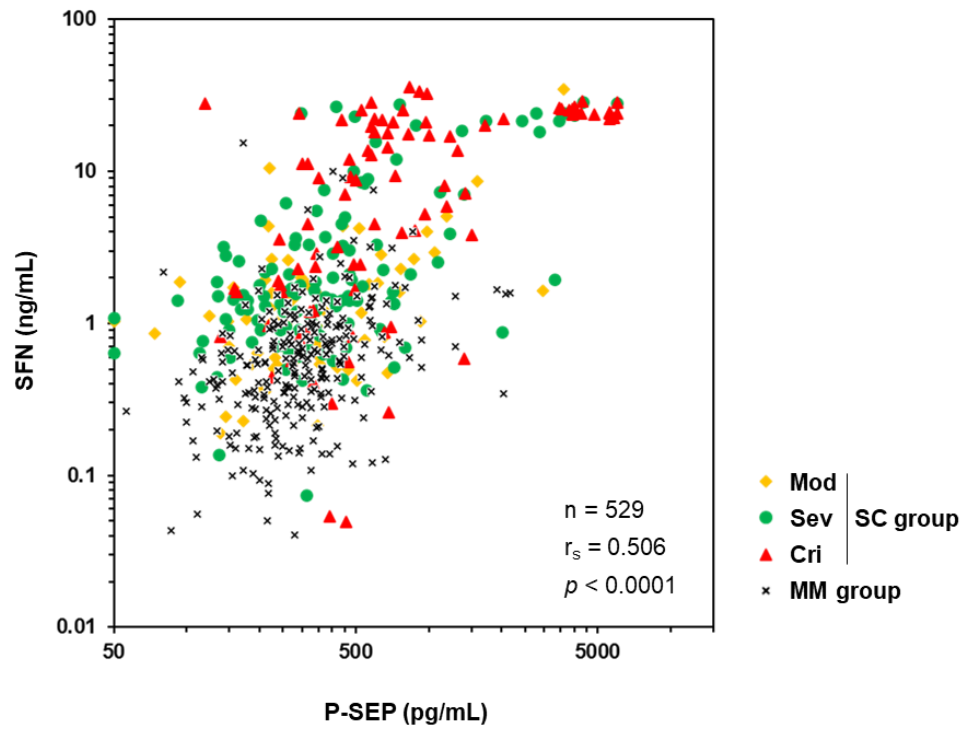# Supplementary materials

Supplementary Table 1. Reference values and serum levels of biomarkers analyzed in this study.

	Biomarker	Unit	Reference value [#1]	Stage	Concentration, mean ± SD, [n]					
					MM group		SC group			
					Mild (All)	Moderate (All)	Moderate (1st day)	Severe (1st day)	Critical (1st day)	Mild (recovery)
cohort_1	SFN	ng/mL	0.9		0.5 ± 0.2 [14]	1.1 ± 0.5 [18]	1.4 ± 1.0 [13]	5.9 ± 9.1 [18]	7.3 ± 7.7 [7]	0.8 ± 0.2 [7]
	P-SEP	pg/mL	323		183 ± 70 [14]	377 ± 308 [18]	675 ± 735 [13]	935 ± 957 [18]	1284 ± 1947 [7]	163 ± 50 [7]
	KAL	µg/mL	6.0		12.1 ± 3.3 [14]	7.7 ± 2.9 [18]	8.2 ± 2.1 [13]	6.0 ± 2.2 [18]	5.1 ± 2.1 [7]	15.4 ± 3.1 [7]
	KL-6	U/mL	378		256 ± 61 [14]	224 ± 78 [17]	280 ± 210 [13]	281 ± 217 [18]	409 ± 467 [7]	589 ± 323 [7]
	SP-D	ng/mL	144		65 ± 39 [14]	36 ± 35 [15]	67 ± 129 [8]	47 ± 55 [16]	223 ± 227 [7]	145 ± 73 [7]
	S/F ratio	-	-		467 ± 4 [14]	460 ± 8 [18]	449 ± 16 [12]	327 ± 58 [18]	157 ± 39 [7]	458 ± 6 [7]
cohort_2	SFN	ng/mL	-		0.6 ± 0.8 [61]	1.0 ± 1.7 [158]	2.4 ± 2.0 [6]	4.6 ± 6.0 [13]	13.3 ± 10.5 [4]	3.0 ± 3.0 [4]
	P-SEP	pg/mL	-		283 ± 138 [60]	396 ± 322 [158]	653 ± 334 [6]	621 ± 409 [13]	802 ± 137 [4]	227 ± 32 [4]
	S/F ratio	-	-		466 ± 7 [61]	462 ± 7 [156]	447 ± 24 [6]	354 ± 40 [6]	203 ± 67 [3]	459 ± 7 [4]

Serum concentrations in each stage of COVID-19 severity for the MM and SC groups are indicated. For the MM group, mean concentration ± SD in all samples taken during hospitalization are shown. For the SC group, values in samples taken on the first day of indicated stages are shown. [#1], For the reference value of each biomarker, we calculated the upper (SFN, P-SEP, KL-6, SP-D) or lower (KAL) values of the mean concentration ± 2 SD values of samples at mild stage in the MM group.

Supplementary Figure 1. Correlation of serum SFN and P-SEP levels. The two-dimensional scatter graph shows serum levels of SFN and P-SEP in the MM group samples, and all samples taken at the moderate (Mod), severe (Sev) and critical (Cri) stages in the SC group. The values of the correlation coefficients r_s and p were given by Spearman's correlation analysis.