LUNAR-CF (ARCT-032) INTERIM PHASE 2 RESULTS

Inhaled mRNA Therapeutic Candidate
for Cystic Fibrosis

ARCTURUS therapeutics

Cohort 2: FEV1 Summary Tables

Table 1. Relative Percent Change (%) From Protocol Defined Baseline or Exploratory Baseline in FEV 1

		Observed FEV1 (L)		Relative Percent Change (%) from Protocol Defined Baseline in FEV1						Relative Percent Change (%) From Exploratory Baseline in FEV1					
Subject #	Subject	Screening	Day 1	Day 2	Day 7	Day 14	Day 28	Day 42	Day 56	Day 2	Day 7	Day 14	Day 28	Day 42	Day 56
1	10mg:1004-0001	2.739	2.649	-6.3	-10.3	-10.7	-16.2	-10.1	-4.6	-7.8	-11.8	-12.2	-17.6	-11.6	-6.2
2	10mg:1005-0002	2.701	2.684	6.9	2.9	-0.6	-1.2	3.9	7.0	6.6	2.6	-0.9	-1.5	3.5	6.7
3	10mg:1006-0002	2.585	2.717	-6.7	6.3	-2.7	1.1	4.0	-	-4.3	9.0	-0.3	3.7	6.6	-
4	10mg:1008-0002	2.167	2.590	-7.3	-16.5	-12.5	-7.7	-12.2	-16.3	0.9	-9.1	-4.7	0.5	-4.4	-8.9
5	10mg:1008-0003	1.820	2.148	0.1	-0.8	-6.4	-2.4	-0.8	-3.7	8.4	7.4	1.4	5.7	7.4	4.3
6	10mg:1014-0001	2.705	2.619	0.3	1.9	3.7	-1.4	4.7	7.0	-1.3	0.3	2.1	-3.0	3.0	5.3

Table 2. Absolute Percent Change (%) From Protocol Defined Baseline or Exploratory Baseline in % Pred FEV 1

