

### **Pia Cartagena Mekiffer at Max Delbrück Center for Molecular Medicine**

In three weeks of January 2023, I was in the Max Delbrück Center for Molecular Medicine with the team directed by Miss Hörnberg. They are focused on molecular and cellular basis of behavior. The experiments, they usually do, are on mice and consist of measuring the proteins that are present on the mouse's brain depending on specific genes. I was tutored by Maria Steinecker, who was the one, who accompanied me through all my time there.

The first day at the practicum Miss Steinecker explained to me the rules in the laboratory and how the different machines and instruments work. Then, she showed me the campus. After we ate, we prepared the Buffer Tris-KCl with pH 7.4 for experiments, that we were going to the next day and at the end of the day she taught me the correct way in pipetting.

On Tuesday we counted the proteins present on the brain with the method BCA-Assay, prepared and diluted the next line of samples and we tried the method Alpha-Lisa on them, which unfortunately didn't work.

We prepared another line of samples on Wednesday with the same method, we used the day before.

During the fourth day, we did cap-pulldown bead. It consists of separating the cortex from the brain's mouse, grinding it with the buffer Tris-KCl and DTT, dilute the proteins and measure the concentration of proteins.

The next day, on Friday, we discussed our results during the week at the lab meeting (these meetings happen all Fridays) with the other members of the team.

On Monday of the second week, we did some genotyping on the *mouse line* MNK ½ we acquired, a PCR and an electrophoresis on the DNA, we extracted from the skin of the mouse line.

During the next day we used the Cap-Pulldown samples from the Thursday bevor, and we transferred the Electrophoresis from Gel to Membrane and then we incubated the Antibodies. At the end of the day, we also tried Alpha-Lisa but it didn't work again.

The antibodies had to set on the samples during the night, so the next day we applied the next coat. We had to applied them, because the ones, that we let rest during the night, created a bridge to the next ones, which are applied to make the proteins visible. We also did another genotyping to some samples the other members of the team left us.

The next week we repeated the processes I already learnt on other samples until Thursday, which was my last day before receiving my grades and before the Winter-Holidays.

I learned a lot of things, while I was there and I would certainly recommend it to other students, who also like science and would like to work in a laboratory. The installations were amazing and all the people working there are really nice. The thing, I liked the most, is the diversity of countries of origin from the staff, there was people from Italy, Sweden and Turkey and they all worked harmoniously.

Pia Cartagena Mekiffer, 11.05 FOS, 2023