Reimagining the Future of Rare Lung Disease Treatment

Corporate Overview

Nasdaq: AVLN

May 2026

TARGETED THERAPIES FOR RARE LUNG DISEASES

Disclaimer

This presentation includes forward looking statements, including statements related to our product candidates, preclinical and/or clinical trial timelines and projected data announcements, as well as statements related to patient populations and total addressable markets . All statements other than statements of historical facts contained in this presentation, including statements regarding our future results of operations and financial position, strategy and plans, industry environment, potential growth opportunities, and our expectations for future operations, are forward looking statements The words " believe," " may," "will," "estimate," " continue," " anticipate," " design," " " expect," " could," " plan," " potential," " predict," " seek," " should," "would," or the negative version of these words and similar expressions are intended to identify forward looking statements. We have based these forward looking statements on our current expectations and projections about future events and trends that we believe may affect our financial condition, results of operations, strategy, short and long term business operations and objectives, and financial needs. These forward looking statements are subject to a number of risks, uncertainties and assumptions. Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time It is not possible for our management to predict all risks, 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 any forward looking statements we may make In light of these risks, uncertainties and assumptions, the forward looking events and circumstances discussed in this presentation may not occur and actual results could differ materially and adversely from those anticipated or implied in the 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 that the future results, levels of activity, performance or events and circumstances reflected in the forward looking statements will be achieved or occur. Moreover, except as required by law, neither we nor any other person assumes responsibility for the accuracy and completeness of the forward looking statements. We undertake no obligation to update publicly any forward looking statements for any reason after the date of this presentation to conform these statements to actual results or to changes in our expectations. This presentation contains estimates and other information concerning our industry, our business and the markets for our product candidates. Information that is based on estimates, market research or similar methodologies, including prevalence studies which are extrapolated to broader populations, is inherently subject to uncertainties, and actual events or circumstances may differ materially from events and circumstances that are assumed in this information. Unless otherwise expressly stated, we obtained this industry, business, market and other data from our own internal estimates and research as well as from reports, research surveys, studies and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data and similar sources. Industry publications and surveys generally state that the information contained therein has been obtained from sources believed to be reliable. Although we believe the industry and market data to be reliable as of the date of this presentation, this information could prove to be inaccurate. Industry and market data could be wrong because of the method by which sources obtained their data and because information cannot always be verified with complete certainty due to the limits on the availability and reliability of raw data, the voluntary nature of the data gathering process and other limitations and uncertainties. While we are responsible for the accuracy of such information and believe our internal company research as to such matters is reliable and the market definitions are appropriate, neither such research nor these definitions have been verified by any independent source.

Our Approach Reimagines the Future of Rare Lung Disease Treatment

Clinical-stage portfolio of inhaled therapies targeting multi-billion dollar total addressable market

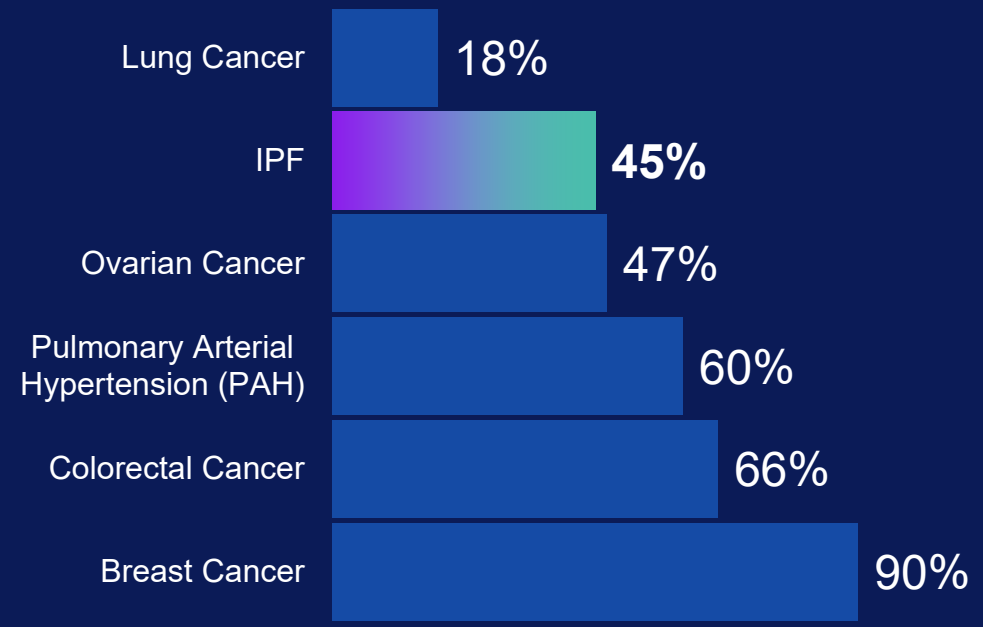
Multiple clinical catalysts expected in 2026 and beyond

Well-capitalized with $345M raised in upsized IPO in April 2026, providing cash runway into 2029

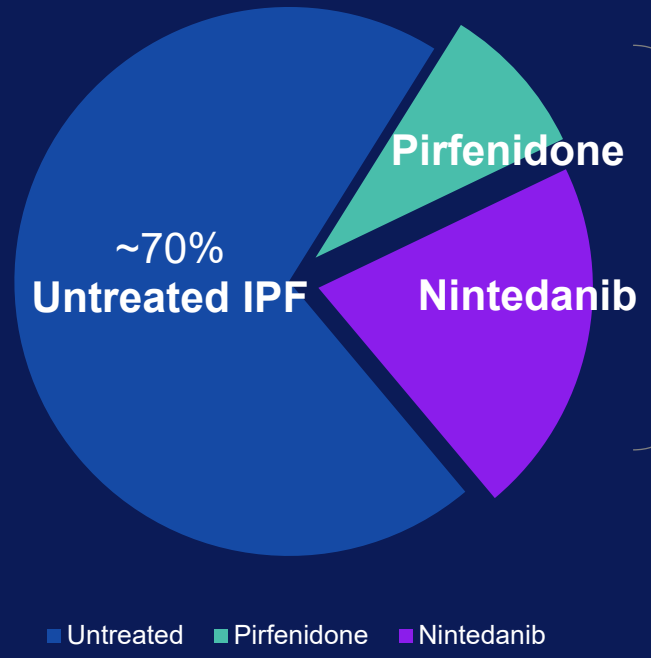
Expert team with deep experience developing & commercializing inhaled therapies

Pulmonary Fibrosis: Deadly Disease with Limited Approved Agents

3-5 year survival rate – worse than most forms of cancer[1-4]



~70% of IPF patients are not on therapy[5]



~30% treated with oral medicines[8]

~50% discontinue[5-7], largely due to **poor tolerability**

[1]Nathan et al. 2011; [2]Zheng et al. 2022; [3]American Cancer Society. Cancer Facts and Figures 2018; [4]Benza RL et al. 2010; [5]Dempsey et al. 2021; [6]Belhassen et al., 2021; [7]Corral et al., 2020; [8]Avalyn Market Research

Inhaled Delivery Has Potential to Improve Efficacy and Tolerability of Approved Oral Agents

AVALYN'S TREATMENT APPROACH

Increases lung exposure
even at >10x lower dose than oral

+

Decreases systemic exposure

=

Dramatic improvement to existing product profiles

Advancing a Clinical-Stage Portfolio That We Believe Will Transform Treatment of Pulmonary Fibrosis

AP01

Inhaled pirfenidone: 375 patient global Phase 2b MIST-PPF trial ongoing with enrollment completion expected mid-2026 with data expected 2H27

- >150 patients with pulmonary fibrosis studied in Phase 1 and open label extension studies
  - Substantially better activity compared to historic oral data with potential for disease modification
  - Generally well-tolerated with fewer AEs vs historic oral pirfenidone

AP02

Inhaled nintedanib: Phase 2 global AURA-IPF trial initiated with data expected late 2027

- Significantly higher lung exposure than orals demonstrated in Phase 1 trial
- Generally well-tolerated in Phase 1 with no bronchospasm or diarrhea observed

AP03

Inhaled pirfenidone + nintedanib fixed-dose combination: evolving the treatment algorithm

- We believe combining mechanisms is only tolerable with inhaled delivery
- Phase 1 study to begin late 2026 with data expected in 2H27

