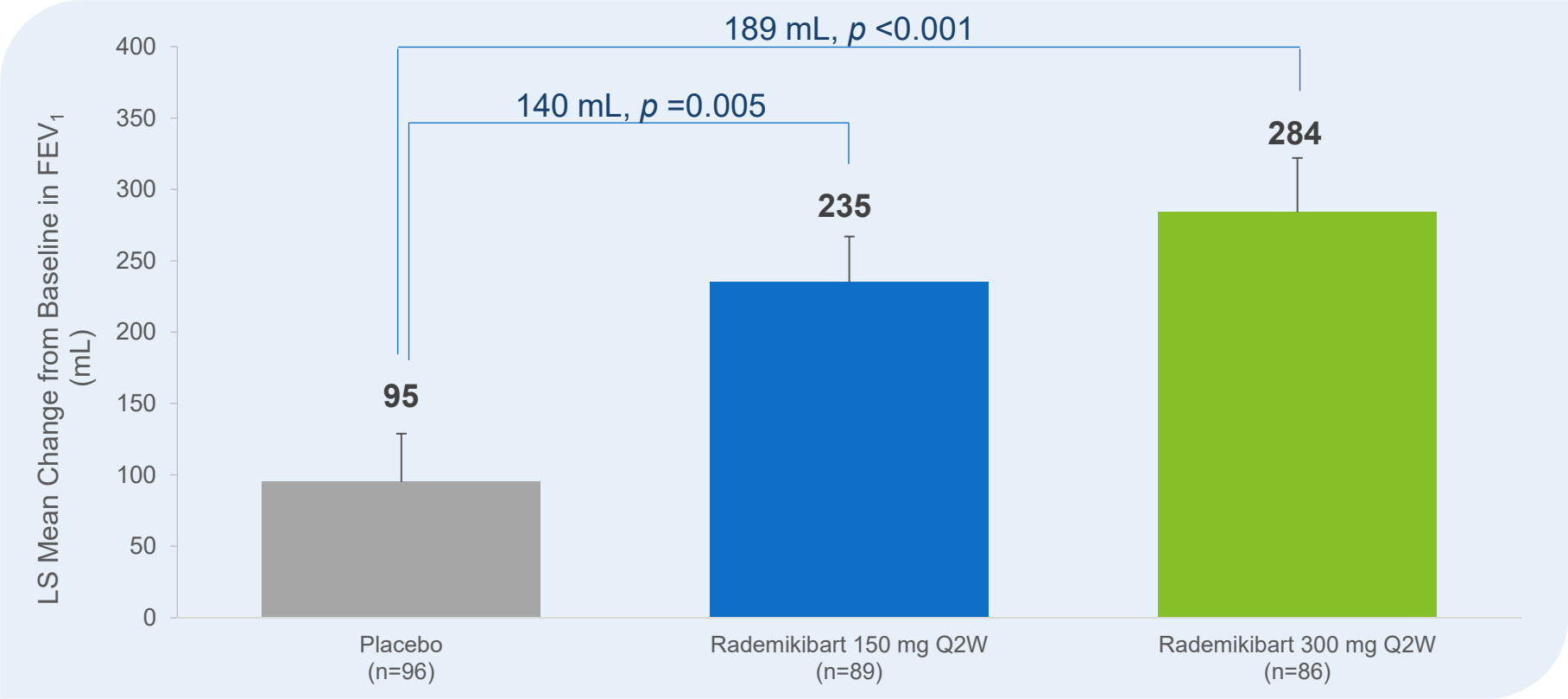
* Baseline values unless otherwise noted in table

SD, standard deviation. ACQ-Asthma Control Questionnaire (over 1.5 is considered strong indication of inadequate control), higher scores indicate less control. FEV_1 - Forced expiratory volume in one second. A patient is considered to have an atopic medical condition if he/she has or has had any of the following conditions at screening: atopic dermatitis, allergic conjunctivitis, allergic rhinitis, eosinophilic esophagitis, food allergy, or hives.

Primary Endpoint: Significant Improvements in FEV_1 Values at Week 12

Both low and high rademikibart doses were observed to significantly improve pulmonary lung function