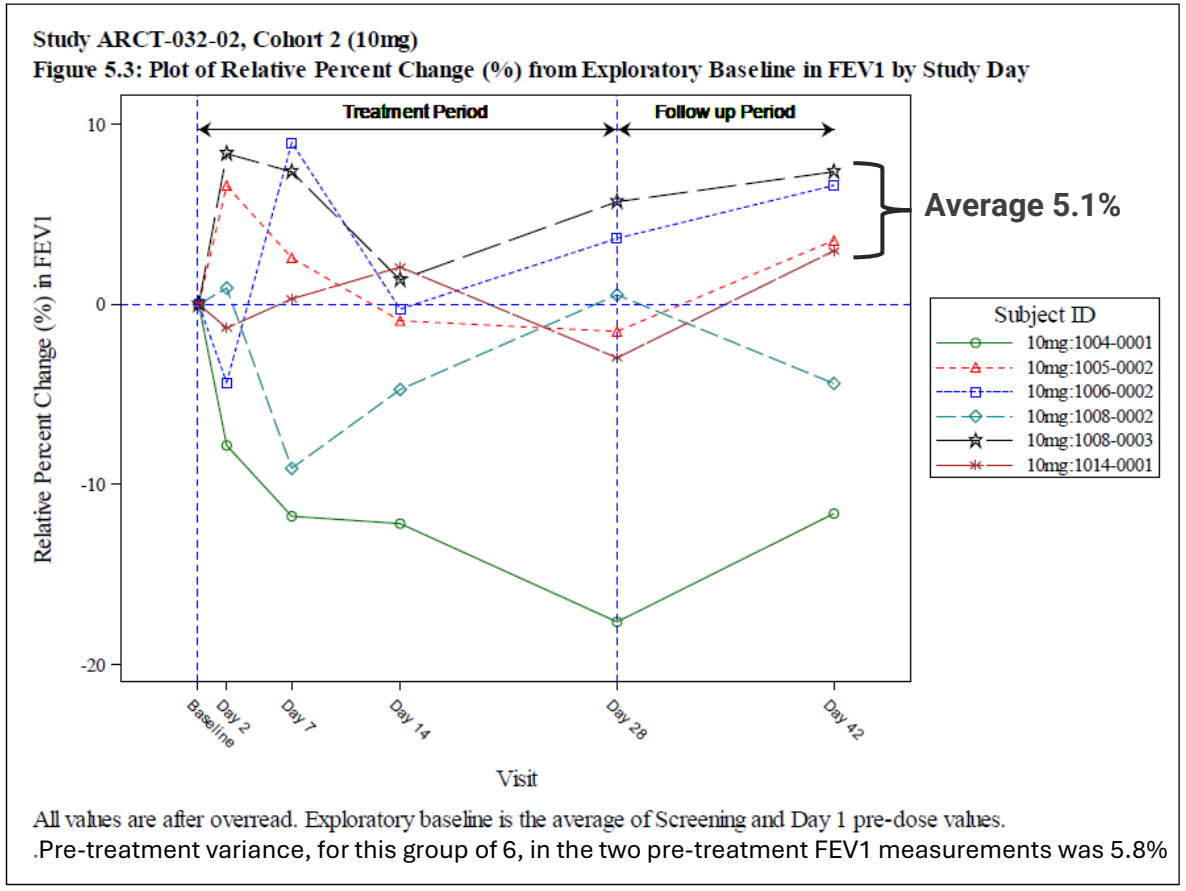
		Observed % Pred FEV 1		Absolute Percent Change (%) from Protocol Defined Baseline in % Pred FEV1						Absolute Percent Change (%) From Exploratory Baseline in % Pred FEV1					
Subject #	Subject	Screening	Day 1	Day 2	Day 7	Day 14	Day 28	Day 42	Day 56	Day 2	Day 7	Day 14	Day 28	Day 42	Day 56
1	10mg:1004-0001	86.2	83.4	-5.3	-8.6	-8.9	-13.5	-8.5	-3.8	-6.7	-10.0	-10.3	-14.9	-9.9	-5.2
2	10mg:1005-0002	86.3	85.7	6.0	2.5	-0.5	-1.0	3.4	6.1	5.7	2.2	-0.8	-1.3	3.1	5.8
3	10mg:1006-0002	67.7	71.2	-4.8	4.5	-2.0	0.8	2.8	-	-3.0	6.3	-0.3	2.5	4.5	-
4	10mg:1008-0002	57.2	68.4	-5.0	-11.3	-8.6	-5.3	-8.4	-11.2	0.6	-5.7	-3.0	0.3	-2.8	-5.6
5	10mg:1008-0003	61.6	72.7	0.1	-0.6	-4.6	-1.8	-0.6	-2.7	5.6	4.9	0.9	3.8	4.9	2.8
6	10mg:1014-0001	85.6	82.8	0.3	1.6	3.1	-1.1	3.9	5.8	-1.1	0.2	1.7	-2.5	2.5	4.4

Cohort 2: FEV1 Exploratory Data Analysis

Subject Number	Dose (mg)	Relative ΔppFEV1 @ d42	Absolute ΔppFEV1 @ d42
5	10	7.4	4.9
3	10	6.6	4.5
2	10	3.5	3.1
6	10	3.0	2.5
4	10	-4.4	-2.8
1	10	-11.6	-9.9

Initial FEV1 data analysis per protocol in the 6 Class I subjects comparing FEV1 on the first day of treatment to FEV1 on day 28, did not show improvement. However, a post-hoc analysis, comparing the averaged FEV1 value in two pretreatment measurements (at screening and on day 1) with the day 42 post treatment FEV1 showed an improvement, as shown in the table above, in 4 of 6 patients. The effect size of these improvements overlap with the variance in FEV1 between the two baseline values. Therefore, caution should be exerted in interpreting these data.

Cohort 2: FEV1 Exploratory Data Analysis



2nd Cohort Subject #	Dose (mg)	Relative ΔppFEV1 @ 42d
5	10	7.4
3	10	6.6
2	10	3.5
6	10	3.0
4	10	-4.4
1	10	-11.6

Average 5.1%

Initial FEV1 data analysis per protocol in the 6 Class I subjects comparing FEV1 on the first day of treatment to FEV1 on day 28, did not show improvement. However, a post-hoc analysis, comparing the averaged FEV1 value in two pretreatment measurements (at screening and on day 1) with the day 42 post treatment FEV1 showed an improvement, as shown in the table above, in 4 of 6 patients. The effect size of these improvements overlap with the variance in FEV1 between the two baseline values. Therefore, caution should be exerted in interpreting these data.

