Modelling and analysis of complement system signalling pathways: Roles of C3, C5a and pro-inflammatory cytokines in SARS-CoV-2 infection

Experimental observations	References
C3 level has been reported high in mild, moderate, and severe conditions.	(Henry et al., 2021; Ma et al., 2021; Showers et al., 2021; B. Yan et al., 2021)
The concentration level of complement peptide C5a has been reported to be elevated.	(Alosaimi et al., 2021; Busch et al., 2020; Kurtovic & Beeson, 2021; Ma et al., 2021; Marina Noris et al., 2020; Prendecki et al., 2020; Ram Kumar Pandian et al., 2020; Showers et al., 2021)
Expression level of terminal complement complex MAC is high in ICU admitted patients compared to general wards admissions	(Alosaimi et al., 2021; De Nooijer et al., 2021; Ma et al., 2021; Marina Noris et al., 2020; Showers et al., 2021)
Concentration of CR1 largely decreased in severely affected Patients.	(Kisserli et al., 2021)
Concentration Level of PICyts highly expressed in the form of cytokine storm.	(Alosaimi et al., 2021; García, 2020; Merad & Martin, 2020)
Lymphocyte counted in the severe and critical patients reported significantly low.	(Showers et al., 2021; W. Yan et al., 2021)
Level of negative regulatory protein FI has been identified significantly low.	(Alosaimi et al., 2021)
Leucocytes such as Inflammatory Cells (ICs) neutrophils, and macrophages counted to be high.	(Busch et al., 2020; S. Mueller-Ortiz et al., 2017; Ram Kumar Pandian et al., 2020; Showers et al., 2021; W. Yan et al., 2021)
Lower lymphocytes have been reported in CBC reports of COVID-19 patients.	(Kazancioglu et al., 2020)
Concentration level of IFNα and IFNβ have been reported low. It has been known that C5a suppressed IFNβ production.	(Contoli et al., 2021; S. L. Mueller-Ortiz et al., 2017)
Type 1 interferon IFNα and IFNβ treatment against SARSCoV2 significantly has reduced the viral titers.	(Mantlo et al., 2020)
Expression level of DAF reported high in COVID-19.	(Lage et al., 2022)

Table1. For SARS-CoV-2 infection experimentally observed concentration levels of different entities.

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