Change in pre-bronchodilator FEV_1 from Baseline at Week 12

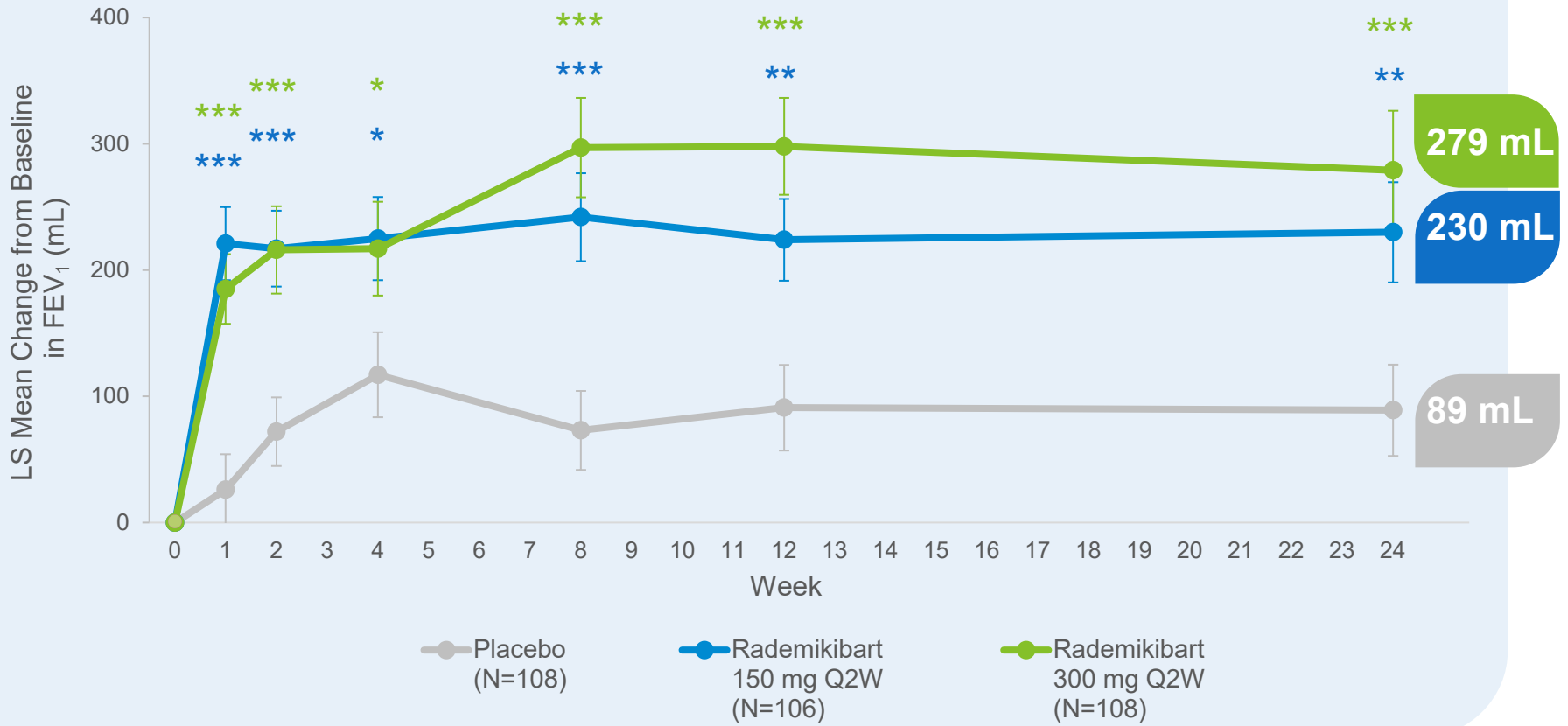


Full Analysis Set, ANCOVA model. Std Error bars. FEV_1 - Forced expiratory volume in one second. Q2W - Every other week

Rapidly Improved and Sustained FEV_1 Values Observed with Rademikibart Treatment

- Rademikibart treatment associated with rapid, significant changes in FEV_1 as early at Week 1
- FEV_1 sustained response was observed for the duration of the 24-week study
- Home daily lung function data (PEF and FEV_1) in both morning and evening reflects similar sustained improvements in lung function[ǂ]

Change in Pre-bronchodilator FEV_1 over time



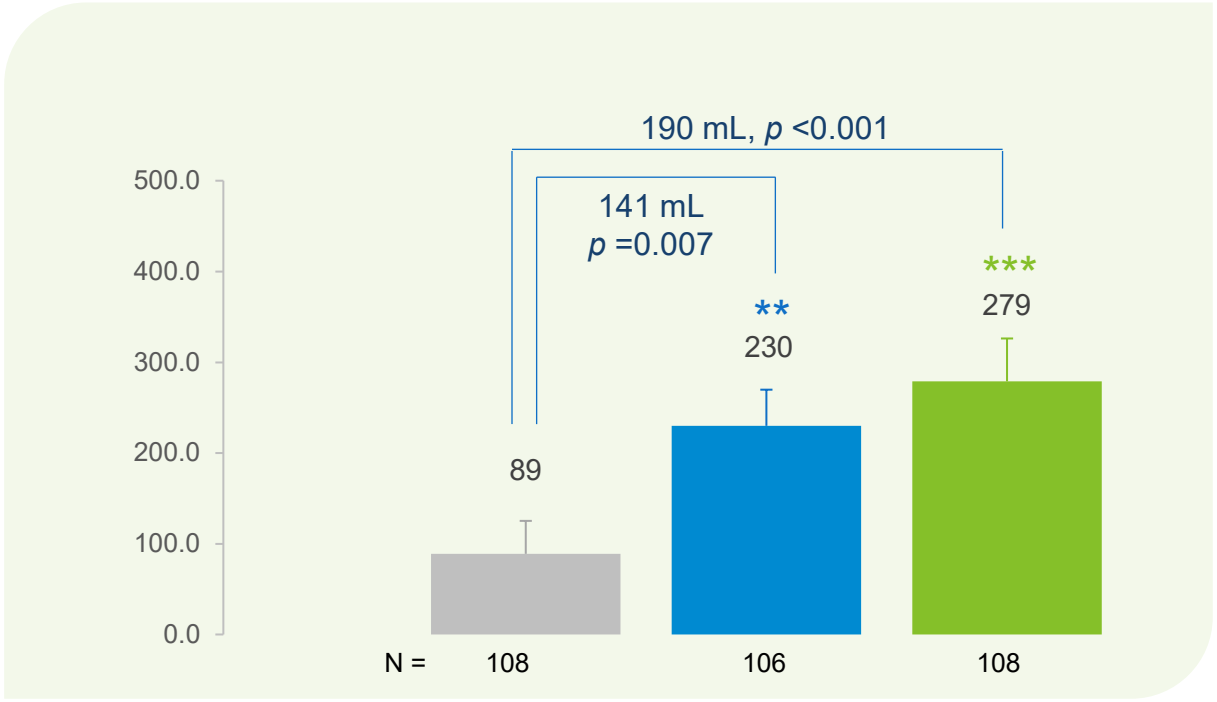
[ǂ]Data not shown. ***p<0.001, **p<0.01, *p<0.05.
Full Analysis Set. MMRM - Mixed Model for Repeated Measures. ***p<0.001. Std Error bars. FEV_1 - Forced expiratory volume in one second. PEF - Peak expiratory flow

