

Supporting information

Nucleocapsid and spike proteins of the coronavirus SARS-CoV-2 induce IL6 in monocytes and macrophages – potential implications for cytokine storm syndrome.

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Donor	Control	Protein S [0.1 µg/ml]	Protein S [0.4 µg/ml]	Protein S [1 µg/ml]	Boiled protein S [1 µg/ml]	BSA [1 µg/ml]
8	0.72	0.63	2.66	5.76	0.71	1.21

Donor	Control	Protein N [0.1 µg/ml]	Protein N [0.4 µg/ml]	Protein N [1 µg/ml]	Boiled protein N [1 µg/ml]	BSA [1 µg/ml]
9	1.34	57.65	876.50	1870.21	0.96	1.50

Table S1. mRNA expression of *IL6* gene in monocytes cultured in the presence of increasing concentrations SARS-CoV-2 proteins S (spike) and N (nucleocapsid), 1 µg/ml of the boiled (1h, 99°C) SARS-CoV-2 proteins S (spike) and N (nucleocapsid) and 1 µg/ml of BSA for 3 days. Control cells were treated with the equal volume of PBS. The expression of each mRNA was determined by real-time RT-PCR and normalized to the mRNA levels of the housekeeping genes *HPRT1*, *HMBS* and *RPL13A*, as described in the Materials and Methods.

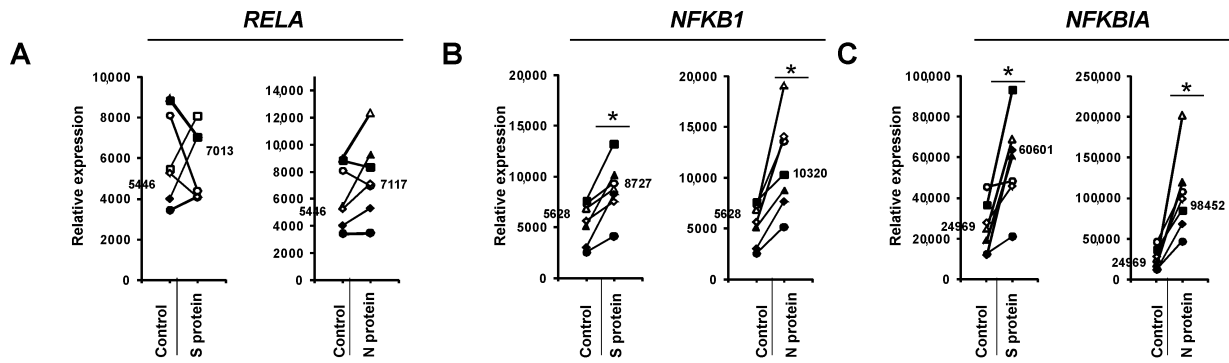


Figure S1. mRNA expression of *RELA* (A), *NFKB1* (B) and *NFKBIA* (C) genes in monocytes cultured in the presence of 1 μ g/ml SARS-CoV-2 proteins S (spike) and N (nucleocapsid) for 3 days. Control cells were treated with an equal volume of PBS. The expression of each mRNA was determined by real-time RT-PCR and normalized to the mRNA levels of the housekeeping genes *HPRT1*, *HMBS* and *RPL13A*, as described in the Materials and Methods. The data show individual values for seven independent donors ($n = 7$), and straight lines connect the control value and the value after SARS-CoV-2 protein treatment from individual donors. The median values are also shown in the figures. An asterisk indicates a statistically significant difference at $P < 0.05$.

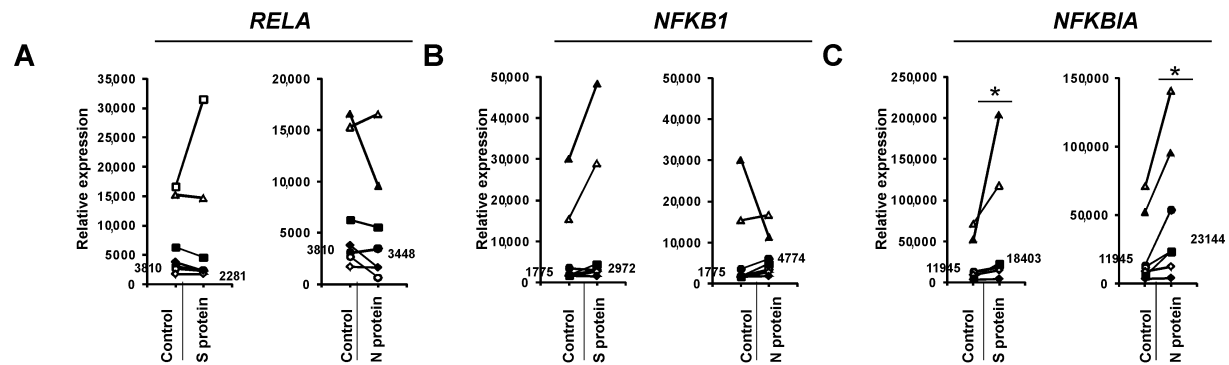


Figure S2. mRNA expression of *RELA* (A), *NFKB1* (B) and *NFKBIA* (C) in monocytes differentiated towards macrophages in the presence of 1 μ g/ml SARS-CoV-2 proteins S (spike) and N (nucleocapsid) for 5 days. Control cells were treated with an equal volume of PBS. The expression of each mRNA was determined by real-time RT-PCR and normalized to the mRNA levels of the housekeeping genes *HPRT1*, *HMBS* and *RPL13A*, as described in the Materials and Methods. The data show individual values for seven independent donors ($n = 7$), and straight lines connect the control value and the value after SARS-CoV-2 protein treatment from individual donors. The median values are also shown in the figures. An asterisk indicates a statistically significant difference at $P < 0.05$.