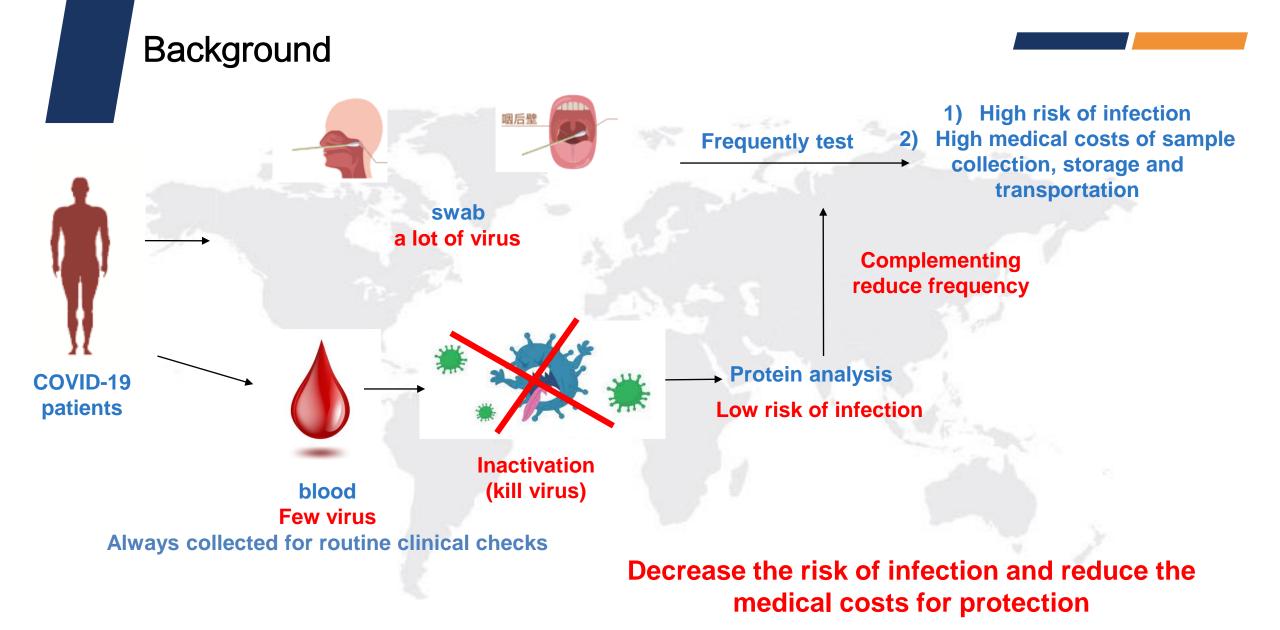
The potential use of serum proteomics for monitoring COVID-19 progression to complement RT-PCR detection

Cai Xue









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Severe: 1. 36 patients 2. 251 serum samples

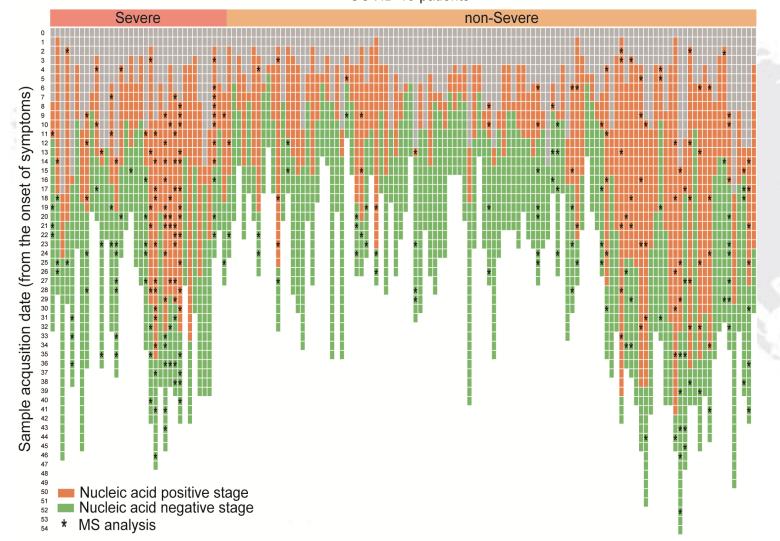
西湖大學

Non-Severe: 1. 108 patients 2. 380 serum samples

Non-COVID: (Ordinary flu) 1. 24 patients 2. 24 serum samples Healthy: 1. 21 individuals 2. 21 serum samples

