

Supplementary Table 1

Full Cohort Baseline Characteristic	IPF (N=575)	IIP (N=90)	CTD-ILD (N=148)	Other (N=34)	Total (N=847)
Baseline Age n Mean (SD) Median Min-max	575 71.0 (8.0) 71.3 23.0-91.9	90 65.1 (10.8) 67.3 33.8-85.2	148 61.3 (12.4) 62.7 19.8-86.6	34 62.7 (10.7) 62.1 44.9-84.9	847 68.3 (10.2) 69.8 19.8-91.9
Sex Female Male	156 (27.1%) 419 (72.9%)	29 (32.3%) 61 (67.8%)	94 (63.5%) 54 (36.5%)	17 (50%) 17 (50%)	296 (35.0%) 551 (65.0%)
Race/ethnicity White Nonwhite	544 (94.6%) 31 (5.4%)	80 (88.9%) 10 (11.1%)	115 (77.7%) 33 (22.3%)	30 (88.2%) 4 (11.8%)	769 (90.8%) 78 (9.2%)
BMI n Mean (SD) Median Min-max	533 29.19 (5.4) 28.5 15.3-59.4	84 30.9 (7.3) 30.1 12.8-58.3	138 29.8 (7.5) 28.7 12.1-63.3	34 28.0 (6.2) 28.2 17.2-39.9	789 29.4 (6.1) 28.7 12.1-63.3
Tobacco Use History Current Former Never	2 (0.003%) 358 (62.2%) 415 (72.2%)	4 (4.4%) 42 (46.7%) 44 (48.9%)	3 (2.0%) 63 (42.6%) 82 (55.4%)	2 (5.9%) 16 (47.1%) 16 (47.1%)	11 (1.3%) 479 (56.6%) 357 (42.1%)
Time from IPF diagnosis to baseline (days) n Mean (SD) Median Min-max	575 942.3 (982) 622 -3-6712	90 1148.7 (1369) 590.5 -8-6332	148 1315.8 (1305) 858.5 0-5694	34 1438.6 (1334) 948.5 26-5166	847 1049.4 (1114) 680 -8-6712
Standard of Care at Enrollment Pirfenidone Nintedanib Neither	221 (38.4%) 172 (29.9%) 182 (31.7%)	5 (5.6%) 4 (4.4%) 81 (90%)	4 (2.7%) 0 144 (97.3%)	4 (12.5%) 1 (3.1%) 27 (84.4%)	234 (27.6%) 177 (20.9%) 436 (51.5%)
Baseline %FVC n Mean (SD) Median Min-max <50% 50-80% ≥80%	537 68.5 (16.8) 67.8 27.4-120.4 74 (13.8%) 328 (61.1%) 135 (25.1%)	84 72.2 (20.5) 70.0 26.8-117.5 9 (10.7%) 47 (60.0%) 28 (33.3%)	138 68.7 (19.1) 65.6 29.3-120.2 22 (15.9%) 82 (59.4%) 34 (24.6%)	34 71.1 (20.6) 67.1 25.4-117.2 3 (8.8%) 22 (64.7%) 9 (26.5%)	793 69.0 (17.8) 67.5 25.4-120.4 108 (13.6%) 479 (60.4%) 206 (25.9%)
Baseline FEV1/FVC n Mean (SD) Median Min-max	537 0.82 (0.08) 0.82 0.45-1.56	84 0.81 (0.11) 0.80 0.51-1.32	138 0.80 (0.09) 0.81 0.52-1.26	34 0.79 (0.08) 0.79 0.58-0.95	793 0.8 (0.1) 0.8 0.4-1.6
Baseline Hgb-corrected DLCO (% predicted) n	215	45	58	14	332

