

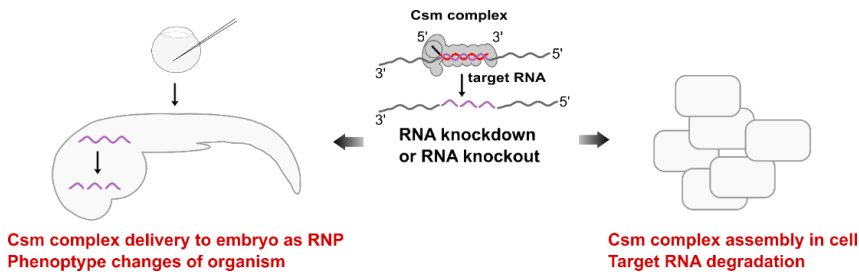
Targeted RNA knockdown and knockout by type III-A Csm complexes



Vilnius
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BRIEF DESCRIPTION OF A TECHNOLOGY

A type III-A CRISPR-Cas Csm complex, comprising crRNA, Csm3, Csm4 or any other subunits, usage for the targeted RNA knock-down or RNA knock-out in animal. Csm complex could be assembled or delivered to the cells of animals using different methods.



PURPOSE

Programmable RNA knock-down or RNA knock-out in an animal.

FIELDS OF APPLICATION

Developmental studies of organisms, functional gene analysis, RNA interference, transcriptomic analysis.

ADVANTAGES

Improved alternative to traditional RNA interference (RNAi).

TECHNOLOGY READINESS LEVEL

Experimental methodology, verified in zebrafish model.

INTELLECTUAL PROPERTY

Patent application: US20180105835 (A1).

Applicants: Vilnius University (Lithuania), International Institute of Molecular and Cell Biology (Poland), Institute of Biochemistry and Biophysics (Poland).

INVENTORS

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PUBLICATIONS

- Tamulaitis et al. (2014) *Molecular Cell*, doi: 10.1016/j.molcel.2014.09.027
Kazlauskienė et al. (2016) *Molecular Cell*, doi: 10.1016/j.molcel.2016.03.024
Fricke et al. (2017) *BioRxiv*, doi: <https://doi.org/10.1101/228775>
Tamulaitis et al. (2017) *Trends in Microbiology*, doi: 10.1016/j.tim.2016.09.012
Mogila et al. (2019) *Cell Reports*, doi: 10.1016/j.celrep.2019.02.029.

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