Plasma Proteomics Reveal COVID-19 Associated Network and Severity Biomarkers

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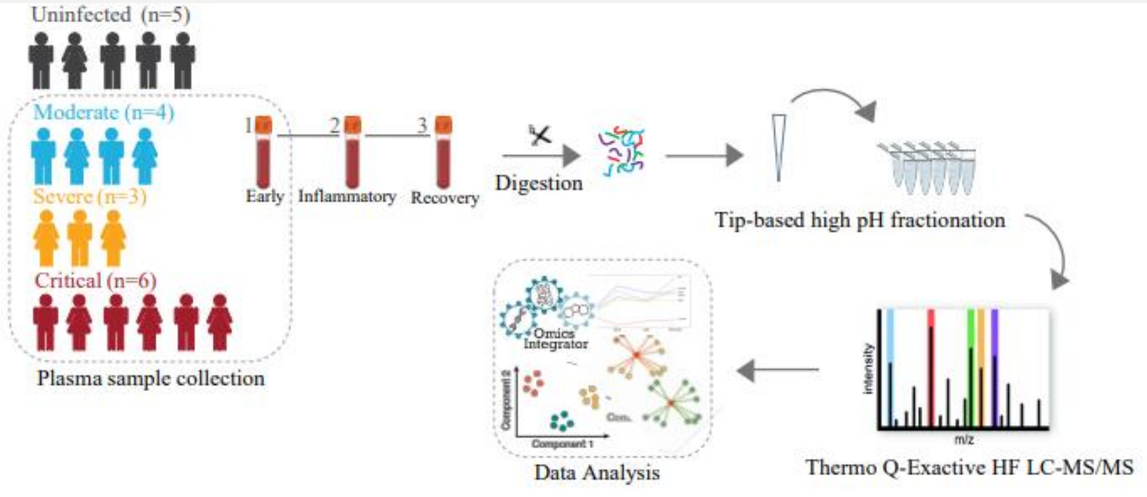
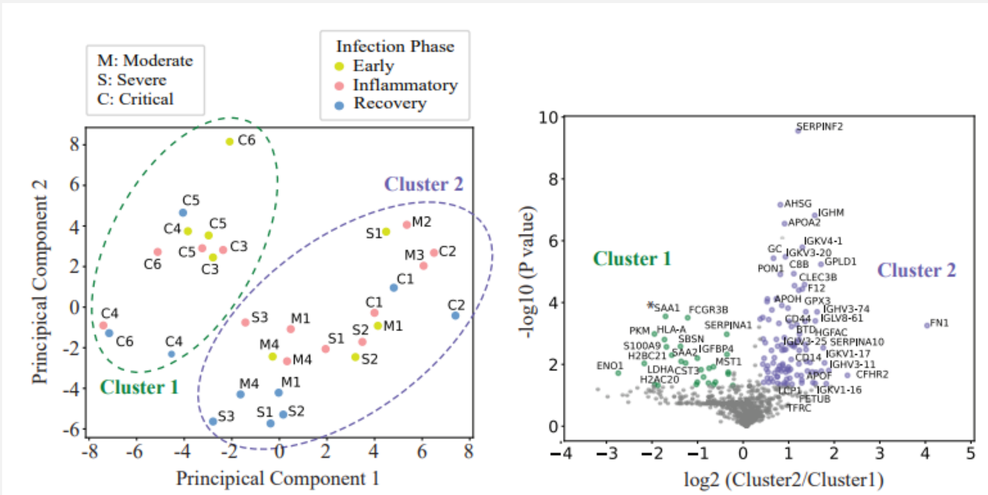
Study population and Methods



The interaction between virus and host proteins can suggest prognostic biomarkers and therapeutic targets.

Plasma proteome of critical patients intrinsically clustered in a distinct group than severe and moderate ones



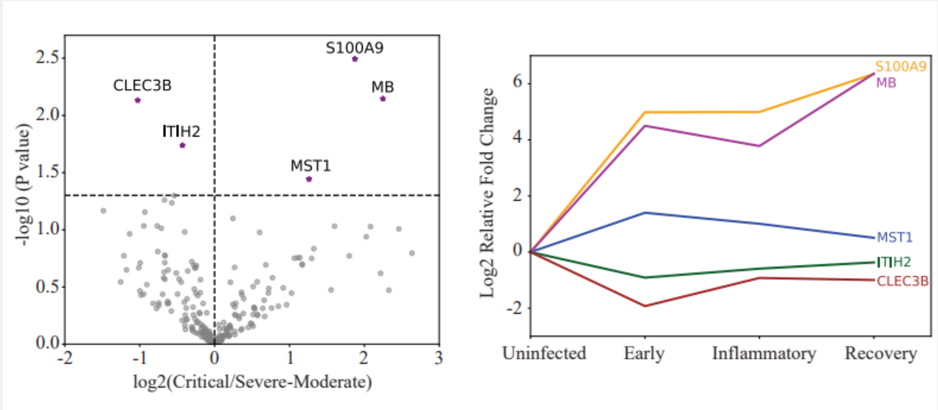
Cluster 1 → Critical patients

- Innate immune system
- Neutrophil degranulation
- Binding of ligands by receptors

Cluster 2 → Moderate and severe patients

- Complement cascade
- Hemostasis

Expression Profile of Early Infection of Critical Patients Gives Cues for Severity Biomarkers



Early Infection

MB, S100A9 and MST1 protein levels increased ↑

CLEC3B and ITIH2 are decreased ↓

Discussion and interpretation

- **MST1** (expressed specifically in immune cells and plays an important role in the cytotoxicity of the cells)
- **CLEB3B** (diagnostic biomarker in lung cancer)
- **ITIH2** (inter-alpha-trypsin inhibitor)

→ early predictor of COVID-19 severity.

- This study provides new potential early severity biomarkers for prognostic monitoring.

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