Exploratory Subpopulation Analysis: Changes in FEV_1 Stratified by Eosinophil Levels

Further improvements seen in patients with baseline eosinophil counts >300 cells/ul

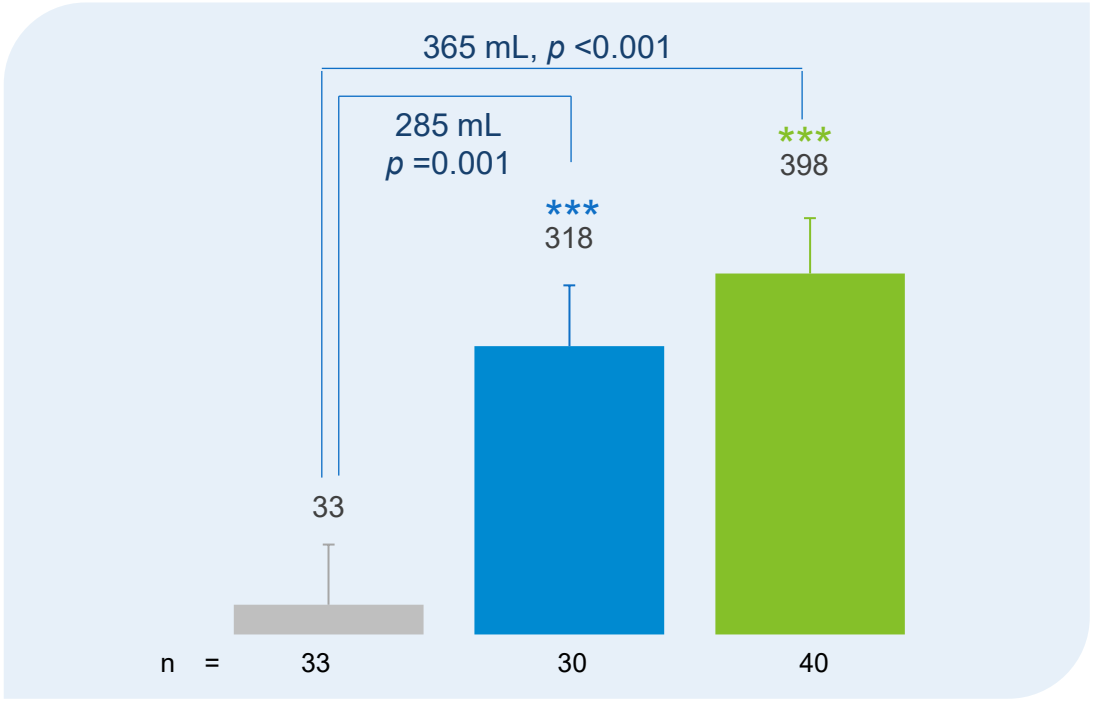
Change from Baseline in FEV_1 by eosinophil subgroup at Week 24

