



Top-line Results for the Phase 2 VALIANT Trial in Severe Asthma

February 11, 2026

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This presentation contains “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, each as amended. These statements may be identified by words such as “aims,” “anticipates,” “believes,” “continue,” “could,” “estimates,” “expects,” “forecasts,” “goal,” “intends,” “may,” “plans,” “possible,” “potential,” “predict,” “project,” “seeks,” “should,” “target,” “will” and variations of these words or similar expressions. Any statements in this presentation that are not statements of historical fact may be deemed to be forward-looking statements. These forward-looking statements include, without limitation, express or implied statements regarding: the clinical development of verekitug for the treatment of severe asthma, CRSwNP and COPD, including the timing, progress and results of ongoing and planned clinical trials; expectations for future discussions with regulatory authorities and the potential of the endpoints of our clinical trials to produce data that could support submissions for product approval; our expectations regarding the differentiation, safety, efficacy, tolerability, or extended dosing interval of verekitug; expectations for the size and growth potential of the market for verekitug and our ability to serve that market; additional potential indications for verekitug; and our expected cash runway.. Forward-looking statements are based on our current expectations and are described in “Risk Factors,” in our Annual Report on Form 10-K and most recent Quarterly Report on Form 10-Q, as well as discussions of potential risks, subject to risks, uncertainties and assumptions that could negatively affect our business, operating results, financial condition and stock value. Factors that could cause actual results to differ materially from those currently anticipated include: risks relating to our ability to advance verekitug through clinical development; the results of preclinical studies, or clinical studies not being predictive of future results in connection with future studies; the initiation, timing, progress and results of clinical trials; our ability to fund our development activities and achieve development goals; our research and development activities; our ability to execute on our strategy for verekitug including obtaining the requisite regulatory approvals on the expected timeline, if at all; uncertainties relating to preclinical and clinical development activities; our dependence on third parties to conduct clinical trials, manufacture verekitug and develop and commercialize our product candidates, if approved; our ability to attract, integrate and retain key personnel; risks related to the company’s financial condition and need for substantial additional funds in order to complete development activities and commercialize a product candidate, if approved; risks related to regulatory developments and approval processes of the U.S. Food and Drug Administration and comparable foreign regulatory authorities; risks related to establishing and maintaining our intellectual property protections; and risks related to the competitive landscape for verekitug; and other risks uncertainties, and other important factors in our subsequent filings with the Securities and Exchange Commission. These risks are not exhaustive. 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. Any forward-looking statements represent our views only as of today and should not be relied upon as representing our views as of any subsequent date. We expressly disclaim any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements contained herein to reflect any change in its expectations or any changes in events, conditions or circumstances on which any such statement is based, except as required by law, and claims the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995.

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Agenda

Introduction

Rand Sutherland, MD
Chief Executive Officer

VALIANT
Phase 2 Top-line Results

Aaron Deykin, MD
Chief Medical Officer and Head of R&D

Path Forward

Rand Sutherland, MD

Analyst Q&A

Rand Sutherland, MD
Aaron Deykin, MD

Phase 2 VALIANT study met primary endpoint in reduction of AAER

Statistically significant and clinically meaningful reductions in AAER with verekitug dosed for up to 60 weeks
at 100mg every 12 weeks and 400mg every 24 weeks

Both verekitug doses also delivered clinically meaningful improvements
in lung function (FEV₁) and exhaled nitric oxide (FeNO)

100mg q12w

- **56%** reduction in **AAER** (p<0.0003)
- **122mL** improvement in **FEV₁**
- **20.4ppb*** reduction in **FeNO**
43.5%* reduction vs baseline

400mg q24w

- **39%** reduction in **AAER** (p<0.02)
- **139mL** improvement in **FEV₁**
- **26.3ppb*** reduction in **FeNO**
44.9%* reduction vs baseline

Verekitug was generally well tolerated, with a safety profile consistent with prior studies

About Upstream Bio

Clinical-stage immunology company focused on severe respiratory diseases

Developing the only known clinical-stage antagonist of the TSLP receptor

- Verekitug's pharmacology is unique and characterized by rapid, complete and sustained occupancy of the TSLP receptor for up to 24 weeks after the last dose

Studying verekitug across multiple indications with high unmet need

- All trials randomized and placebo-controlled, with registration-enabling endpoints
 - VALIANT: Ph 2 trial in severe asthma – Reporting out positive top-line results today
 - VALOUR, long-term extension study – Currently enrolling eligible participants who completed VALIANT
 - VIBRANT: Ph 2 trial in CRSwNP – Reported positive top-line results in September 2025
 - VENTURE: Ph 2 trial in COPD – Currently enrolling and enrollment >60% complete

Addressing significant commercial opportunities

- Severe asthma and COPD markets are expanding and expected to drive a \$35B+ global biologics market by 2033

Cash, cash equivalents and short-term investments of ~\$341.5M as of Dec 31, 2025¹ expected to fund planned operations through 2027

Large and growing commercial opportunity in core indications, with asthma and COPD alone expected to be a \$35B+ global biologics market in 2033