AE, adverse event

We Believe Avalyn is Positioned to Evolve the Treatment Algorithm in PF

Asthma and COPD treatments now include many combinations

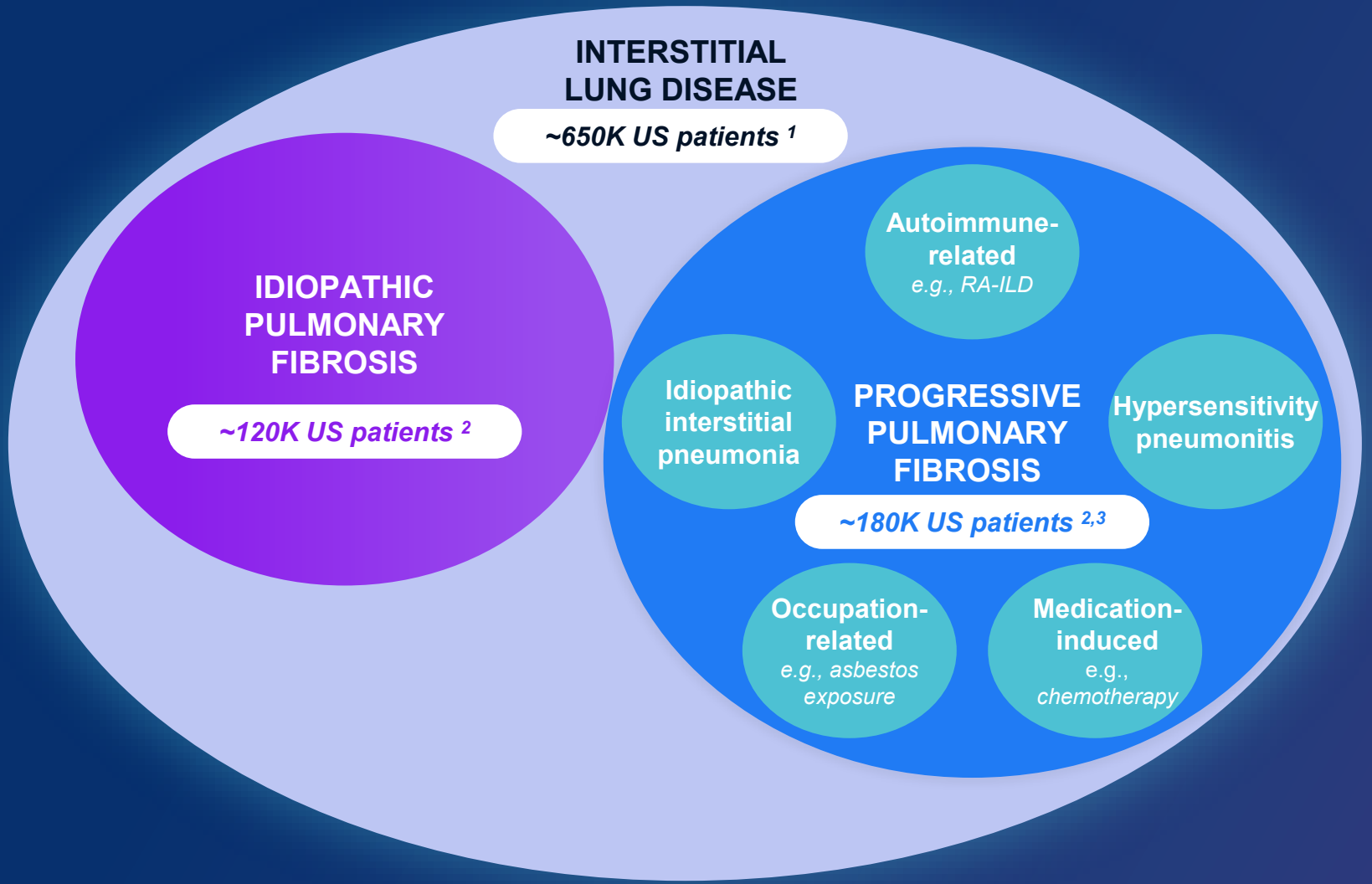
GENERATION 1 (1960s+)	GENERATION 2 (1990s+)	GENERATION 3 (2000s+)	GENERATION 4 (Today)
Oral Molecules	Inhaled Molecules	Dual FDCs	Triple FDCs
Prednisone Tablets USP	FloVent Diskus	ADVAIR	TRELEGY ELLIPTA
Theo-dur® Theophylline	Pulmicort®	BREO ELLIPTA	BREZTRI AEROSPHERE®
Primatene®	SereVent® Diskus®	Symbicort®	
	SPIRIVA® RESPIMAT® (tiotropium bromide) INHALATION SPRAY		

Rapid evolution of PF treatment options

GENERATION 1 2014 - Today	GENERATION 2	GENERATION 3	GENERATION 4 Future
Oral Molecules	Inhaled Molecules	Dual FDCs	Triple FDCs
Esbriet® (pirfenidone) tablets	avalyn pharma AP01	avalyn pharma AP03	avalyn pharma undisclosed
Jascayd® nerandomilast tablets	AP02		
OFEV® nintedanib			

FDC: fixed dose combinations.

IPF and PPF Are Two Key Types of Interstitial Lung Disease



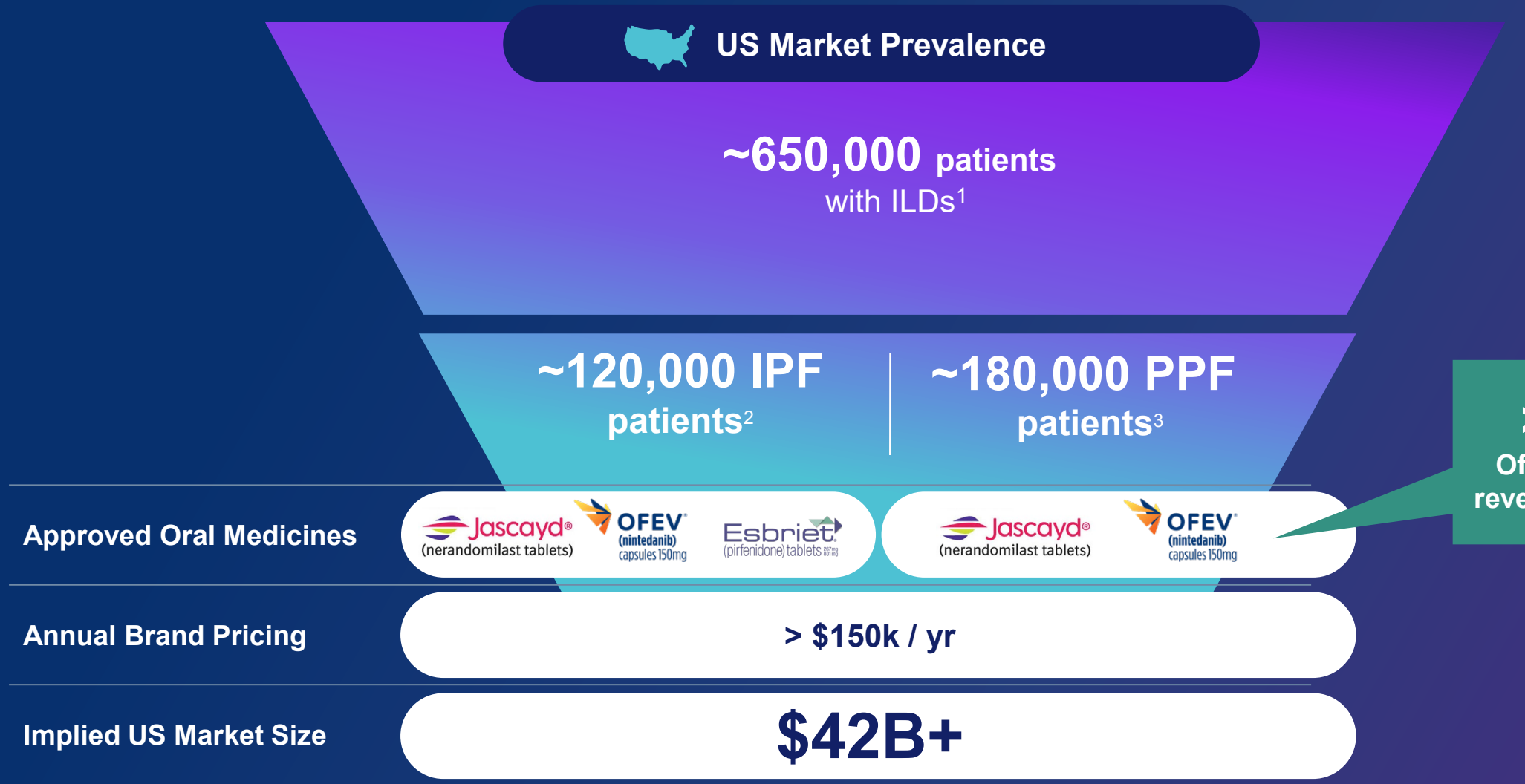
>200 types[1] of interstitial lung diseases (ILDs)

ILD-associated inflammation can lead to fibrosis, damaging the lung's ability to absorb oxygen

- Idiopathic Pulmonary Fibrosis (IPF) is the **most well-known form of ILD**
- **Progressive Pulmonary Fibrosis (PPF) is a larger** and poorly served segment of the ILD market

[1]Jeganathan et al., 2024; [2]Avalyn Market Research; [3]Olson et al., 2021. PPF, previously referred to as Progressive Fibrosing ILD (PF-ILD)

Pulmonary Fibrosis Represents a Large Market Opportunity in the US



>$4B
Ofev® global revenue in 2024

Boehringer Ingelheim, annual reports; [1]Jeganathan et al., 2024; [2]Fan et al., 2024; [3]Singer et al., 2022. Ofev approved in SSc-ILD (2019) and PF-ILD (2020).

Avalyn's Anticipated Near-Term Value Inflection Points

Program	1H26	2H26	1H27	2H27	Anticipated Milestones
AP01 (Inhaled pirfenidone)	MIST Phase 2b Enrollment Completion			MIST Phase 2b Study Readout	• Ph2b trial enrollment completion expected mid 2026 • Ph2b top line data expected 2H27
AP02 (Inhaled nintedanib)	AURA Phase 2 Initiation			AURA Phase 2 Study Readout	• First patient dosed in Ph2 trial 1Q26 • Ph2 top line data expected late 2027
AP03 (Inhaled pirfenidone + nintedanib fixed-dose combination)		AP03 Phase 1 Initiation		AP03 Phase 1 Study Readout	• Ph1 trial initiation expected late 2026 • Ph1 top line data expected 2H27

Optimized Drug/Device Combination for Treatment of PF

- Handheld nebulized formulation delivered by proprietary, patented, 510(k) cleared PARI eFlow® device.
- Device would be included in FDA label. The same device configuration is used in other commercial products, including Insmed's Arikayce® and Gilead's Cayston®
- Avalyn has licensed device with exclusivity in molecules
- Administration averages less than 10 minutes, twice a day
- Aerosol particle size designed to achieve optimal deposition in peripheral airways and alveolus