Patients and samples

COVID-19 patients



4

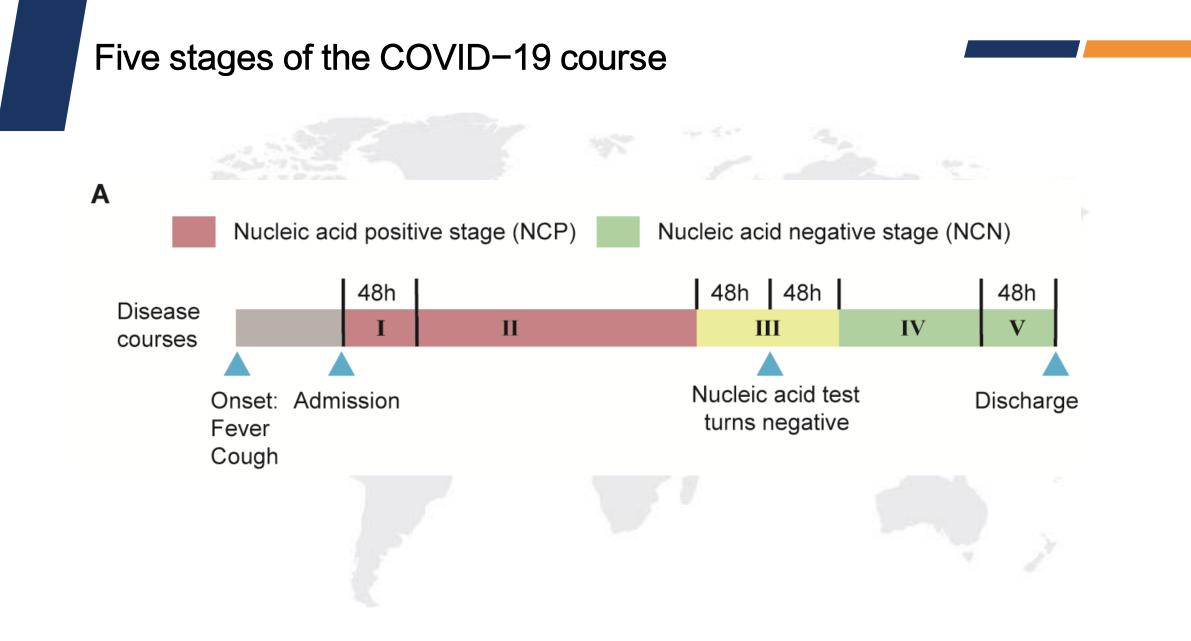
Severe:

- 1. 36 patients
- 2. 251 serum samples
- 128 serum samples for MS analysis

Non-Severe:

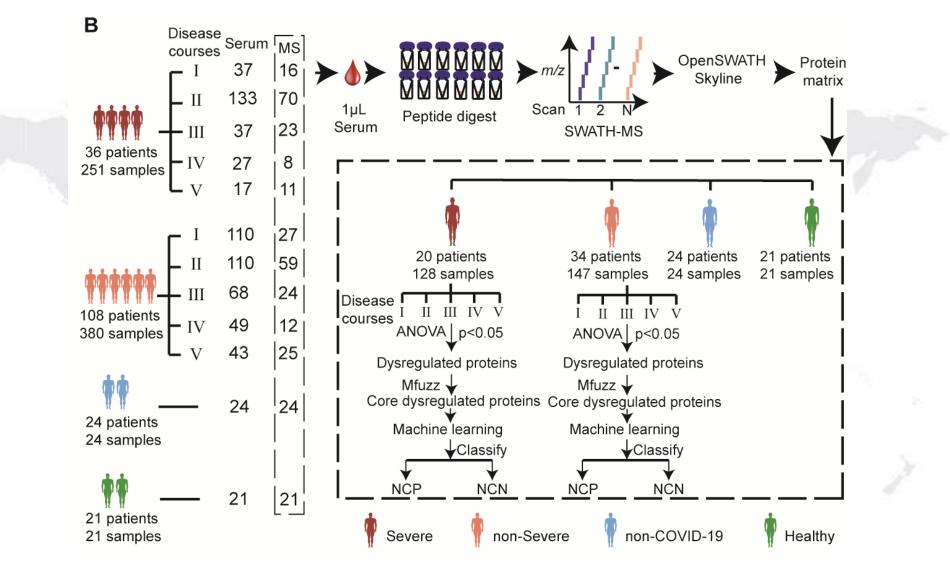
- 1. 108 patients
- 2. 380 serum samples
- 147 serum samples for MS analysis