Cohort 2: Mucus Reduction Summary

Subject Number	Dose (mg)	Number of Mucus Plugs % Change @ Day 28	Mucus Volume (mL) % Change @ Day 28
2	10	-38.5%	-67.4%
4	10	-34.9%	-27.5%
6	10	-28.5%	-29.5%
5	10	-9.1%	-6.1%
3	10	23.8%	9.1%
1	10	25.6%	60.9%

4 out of 6 subjects in Cohort 2 exhibited Mucus Reduction (each received 10 mg ARCT-032 daily for 28d)

Averaging the four subjects that exhibited Mucus Reduction (Patients 2, 4, 6, 5):

- **27.8% Reduction in Mucus Plugs**
- **32.6% Reduction in Mucus Volume**

After 28 daily doses (10 mg) of ARCT-032:
Reduction of mucus plugs and mucus volume is encouraging

Lung Images Provided by thirona

utilizing FDA 510(k)-cleared AI Analysis Technology

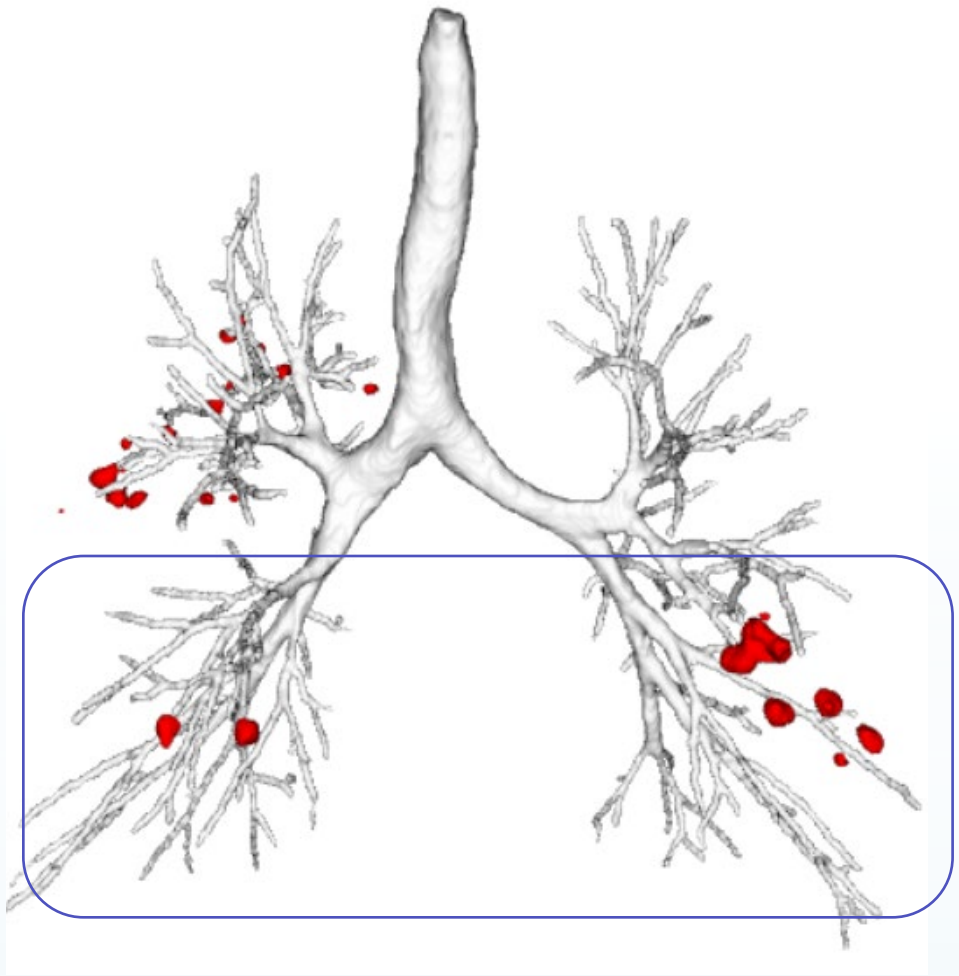
HRCT scans were analyzed using Thirona AI analysis: FDA 510(k)-cleared technology capable of using AI to automatically segment the pulmonary segments and subsegments in the internal anatomy of the lung