<p>Severe Asthma</p> <p>2023: \$7.5B² 2032e: \$12.6B²</p>	<p>~1.3M</p> <p>Biologic eligible severe asthma patients in the US¹</p> <p>~80% of biologic sales are in the US²</p>	<p><25%</p> <p>of eligible patients with severe asthma are currently estimated to receive biologic therapies³</p>	<p>>\$12.5B</p> <p>In 2033, peak global sales for all approved biologics in severe asthma are estimated to be at least \$12.5 billion²</p>	<p>\$3B</p> <p>Tezspire is projected to reach peak global annual sales of over \$3B for severe asthma alone in 2032,² and achieved more than 20% of new to brand share of prescriptions in the US in its first commercial year⁴</p>
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<p>CRSwNP</p> <p>2025: >\$1.5B^{5,6*}</p>	<ul style="list-style-type: none"> → Biologics to treat CRSwNP have been available for only ~6 years, now with 4 approved treatment options → Use of biologics is growing rapidly, with >20% increases in number of claims, prescribing HCPs, and patients receiving biologics to manage CRSwNP⁴ → Current global biologics sales in CRSwNP alone estimated to be \$1.5B+ annually^{5,6} → ~300K+ biologic eligible CRSwNP patients in the US¹, with significant potential for growth as the proportion of eligible patients taking a biologic increases and novel biologics enter the market
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<p>COPD</p> <p>2033e: \$23B²</p>	<ul style="list-style-type: none"> → Currently ~1.1M severe COPD patients in the US, expected to be ~3.5M globally by 2033²; ~70% of 2033 biologic sales are expected to be in the US² → Currently only 2 biologics are approved for the treatment of COPD → If approved in this indication, Tezspire is projected to reach global annual sales of over \$5B for COPD alone in 2033²
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Phase 2 VALIANT Trial in Severe Asthma

Aaron Deykin, MD
Chief Medical Officer and Head of R&D

VALIANT phase 2 trial design

Enrolled 478 patients with severe asthma across 15 countries¹⁻³

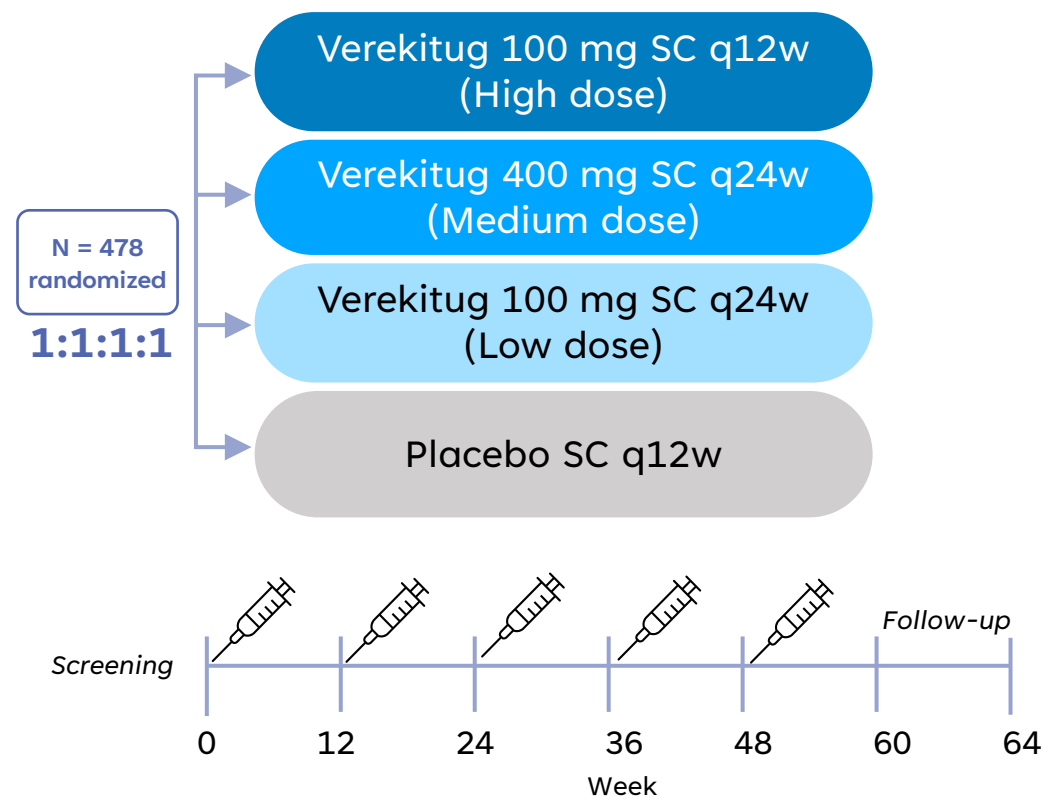
Global, randomized, placebo-controlled phase 2 trial with up to 60-week treatment period (NCT06196879)

Key inclusion criteria:

- Aged 18–80 years
- Physician-diagnosed asthma for at least 12 months
- Pre-BD FEV₁ ≥30% and ≤80% predicted with evidence of BD reversibility
- Treatment with medium/high dose ICS ≥3 months
- Documented history of asthma exacerbation(s) in past 12 months as defined by any of
 - ≥ 2 events req. SCS
 - ≥ 1 event req. inpatient care ≥ 24 hrs
 - ≥ 1 event req. SCS + FeNO ≥ 50 ppb
- ACQ-6 ≥1.5

