

Advanced pyrogen/allergen detection through impedance analysis

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Organisation

Name of the organisation CellSine

Department -

Country Belgium

Geographical Area Flemish Region

SCOPE OF THE METHOD

| | |
|-------------------------------------------------|-----------------------------|
| The Method relates to | Animal health, Human health |
| The Method is situated in | Basic Research |
| Type of method | In vitro - Ex vivo |
| Specify the type of cells/tissues/organs | 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 amoebocyte 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

Coordinated by

impedance spectroscopy



ina et

Financed by



Vlaanderen
verbeelding werkt



bruxelles
environnement
leefmilieu
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