Mean (SD) Median Min-max	39.8 (14.2) 38.7 9.8-93.3	46.2 (20.1) 43.1 14.8-98.4	46.1 (19.1) 43.1 10.4-96.6	38.6 (19.2) 39.2 7.7-75.3	41.7 (16.4) 40.0 7.7-98.4
FVC Slope 1 Year (L/year) n Mean (SD) Median Min-max	469 -0.13 (0.45) -0.11 -2.17-1.99	70 -0.04 (0.43) -0.07 -1.22-1.22	111 -0.06 (0.36) -0.07 -1.02-1.86	28 0.11.2 (0.55) -0.05 -0.47-2.23	688 -0.10 (0.44) -0.09 -2.17-2.23
FVC Slope 2 Years (L/year) n Mean (SD) Median Min-max	485 -0.16 (0.37) -0.13 -2.17-1.65	75 -0.09 (0.34) -0.08 -1.22-0.97	120 -0.03 (0.28) -0.03 -0.75-1.86	29 0.02 (0.34) -0.02 -0.63-1.09	719 -0.12 (0.35) -0.09 -2.17-1.86
Corticosteroids* Yes No	189 (32.9%) 386 (67.1%)	50 (55.6%) 40 (44.4%)	105 (70.9%) 43 (29.1%)	27 (79.4%) 7 (20.6%)	371 (43.8%) 476 (56.2%)
Immunosuppressants** Yes No	41 (7.1%) 534 (92.9%)	42 (46.7%) 48 (53.3%)	134 (90.5%) 14 (9.5%)	13 (38.2%) 21 (61.8%)	230 (27.2%) 617 (72.8%)

*Conmed Group: Corticosteroids at any time (to treat lung condition) (Do not include topical treatments)

** Conmed Groups: Mycophenolate (CellCept, etc.), Hydroxychloroquine (Plaquenil, etc.), Rituximab (Rituxan, etc.), Azathioprine (Imuran, etc.), Tacrolimus (Prograf, etc.), Cyclosporin A (Cyclosporine modified, Gengraf, Neoral, Restasis, Sandimmune, Sandoz Cyclosporine, etc.), Adalimumab (Humira, etc.), Etanercept (Enbrel, etc.), Tocilizumab (Actemra, etc.), Infliximab (Remicade, etc.), Cyclophosphamide (Cytoxan, etc.), Methotrexate (Trexall, etc.), Abatacept (Orencia, etc.), Golimumab (Simponi, etc.), Leflunomide (Arava, etc.), Belimumab (Benlysta, LymphoStat-B, etc.); at any time

Supplementary Table 2

Diagnosis Subgroup	
IPF (N=575)	"IIP: Idiopathic pulmonary fibrosis"
IIP (N=90)	"IIP: Unclassifiable" "IIP: Nonspecific interstitial pneumonia (NSIP) - Fibrotic" "IIP: Lymphocytic interstitial pneumonia (LIP)" "IIP: Desquamative interstitial pneumonitis (DIP)" "IIP: Nonspecific interstitial pneumonia (NSIP) - Cellular" "IIP: Cryptogenic organizing pneumonitis (COP)" "IIP: Pleuroparenchymal fibroelastosis (PPFE)"
CTD-ILD (N=148)	"Collagen Vascular Disease/Autoimmune Diseases: Rheumatoid arthritis" "Collagen Vascular Disease/Autoimmune Diseases: Antisynthetase syndrome" "Collagen Vascular Disease/Autoimmune Diseases: Systemic sclerosis/scleroderma" "Collagen Vascular Disease/Autoimmune Diseases: Sjogrens syndrome" "Collagen Vascular Disease/Autoimmune Diseases: Polymyositis/Dermatomyositis" "Collagen Vascular Disease/Autoimmune Diseases: Systemic lupus erythematosus" "Collagen Vascular Disease/Autoimmune Diseases: Undifferentiated connective tissue disease" "Collagen Vascular Disease/Autoimmune Diseases: Mixed connective tissue disease" "Collagen Vascular Disease/Autoimmune Diseases: ANCA - vasculitis/pulmonary capillaritis/vasculitis" "Collagen Vascular Disease/Autoimmune Diseases: Ankylosing spondylitis" "Collagen Vascular Disease/Autoimmune Diseases: Granulomatosis with polyangiitis"
Other (N=34)	"Hypersensitivity pneumonitis: Other (specify)" "Occupational exposure: Asbestosis" "Occupational exposure: Berylliosis" "Occupational exposure: Hard metal" "Occupational exposure: Other (specify)" "Other specific ILD: Chronic aspiration" "Other specific ILD: Pulmonary Langerhans cell histiocytosis (Eosinophilic granuloma)" "Other specific ILD: Other (specify)" "Drug or Treatment Induced: Radiation" "Drug or Treatment Induced: Nitrofurantoin (Macrobid / Macrochantin)" "Drug or Treatment Induced: Other (specify)"

