## Summary

The research study examines ulcerative colitis tissue material from patients by nuclear magnetic resonance imaging in vitro. By measuring different relaxation times in healthy and diseased tissues, it is possible to determine the concentration of biomarkers tested in blood serum and in colon specimens collected.

The work concerns the assessment of biological drug concentrations using MRI. In vitro tissue measurements will allow to attempt to answer the question why it is that in some patients the response to treatment is good and in others it is ineffective. Patients qualified for treatment can be selected more accurately and further research can be conducted to understand differences in patient immune mechanisms.