BASTION

From Basic to Translational Research in Oncology

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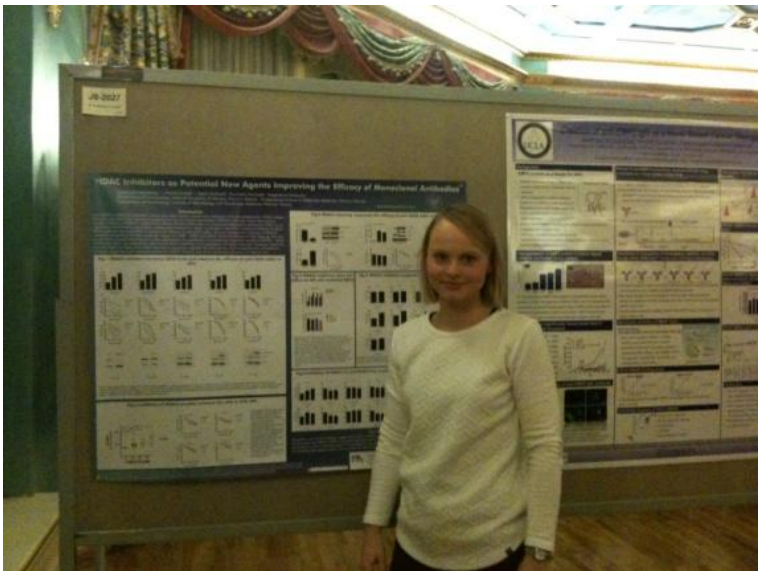
Report on active participation in Keystone Antibodies Meeting, Banff, Canada, February 9-13, 2015

At the beginning of February 2015 I had an opportunity to participate in an international meeting on the topic of antibodies organized by the Keystone Foundation. J8 Antibody Meeting took place in Banff in Canada along with J7 Meeting on Tumor Immunology. During the conference I had a possibility to participate in both meetings which was a perfect occasion to learn about recent *in vitro* research and clinical trials concerning immunotherapy of cancer. Keystone Meeting gathered word-famous specialists on cancer immunology and I followed with special interest the talks of Prof Guido Kroemer and Prof Laurence Zitvogel. Moreover, a large part of the conference concerned the impact of epigenetic therapy on the outcome of immunotherapy, which is of a great interest to me as my current research projects concerns histone deacetylases (HDACs). I found lectures given by Prof Tak W. Mak and Prof Eduardo Sotomayor, who described HDACs as a promising option in combination with immunotherapy, of a special importance to me. Both meeting gathered about 1000 participants from all over the word, mostly immunologists but business representatives as well, which made a space for discussions in a friendly, cozy atmosphere. During this exceptional meeting I had a chance to present the results of my research project with a poster. It was for me an unique opportunity to present my work to a wide audience, share scientific ideas and establish new promising contacts. The results of my work were also appreciated by the organizers of the meeting Dr. Pablo Umaña, Mark X. Sliwkowski and Martin J. Glennie that awarded me a 1200 USD travel grant generously provided by the National Institute of Allergy and Infectious Diseases, Grant #1R13AI116024-01.



Title of the poster:
HDAC Inhibitors As Potential New Agents Improving the Efficacy of Monoclonal Antibodies

Authors:
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In summary, we demonstrated, that HDAC inhibitors are a new class of drugs used in hematology with great potential to improve the efficacy of monoclonal antibodies (mAbs) already used in the clinic and those currently tested in clinical trials. We show that inhibition of HDAC activity increases the level of molecular targets used in immunotherapy of hematological malignancies – CD20, CD37 and CD38. We identified HDAC6 as a major player of this regulation in B-cell lymphoma and chronic lymphocytic leukemia (CLL). We observed that the up-regulation of CD20 by HDAC6 inhibitors is caused by increased synthesis of CD20 protein de novo without affecting its transcription. It is a novel mechanism of CD20 regulation. Moreover, using isoform-specific inhibitors of HDAC1 and HDAC3 decrease the expression of complement inhibitors – CD46, CD55 and CD59 in CLL primary cells. All in all, isoform-specific HDAC inhibitors seem to be an effective therapeutic strategy in combination with mAbs.