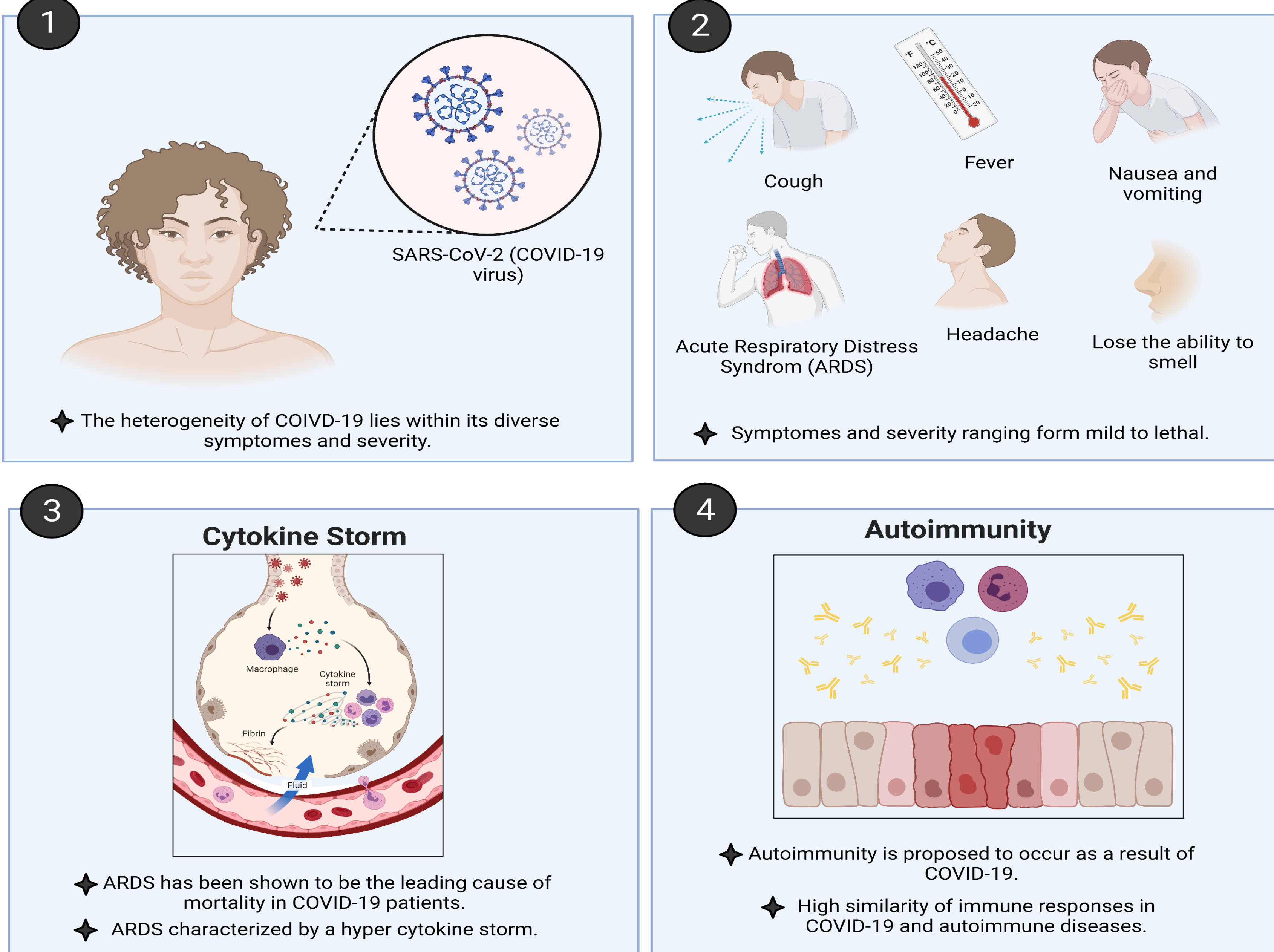


# Detection of Antinuclear Antibodies Targeting Intercellular Signal Transduction, Metabolism, Apoptotic Processes and Cell Death in Critical COVID-19 Patients

