

### DC3 – Job Vacancy

<b>Position Description</b>	
<b>Reference</b>	DC3
<b>Title of the project</b>	Novel peptide shuttle-modified drug nanocarriers for active targeting of anticancer antibodies (cetuximab) to glioblastoma cancer cells
<b>Recruiting Institutions</b>	(1 <sup>o</sup> ) Technion – Israel Institute of Technology (Israel, 24 months) and (2 <sup>o</sup> ) University of the Basque Country-POLYMAT (Spain, 12 months)
<b>Secondment</b>	Vetex (Cyprus)
<b>Expected Start Date (estimated)</b>	Latest July, if possible, February/March

<b>Job Offer Description</b>	
<b>Keywords</b>	Sonoresponsive therapy, polymeric micelles for drug delivery, encapsulation of antibodies, targeted drug delivery through BBB
<b>Project Description</b>	This project aims to develop fine-tuned polymeric micelles capable to cross BBB (Blood Brain Barrier) endothelium and target glioblastoma (GBM) cells. For that, amphiphilic copolymers grafted with peptide shuttles will be synthesized and self-assembled for the formation of micelles with a size of 100-200 nm. Then, the polymeric micelles will be loaded with cetuximab. Finally, materials will be assessed in vitro using BBB models and GMB cells. If characterized materials seem promising according to the in vitro experiments, they will be tested in in vivo models in the framework of a secondment in Vetex Machina company (Cyprus)
<b>Objectives</b>	<ul style="list-style-type: none"> <li>- Synthesis and characterization of peptide shuttle-modified poly(ethylene oxide)-b-poly(propylene oxide) block copolymers</li> <li>- Synthesis and characterization of amphiphilic chitosan graft copolymers</li> <li>- Production and characterization of cetuximab-loaded polymeric micelles</li> <li>- Cell compatibility, uptake, and anticancer efficacy in vitro</li> </ul> Study of the BBB permeability in rabbit models in vivo
<b>Expected Results</b>	Peptide shuttle-modified polymeric micelles will encapsulate the model anticancer antibody and increase the permeability across a BBB model in vitro and the efficacy in adult and pediatric GBM models in vitro with respect to the free antibody and the antibody nanoencapsulated within unmodified polymeric micelles



<b>Supervisors</b>	Prf. Alejandro Sosnik (Technion – Israel Institute of Technology) and Dr. Ana Beloqui (University of the Basque Country-POLYMAT)
<b>Work in the secondment</b>	Vetex (in vivo experiments)

<b>Vacancy requirements</b>	
<b>Qualifications</b>	Solid background in nano and biomaterials or nanoscience or bioengineering/biomedical engineering and basic background in organic chemistry/polymer chemistry. Having a master degree or equivalent diploma, and not having a doctoral degree.
<b>Requirements</b>	MSCA-recruiting rules are applied. Not having resided in Israel for more than 12 months in the 3 years immediately before the recruitment date, and not having carried out their main activity (work, studies, etc.) in Israel during this period.
<b>Languages</b>	Excellent command of written and spoken English is a must
<b>Skills</b>	Ability for research management, dissemination, communication with colleagues and supervisors, strong teamwork spirit, creativity, problem solving and attention to safety
<b>Experience</b>	Research experience in the academic or industrial sector will be considered

<b>Job Details</b>	
<b>Salary</b>	Salary and benefits will follow the rules of the MSCA-DN, as foreseen in the Marie Skłodowska-Curie Actions Work Programme. Gross salary per month in Israel: 3.644,80€ (3400€ per month*CCC Israel (107,2%)) + 600 € mobility allowance Gross salary per month in Spain: 3104,20€ (3400€ per month*CCC Spain (91,3%)) + 600 € mobility allowance  *CCC (Country Correction Coefficient)
<b>Other benefits</b>	Other benefits: Gross family allowance: 660€ per month - if applicable*  *The family allowance will also be made available to researchers whose parental status changes during their project.
<b>Duration</b>	36 months
<b>Type of contract</b>	Full time
<b>Place of work</b>	<i>Technion – Israel Institute of Technology</i> : Haifa, Israel (24 months). At the end of this period, a short secondment in VETEX (Cyprus) is foreseen. <i>University of Basque Country</i> : Donostia-San Sebastián, Spain (12 months)



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