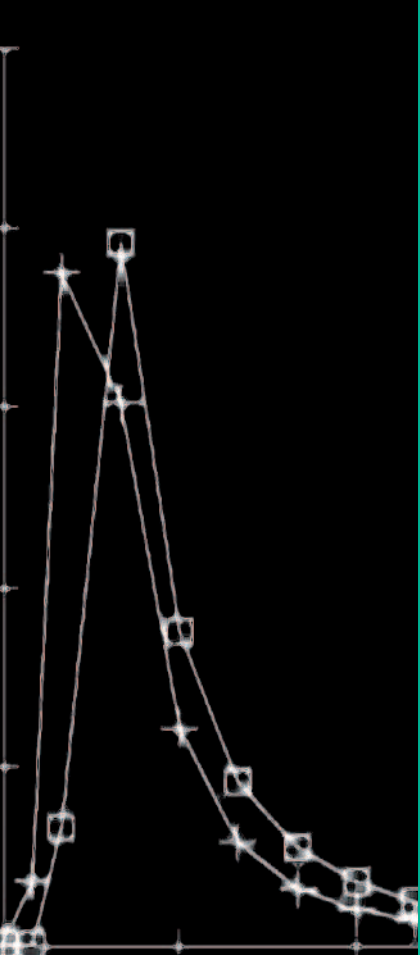


# Applied Research Departments

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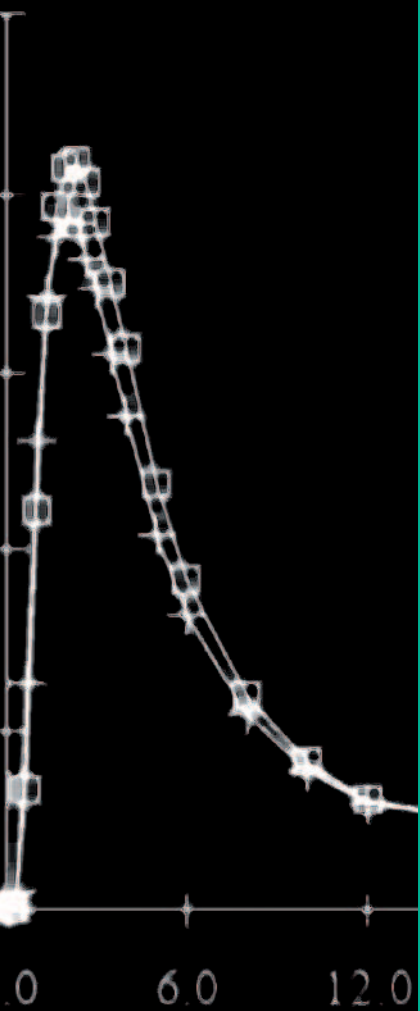
*Cardiovascular Translational  
Research*



# Applied Research Departments

## *Cardiovascular Translational Research*

The TCR department is the nexus between the CNIC and the hospital system, facilitating collaboration between clinical research groups and the CNIC's scientists, encouraging the application and clinical testing of new technologies, and training clinical researchers.



## Translational Cardiovascular Research



**Department Director:** *Ginés Sanz*

**Administrative Support:** *Laura González Betlinski*

### > Fixed-Dose Combination Therapy for Cardiovascular Prevention: The CNIC Polypill Project

During 2009 we completed the galenic development of the CNIC polypill in cooperation with the research and development department at FERRER. Stability studies at 18 months have also been successfully completed.

Following the recommendations of the FDA and AEMPS, we have started the clinical phase of the project, including the following studies:

- Pharmacokinetic interaction (90 healthy volunteers)
- Bioequivalence (140 healthy volunteers)
- Ramipril and Simvastatin pharmacodynamic interactions (120 patients)
- Simvastatin pharmacodynamic interaction (350 patients)
- ASA pharmacodynamic interactions (33 healthy volunteers)

Some of these studies have already been concluded and the rest will be completed during 2010. These studies will constitute the basis of the various regulatory dossiers.

Last year also saw the completion of the protocol for the FOCUS study. This is a European Union (FP7) funded project which will test the efficacy of the polypill in a population of more than 1300 patients in five countries: Argentina, Brazil, Italy, Paraguay and Spain. The Department of Translational Cardiovascular Research will coordinate this project, which will start in June 2010.

### > IMJOVEN Project

IMJOVEN is part of a large, multicenter case-controlled study aimed at identifying the clinical, genetic and demographic characteristics that determine the occurrence of myocardial infarction in young women.

The first patient was recruited on 1 January 2009, and by the end of the year we had recruited 169 participants, almost 70% more than expected. We are also supporting a subproject, led by Magda Heras (Hospital Clinic, Barcelona), which analyzes the burden of coronary disease in young women with acute myocardial infarction.

### > Early detection of cardiac involvement in Chagas disease

This project is funded by a three-year FIS grant (2008-10). The aim of the study is to analyze the predictive value of echocardiography, magnetic resonance imaging and biomarkers for the early detection of cardiac involvement. Patient recruitment was completed in June 2009, and a total of 98 patients and controls are included. All patients were assessed by conventional 2D-echocardiography with diastolic function analysis and image acquisition for applying DTI. Several biomarkers, including brain natriuretic peptide, were determined. The results were presented at the 2008 annual meeting of the American Heart Association meeting in Orlando (Florida) and at the 2009 European Congress of Cardiology (Barcelona). The final results have recently been submitted for publication.

