

request from the American Association of Medical Colleges (AAMC) that was interested in knowing what items were in the survey instrument. The purpose of this notice is to allow an additional 30 days for public comment. The National Institutes of Health may not conduct or sponsor, and the respondent is not required to respond to, an information collection that has been extended, revised, or implemented on or after October 1, 1995, unless it displays a currently valid OMB control number.

**Proposed Collection:** Title: Ethical Dilemmas in Surgery and Utilization of Hospital Ethics Consultation Service: A Survey. Type of Information Collection Request: NEW. Need and Use of Information Collection: This survey is

intended to collect information about the ethical dilemmas that surgeons have faced in their practices over the past year, and assess their experiences, if any, with their hospital consultation services. Specifically, the information gathered in this study will be valuable in understanding the ethical dilemmas that surgeons face, the utility of institution ethics consultations services for surgeons, and to identify what barriers, if any, discourage surgeons from utilizing these services. The results of this study can be used by medical professionals, hospitals, and bioethicists in several important ways. First, they will provide a better understanding the ethical dilemmas that surgeons face in

their practices. Second, they will provide understanding of factors that determine the current utilization of hospital consultation services by surgeons. Third, information collected on the barriers to surgeons' use of ethics consultation services will provide better insight into the perspective and culture of surgery as it relates to ethical dilemmas in their practices and how ethics consultation services could better support surgeons when faced with these dilemmas. *Frequency of Response:* Once. *Affected Public:* Individuals; Businesses or other for-profit. *Type of Respondents:* Individuals.

The annual reporting burden is as follows:

Type of respondents	Estimated number of respondents	Estimated number of responses per respondent	Average burden per response (in hours)	Estimated total annual burden hours requested
Surgeons .....	598	1	15/60	150
Total .....	598	.....	.....	150

There are no capital, operating, or maintenance costs to report.

**Request for Comments:** Written comments and/or suggestions from the public and affected agencies are invited on one or more of the following points: (1) Whether the proposed collection of information is necessary for the proper performance of the function of the agency, including whether the information will have practical utility; (2) The accuracy of the agency's estimate of the burden of the proposed collection of information, including the validity of the methodology and assumptions used; (3) Ways to enhance the quality, utility, and clarity of the information to be collected; and (4) Ways to minimize the burden of the collection of information on those who are to respond, including the use of appropriate automated, electronic, mechanical, or other technological collection techniques or other forms of information technology.

**Direct Comments to OMB:** Written comments and/or suggestions regarding the item(s) contained in this notice, especially regarding the estimated public burden and associated response time, should be directed to the: Office of Management and Budget, Office of Regulatory Affairs, [OIRA\\_submission@omb.eop.gov](mailto:OIRA_submission@omb.eop.gov) or by fax to 202-395-6974, Attention: Desk Officer for NIH. To request more information on the proposed project or to obtain a copy of the data collection plans and instruments, contact: Marion

Danis, MD, Department of Clinical Bioethics, National Institutes of Health, Building 10, Room 1C118, Bethesda, MD 20892-1156; Telephone: 301-435-8727; Facsimile: 301-496-0760; Email: [mdanis@cc.nih.gov](mailto:mdanis@cc.nih.gov).

**Comments Due Date:** Comments regarding this information collection are best assured of having their full effect if received within 30-days of the date of this publication.

Dated: August 28, 2012.

**Laura Lee,**

*Project Clearance Liason, CC, National Institutes of Health.*

[FR Doc. 2012-27445 Filed 11-8-12; 8:45 am]

**BILLING CODE 4140-01-P**

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### National Institutes of Health

#### Government-Owned Inventions; Availability for Licensing

**AGENCY:** National Institutes of Health, Public Health Service, HHS.

**ACTION:** Notice.

**SUMMARY:** The inventions listed below are owned by an agency of the U.S. Government and are available for licensing in the U.S. in accordance with 35 U.S.C. 207 to achieve expeditious commercialization of results of federally-funded research and development. Foreign patent applications are filed on selected

inventions to extend market coverage for companies and may also be available for licensing.

