Altered high-density lipoprotein composition and functions during severe COVID-19

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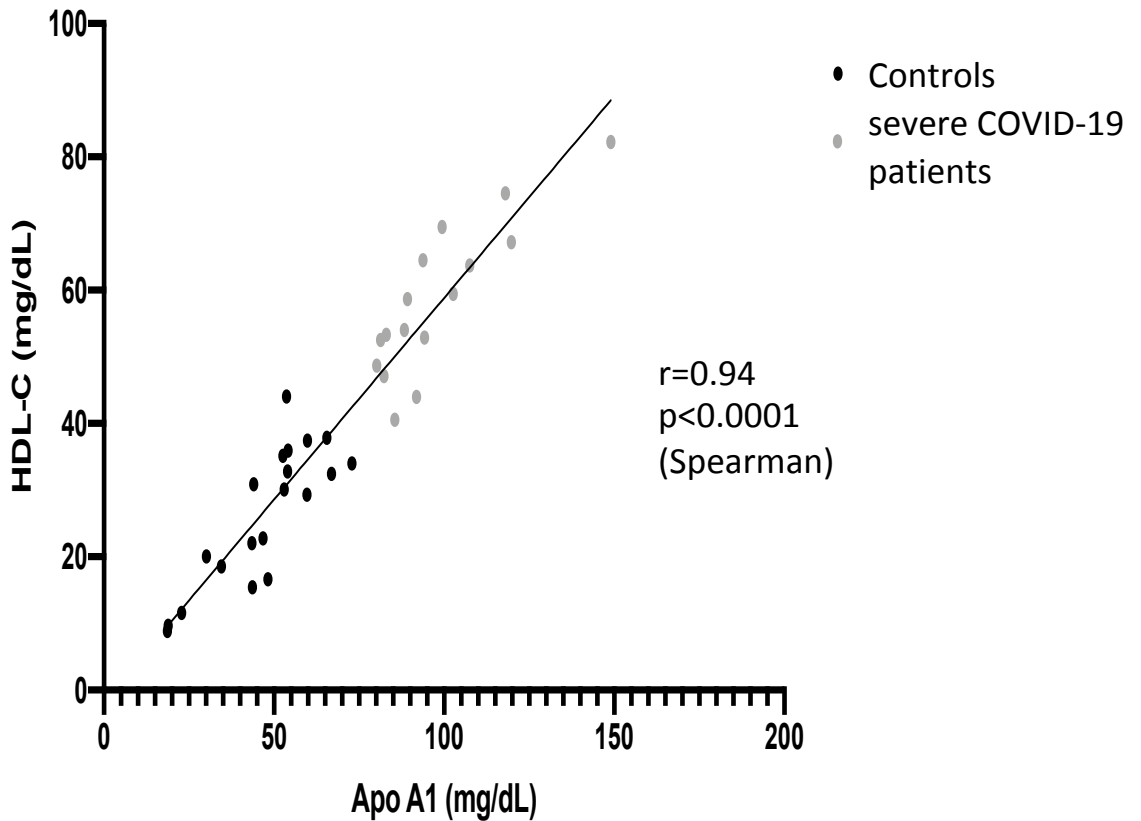[9] CHU de La Réunion, Service de neuro-réanimation, Saint-Pierre, France.

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Running Title: HDL in COVID-19

Supplementary Figure 1

Correlations between HDL-cholesterol (HDL-C) levels and ApoA-1 concentration in plasma assessed by quantitative mass spectrometry. Controls are represented as grey circles and COVID-19 patients as black circles (all D1, D3 and D7 time points).

