

# Advanced pyrogen/allergen detection through impedance analysis

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## SCOPE OF THE METHOD

<b>The Method relates to</b>	Animal health, Human health
<b>The Method is situated in</b>	Basic Research
<b>Type of method</b>	In vitro - Ex vivo
<b>This method makes use of</b>	Human derived cells / tissues / organs
<b>Specify the type of cells/tissues/organs</b>	Cells of the immune system

## DESCRIPTION

### Method keywords

alternative to rabbit pyrogen test  
advanced impedance spectroscopy

## Scientific area keywords

allergy

pyrogenicity

## Method description

Fever-inducing substances need to be traced in medical packaging material. To do so, in the past, rabbits were often exposed to these substances. Causing enormous amounts of animal suffering. Nowadays this test has been largely replaced by the so-called LAL (Limulus ameocyte lysate) test, which uses the blood of the horseshoe crab. This has however led to severe endangerment of this prehistoric species. It is for this reason that mainly colorimetric methods have been developed to detect secondary messenger molecules that are released after immune cells are exposed to pyrogens. However, these *in vitro* detection methods are expensive and require many hours of preparatory work. In comparison, CellSine's detection method, based on broad-spectrum electrical impedance measurements, is label-free and requires no additional chemicals or pretreatments. Therefore it can be a viable alternative for the LAL test.

## Lab equipment

Basic laboratory equipment (biosafety cabinet, mammalian cell incubator, ...)

## Method status

Still in development

## PROS, CONS & FUTURE POTENTIAL

### Advantages

- Label-free;
- Real-time;
- Easy assay development;
- Costs.

## REFERENCES, ASSOCIATED DOCUMENTS AND OTHER INFORMATION

### References

Anticancer activity study of chromone and coumarin hybrids using electrical impedance spectroscopy (Bouhenna et al., 2018)

### Associated documents

## PARTNERS AND COLLABORATIONS

### Organisation

**Name of the organisation** CellSine

**Department** -

**Country** Belgium

**Geographical Area** Flemish Region

*Coordinated by*



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