NIH Grant Watch

***C. elegans* Interactome; Human Binary Interactome; Rat Genome**

Kristie Nybo and Bruce Perry

BioTechniques and NIH Sales reviewed grants made by the National Institutes of Health during the last 30 days. Here are some highlights from among the largest R01 grants awarded during September 2008.

The *C. elegans* Interactome Project \$1,800,000

(5R01HG001715-10, National Human Genome Research Institute)

Marc Vidal (Dana-Farber Cancer Institute, Boston, MA)

Goal: To expand the worm interactome project by mapping 15,000 additional high-confidence interactions via the yeast two-hybrid technique, validate the results by co-affinity purification, and compare expression patterns of the genes corresponding to the identified protein interactions. Computational tools will also be developed to release, visualize, and analyze the interaction data.

Mapping the Human Binary Interactome Network \$1,800,000

(2R01HG001715-11A1, National Human Genome Research Institute)

David Hill (Dana-Farber Cancer Institute, Boston, MA)

Goal: To generate and analyze high-throughput yeast two-hybrid interactions of all pairwise combinations for which there are Gateway-cloned open reading frames. Results of the program will include an expanded human binary interactome map, validation of the data, and analysis of the expanded interactome model.

Rat Genome Database \$1,741,293

(5R01HL064541-10, National Heart, Lung, and Blood Institute)

Howard Jacob (Medical College of Wisconsin, Milwaukee, WI)

Goal: To expand the rat genome database to include disease and phenotype annotation with genomic and sequence data. Specifically, this project aims to expand the collection of rat genomic data; curate the draft sequence; increase biological content such as ontology, functional variants, pathway annotation, and physiological data; expand comparative analysis tools; and provide user education, interaction, and collaboration programs.

Adaptation of Influenza Inhibition Assays for High-Throughput Screening \$1,427,800

(1R01AI071393-01 National Institute of Allergy and Infectious Diseases)

James Noah (Southern Research Institute, Birmingham, AL)

Goal: To optimize and adapt four in vitro biochemical and two whole-cell assays for automated liquid high-throughput screening of anti-influenza viral compounds. 3000 potential antiviral drugs will be screened to validate the method.

Real-time DNA Sequencing \$1,267,499

(5R01HG003580-03 (National Human Genome Research Institute)

Susan Hardin (Visigen Biotechnologies, Inc., Houston, TX)

Goal: To advance and refine technology designed by VisiGen Biotechnologies that accomplishes large genome sequencing in one day for approximately \$1000. Their instrument detects a base-specific energy transfer from an excited fluorophore on the polymerase to an acceptor fluorophore in the nucleotide and provides sequence data in real time. The proposed program will refine the sequencing chemistry and build and test the next generation single-molecule DNA sequencing machine.

Multimodal Qdot Probes for Bioimaging of Cells and Tumors in Small Animals \$844,352

(5R01EB000312-08 (National Institute of Biomedical Imaging and Bioengineering)

Shimon Weiss (University of California, Los Angeles, Los Angeles, CA)

Goal: To develop and conjugate new fluorescent labeled intravascular quantum dot (qdot) probes used for biological imaging and drug delivery, develop new instruments for qdot detection, and validate qdots in cell and animal models. The program will focus on creating qdots of several wavelengths coupled to engineered tumor marker-specific antibodies for in vivo imaging of cancers that cannot be diagnosed by a single imaging method.

Drosophila Transgenic RNAi Resource Project \$842,010

(1R01GM084947-01 (National Institute of General Medical Sciences)

Norbert Perrimon (Harvard University Medical School, Boston, MA)

Goal: To establish and validate 6250 transgenic RNAi *Drosophila* lines within four years, for transfer to the Bloomington *Drosophila* Stock Center. The fly lines will be freely accessible to the research community for use in studies of cells, signal transduction, cancer, congenital malformation, neurodegeneration, behavior, and other biological studies.

K. Nybo is assistant editor at BioTechniques. B. Perry is president of NIH Sales, Rockville, MD.

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