AP01: Inhaled Pirfenidone

avalyn pharma

Inhaled Pirfenidone (AP01): Phase 1b ATLAS Trial

Open-Label Extension (OLE) / Compassionate Use Trials Include IPF and PPF

COMPLETED

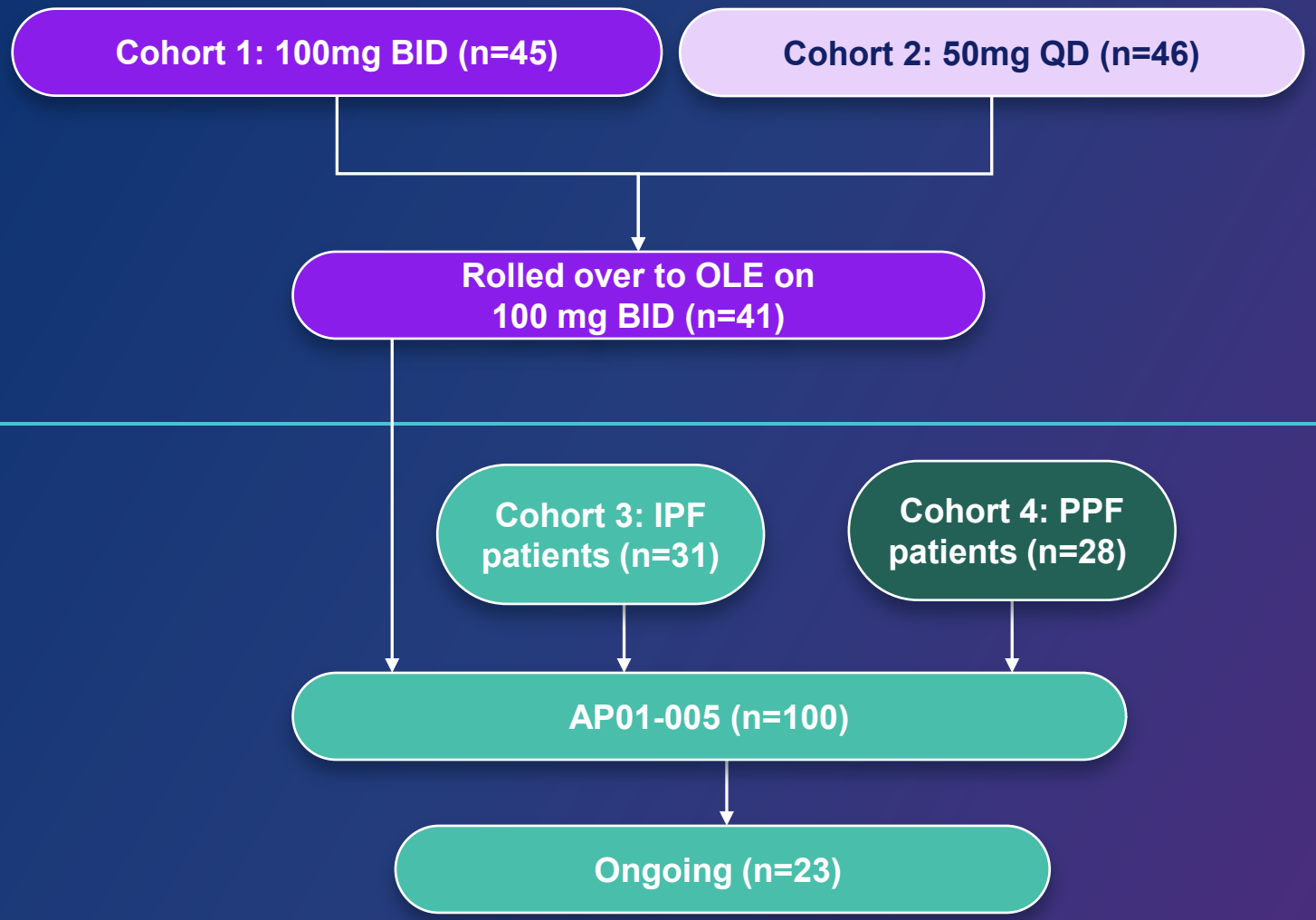
ATLAS Trial in IPF Patients

- ✓ Study complete
- ✓ Data published in *Thorax* in March 2023[1]

ONGOING

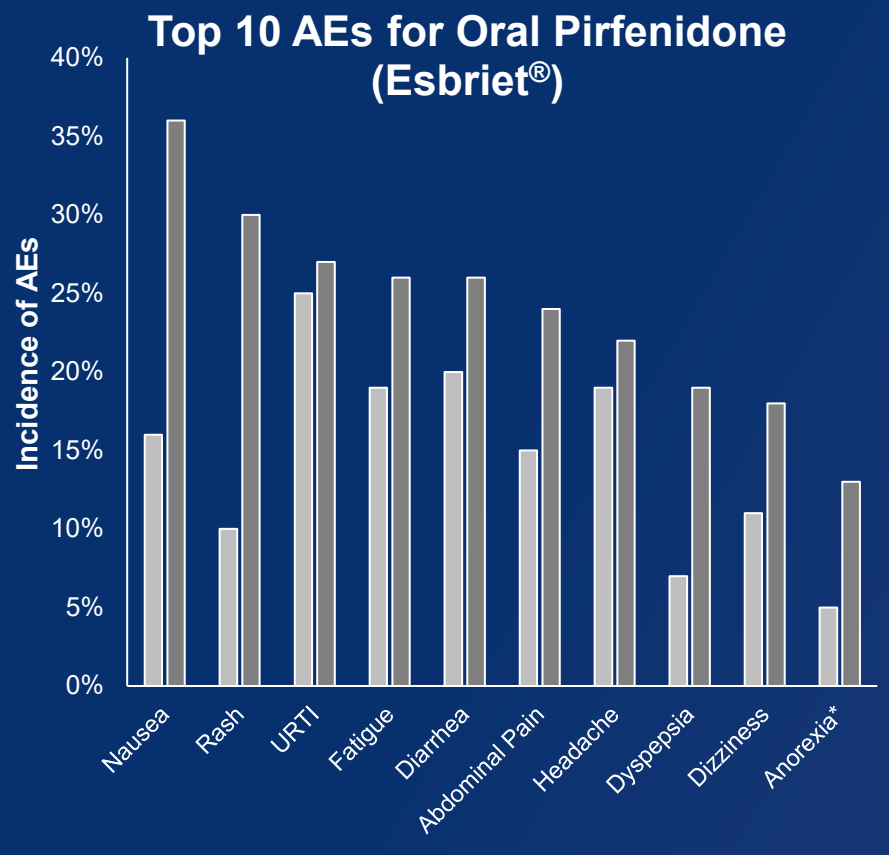
Open-Label Extension (OLE) / Compassionate Use IPF & PPF Trial

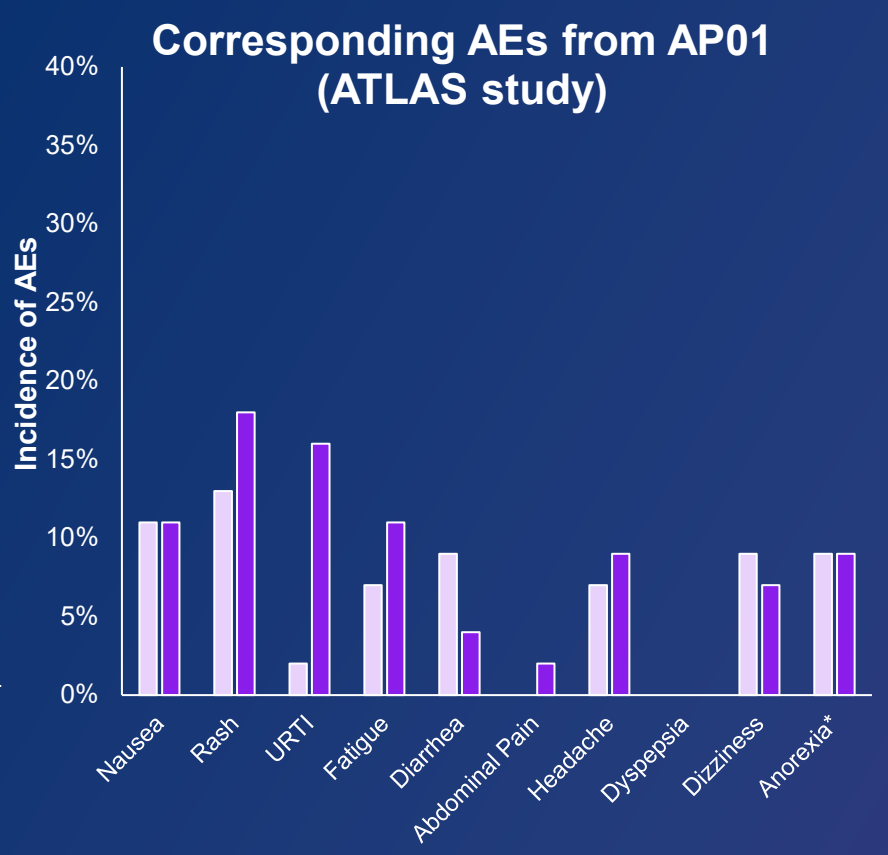
- All patients on 100 mg BID dose
- Initiated June 2021
- 4.5 years of lung function stabilization and tolerability data for roll-over patients announced May 2025
- Some patients from ATLAS on AP01 for 5+ years



*Last updated December 2025; [1]West, A. et al, (2023) *Thorax*

AP01 Showed Improved Tolerability in ATLAS





- Gastrointestinal and skin AEs are common reasons for discontinuing oral pirfenidone

- Compared to the historic pooled data on oral pirfenidone, patients in the ATLAS trial were:
  - Older
  - Generally lower FVC
  - Longer time since diagnosis

Pooled Historic Data[1]
Oral Placebo (n=624)
Oral Pirfenidone, 801mg TID (n=623)

