

Supplementary materials

Comparative Study of Circulating MMP-7, CCL18, KL-6, SP-A, and SP-D as **Disease Markers
of Idiopathic Pulmonary Fibrosis**

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TABLE S1: Cut off values and the discriminatory ability of five biomarkers by ROC curve analysis, which distinguishes patients with IPF from (a) BP and (b) HC.

(a)

	MMP-7	CCL18	KL-6	SP-A	SP-D
AUC	0.8998	0.5365	0.9918	0.5494	0.7866
95% CI	0.8280–0.9715	0.6642–0.4088	0.9806–1.0030	0.4250–0.6738	0.6852–0.8880
Cut-off value	5.56 ng/ml	38.7 ng/ml	476 U/ml	44.0 ng/ml	107.0 ng/ml
Sensitivity	87.7%	66.2%	96.9%	66.2%	84.6%
Specificity	77.4%	32.3%	93.5%	61.9%	61.3%
Diagnostic accuracy	84.4%	55.2%	95.8%	65.1%	77.1%
Likelihood ratio	3.9	1.0	15.0	1.7	2.2

(b)

	MMP-7	CCL18	KL-6	SP-A	SP-D
AUC	0.9837	0.7767	0.9969	0.8572	0.9673
95% CI	0.9652–1.0020	0.7140–0.8519	0.9922–1.0020	0.8019–0.9125	0.9442–0.9903
Cut-off value	5.56 ng/ml	38.7 ng/ml	476 U/ml	44.0 ng/ml	107.0 ng/ml
Sensitivity	87.7%	66.2%	96.9%	66.2%	84.6%
Specificity	98.0%	78.2%	100.0%	86.1%	97.0%
Diagnostic accuracy	94.0%	73.5%	98.8%	78.3%	92.2%

Likelihood ratio	44.3	3.0	—	4.8	28.5
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ROC: receiver operating characteristic, IPF: idiopathic pulmonary fibrosis, BP: bacterial pneumonia, HC: healthy controls, MMP-7: matrix metalloproteinase-7, CCL18: CC-chemokine ligand 18, KL-6: Krebs von den Lungen-6, SP-A: surfactant protein-A, SP-D: surfactant protein-D, 95% CI: 95% confidence interval

FIGURE S1: ROC curve analysis in serum levels of KL-6, MMP-7 and the combination of serum levels of KL-6 and MMP-7 to distinguish IPF patients from patients with bacterial pneumonia and healthy controls. There was no significant difference between the combination of KL-6 and MMP-7 and either marker alone in the area under the curve of ROC.

FIGURE S2: ROC curve analysis in five biomarkers to distinguish IPF patients from (a) those with bacterial pneumonia and (b) healthy controls.

FIGURE S3: Kaplan-Meier analysis of the IPF patients using biomarker levels above or below the cut-off levels.

FIGURE S4: Martingale residuals plots employed to check for assumptions of the Cox proportional hazards model.

FIGURE S1:

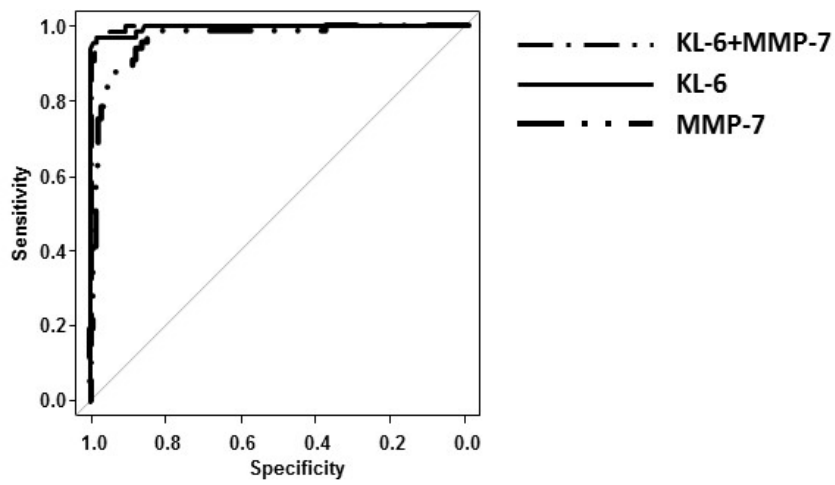


FIGURE S2:

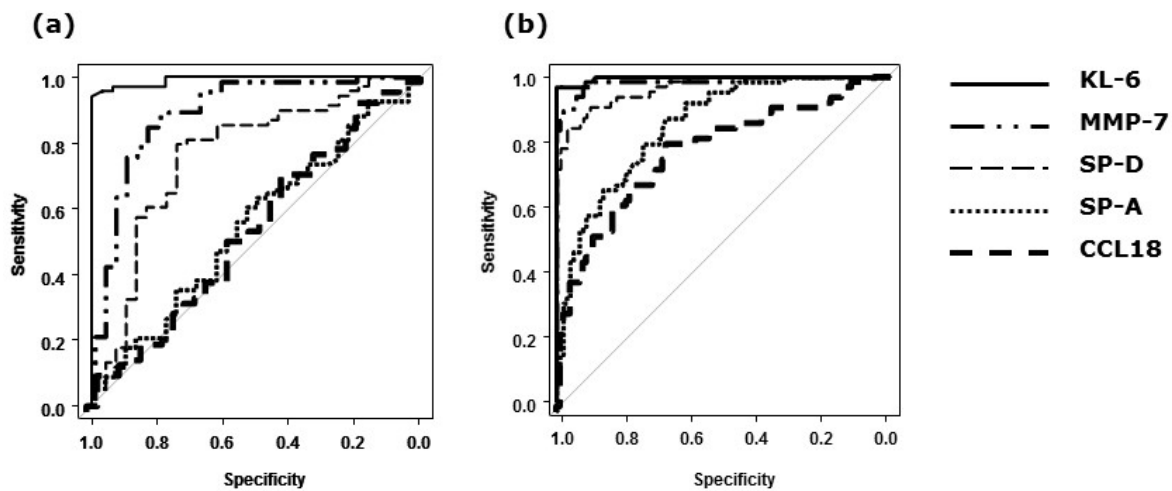


FIGURE S3:

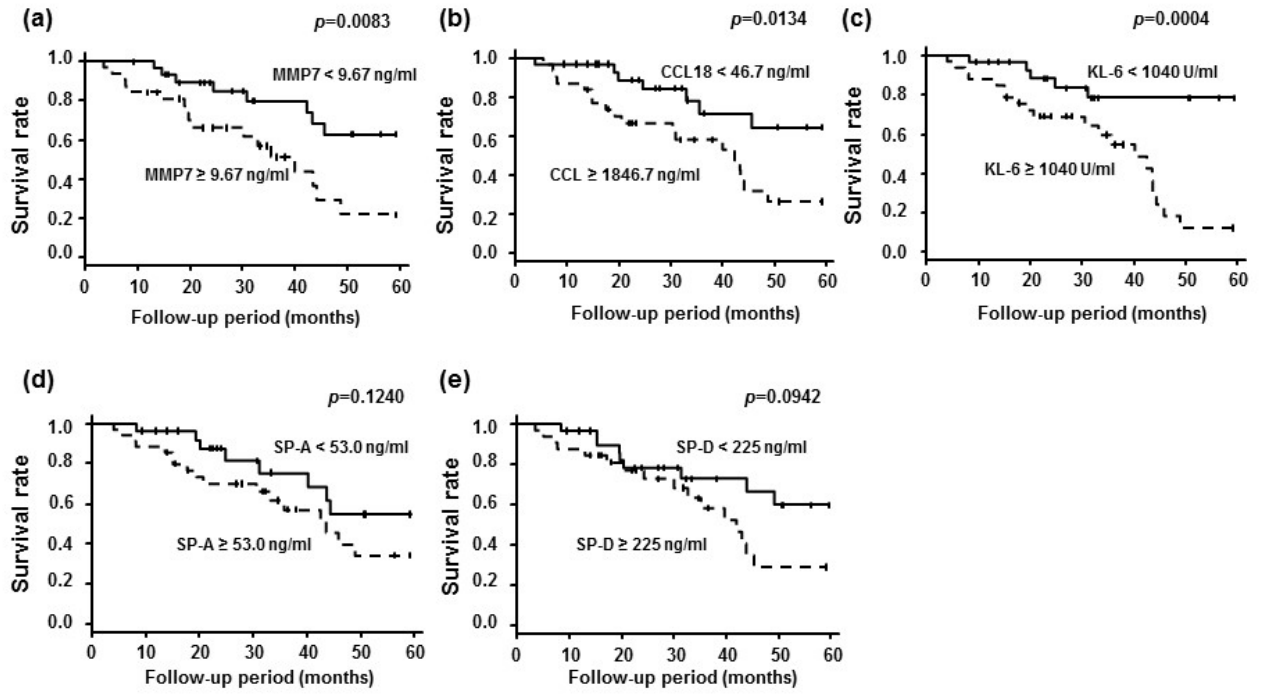


FIGURE S4:

