

SIROCCO

Silencing RNAs: organizers and coordinators of complexity in eukaryotic organisms

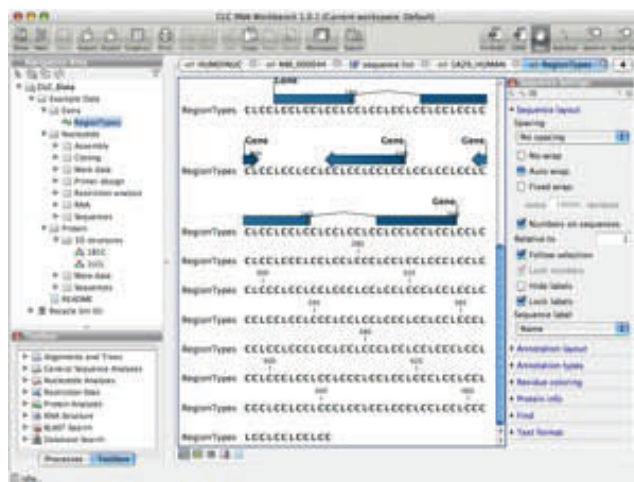
JULY 2007 Newsletter 6

CLC RNA WORKBENCH

SIROCCO MONTH 7 of 48

RNA Workbench: A bioinformatics software package for advanced RNA sequence analysis

SIROCCO Partner 13 **Jørgen Kjems** at the University of Aarhus, with CLC bio, has developed a software package for computational analysis of RNA. CLC RNA Workbench is a bioinformatics program for advanced RNA sequence analysis. A range of RNA tools including motif finding and secondary structure prediction with advanced options to include experimental constraints in the folding procedure can be used. CLC RNA Workbench is available on Windows, Mac OS X, and Linux platforms and can be downloaded from www.clcbio.com/rna/. A free 4-week demo can also be downloaded from <http://www.apple.com/downloads/mac-os-x/math-science/clcrnaworkbench.html>

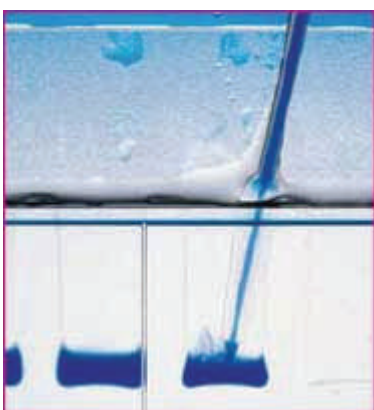


RNA BIOLOGY

<http://www.landesbioscience.com/journals/rnabiology>

SIROCCO Partner 6 **Joerg Vogel** has been appointed Associate Editor of RNA Biology. The scope of the journal will be to cover RNA regulatory mechanisms (both natural and potentially therapeutic) and genomics as well as post-transcriptional regulation at the mRNA level, even if a non-coding RNA is not involved. Renée Schroeder of the University of Vienna is the Editor-in-Chief. For a complete list of the types of papers accepted for publication, please visit the author guidelines:

www.landesbioscience.com/journals/rnabiology/guidelines



EDC cross-linking on RNA blots improves detection of small RNAs

A recent report in Nucleic Acids Research shows that UV cross-linking can be antagonistic to hybridization of small RNAs. Cross-linking with the water-soluble carbodiimide, 1-ethyl-3-(3-dimethylaminopropyl) carbodiimide (EDC) is as efficient in binding RNA to nylon membranes and results in an ~30-fold improvement in the detection of siRNA by hybridization. EDC-cross-linking results in an immobilized RNA that is much more amenable to detection by hybridization and results in improved detection of siRNA, miRNA and piRNA from plants and animals.

[Pall GS, Codony-Servat C, Byrne J, Ritchie L, Hamilton A.](#) Carbodiimide-mediated cross-linking of RNA to nylon membranes improves the detection of siRNA, miRNA and piRNA by northern blot. Nucleic Acids Res. 2007;35(8):e60.



In vivo miRNA target identification

Partner 9 Stephen Cohen and co-authors have described a new in vivo method for identifying miRNA targets. The approach involves purifying miRNP complexes with associated miRNAs and bound mRNA targets using immunoprecipitation.

Easow G, Teleman AA, Cohen SM. Isolation of microRNA targets by miRNP immunopurification. RNA. 2007 Jun 25.

Functional Specialization of Arabidopsis MicroRNAs

Partner 6 Detlef Weigel and colleagues have analyzed the basis for the different biological effects of miR159 and miR319, and have shown that both differences in sequence and expression contribute to specific interactions between these two miRNAs and their targets. Palatnik JF, Wollmann H, Schommer C, Schwab R, Boisbouvier J, Rodriguez R, Warthmann N, Allen E, Dezulian T, Huson D, Carrington JC, Weigel D. Sequence and Expression Differences Underlie Functional Specialization of Arabidopsis MicroRNAs miR159 and miR319 Dev Cell 2007 Jul;13(1):115-25

Neuronal miRNAs control neuroblastoma cell proliferation

Partner 10 Uniroma members Irene Bozzoni and Elisa Caffarelli and their co-authors have shown that three neuronal miRNAs (9, 125a, and 125b) together repress an isoform of the

neurotrophin receptor tropomyosin-related kinase C which is critical for cell growth. These miRNAs are also down-regulated in primary neuroblastoma tumors.

Laneve P, Di Marcotullio L, Gioia U, Fiori ME, Ferretti E, Gulino A, Bozzoni I, Caffarelli E. The interplay between microRNAs and the neurotrophin receptor tropomyosin-related kinase C controls proliferation of human neuroblastoma cells. Proc Natl Acad Sci U S A. 2007 May 8;104(19):7957-62.

Symposium on MicroRNAs and siRNAs

SIROCCO Partner 6 Elisa Izaurralde and her colleagues have published a meeting report on the Keystone Symposium on MicroRNAs and siRNAs: Biological Functions and Mechanisms.

Dorner S, Eulalio A, Huntzinger E, Izaurralde E. Delving into the diversity of silencing pathways. Symposium on MicroRNAs and siRNAs: Biological Functions and Mechanisms. EMBO Rep. 2007 Jun 29

And an alarming discovery....

MicroRNA, the putative molecular control for mid-life decline

Wang E

Ageing Res Rev. 2007 May;6(1):1-11.

[PubMed](#)

PARTNER MESSAGE BOARD

◆ THANK YOU ◆

for the 6-monthly reports.

The final document will be posted on the project website shortly.

◆ SIROCCO Annual Meeting at Harnack-Haus in Berlin 20-21 November 2007—
rooms are booked for the nights of the 19th and 20th November

For visitor information: <http://www.berlin.de/>

Flights available on [air berlin](#) and [easyJet](#) as well as national carriers ◆

For **SIROCCO** information please contact Aileen Hogan

aileen.hogan@sainsbury-laboratory.ac.uk

+44(0)1603 450884