Life/Health sciences

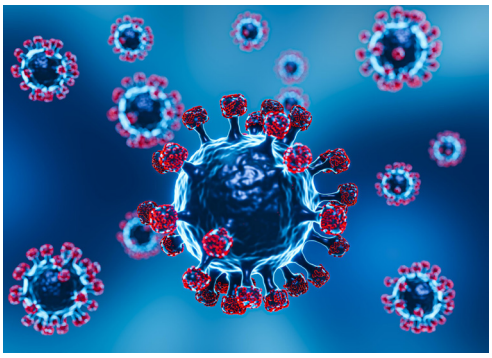
NEW CELLULAR BIOMARKER OF COVID SEVERITY

The invention related to a method for determining the severity of disease caused by coronavirus infection, related to the cellular RNA level of RNase P in a blood sample of a subject.

ERGANEO
L'AVENIR EST FAIT D'AUDACE

PRESENTATION

In attempting to measure SARS-CoV-2 RNA in patients' blood, the inventors observed that RNase P RNA, a ubiquitous and aspecific human intracellular RNA marker used as an internal control, was strongly correlated with disease severity and intubation status in COVID-19 hospitalized patients with a 5-fold difference in median concentration when comparing critical cases to healthy subjects.
Moreover, strong correlation between the event of death and plasmatic RNase P concentration at hospital admission permitted the determination of a concentration threshold that could allow the use of this quantitative plasmatic biomarker as a prognosis tool in COVID-19 hospitalized patients in complement to conventionally collected clinical parameters. These observations reflect the impressive clinical value of plasma RNase P RNA as a surrogate biomarker of COVID-19-induced global cell/tissue damage and the severity of COVID-19 pathology.
Three cohorts involving a total of more than 429 patients were evaluated.



RNase P - Covid-19 severity biomarker
Cell/tissue damage - Pronostic Value

APPLICATIONS

- As a prognostic marker of COVID-19 severity
- As a predictive marker of COVID-19 evolution

DEVELOPMENT PHASE

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

COMPETITIVE ADVANTAGES

- Marker of disease severity independent of coronavirus variants
- Marker of disease severity independent of patient's worsening processes

INTELLECTUAL PROPERTY

Patented (priority : 07.2020). PCT extension 06.2021

PUBLICATIONS

Circulating ubiquitous RNA, a highly predictive and prognostic biomarker in hospitalized COVID-19 patients. Bruneau, B., Wack, M., Poulet, G., Robillard, N., Phillippe, A., Laurent-Puig P., Belec, L., Hadjadj, J., Xiao, W., Kallberg, J, Kernéis, S., Diehl, J-L., Terrier, B., Smadja, D., Taly, V.*, Veyer, D.*, Pere, H.* *Clinical Infectious Diseases*, ciab997.

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