Thirona is a global company providing high-precision advanced lung image analysis with artificial intelligence. Since its inception in 2014, the company has established a proven track record in translating technology into certified clinical end-products. Thirona's state-of-the-art lung quantification platform LungQ™ consists of a wide range of robust high-performance AI-based algorithms trained on disease specific datasets, offering market-leading AI analytical capabilities. The unique, scalable AI platform delivers consistent and reproducible results, powering exploratory research studies as well as large multi-site clinical trials.

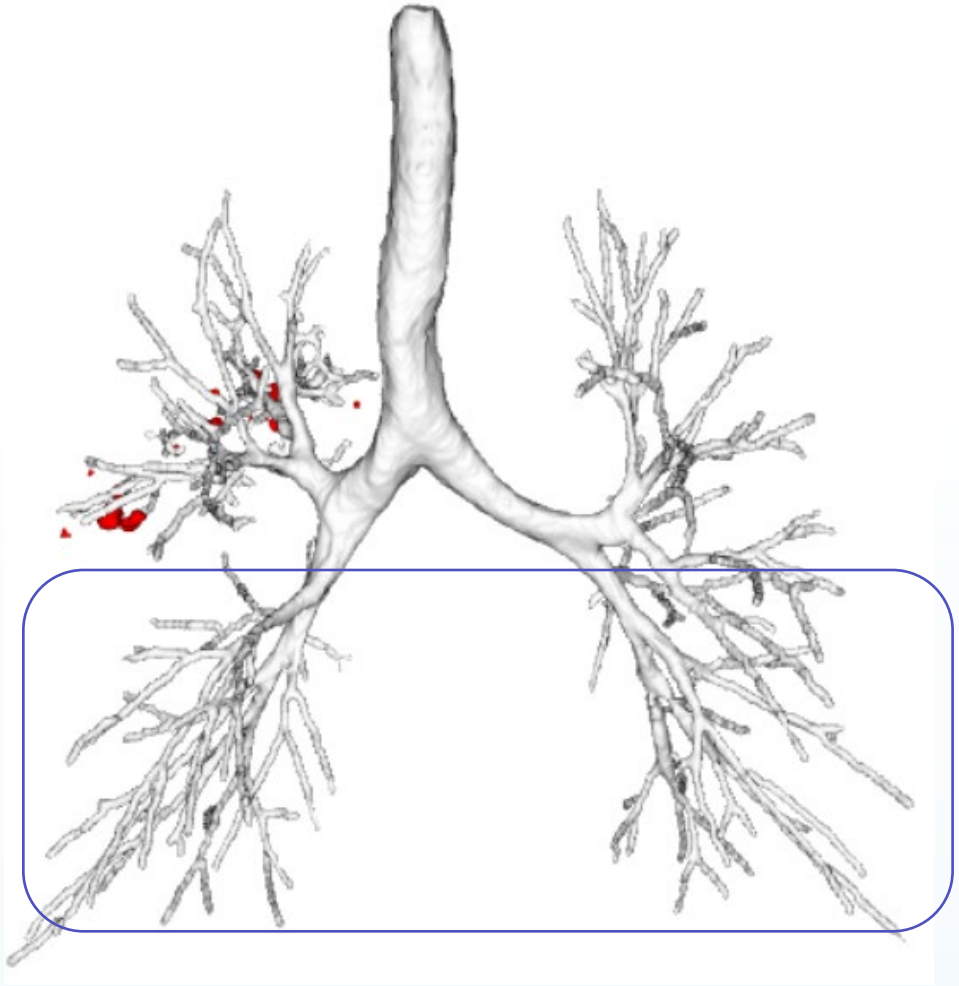
The next four slides display detailed before and after images for the four Class 1 CF patients in the second cohort (10 mg) that exhibited mucus plug reductions. Mucus plugs are colored red.

