

# SIROCCO

Silencing RNAs: organizers and coordinators of complexity in eukaryotic organisms

SEPT 2007 Newsletter 8

**Meeting Report in Brief**

SIROCCO MONTH 9 of 48



## RNAi Europe

20-21 September 2007, Barcelona, Spain

The SIROCCO call for a new partner was advertised at the RNAi Europe meeting in Barcelona this month—several expressions of interest have been received.

Partner 11 Eric Miska presented his work on miRNAs in *C. elegans* development and his studies on prg-1 and prg-2 piwi mutants and their association with 21U-RNAs.

Partner 14 Xavier Estivill and his lab members Mónica Báñez, Eulalia Marti, Josep Mercader, Elena Minones-Moyano, Margarita Muiños and Ester Saus presented their experiments showing miRNA expression changes in neurodegenerative processes and also in the hypothalamus of an anorexia mouse model.

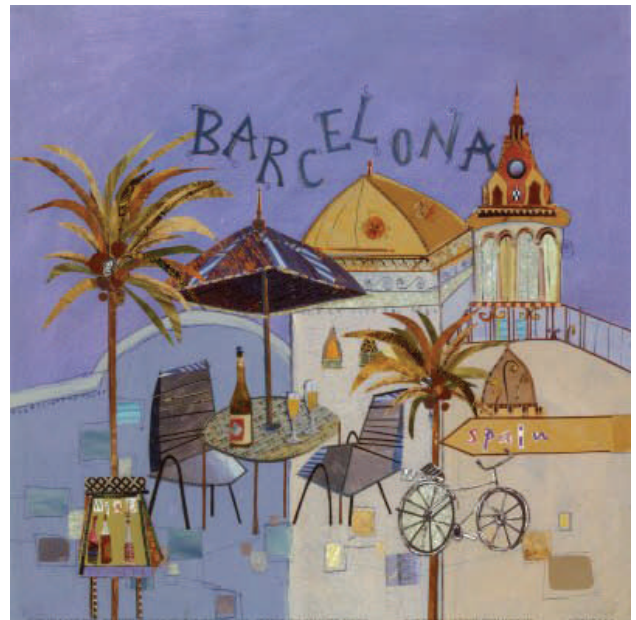
Partner 17 Exiqon presented results of microRNA expression profiling using LNA technology.

There were several talks on siRNA delivery: Judy Lieberman from Harvard Medical school presented her results with systemic delivery of siRNAs using an antibody-protamine fusion.

Takahiro Ochiya from the National Cancer Centre Research Institute in Tokyo showed that complexes of siRNA and atelocollagen could be taken up by cancer cells by endocytosis.

Aimee Jackson of Rosetta Inpharmatics presented her results showing that miR-34 is lost in some cases of cancer and is a direct target of p53 and therefore a component of a tumour suppressor pathway.

Minoo Rassoulzadegan from INSERM discussed heritable epigenetic changes or paramutation and showed that RNA was mediating paramutation using the examples of the kit locus and the kit-specific microRNAs miR-221 and miR-222, and the transcription factor SOX9 which is a likely target of miR-124 paramutation.



2007-2010 SIROCCO Integrated Project  
European Commission 6th Framework Programme  
Contract Number: LSHG-CT-2006-037900



## RESEARCH SPOTLIGHT



### Molecular Causes of Hybrid Necrosis

Partner 6-db1 Detlef Weigel and his co-authors have shown that plant immune-system genes are involved in hybrid necrosis and that selective pressures related to host-pathogen conflict might cause the evolution of gene flow barriers. [Bomblies K, Lempe J, Epple P, Warthmann N, Lanz C, Dangl JL, Weigel D.](#) Autoimmune Response as a Mechanism for a Dobzhansky-Muller-Type Incompatibility Syndrome in Plants. *PLoS Biol* 2007 5(9): e236 Sept 4

### miR-14 controls hormone signaling in Drosophila

Stephen Cohen and his co-author Jishy Varghese have shown that the microRNA miR-14 limits expression of its target Ecdysone receptor (EcR) as part of a positive autoregulatory loop mechanism. [Varghese J and Cohen SM.](#) microRNA miR-14 acts to modulate a positive autoregulatory loop controlling steroid hormone signaling in Drosophila. *Genes Dev.* 2007 Sep 15;21(18):2277-82. Epub 2007 Aug 30.

### Mechanisms of miRNA-mediated gene silencing

Partner 6-db2 Elisa Izaurralde and her colleagues have shown that there is more than one mechanism of miRNA function and suggests a model whereby the specific features and/or composition of the mRNP itself influence the outcome of miRNA regulation. [Eulalio A, Rehwinkel J, Stricker M, Huntzinger E, Yang S-F, Doerks T, Dorner S, Bork P, Boutros M and Izaurralde E.](#) Target-specific requirements for enhancers of decapping in miRNA-mediated gene silencing. *Genes and Development* Sept 27; [Epub ahead of print]

### Silencing Suppressor Mechanism

Coordinator David Baulcombe and his colleagues have described a novel suppressor mechanism in which a Polerovirus-encoded Fbox protein P0 targets the PAZ motif and its adjacent upstream sequence in AGO1 and mediates its degradation. [Baumberger N, Tsai CH, Lie M, Havecker E, Baulcombe DC.](#) The Polerovirus Silencing Suppressor P0 Targets AR-GONAUTE Proteins for Degradation. *Curr Biol.* 2007 Sep 12; [Epub ahead of print]

## PARTNER MESSAGE BOARD

### ANNUAL MEETING - Berlin

- Online [registration](#) is underway for the annual meeting at [Harnack-Haus](#) in Berlin 19-21 November 2007— dinner arranged for 19th November
- Thank you for volunteering for talks—the meeting program is in preparation.
- Flights available on [air berlin](#), [easyjet](#) and [ryanair](#) as well as national carriers
- [Google map](#) showing location of Harnack-Haus and Tegel and Schönefeld Airports

### ANNUAL REPORT

SIROCCO Annual Report time is approaching. The report has three main parts:

- Scientific report on what has been accomplished in the first 12-month period
- Detailed implementation plan for the next 18 months
- Financial statement

We will be asking partners for their future scientific plans for input in the next detailed implementation plan months 13-30.