Variable Treatment Period Design:

Min 24 weeks - Max 60 weeks



Primary endpoint:

- Annualized Asthma Exacerbation Rate (AAER) from baseline up to Week 60

90% power to detect ≥50% reduction vs placebo

Secondary endpoints:

(Study not powered for secondary endpoints)

- Change from baseline to week 60
 - Pre-BD FEV₁
 - FeNO
 - ACQ-6

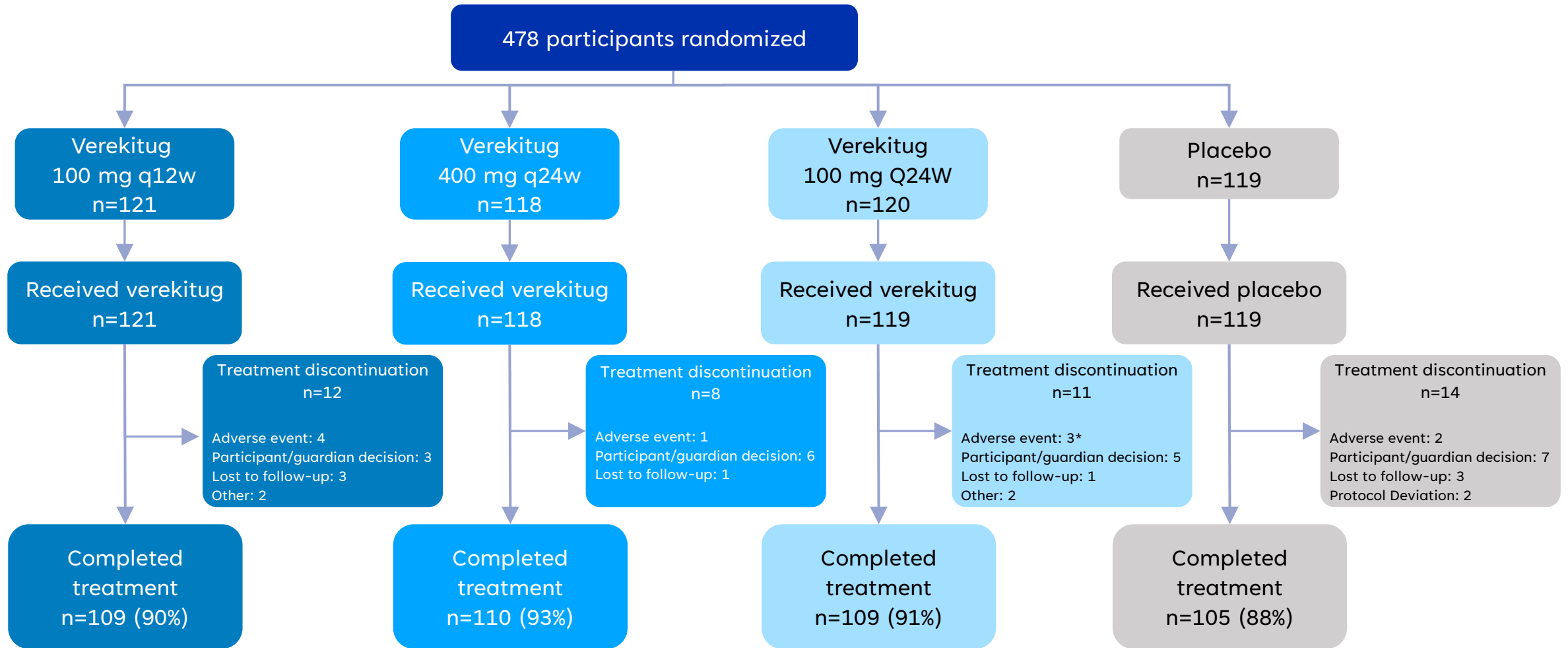
Pre-specified 24-week estimate for all secondary endpoints

ACQ-6, Asthma Control Questionnaire; BD, bronchodilator; FeNO, fractional exhaled nitric oxide; FEV₁, forced expiratory volume in 1 second; ICS, inhaled corticosteroid; q×w, every × weeks; SC, subcutaneous; SCS, systemic corticosteroids.

1. Data on file. Table 14.1.1.1. 2. NCT06196879. <https://clinicaltrials.gov/study/NCT06196879>. 3. VALIANT Study Protocol V4.0.

VALIANT ITT population disposition

433 (91%) of participants completed treatment



*Including one participant who was not dosed due to AE.
 AE, adverse event; ITT, intent-to-treat; qxw, every x weeks.
 Data on file. Table 14.1.1.1.