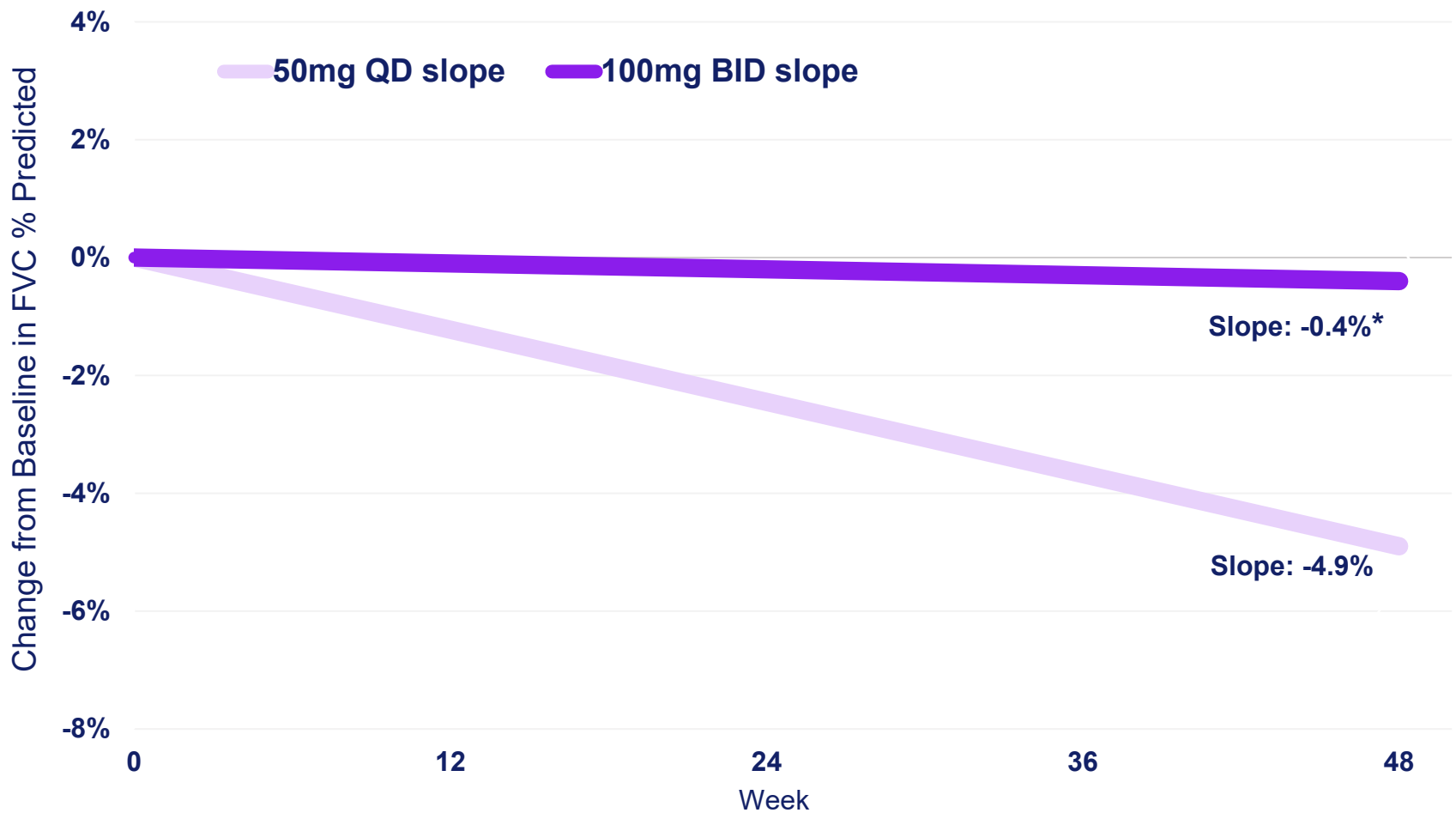
AP01-002 ATLAS Trial[2]
AP01 (Inhaled Pirfenidone), 50mg QD (n=46)
AP01 (Inhaled Pirfenidone), 100mg BID (n=45)

These cross-study comparisons are provided for illustrative purposes only as there are no head-to-head comparison available. Comparing the results from different trials may be unreliable due to factors such as protocol design and trial objectives varying between the trials. Therefore, cross-study comparisons provide limited information about the effectiveness of a product candidate and should not be relied on.

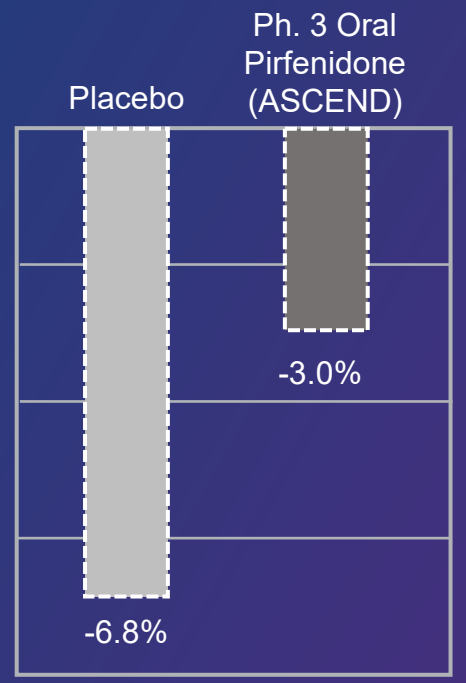
[1]Pirfenidone (Esbriet®) Prescribing Information; [2]West et al., *Thorax* 2023
*Anorexia refers to decreased appetite; FVC = Forced vital capacity

AP01 100mg Achieved Near Stabilization in ATLAS Exhibiting Significant Dose-Dependent Improvement in Lung Function

Lung function (FVC) with AP01 100 mg BID vs. 50 mg QD dosing in 48-week ATLAS trial[1]



Historical data of oral pirfenidone (52 wks)[2]



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*Through 48 weeks, 100 mg BID vs. 50 mg QD p=0.0222 (24-week p=0.133). Historic oral and AP01 data are non-imputed;
[1]West et al., *Thorax* 2023 [2]King et al., *N Engl J Med* 2014

Oral Data Suggests Avalyn's Inhaled Pirfenidone (AP01) Achieves Favorable FVC Change

Avalyn AP01		Oral pirfenidone *(Esbriet®)*						Oral nintedanib *(Ofev®)*						Oral nerandomilast *(Jascayd®)*			
IPF	Indication	IPF		IPF		IPF		IPF		IPF		PPF		IPF		PPF	
ATLAS[1]	Trial	CAPACITY-1[2]		CAPACITY-2[2]		ASCEND[3]		INPULSIS-1[4]		INPULSIS-2[4]		INBUILD[5]		FIBRONEER[6]		FIBRONEER[7]	
-188	FVC decline 1 year *(mL)*	-350	-181	-274	-220	-265	-118	-240	-115	-207	-114	-188	-81	-149	-79	-154	-95
-34																	
50 mg QD	Arm	Placebo	801mg TID	Placebo	801mg TID	Placebo	801mg TID	Placebo	150mg BID	Placebo	150mg BID	Placebo	150mg BID	Placebo	18mg BID	Placebo	18mg BID
100 mg BID																	
46*	**# of patients**	174	174	173	171	277	278	204	309	219	329	331	332	87	87	222	220
42*																	

Average rate of decline in lung function due to aging is 20-50mL/year after age 40[8, 9]

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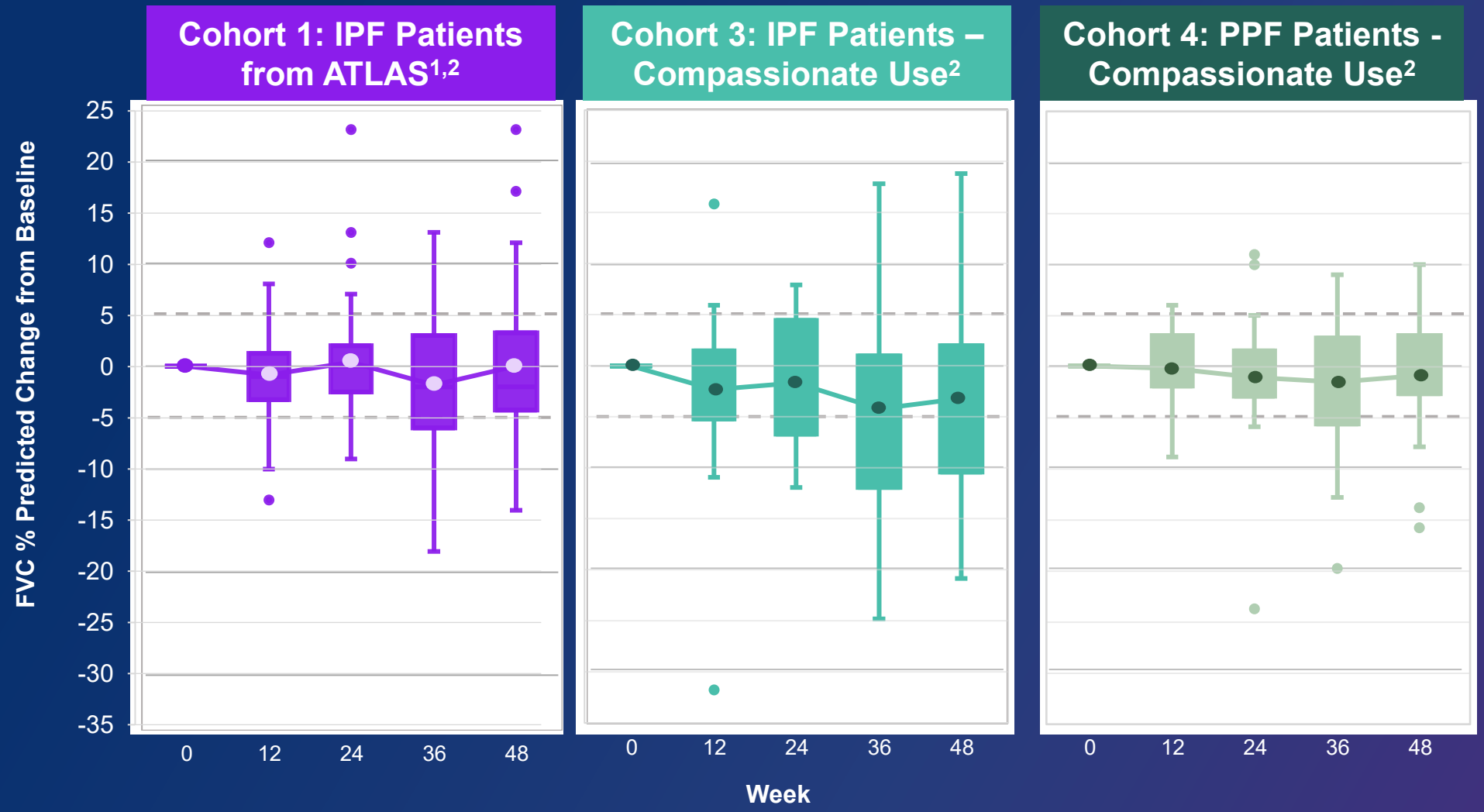
[1]West et al., 2023; [2]Pirfenidone NDA – Medical Reviews; [3]Pirfenidone NDA – Statistical Reviews; [4]Richeldi et al., 2014; [5]Flaherty et al., 2019; [6]Richeldi et al., 2025; [7]Maher et al., 2025. [8]Torris et al., 2017; [9]Thomas et al., 2019; *Per protocol set in 48-week trial. ASCEND, INPULSIS, ATLAS, and INBUILD data are non-imputed. CAPACITY and FIBRONEER data are imputed. Note: FIBRONEER data represent patients on no background antifibrotics

