

Technology offer IP-048

Diagnostic method for cardiovascular diseases in patients with infectious disease

Researchers at IMIB have developed a new diagnostic method to predict, diagnose, or monitor cardiovascular diseases in patients with infectious diseases through the detection of FGF-23 protein expression levels.

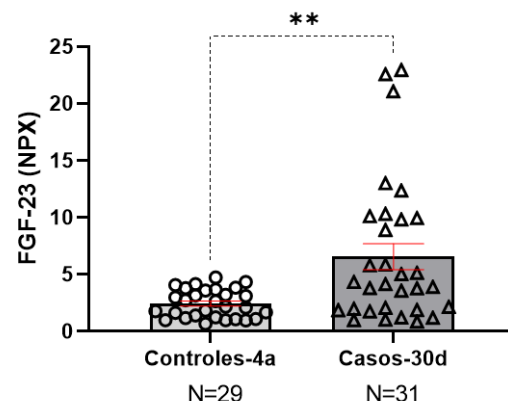


Figure. Plasma levels of FGF-23 in the case/control cohort (Mann-Whitney test)

State of development

TRL-4 Laboratory validation

Industrial Property

Spanish patent application

Priority date: 21/1/2025

Objective of the collaboration

License and/or co-development

Contact

Innovation Unit at IMIB

innovacion@imib.es



Market needs

Sepsis and infections such as pneumonia represent a global public health problem, with high mortality and frequent cardiovascular complications. Fibroblast Growth Factor 23 (FGF-23) plays a key role in regulating inflammation and endothelial function during these infections. Its dysregulation leads to immunothrombosis, organ dysfunction, and increased cardiovascular risk. Current prediction and diagnostic options, such as the PSI or CURB-65 clinical scores, are insufficient to identify high-risk patients. Therefore, there is an unmet medical need for tools capable of predicting, diagnosing, or monitoring cardiovascular diseases in patients with infections.



Technical solution from IMIB

The invention focuses on the determination of FGF-23, whose plasma expression correlates with the risk of adverse cardiovascular events in patients with community-acquired pneumonia. In *in vitro* studies, FGF-23 levels were shown to be significantly higher in patients experiencing cardiovascular events at 30 days, with reproducible results using both PEA and ELISA techniques. These *in vitro* findings were validated in patient cohorts, confirming that FGF-23 measurement can be used to predict, diagnose, and monitor cardiovascular diseases, providing a basis for personalized medicine strategies and potential immunological therapies with anti-FGF-23 antibodies.

Benefits

- FGF-23 predicts cardiovascular events with greater accuracy and sensitivity than current biomarkers.
- Efficient personalized medicine: reduces risks and costs through the integration of biomarkers and advanced analysis.