

Research Project Proposal
Academic year 2017-2018

Project Nº 19
Title: Immunovirotherapy for the treatment of pediatric solid tumors
Department/ Laboratory The project will be performed in the Lab 2.03 at CIMA. We belong to the Department of Pediatrics (Clinica Universidad de Navarra) and to the Program of Solid Tumors (CIMA)
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Summary : In this project we aim to develop a new therapy for aggressive pediatric solid tumor. To achieve our objective, we propose to implement a tumor-targeted oncolytic adenovirus with the capacity to elicit a therapeutic immune response. We have previously developed Delta-24-RGD, a replication-competent adenovirus that has been translated to clinical scenario. Preliminary results from the first trials revealed that the intratumoral injection of the virus instigated an initial phase of oncolysis followed by a delayed inflammatory response that ultimately resulted in complete regression in a subset of the patients without associated toxicities. We hypothesized that enhancement of the immune component of the Delta-24-RGD-based therapy will result in the complete regression of the vast majority of pediatric solid tumors. In our specific approach we propose to combine the capability of Delta-24-based adenoviruses to recruit lymphocytes to the tumor with the competence of an immune peptide to activate the tumor infiltrating lymphocytes. We expect that this combinatorial innovative treatment will efficiently challenge the profound and inherent tumor immunosuppression and, in turn, will elicit a robust anti-tumor immune response resulting in the significant improvement of the prognosis and quality of life of patients with pediatric solid tumors. Our research project will use novel and relevant mice and human in vivo immunocompetent models to accomplish the experimental aims.