AP01 Activity in Compassionate Use Cohorts Similar to IPF Patients in ATLAS over 48 weeks

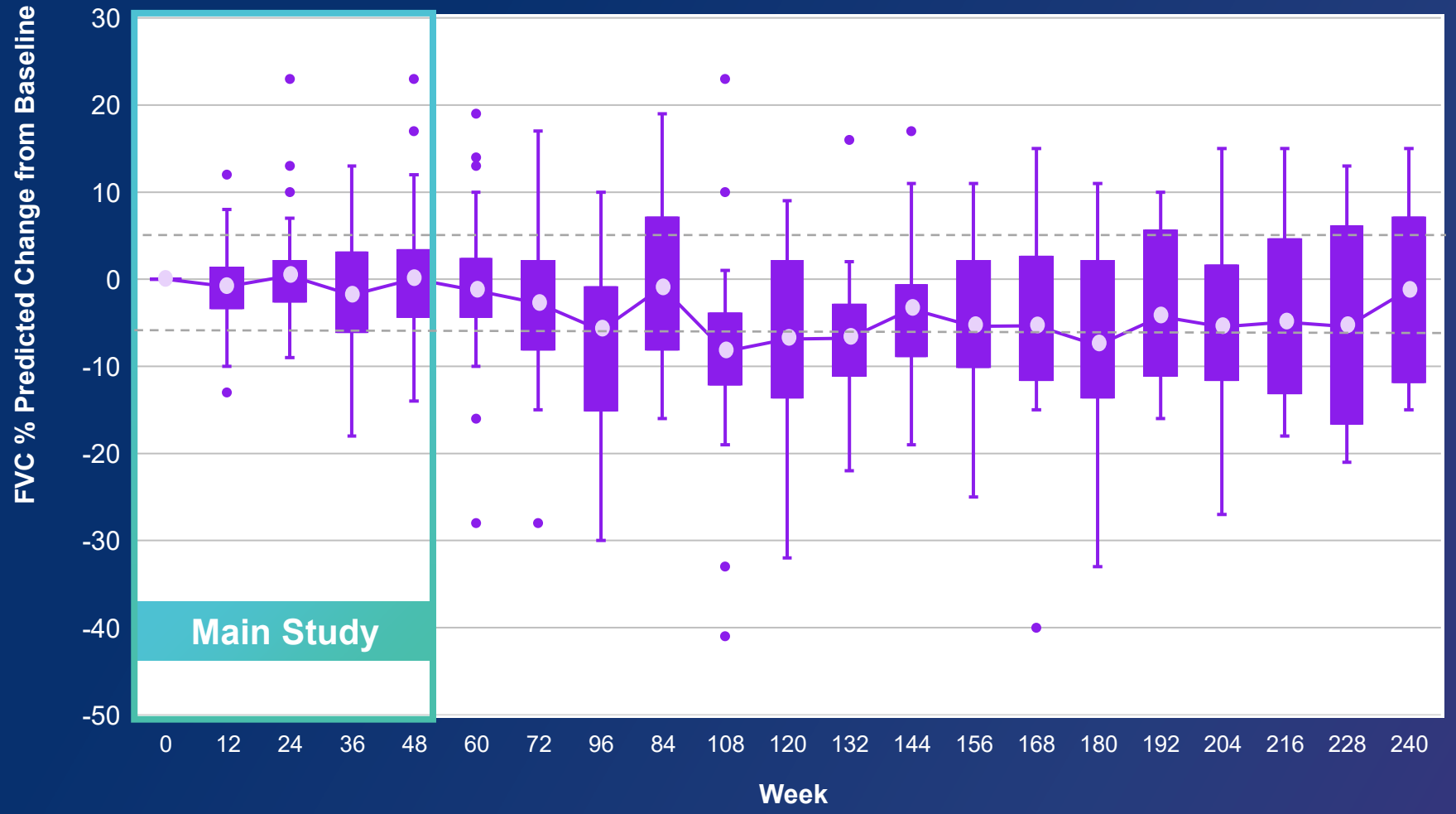


All patients in all cohorts were on 100 mg BID dose throughout

[1] West et al., *Thorax* 2023; 0: 1-8.; [2]Poster Presentation at ATS/RIS 2024

Open Label Extension Trial Has Demonstrated Disease Stabilization Over 4.5 Years

Cohort 1: ATLAS Study 100mg BID Patients Rolled Over Into OLE Study

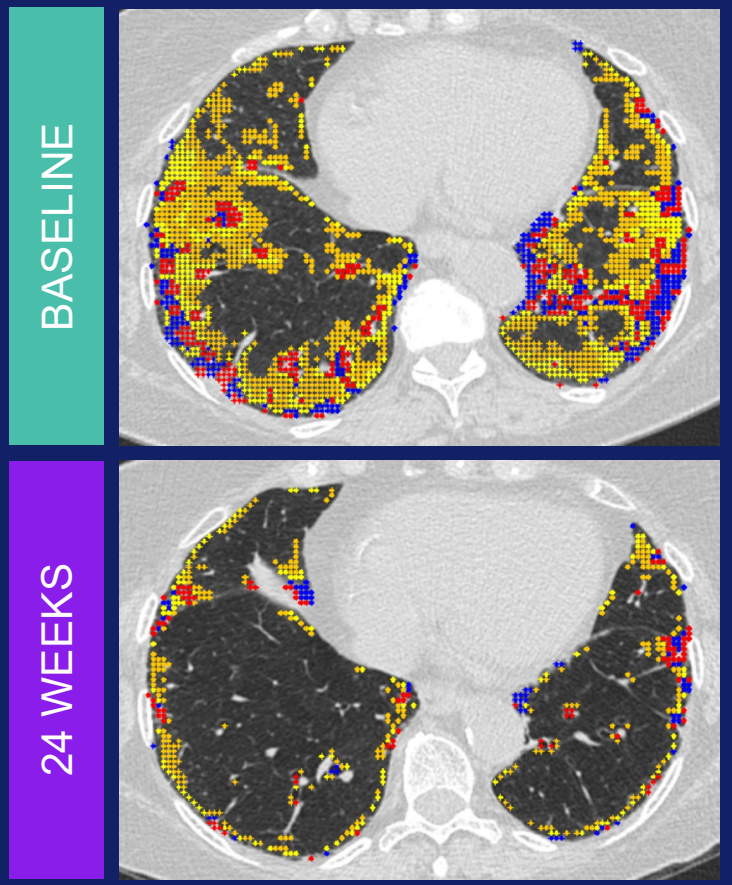


- Cohort 1 is the longest running of four cohorts in existing OLE
- This cohort has been on a stable 100 mg BID dose

Presented at ATS 2025; Data downloaded October 15, 2024.

ATLAS Showed Promising Potential for Disease Modification: Imaging Correlated with FVC Data

Axial HRCT Images



QLF using HRCT imaging after 6 mo treatment with AP01

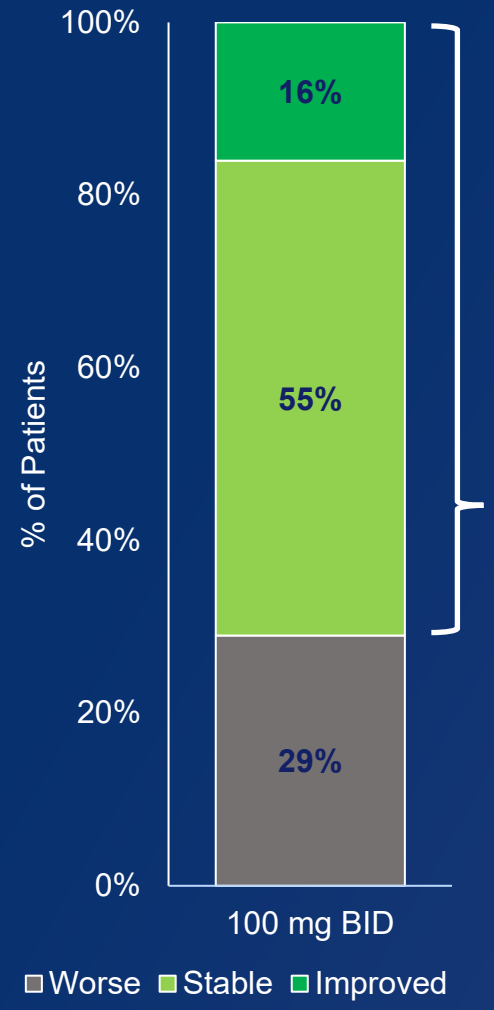
- **>70% of patients in ATLAS showed stabilization or reversal of fibrosis** on 100 mg BID[1,2]
- Signals of disease course reversal seen, especially with early intervention
- Routine imaging (HRCT) is used to measure and quantify lung fibrosis using AI technology to calculate Quantitative Lung Fibrosis (QLF)
- Data has shown **correlation between lung function (FVC), fibrosis quantification (QLF), and quality of life (QOL)**

Ground Glass (QGG) **Reticulation** (QLF) **Honeycombing** (QHC)

