

Téma diplomové práce

Vývoj metody pro in vitro hodnocení fúze časných endosomů (Steps towards the development of an in vitro assay of early endosome fusion)

Jméno studenta, studentky

LUCIE ŠVÉDOVÁ

Jméno vedoucího diplomové práce

Dr. Arwyn T. Jones

Mgr. Marta Chlupáčová

I. Posudek vedoucího diplomové práce

Lucie Švédová začala pracovat na Katedře farmaceutické chemie a kontroly léčiv v průběhu 3. a 4. ročníku studia. Zabývala se syntetickou prací (přípravou meziproduktů pro syntézu chalkonů a finálních pyrazinových analogů chalkonů) a v syntetické laboratoři si počínala velmi zručně.

V květnu 2005 odjela na University of Cardiff, přeorientovala se na biologickou tematiku a svou diplomovou práci vypracovala v Centru pro polymerní léčiva pod vedením Dr. Arwyn T. Jonese. Při sepisování projevila dobrou znalost angličtiny a orientaci v problematice. Posluchačka se zúčastnila 14. SVK a postoupila do nadnárodního kola pořádaného Zentivou.

Přikládám posudek Dr. A. T. Jonese a na jeho základě doporučuji její diplomovou práci k obhajobě.

Navrhovaná klasifikace

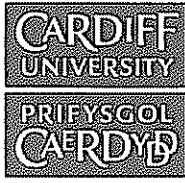
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V Hradci Králové dne

31. 5. 2006



Podpis vedoucího diplomové práce



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25 May 2006

Mgr. Marta Chlupáčová
Charles University in Prague
Faculty of Pharmacy in Hradec Králové
Heyrovského 1203
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Dear Professor Chlupáčová

Lucie Svedova was an Erasmus funded researcher in my laboratory from May to September 2005. She was allocated a project entitled "Setting up an in vitro assay for early endosome fusion" This was because of my previous interest in understanding the molecular biology of endosome fusion but also my desire to use this assay for drug delivery research. I had never performed the assay in Cardiff.

This assay can only be executed after characterising a number of steps from initial cell culture through to internalisation of labelled endocytic probes, homogenization of labelled cells and use of purified cellular fractions in a final fluorimetric (fusion) assays. It is a highly complicated assay and only a very few laboratories in the world perform this. Under my direct supervision Lucie set out to characterise the various steps required for the assay starting with setting up a β -galactosidase test that we use as our final indirect measure of fusion. This, rapidly, and with very little supervision she did successfully. It was obvious to me that the way Lucie progressed through these early experiments that she was technically and intellectually a very good student. She then developed, on her own, methods for all the aspects of the fusion assay (as described above) and at the end of her period attempted to perform full fusion assays.

Despite numerous attempts she was never able to finally show temperature-dependent fusion and this troubled her greatly and her obvious frustration reflected her desire to reach her goals. I do however stress again that this is a difficult assay and a number of factors could account for this; most of them beyond the control of the researcher. The fact that she has now described all her protocols in her report will be a great help to us as we still strive to develop the assay. I believe the final report that she has written is a fair reflection of the large amount of work that she did in a relatively short period. I did have to do some corrections on her final report but most of these were grammatical. Her ability to write in English improved significantly during her period with us.

Generally, Lucie was careful in her work, courteous and mindful of others, produced reproducible data, was very efficient at typing her data into report format and extremely reliable. After searching the literature she became knowledgeable on aspects relating to endosome fusion and this helped her gain independence from me and allowed her to think of new experiments. She was extremely popular in the laboratory and we were all very sorry to see her return. I would have no hesitation in offering her a PhD position if she was interested in using her Pharmacy qualifications to pursue a career in research. I very much hope she does this.

Overall and in comparison with grades that we set for our undergraduate students in the Welsh School of Pharmacy, I believe her work is worthy of a First Class Honours degree. As a percentage I would award 86%.