

- Clinical research
- Basic research

**Competitive Advantages:**

- More sensitivity
- Higher efficiency
- Low cytotoxicity
- Multiple functionality
- Multiple targets
- Visualization
- Controlled activation

**Development Stage:**

- In vitro data available
- In vivo data available

**Inventors:** Bruce A. Shapiro, Kirill A. Afonin, Angelica N. Martins, Mathias D. Viard (all of NCI)

**Intellectual Property:** HHS Reference No. E-765-2013/0—US Provisional Application No. 61/878,758 filed 17 Sep 2013.

**Related Technologies:**

- HHS Reference No. E-039-2012
- HHS Reference No. E-156-2014

**Licensing Contact:** John Stansberry, Ph.D.; 301-435-5236; stansbej@mail.nih.gov

**Collaborative Research Opportunity:**

The National Cancer Institute is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate or commercialize scaling up, animal models, multiple targets, delivery. For collaboration opportunities, please contact John D. Hewes, Ph.D. at [hewesj@mail.nih.gov](mailto:hewesj@mail.nih.gov).

**Nucleic Acid Nanoparticles for Triggering RNA Interference**

**Description of Technology:** RNA interference (RNAi) is a naturally occurring cellular post-transcriptional gene regulation process that utilizes small double-stranded RNAs to trigger and guide gene silencing. By introducing synthetic RNA duplexes called small-interfering RNAs (siRNAs), we can harness the RNAi machinery for therapeutic gene control and the treatment of various diseases.

The present invention discloses RNA, RNA-DNA, DNA-RNA, hybrid nanocubes consisting of a DNA or RNA core (composed of six strands) with attached RNA or DNA hybrid duplexes. The nanocubes can induce the reassociation of the RNA duplexes, which can then be processed by the human recombinant Dicer enzyme, thus activating RNAi. This technology opens a new route for the development of "smart" nucleic acid based nanoparticles for a wide range of biomedical applications. Immune responses can be controlled by altering the composition of the particles.

**Potential Commercial Applications:**

- Treatment for various diseases
- Clinical research

- Basic research
- Competitive Advantages:
- Low cytotoxicity
- Chemical stability
- More specificity
- Controlled activation
- Multiple targets
- Visualization

**Development Stage:** In vitro data available

**Inventors:** Bruce A. Shapiro, Kirill A. Afonin, Mathias D. Viard (all of NCI)

**Publications:**

1. Afonin KA, et al. Computational and experimental characterization of RNA cubic nanoscaffolds. *Methods*. 2014 May 15;67(2):256-65. [PMID 24189588]
2. Afonin KA, et al. In vitro assembly of cubic RNA-based scaffolds designed in silico. *Nat Nanotechnol*. 2010 Sep;5(9):676-82. [PMID 20802494]

**Intellectual Property:** HHS Reference No. E-156-2014/0—US Provisional Application 61/989,520 filed 06 May 2014

**Related Technologies:**

- HHS Reference No. E-765-2013
- HHS Reference No. E-039-2012

**Licensing Contact:** John Stansberry, Ph.D.; 301-435-5236; stansbej@mail.nih.gov

**Collaborative Research Opportunity:**

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Dated: July 10, 2014.

**Richard U. Rodriguez,**

*Director, Division of Technology Development and Transfer, Office of Technology Transfer, National Institutes of Health.*

[FR Doc. 2014-16265 Filed 7-10-14; 8:45 am]

**BILLING CODE 4140-01-P**

**DEPARTMENT OF HEALTH AND HUMAN SERVICES****National Institutes of Health****National Institute of Environmental Health Sciences; Notice of Closed Meeting**

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. App.), notice is hereby given of the following meeting.

The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial

property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

**Name of Committee:** National Institute of Environmental Health Sciences Special Emphasis Panel, Pathway to Independence Awards.

**Date:** August 6, 2014.

**Time:** 1:00 p.m. to 5:00 p.m.

**Agenda:** To review and evaluate grant applications.

**Place:** National Institute of Environmental Health Sciences, Keystone Building, Conference Room 1002, 530 Davis Drive, Research Triangle Park, NC 27709, (Telephone Conference Call).

**Contact Person:** Leroy Worth, Ph.D., Scientific Review Officer, Scientific Review Branch, Division of Extramural Research and Training, Nat. Institute of Environmental Health Sciences, P. O. Box 12233, MD EC-30/Room 3171, Research Triangle Park, NC 27709, (919) 541-0670, [worth@niehs.nih.gov](mailto:worth@niehs.nih.gov).

(Catalogue of Federal Domestic Assistance Program Nos. 93.115, Biometry and Risk Estimation—Health Risks from Environmental Exposures; 93.142, NIEHS Hazardous Waste Worker Health and Safety Training; 93.143, NIEHS Superfund Hazardous Substances—Basic Research and Education; 93.894, Resources and Manpower Development in the Environmental Health Sciences; 93.113, Biological Response to Environmental Health Hazards; 93.114, Applied Toxicological Research and Testing, National Institutes of Health, HHS).

Dated: July 8, 2014.

**Carolyn Baum,**

*Program Analyst, Office of Federal Advisory Committee Policy.*

[FR Doc. 2014-16260 Filed 7-10-14; 8:45 am]

**BILLING CODE 4140-01-P**

**DEPARTMENT OF HEALTH AND HUMAN SERVICES****National Institutes of Health****National Institute of General Medical Sciences; Notice of Closed Meetings**

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. App.), notice is hereby given of the following meetings.

The meetings will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.