Baseline characteristics were balanced across treatment groups

Reflect an uncontrolled, severe asthma population

		Verekitug 100 mg q12w n=121	Verekitug 400 mg q24w n=118	Verekitug 100 mg q24w n=120	Placebo n=119
Age, mean (SD), years¹		54.6 (12.15)	53.8 (11.74)	51.7 (15.37)	54.0 (13.06)
Female sex, n (%)¹		73 (60.3)	79 (66.9)	72 (60.0)	81 (68.1)
Race, n (%)¹	White	91 (75.2)	90 (76.3)	90 (75.0)	93 (78.2)
	Black/African American	13 (10.7)	12 (10.2)	15 (12.5)	8 (6.7)
	Other	17 (14.1)	16 (13.6)	15 (12.5)	18 (15.1)
Region, n (%)¹	North America	32 (26.4)	29 (24.6)	33 (27.5)	38 (31.9)
	Western Europe	17 (14.0)	13 (11.0)	15 (12.5)	19 (16.0)
	Central/Eastern Europe	35 (28.9)	38 (32.2)	41 (34.2)	33 (27.7)
	Rest of the world [†]	37 (30.6)	38 (32.2)	31 (25.8)	29 (24.4)
Asthma duration, mean (SD), years²		27.2 (16.98)	22.0 (17.03)	24.2 (15.28)	26.8 (17.55)
ICS use, n (%)²	Medium / high dose*	63 (52.1) / 58 (47.9)	62 (52.5) / 56 (47.5)	59 (49.2) / 61 (50.8)	61 (51.3) / 58 (48.7)
Prebronchodilator FEV₁, liter, mean (SD)²		1.69 (0.58)	1.75 (0.58)	1.84 (0.60)	1.77 (0.59)
Baseline FeNO, mean ppb (SD)²		41.9 (44.79)	39.3 (46.47)	32.7 (28.80)	37.9 (37.20)
Baseline ACQ-6 score, mean³		2.72 (0.655)	2.54 (0.573)	2.67 (0.674)	2.65 (0.674)
Blood eosinophil count, cells/μL²	Median (min-max)	290 (30, 1850)	270 (30, 3090)	260 (30, 2720)	250 (30, 2090)

*Median dose inhaled corticosteroids without oral corticosteroid; high dose ICS and/or oral corticosteroids; †Includes Latin America, Asia-Pacific and South Africa. FeNO, fractionated exhaled nitric oxide; FEV₁, forced expiratory volume in 1 second; ICS, inhaled corticosteroid; q_xw, every x weeks; SD, standard deviation.

1. Data on file. Table 14.1.3.1. 2. Data on file. Table 14.1.3.2.1. 3. Data on file. Table 14.2.2.4.2.

Verekitug was generally well tolerated across treatment groups

	Verekitug 100 mg q12w N=121	Verekitug 400 mg q24w N=118	Verekitug 100 mg q24w N=119	Placebo N=119
AE category, % of participants¹				
Any TEAE	62.0	58.5	62.2	65.5
Any grade 3-5 TEAEs	6.6	11.0	8.4	8.4
Any TEAEs with outcome of death	0	0	0	0
Any serious TEAEs	4.1	6.8	5.0	8.4
Any TEAEs leading to study drug discontinuation/interruption	3.3	0.8	3.4	1.7
Most common TEAE, any grade (≥5% in any cohort)²				
Nasopharyngitis	10.7	7.6	7.6	10.1
Bronchitis	7.4	6.8	1.7	2.5
Headache	6.6	2.5	6.7	5.0
Urinary tract infection	5.8	5.9	5.0	5.0
Back pain	5.0	2.5	1.7	3.4
Influenza	3.3	2.5	4.2	6.7
Asthma	2.5	2.5	5.0	5.9
Upper respiratory tract infection	2.5	4.2	5.0	5.9
Immunogenicity³				
ADA positive*	60.3	50.8	60.5	--

- Overall incidence of TEAEs was similar across treatment groups
- Serious TEAEs were similar across treatment groups
- ADAs did not impact safety

*Numbers are treatment-induced and treatment-boostered ADA.

Safety follow-up is ongoing.

ADA, anti-drug antibody; AE, adverse event; q×w, every × weeks; TEAE, treatment-emergent adverse event.

1. Data on File. Table 14.3.1.1. 2. Data on File. Table 14.3.1.2. 3. Data on File. Table 14.2.3.16.3.

Verekitug led to statistically significant improvements in AAER at 60 weeks with both q12w and q24w regimens

		Verekitug 100 mg q12w n=121	Verekitug 400 mg q24w n=118	Verekitug 100 mg q24w n=120	Placebo n=119
Primary endpoint	AAER over 60 weeks (95% CI)^{1*}	0.66 (0.47, 0.94)	0.92 (0.67, 1.27)	0.78 (0.55, 1.08)	1.52 (1.13, 2.03)
	Rate ratio vs placebo (95% CI)	0.44 (0.28, 0.69)	0.61 (0.40, 0.93)	0.51 (0.33, 0.79)	–
	<i>P</i> value	0.0003	0.0227	0.0028	–
Secondary endpoints[†]	Prebronchodilator FEV₁ (mL) change from baseline at 60 weeks, LSM (95% CI)²	265 (115, 415)	281 (128, 434)	161 (5, 317)	143 (-9, 294)
	LSM difference vs placebo (95% CI)	122 (-90, 335)	139 (-76, 353)	18 (-198, 235)	–
	Nominal <i>P</i> value	0.2589	0.2047	0.8678	–
	FeNO (ppb) change from baseline at 60 weeks, LSM (95% CI)³	-17.4 (-25.2, -9.6)	-23.3 (-31.4, -15.1)	-13.9 (-22.2, -5.6)	3.1 (-4.8, 11.0)
	LSM difference vs placebo (95% CI)	-20.4 (-31.5, -9.4)	-26.3 (-37.6, -15.0)	-17.0 (-28.4, -5.6)	–
	Nominal <i>P</i> value	0.0003	<0.0001	0.0036	–
ACQ-6 change from baseline at 60 weeks, LSM (95% CI)⁴	-1.04 (-1.39, -0.70)	-1.32 (-1.67, -0.96)	-1.34 (-1.71, -0.97)	-1.10 (-1.45, -0.76)	
LSM difference vs placebo (95% CI)	0.06 (-0.42, 0.55)	-0.21 (-0.70, 0.28)	-0.24 (-0.74, 0.26)	–	
Nominal <i>P</i> value	0.8000	0.3928	0.3541	–	

