Life/Health sciences

SEVERITY & PROGNOSTIC BIOMARKER IN SARS-COV2 PATIENTS

Method for quantifying a SARS coronavirus in a blood sample and determining a risk for the subject to develop a severe form of the disease / or worsening of the disease.

ERGANEO
L'AVENIR EST FAIT D'AUDACE

PRESENTATION

The Research Team showed that the level of circulating SARS-CoV-2 viral load increased with the severity of COVID-19 and the proportion of detectable SARS-CoV-2 RNAaemia significantly correlated with the severity of the disease. Based on this, the inventors provide a method for determining a subject's risk of developing or exhibiting worsening of SARS-coronavirus-induced acute pulmonary failure and/or systemic damage, which comprises measuring by RT-PCR the amount of circulating coronavirus RNA (RNAaemia) in a sample from the subject, the sample being a blood, plasma or serum sample.

The invention also relates to a method of classifying or following-up (under treatment) a subject infected with SARS coronavirus, which method comprises measuring the amount of coronavirus RNA circulating in a sample of the subject, the sample being a blood, plasma or serum sample from the subject. Three cohorts involving a total of more than 429 patients were evaluated.

RNA Quantification - Pulmonary Failure
SARS-CoV-2 severity

APPLICATIONS

- Diagnose a risk of developing or manifesting an aggravation of a SARS coronavirus
- Patient stratification
- Monitoring the efficacy of a therapeutic treatment against a SARS coronavirus infection

DEVELOPMENT PHASE

☑ TRL 4-5 : Proof of concept in cohorts assays.

INTELLECTUAL PROPERTY

Patented (priority 06.2020), PCT extension 05.2021

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PUBLICATIONS

Highly Sensitive Quantification of Plasma Severe Acute Respiratory Syndrome Coronavirus 2 RNA Sheds Light on its Potential Clinical Value. Veyer D, Kernéis S, Poulet G, Wack M, Robillard N, Taly V, L'Honneur AS, Rozenberg F, Laurent-Puig P, Bélec L, Hadjadj J, Terrier B, Péré H. Clin Infect Dis. 2021 Nov 2;73(9):e2890-e2897.

Association of high plasma Severe Acute Respiratory Syndrome Coronavirus 2 RNAemia with diabetes and mortality in COVID-19 critically ill patient. Monchi, M., Veyer, D., Jochmans, S., Bruneau, T., Pitsch, A., Ellrodt, O., Picque, M., Taly, V., Sy, O., Mazerand, S., Diamantis, S., Péré, H. iScience (2022), 25(5), 104075.

Usefulness of plasma SARS-CoV-2 RNA quantification by droplet-based digital PCR to monitor treatment against COVID-19. T-A Szwebel, D. Veyer, N. Robillard, D. Eshagh, E. Canoui, T. Bruneau, A. Contejean, C. Azoulay, T. Serrano, T. Hueso, L. Izquierdo, F. Rozenberg, B. Terrier, M. Vignon, P. Laurent-Puig, V. Taly, L. Bélec, S. Kernéis, K. Lacombe, H. Péré. Stem Cell Rev Rep. 2021 Jan 5; 1-4. doi: 10.1007/s12015-020-10107-5.