#### FOR FURTHER INFORMATION CONTACT:

Licensing information and copies of the U.S. patent applications listed below may be obtained by writing to the indicated licensing contact at the Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, Rockville, Maryland 20852-3804; telephone: 301-496-7057; fax: 301-402-0220. A signed Confidential Disclosure Agreement will be required to receive copies of the patent applications.

#### Cell Lines Expressing Nuclear and/or Mitochondrial RNase H1

**Description of Technology:** RNase H1 has been shown to remove RNA/DNA hybrids and either too much or too little enzyme can lead to undesirable effects such as deletions of DNA. The gene encoding RNase H1 in mammalian cells produces two forms of the protein. One is targeted to the nucleus of the cell and the other to the mitochondrial organelle. To study the effects of expression as well as to understand the regulation of the frequency with which each form is made, NIH investigators constructed cells derived from HEK293 cells where expression of each or both forms is/are expressed only after addition of doxycycline as a small molecule inducer compound. The set of cell lines could be important in the process of analysis of RNA/DNA hybrids as each

cell line expresses different amounts of each form.

**Potential Commercial Applications:** Research materials to study RNA/DNA hybrids

**Competitive Advantages:** Not available elsewhere

**Development Stage:**

- Prototype
- Pre-clinical
- In vitro data available

**Inventors:** Robert J. Crouch and Yutaka Suzuki (NICHD).

**Publication:** Suzuki Y, et al. An upstream open reading frame and the context of the two AUG codons affect the abundance of mitochondrial and nuclear RNase H1. *Mol Cell Biol.* 2010 Nov;30(21):5123–34. [PMID 20823270]

**Intellectual Property:** HHS Reference No. E-273–2012/0—Research Material. Patent protection is not being pursued for this technology.

**Licensing Contact:** Betty B. Tong, Ph.D.; 301–594–6565; [tongb@mail.nih.gov](mailto:tongb@mail.nih.gov).

**Collaborative Research Opportunity:** The Program in Genomics of Differentiation, NICHD, is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate or commercialize small molecule inhibitors of RNase H1, genome instability, or transcription and translation. For collaboration opportunities, please contact Joseph Conrad III, Ph.D. at [jmconrad@mail.nih.gov](mailto:jmconrad@mail.nih.gov).

### Improved Transposase Compositions for Whole Genome Sequencing

**Description of Technology:** The invention provides improved transposase enzymes engineered to exhibit reduced sequence biases, and to operate more efficiently than wildtype transposases.

Scientists at NIDDK and John Hopkins University jointly developed mutant transposases that are superior to wildtype transposases in whole genome sequencing applications. Transposases facilitate the cleavage of certain DNA segments, called transposons, at specific sites within a genome and their subsequent insertions at random sites. Addition of transposases and labeled transposons to whole genome preparations allow for one-pot, simultaneous fragmentation and identification of targeted DNA sequences.

Mutations introduced by the inventors facilitate formation of dimeric enzyme complexes with enhanced activity and stability. These modifications result in more efficient

fragmentation and tagging of genomic DNA.

**Potential Commercial Applications:** Kits for whole genome sequencing.

**Competitive Advantages:**

- Can easily be expressed in the bacterium, *E. coli*, and purified in large quantities.
- Are soluble, stable and exist as smaller active complexes compared to native enzymes.
- Are fully active at room temperature (23–30°C).
- Have a higher transposition activity and show minimal insertional sequence bias in-vitro compared to the wild type.

**Development Stage:**

- Prototype
- Pilot
- In vitro data available

**Inventors:** Fred Dyda (NIDDK), Alison Hickman (NIDDK), Nancy Craig (Johns Hopkins School of Medicine), Sunil Gangadharan (Johns Hopkins School of Medicine).