Supplementary Table 3

Baseline Characteristic	Healthy Controls (N=30)
Baseline Age n Mean (SD) Median Min-max	30 66.9 (6.0) 65 60-82
Sex Female Male	6 (20%) 24 (80%)
Race/ethnicity White Nonwhite	27 (90%) 3 (10%)

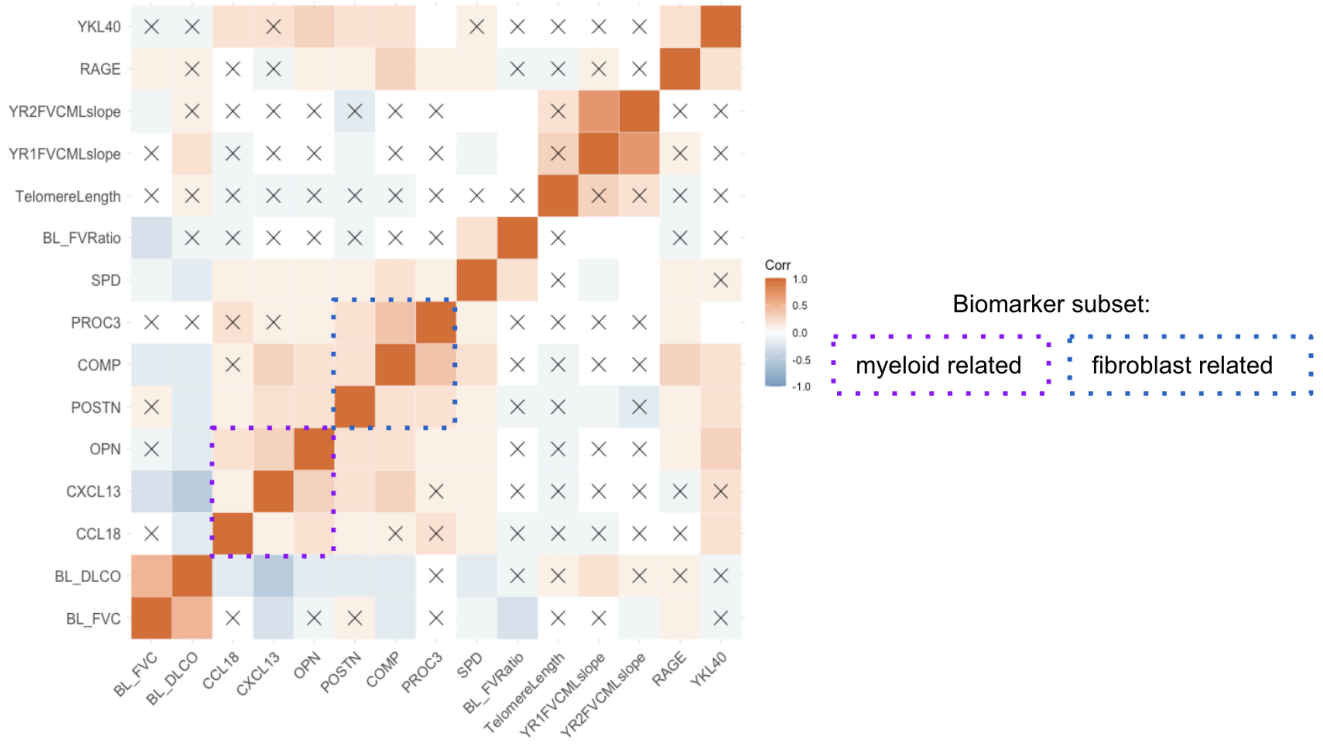
Supplementary Table 4:

Associations of Baseline Biomarkers with FVC Slope. SP-D or Periostin levels were used in a linear regression analysis to predict FVC slope over one year, with and without adjustment for baseline patient characteristics.

