



## Research Project Proposal

Academic year 2019-2020

<b>Project Nº 54</b>	
<b>Title:</b> Theranostics of Neuroendocrine Tumors: the role of peptide receptor radionuclides targeting somatostatine receptors	
<b>Department/ Laboratory</b> Department of Nuclear Medicine, Clínica Universidad de Navarra	
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<b>Summary</b>  Neuroendocrine tumors (NETs) are a heterogeneous group of neoplasms that arise from neuroendocrine cells. In particular, some NETs affect the gastroenteropancreatic part of the body, thus being called gastroenteropancreatic NETs (GEP-NETs). Although improvements in imaging techniques have led to an increased amount of newly diagnosis of GEP-NETs in the past two decades, reported incidence is low (2.5-5/100,000/year), currently accounting for 1-2% of all malign neoplasms. This low incidence, apart from the inexistence of concrete risk factors and the demonstrated slow progression, make physicians encounter serious problems in deciding the best approach for diagnosing, assessing progression and evaluating response to treatment. In fact, techniques selected for imaging might have an impact on the definition of progressive disease, which in turn can influence the treatment strategy. At this respect, Positron Emission tomography (PET) using the new peptide receptor radionuclides targeting somatostatin receptors like DOTA-TATE, DOTA-TOC labelled with Galium 68 is the technique of choice for NETs staging, and recommended for evaluating the appearance and/or the progression of GEP-NET metastases. These oligopeptides are designed to target cellular proteins, commonly cell surface receptors, such as the somatostatin receptor subtype 2 (sstr2) that is overexpressed on the cell surface of NETs in a tumour-specific fashion. In addition, when labelling these compounds with beta-radiation emitters like Lutetium-177 they ensure a high level of specificity in the delivery of the radiation to the tumour as a treatment. Therefore, we can combine the use of similar compounds for diagnosis and therapy depending on the radionuclide used (theranostics). In this project, we aim to evaluate the cohort of patients with NET that have been treated in the CUN using 177-Lu-DOTATATE during the last 4 years and those who were evaluated using 68Ga-DOTATOC.	
yes	<input type="checkbox"/>
no	<input checked="" type="checkbox"/>
<b>Does the project include the possibility of supervised animal manipulation to complete the training for animal manipulator?</b>	