# 2D - cell culture to investigate the growth of immortalized ceratinocytes (HaCat cells) under the influence of exhaust particles

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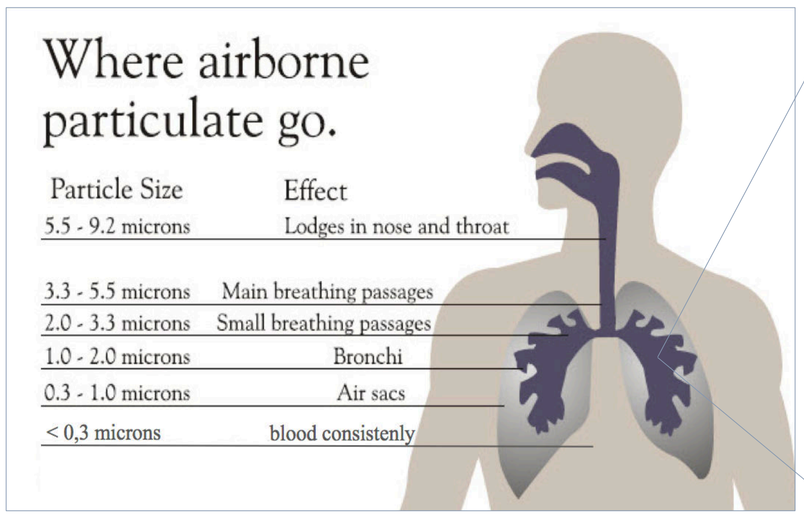
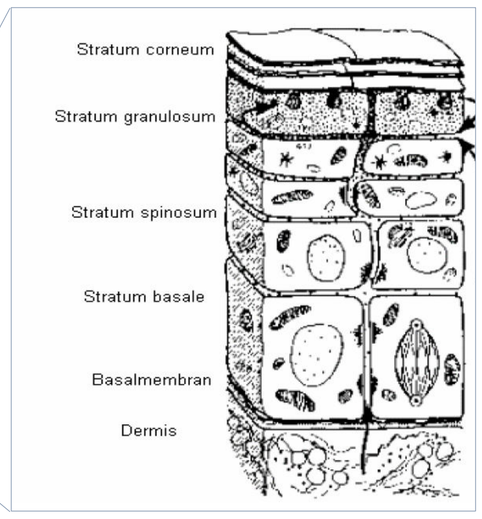
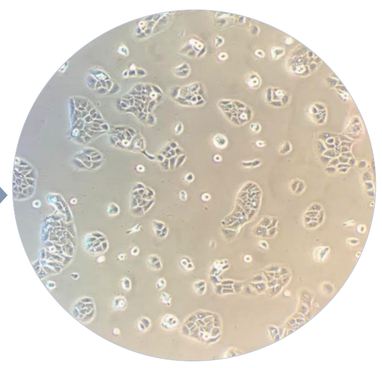
## Introduction



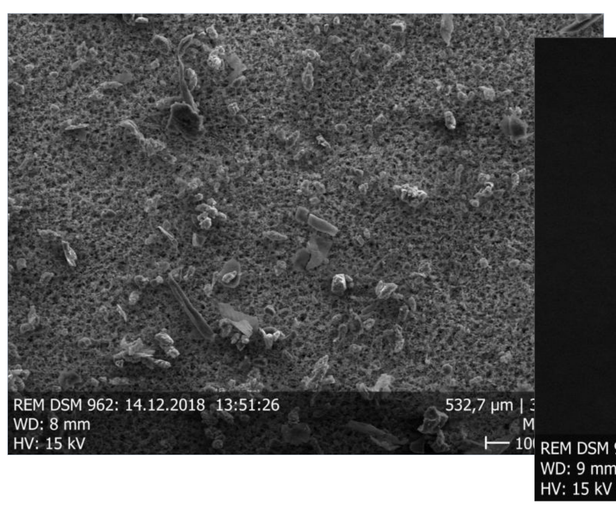



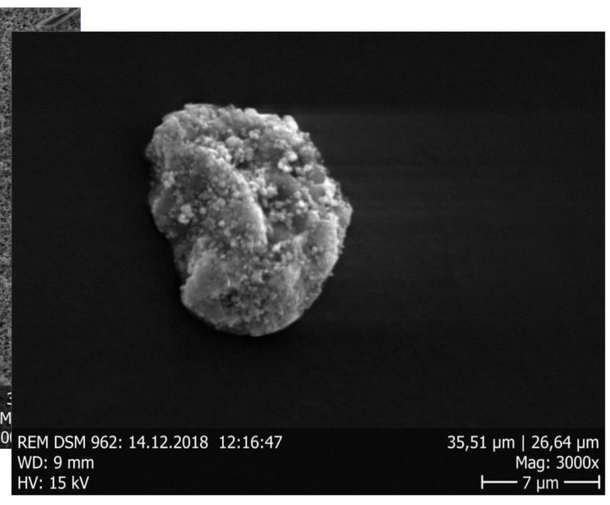

Air pollution from exhaust gases is becoming an ever greater problem in Germany. The particles of these exhaust gases are not only absorbed through the skin but also into blood vessels via the lungs and can cause worse effects on health..
To investigate the influence from these extracts on the human body, a simulated in vitro model was established, with the help of ceratinocytes, so called HaCat- cells, which originate from the skin.

## Methods

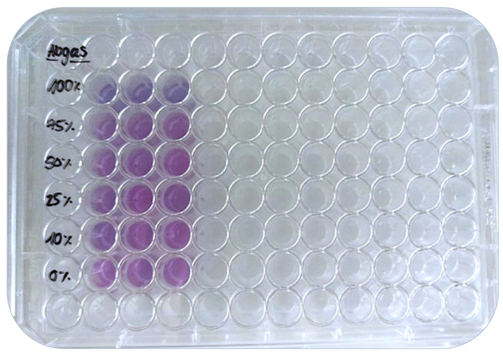
Exhaust extracts were taken directly from an exhaust pipe and diluted after sterile filtration. The cells were later stimulated with different concentrations of these extracts to compare the effect on the cells.
Furthermore, air was collected in the inner city of Reutlingen during the main traffic with the help of an air particle collector.
A scanning electron microscope was used to characterize the particles from the strainer.

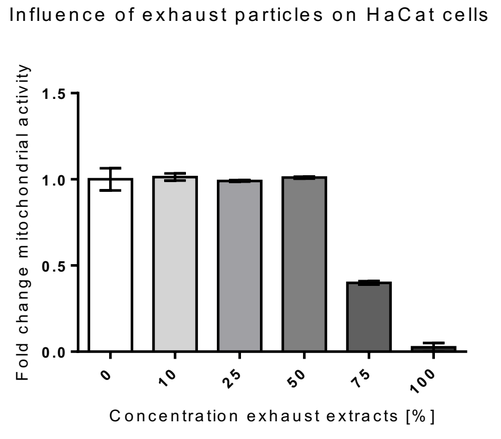



## Evaluation of the influence on the cells

Cell activity was measured by a cytotoxicity test using a Resazurin assay.
After eight days of stimulation it has been shown that the viability of cells decreases with an increasing concentration of exhaust particles.

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