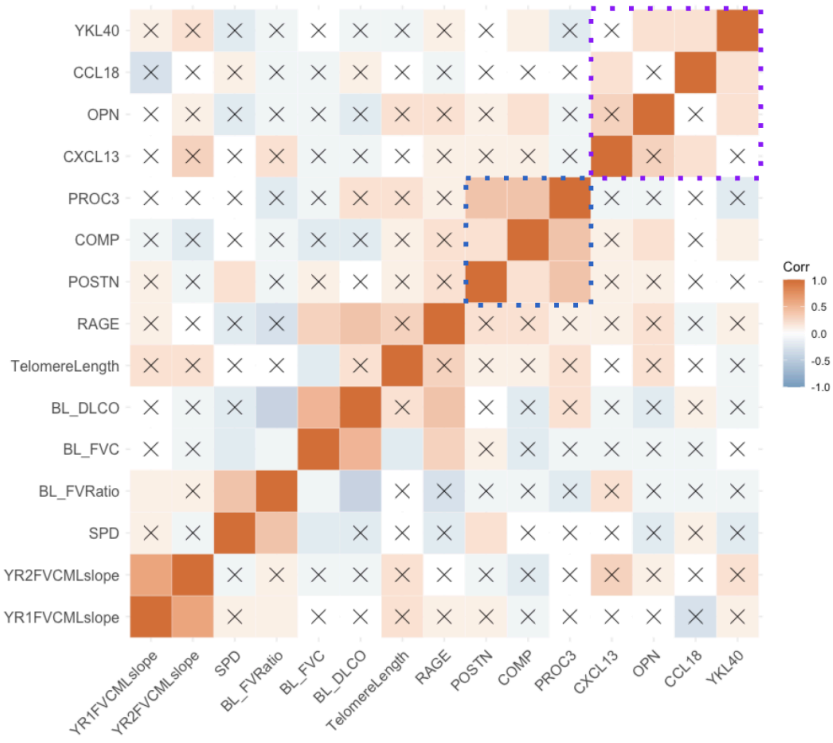
Covariates Used for Adjustment	SP-D FVC Slope over 1 year		Periostin FVC Slope over 1 year	
	Adjusted R ²	p-value	Adjusted R ²	p-value
None	0.01506	0.000733	0.005066	0.0345
Baseline FVC	0.02042	0.0004382	0.009228	0.01802
Age	0.01363	0.00352	0.003638	0.1061
Sex	0.01377	0.003189	0.00374	0.1025
Height	0.01363	0.003354	0.003996	0.09385

Supplementary Figure 1:
Subsets of Biomarkers Correlated Across ILD Diagnosis Groups