**Intellectual Property:** HHS Reference No. E-194–2012/0—U.S. Provisional Application No. 61/652,560 filed 29 May 2012.

**Licensing Contact:** Lauren Nguyen-Antczak, Ph.D., J.D.; 301–435–4074; [nguyenantczakla@mail.nih.gov](mailto:nguyenantczakla@mail.nih.gov).

### Improved Monoclonal Antibodies Against Neuregulin 2

**Description of Technology:** The invention provides highly selective monoclonal antibodies against the extracellular domain (ECD) or intracellular domain (ICD) of neuregulin-2, a ligand for the ErbB receptors in adult human brain. Neuregulins regulate a diverse array of neurological process in the central nervous system and are implicated in schizophrenia and other psychiatric disorders. However, an understanding of the specific role of neuregulin 2 has been hindered by a lack of specific antibodies useful in immunoblotting and immunohistology studies. Commercially available antibodies do not perform as well in these applications when compared to the invention antibodies. A mouse monoclonal antibody directed to the ECD is available for licensing (clone 8D11, HHS Ref. No. E-192–2012), and rabbit antibodies directed to the ICD are also available (clone 11–11, HHS Ref. No. E-193–2012; clone 15–10, HHS Ref. No. E-189–2012; and clone 9–2, HHS Ref. No. E-188–2012). Antibodies from clones 8D11 and 11–11 have been validated for immunohistology and antibodies from clones 15–10 and 9–2 have been validated for Western blotting using brain tissue from wild-type and neuregulin 2 deficient mice.

**Potential Commercial Applications:** Superior monoclonal antibody for Western blotting or immunohistology analysis of tissue sections

**Competitive Advantages:**

- Superior binding specificity in comparison to commercially available antibodies
- Developed antibodies bind specific, characterized regions on neuregulin 2

**Development Stage:**

- Prototype
- In vitro data available

**Inventors:** Detlef Vullhorst, Andres Buonanno, Irina Karavanov (all of NICHD).

**Intellectual Property:** HHS Reference Nos. E-188–2012/0, E-189–2012/0, E-190–2012/0, E-191–2012/0, E-192–2012/0, E-193–2012/0. This is a Research Tool—patent protection is not being pursued for this technology.

**Licensing Contact:** Lauren Nguyen-Antczak, Ph.D., J.D.; 301–435–4074; [nguyenantczakla@mail.nih.gov](mailto:nguyenantczakla@mail.nih.gov).

**Collaborative Research Opportunity:**

The NICHD is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate or commercialize neuregulin-2 monoclonal antibodies. For collaboration opportunities, please contact Charlotte McGuinness at [mccguinn@mail.nih.gov](mailto:mccguinn@mail.nih.gov).

### Glucocerebrosidase Activators for the Treatment of Gaucher Disease, Parkinson's Disease, and Other Proteinopathies

**Description of Technology:** Gaucher disease is a rare lysosomal storage disease that is characterized by a loss of function of the glucocerebrosidase (GCase) enzyme, which results in a decreased ability to degrade its lipid substrate, glucocerebroside. The intracellular build up of this lipid causes a broad range of clinical manifestations, ranging from enlarged spleen/liver and anemia to neurodegeneration. In Gaucher disease, the loss of GCase function has been attributed to low levels of the protein in the lysosomal compartment, resulting from improper GCase folding and transport. Also, mutations in the GCase gene have been linked to some forms of Parkinson's disease, and may also be involved in other proteinopathies.

This technology describes a collection of salicylic acid-derived small molecules that act as chaperones to activate proper GCase folding and subsequent transport from the endoplasmic reticulum into the lysosome. Unlike many other small molecule chaperones, these salicylic acid derivatives do not inhibit the activity of the GCase enzyme. These

small molecules have been tested for the ability to activate GCase *in vitro* and show chaperone activity in a patient-derived fibroblast translocation assay.

