

# Development of novel food concepts for prevention of lifestyle-related neurodegenerative diseases using malted barley waste-products

<https://neurodegenerationresearch.eu/survey/development-of-novel-food-concepts-for-prevention-of-lifestyle-related-neurodegenerative-diseases-using-malted-barley-waste-products/>

## Principal Investigators

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## Institution

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### Country

Sweden

## Title of project or programme

Development of novel food concepts for prevention of lifestyle-related neurodegenerative diseases using malted barley waste-products

## Source of funding information

Formas

## Total sum awarded (Euro)

€ 326,442

## Start date of award

03-01-2016

## Total duration of award in years

3

## The project/programme is most relevant to:

Alzheimer's disease & other dementias

## Keywords

Research Abstract

The project entails development of novel food concepts for prevention of lifestyle-related neurodegenerative diseases. Preliminary data showed that Alzheimer's disease (AD) pathology was markedly reduced in the absence of microbiota. Herein, I aim to extend these findings by developing new food products that can modulate an aberrant gut microbiota composition in mice. The work also includes gut microbiota composition analyses of patients with AD using next-generation sequencing of bacterial 16S rRNA genes and a dietary intervention study in humans with early cognitive decline. Barley malt and brewer's spent grain, a waste product of beer production, will be used in the project, as preliminary data showed that malt was more efficient in attenuating negative effects of high-fat diet intake in rats than un-malted barley. The use of the malt waste will facilitate a more sustainable food production, as large amounts of this are otherwise thrown away. The malt, as well as other grains, will be physico-chemically altered to induce specific gut microbiota changes. The project will result in development of high-quality foods for health, as tailoring of grains for microbiota modulation will result in optimized foods for prevention of disease. Further, this research will also impact the necessary paradigm shift from treatment to prevention in the health care system and reduce the burden of disease, thus reducing health care costs and facilitating also a sustainable health care system.

### **Lay Summary**

**Further information available at:**

**Types:**

Investments > €500k

**Member States:**

Sweden

**Diseases:**

Alzheimer's disease & other dementias

**Years:**

2016

**Database Categories:**

N/A

**Database Tags:**

N/A