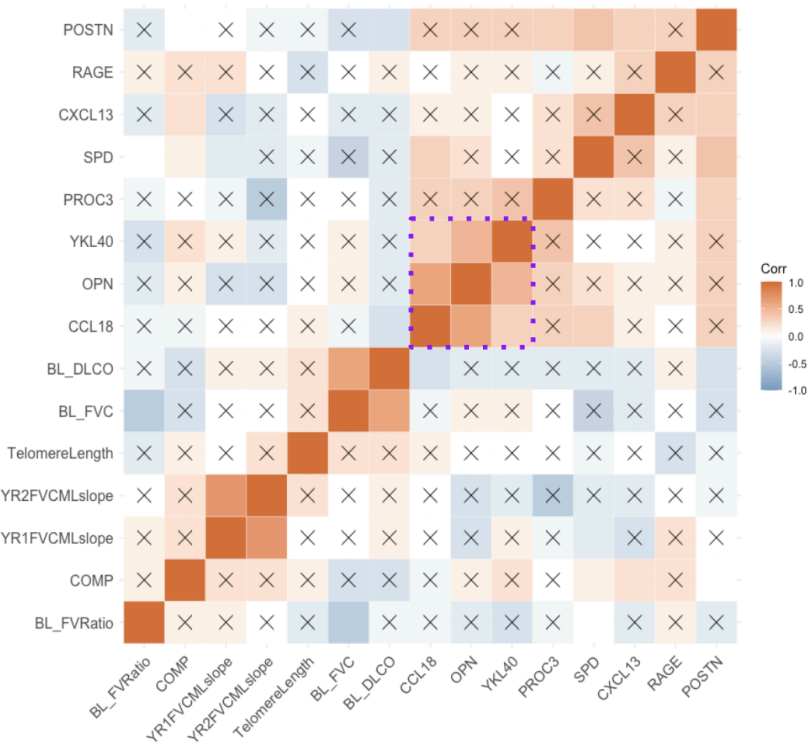
IPF



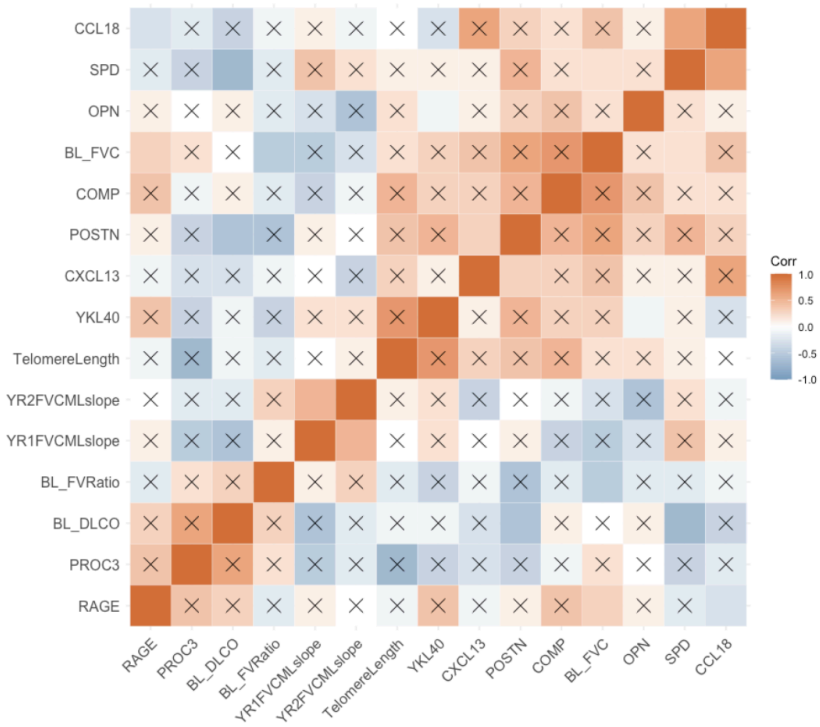
CTD-ILD



IIP



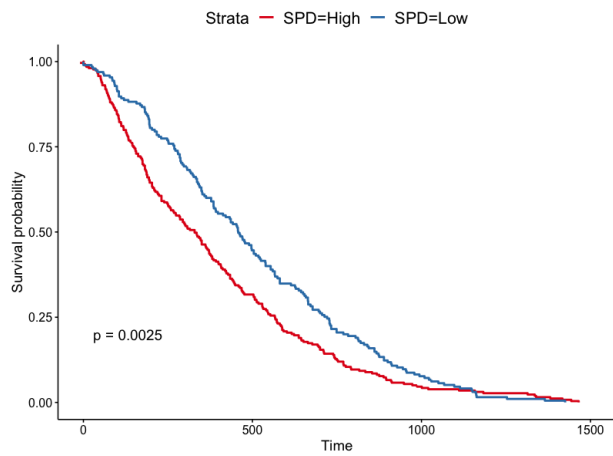
Other

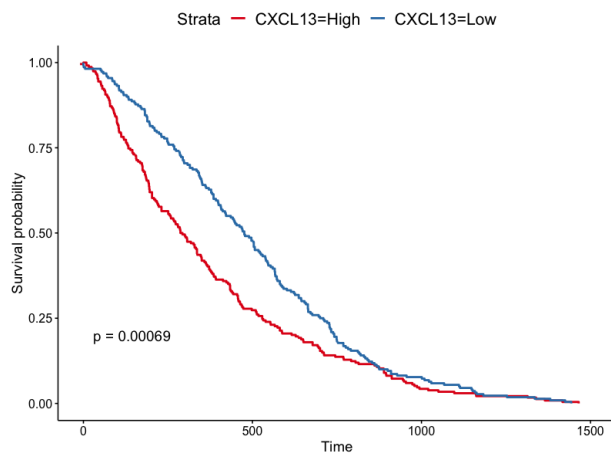
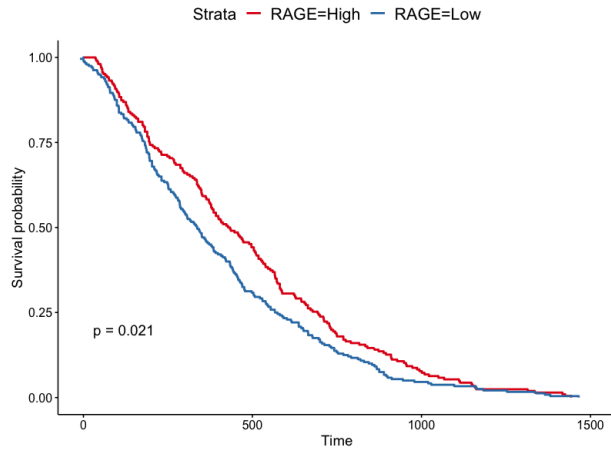