**Potential Commercial Applications:**

- Treatment of Gaucher disease
- Treatment of Parkinson's disease
- Treatment of other lysosomal storage diseases

**Competitive Advantages:** The compounds are novel small molecules that enhance proper GCase folding and transport without inhibiting enzyme activity in the lysosome.

**Development Stage:**

- Early-stage
- In vitro data available

**Inventors:** Juan Marugan (NCATS), Wei Zheng (NCATS), Samarjit Patnaik (NCATS), Noel Southall (NCATS), Ellen Sidransky (NHGRI), Ehud Goldin (NHGRI), Wendy Westbroek (NHGRI).

**Publication:** Related publication is currently in preparation.

**Intellectual Property:**

- HHS Reference No. E-144-2012/0—U.S. Provisional Application No. 61/616,758 filed 28 Mar 2012
- HHS Reference No. E-144-2012/1—U.S. Provisional Application No. 61/616,773 filed 28 Mar 2012

**Licensing Contact:** Tara Kirby, Ph.D.; 301-402-0220; [tarak@mail.nih.gov](mailto:tarak@mail.nih.gov).

**Collaborative Research Opportunity:** The National Center for Advancing Translational Sciences is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate or commercialize this technology. For collaboration opportunities, please contact Dr. Juan Marugan at [maruganj@mail.nih.gov](mailto:maruganj@mail.nih.gov).

**Cyclodextrins as Therapeutics for Lysosomal Storage Disorders**

**Description of Technology:** Cyclodextrins (CD), alone or in combination with other agents (e.g., vitamin E), as therapeutics for the treatment of lysosomal storage disorders (LSDs) caused by the accumulation of non-cholesterol lipids.

CDs are sugar molecules in a ring form. The alpha-CD (6 sugars), beta-CD (7 sugars) and gamma-CD (8 sugars) are commonly used cyclodextrins. The hydroxypropyl-beta cyclodextrin (HPbCD) has been approved for pharmaceutical use. Recent reports show that beta-cyclodextrin including HPbCD and beta-methyl-cyclodextrin reduced cholesterol accumulation and neuronal cell loss in the mouse model of NPC1 disease.

NCATS investigators found that CD (alpha-, beta- and gamma-CDs) increased intracellular Ca<sup>2+</sup> and lysosomal exocytosis in both wild type

cells and cells with Wolman disease, and reduced the size of enlarged lysosomes in six patient cell lines with LSDs. Further, CD in combination with tocopherol synergistically/additively reduced cholesterol accumulation in cells of NPC and Wolman diseases. Based on these results, they propose treatment of LSDs with cyclodextrins (such as alpha and gamma forms) alone or in combination with Vitamin E and its analogues for better efficacy and less side effects.

**Potential Commercial Applications:**

- Treatment of lysosomal storage diseases
  - Treatment of disorders caused by accumulation of non-cholesterol lipids
- Competitive Advantages:**
- Use of cyclodextrins in combination with vitamin-E (e.g., delta-tocopherol) provides additive therapeutic effect
  - Less side effects than cyclodextrin only or vitamin E only for LSDs because of reduced doses for both compounds in combination

**Development Stage:**

- Early-stage
- Pre-clinical
- In vitro data available

**Inventors:** John McKew, Wei Zheng, Miao Xu, Manju Swaroop, Juan Marugan (all of NCATS).

**Intellectual Property:** HHS Reference No. E-050-2012/0—US Provisional Application No. 61/679,668 filed 12 Aug 2012.

**Related Technology:** HHS Reference No. E-294-2009/0—PCT Patent Application No. PCT/US2011/044590 filed 19 Jul 2011, entitled "Use of Delta Tocopherol for the Treatment of Lysosomal Storage Disorders" (Wei Zheng et al., NCATS).

**Licensing Contact:** Suryanarayana Vepa, Ph.D., J.D.; 301-435-5020; [vepas@mail.nih.gov](mailto:vepas@mail.nih.gov).

**Collaborative Research Opportunity:** The National Center for Advancing Translational Sciences is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate or commercialize this technology. For collaboration opportunities, please contact Dr. Juan Marugan at [maruganj@mail.nih.gov](mailto:maruganj@mail.nih.gov).

