abcam

FirePlex® assays for rapid results in SARS-CoV-2 research

Profile the cytokine storm and resulting inflammatory responses in COVID-19 using robust multiplex immunoassays

COVID-19, caused by the new pandemic coronavirus SARS-CoV-2, shows highly variable patient responses, including cytokine storms Cell entry of the virus depends on binding the host-cell Angiotensin-Converting Enzyme 2 (ACE2) and a cell-surface serine protease TMPRSS2. Severe patient cases presenting with high viral loads, respiratory distress and pulmonary damage correlate with surges in patient cytokine levels, termed a cytokine storm. This systemic acute inflammatory response can lead to vital organ failure, including cardiac and renal systems, resulting in death. Rapid research advances are essential in the development of effective prognostic tests and therapeutics.
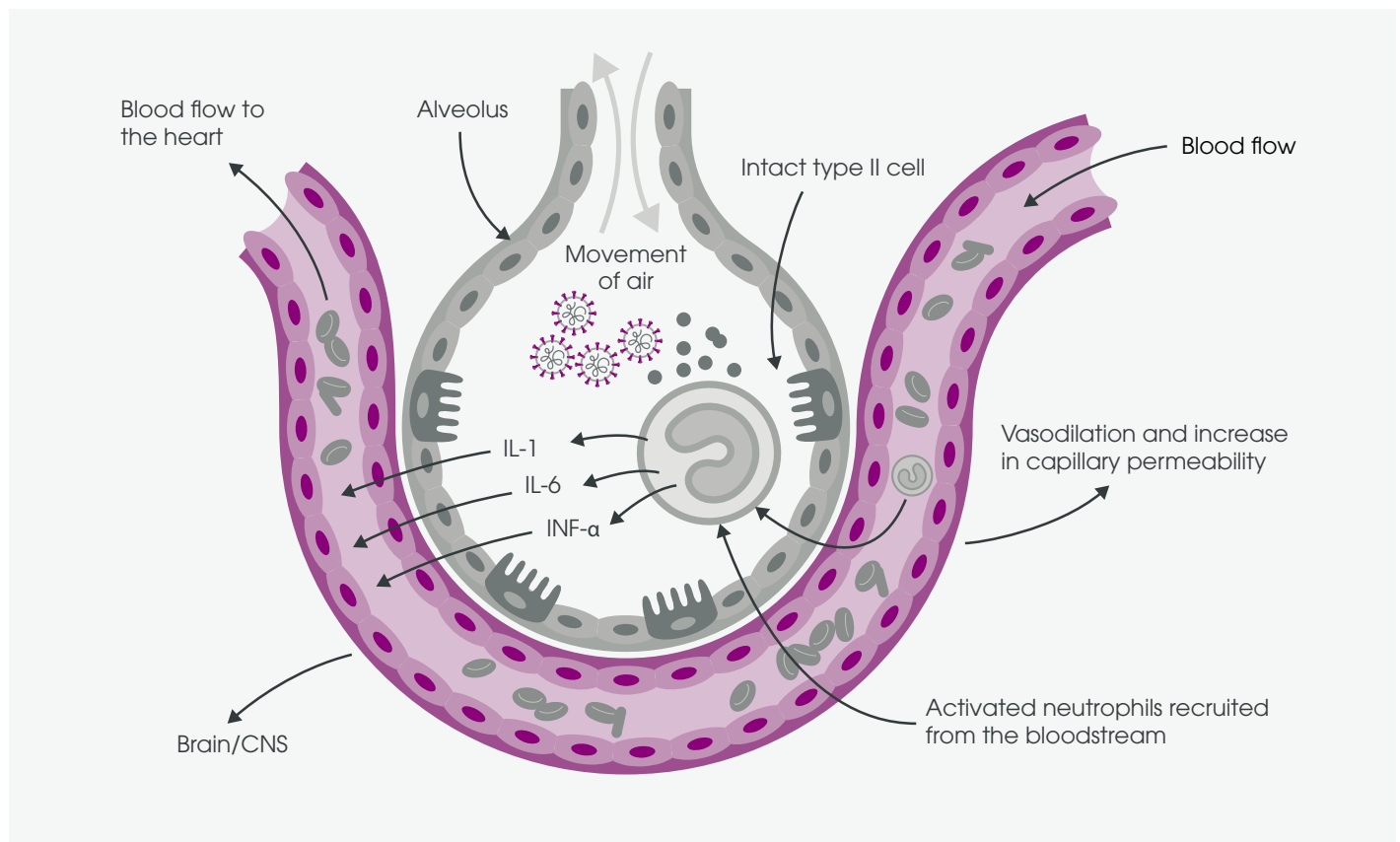

Figure 1: The inflammatory response to SARS-CoV-2 in the alveoli. Pro-inflammatory cytokines play a central role in COVID-19 disease progression and outcome.

Critical COVID-19 research areas

- Understanding the heterogeneity in patient response to infection and the resulting variable disease outcomes.
- Identification of diagnostic and prognostic biomarkers of COVID-19.
- Development of novel vaccines and therapeutics to SARS-CoV-2.
- Repurposing of existing drugs to treat the symptoms of SARS-CoV-2.

Harness FirePlex® for SARS CoV-2 research: mechanisms, mediators, targets and biomarkers

The ability to rapidly and sensitively analyze multiple markers in small volume patient samples is crucial to profiling the cytokine storm and resulting inflammatory responses of severe COVID-19 cases.

- Fireplex® is a multiplex technology capable of quantifying up to 70 proteins in just 12.5 µl of crude patient sample in 96-well format (Fireplex-96), or 10-plex analysis of 6.25 µl sample in 384-well HTS format (Fireplex-384).
- Fireplex® assay system offers pre-designed marker panels, including human cytokines and cardiac injury and toxicity marker panels.
- Fireplex® is compatible with the majority of commercial flow cytometers and high content imagers.

Discovery cytokine panels

- Identify cytokine signatures

- Pre-designed Human (ab243551) and Mouse (ab243554) panels for 70 cytokine and inflammatory markers and soluble factors

- Validated for use with 12.5µl biofluids and tissues

Other pre-designed panels

- Sensitive quantitation of specific analytes

- Pre-designed panels for Human (ab243549), Mouse (ab235656), Rat (ab235662) and NHP (ab239455) covering key cytokines or cardiac injury and toxicity markers (ab252375)

If you cannot access labs due to the COVID-19 situation, we offer assay services - Ship us your samples, and we will return your data

- Minimal sample preparation or input required.
- Extensive experience with a broad range of validated sample types.
- Consultation with in-house scientists to guarantee experiments that meet your needs and budget.
- Comprehensive data analysis included in the final report.

For more information please visit:
www.abcam.com/content/cytokine-storm-in-covid-19

Contact us:
https://go.myabcam.com/fireplex-online-enquiry