Cohort 2: Patient 2

Day 0

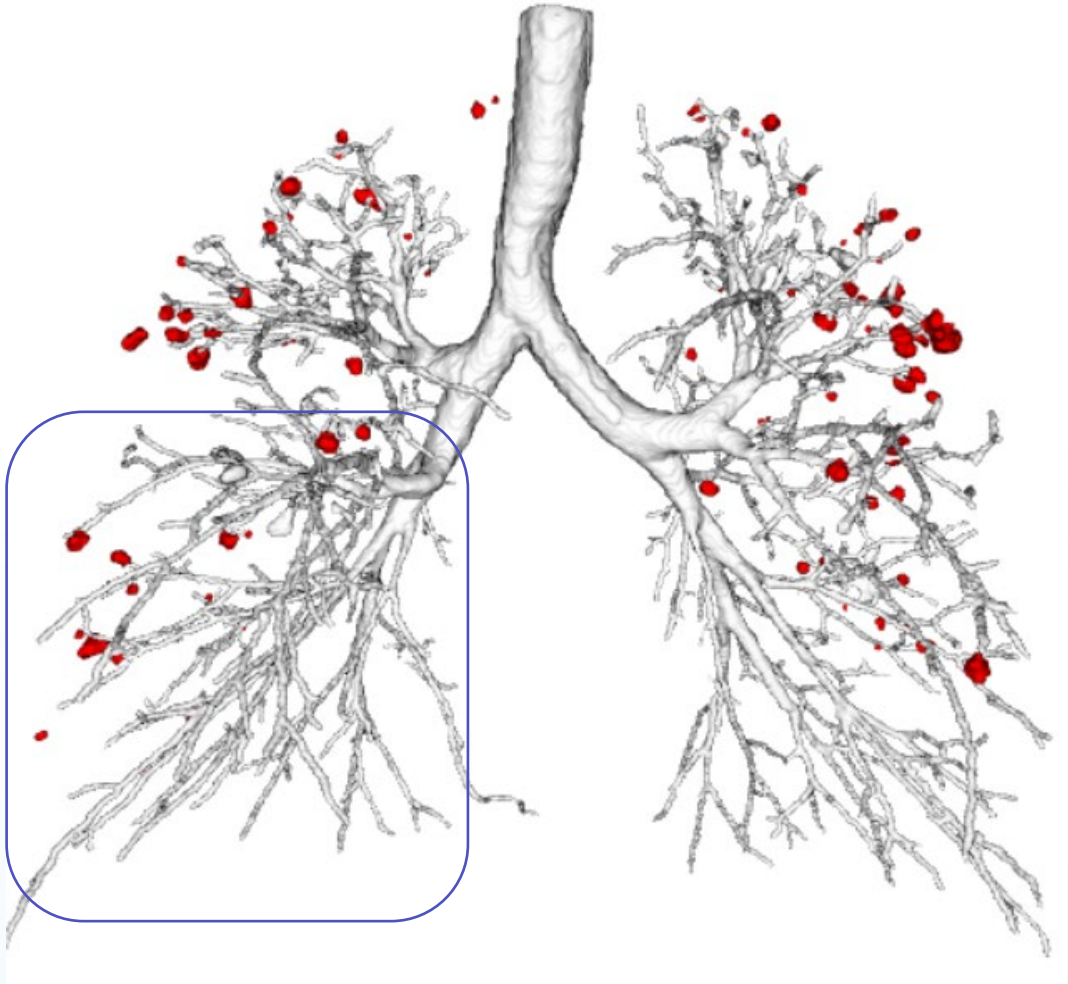


Day 28