**Selective Treatment of Cancer, HIV, Other RNA Viruses and Genetically Related Diseases Using Therapeutic RNA Switches**

**Description of Technology:** Targeted therapy in cancer or viral infections is a challenge because the disease state manifests itself mainly through differences in the cell interior, for example in the form of the presence of a certain RNAs or proteins in the cytoplasm.

The technology consists of designed RNA switches that activate the RNA interference pathway only in the presence of a trigger RNA or DNA to which they bind, in order to knock down a chosen gene that is not necessarily related to the initial trigger.

This new approach can lead to a new type of drug that has the unique feature of selectively causing a biochemical effect (such as apoptosis) in cells that are infected by RNA viruses (such as HIV), as well as cancer cells. The RNA switch concept can be expanded to selectively treat other genetically related diseases.

**Potential Commercial Applications:**

- Targeted therapeutic for viral infections, cancer stem cells, and genetically related diseases
- Research tool to study cancer or viral infection

**Competitive Advantages:**

- Fewer side effects because the therapeutic RNA-interference pathway is only activated by the RNA switch when it is intact and in its active conformation
- Selectively kills cells infected by RNA viruses

- Contains a minimal number of single stranded nucleotides, thus minimizing the effects of nucleases

**Development Stage:** In vitro data available

**Inventors:** Bruce A. Shapiro (NCI), Eckart Bindewald (SAIC-Frederick, Inc.), Kirill Afonin (NCI), Arti Santhanam (NCI).

**Publications:**

1. Afonin KA, et al. Co-transcriptional Assembly of Chemically Modified RNA Nanoparticles Functionalized with siRNAs. *Nano Lett.* 2012 Oct 10;12(10):5192–5. [PMID 23016824]
2. Grabow WW, et al. "RNA Nanotechnology in Nanomedicine," in *Nanomedicine and Drug Delivery (Recent Advances in Nanoscience and Nanotechnology)*, ed. M Sebastian, et al. (New Jersey: Apple Academic Press, 2012), 208–220. [Book Chapter]
3. Shukla GC, et al. A boost for the emerging field of RNA nanotechnology. *ACS Nano.* 2011 May 24;5(5):3405–18. [PMID 21604810]
4. Afonin KA, et al. Design and self-assembly of siRNA-functionalized RNA nanoparticles for use in automated nanomedicine. *Nat Protoc.* 2011 Dec 1;6(12):2022–34. [PMID 22134126]
5. Bindewald E, et al. Multistrand RNA secondary structure prediction and nanostructure design including pseudoknots. *ACS Nano.* 2011 Dec 27;5(12):9542–51. [PMID 22067111]
6. Grabow WW, et al. Self-assembling RNA nanorings based on RNAI/II inverse kissing complexes. *Nano Lett.*

2011 Feb9;11(2):878–87. [PMID 21229999]

7. Kasprzak W, et al. Use of RNA structure flexibility data in nanostructure modeling. *Methods*. 2011 Jun;54:239–50. [PMID 21163354]

8. Afonin KA, et al. In vitro assembly of cubic RNA-based scaffolds designed in silico. *Nat Nanotechnol*. 2010 Sep;5:676–82. [PMID 20802494]

9. Severcan I, et al. “Computational and Experimental RNA Nanoparticle Design,” in *Automation in Genomics and Proteomics: An Engineering Case-Based Approach*, ed. G Alterovitz, et al. (Hoboken: Wiley Publishing, 2009), 193–220. [Book Chapter]

10. Shapiro B, et al. “Protocols for the In silico Design of RNA Nanostructures,” in *Nanostructure Design Methods and Protocols*, ed. E Gazit, R Nussinov. (Totowa, NJ: Humana Press, 2008), 93–115. [Book Chapter]