Full Analysis Population



High Eosinophil Sub-group

baseline eosinophil counts >300 cells/ul



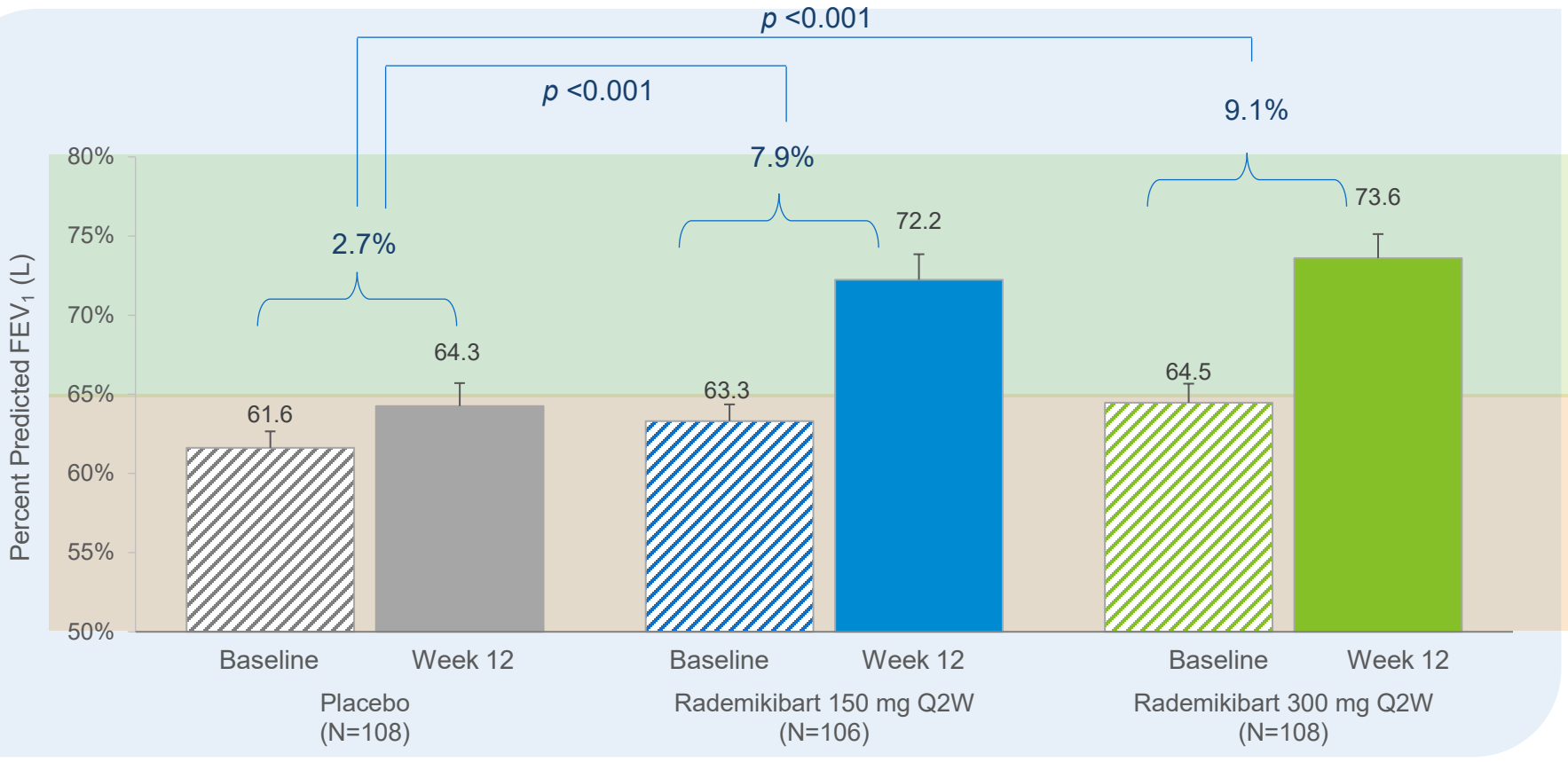
Placebo Rademikibart 150 mg Rademikibart 300 mg

***p<0.001, **p<0.01, *p<0.05.
MMRM - Mixed Model for Repeated Measures. Std Error bars. FEV_1 - Forced expiratory volume in one second.

Secondary Endpoint: Significant Improvement in Mean Percent Predicted FEV_1 Values at Week 12

A 9% Improvement in predicted FEV_1 moved patients from a Moderate to Mild degree of airway obstruction

Improvement in percent predicted FEV_1 at Week 12



Airway Obstruction*	Asthma Severity[1]
Above 80 Normal	**Mild** >80%
Mildly Obstructed	**Moderate** 60-80%
Moderately Obstructed	**Severe** <60%
Below 50 Severely Obstructed	

* Generally accepted categories are estimates based on middle aged adults and are likely to differ in older or shorter adults, and in children.

Full Analysis Set. MMRM - Mixed Model for Repeated Measures. Std error bars. P-value based on difference in LS Means. FEV_1 - Forced expiratory volume in one second
FEV_1 greater than 80% of predicted = normal. 65% to 79% = mild obstruction. 50% to 64% = moderate obstruction. Less than 50% = severe obstruction