Supplementary Figure 2
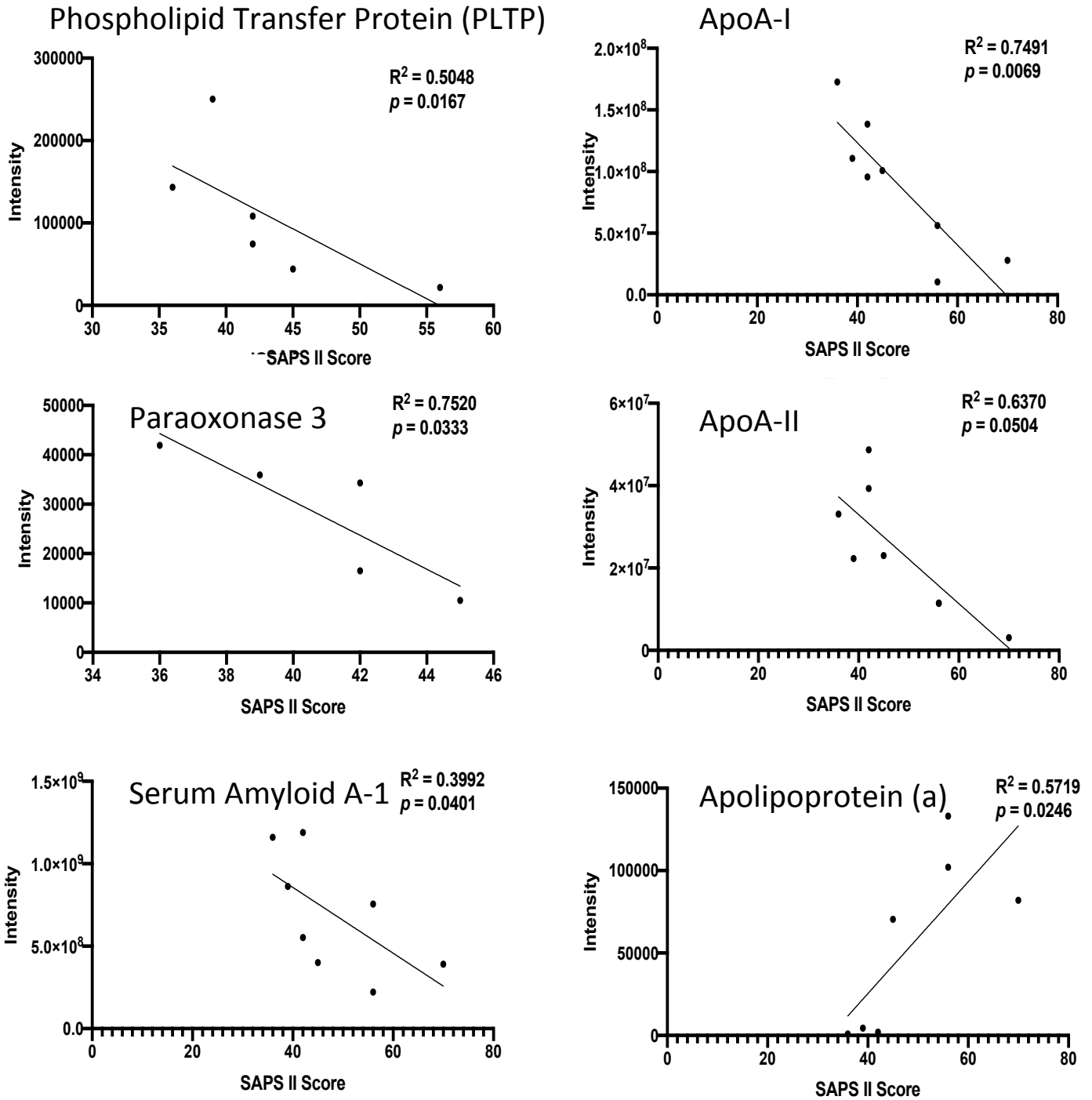
Protein abundance at day 1 as a function of SAPSII (Simplified Acute Physiology Score II). Protein intensity determined by MS analysis was plotted against SAPSII (severity score at admission). Spearman correlation test was performed and only proteins with p value ≤ 0.05 are presented.

