

**COST ACTION BM0806 STSM 5966**

14-23/7/2010, Durham, UK (Supervisor, Dr. Chazot)

**SCIENTIFIC REPORT: KONSTANTINOS PAPAMICHAEL****Purpose of the visit**

To investigate the expression of the H<sub>4</sub> histamine receptor (H<sub>4</sub>R) in the intestine of patients with inflammatory bowel disease (IBD), either crohn's colitis (CD) or ulcerative colitis (UC).

**Experimental methods learned**

I tried to detect, using immunohistochemistry (IHC), the expression of the H<sub>4</sub>R in endoscopic biopsies taken from both the small bowel and the colon of IBD patients from macroscopically affected or unaffected tissue, supplied from the 1<sup>st</sup> Gastroenterology Unit, Evaggelismos Hospital, Athens, Greece. The samples were incubated with the human antibody for the H<sub>4</sub>R provided from Dr. Chazot, followed by incubation with a secondary antibody. Then a horseradish peroxidase reagent was added and this could then be visualised using an enzyme substrate.

**Results**

The initial results obtained indicated a differential expression of the H<sub>4</sub>R in IBD patients in terms of the type of the disease, the part of the intestine and the state of the tissue examined, although it is difficult to determine quantitatively any difference observed by eye.

**Conclusion, implications and future directions**

The experience gained in Dr Chazot's laboratory will be useful in order to set up IHC techniques for detecting the human H<sub>4</sub>R in my own lab at the Medical School, University of Athens, Greece, as we are interested in assessing the possible role of H<sub>4</sub>R in IBD so as to reveal a potential diagnostic, prognostic and / or therapeutic exploitation of this new drug target. Future collaboration with Dr Chazot's laboratory in order to perform immunofluorescent histochemistry and / or western blotting analysis may also be necessary to show quantitatively possible differences in the expression and localisation of both the H<sub>4</sub>R and the H<sub>3</sub>R between the different samples.