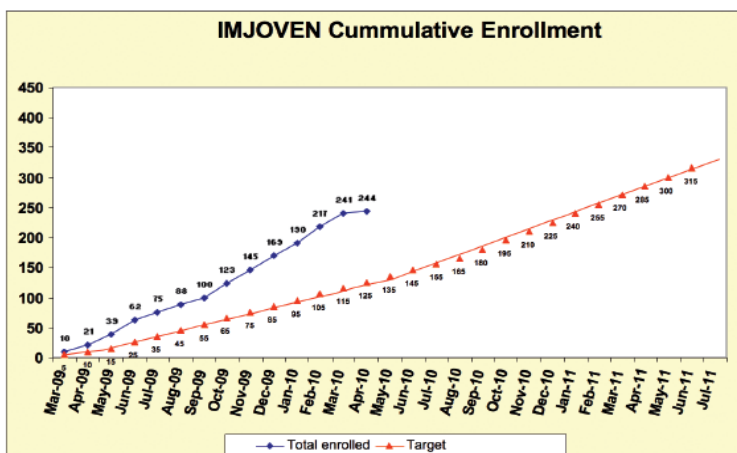
### > Translational Research Projects

Translational research is major priority at the CNIC, and the Center therefore has three departments focused on applied research. These departments cover Atherothrombosis and Cardiovascular Imaging, Cardiovascular Epidemiology and Population Genetics and Translational Cardiovascular Research of Novel Technologies and Therapeutics. Multidepartmental clinical projects involving teams from these departments are coordinated by the Translational Research department.

Last year we launched the second call for translational cardiovascular research projects led by hospital-based researchers. Two projects were selected for funding:

**Ischemia-Reperfusion Injury: Novel Insights into  $\beta$ -blockade. Salvage Mechanisms in Acute Myocardial Infarction. Translating pre-clinical research into human care.** Principal investigator: Borja Ibáñez (CNIC)

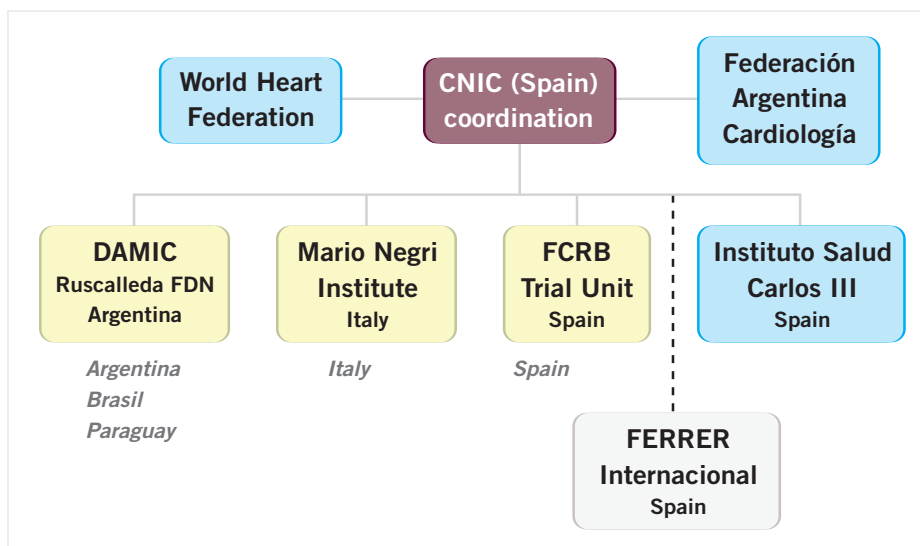
**Genetic and functional bases of PITX2 involvement in human atrial fibrillation.** Principal investigator: Miguel Manzanera (CNIC)



Recruitment of patients to the IMJOVEN study

### The FOCUS Project: organization

Organization of the FOCUS project



### ➤ MAJOR GRANTS

- Ministerio de Ciencia e Innovación. FIS (PI07/0773)
- European Commission FP7 (241559 FOCUS)

### ■ SELECTED PUBLICATIONS

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Ibanez B, Fuster V, Jimenez-Borreguero J, Sanz G, Macaya C, Badimon JJ. **Future perspectives for myocardial salvage. Role of  $\beta$ -blockers in cardioprotection: a new look at an old drug.** *Nat Rev Cardiol (CNIC Edition)* (2009) 6: 61-6

Munoz J, Gomez i Prat J, Gallego M, Gimeno F, Trevino B, Lopez-Chejade P, Ribera O, Molina L, Sanz S, Pinazo MJ, Riera C, Posada EJ, Sanz G, Portus M, Gascon J. **Clinical profile of Trypanosoma cruzi infection in a non-endemic setting: immigration and Chagas disease in Barcelona (Spain).** *Acta Trop* (2009) 111: 51-5

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