### OVERVIEW

Myocardial infarction-derived conditions affect ~43 million people worldwide every year. In 8-10% of the cases (~4 million people), the patient will develop cardiogenic shock (CS) with systemic failure and mortality rates as high as 50%.

CS is a complex pathology and evolves very rapidly (within hours), with high mortality rates and an associated burden in clinical management and the healthcare system resources.

### PROJECT

**Sector:** Cardiology  
**R&D direction:** Prognosis and stratification of cardiogenic shock patients  
**Stage of development:** TRL 4–5  
**Scientific leader:** Dr. Oriol Iborra  
**Clinical Advisor:** Dr. Antoni Bayés

### NEEDS

Currently, patients are diagnosed with their clinical presentation, but clinicians have to quickly decide whether the use of pharmacological therapy will be enough. Novel therapies are being tested in clinical trials, but are very invasive and extremely expensive.

Thus, it is of the utmost importance to develop an efficient prognostic tool to determine which patients will benefit from therapies.

### SOLUTION

Our project proposes:

We aim to develop an In Vitro Diagnostic consisting of a panel of 4 proteins (CS4P) and using chemiluminescence immunoassay (CLIA), that can confidently predict the outcome of a patient entering the emergency room suffering from CS.

The first prognostic biomarker test that could help cardiologists determine the highest risk patients after CS to objectively decide the best course of treatment, take quick life-saving decisions, help tackle poor resource allocation and monitor the disease evolution.

### KEY ADVANTAGES

- Fast results (<2h vs 2–3 days/never)  
- Serial measurements (monitoring clinical evolution)  
- High predictive power (AUC 0.83 vs 0.73)  
- Accurate evaluation: objective support in taking clinical decisions  
- Does not require clinical information from the patient  
- Can be automated and used in clinical labs

### CONTACT US!

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