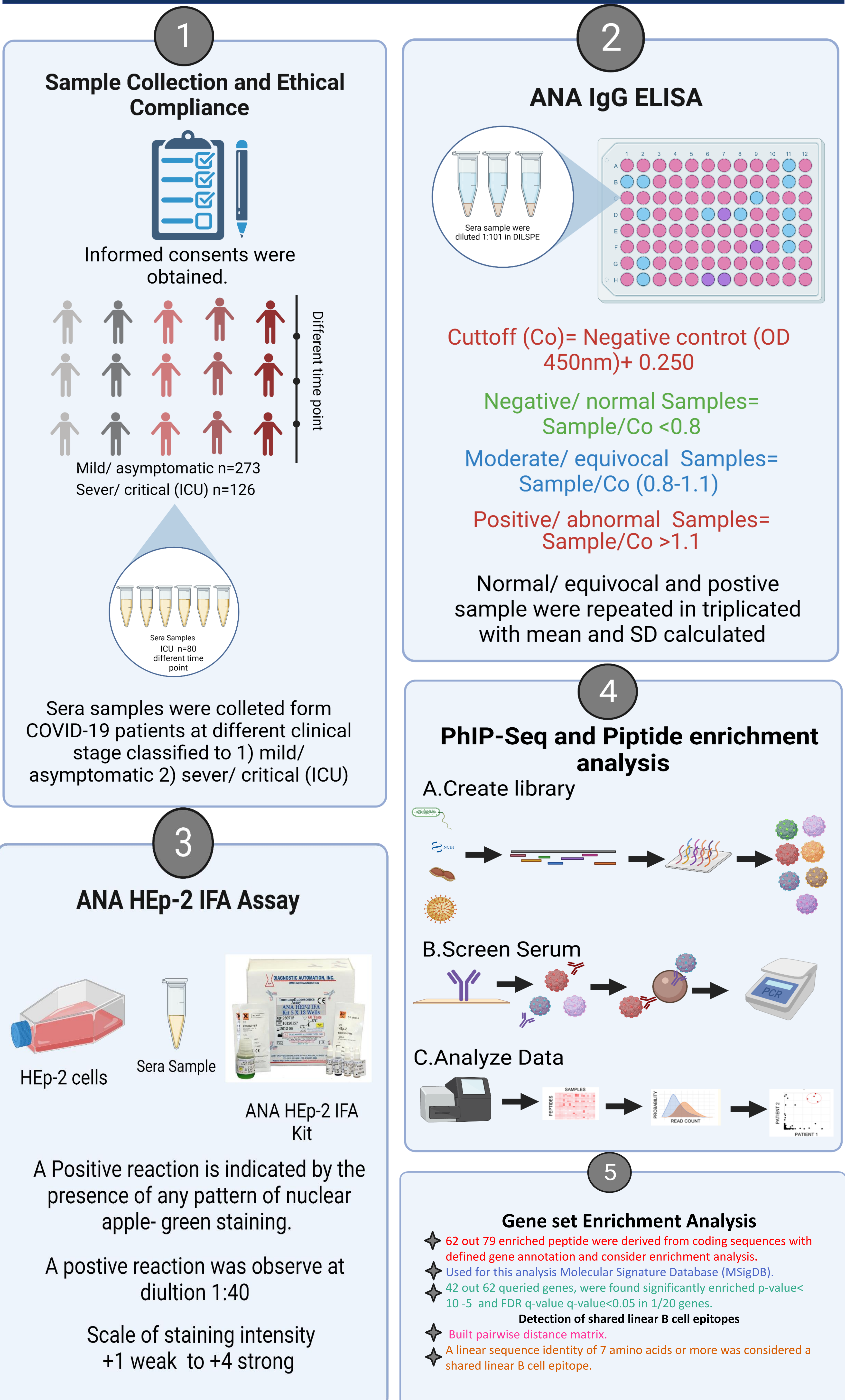
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## Background