Supplementary Figure 3
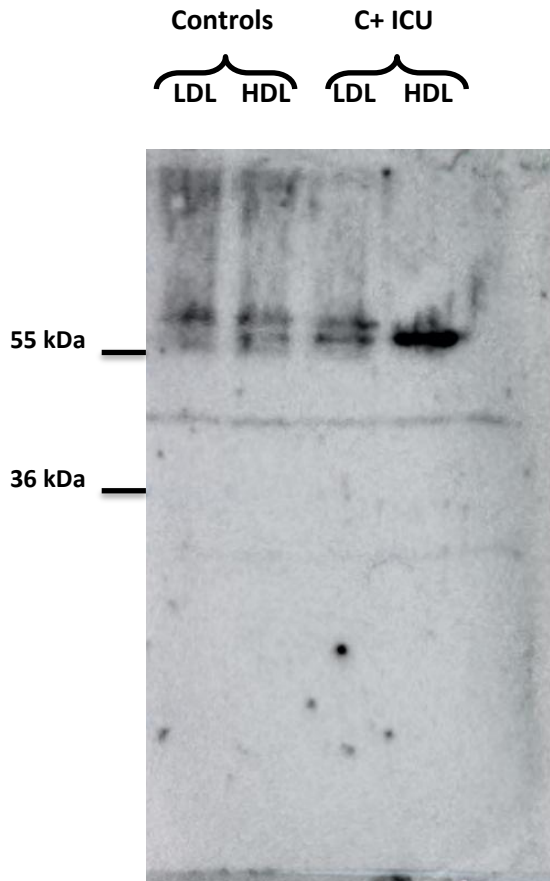
Western blot analysis against alpha1-antitrypsin of pooled LDLs and HDLs isolated from control subjects or severe COVID-19 patients: 3mg of total proteins were separated by SDS-PAGE, transferred and probed using anti-alpha1 antitrypsin antibody, followed by incubation with horse-radish peroxidase-conjugated secondary antibody and chemiluminescence reaction with ECL-Prime.

Supplementary Figure 4
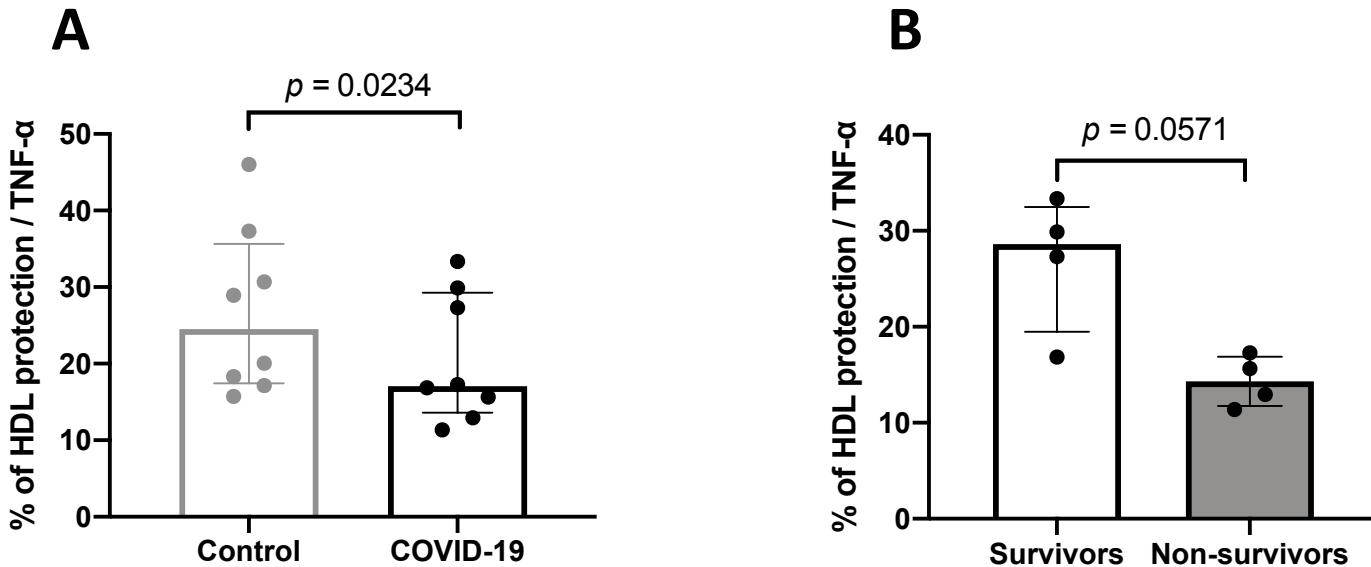
Protection of TNFα-induced changes in endothelial cell impedance by HDLs isolated from controls vs COVID-19 patients (A) and from survivors vs non-survivors COVID-19 patients (B). The percentage of protection was calculated as follows: [(AUC *100)/ Mean (AUC TNF-α)]–100, where AUC represents the area under the curve during the 20 hours following stimulation with TNF-α. (A) HDLs were isolated from each COVID-19 patient and from age- gender-matched controls (HDLs from 2 controls were pooled and compared with each corresponding patient). (B) HDLs from survivors COVID-19 patients were compared to HDLs from non-survivors (n=4/group). Results are expressed as median +/- IQR. p values are indicated.