

# Licensing Opportunity

**The PACTT is proposing an exclusive or non-exclusive license for a method allowing the rapid identification of bacteria by mass spectrometry in clinical samples.**

**Field:**

- Method for fast and accurate bacteria identification by mass spectrometry in clinical blood samples.

**Development Phase:**

- Proof of concept demonstrated.
- Commercial kit to be developed.

**Patent Status:**

- Priority date: November 12, 2009.
- Patent EP09175757.5, filed in the name of the Hospital of Lausanne (CHUV) and naming as inventors G. Greub, G. Prod'hom and C. Durussel.

**Innovative aspects:**

- Bacterial samples are collected directly from the blood culture samples detected positives by the automate, in order to be analyzed by mass spectrometry, avoiding agar plate cultures.

**Additional information is available upon request** (N Ref. IDF 11/09)

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## *Bacterial Identification in Clinical Samples*

**Background**

Bacterial identification in clinical samples is mainly tested on blood cultures. Bacteria collected from blood culture bottles identified as positives are generally grown on agar plates prior to phenotypic analysis. This process requires long delays until the results are available for the physician, which could be detrimental for patients.

The recent introduction of Matrix-Assisted Ionization Time-of-Flight (MALDI-TOF) mass spectrometry for the bacterial identification of clinical samples, leads to decrease delays and costs in such procedures. In this method, bacterial colonies cultured in agar plates are analyzed by mass spectrometry. Thus, conventional phenotypic analysis is bypassed.

Here, the inventors propose a new method, which considerably reduces the time required to identify bacteria from clinical blood samples by avoiding bacterial growth on agar plates.

**Description of the invention**

The invention relates to a method of preparing bacteria from blood culture bottles by differential centrifugations and addition of a treatment solution. The obtained bacteria can be used directly in bacterial identification by MALDI-TOF mass spectrometry, without any culture step on agar plates.

**Proof of concept**

The inventors have demonstrated that their method coupled with MALDI-TOF mass spectrometry enabled the bacterial identification of positive blood cultures in more than 78% of the cases.

**Application and competitive advantages**

This invention is applicable to the routine bacterial identification of blood cultures in clinical laboratory and holds several advantages:

- Decreased identification time of bacteria of about 8 hours compared to the usual MALDI-TOF procedure.
- Reduced costs of bacterial identification.
- Robustness.
- Easy to handle by a technician.
- The procedure can be easily developed as a commercial kit.

This time and cost saving method is already used in Lausanne's University Hospital