

PRESS RELEASE

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CIC bioGUNE leads European researcher training project

- The Basque research centre is coordinating UPStream, an excellence training programme for young scientists investigating the biochemical process of ubiquitylation and other related modifications
- The project, with allocated funding of 3.3 million euros, will train 12 young scientists studying biochemical processes related to diseases such as cancer or neurodegenerative diseases.

(Bilbao 20 March, 2012).- Training new generations of top scientists is one of the European Union's priorities. To this end, the European Commission funds Initial Training Networks (ITN), prestigious training programmes of excellence for young researchers within the Marie Curie People Programme, who will spearhead the scientific advances of the future.

The Centre for Cooperative Research in Biosciences CIC bioGUNE has been selected to lead one of them - the UPStream project, with an allocated funding of 3.3 million euros, focusing on specific training of 12 young scientists in the biochemical process of ubiquitylation and other related processes. The project will last 48 months and officially started last November. The student hired by CIC bioGUNE joined the team in January this year.

PhD students will be hired for three years by the 15 institutions that are taking part in this consortium, each one a benchmark in its field, including public research centres such as the Centre National de la Recherche Scientifique in France, the University of Frankfurt, and private companies such as the pharmaceutical multinational GlaxoSmithKline.

During this time, hired students will conduct their research in each one of the participating centres in the consortium, and they will also be able to take part in courses and visit laboratories in other participating centres. After 36 months, the young researchers will have enough skills to present their doctoral theses.

One of the key aspects of the project is the secondment of students for short periods to the other research centres that are participating in the UPStream network. The aim is to promote knowledge transfer between laboratories in the different centres, through the experience gained by the students.

> Ubiquitin-dependent protein degradation

UPStream, coordinated by CIC bioGUNE researchers Manuel S. Rodríguez and Rosa Barrio, focuses on a critical and complex field in modern biology: understanding the regulation of post-transcriptional modifications and the ubiquitin-dependent protein degradation system (UPS, ubiquitin-proteasome system), and its potential application in drug development.

The biochemical process of ubiquitylation, as well as the modification by other ubiquitin-like proteins, involves attaching ubiquitin, SUMO or NEDD8, to a target protein, and is an efficient way of labelling proteins that will be degraded by the proteasome (protein degradation complex) or will change their interaction with other proteins according to the needs of the cell.

These processes regulate protein function or stability and hey are the centre of many biological processes of medical interest, such as cancer, ageing and neurodegenerative diseases.

According to Rosa Barrio, project co-coordinator, "the UPStream project has been supported by the Marie Curie programme and the consortium gathers some of the best labs in the world studying post-transcriptional modifications. It is very important for CIC bioGUNE to take part in the consortium next to these illustrious labs, and especially as coordinators. This allows us to network with other labs and institutions in Europe. We must take into account that only a limited number of ITN projects are awarded each year and that the labs and institutions that are taking part in this network are world renowned".