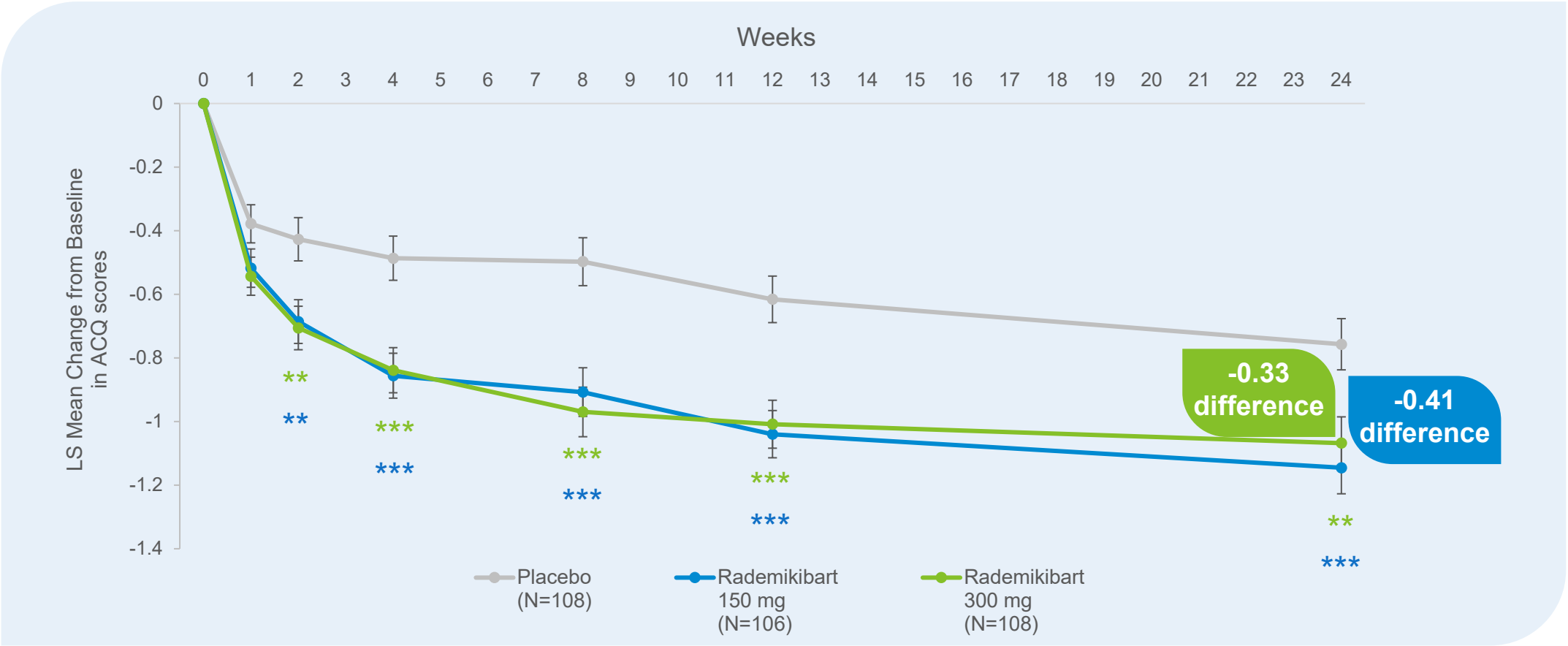
1. NHLBI/NAE Guidelines for the diagnosis and management of asthma: expert panel report. J Allergy Clin Immunol 1991; 88:425–534

CONNECT BIOPHARMA

Patient Reported Outcomes Improved with Rademikibart – Asthma Control Questionnaire (ACQ) Scores

Measuring the adequacy of asthma control and change in asthma control started early and was sustained to Week 24

Change from Baseline in ACQ Scores



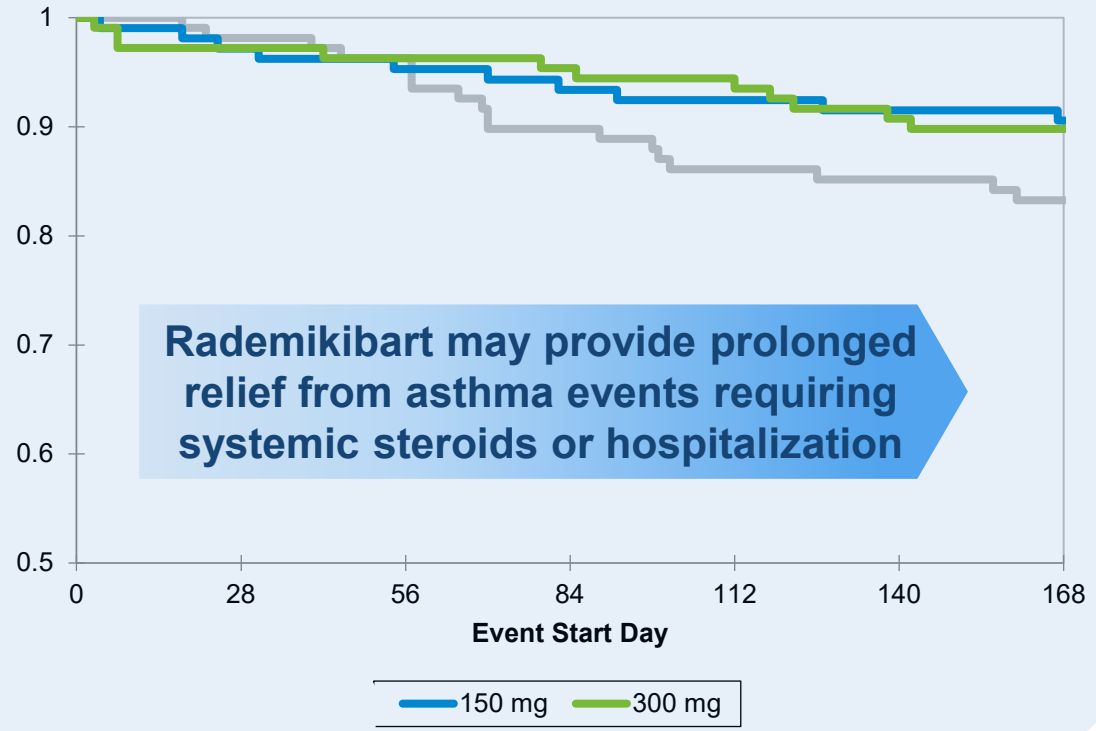
Std Error Bars; ***p<0.001, **p<0.01, *p<0.05. Week 24 values are differences in arithmaetic means.
Asthma Control Questionnaire (ACQ) Scores = Questions 1-5 and 7 of the standard ACQ questionnaire. This is a validated variant on the ACQ which incorporates the first 5 PRO questions plus an FEV1 categorical variable ("Q7" from the clinic PFT). There is no albuterol component to the score ("Q6).

