Nature Reviews Immunology | https://doi.org/10.1038/s41577-020-00432-8 | Published online: 17 August 2020

IN BRIEF

COVID-19

Spatial resolution of SARS-CoV-2 lung infection

In this preprint, Desai et al. provide a spatial analysis of SARS-CoV-2 infection from autopsies of 24 deceased patients with COVID-19. Intra-pulmonary samples were stratified according to viral load using RNA in situ hybridization. They identified a spectrum of viral load between patients and within the same patient. Patients with high viral load had shorter duration of disease, which correlated with distinct transcriptional profiles, including type I/II interferon pathway genes and genes associated with wound healing. Quantification of immune cell subtypes indicated that M1-type macrophages were more abundant in areas positive for SARS-CoV-2 but showed spatially contrasted immune infiltrations within the same patient. Together, these results highlight the intra-pulmonary heterogeneity of immune responses in infected lungs.

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The author declares no competing interests.

ORIGINAL ARTICLE Desai, N. et al. Temporal and spatial heterogeneity of host response to SARS-CoV-2 pulmonary infection. Preprint at *medRxiv* https://doi.org/10.1101/2020.07.30.20165241 (2020)