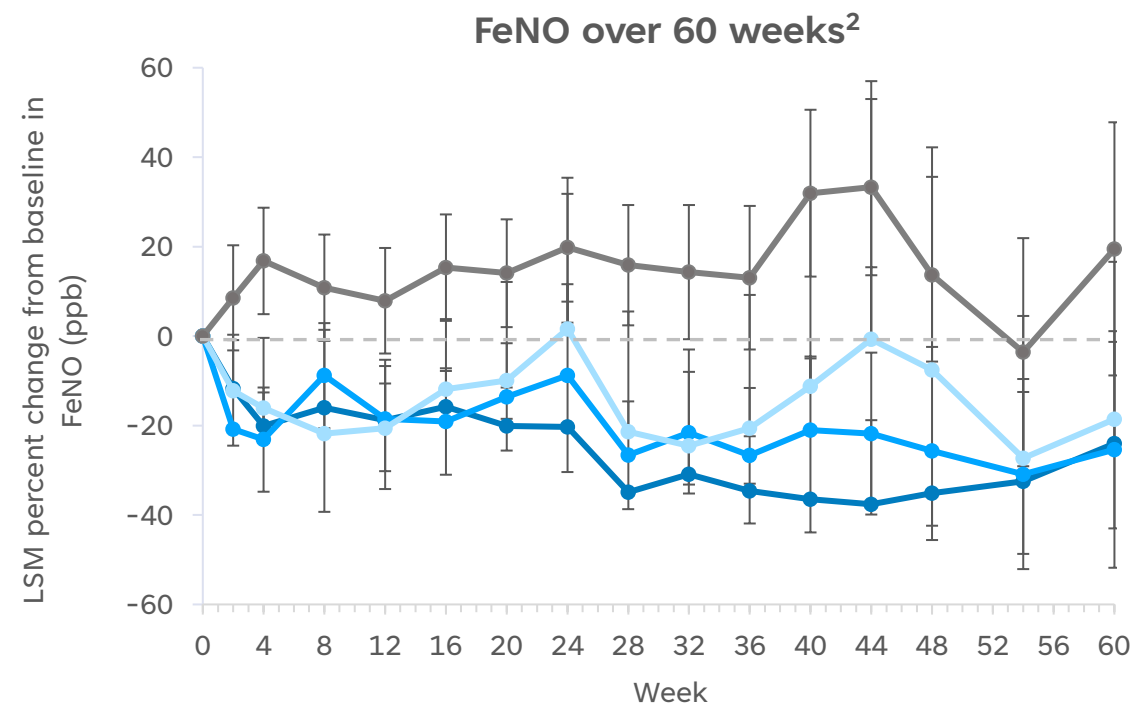
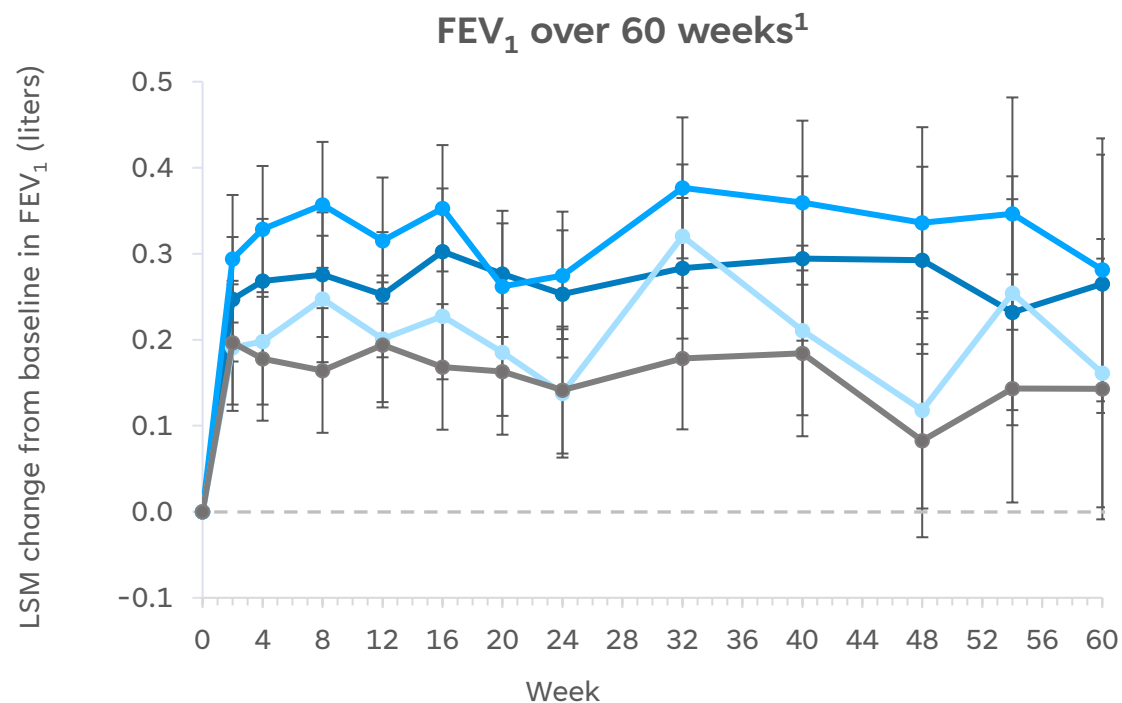
*AAER, Rate Ratio, 95% confidence intervals, and p-values are from a negative binomial regression model with number of asthma exacerbations as the dependent variable and fixed effects for study treatment, region, baseline steroid use as randomized, and baseline eosinophil level as randomized.

