Alliance of Glycobiologists for Cancer Research

PAR-17-206: Translational Tumor Glycomics Laboratories (U01)

PAR-17-207: Biological Tumor Glycomics Laboratories (U01)

NIH NATIONAL CANCER INSTITUTE

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Questions?

Email: NCIGlycomicsAlliance@mail.nih.gov

Program Contacts

PAR-17-206: Translational Tumor Glycomics Laboratories (U01)

Division of Cancer Prevention

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Program Contacts

PAR-17-207: Biological Tumor Glycomics Laboratories (U01)

Division of Cancer Biology

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Purpose of the Teleconference

- RFA Objectives
- Research Priorities
- FAQs

PAR-17-206

- Alliance of Glycobiologists for Cancer Research: Translational Tumor Glycomics Laboratories (U01)
- Support research focused on elucidating how changes in cellular carbohydrates promote cancer initiation and progression
- Use the information to identify glycan-based abnormalities to serve as biomarkers for early cancer detection or risk
- Study changes at the level of glycoproteins, glycolipids, glycosaminoglycans and/or their binding proteins
- Utilize candidate biomarkers to accurately distinguish individuals with cancer from those without, or determine which subjects will progress to aggressive disease

RFA: Scientific Goals

- Gain new insights on the contribution of complex carbohydrates to cancer initiation or progression
- Apply insights from understanding how altered glycan expression leads to oncogenesis and exploit these changes as potential early detection biomarkers for cancer
- Long term goals of this research is to develop clinical tests for early stage cancer detection or diagnosis
- An alternative goal can also implement preventive strategies against cancer (immunoprevention)

Examples of Scientific Questions Pertinent to the RFA

- What glycan structures or glycoprotein glycoforms are indicative of a cell reaching a neoplastic state?
- Does any specific change in glycosylation differentiate a benign lesion from aggressive disease?
- Does a germ line or somatic mutation in a particular glycogene confer greater risk for cancer?
- A monoclonal antibody X shows highly specific staining for tumor tissue only (virtually negative in all normal tissues). What is the epitope recognized by this antibody and can the antibody be used to devise a diagnostic test?

Responsive/Non-Responsive Applications

- Applications must have complementary expertise in glycobiology and cancer biology or a clinical partner focusing on the type of cancer being studied
- The research must focus on glycoconjugates or their binding proteins as relates to cancer progression. Study of a "glycoprotein(s)" (or the protein expression) does not in itself constitute glycobiological research unless the glycan structures are under investigation.

PAR-17-207

- Alliance of Glycobiologists for Cancer Research: Biological Tumor Glycomics Laboratories (U01)
- Support research focused on mechanisms that mediate alterations in glycosylation during oncogenesis
- Advance knowledge of altered glycosylation or other modifications in carbohydrate structure in cancer to determine whether it is the cause/result of malignancy
- Require research teams with complementary expertise in glycobiology and cancer biology

RFA: Scientific Goals

- Gain new insights on the contribution of complex carbohydrates to cancer initiation or progression
- Address whether changes in glycosylation seen in malignant cells are the cause or the result of transformation
- Study how modifications in carbohydrate structure influence malignancy during different stages of the disease
- Determine the mechanism by which glycan modification(s) alter cellular signaling or interaction with the environment, ability to invade or impact the immune system

Examples of Scientific Questions Pertinent to the RFA

- What is the precise mechanism(s) by which biochemical and structural changes in glycans regulate cancer initiation and progression?
- Do glycans and their complementary glycan-binding proteins play a role in chronic inflammation?
- How is immune surveillance attenuated by altered glycosylation?
- What is the role of proteoglycans in tumor angiogenesis?
- What is the impact of tumor microenvironment on altered glycans?
- Does aberrant glycosylation contribute to metabolic reprogramming of tumor cells?

Responsive/Non-Responsive Applications

- Applications must have complementary expertise in glycobiology and cancer biology
- Research proposal must describe the additional elements described in the Research Strategy section of the FOA (page 7 of PAR-17-207)

Cooperative Agreement (U01)

PI's Roles & Responsibilities:

- Plan and direct research program
- Coordinate project and fiscal management
- Coordinate with NCI Program Staff and Steering Committee to integrate the awardee's program within the broader scope of the Alliance
- Make decisions on scientific direction & allocation of resources
- Ensure compatibility of pertinent bioinformatics data with NIH-recommended standards
- Submit glycomic profiles and novel glycan structures to the analytical glycomics data repository of the *Consortium for Functional Glycomics*

Cooperative Agreement (U01)

PIs required to:

- Participate in teleconferences
- Attend annual meetings
- Share scientific information

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- Specific Aims
- Background and Significance
- Preliminary Studies
- Research Design and Methods

Does not include

- Multi-PI Leadership Plan
- Information on Animal use/Human Subjects
- Support Letters
- References

Review Criteria

In addition to the Standard Review Criteria, is the application :

- Responsive to the FOA?
- Feasible
- Include appropriate expertise
- Statistically robust
- Address multi-PI related issues (if multi-PI)
- Quality clinical specimens (PAR17-026)

Dates to Remember

- **Application Due Dates:**

  June 8, 2017; Feb 7, 2018; June 8, 2018; Feb 7, 2019

- **Peer Review:**

  Sept/Oct 2017; June/July 2018; Sept/Oct 2018; June/July 2019

- **Council Review:**

  Jan 2018; Aug 2018; Jan 2019; Aug 2019

- **Earliest Start Date:**

  April 2018; Dec 2018; April 2019; Dec 2019

Thank You!

Contact Information

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