Project 1.7 Verification of personalized therapeutic strategy for myeloid leukemias with PTPN11 mutations

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Background:

Myeloid neoplasms, especially highly heterogeneous Acute Myeloid Leukemia (AML), represent the most common types of leukemia in adults. Apart from intensive development of research and advanced therapies, very little improvement in survival of those patients has been achieved over the past decades. Therapies are insufficient and survival rates are low. Development of combined personalized therapies that target key proleukemic regulatory molecules, designed for selected patients identified by genetic screen, to be the best current strategy. Our project combines basic and translational research and addresses major needs to develop novel therapies for myeloid malignancies with PTPN11 mutations and Ras pathway overactivation, which are characterized by high resistance and bad clinical outcomes. Previously we have identified prosurvival signaling controlling stress response, which can be a novel potential target for combined treatment and eradication of resistant cells leading to effective therapy in those leukemias.

Aim:

The studies will verify the therapeutic strategy based on specific combined targeting of elements of the proleukemic signaling in PTPN11-mutated myeloid leukemias. The studies will be conducted using a broad range of cell/molecular biology methods as well as in vitro 2D and 3D cellular models, primary clinical material and in vivo mouse models. Studies include collaboration with national and international scientific and medical institutions.

Requirements:

- the candidate should have accomplished master degree in biomedical, biology, medicine, biotechnology or related studies;
- high motivation, curiosity and passion for research;
- good scientific track record;
- experience in laboratory work in the area of cellular biology/immunology/ medical biology is required;
- experience in work with primary blood cells and /or mouse models would be an important advantage;
- good English skills are required;
- candidate should be able to collaborate and work in the team.