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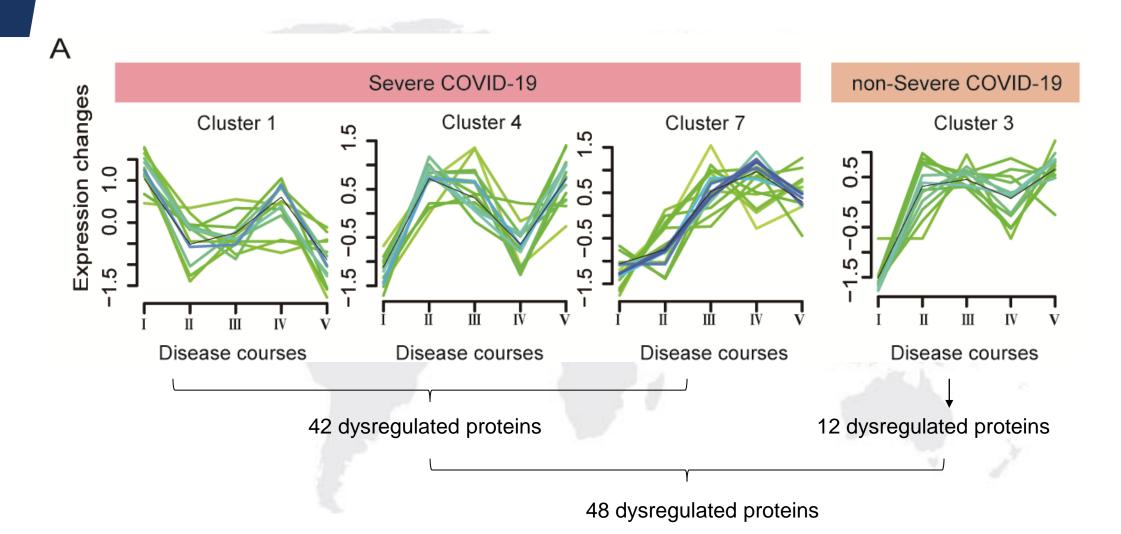


