National Cancer Institute

Alliance of Glycobiologists for Detection of Cancer

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Agenda

Elaboration on the RFA and the structure of the Alliance, 30 min:
Karl Krueger, Ph.D.

The Early Detection Research Network, 15 min:
Sudhir Srivastava, Ph.D. MPH

NIGMS glycomics programs, 10 min:
Pamela Marino, Ph.D.

Application submission and peer review, 15 min:
Marvin Salin, Ph.D.

Q & A

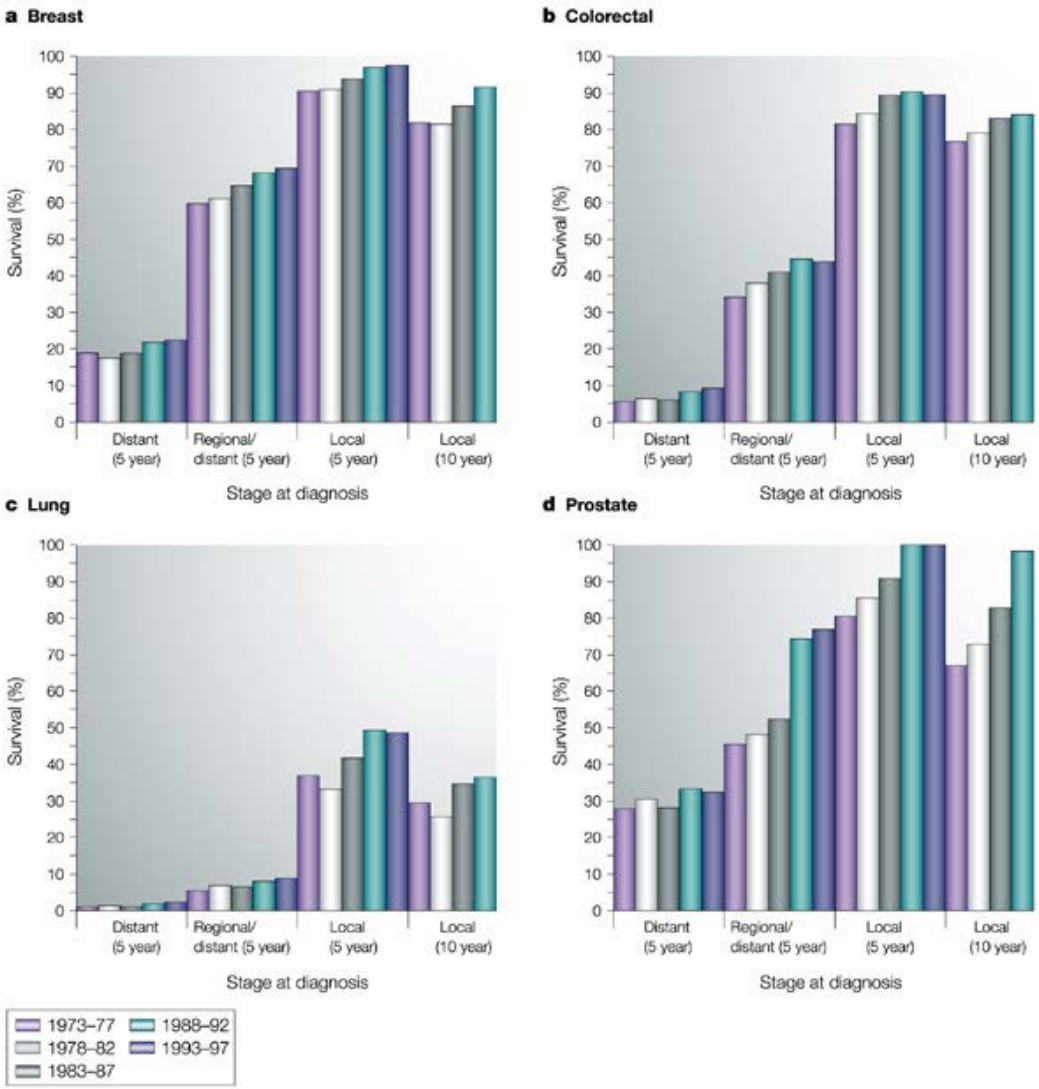
National Cancer Institute

ALLIANCE of GLYCOBIOLOGISTS
For Detection of Cancer

Mission

- Elucidate how changes in glycosylation contribute to oncogenesis.
- Exploit aberrant glycosylation to develop biomarker or strategies for cancer prevention, detection, and diagnosis.

