

22 July 2013

Dr. A. Akanov  
Rector of KazNMU named after S.D. Asfendiyarov  
94 Tole bi, Almaty  
Republic of Kazakhstan

Dear Dr. Akanov

This letter is a report on the work of Denis Barinov in my laboratory from late April, to early July 2013. Mr Barinov came with substantial prior laboratory and chemical experience, and therefore adapted quickly to the work environment here. I set for Mr Barinov the synthesis of derivatives of the compound phloretin in a project entitled: "Synthesis of photo-reactive activators of BK-channels: iodophloretin". Phloretin is an activator of the BK channel, whose activity can affect cellular function in many places in the body. There are a number of potential therapeutic drugs being developed that specifically target this ion channel. Further understanding the actions of phloretin on the BK-channel may permit better targeting of this channel for future therapeutics.

Mr. Barinov's task was to synthesize an iodinated derivative of this compound. This required the synthesis of several intermediate compounds. Using an initial protocol taking from the literature, Mr. Barinov successfully synthesized the relevant brominated precursors. He characterized the stoichiometry of this reaction and thereby identified the intermediates chromatographically. He ultimately successfully completed a small scale synthesis of the iodophloretin. We have subsequently purified this material in the laboratory, and it is being tested for activity on the BK channel.

In his work here, Mr. Barinov conducted himself professionally. He kept clear and meticulous records of his work. He planned his experiments independently and worked hard to complete this project. For the short time here in the US, he accomplished a good deal.

I was very pleased with Mr. Barinov and believe he has strong potential in his future work as a scientist. I strongly encourage you to support his further education. Please feel free to contact me should you require any further information.

Yours truly



Steen E. Pedersen, Ph.D.  
Associate Professor

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