

# Tilmelding af Foredrag

## Foredragets titel

Do mutations cause cancer or do cancer cause mutations

## Forfatter(e)

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## Afdeling/praksis

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## Uddannelsesniveau

Jeg er i hoveduddannelse i ØNH og har lavet basal forskning som del af min Ph.D. Denne præsentation er en del af min Ph.D.-afhandling

## Introduktion

Cancer is generally believed to be caused by mutations at critical sites in the genome. We need to rethink the pathogenesis that leads to cancer. We hypothesize that mutations do not lead to cancer, but are a consequence of cancer. Matriptase is a serine protease that is expressed in most epithelial tissue in the human body. When wild-type matriptase is overexpressed in stratified squamous epithelium, it singlehandedly is sufficient to cause squamous cell carcinoma, in a mice model.

## Materiale/metode

In our group, we focus on understanding how and why matriptase can induce cancer and try to translate this into something that can be used in a clinical setting. Most of our research is done in vitro.

## Resultater

Using we have shown:

- Matriptase has activity in its zymogen form
- The catalytic activity of matriptase is regulated, which is highly unusual

## Diskussion

We hypothesize that too much unregulated matriptase activity permits a specific cellular environment, an "oncogenic" environment composed in a way that will let premalignant cells thrive. With time, more and more mutations will occur, and in the end, the cells will develop into malignant cells, causing cancer. If we could measure who has "too much" matriptase activity, we could have a powerful paraclinical "tool" to diagnose and treat patients with cancer

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