CONNECT BIOPHARMA

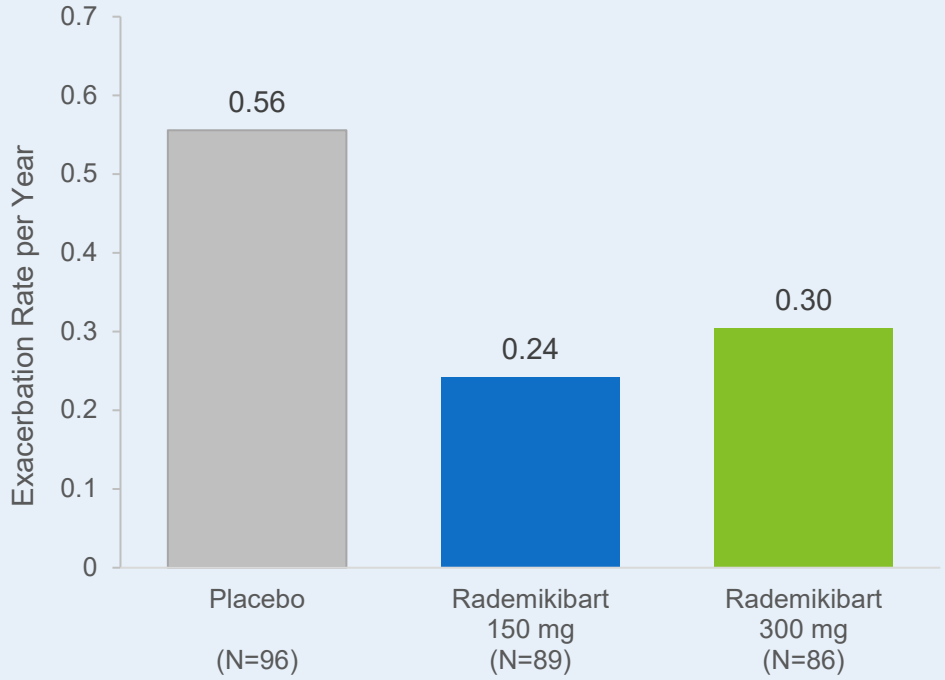
Rademikibart Patients Had Trends toward Fewer Exacerbations

Trends toward fewer and later exacerbations with rademikibart when compared to placebo - not powered to show effects

Time to First Exacerbation
(Secondary Endpoint)



Annualized Exacerbation Rate
(Exploratory Endpoint)



Exacerbation defined as hospitalization or urgent medical care due to asthma, treatment with approximately 4 times the patient's normal dose of inhaled corticosteroids, or treatment with systemic steroids. Population asthma exacerbation rate is calculated as total number of asthma exacerbations while subjects were on treatment divided by total duration of treatment in years.

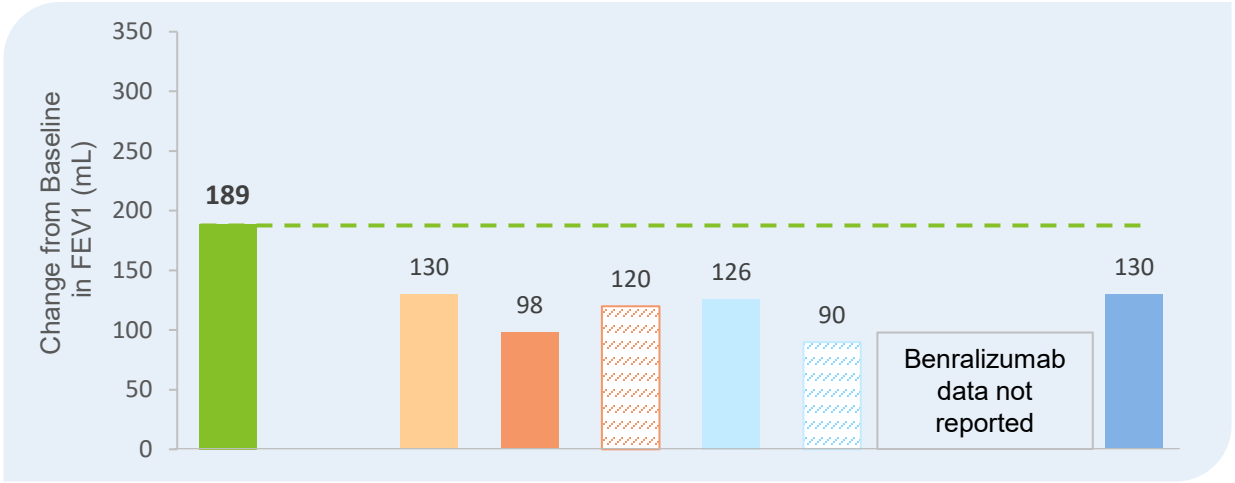
CONNECT BIOPHARMA

Competitive Landscape:
Phase 2b Rademikibart Data Compared with Phase 3 Biologic Data