Different types of fibrosis

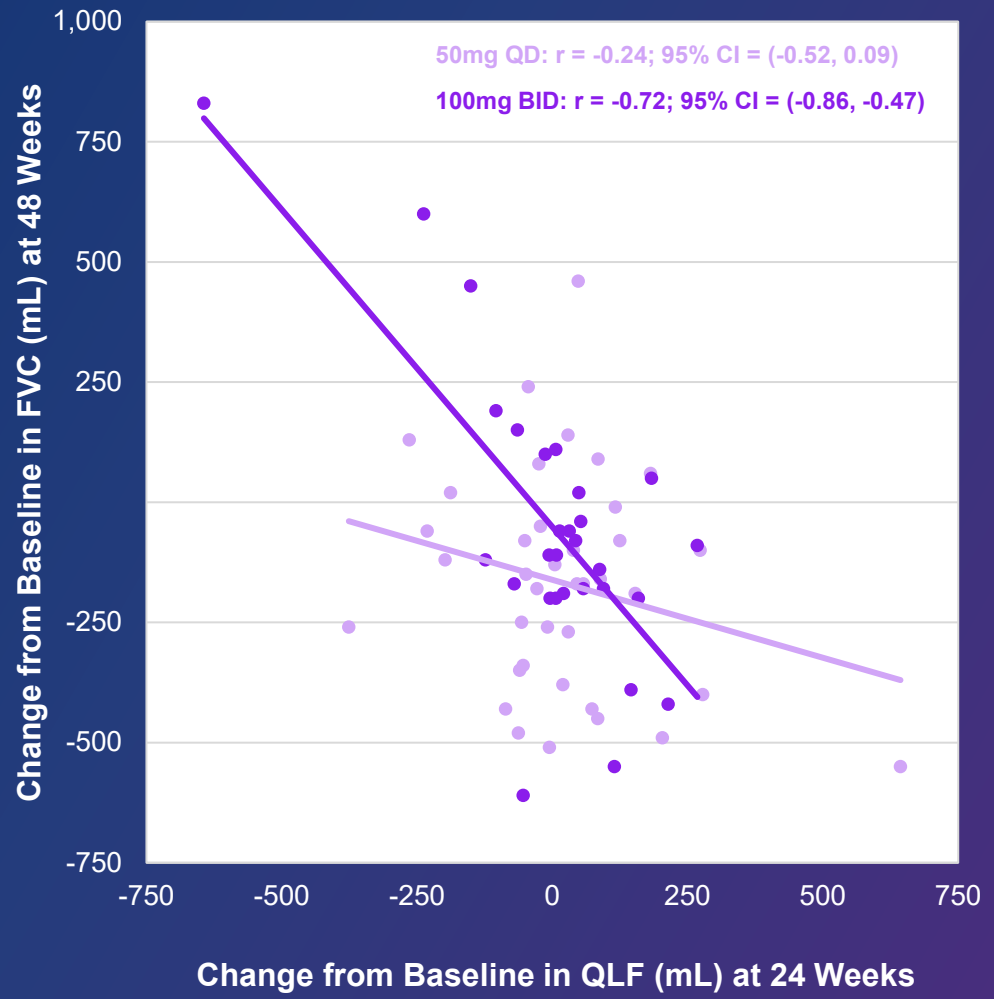
Kim, H.J.K et al (2026), QLF score in whole lung was 8.5% at baseline and 4.9% at 6-month follow-up. QLF volume in whole lung was 258.2 ml at baseline and 154.2 ml at 6-month follow-up. HRCT; high resolution computed tomography. [1]Poster Presentation at ERS 2024. [2]Poster Presentation at PPF Summit 2023

Stabilization or Reversal of Fibrosis Seen in Majority of Patients on 100mg BID Dose, with Correlation between Lung Function, Fibrosis, and QoL



>70% of Patients Demonstrate Stabilization or Reversal of Fibrosis[1-2]

Correlation between FVC and QLF[3]



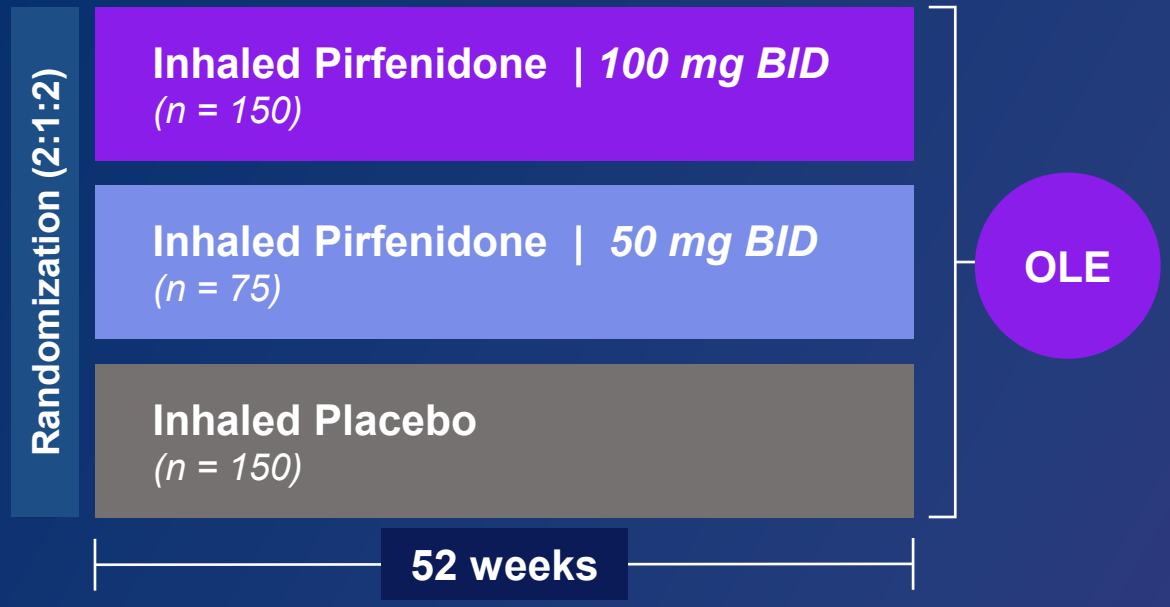
Kim, H.J.K et al. (2026)
QLF; quantitative lung fibrosis. [1]Poster Presentation at ERS 2022; [2]Poster Presentation at PPF Summit 2023; [3]West et al., 2023

Phase 2b PPF MIST Study is Designed to Support Registration

mist
A PPF CLINICAL STUDY

Patient Population Key Criteria

- PPF patients with recent downward decline in FVC (INBUILD criteria)
- Background SOC allowed:
  - Immunosuppressants
  - Oral nintedanib or nerandomilast (capped at 50%)



- All patients (n=375) will be treated for 52 weeks
- Global study: 150 sites in 14 countries

Primary Endpoint

- Forced vital capacity

Secondary Endpoints

- QoL
- Time to disease progression
- HRCT-based quantitative lung fibrosis imaging

Complete enrollment anticipated mid-2026; topline data anticipated 2H 2027

SOC, standard of care; HRCT, high-resolution computed tomography

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AP02: Inhaled Nintedanib

avalyn pharma

AP02: Inhaled Nintedanib for the Treatment of IPF Patients

Nonclinical program completed

Phase 1 SAD / MAD trials in healthy volunteers & IPF patients completed demonstrating:

- PK comparable between IPF patients & healthy volunteers
- Dose-related increase in systemic exposure
- Demonstrates preferential lung exposure with inhalation vs oral administration
- Generally well-tolerated with no bronchospasm or diarrhea observed

Phase 2 underway

First patient dosed in Phase 2 AURA-IPF study in 1Q 2026

First AP02 Phase 1 SAD Study (2023) Results Supported Dose Escalation

Phase 1 Study Design

	SAD Cohorts	Lung Exposure Cohorts	IPF Cohort
Cohorts	1-3	4-5	6
Subject	NHVs	NHVs	IPF
Dose (Single)	0.5, 1.0, 2.0 mg AP02	150 mg oral 2.0 mg AP02	2.0 mg AP02
Measurements	• Safety • Plasma PK • Airway tolerance measures (FEV_1, oximetry, cough)	• Single BAL / ELF timepoint • Safety • Plasma PK • Airway tolerance measures (FEV_1, oximetry, cough) • Estimated ELF PK	• Safety • Plasma PK • Airway tolerance measures (FEV_1, oximetry, cough)

Safety & Tolerability

- ✓ **No** SAEs, bronchospasm or decreased oxygen saturation
- ✓ **All** TEAEs classified as mild; except for 1 moderate headache. All resolved within 48h
- ✓ Tolerability **supported advancement to higher doses**

SAE: serious adverse events; TEAE: treatment-emergent adverse events; BAL: bronchoalveolar lavage; ELF: epithelial lining fluid

Second AP02 Phase 1 SAD / MAD Study Design Included Epithelial Lining Fluid Samples

Phase 1 Part A: Healthy Volunteer SAD

- **Cohort 1** — 2.0 mg QD
- **Cohort 2** — 4.0 mg QD
- **Cohort 3** — 8.0 mg QD
- **Cohort 4: Lung Exposure** — 4.0 mg QD BAL

- Single inhalation dose in Healthy Volunteers
- Cohorts 1-3: N=8 (6 active vs 2 placebo per cohort)
- Cohort 4 (lung exposure): BAL / ELF; N=12 (n = 4 at each of 3 timepoints)
- Endpoints: Safety, PK

Phase 1 Part B: Healthy Volunteer MAD (7 days)

- **Cohort 6** — 2.0 mg BID
- **Cohort 7** — 4.0 mg BID
- **Cohort 8** — 8.0 mg BID

