Description of Funded Research Projects
1st Call for H.F.R.I. Research Projects to support Post-Doctoral Researchers

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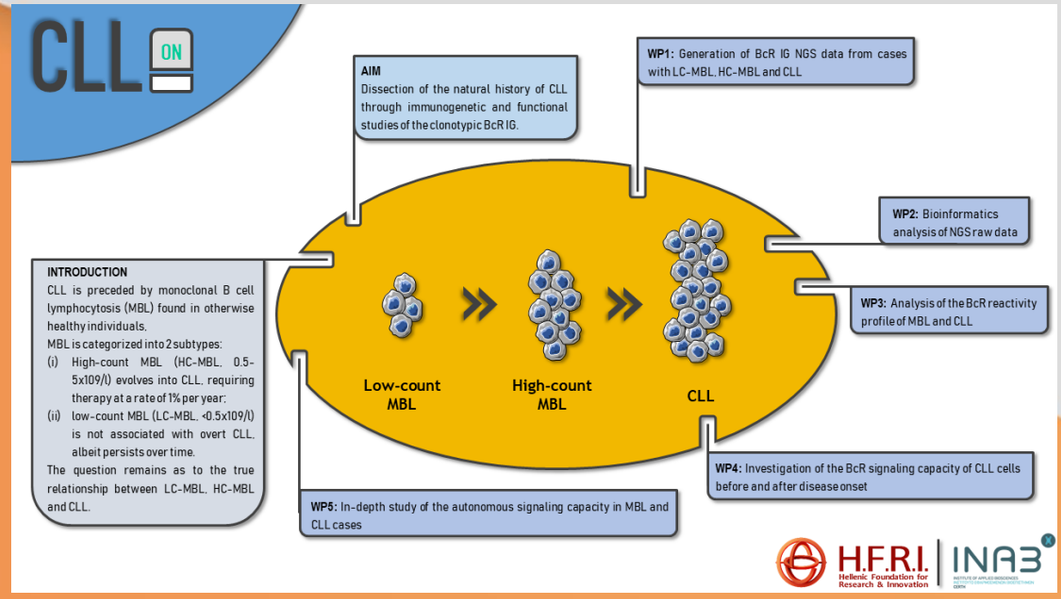
Research Project Title:

CLLon - Immunogenetic and functional analysis of the B-cell receptor in Monoclonal B-cell Lymphocytosis (MBL) and Chronic Lymphocytic Leukemia (CLL) : implications for disease ontogeny

Principal Investigator:
Andreas Agathangelidis



Popular Title:
Study of antibody function in leukemia (Chronic Lymphocytic Leukemia) and pre-leukemic states (Monoclonal B-cell Lymphocytosis)

Scientific Field:
Life Sciences

Host Institution:
Institute of Applied Biosciences (INAB), Centre for Research and Technology Hellas (CERTH)

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CLLon aims at dissecting the processes related to the B-cell receptor immunoglobulin (BcR IG) that occur throughout the natural history of CLL and contribute to disease ontogeny and evolution, through in-depth immunogenetic and functional studies of the clonotypic BcR IG.

To reach solid conclusions, the study group will include individuals with MBL of both subtypes: (i) low-count MBL (LC-MBL) and (ii) high-count MBL (HC-MBL), as well as patients with CLL with distinct clinical courses, ranging from ultra-stable (asymptomatic for at least 10 years) to rapidly progressive. A multiparametric characterization of the BcR properties in MBL and CLL will be performed at different levels: (i) IG heavy and light chain sequence composition, (ii) BcR reactivity profile and (iii) (classical and autonomous) BcR signaling capacity.

Project Impact on Society

Chronic lymphocytic leukemia (CLL) accounts for about 40% of all leukemias in the population of >65 years. CLL is characterized by vast clinical heterogeneity leading inevitably to a close monitoring of patients that imposes a psychological distress onto the subjects and their families due to the uncertainty of their condition. CLLon aims at identifying prognostic factors that may correlate with the risk of progression into CLL, which will help stratifying subjects at risk. These will be the ones to be more closely followed up, sparing the vast majority of individuals with MBL unnecessary medical assessments.

In the long term, the discovery and validation of possibly relevant risk factors occurring in the initial phases of the disease may help designing more efficacious and less toxic therapies that will translate into a clear benefit in terms of survival and quality-of-life for CLL patients.

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To me, H.F.R.I. funding would mean...

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My primary career aim is to establish my own scientific group. CLLon represents an ideal opportunity to achieve my goals through: (i) training on novel, state-of-the-art methodologies and (ii) working in a multi-disciplinary scientific environment. Within the context of CLLon, I will be involved in the implementation and/or development of innovative methodologies and bioinformatics analytics and will also receive valuable counsel from experienced scientists. These skills will greatly enhance my expertise and assist me into pursuing an independent research career.

The multidisciplinary nature of the project will promote the building of collaborative networks, given that it stands on two pillars: (i) the production of high-quality data and (ii) the bioinformatics analysis, requiring expertise in two research areas.

The Principal Investigator,

Andreas Agathangelidis

Funding

Amount: **180,000 €**

Duration: **36 months**

Foundation: **H.F.R.I.**

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