

Systemic impact of small regulatory RNAs

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Slideshow available at:

http://www.igh.cnrs.fr/equip/Seitz/M1_2019.pdf

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Small regulatory RNAs

Repressors of gene expression.

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Small regulatory RNAs

Repressors of gene expression.

Several classes: microRNAs, siRNAs, piRNAs.

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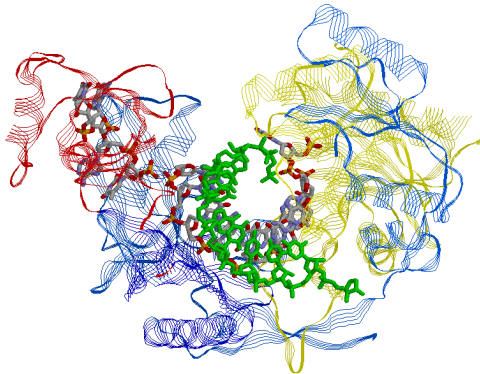
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Repressors of gene expression.

Several classes: microRNAs, siRNAs, piRNAs.

- ▶ microRNAs repress many genes, but repression is very modest: do all these interactions have a biological role ?

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Repressors of gene expression.

Several classes: microRNAs, siRNAs, piRNAs.

- ▶ microRNAs repress many genes, but repression is very modest: do all these interactions have a biological role ?
- ▶ the siRNA-generating machinery is very diverse among animals: evolutionary history?

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Experiments and bio-informatics

- Molecular biology: a description of biological phenomena at the molecular scale.

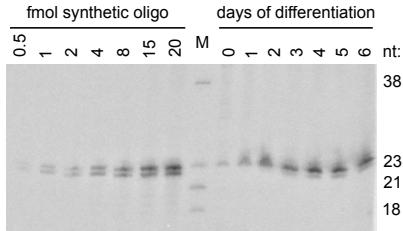
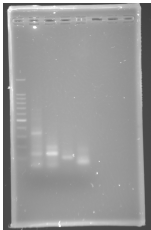
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Experiments and bio-informatics

- ▶ Molecular biology: a description of biological phenomena at the molecular scale.
- ▶ *In vivo* biology: assessing integrated phenotypes.



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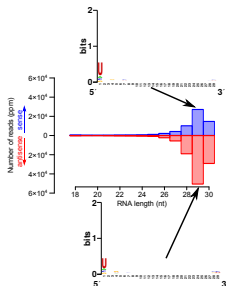
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- ▶ Molecular biology: a description of biological phenomena at the molecular scale.
- ▶ *In vivo* biology: assessing integrated phenotypes.
- ▶ Bio-informatics: automatic analyses (in particular: high-throughput).



```
herve@garonne:~/Blaise/Sponging_conservation/from_Blaise
Fichier Edition Affichage Recherche Terminal Aide
seed nb_targets percentile_in_low_conf percentile_in_high_conf
AUAUUAUA 40344 0.000000 0.000000
AAGCAU 32492 0.000000 0.000000
AACAAAC 32575 0.000000 0.000000
UAUUAAG 32497 0.000000 0.000000
UAUAUG 31839 0.000000 0.000000
CAGCAGG 29634 0.000000 0.000000
GAGAAAU 29384 0.000000 0.000000
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UGAAAUU 28735 0.000000 0.000000
GAACAUA 27524 0.000000 0.000000
GGGUGUG 27384 0.000000 0.000000
CAGCAUG 27274 0.000000 0.000000
CUCCCAA 27211 0.000000 0.000000
CUUGUGG 26931 0.000000 0.000000
UCCAGU 26310 0.000000 0.000000
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Current and future projects

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Current and future projects

- ▶ Which target/microRNA interactions are functional ?
(CRISPR screen, *in vivo* genome editing)

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Current and future projects

- ▶ Which target/microRNA interactions are functional ?
(CRISPR screen, *in vivo* genome editing)
- ▶ Control of microRNA stability ? (comparative genomics, molecular biology)

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Current and future projects

- ▶ Which target/microRNA interactions are functional ?
(CRISPR screen, *in vivo* genome editing)
- ▶ Control of microRNA stability ? (comparative genomics, molecular biology)
- ▶ How does gene regulation cope with homeostasis ?

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[lab website](#); [publications](#); communication: [HFSP](#) and [CNRS](#).

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Isabelle
Busseau



Sophie
Mockly



Inès Adjali, Linda Choubani, Lara Demont

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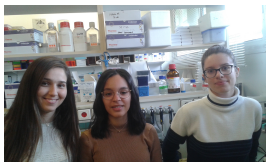
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Coming soon: Élisabeth Houbbron.

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