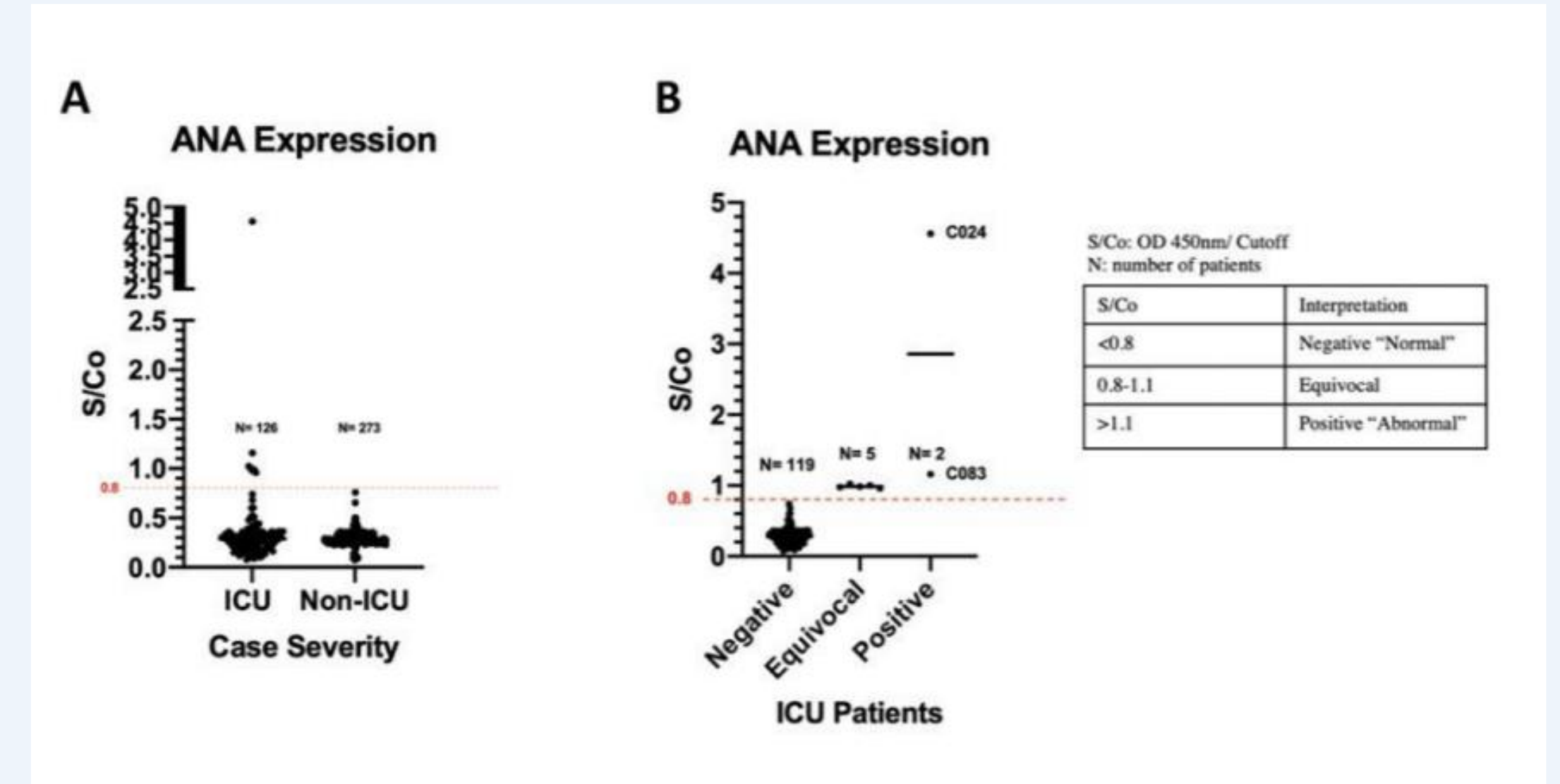


## Methods



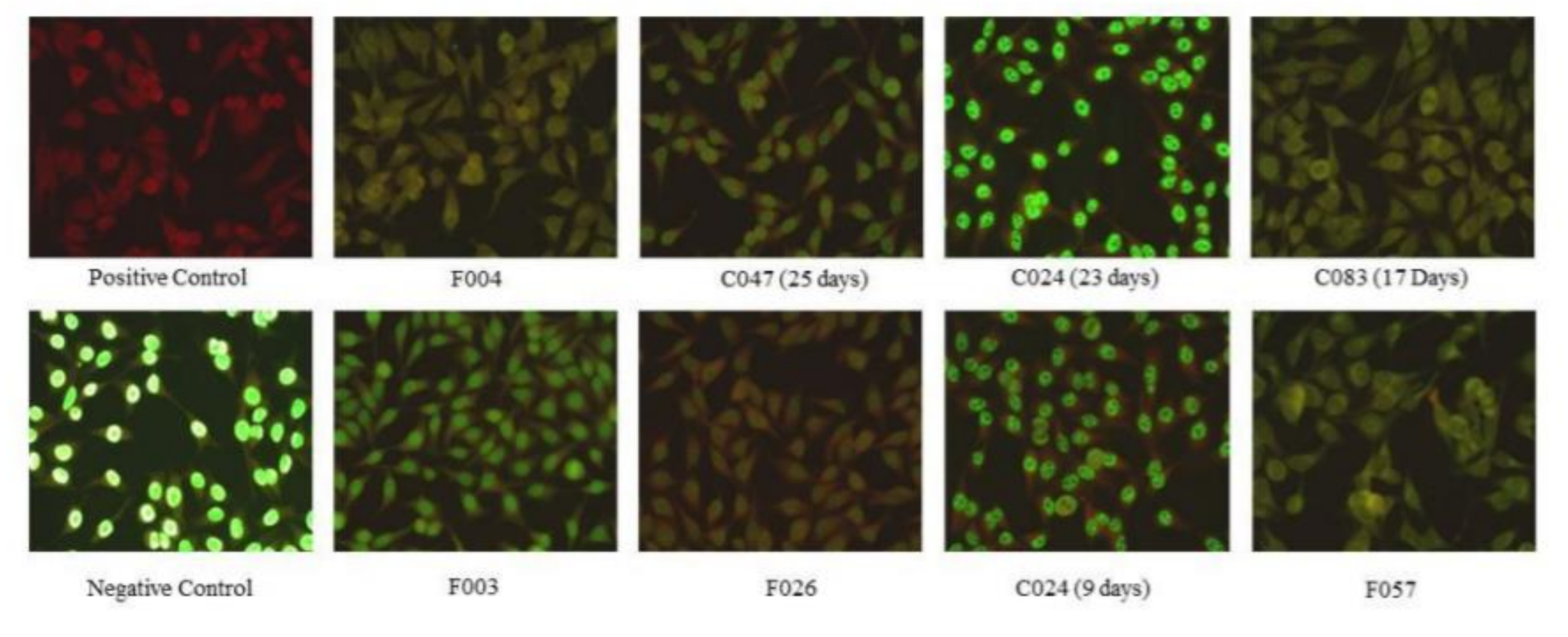
## Results

### 1 ANA IgG ELISA



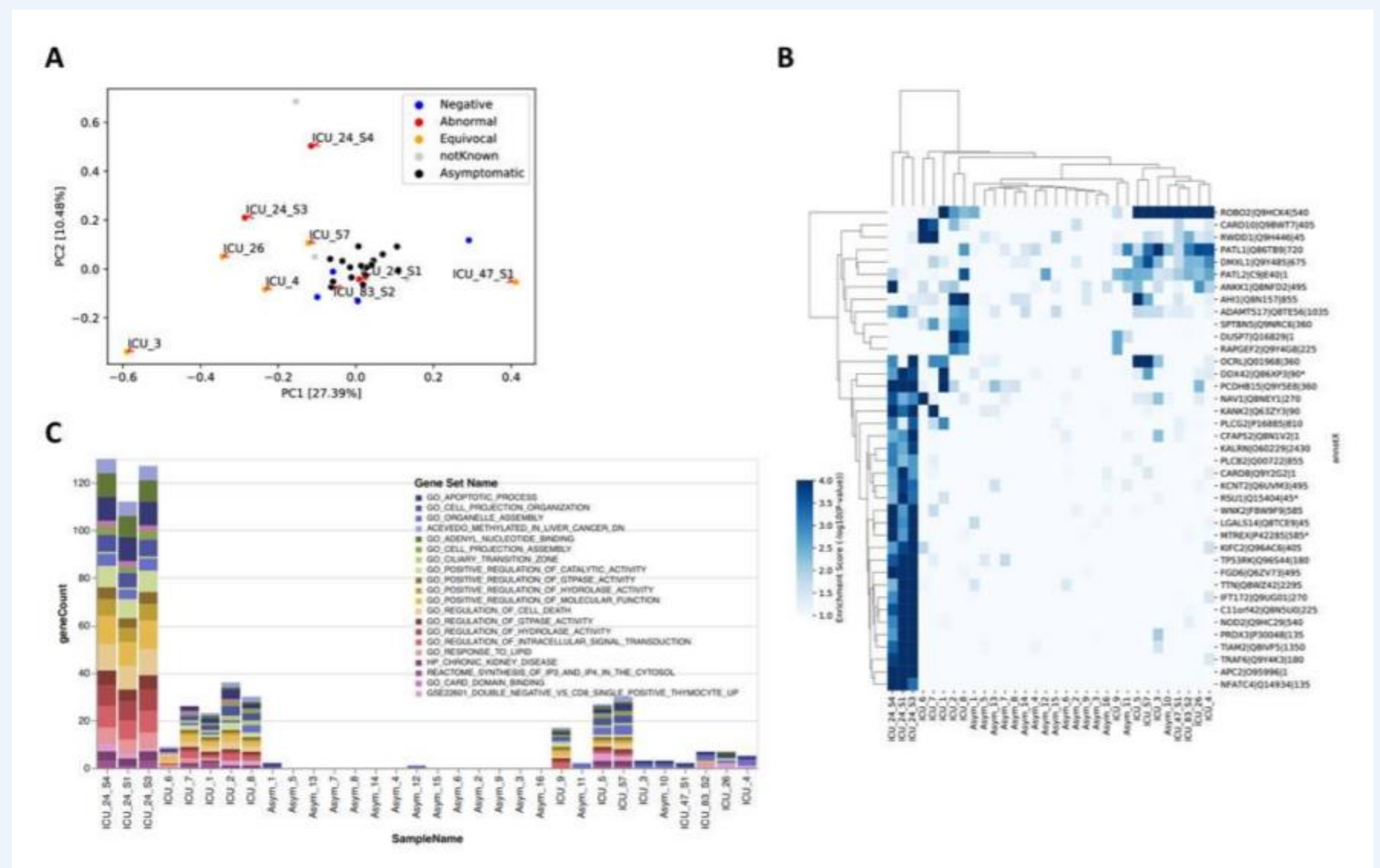
**Figuer.1** ANA IgG ELISA results shows A) All non- ICU samples were negative (n=273) B) 1.6% (2/126) of ICU samples were strong ANA levels and 4% (5/125) of ICU samples were moderate ANA levels.

### 2 ANA Hep-2 IFA Assay



**Figuer.2** ANAcHep-2 IFA results confirmed the ANA level in positive and equivocal samples.

### 3 PhIP-Seq and Peptide Enrichment Analysis



**Figuer.3** Autoantibody profile of selected cases assessed by PhIP-Seq. A) Principal component analysis of the peptide enrichment scores reflecting autoantibody-autoantigen interactions in ICU patients and asymptomatic COVID-19 cases. B) Heatmap plot showing the binding profile of the 79 differentially enriched (DE) peptides in ICU cases versus asymptomatic cases. C) Stacked bar plot showing the results of a gene set enrichment analysis of the peptides shown in (B).

## Conclusion

- Our results further support the notion of routine screening for autoimmune responses in COVID-19 patients, which might help improve disease prognosis and patient management.
- ANA-positive individuals should be excluded from being donors for convalescent plasma therapy in the context of Covid-19

## Acknowledgment

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