The Importance of Early Detection of Cancer



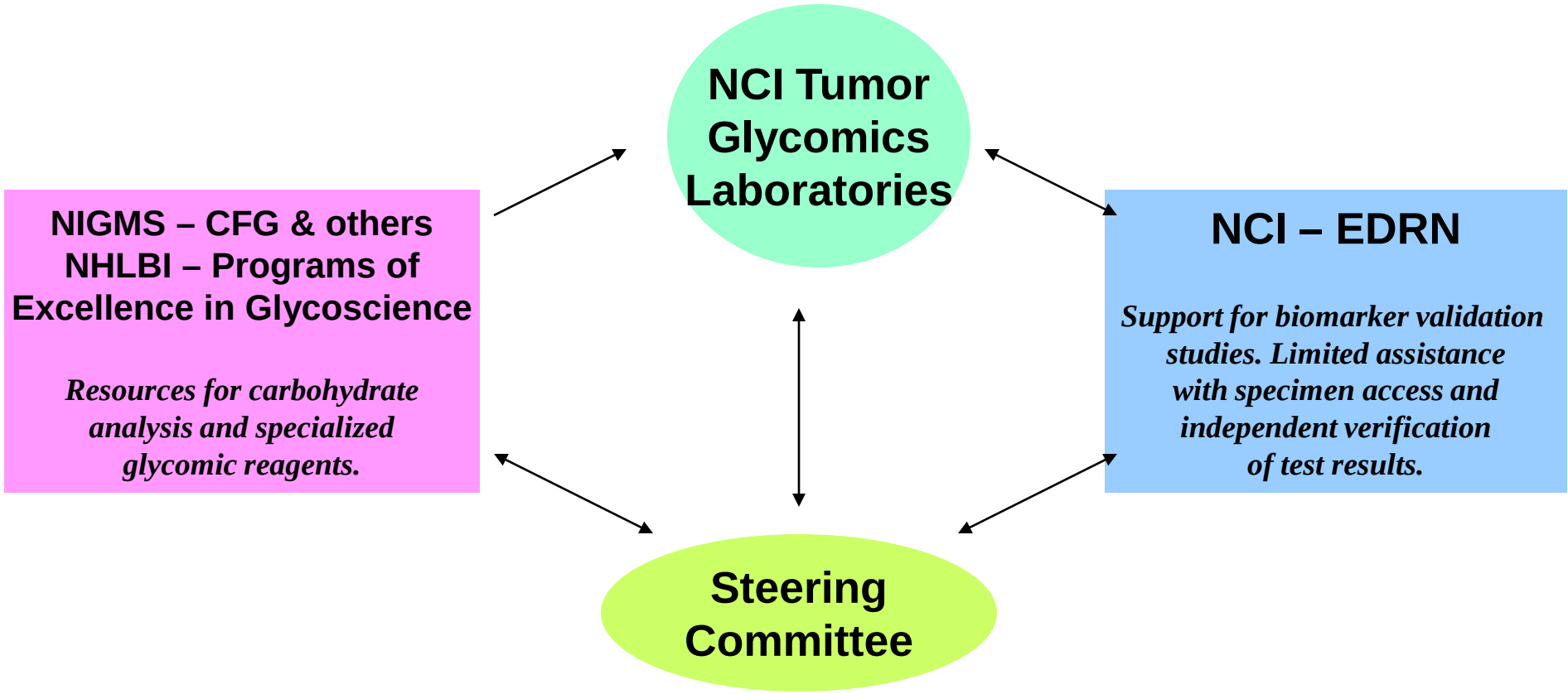
Etzioni et al., Nature Reviews Cancer 3, 243-252 (2003)

Nature Reviews | Cancer

ALLIANCE of GLYCOBIOLOGISTS
For Detection of Cancer

- Alliance was initiated in July 2007
- Seven tumor glycomics laboratories were funded
- Diverse glycotechnology platforms (several modalities of MS for glycan structural analysis, glycoproteomics, glycan/glycopeptide arrays, lectin arrays).
- RFA for tumor glycomics laboratories (CA-11-009) reissued for 2012
- Open competition

Structure of the Alliance



Functions of Alliance Components

- Tumor Glycomics Laboratories – discover and develop glycan biomarkers for early detection or prevention strategies; open competition for U01 awards
- NIGMS & NHLBI programs – provide resources, expertise, reagents, assays and tools to facilitate tumor glycomic research
- EDRN – provide the infrastructure for verification and clinical validation of glycan biomarkers
- Steering Committee – provide oversight and offer direction for achieving the Alliance's objectives (comprised of PIs of the Tumor Glycomics Laboratories, representatives from partnering programs, and program staff from NCI, NIGMS, and NHLBI)

Advantages to Working as an Alliance

- The Tumor Glycomics Laboratories will be funded by the U01 cooperative agreement award mechanism. This mechanism involves substantial programmatic involvement to facilitate interactions between laboratories and with other NIH funded programs.