西湖大學

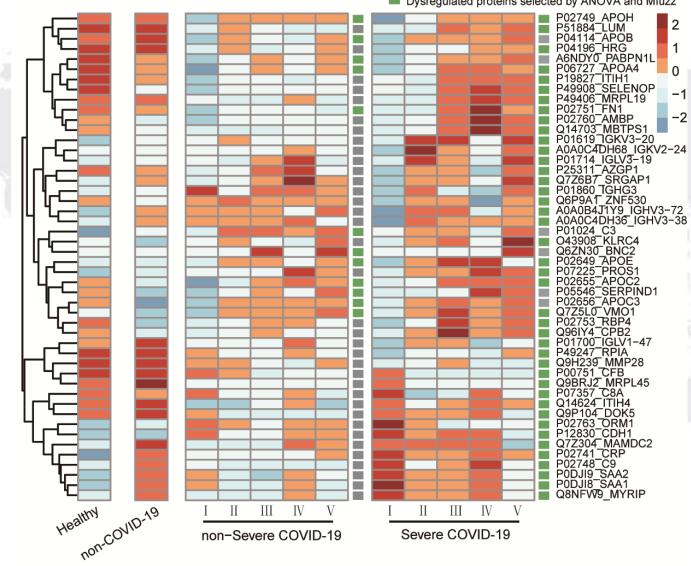
Optimization of PulseDIA



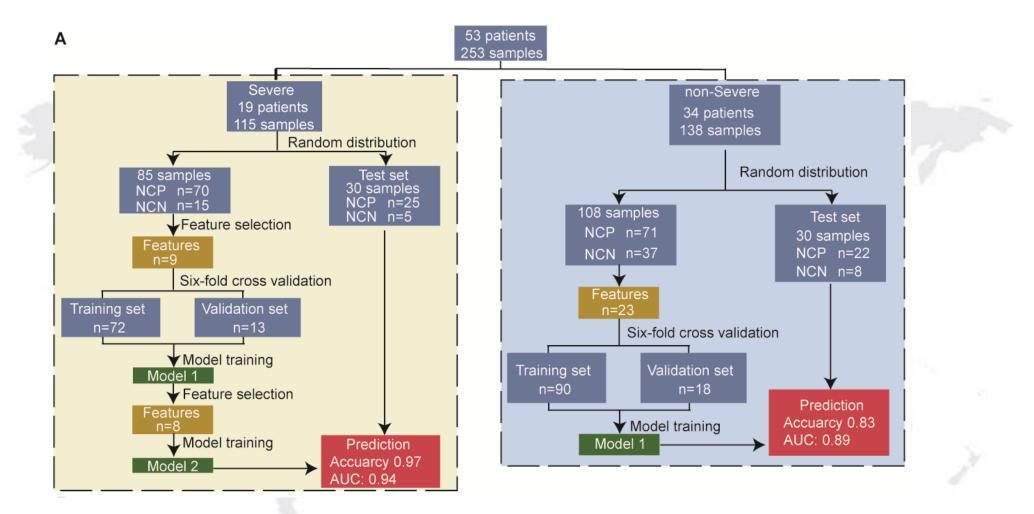
Proteins dysregulated during different stages



Performance of 48 dysregulated proteins



Dysregulated proteins selected by ANOVA and Mfuzz

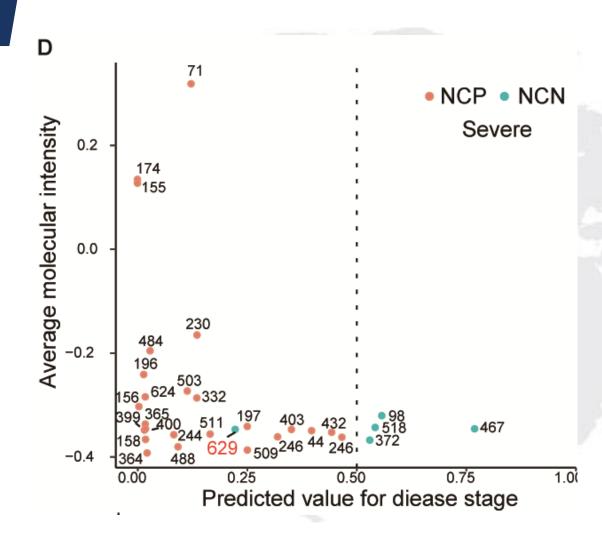


西湖大學

В Severe non-Severe Days after symptom onset С Days after symptom onset Platelet counts RF ROC RF ROC 0 Mg 0.1 <u>,</u> P06727 APOA4 BASO# P19827_ITIH1 0 o 0.8 8 P01024 C3 ö SaO2 Sensitivity C Sensitivity P02760_AMBP P02655 APOC2 0 0.6 0.0 0 A6NDY0_PABPN1L 0 Oxygenation index ο AUC: 0.94 0 4 P02649 APOE 4. 0 AUC: 0.89 P02751 FN1 0 ö P04114 APOB Severe non-Severe P02656 APOC3 2 2 P02751 FN1 0 0 Ö 0 P02749 APOH 0 P05546_SERPIND1 ο 0.0 0 Q14703_MBTPS1 • GGT ö 0 0.2 0.4 0.6 0.8 1.0 0.0 0.0 0.2 0.4 0.6 0.8 1.0 AST 1 – Specificity 1 – Specificity P02649 APOE P02749 APOH Q6ZN30 BNC2 Gender Q7Z5L0 VMO1 P25311 AZGP1 APTT Body temperature 12 8 0 10 20 Mean decrease in accuracy Mean decrease in accuracy

