IDEA Spark Cantabria 2019

Reference #	12949006
Status	Complete
Login Username	merinor
Login Email	merinor@unican.es
Project Title	Anti-BAMBI monoclonal antibodies in the treatment of autoimmune diseases. Inhibitec-Anticuerpos S.L.
Short project title (max 20 alpha-numeric characters)	InhibitecAnticuerpos
How long have you (or your team) been working on this project?	More than 10 years
How many people are on your project team? (Count only those who will be involved in doing the work of the program and/or those you would like included on any email communications from the program. Note that each person will need to submit a registration form; instructions will be provided after this application is submitted.)	4
Applicant name:	Ramón Merino
Applicant E-mail address (when you submit, a copy of your entry will be sent to this email)	merinor@unican.es

Project Description:
Provide a brief overview of your project. Please comment on the problem you propose to solve and the potential societal impact of solving it. This should be understandable and compelling to someone not skilled in the art.

Autoimmune diseases (ADs) comprise a heterogeneous group of more than 100 different pathological entities that globally affect 10% of the world population. Only in the USA they represent around 30 million of patients with an estimated cost of about 10 billions dollars/year. There has been a significant increase in the incidence of these diseases during the last decades, becoming the second cause of chronic disease and the third cause of work disability in developed countries.

Immunosuppressive drugs are widely employed in the treatment of ADs. However, these drugs are not very specific and have multiple unwanted side effects. Multiple monoclonal antibodies (mAbs) against different cytokines or soluble receptors for these factors, globally called biological drugs, have been developed and successfully used in these diseases. However, approximately 30% of patients with severe ADs do not respond to the existing therapies and the emergence of drug resistances is common. This is precisely the problem that Inhibitec-Anticuerpos S.L. tries to solve.

We have identified BAMBI (BMP and Activin Membrane-Bound Inhibitor) as a new molecular target in ADs. Furthermore, we have developed inhibitory anti-BAMBI mAbs with preventive and therapeutic effects in murine experimental models of in rheumatoid arthritis and psoriasis, both in its cutaneous and articular forms. Interestingly, our mAb also recognizes human BAMBI. This technology has been protected by an international patent application. According to that, the final goal of Inhibitec-Anticuerpos S.L. is to introduce a humanized version of the anti-BAMBI mAb into clinical phases for the treatment of inflammatory/ADs in humans.

Have there been any previous approaches to solving this problem (or answering the question)?
Please describe how your idea is original.

Despite their clinical differences, ADs share common pathogenic mechanisms. Multiple studies have demonstrated that CD4+ T lymphocytes play a preponderant pathogenic role in these diseases. These cells are very heterogeneous and among all the functional CD4+ T cell subpopulations identified, Th17 and Treg lymphocytes are directly involved in the development or inhibition of AD, respectively. Thus, severe ADs have been associated with the increase in the differentiation and/or functionality of Th17 lymphocytes or with the decrease in the number and/or suppressive activity of Tregs. For these reasons, several approaches have been undertaken in many laboratories and Pharmaceutical companies around the world to either increase Tregs or inhibit Th17 cells for the treatment of these diseases. As indicated previously, multiple biological drugs with therapeutic effects in ADs have been developed. However, approximately 30% of patients with severe ADs do not respond to the existing therapies and the emergence of drug resistances is common.
The idea behind Inhibitec-Anticuerpos S.L. has been the identification of new molecular targets and the development of inhibitory molecules against them for the treatment of ADs. The originality of our project lies in the nature of the molecular target identified by us. Modulating the strength of TGFβ signaling, that is required for both Tregs and Th17 cell differentiation, BAMBI controls these two antagonist CD4 T cell subpopulations at the same time and in a reciprocal manner. Then, the pharmacological inhibition of BAMBI with our mAb, expands protective Tregs whereas at the same time inhibits inflammatory Th17 cells.

Tell us something interesting about yourself (and your team)	I obtained my MD degree at the University of Cantabria (UC) in June 1985 and the PhD from the University of Geneva in March 1991 (laboratory of Professor Shozo Izui). Between September 1992-November 1995 I performed a first postdoctoral training in the laboratory of Professor Gabriel Núñez at the University of Michigan (USA) and a second postdoctoral period in the laboratory of Professor Juan M. Hurlé at the UC (December 1995-March 1999). Since April 1999, I am the PI of a research group that is now located at the Spanish Research Council (CSIC, Staff Scientist). I have a large experience in the study of the pathogenic mechanisms responsible for AD. In this regard, I characterize the role of BAMBI in AD and develop the anti-BAMBI mAb. I am the author of 103 publications, most of them in prestigious journals, and of 2 patents. Inhibitec-Anticuerpos S.L. is led by professionals with a contrasted and large experience in finance and management. Among them, Gabriel Mesquida obtained his degree in agricultural engineering at the Polytechnic University of Madrid (UPM) and a MBA by the University of Comillas. He is working in business management in several sectors. Eduardo Quemada is a civil engineer by the UPM and PDD by the IESE from the University of Navarra. He works in business management in several sectors, including Biotechnological companies. The management team is completed with professionals with experience in the health industry in multinational pharmaceutical companies.