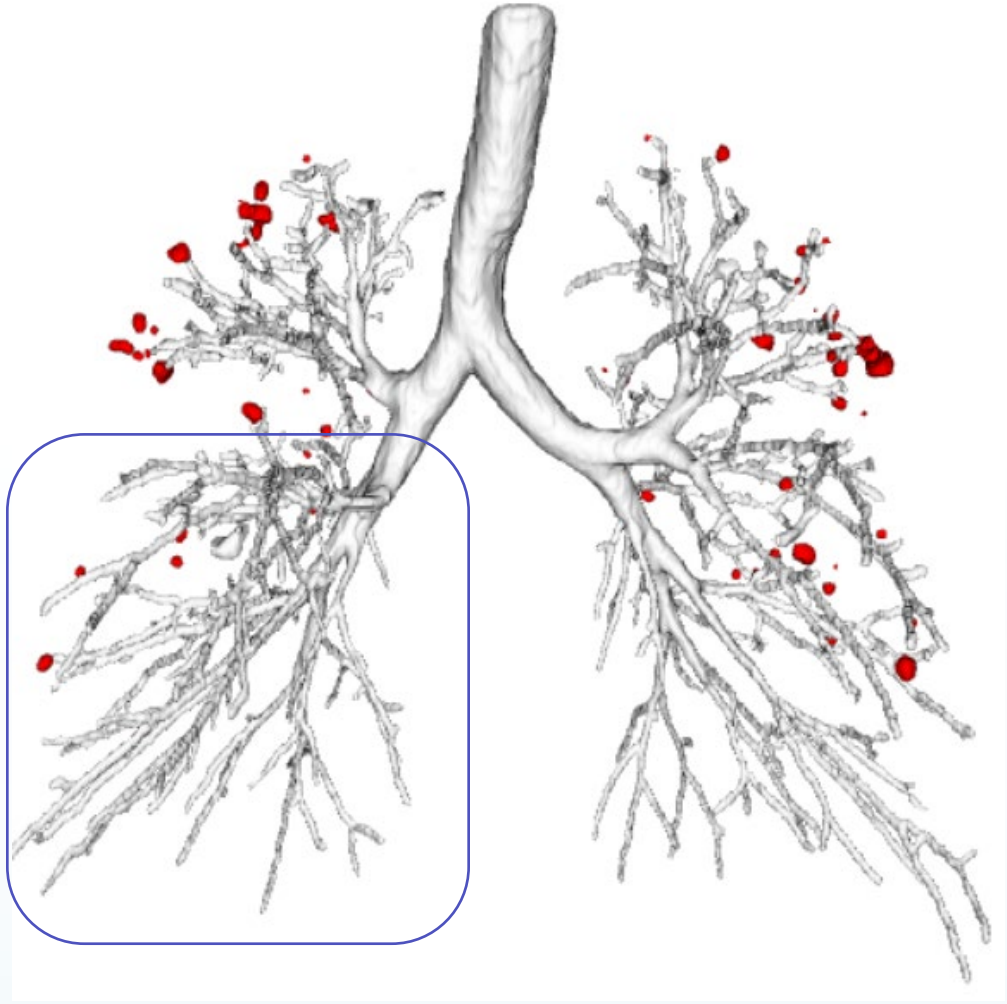


Cohort 2: Patient 4

Day 0

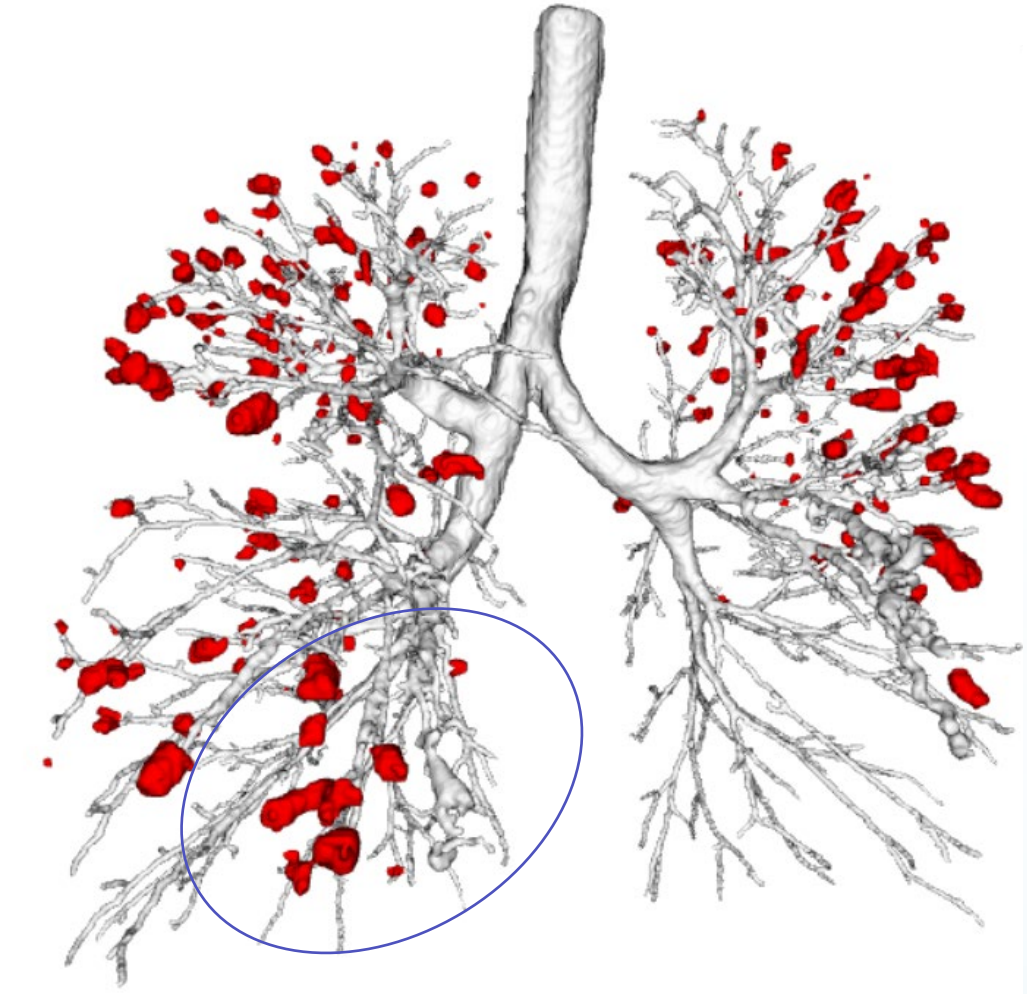


