

NCI Guidelines for Administrative Supplements for The Cancer Genome Atlas (TCGA) Program

Title: Administrative Supplements for TCGA Program

Announcement Number: [NOT-OD-09-056](#) NIH Announces the Availability of Recovery Act Funds for Administrative Supplements

Release Date: May 28, 2010

Receipt Dates: June 21, 2010

This initiative is one of several being offered by National Cancer Institute (NCI) to help fulfill the goals of the American Recovery and Reinvestment Act (ARRA) to help stimulate the economy through support of biomedical and behavioral research. Additional information the Recovery Act and related NIH opportunities is available through the [Office of Extramural Research](#).

Program Overview:

The Cancer Genome Atlas (TCGA) Program is a comprehensive and coordinated effort to accelerate our understanding of the molecular basis of cancer through the application of genome analysis technologies, including large-scale genome sequencing. The overarching goal of The Cancer Genome Atlas (TCGA) Program is to improve our ability to diagnose, treat, and prevent cancer. To achieve this goal in a scientifically rigorous manner, the National Cancer Institute and the National Human Genome Research Institute used a phased-in strategy to launch TCGA. A pilot project developed and tested the research framework needed to systematically explore the entire spectrum of genomic changes involved in human cancers. Based on the extraordinary sets of multidimensional data generated by the pilot, TCGA has moved from a pilot to a full program to study more than 20 types of cancer. Characterization of these tumors would be accelerated using ARRA funds.

Application Guidelines:

Applicants are encouraged to review NIH Announcement Number [NOT-OD-09-056](#) for guidance on how to prepare an administrative supplement request under the Recovery Act.

Funds Available:

NCI will be committing \$10 million dollars in FY10 to support up to 10 **one year** administrative supplements for TCGA U24 awardees under [RFA-CA-09-010](#) (Genome Characterization Centers and Genome Data Analysis Centers for The Cancer Genome Atlas Research Network (TCGA)).

Budget:

Total cost of each supplement application may not exceed \$1.0M.

Eligibility:

- Only active TCGA grant awards funded through [RFA-CA-09-010](#) may submit. No other grant awards/mechanisms are eligible for these administrative supplements.
- Up to two proposals per TCGA award may be submitted,
- The PI on the supplement must be the same as the PI on the parent award.
- For all submissions, individual TCGA PIs and co-investigators can only be part of one application.

Purpose:

Proposals may include bioinformatic and/or laboratory-based efforts. Proposals to establish new collaborations between existing TCGA centers and/or to add functionality to the TCGA project(s) are encouraged. The proposed activities must be within the overall scope of the active parent TCGA award. Increased functionality includes, but is not limited to, areas such as:

- 1) The development of a bioinformatic molecular pharmacology approach that maps TCGA data and data in the public domain with the goal of creating an informatics module that adds functionality to TCGA discoveries. Public data in the module could include pathway regulatory points, existing drug targets, hypothetical drug targets, inter-pathway linkages, cause and effect relationships between genes/pathways and other genes/pathways or their function, functional definitions of pathways, etc.
- 2) Laboratory methods that utilize small tissue samples from TCGA or denatured proteins generated during the co-isolation of DNA and RNA from TCGA samples to generate proteomic data that can be correlated to genomic data already generated by the project. Proteomics platform must be capable of screening large numbers of proteins (between 500 and 1500 proteins) in a large number of samples.
- 3) Bioinformatic and laboratory methods that enhance the ability to reconstruct tumor genome sequence data into complete genomes. These methods could include low pass sequencing of genomic DNA or array based methods that have sufficient coverage of the genome to facilitate the reconstruction of the tumor genome. Methods must be a high throughput, production ready approach. This could also include bioinformatic methods to reconstruct genomes. Bioinformatic methods must be able to reconstruct tumor genomes utilizing data generated by TCGA.
- 4) The development of bioinformatic methods to call mutations in next generation sequencing data. This could also include work required to adapt existing bioinformatic methods to a high throughput tool. Mutation calling software must be platform independent and capable of utilizing TCGA data file formats. False positive and false negative call rates must meet or exceed TCGA standards.
- 5) Bioinformatic methods to enhance the ability to perform comparative analysis of large DNA sequence data sets from whole exome or whole genome sequencing. This includes software that can align multiple genomes and exomes. Also included are software tools that can efficiently screen through both coding and non-coding regions of the genome looking for regulatory elements. This includes identification of known regulatory elements and novel regulatory elements. Also included are tools for identifying cause and effect relationships between regulatory elements and

downstream events measured by TCGA such as copy number, expression and methylation.

- 6) Laboratory methods that validate technology developments critical to the success of TCGA to include such methods as whole genome bisulfite sequencing for methylation analysis, third generation whole genome DNA sequencing methods that can sequence large pieces of DNA rather than the small fragments typically sequence by second generation sequencing technology and RNA sequencing technologies.

Restrictions:

- Supplemental funds cannot be used to purchase capital equipment.
- Supplemental funds cannot be used to perform laboratory validation of genomic targets.

Application Review:

- Administrative supplement requests will not undergo peer review. They will be reviewed for scientific merit and meeting of the ARRA goals by a panel consisting of Center for Scientific and Strategic Initiatives (CSSI) program staff with expertise relevant to the supplement request. Requests will undergo initial administrative review by grants management staff from the NCI Office of Grants Administration (including the Grants Management Specialist assigned to the parent grant) to ensure administrative eligibility and that all required items are submitted.
- Specific review criteria will include but are not limited to the following:
 - Merit of proposed science
 - The importance of the specific questions to be asked and the potential benefit to TCGA
 - The novelty or uniqueness of the opportunity presented by the proposed activity
 - Provide additional value to the underlying funded research (parent grant)
 - Establishment of new collaboration(s) between two or more TCGA centers; and
 - The expertise of the team proposing the project to achieve the goals of the supplement
 - Reasonableness of proposed costs for proposed research
 - ARRA job creation and retention criteria:
 - Supplement will accelerate the research proposed in the parent grant
 - Supplement will enable hiring of additional staff
 - Supplement will enable increased hours of current part-time staff
 - Supplement enables recruitment for additional skills
- The funding decision will be provided within 8-10 weeks of application submission

Award Date:

Awards will be made by August 1st, 2010.

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