Supplement Table 1: Relationship between PBL-TL and radiographic changes on HRCT for UCSF SSc-ILD patients

Radiologic Feature n=99	Number		Telomere Length (base pair)		
	with	without	with	without	P-value
Fibrosis	81	18	6559	6551	0.96
Definite or probable UIP pattern	21	78	6430	6592	0.35
Honeycombing	9	90	6378	6575	0.50
Traction bronchiectasis	75	24	6529	6646	0.49
Traction bronchiectasis (moderate-severe)	45	54	6473	6627	0.26
Ground glass opacities	27	72	6815	6460	0.02
Mosaic perfusion	10	89	6529	6560	0.89
Air-trapping	17	82	6457	6578	0.52
Nodules	11	88	6612	6550	0.69
Consolidation	9	90	6719	6541	0.31
Airways	18	81	6453	6580	0.48
Emphysema	8	91	6772	6538	0.35
Cysts	11	88	6679	6542	0.50
Subpleural Sparing	49	50	6630	6486	0.29
Reticulation	77	22	6523	6679	0.30

PBL, peripheral blood leukocyte; TL, telomere length; HRCT, high-resolution computed tomography; UCSF, University of California San Francisco; SSc-ILD, systemic sclerosis associated interstitial lung disease; UIP, usual interstitial pneumonia.

Supplement Table 2: Comparison of baseline data in patients with vs. without longitudinal PFTs

	With longitudinal PFT data included in the analysis (n=72)	Without longitudinal PFT data not included in the analysis (n=62)	p-value
Age, Mean ± SD	54.5 ± 14.6	56.6 ± 10.1	0.34
Female, n (%)	53 (73.6)	54 (87.1)	0.08
Pulmonary function test			
FVC, %Predicted, Mean ± SD	69.5 ± 18.9	71.3 ± 20.0	0.60
FEV1, %Predicted, Mean ± SD	71.5 ± 19.3	71.6 ± 19.1	0.98
DLCO, %Predicted, Mean ± SD	49.7 ± 19.1	55.6 ± 19.7	0.09
High-resolution CT available for scoring, n (%)	50 (69.4)	49 (79.0)	
Fibrosis	42 (84)	39 (79.6)	0.76
Diffuse ground-glass opacities	19 (38)	8 (16.3)	0.03
UIP pattern			0.01
Definite	2 (4)	4 (8.2)	
Probable	3 (6)	12 (24.5)	
Indeterminate	1 (2)	4 (8.2)	
Alternative diagnosis	44 (88)	29 (59.2)	
MUC5B rs35705950 genotype			0.71
GG, n (%)	60 (83.3)	54 (87.1)	
GT, n (%)	12 (16.7)	8 (12.9)	
MAF	8.3%	6.5%	
Telomere length (bp), Mean ± SD	6562 ± 620	6546 ± 731	0.89

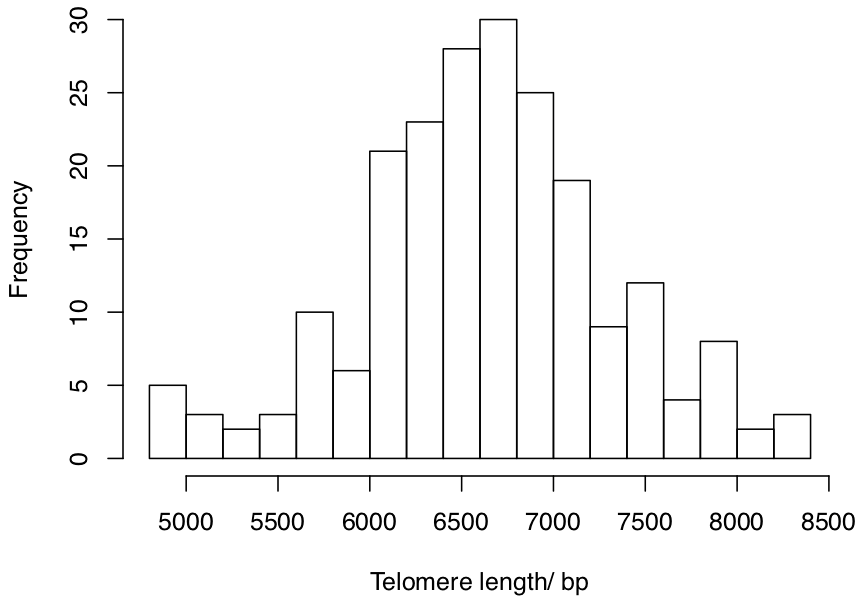
PFT, pulmonary function test; FVC, forced vital capacity; FEV1, forced expiratory volume in 1 second; DL_{CO}, diffusing capacity for carbon monoxide; UIP, usual interstitial pneumonia; MAF, minor allele frequency.

Supplement Table 3: Baseline characteristics of patients with SSc-ILD and longitudinal PFT trends.