Why do you want to participate in the program and what do you hope to gain from the program?	There are several reasons that encourage us to participate in the IDEASPARK program. These reasons and our expectations of the program are: 1-This is a program organized by the MIT, one of the largest and more prestigious Institutions in the world clearly focused in outstanding science, innovation and business. (UNIQUE ENVIRONMENT). 2- The program offers us exceptional opportunities to learn the methodologies and experiences of MIT in the design of business models and research projects with a projection to the market. This will enable the development and growth of our company with a privileged reference model. (LEARNING AND GROWTH). 3-The possibility of establishing new contacts and interactions with International Pharmaceutical or Biotechnological companies and research groups with common interests. (NETWORKING, BUSINESS AND INTERNATIONALIZATION).
Last Update	2019-04-16 04:18:12
Start Time	2019-04-16 02:54:40
Finish Time	2019-04-16 04:18:12
IP	193.144.215.14
Browser	Firefox
OS	Windows
Referrer	https://fs24.formsite.com/res/formLoginReturn

Registration for IDEA Spark

Reference #	12963366
Status	Complete
Short Project Title (use title from IDEA Spark Application)	InhibitecAnticuerpos
First Name	Eduardo
Last Name	Quemada
Preferred name (for name tags)	Eduardo
Institution or organizational affiliation	Inhibitec Anticuerpos S.L.
Degree	• Other: • Civil engineer, PDD
Role in Institution	Entrepreneur
City	Madrid
Country (if US, enter State)	Spain
Phone Number	+34691336731
Email Address	eduardo.quemada@gmail.com
In what way will you be participating in IDEA Spark?	e-communication access only (not participating)
Last Update	2019-04-16 04:35:46
Start Time	2019-04-16 04:32:49
Finish Time	2019-04-16 04:35:46
IP	193.144.215.14
Browser	Firefox
OS	Windows
Referrer	N/A

Registration for IDEA Spark

Reference #	12963362
Status	Complete
Short Project Title (use title from IDEA Spark Application)	InhibitecAnticuerpos
First Name	Gabriel
Last Name	Mesquida
Preferred name (for name tags)	Gabriel
Institution or organizational affiliation	Inhibitec Anticuerpos S.L.
Degree	• MBA • Other: • Agricultural engineer
Role in Institution	• Other: • Direction
City	Madrid
Country (if US, enter State)	Spain
Phone Number	+34670785969
Email Address	gabrielmesquida@gmail.com
In what way will you be participating in IDEA Spark?	In person
Last Update	2019-04-16 04:27:11
Start Time	2019-04-16 04:18:23
Finish Time	2019-04-16 04:27:11
IP	193.144.215.14
Browser	Firefox
OS	Windows
Referrer	N/A

Registration for IDEA Spark

Reference #	12963365
Status	Complete
Short Project Title (use title from IDEA Spark Application)	InhibitecAnticuerpos
First Name	Jesús
Last Name	Merino
Preferred name (for name tags)	Jesús
Institution or organizational affiliation	University of Cantabria
Degree	• PhD • MD
Role in Institution	Professor
City	Santander
Country (if US, enter State)	Spain
Phone Number	+34942201956
Email Address	merinoj@unican.es
In what way will you be participating in IDEA Spark?	e-communication access only (not participating)
Last Update	2019-04-16 04:31:43
Start Time	2019-04-16 04:30:00
Finish Time	2019-04-16 04:31:43
IP	193.144.215.14
Browser	Firefox
OS	Windows
Referrer	N/A

Registration for IDEA Spark

Reference #	12963364
Status	Complete
Short Project Title (use title from IDEA Spark Application)	InhibitecAnticuerpos
First Name	Ramón
Last Name	Merino
Preferred name (for name tags)	Ramón
Institution or organizational affiliation	Spanish Research Council
Degree	• PhD • MD
Role in Institution	Professor
City	Santander
Country (if US, enter State)	Spain
Phone Number	+34699006288
Email Address	merinor@unican.es
In what way will you be participating in IDEA Spark?	In person
Last Update	2019-04-16 04:29:56
Start Time	2019-04-16 04:27:18
Finish Time	2019-04-16 04:29:56
IP	193.144.215.14
Browser	Firefox
OS	Windows
Referrer	N/A