

## Reconstruction of Human Epidermis in Culture

**Commonly used acronym:** RHE

Created on: 30-11-2023 - Last modified on: 19-12-2023

### Contact person

Yves Poumay

### Organisation

**Name of the organisation** Université de Namur (UNamur)

**Department** NARILIS

**Country** Belgium

**Geographical Area** Walloon

## SCOPE OF THE METHOD

<b>The Method relates to</b>	Human health
<b>The Method is situated in</b>	Basic Research
<b>Type of method</b>	In vitro - Ex vivo
<b>Specify the type of cells/tissues/organs</b>	Human epidermal keratinocytes

## DESCRIPTION

### Method keywords

skin  
epidermis  
Reconstructed human epidermis  
cutaneous toxicology  
epidermal irritation  
epidermal infection

### Scientific area keywords

skin biology  
dermatology  
Infection models

### Method description

Method to culture human epidermal keratinocytes and seed them for tissue reconstruction at the air-liquid interface over a polycarbonate porous membrane.

### Lab equipment

- Culture hood,
- Culture incubator,
- Refrigerated centrifuge,
- Volt-ohm meter,
- Inverted phase-contrast microscope.

### **Method status**

Published in peer reviewed journal

## **PROS, CONS & FUTURE POTENTIAL**

### **Advantages**

- This method allows production of human epidermal organoids,
- Other cell types like melanocytes can be added to the reconstruction,
- It allows studies of epidermal barrier in normal and pathological conditions.

### **Challenges**

There is no immune cell of the adaptative system in the model.

### **Modifications**

This reconstruction can be performed over synthetic dermis.

### **Future & Other applications**

The model is increasingly used to mimick epidermal pathologies, either inflammatory, infectious, or cancerous.

## **REFERENCES, ASSOCIATED DOCUMENTS AND OTHER INFORMATION**

### **Associated documents**

[Poumay2004-ADR296-203.pdf](#)

[De Vuyst 2014 Epidermal cells 191.pdf](#)

[Frankart2012-EXD21-871.pdf](#)

*Coordinated by*



*Financed by*



**Vlaanderen**  
verbeelding werkt

