

SIROCCO

Silencing RNAs: organizers and coordinators of complexity in eukaryotic organisms

JAN 2009 Newsletter 24

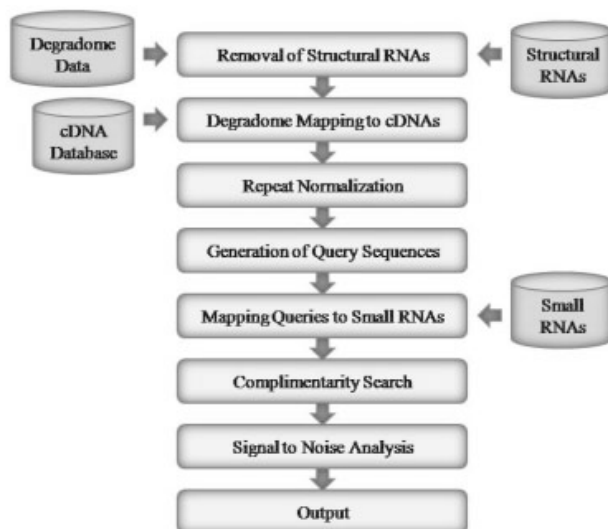
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A Bioinformatics System to find miRNA targets



SIROCCO Partner Eugene Berezikov has negotiated a favourable price for high throughput sequencing for the consortium with the firm BaseClear BV
www.baseclear.com

CleaveLand is a freely available software system for using degradome data to find small RNA targets. Experimental studies have shown that small RNA-guided, AGO-mediated cleavage of mRNA targets occurs exactly between the 10th and 11th nucleotide of complementarity relative to the small RNA 5'-end. The resulting upstream fragment of the cleaved target rapidly degrades, while the downstream fragment is stable in vivo. Deep sequencing of the 5'-ends of uncapped, polyadenylated mRNAs thus captures these downstream cleavage fragments. This technique has been referred to as PARE (parallel analysis of RNA ends) and GMUCT (genomewide mapping of uncapped transcripts) but in this paper is referred to as degradome sequencing. Degradome data can be scrutinized to find evidence of cleaved small RNA targets without resorting to computational predictions. This publication describes CleaveLand, a general pipeline for detecting fragments diagnostic of small RNA-mediated cleavage from degradome sequencing experiments. CleaveLand is not limited in applicability to plant miRNAs: coupled with degradome sequencing, CleaveLand will find cleaved small RNA targets from any organism.



single-read:	Full flowcell	€ 10.800,00
36 cycles	One lane	€ 1.800,00
single-read:	Full flowcell	€ 13.750,00
50 cycles	One lane	€ 2.250,00
single-read:	Full flowcell	€ 19.050,00
75 cycles	One lane	€ 3.000,00
Paired-end read	Full flowcell	€ 20.650,00
36 cycles	One lane	€ 3.300,00
Paired-end read	Full flowcell	€ 26.600,00
50 cycles	One lane	€ 4.150,00
Paired-end read	Full flowcell	€ 37.150,00
75 cycles	One lane	€ 5.650,00
DGE	One lane (18 cycles)	€ 1.600,00
siRNA	One lane (18 cycles)	€ 1.550,00
mRNA	One lane (36 Cycles)	€ 1.800,00
CHIPSEQ	One lane (36 Cycles)	€ 1.750,00
Running only	including cluster generation	
18 cycles		€ 530,00
36 cycles		€ 615,00
50 cycles		€ 740,00

Special conditions:

- above prices can only be offered as full flow-cell (e.g. single lanes only as multiple of 7)
- running only is offered only to SIROCCO members and will come without quality guarantees and/or controls on sample prep (can be ordered additionally)
- running only options will be offered only as long as spare capacity on the GAII is available.
- It will be possible to pre-order (at fixed weekly/monthly dates) capacity if interested at above pricing for a longer period. These pre-orders will not be refundable

The code and documentation for CleaveLand is freely available under a GNU license at <http://www.bio.psu.edu/people/faculty/Axtell/AxtellLab/Software.html>

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Addo-Quaye C, Miller W, Axtell MJ (2009)

CleaveLand: a pipeline for using degradome data to find cleaved small RNA targets. Bioinformatics 25, 130-131



RESEARCH SPOTLIGHT



Importin 8 Is a Gene Silencing Factor that Targets Argonaute Proteins to Distinct mRNAs. Weinmann L, Höck J, Ivacevic T, Ohrt T, Mütze J, Schwille P, Kremmer E, Benes V, Urlaub H, Meister G. Cell. 2009 Jan 21. [Epub ahead of print]

A new molecular network comprising PU.1, interferon regulatory factor proteins and miR-342 stimulates ATRA-mediated granulocytic differentiation of acute promyelocytic leukemia cells.

De Marchis ML, Ballarino M, Salvatori B, Puzzolo MC, Bozzoni I, Fatica A. Leukemia. 2009 Jan 8. [Epub ahead of print]

Revisiting the principles of microRNA target recognition and mode of action. Brodersen P, Voinnet O. Nat Rev Mol Cell Biol. 2009 Jan 15. [Epub ahead of print]

Decreased levels of microRNA miR-122 in individuals with hepatitis C responding poorly to interferon therapy. Sarasin-Filipowicz M, Krol J, Markiewicz I, Heim MH, Filipowicz W. Nat Med. 2009 Jan;15(1):31-3. Epub 2009 Jan 4.

RDE-1 slicer activity is required only for passenger-strand cleavage during RNAi in Caenorhabditis elegans. Steiner FA, Okihara KL, Hoogstrate SW, Sijen T, Ketting RF. Nat Struct Mol Biol. 2009 Jan 18. [Epub ahead of print]

ANNUAL REPORTING

All reports—scientific activity and financial reports—are now due

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