11. Bindewald E, et al. Computational strategies for the automated design of RNA nanoscale structures from building blocks using NanoTiler. *J Mol Graph Model*. 2008 Oct;27(3):299–308. [PMID 18838281]

12. Yingling YG, Shapiro BA. Computational design of an RNA hexagonal nanoring and an RNA nanotube. *Nano Lett*. 2007 Aug;7(8):2328–34. [PMID 17616164]

#### *Intellectual Property:*

- HHS Reference No. E–038–2012/0—U.S. Provisional Application No. 61/561,247 filed 17 Nov 2011

- HHS Reference No. E–038–2012/1—U.S. Provisional Application No. 61/678,434 filed 01 Aug 2012

*Related Technology:* HHS Reference No. E–039–2012/0—U.S. Provisional Application No. 61/561,257 filed 17 Nov 2011.

*Licensing Contact:* John Stansberry, Ph.D.; 301–435–5236; [stansbej@mail.nih.gov](mailto:stansbej@mail.nih.gov).

*Collaborative Research Opportunity:* The NCI Center for Cancer Research Nanobiology Program is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate or commercialize therapeutic RNA switches. For collaboration opportunities, please contact John Hewes, Ph.D. at [hewesj@mail.nih.gov](mailto:hewesj@mail.nih.gov).

#### **Activation of Therapeutic Functionalities With Chimeric RNA/DNA Nanoparticles for Treatment of Cancer, Viruses and Other Diseases**

*Description of Technology:* A new strategy based on RNA/DNA hybrid nanoparticles, which can be generally used for triggering multiple functionalities inside diseased cells is presented. Individually, each of the

hybrids is functionally inactive and functional representation can only be activated by the re-association of at least two cognate hybrids simultaneously present in the same cell. Overall, this novel approach allows (i) The triggered release of therapeutic siRNAs or miRNAs inside the diseased cells, (ii) activation of other split functionalities (e.g. FRET, different aptamers, rybozymes, split proteins) intracellularly, (iii) higher control over targeting specificity (e.g. if two hybrids are decorated with two different tissue specific recognition moieties), (iv) biosensing and tracking of the delivery and re-association of these hybrids in real-time inside cells, (v) increasing the number of functionalities by introducing a branched hybrid structure, (vi) introduction of additional functionalities without direct interference of siRNA processivity, (vii) increasing the retention time in biological fluids by fine-tuning chemical stability through substituting the DNA strands with chemical analogs (e.g. LNA, PNA, etc.), (viii) conditional release of all functionalities.

#### *Potential Commercial Applications:*

- Therapeutic siRNA for cancer, viruses and other diseases

- Therapeutic for delivery of multiple functionalities

- Diagnostic to visualize cancer cells, virus infected cells, or diseased cells, or track the delivery and effectiveness of siRNA treatment or other treatments associated with the particle

- Research tool to study cancer, viral infections or other diseases

#### *Competitive Advantages:*

- Novel way for multiple functionality delivery and activation

- Enhanced chemical stability and pharmacokinetics due to the average size of nanoparticles exceeding 10nm

- Increased specificity for selecting cells of interest using more than one target gene

#### *Development Stage:*

- In vitro data available

- In vivo data available (animal)

*Inventors:* Bruce A. Shapiro (NCI), Kirill Afonin (NCI), Arti Santhanam (NCI), Mathias Viard (SAIC-Frederick, Inc.), Eckart Bindewald (SAIC-Frederick, Inc.), Luc Jaeger (U of Cal. Santa Barbara).