Spearman correlations shown
 "X" indicates non-significant p-value

Supplementary Figure 2

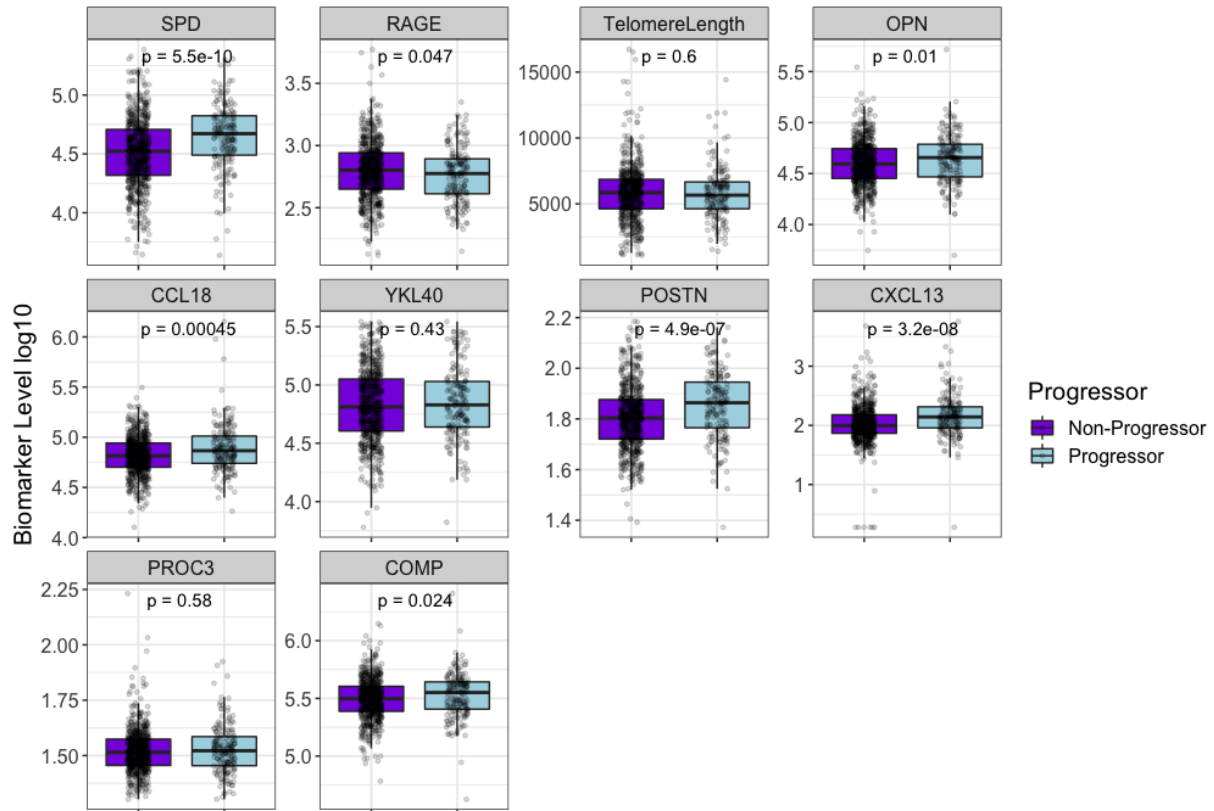
Time to Relative Decline in FVC% predicted $\geq 10\%$, death, or respiratory hospitalization - Stratified by Biomarker Level





Patients were stratified by median biomarker level into High and Low groups. Time to endpoint analysis was done using relative decline in FVC%, death, or respiratory hospitalization. Time is shown in days on the x-axis. Regular log-rank test was used to determine p-values.

Supplementary Figure 3
 Biomarker Levels in Progressors/Non-progressors



The full patient cohort was evaluated for progression over one year. Progression was defined by FVC% decline $\geq 10\%$, death, or lung transplant. 186 out of 847 (22%) patients were selected as progressors using this criteria. Differences in biomarker level were compared using unadjusted t-tests.