	UCSF cohort	SU cohort	p-value
	SSc-ILD (n=72)	**SSc-ILD (n=61)**	
Age, Mean ± SD	54.5 ± 14.6	55.9 ± 13.8	0.57
Female, n (%)	53 (73.6%)	52 (85.2%)	0.15
BMI, Mean ± SD	25.2 ± 4.3	24.4 ± 4.6	0.35
Smoking status			0.73
Never smoker, n (%)	50 (69.4%)	38 (62.3%)	
Current smoker, n (%)	1 (1.4%)	1 (1.6%)	
Former smoker, n (%)	21 (29.2%)	22 (36.1%)	
PFT at baseline			
FVC, %Predicted, Mean ± SD	69.8 ± 17.4	79.8 ± 18.3	0.002
FEV1, %Predicted, Mean ± SD	71.5 ± 19.3	86.1 ± 20.5	<0.001
DL_{CO}, %Predicted, Mean ± SD	48.8 ± 18.6	65.8 ± 21.2	<0.001
Anti-topoisomerase I antibody			0.12
Positive, n (%)	31 (43.1%)	17 (27.9%)	
Negative, n (%)	39 (54.2%)	41 (67.2%)	
Unknown, n (%)	2 (2.8%)	3 (4.9%)	
Pulmonary hypertension, n (%)	20 (27.8%)	19 (31.1%)	0.81
High-resolution CT available for scoring	50 (69.4%)	61 (100%)	
Diffuse ground-glass opacities	19 (38.0%)	49 (80.3%)	<0.001
Honeycombing	4 (8.0%)	10 (16.4%)	0.28

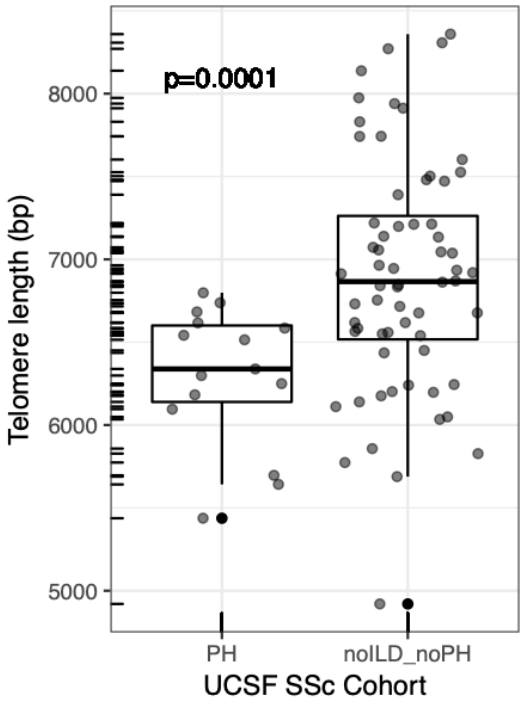
SSc-ILD, systemic sclerosis associated interstitial lung disease; PFT, pulmonary function test; UCSF, University of California San Francisco; SU, Stanford University; BMI, body mass index; FVC, forced vital capacity; FEV1, forced expiratory volume in 1 second; DL_{CO}, diffusing capacity for carbon monoxide.

Supplement Figure 1: Distribution of PBL-TL for the entire UCSF cohort (n=213)



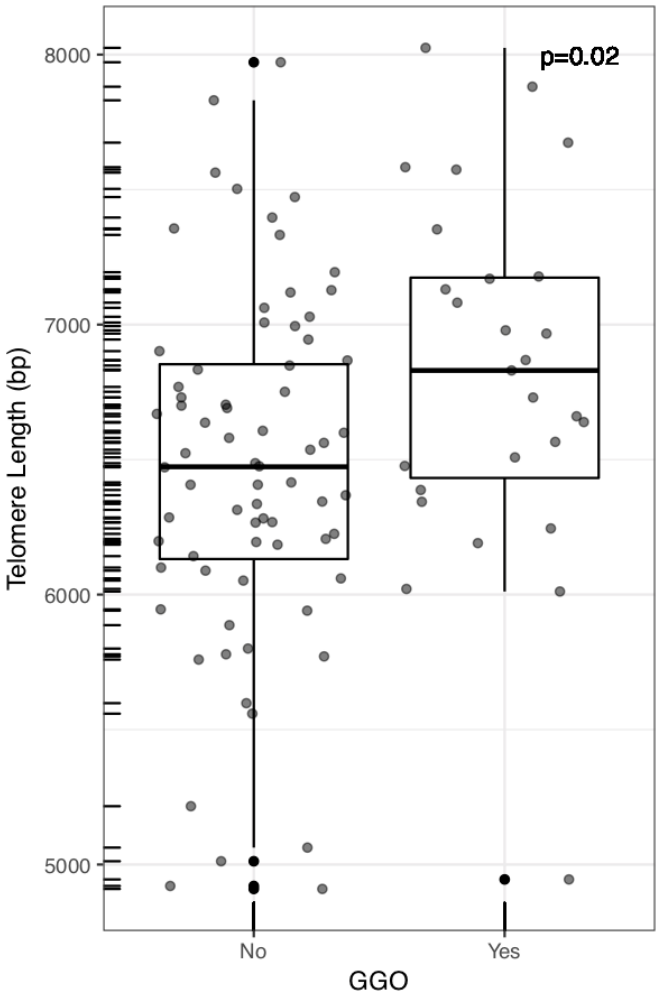
PBL, peripheral blood leukocyte; TL, telomere length; UCSF, University of California San Francisco.

