

## IN BRIEF

### COVID-19

#### Fighting COVID-19 exhausts T cells

Lymphopenia is seen in severe cases of COVID-19, but the functional state of T cells in these patients is not known. Based on the retrospective study of 522 patients with COVID-19 and 40 healthy controls from Wuhan, China, this preprint study found that the age-dependent and clinical severity-dependent reduction in T cell numbers inversely correlates with serum levels of TNF, IL-6 and IL-10. The expression of T cell exhaustion markers (PD1 and TIM3) was assessed in peripheral blood cells from 14 patients with COVID-19 and 3 controls. CD8<sup>+</sup> T cells from patients in intensive care units (ICUs) showed increased expression of PD1 compared with patients not in ICUs and healthy controls. This suggests that as disease severity progresses in patients with COVID-19, a concomitant rise in inflammatory cytokine levels may drive the depletion and exhaustion of T cell populations.

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