

Purpose of the visit to Dr. Paul Chazot's lab -

The aim of this visit was to learn and perform immunohistochemical analysis/technique for histamine 4 receptor (H4R) expression on mucosal tissues from patients with inflammatory bowel disease (IBD) and murine colitis.

Work details –

Immunohistochemistry (IHC) was carried out on frozen and paraffin fixed colon tissues, and paraffin fixed small intestine tissue from $G\alpha i2^{-/-}$ mice in different stages of colitis and from the wild type mice, as well as paraffin fixed colon tissues from IBD patients. I also performed western blot analysis to determine H4R protein levels in small intestine from $G\alpha i2^{-/-}$ mice in different stages of colitis and from the wild type mice.

Results-

H4R IHC studies on colon tissues from $G\alpha i2^{-/-}$ mice follow the pattern of gene expression (mRNA) studies, which were performed in my lab at Örebro University, Sweden. There was no difference between the wild type and late colitis mice in H4R expression (Fig.1.), whereas H4R levels were reduced in both precolitis and early colitis compared to wild type mice (Fig.1.), and as the disease progress the H4R levels were elevated near to normal as in wild type.

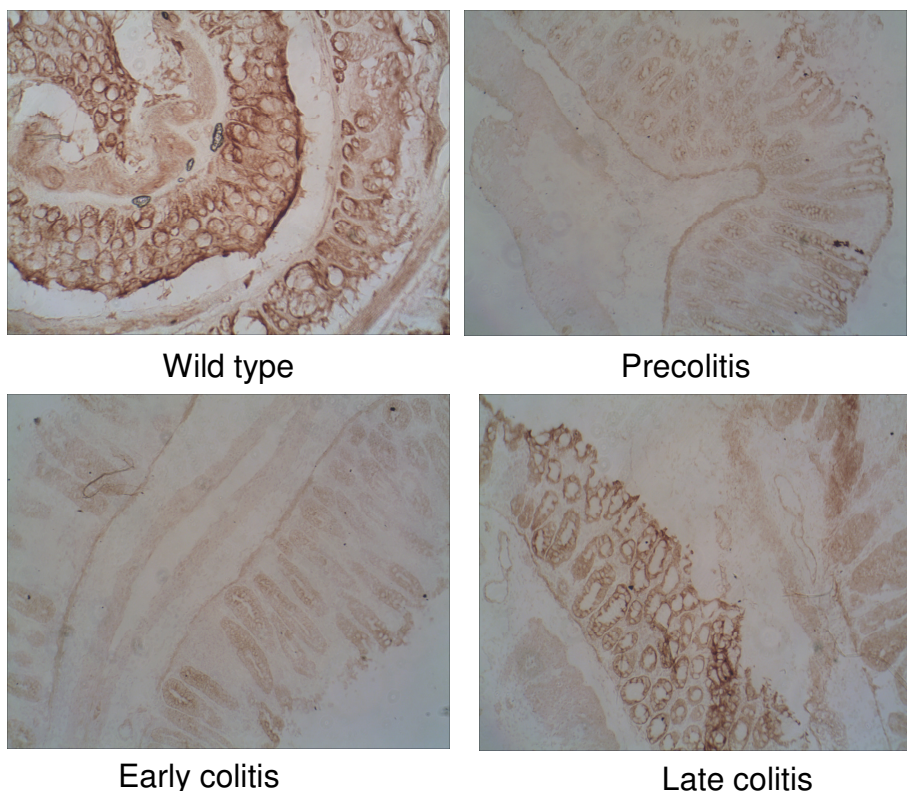


Fig.1. H4R expression in colon tissue from $G\alpha i2^{-/-}$ mice in different stages of colitis.

IHC studies for H4R expression in small intestine from $G\alpha i2^{-/-}$ mice were not completely successful and it might be due to the very small amount of tissues; however I found that there

are changes in the H4R protein levels in small intestine tissues from $G\alpha i2^{-/-}$ mice at different stage of colitis by western blot analysis (Fig.2.).

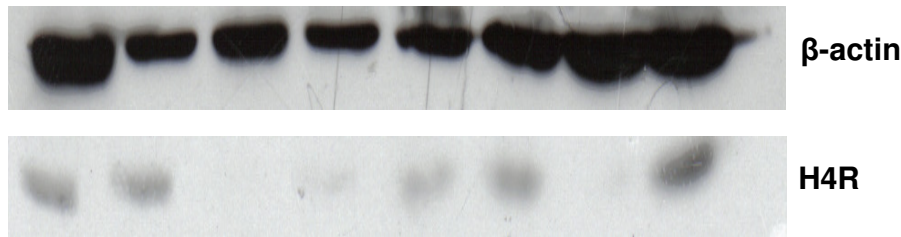


Fig.2. H4R protein expression in small intestine tissue from $G\alpha i2^{-/-}$ mice in different stages of colitis.

As for immunostaining for H4R in human colon tissues was learned and will be repeated in my lab at Örebro University.

Future collaboration –

There is high interest from both, the lab of Dr Chazot's and our lab at Örebro University to conduct studies like immunofluorescence and pharmacological studies of samples from human IBD and murine colitis.