[†]Secondary endpoints were not powered for statistical significance.

ACQ-6, Asthma Control Questionnaire; AAER, annual asthma exacerbation rate; FeNO, fractional exhaled nitric oxide; FEV₁, forced expiratory volume in 1 second; LSM, least squares mean; ppb, parts per billion; q×w, every × weeks

1. Data on File. Table 14.2.1.1.1. 2. Data on File. Table 14.2.2.1.3. 3. Data on File. Table 14.2.2.3.2. 4. Data on File. Table 14.2.2.4.2.

Verekitug 100 mg q12w and 400 mg q24w doses led to numerical improvements in lung function and FeNO as early as week 2 and sustained over 60 weeks



No. of participants	0	4	8	12	16	20	24	32	40	48	52	60
Verekitug 100 mg q12w	118	114	111	110	106	109	106	66	43	35	21	18
Verekitug 400 mg q24w	117	110	111	111	110	114	107	67	44	32	20	18
Verekitug 100 mg q24w	116	110	110	109	112	109	103	62	40	31	21	17
Placebo	119	113	110	110	109	105	106	64	43	32	22	18

No. of participants	0	4	8	12	16	20	24	28	32	36	40	44	48	52	60
Verekitug 100 mg q12w	121	118	117	114	108	115	113	78	69	64	47	40	38	23	19
Verekitug 400 mg q24w	118	115	115	112	109	112	109	82	66	60	46	38	34	21	18
Verekitug 100 mg q24w	119	115	115	113	113	113	111	84	66	62	42	35	31	21	17
Placebo	119	109	110	113	110	108	108	83	67	60	43	40	32	23	19

Secondary endpoints were not powered for statistical significance.

FeNO, fractionated exhaled nitric oxide; FEV₁, forced expiratory volume in 1 second; LSM, least squares mean; ppb, parts per billion; qxw, every x weeks.

1. Data on file. Table 14.2.2.2.1.3. 2. Data on file. Table 14.2.2.3.5.

Verekitug led to clinically meaningful improvements in all secondary endpoints and biomarkers at 24 weeks

	Verekitug 100 mg q12w n=121	Verekitug 400 mg q24w n=118	Verekitug 100 mg q24w n=120	Placebo n=119	
Secondary endpoints	Prebronchodilator FEV₁ (ml) change from baseline at 24 weeks, LSM (95% CI)¹	253 (179, 327)	275 (201, 349)	138 (63, 212)	142 (68, 215)
	LSM difference vs placebo (95% CI)	112 (8, 216)	133 (30, 237)	-4 (-101, 100)	-
	Nominal P value	0.0350	0.0119	0.9419	
	FeNO (ppb) change from baseline at 24 weeks, LSM (95% CI)²	-15.9 (-19.3, -12.4)	-14.4 (-17.9, -10.9)	-9.7 (-13.1, -6.2)	-2.2 (-5.7, 1.3)
	LSM difference vs placebo (95% CI)	-13.7 (-18.6, -8.8)	-12.2 (-17.2, -7.3)	-7.5 (-12.4, -2.6)	-
	Nominal P value	<0.0001	<0.0001	0.0028	
	ACQ-6 change from baseline at 24 weeks, LSM (95% CI)³	-1.12 (-1.28, -0.97)	-1.26 (-1.41, -1.10)	-1.14 (-1.30, -0.98)	-0.91 (-1.07, -0.75)
	LSM difference vs placebo (95% CI)	-0.21 (-0.43, 0.01)	-0.34 (-0.57, -0.12)	-0.23 (-0.45, -0.01)	-
	Nominal P value	0.0651	0.0027	0.0447	

P values for secondary endpoints are nominal and not adjusted for multiple comparisons.