Day 28

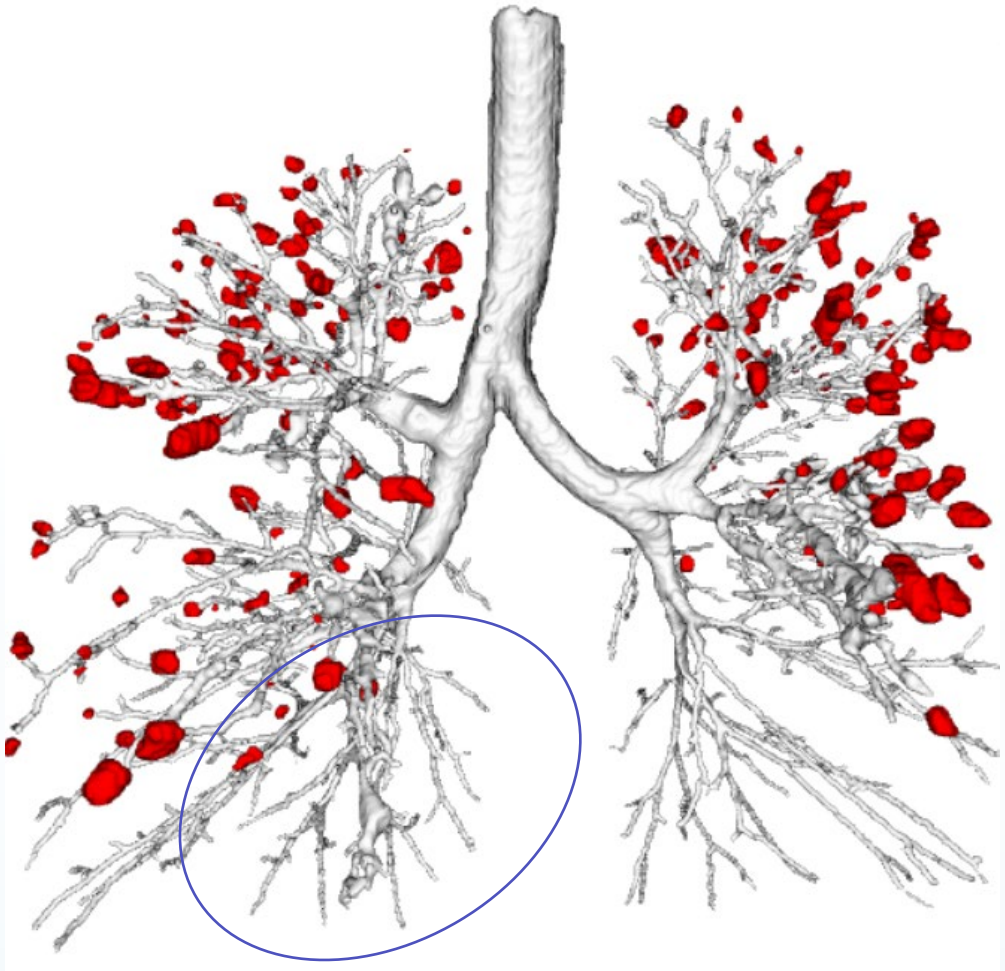


Cohort 2: Patient 5

Day 0

