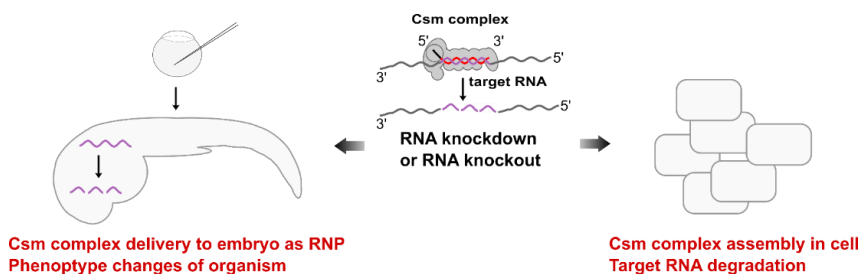


Targeted RNA knockdown and knockout by type III-A Csm complexes

BRIEF DESCRIPTION OF A TECHNOLOGY

The type III-A CRISPR-Cas Csm complex (composed of crRNA, Csm3, Csm4 or other subunits) enables targeted RNA knockdown or RNA knockout in animal. The Csm complex can be either pre-assembled or delivered directly into animal cells using various delivery methods.



PURPOSE

Programmable targeted RNA knockdown & knockout 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: US11274317B2.

Applicants: Vilnius University (Lithuania)

INVENTORS

- Thomas FRICKE
- Matthias BOCHTLER
- Gintautas TAMULAITIS
- Migle KAZLAUSKIENE
- Virginijus SIKSNYS

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
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
Fricke et al. (2020) *CRISPR Journal*, doi:10.1089/crispr.2020.0032



Vilnius
University

CONTACTS

Dr. Ramūnas Grigonis
Innovation Office, Department for
Research and Innovation, Vilnius
University
E-mail: ramunas.grigonis@cr.vu.lt
Phone: +370 5 268 7006