Supplement Figure 2: UCSF SSc patients with PH had shorter PBL-TL compared to controls (n=79)



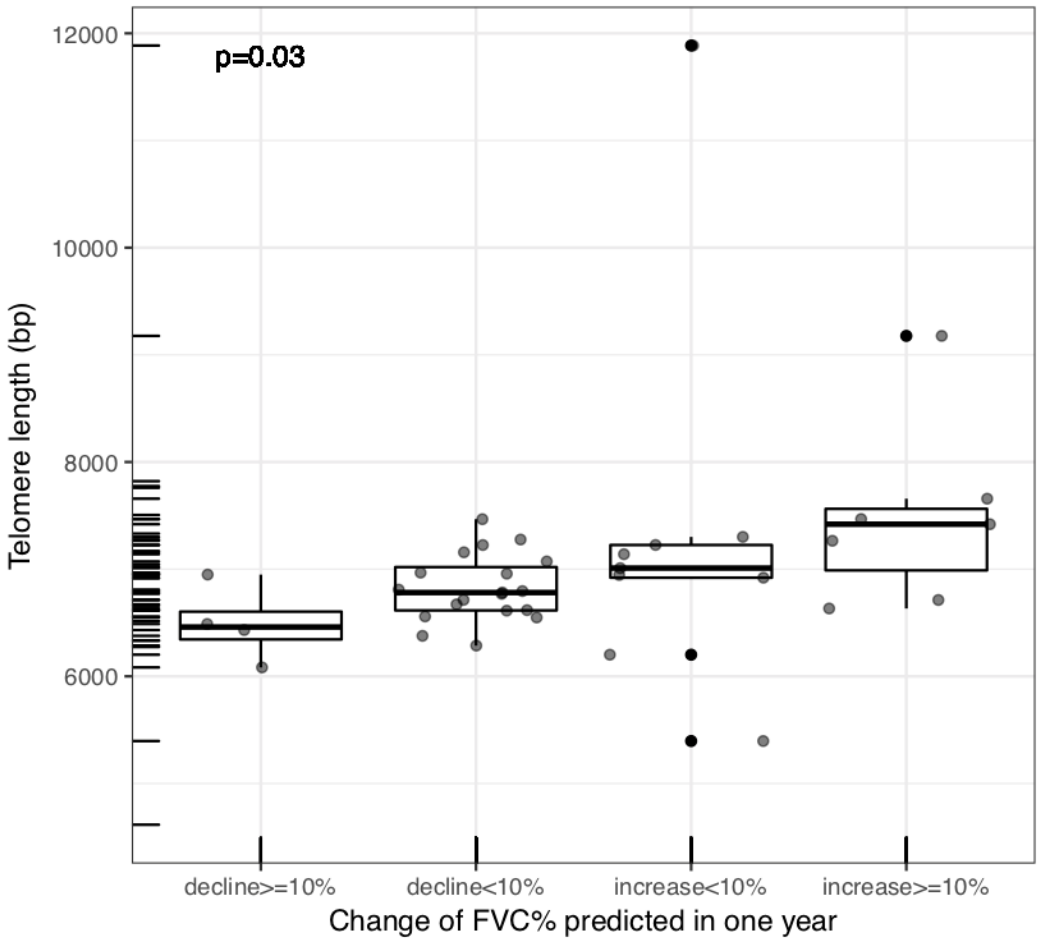
UCSF, University of California San Francisco; SSc, systemic sclerosis; PH, pulmonary hypertension; PBL, peripheral blood leukocyte; TL, telomere length; ILD, interstitial lung disease.

Supplement Figure 3: UCSF SSc-ILD patients with diffuse GGO on HRCT had longer PBL-TL (n=99)



UCSF, University of California San Francisco; SSc-ILD, systemic sclerosis associated interstitial lung disease; GGO: ground-glass opacity; HRCT, high-resolution computed tomography; PBL, peripheral blood leukocyte; TL, telomere length.

Supplement Figure 4: Boxplot of PBL-TL in SU SSc-ILD patients stratified by one-year change of FVC percent predicted (n=39)



PBL, peripheral blood leukocyte; TL, telomere length; SU, Stanford University; SSc-ILD, systemic sclerosis associated interstitial lung disease; FVC, forced vital capacity.