- The Alliance is designed to function as a team where the collaborative interactions between laboratories facilitate the progress made by each laboratory, and by the consortium as a whole.

- By partnering with programs funded by other NIH institutes, the Tumor Glycomics Laboratories have access to a collection of resources and expertise for carbohydrate analysis. By partnering with EDRN, the Alliance gains access to experience a network of laboratories and clinical centers devoted to biomarker development and validation.

Responsibilities of the PIs

- Participate as a voting member of the Steering Committee (SC). Attendance at annual SC meetings and monthly SC conference calls.

- Data and Resource Sharing – facilitate research progress of the Alliance. Inform other Alliance members of current progress. Glycome profiles and novel glycan structures are to be deposited into the CFG databases.

- Attend a relevant glycobiology or biomarker-related meeting every year.

The Steering Committee

- Voting Members:
  - Tumor Glycomics Lab PD/PIs
  - One program staff from NCI
- Non-Voting Members:
  - Representatives of EDRN and other partnering programs
  - Other PIs from multi-PI awards
  - Program Staff from NCI, NIGMS, and NHLBI
- Chair and Co-chair of the SC will be PIs

Roles of the Steering Committee

- Provides oversight and management of activities within the Alliance.
- Keeps current on developments within the Alliance and provide guidance to efficiently achieve the objectives to facilitate clinical translation of this research.
- Assists NCI program officials in planning workshops.
- When needed the SC can modify the “Rules of Engagement” specified in the Alliance Manual of Operations.

Responding to RFA CA-11-009
(refer to Section IV)

- SF 424 Form – applicant organizations must be registered to complete the electronic submission process

- Follow the instructions given in the SF 424 (R&R) Application Guide (similar to an R01 application)

- **Direct Costs limited to $350,000**
  - does not include F&A costs from subcontracts
  - Budget for 2 meetings per year (2 PIs for an annual SC meeting or a PI attending two meetings)
  - For years 2-5 $65K must be set aside for network collaborative projects

Network Collaborative Funds
(refer to Section IV.2 - Additional Budget Information)

- SF 424 – Section F of the R&R Budget pages
  Only for years 2-5 on line 8 enter the term “Funds for Network Collaborative Projects” and the amount of $65,000.

- Subcontracts do not include any portion of the Network Collaborative Funds.

- Do not propose in your narrative how you hope to use these funds. Their use will be determined later after the funded Tumor Glycomics Labs have had time to strategize on collaborative projects.

Composition of Your Team

Multi-PI ? – One PI must be designated as Program Director (PD) to coordinate grant management of the U01. All PIs must commit at least 1.2 months per year.

Glycobiology/Glycomic Discovery – led by PI(s) of the U01; leads biomarker discovery/development effort

Carbohydrate Analytical Expertise – if the PI lacks requisite expertise in glycotechnology, collaboration with such experts is necessary

Statistical Support – assists with study design and analysis of data

Clinical Specimens – partner with a clinician to provide access to quality clinical specimens for discovery efforts and testing biomarker performance

Biomarker Discovery Approaches

Making a Case for Understanding Tumor Glycobiology

Non-biased Discovery – little or no foreknowledge of the molecules associated with the disease (usually involves profiling by comparing cancer vs control)

Biased (Biologically Informed) Discovery – understanding certain facets of how glycobiological functions changed in a disease can provide clues for which specific molecules should be investigated

The current RFA recommends including aspects of tumor glycobiology to serve as the basis for biomarker discovery or developing prevention strategies. Examples include glycotranscriptomics, genetic mutations/deletions/amplifications, roles of glycans in cell-cell or cell-matrix interactions or inflammation, etc.

Key Aspects of Your Research

Be sure to address the priorities of this initiative.

- Focus on cancer early detection, diagnosis, or cancer prevention. (Specific aims must not propose therapeutic strategies, technology development, or basic cancer biology research without a direct link to biomarker discovery.)

- Goals must have translational impact.

- Willingness to collaborate.

Timeline

RFA Release:	July 28, 2011
Letter of Intent Receipt (optional):	September 7, 2011
Application Receipt Date:	October 7, 2011
Peer Review Dates (tentative):	March-April 2012
Council Review:	May 2012
Earliest Start:	July 1, 2012

http://glycomics.cancer.gov