

**Supplementary Table 2.** Multivariable logistic regression analysis between mucosal biomarkers (log<sub>2</sub> values) and severity of COVID-19 pneumonia.

Biomarkers	Pneumonia		Severe pneumonia/ARDS	
	aOR (95%CI)	p-value	aOR (95%CI)	p-value
<i>PLAUR</i>	1.25 (1.02 – 1.53)	<b>0.032</b>	1.19 (1.01 – 1.41)	0.427
Obesity	8.00 (3.35 – 19.12)	<b>&lt;0.001</b>	4.35 (2.07 – 9.16)	<b>&lt;0.001</b>
Age	4.55 (2.25 – 9.19)	<b>&lt;0.001</b>	6.15 (1.85 – 20.39)	0.003
<i>IL-6</i>	1.02 (0.91 – 1.14)	0.718	1.07 (0.98 – 1.18)	0.055
Obesity	7.73 (3.26 – 18.32)	<b>&lt;0.001</b>	4.43 (2.09 – 9.40)	<b>&lt;0.001</b>
Age	5.15 (2.57 – 10.34)	<b>&lt;0.001</b>	5.98 (1.80 – 19.89)	<b>0.004</b>
<i>IL-8</i>	1.11 (0.97; 1.28)	0.126	1.16 (1.03; 1.32)	0.062
Obesity	7.68 (3.23 – 18.25)	<b>&lt;0.001</b>	4.46 (2.10 – 9.49)	<b>&lt;0.001</b>
Age	4.75 (2.36 – 9.56)	<b>&lt;0.001</b>	5.84 (1.73 – 19.72)	<b>0.004</b>
<i>ISG15</i>	0.94 (0.8; 1.11)	0.456	0.88 (0.76; 1.01)	<b>0.021</b>
Obesity	7.72 (3.26 – 18.28)	<b>&lt;0.001</b>	4.51 (2.11 – 9.63)	<b>&lt;0.001</b>
Age	5.28 (2.65 – 10.55)	<b>&lt;0.001</b>	7.27 (2.12 – 24.90)	<b>0.002</b>
<i>RIG-I</i>	0.94 (0.76; 1.15)	0.527	0.87 (0.73; 1.03)	<b>0.034</b>
Obesity	7.65 (3.23 – 18.14)	<b>&lt;0.001</b>	4.09 (1.93 – 8.67)	<b>&lt;0.001</b>
Age	5.29 (2.65 – 10.58)	<b>&lt;0.001</b>	6.77 (2.03 – 22.59)	<b>0.002</b>
<i>IFN-β</i>	1.13 (0.96; 1.34)	0.139	1.15 (0.99; 1.34)	0.411
Obesity	7.50 (3.17 – 17.78)	<b>&lt;0.001</b>	4.29 (2.04 – 9.01)	<b>&lt;0.001</b>
Age	4.89 (2.43 – 9.82)	<b>&lt;0.001</b>	6.36 (1.91 – 21.10)	<b>0.003</b>
<i>CCL5</i>	0.89 (0.71; 1.13)	0.351	0.73 (0.61; 0.89)	<b>&lt;0.001</b>
Obesity	7.73 (3.25 – 18.39)	<b>&lt;0.001</b>	4.02 (1.85 – 8.79)	<b>&lt;0.001</b>
Age	4.80 (2.36 – 9.78)	<b>&lt;0.001</b>	4.15 (1.20 – 14.42)	<b>0.025</b>
<i>CXCL10</i>	0.89 (0.79; 1.00)	<b>0.048</b>	0.84 (0.76; 0.94)	<b>0.002</b>
Obesity	7.85 (3.29 – 18.68)	<b>&lt;0.001</b>	4.87 (2.23 – 10.64)	<b>&lt;0.001</b>
Age	5.40 (2.66 – 10.96)	<b>&lt;0.001</b>	7.55 (2.15 – 26.52)	<b>0.002</b>
<i>SARS-CoV-2</i> Viral load	0.98 (0.92; 1.04)	0.470	0.99 (0.94; 1.04)	0.678
Obesity	7.04 (3.00 – 16.55)	<b>&lt;0.001</b>	4.37 (2.07 – 9.21)	<b>&lt;0.001</b>
Age	6.30 (2.96 – 13.41)	<b>&lt;0.001</b>	6.71 (1.96 – 22.95)	<b>0.002</b>

**Statistics:** The values of the mucosal biomarkers were log<sub>2</sub>-transformed (base-2 logarithms). The association analysis was performed by binary logistic regression adjusted by the most significant covariables. Statistically significant differences are shown in bold.

**Abbreviations:** COVID-19, coronavirus disease 2019; ARDS, acute respiratory distress syndrome; SARS-CoV-2, severe acute respiratory syndrome coronavirus 2; aOR, adjusted odds ratio; 95%CI, 95% confidence interval; p-value, level of significance; PLAUR, plasminogen activator, urokinase receptor; IL-6, interleukin 6; IL-8, interleukin 8; ISG15, interferon-stimulated gene 15; RIG-I, retinoic acid-inducible gene I, IFN-β, interferon-beta; CCL5, Chemokine (C-C motif) ligand 5; CXCL10, C-X-C motif chemokine ligand 10.