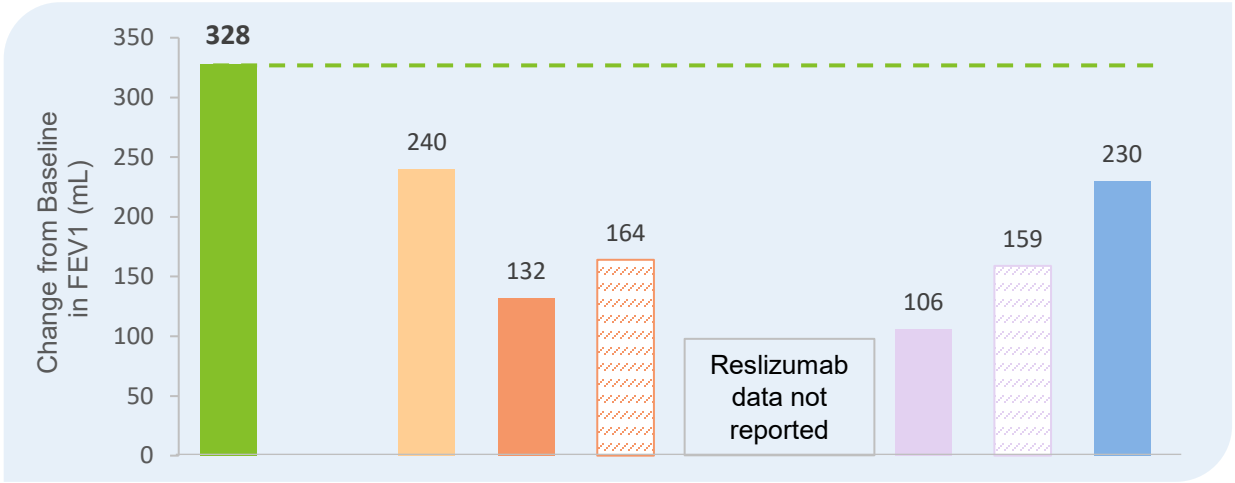
Demonstrated potential best-in-class improvement in lung function

Placebo adjusted improvement from baseline in FEV_1

All patients



Eosinophil count >300 cells/µL)



IL-4Rα

- 108 / 108 Rademikibart 12 weeks (300 mg Q2W*) WW002
- 231 /633 Dupilumab[2] 12 weeks (300 mg Q2W*) QUEST[2]

IL-5

- 191 / 194 Mepolizumab[3] 32 weeks (100 mg Q4W) MENSA[3]
- 277 / 274 Mepolizumab[4] 24 weeks (100 mg Q4W) MUSCA[4]
- 244 / 245 Reslizumab[5] 52 weeks (3 mg/kg Q4W) STUDY 1[5]
- 232 / 232 Reslizumab[5] 52 weeks (3 mg/kg Q4W) STUDY 2[5]

IL-5Rα

- 407 / 398 Benralizumab[6] 48 weeks (30 mg Q4W) SIROCCO[6]
- 407 / 399 Benralizumab[6] 48 weeks (30 mg Q8W) SIROCCO[6]

TSLP

- 528 / 531 Tezelepumab[7] 52 weeks (210 mg Q4W) NAVIGATOR[7]

For Illustrative Purposes Only: Not a head-to-head trial. Differences exist between trial designs, subject characteristics and geographical regions -- caution should be exercised when comparing data across trials

* 600 mg loading dose at week 0; IL – Interleukin; TSLP - thymic stromal lymphopoietin;

1. ATS/ERS statement – Reddel HK et al. Am J Respir Crit Care Med. 2009 Jul 1;180(1):59-99. 2. QUEST – Castro M et al. N Engl J Med 2018;378:2486-96. 3. MENSA – Ortega HG et al. N Engl J Med 2014;371:1198-207. 4. MUSCA – Chupp GL et al. Lancet Respir Med. 2017 May;5(5):390-400. 5. STUDY 1&2- Castro M et al. Lancet Respir Med. 2015 May;3(5):355-66. 6. SIROCCO – Bleecker ER et al. Lancet. 2016 Oct 29;388(10056):2115-2127. 7. NAVIGATOR – Menzies-Gow A et al N Engl J Med 2021;384:1800-9.

CONNECT BIOPHARMA

Competitive Landscape of Placebo Adjusted Improvement from Baseline In Pre-bronchodilator FEV_1

Demonstrated potential best-in-class improvement in lung function

	Source	MoA	Product	FDA Approv. in last 10 yrs	Study	N (Pbo/Tx)	% patients with eos >300 cells/µL	Week	First response week	Placebo adjusted improvement from baseline in FEV_1 *(all patients)*	Placebo adjusted improvement from baseline in FEV_1 *(eos>300 cells/µL)*
	Phase 2b	**IL-4Rα**	**Rademikibart**	--	--	108/108	46.3%	12 24	**1**	**189 mL** **190 mL**	**328 mL** **365 mL**
Biologic Phase 3 trial results		**IL-4Rα**	**Dupilumab**	2018	QUEST[2]	231/633	41.8%	12	2	130 mL	240 mL
		IL-5	**Mepolizumab**	2015	MENSA[3] MUSCA[4]	191/194 277/274	60.0%	32 24	4	98 mL 120 mL	132 mL* 164 mL**
		IL-5	**Reslizumab**	2016	STUDY 1[5] STUDY 2[5]	244/245 232/232	-- --	52	4	126 mL 90 mL	-- --
		IL-5Rα	**Benralizaumab**	2017	SIROCCO[6] Q4W SIROCCO[6] Q8W	407/399 407/398	68.9%	48	4	-- --	106 mL 159 mL
		TSLP	**Tezepelumab**	2021	NAVIGATOR[7]	528/531	41.5%	52	2	130 mL	230 mL

For Illustrative Purposes Only: Not a head-to-head trial. Differences exist between trial designs, subject characteristics and geographical regions -- caution should be exercised when comparing data across trials

eos – eosinophils; FDA – Food and Drug Administration; IL – Interleukin; MoA – Mechanism of Action; Pbo – Placebo; TSLP - thymic stromal lymphopoietin; Tx – Treatment group

* Subgroup analysis of patients with blood eosinophils ≥500 cells/µL ** Difference is based on exploratory modelling of baseline blood eosinophil count at 750 cells/µL

1. ATS/ERS statement – Reddel HK et al. Am J Respir Crit Care Med. 2009 Jul 1;180(1):59-99. 2. QUEST – Castro M et al. N Engl J Med 2018;378:2486-96. 3. MENSA – Ortega HG et al. N Engl J Med 2014;371:1198-207. 4. MUSCA – Chupp GL et al. Lancet Respir Med. 2017 May;5(5):390-400. 5. STUDY 1&2- Castro M et al. Lancet Respir Med. 2015 May;3(5):355-66. 6. SIROCCO – Bleecker ER et al. Lancet. 2016 Oct 29;388(10056):2115-2127. 7. NAVIGATOR – Menzies-Gow A et al N Engl J Med 2021;384:1800-9.

CONNECT BIOPHARMA

Safety Summary

No new safety signals were noted compared to previous rademikibart trials

- AEs were evenly distributed among treatment groups and similar to placebo
- Injection site reactions were mostly mild and transitory
- Hospital and ER visits due to asthma exacerbation were low

Any Adverse Event	Placebo (N = 108) *n (%)*	Rademikibart 150 mg (N = 106) *n (%)*	Rademikibart 300 mg (N = 108) *n (%)*
Subjects with at least one AE	64 (59.3)	78 (73.6)	77 (71.3)
Any Serious AE	3 (2.8)	2 (1.9)	3 (2.8)
Any Grade 3 or 4 AEs	4 (3.7)	3 (2.8)	3 (2.8)
Any AE leading to death	0	0	0
Any AE leading to discontinuation	2 (1.9)	4 (3.8)	3 (2.8)
TEAEs occurring in ≥5% of subjects in the treatment groups			
COVID-19*	11 (10.2)	10 (9.4)	16 (14.8)
Nasopharyngitis	5 (4.6)	6 (5.7)	6 (5.6)
Cough	18 (16.7)	7 (6.6)	14 (13.0)
Dyspnoea	13 (12.0)	9 (8.5)	11 (10.2)
Asthma	10 (9.3)	8 (7.5)	8 (7.4)
Wheezing	11 (10.2)	8 (7.5)	7 (6.5)
AEs of particular interest			
Conjunctivitis	0	1 (0.9)	1 (0.9)
Injection site reactions	0	14 (13.2)	8 (7.4)
Hospital/ER visits due to asthma exacerbation	2 (1.9)	1 (0.9)	1 (0.9)

* Trial dates (April 2021 – Sept 2023) overlapped with COVID-19 pandemic

AE,Adverse Event; TEAE, Treatment Emergent AE. No AESIs of keratitis, anaphylaxis, parasitic/opportunistic infections, pregnancy, or symptomatic overdose were reported in any treatment group.
- Conjunctivitis includes any Preferred Term that included the terms: *conjunctivitis, allergic conjunctivitis, Conjunctival injection, bacterial conjunctivitis, viral conjunctivitis, giant papillary conjunctivitis, eye irritation, and eye inflammation.*
- Herpes infection includes any Preferred Term that included the terms: *herpes virus infection, herpes zoster, herpes simplex, herpes simplex reactivation, oral herpes.*

CONNECT BIOPHARMA

Rapid and Sustained Clinical Response was Observed with Over 24 Weeks of Rademikibart Treatment

Global Phase 2 results suggest a best-in-class potential

Best-in-Class Potential

Significant improvements in lung function (FEV_1)

- Placebo adjusted FEV_1 improvement ranged from **140 mL** (150 mg, P = 0.05) to **189 mL** (300 mg, P < 0.001) at Week 12
- Improvements were seen **as early as Week 1** and were **sustained through the 24 weeks** of treatment (P < 0.001)
- **~ 9% increase** in mean % predicted FEV_1 in each treatment group versus 2.7% in the placebo group (P < 0.001)
- Patients with EOS ≥ 300 cells/µl saw up to 365 mL (300 mg) placebo adjusted FEV_1 improvement at Week 24

Strong trends in reductions in exacerbations

- Prolonged the time to first exacerbation
- Reduced the annual exacerbation rate by ~50% vs placebo

Improved asthma control

- ACQ numerical separations as early as Week 1 with statistical differences occurring from Week 2 to Week 24

Safety

- Rademikibart was generally well tolerated over 24 weeks of treatment

Next Steps

Results warrant further clinical development

Company plans to initiate End of Phase 2 talks with the FDA to discuss rademikibart's Phase 3 regulatory path