



Thematic Actions

Coordinating Universities for the Proposal: UCM and UPM

Title of Action	Creation of an Advanced Biomedical Imaging Platform		
Participating partners	UCM, UPM, HCSC, HGGM	Other participants	PET Technological Institute
Personnel involved (indicate institution)	UCM, UPM, HGGM		
Start date	2009	End date	2012
Cluster	i-Health (i-Medicine)	Other clusters	
Areas of action	Research / Knowledge Transfer		
Location	UCM		
Infrastructures involved	UCM Research Support Centres, ICTS of Biomedical Imaging , ICTS of Microscopy, PET Technological Institute		
Keywords	Biomedical imaging; Molecular imaging		
<p>Objectives:</p> <p>The objectives of this action are to incorporate new biomedical imaging equipment into to the existing facilities and to create a communication framework to connect the different centres of molecular imaging on the Moncloa Campus. This infrastructure, which will be highly competitive on an international level, will allow a research programme to be conducted into molecular imaging to visualise molecular processes in vivo.</p>			
<p>Description of the action:</p> <p>The Moncloa Campus is equipped with various molecular imaging infrastructures, including MRI and PET centres, part of the future Scientific Facility of Unique Biomedical Imaging Technologies of the Spanish Ministry of Science and Innovation and the PET Technology SA Institute (ITP), the first company dedicated to the R&D and production of radiotracers for PET applications in Spain. The ITP possesses advanced technology, including two cyclotrons and a laboratory of synthesis for radiotracer production, which includes the radionuclides ¹⁸F and ¹¹C. This specialist equipment will be supplemented by a drugs lab, an electrophysiology lab, a radioactive installation and an animal house dependent on the Central Animal Facility of UCM.</p> <p>Specialist groups from the UPM, CIEMAT and the UCM University hospitals, such as HCSC and HGGM, cooperate In this hub of advanced molecular imaging technology. These groups not only offer highly specialised services in molecular imaging, but can also undertake synthesised actions in education, research and innovation, which embrace the majority of the consortium members.</p>			
<p>Key planned results:</p> <p>This action was launched in 2009 and it is anticipated that the Advanced Biomedical Imaging Platform will be fully operational by the end of 2011. Today, there are 20 intramural research groups that are regular users of these techniques and it is estimated that this figure will double by 2012. We also foresee an increase in the number of groups specialising in molecular imagery and in the number of extramural users, therefore increasing the scientific critical mass.</p>			
<p>Rationale for the action:</p> <p>Molecular imaging is a growing research area. The number of scientific publications and the funds dedicated to molecular imaging have increased in the last decade. In the European framework, investment in molecular imaging programmes has been doubled by the 7FP. However, R&D in molecular imaging is still scarce in Spain. The unique nature of the Moncloa Campus, which brings together various groups specialised in biomedical imaging and advanced molecular imaging infrastructure, is the principal justification for this action.</p>			



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<p>International aspects:</p> <p>Our competitive infrastructure allows research programmes to be conducted in molecular imaging using both the specialised personnel on the Campus and incorporating new national and international research groups in order to strengthen scientific cooperation, with the aim of becoming a centre of international excellence. To this end, we propose to create committees of international experts to advise and assess the scientific activity and to strengthen cooperation with technology centres, transfer offices and R&D services.</p>	
<p>Planned impact:</p> <p>Molecular imaging has undergone spectacular advances in the recent years and continues to grow at an exponential rate. Recently, the Community of Madrid has purchased several PET/CT combined scanners. The presence of technicians and researchers with advanced knowledge in the development and use of advanced technology in the Moncloa Campus benefits the health of the citizens. Such knowledge also has the potential to be transferred to industry and therefore contributes to improving the internationalisation of science and innovation in Spain.</p>	