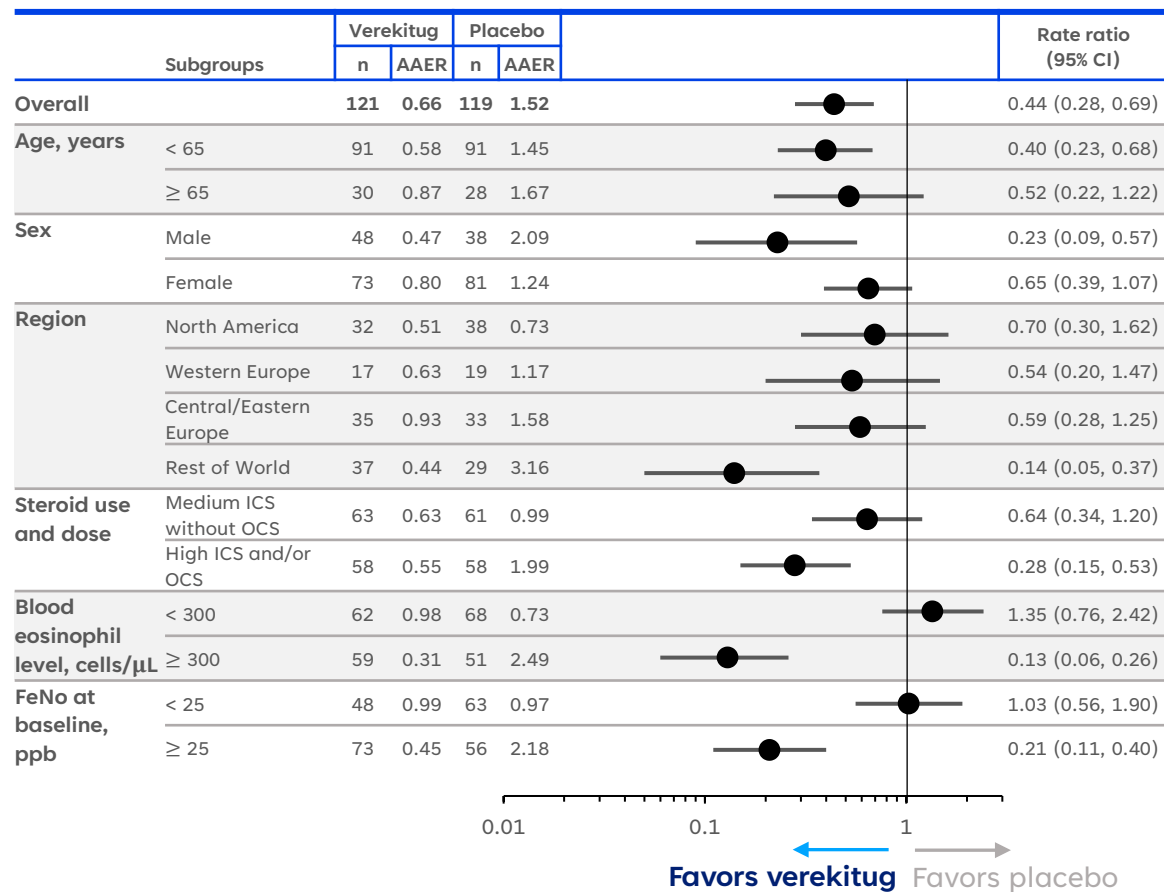
ACQ-6, Asthma Control Questionnaire; FeNO, fractional exhaled nitric oxide; FEV₁, forced expiratory volume in 1 second; LSM, least squares mean; ppb, parts per billion; q_xw, every x weeks

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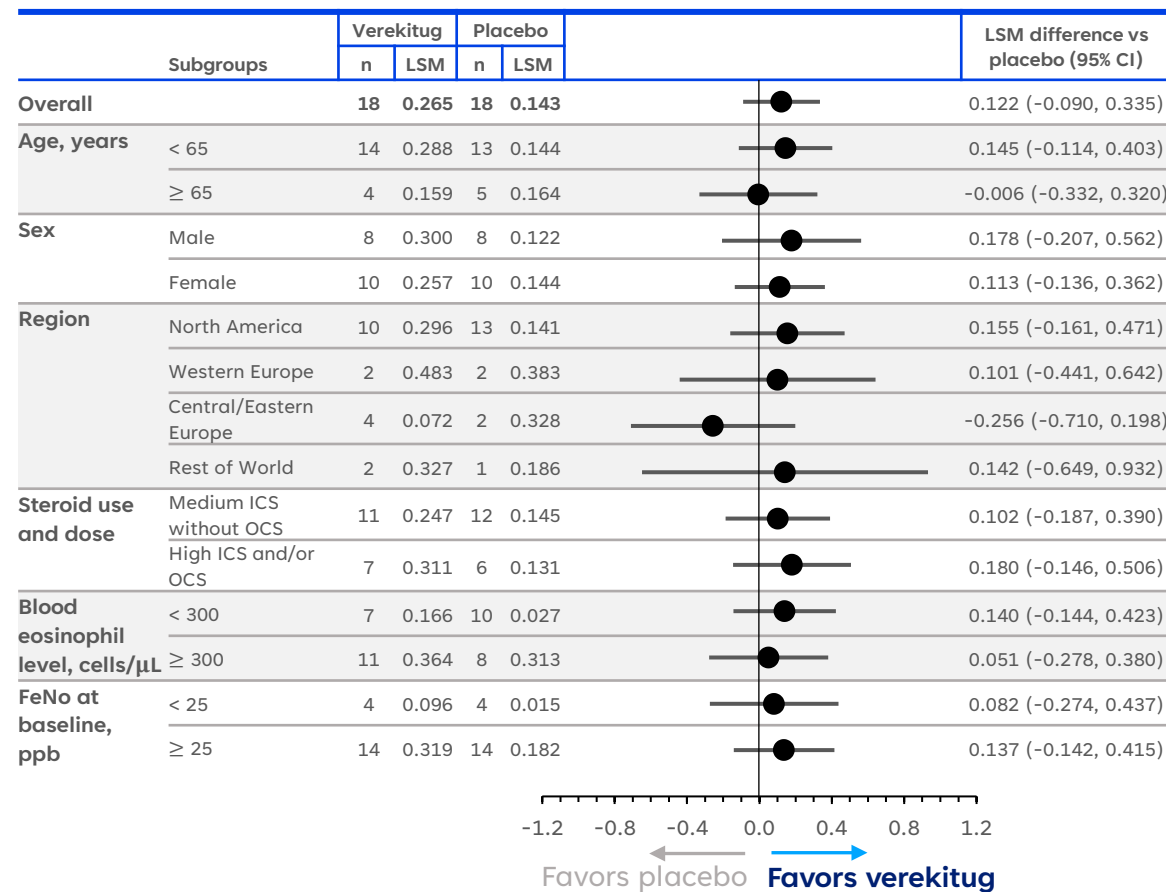
Verekitug 100 mg q12w demonstrated clinical effect in AAER and FEV₁ in most subgroups

