

Karin Wallander

Project title: Translational study of the genetic cause for serrated polyposis syndrome and colorectal cancer

Duration	6 months
Short Bio	I am a medical doctor, specialist in clinical genetics, at Karolinska University Hospital, Stockholm, Sweden. After I defended my thesis “Hereditary predisposition and prognostic prediction in cancer” at Karolinska Institutet, Stockholm, Sweden, I started a post doc with focus on sarcoma diagnostics.
Home Institution	Oncology Pathology, Karolinska Institutet, Stockholm, Sweden
Host institution	IDIBAPS, Hospital Clínic, Barcelona, Spain
Project description	To verify or rule out the association of three different genetic variants in the gene <i>TP53BP1</i> to serrated polyposis syndrome, we need to functionally investigate the variants. I learnt and used the CRISPR/Cas9 knock-in technique to introduce the variants in a HAP1 cell line. This involved culturing cells, designing guide and template RNA for the three specific targets, performing the nucleofection, and evaluate the results through an efficient sequencing screening process of single cell clones. The research group will now be able to perform functional studies in the cell lines, looking for signs of DNA repair dysfunction.
Personal statement	Before the exchange program, I had not been working in a wet lab, and not been involved in a cell lab. I got a great introduction into the field, and I grew increasingly independent. I also got the chance to take part in the outpatient clinic, in the genetic counselling for individuals with an increased risk for cancer. Apart from acquiring a new and unique skill that I will be able to use at my home institution, I also got inspired by the team spirit and the well-structured work environment at IDIBAPS, in the Genetic predisposition to gastrointestinal cancer group.