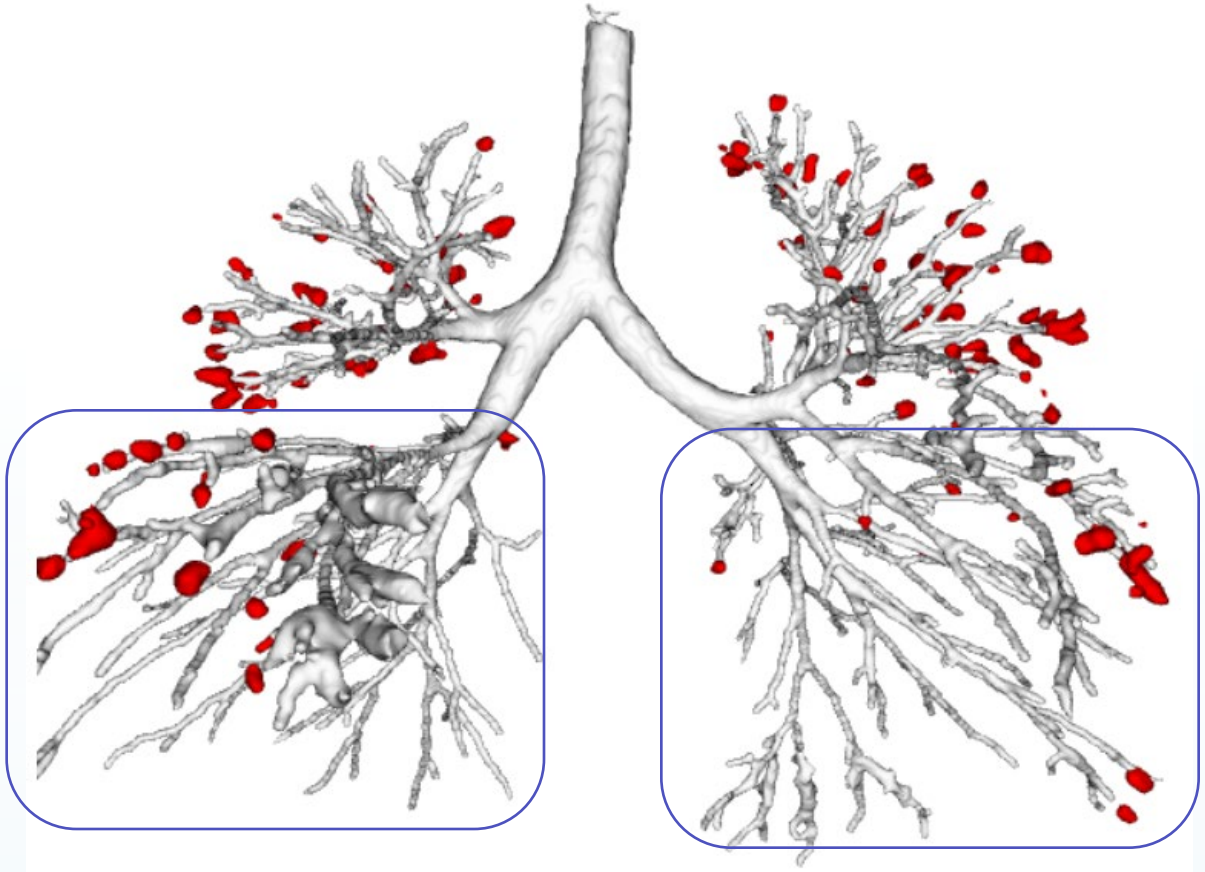


Day 28



Cohort 2: Patient 6

Day 0



Day 28