Results were similar in the 400 mg q24w and 100 mg q24w dose cohorts

AAER by subgroup¹



FEV₁ by subgroup²



AAER, annualized asthma exacerbation rate; FEV₁, forced expiratory volume in 1 second; FeNO, fractional exhaled nitric oxide; ICS, inhaled corticosteroid; OCS, oral corticosteroid; ppb, parts per billion; LSM, least square mean; q24w, every 24 weeks.

1. Data on File. Figure 14.2.1.1.4.2. 2. Figure 14.2.2.2.1.6.

Phase 2 VALIANT study met primary endpoint in reduction of AAER

Statistically significant and clinically meaningful reductions in AAER with verekitug dosed for up to 60 weeks
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Both verekitug doses also delivered clinically meaningful improvements
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100mg q12w

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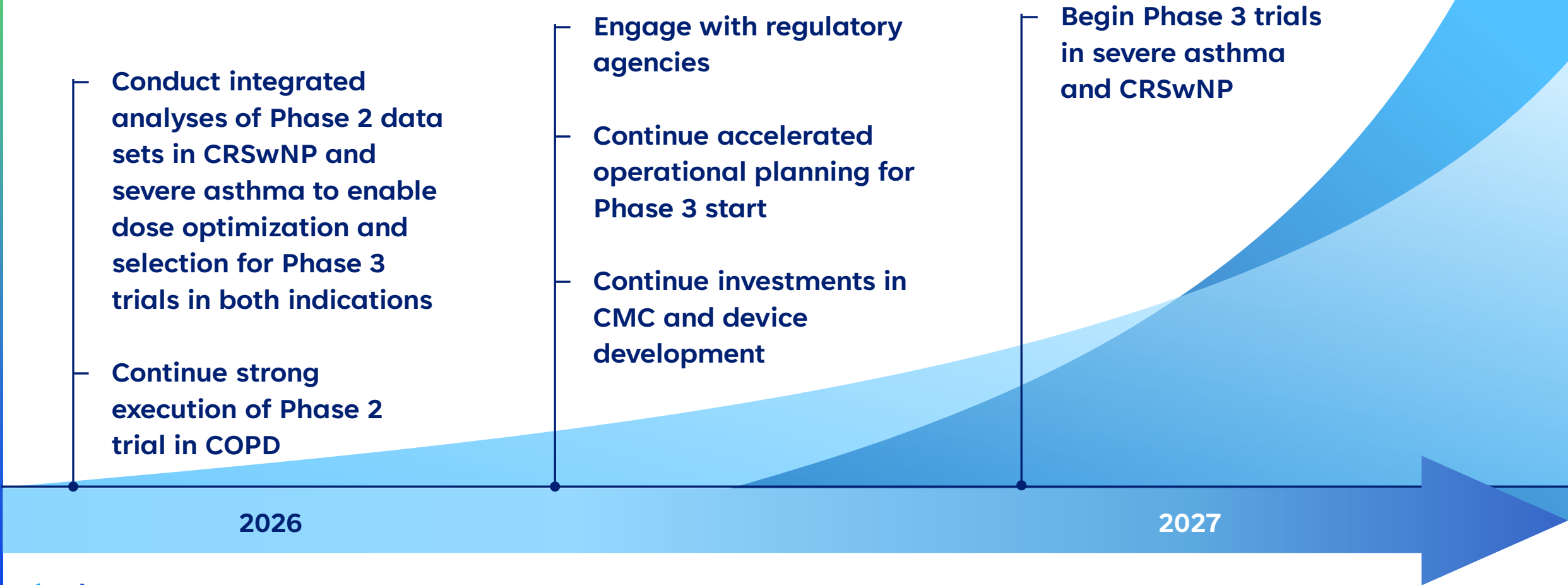
Verekitug was generally well tolerated, with a safety profile consistent with prior studies

Path Forward

Rand Sutherland, MD
Chief Executive Officer

Immediate next steps

Focused on data-driven decision-making and rapid execution



Thank you
Q&A