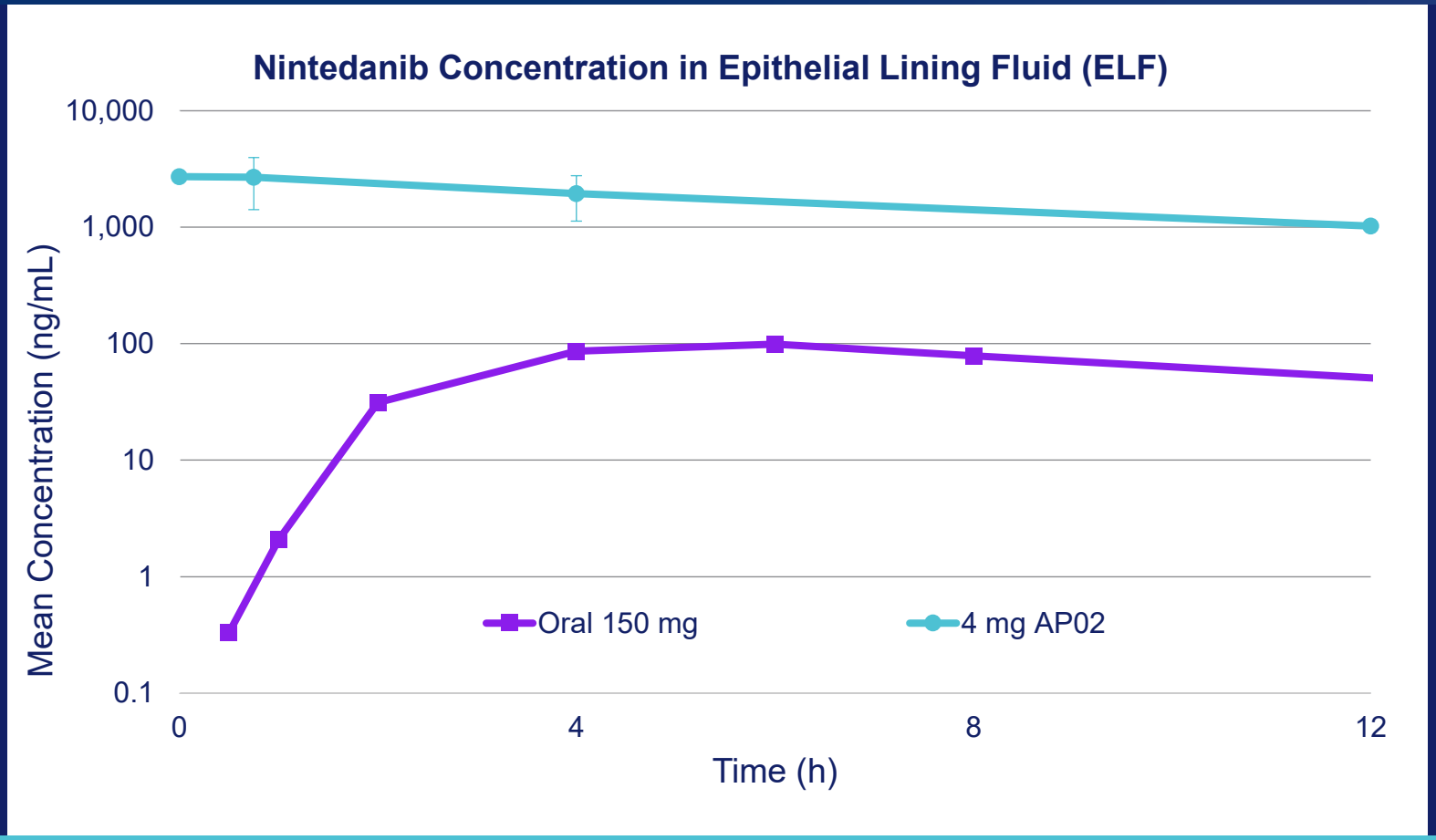
- Multiple inhalation doses in Healthy Volunteers
- N=8 (6 active vs 2 placebo per cohort)
- Endpoints: Safety, PK

→ Safety Review Committee (SRC) Review

→ May be conducted following completion of specified Cohort

BAL: bronchoalveolar lavage; ELF: epithelial lining fluid

AP02 Significantly Improved Nintedanib Lung Exposure



Inhaled at 4mg* vs oral 150 mg

C_{max}

+27x

(2,720 ng/mL vs 99 ng/mL)

$AUC_{0\text{-}24h}$

+27x

*(20,900 ng*h/mL vs 779 ng*h/mL)*

Inhalation improved nintedanib lung exposure vs serum concentration

Lung exposure, measured as ELF, was evaluated using cross-trial comparative analysis against the ELF data from the first Phase 1 trial of 150 mg nintedanib. The second Phase 1 trial did not include a direct head-to-head comparison of the 4 mg AP02 dose to the approved oral product. A cross-trial comparative analysis against the first Phase 1 study with the same product formulations and patient population criteria was conducted, which may not be reliable as the dosing occurred under two separate protocols.

ELF: epithelial lining fluid ; *n=4 samples/timepoint; C_0 extrapolated; Source: Poster Presented at ATS 2025

Inhaled Delivery of AP02 Avoided Systemic Exposure with No TEAEs at 4mg BID

Inhalation Results in Lower Plasma Exposure vs Oral

Inhaled at 4mg vs oral 150 mg

C_{max}	AUC_{0-24h}
-17x *(1.94 ng/mL vs 31.95 ng/mL)*	**-26x** *(14.1 ng*h/mL vs 363 ng*h/mL)*

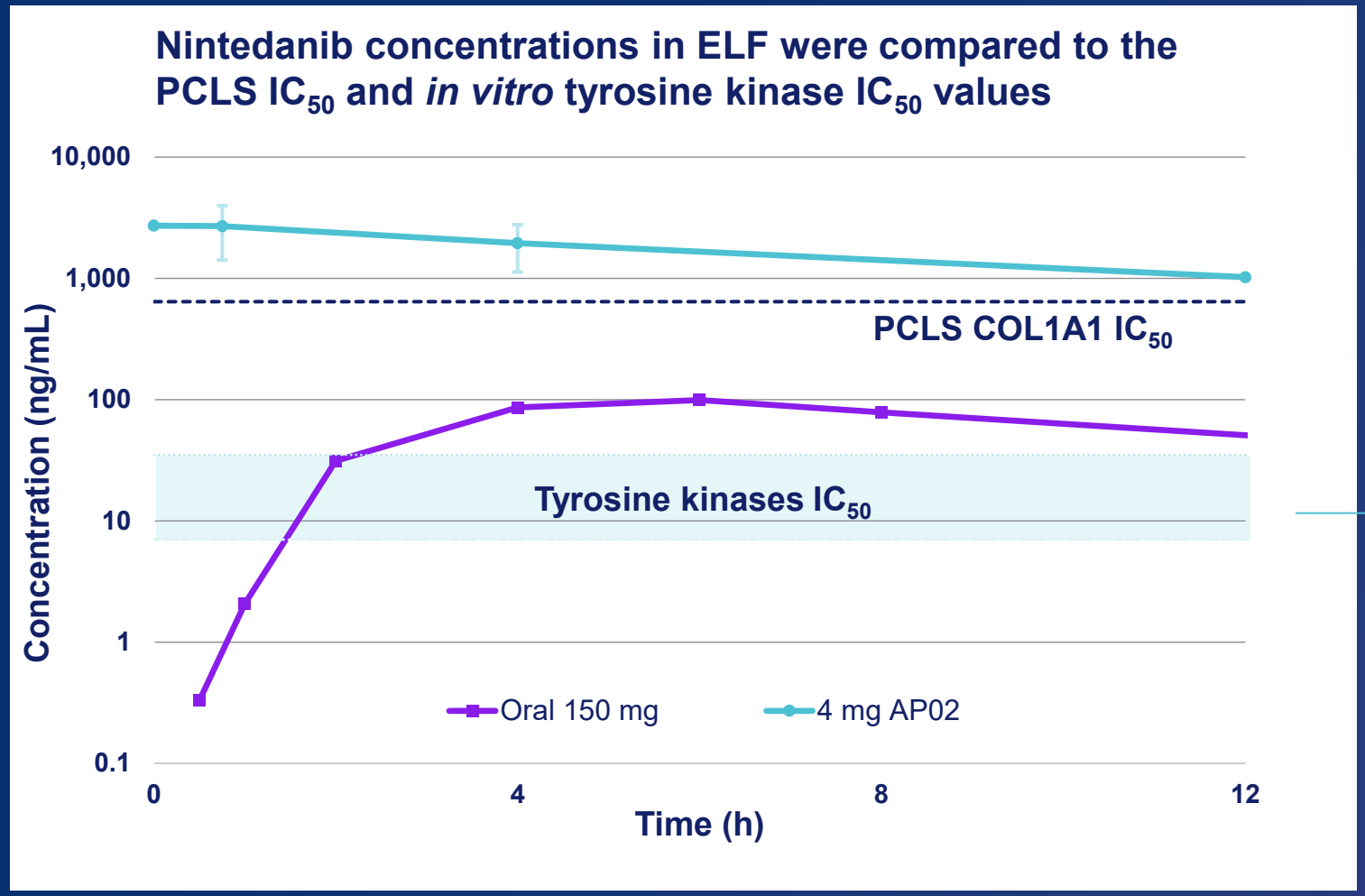
Generally Well Tolerated

No drug-related AEs at 4 mg BID

No **bronchospasm or cough**

No diarrhea

Inhaled AP02 Concentration Exceeded IC_{50} For Key Markers of Fibrosis



Select nintedanib *in vitro* kinase inhibition profile[1]

Kinase	IC_{50} (ng/mL)
VEGFR-1	18
VEGFR-2	11
VEGFR-3	7
FGFR-1	37
FGFR-2	20
PDFGR-a	32
PDFGR-b	35

Precision cut lung slice (PCLS) model system uses IPF patient derived tissue explants to assess biomarker response.

PCLS, precision cut lung slice; ELF, epithelial lining fluid. [1]Roth, 2014, et al. Journal of Medicinal Chemistry.

