

VOLUNTEERS NEEDED

Researchers at the University of Roehampton would like to investigate the potential beneficial effects of *GLUTEN FRIENDLY BREAD* on coeliac disease patients.

Recently a new and innovative “Gluten Friendly bread” has been developed using a gluten detoxification method (patented method PCT n. PCT/IB2013/000797; available on www.wipo.int/pctdb with the number WO 2014/053891). The method is based on the application of microwave energy for a few seconds to hydrated wheat kernels; the treatment induces modifications to endosperm components which dramatically reduce the immunogenicity of the most common epitopes involved in coeliac disease, without compromising the technological properties necessary to process flour into bread, pasta and other baked goods.

After several *in vitro* experiments, it has been demonstrated that the microwave treatment applied to wheat kernels induces significant changes in gluten proteins, such as reduced toxicity, non-inflammatory effect on gut cells from coeliac patients and the solubility of gluten in saline aqueous solution. The study for the first time showed how a chemical-physical treatment could modify gluten so to be unrecognisable by antibodies. Data resulting from recent analysis showed 60 ppm and 40 ppm of gluten in modified durum wheat and modified soft wheat, respectively (Lamacchia et al., 2016). Therefore, it was concluded that the gluten is still present in the “Gluten Friendly bread” but it becomes unrecognisable by antibodies / the immune system. As proposed by the Codex Alimentarius Committee, the flour described in the study might be considered a very low gluten content flour (21-100 ppm gluten) to be used for the production of food with superior sensory properties for the diet of patients with gluten associated disorders. This is the reason why the modified bread is called “Gluten Friendly” and not “Gluten-free”.

However, further investigation to understand the effect on patients with gluten mediated diseases is needed and any potential beneficial effects.

The researchers are seeking people living in the London area, who would be willing to donate blood, faecal and urine samples before and after bread intake.

Who can be a volunteer for this study?

If you would like to be a volunteer, you need to be:

- Aged between 30 - 70 years old
- Have a medical diagnosis for coeliac disease (blood test and biopsy confirmed)

- On a gluten-free diet for a minimum of 12 months
- Not be extremely sensitive to exposure to gluten
- Living within 1 hour of the University of Roehampton, London
- Able to attend 6 appointments and donate faecal, blood and urine samples before and after bread intake
- Willing to participate in the entire study

What is involved?

You will be asked to attend at the Health Sciences Research Centre, Life Sciences Department, Whitelands College for a screening visit, where you will be informed about the study and a blood sample will be taken (~10ml; 1 dessert spoon). After two weeks, you will be asked to start the consumption of bread for 2 weeks and to attend at the Health Sciences Research Centre, Life Sciences Department, Whitelands College for 5 study visits. A nurse will take a blood sample and you will be asked to provide faecal and urine samples. You will be asked to complete a 5-day food diary and a questionnaire on symptoms.

Each visit will take around 30 minutes. The 5-day food diary will take around 1.5 hours to complete, whereas the symptoms' diaries will take 20 minutes per week (volunteer will complete these at home). Therefore, the participation in the project will take around 6 hours in total. The study will take place over the period of May - August 2016. Your time and travel costs will be reimbursed.

How to take part

If you are willing to take part in this study, the University of Roehampton would like to hear from you.

For more information, please contact:

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Please note that by making contact and showing an interest you are not obliged to take part in the study. This is a study by the University of Roehampton and has been approved under the procedures of the University of Roehampton's Ethics Committee. The study is funded by the University of Foggia, Italy, Prof Lamacchia.