#### *Publications:*

1. Afonin KA, et al. Co-transcriptional Assembly of Chemically Modified RNA Nanoparticles Functionalized with siRNAs. *Nano Lett*. 2012 Oct 10;12(10):5192–5. [PMID 23016824]

2. Grabow WW, et al. “RNA Nanotechnology in Nanomedicine,” in *Nanomedicine and Drug Delivery* (Recent Advances in Nanoscience and

Nanotechnology), ed. M Sebastian, et al. (New Jersey: Apple Academic Press, 2012), 208–220. [Book Chapter]

3. Shukla GC, et al. A boost for the emerging field of RNA nanotechnology. *ACS Nano*. 2011 May 24;5(5):3405–18. [PMID 21604810]

4. Afonin KA, et al. Design and self-assembly of siRNA-functionalized RNA nanoparticles for use in automated nanomedicine. *Nat Protoc*. 2011 Dec 1;6(12):2022–34. [PMID 22134126]

5. Bindewald E, et al. Multistrand RNA secondary structure prediction and nanostructure design including pseudoknots. *ACS Nano*. 2011 Dec 27;5(12):9542–51. [PMID 22067111]

6. Grabow WW, et al. Self-assembling RNA nanorings based on RNAI/II inverse kissing complexes. *Nano Lett*. 2011 Feb9;11(2):878–87. [PMID 21229999]

7. Kasprzak W, et al. Use of RNA structure flexibility data in nanostructure modeling. *Methods*. 2011 Jun;54:239–50. [PMID 21163354]

8. Afonin KA, et al. In vitro assembly of cubic RNA-based scaffolds designed in silico. *Nat Nanotechnol*. 2010 Sep;5:676–82. [PMID 20802494]

9. Severcan I, et al. “Computational and Experimental RNA Nanoparticle Design,” in *Automation in Genomics and Proteomics: An Engineering Case-Based Approach*, ed. G Alterovitz, et al. (Hoboken: Wiley Publishing, 2009), 193–220. [Book Chapter]

10. Shapiro B, et al. “Protocols for the In silico Design of RNA Nanostructures,” in *Nanostructure Design Methods and Protocols*, ed. E Gazit, R Nussinov. (Totowa, NJ: Humana Press, 2008), 93–115. [Book Chapter]

11. Bindewald E, et al. Computational strategies for the automated design of RNA nanoscale structures from building blocks using NanoTiler. *J Mol Graph Model*. 2008 Oct;27(3):299–308. [PMID 18838281]

12. Yingling YG, Shapiro BA. Computational design of an RNA hexagonal nanoring and an RNA nanotube. *Nano Lett*. 2007 Aug;7(8):2328–34. [PMID 17616164]

*Intellectual Property:* HHS Reference No. E–039–2012/0—U.S. Provisional Application No. 61/561,257 filed 17 Nov 2011

#### *Related Technology:*

- HHS Reference No. E–038–2012/0—U.S. Provisional Application No. 61/561,247 filed 17 Nov 2011

- HHS Reference No. E–038–2012/1—U.S. Provisional Application No. 61/678,434 filed 01 Aug 2012

*Licensing Contact:* John Stansberry, Ph.D.; 301–435–5236; [stansbej@mail.nih.gov](mailto:stansbej@mail.nih.gov).

*Collaborative Research Opportunity:* The NCI Center for Cancer Research

Nanobiology Program is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate or commercialize therapeutic RNA/DNA nanoparticles. For collaboration opportunities, please contact John Hewes, Ph.D. at [hewesj@mail.nih.gov](mailto:hewesj@mail.nih.gov).

Dated: November 5, 2012.

**Richard U. Rodriguez,**

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

[FR Doc. 2012-27426 Filed 11-8-12; 8:45 am]

**BILLING CODE 4140-01-P**

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### National Institutes of Health

#### National Human Genome Research Institute; Amended Notice of Meeting

Notice is hereby given of a change in the meeting of the National Human Genome Research Institute Special Emphasis Panel, October 29, 2012, 8:00 a.m. to October 30, 2012, 5:00 p.m., Residence Inn Bethesda Downtown, 7335 Wisconsin Avenue, Montgomery I & II, Bethesda, MD 20814 which was published in the **Federal Register** on October 4, 2012, 77 FR 60706.