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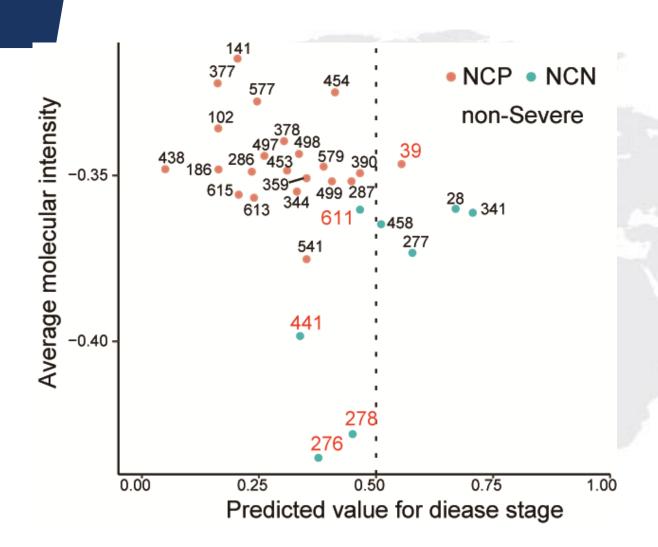
No. 629

77-year old severe female patient

- 1) Hypertension
- 2) Diabetes
- 3) renal insufficiency
- 4) type 1 respiratory failure
- 5) cardiac insufficiency
- 6) hypoproteinemia
- 7) fungal infection

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- 8) aortic wall calcification
- 9) cystic lesions of the pancreas10) small stones in the left kidney



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No. 611

54-year old non-severe male patient positive in his stool sample collected 14 days after discharge. So this complexity of the COVID-19 viral infection may thus provide several confounding factors

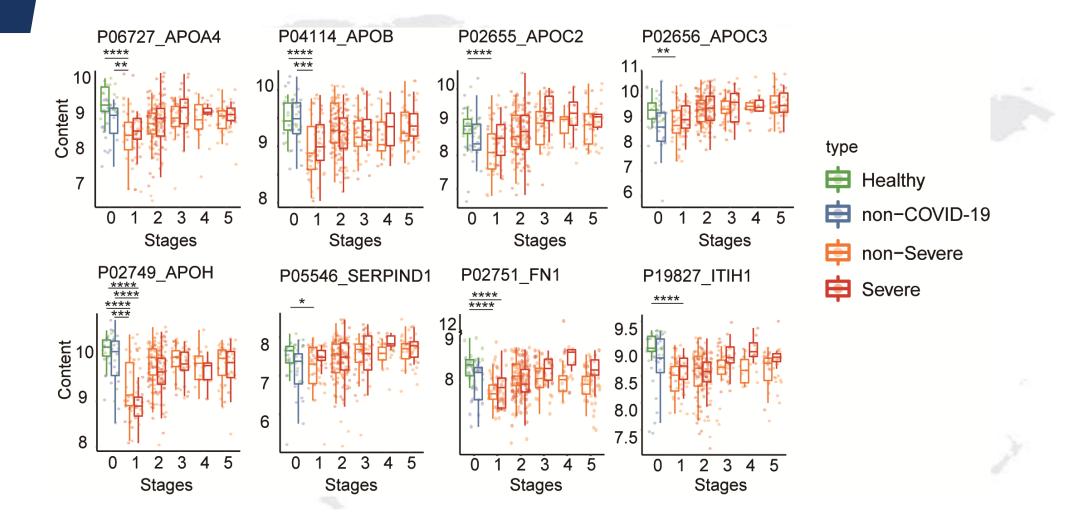
No. 276,278

53-year old non-severe female patient

- 1) Uterus was removed by operation
- 2) the only patient affected by anemia.

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Performance of eight significantly dysregulated proteins



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THANK YOU

