

CLAIMS

1. A method of identifying a risk of severe disease in a subject infected with SARS-CoV-2, the method comprising:
 - determining a level of immune mediators in the subject's sample and
 - identifying a risk of severe disease based on the level of the immune mediators, wherein the risk of severe disease is positively associated with the level of the immune mediators and wherein the immune mediators comprises interleukin-6 (IL-6), monocyte chemoattractant protein-1 (MCP-1), interferon gamma-induced protein 10 (IP-10), interleukin-18 (IL-18), interleukin-1 receptor antagonist (IL-1RA), platelet-derived growth factor-BB (PDGF-BB), hepatocyte growth factor (HGF), macrophage inflammatory protein-1 alpha (MIP-1 α), interleukin-12p70 (IL-12p70), and vascular endothelial growth factor A (VEGF-A).
2. The method according to claim 1, wherein the sample comprises a sample collected from the subject during a virus-shedding phase.
3. The method according to claim 2, wherein the sample comprises a sample collected from the subject during a convalescent phase.
4. The method according to any one of claims 1-3, wherein the sample comprises blood or a fraction thereof.
5. The method according to any one of claims 1-4, wherein determining a level of immune mediators in a sample comprises contacting the sample with beads that are configured to bind to the immune mediators.
6. A method of evaluating the efficacy of a treatment regimen in a subject infected with SARS-CoV-2, the method comprising:
 - determining a level of immune mediators in a sample collected from the subject at a first time point;
 - determining a level of the immune mediators in a sample collected from the subject at a second time point following the administration of the treatment regimen;

comparing the level of the immune mediators at the second time point to the first time point; and

identifying the treatment regimen as being effective when there is a reduction in the level of the immune mediators at the second time point as compared to the first time point, wherein the immune mediators comprises IL-6, MCP-1, IP-10, IL-18, IL-1RA, PDGF-BB, HGF, MIP-1 α , IL-12p70, and VEGF-A .

7. The method according to claim 6-, wherein the sample comprises blood or a fraction thereof.
8. The method according to any one of claims 6-7, wherein determining a level of immune mediators in a sample comprises contacting the sample with beads that are configured to bind to the immune mediators.
9. A multiplex array for identifying a risk of severe disease in a subject infected with SARS-CoV-2 or for evaluating the efficacy of a treatment regimen in a subject infected with SARS-CoV-2, the array comprising:
 - beads that are configured to bind to immune mediators selected from the group consisting of: IL-6, MCP-1, IP-10, IL-18, IL-1RA, PDGF-BB, HGF, MIP-1 α , IL-12p70, and VEGF-A.