Due to Hurricane Sandy, this meeting has been moved from October 29-30, 2012 to January 7, 2013. The meeting is closed to the public.

Dated: November 5, 2012.

**David Clary,**

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

[FR Doc. 2012-27429 Filed 11-8-12; 8:45 am]

**BILLING CODE 4140-01-P**

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### National Institutes of Health

#### Center for Scientific Review; 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.

*Name of Committee:* Center for Scientific Review Special Emphasis Panel Neuronal Plasticity and Regeneration.

*Date:* November 28-29, 2012.

*Time:* 9:30 a.m. to 4:00 p.m.

*Agenda:* To review and evaluate grant applications.

*Place:* National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892, (Virtual Meeting).

*Contact Person:* Laurent Taupenot, Ph.D., Scientific Review Officer, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 4811, MSC 7850, Bethesda, MD 20892, 301-435-1203, [taupenol@csr.nih.gov](mailto:taupenol@csr.nih.gov).

This notice is being published less than 15 days prior to the meeting due to the timing limitations imposed by the review and funding cycle.

*Name of Committee:* Center for Scientific Review Special Emphasis Panel Molecular Mechanism of Neurodegeneration.

*Date:* December 6-7, 2012.

*Time:* 8:00 a.m. to 4:00 p.m.

*Agenda:* To review and evaluate grant applications.

*Place:* National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892 (Virtual Meeting).

*Contact Person:* Carol Hamelink, Ph.D., Scientific Review Officer, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 4192, MSC 7850, Bethesda, MD 20892, (301) 213-9887, [hamelinc@csr.nih.gov](mailto:hamelinc@csr.nih.gov).

*Name of Committee:* Center for Scientific Review Special Emphasis Panel Member Conflicts: Asthma, Allergy, and Environmental Exposure Applications.

*Date:* December 10, 2012.

*Time:* 1:30 p.m. to 4:30 p.m.

*Agenda:* To review and evaluate grant applications.

*Place:* National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892 (Telephone Conference Call).

*Contact Person:* Everett E. Sinnett, Ph.D., Scientific Review Officer, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 2178, MSC 7818, Bethesda, MD 20892, 301-435-1016, [sinnett@nih.gov](mailto:sinnett@nih.gov).

(Catalogue of Federal Domestic Assistance Program Nos. 93.306, Comparative Medicine; 93.333, Clinical Research, 93.306, 93.333, 93.337, 93.393-93.396, 93.837-93.844, 93.846-93.878, 93.892, 93.893, National Institutes of Health, HHS)

Dated: November 5, 2012.

**Melanie J. Gray,**

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

[FR Doc. 2012-27430 Filed 11-8-12; 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 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 General Medical Sciences Special Emphasis Panel Review of K99 Grant Applications.

*Date:* December 5, 2012.

*Time:* 8:00 a.m. to 5:00 p.m.

*Agenda:* To review and evaluate grant applications.

*Place:* National Institutes of Health, Natcher Building, 45 Center Drive, Room A, Bethesda, MD 20892.

*Contact Person:* John J. Laffan, Ph.D., Scientific Review Officer, Office of Scientific Review, National Institute of General Medical Sciences, National Institutes of Health, 45 Center Drive, Room 3An18J, Bethesda, MD 20892, 301-594-2773, [laffanjo@mail.nih.gov](mailto:laffanjo@mail.nih.gov). (Catalogue of Federal Domestic Assistance Program Nos. 93.375, Minority Biomedical Research Support; 93.821, Cell Biology and Biophysics Research; 93.859, Pharmacology, Physiology, and Biological Chemistry Research; 93.862, Genetics and Developmental Biology Research; 93.88, Minority Access to Research Careers; 93.96, Special Minority Initiatives, National Institutes of Health, HHS)

Dated: November 5, 2012.

**Melanie J. Gray,**

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

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## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### National Institutes of Health

#### National Institute of Allergy and Infectious Diseases; 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.