Now Enrolling: AP02 Phase 2 AURA IPF Study Design

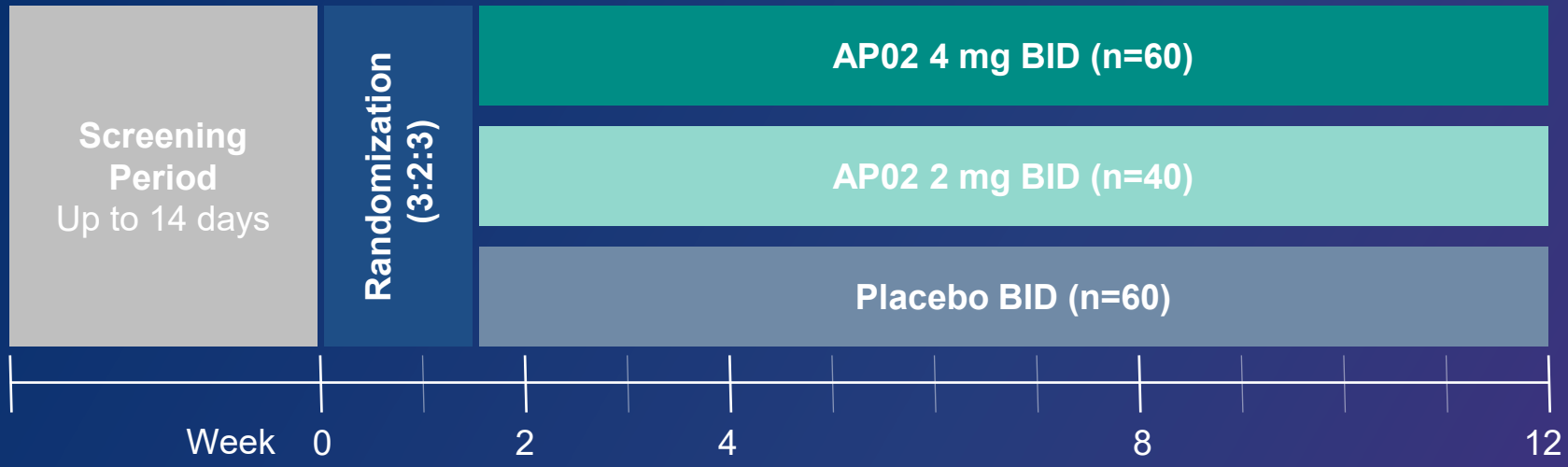
AURA-IPF
AN IPF CLINICAL STUDY

A Randomized, Double-Blind, Placebo-Controlled, Phase 2 Trial Evaluating the Safety and Efficacy of AP02 in IPF

Patient Population Key Criteria

- Male or female ≥40 years
- Patients with IPF not actively on background antifibrotics
  - Patients may have been on oral nintedanib or pirfenidone previously but were intolerant to orals

***note:** Subjects will have 1 week of open-label nebulized saline to establish a baseline for cough



Primary Efficacy Endpoint: Change from baseline FVC over 12 weeks

Key Secondary Efficacy Endpoints:

- Change from baseline quantitative analysis on HRCT
- Time to disease progression

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AP03: Fixed Dose Combination

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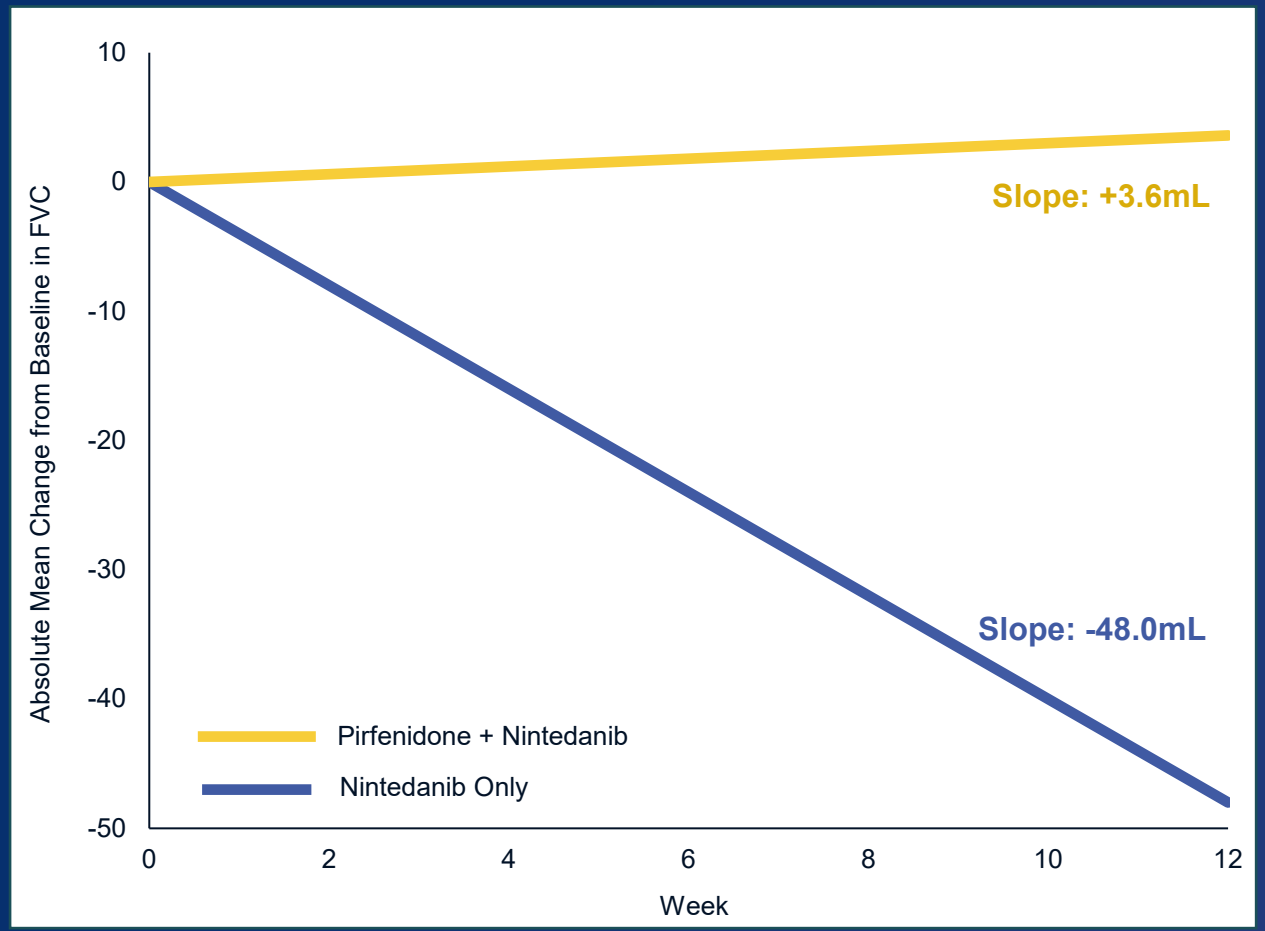
AP03 Fixed Dose Combination: Advancing Toward Phase 1 Readiness

- ✓ CMC fixed dose formulation identified that supports full dose range potential
- ✓ CMC engineering batches manufactured
- ✓ Completed IPF patient-derived Precision Cut Lung Slice (PCLS) pharmacology studies to help guide AP03 Phase 1 dose selection
- ○ Clinical supply manufacturing anticipated for 1H 2026

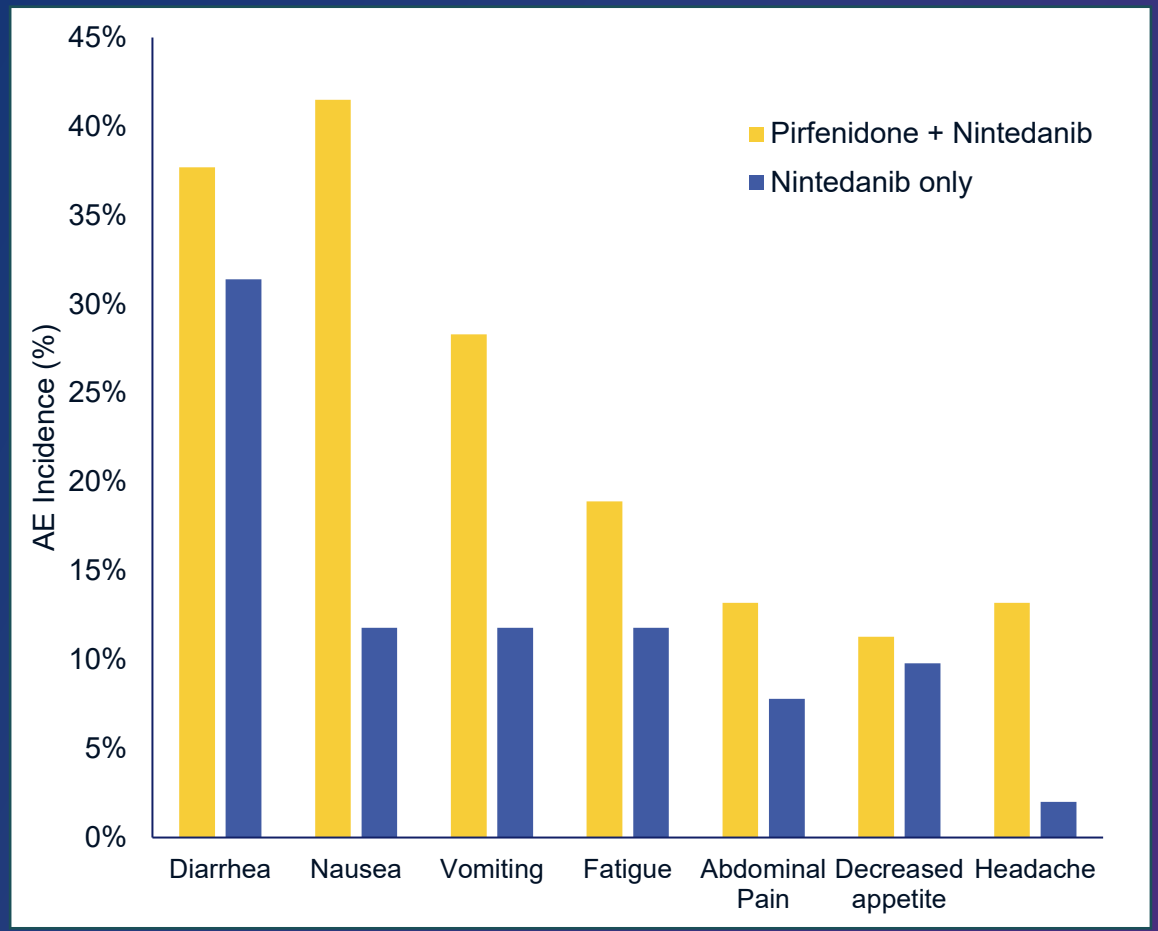
Initiation of Phase 1 study anticipated in late 2026

AP03 Informed by Third Party INJOURNEY Trial That Showed Improved Efficacy in Combination with Significant Tolerability Challenges

Increased Efficacy Benefit with Combination at 12Wks



Worse Tolerability with Combination of Oral Agents



Vancheri et al., 2017

For patients like Peter…

He was first treated in our ATLAS study in 2020 and remains on treatment in our open-label extension today, over five years later.

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We wake up every day to improve the lives of IPF & PPF patients.

Innovation With The Goal Of Improving Patient Outcomes In Rare Lung Diseases

Large patient base with **high unmet need**

Approved **medicines** with high probability of success

Device selection that offers medical and commercial advantages

Multiple near-term clinical catalysts anticipated by 2H 2027