Training Stem Cell Researchers at the Chemistry-Biology Interface

Grant Award Details

Training Stem Cell Researchers at the Chemistry-Biology Interface

Grant Type: Research Training II

Grant Number: TG2-01165

Project Objective: The objective of the grant is to foster and maintain a training program for postdocs and predocs in stem cell research through coursework and mentored lab experience.

Investigator:

Name:	Ulrich Mueller
Institution:	Scripps Research Institute
Type:	PI

Award Value: $3,697,326

Status: Closed

Progress Reports

Reporting Period: Year 4

View Report

Reporting Period: Year 5

View Report

Reporting Period: Year 6

View Report

Reporting Period: NCE Progress Report Y7

View Report

Grant Application Details

Application Title:	Training Stem Cell Researchers at the Chemistry-Biology Interface
Public Abstract:	We will provide an interdisciplinary stem cell training program that incorporates teaching and research in chemistry, functional genomics, and molecular genetics. The goal of this proposal is to train scientists for future careers in basic or applied research in the field of stem cell biology, with a particular emphasis on training coworkers at the interface of chemistry and biology in order to more effectively apply chemical tools and approaches to basic research and the development of new therapeutic approaches in regenerative medicine. An important component of the training program will be to introduce trainees to the most modern techniques in chemistry, genomics and genetics and their application to stem cell research. This requires a training program that brings together graduate students and postdoctoral fellows from the biology and chemistry disciplines in order to (1) educate them in the basic biology, methods, and applications in embryonic and adult stem cell biology; (2) cross train them in the principles and approaches that chemists and biologists apply to biological problems; (3) foster research collaborations between chemists and biologists in the stem cell field; and (4) stimulate an awareness of the problems and ethical issues associated with basic and applied stem cell research. We are requesting a Type II program with support for 10 trainees.
Statement of Benefit to California:	The ultimate goal of stem cell research is the development of therapeutic strategies for a wide range of human diseases including cardiovascular disease, neurogenerative disease, mucososkeletal disease, diabetes and cancer. This goal can only be achieved with the acquisition of basic knowledge of the properties of stem cells, their controlled expansion and differentiation and integration into affected tissues. To achieve this goal it is essential to train scientists for a future career in the field of stem cell research that apply their knowledge to the study of stem cells and the development of therapeutic strategies for regenerative medicine. The aim of the proposed training program is to incorporate teaching and research in chemistry, functional genomics, and genetic to train scientists that can effectively apply an interdisciplinary approach to basic stem cell research and regenerative medicine. These scientists will be essential to further advance stem cell research and training at academic institutions and hospitals in California, and to provide pharmaceutical companies and the biotechnology industry with scientists that are dedicated to develop therapeutic applications in regenerative medicine.