

Request for Application (RFA)

U24 Cooperative Agreement for Biospecimen Banks to Support NCI Clinical Trials Network (NCTN)

Irina A. Lubensky, M.D.

Chief, Pathology Investigation & Resources Branch

Cancer Diagnosis Program

Division of Cancer Treatment & Diagnosis

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NCTN Biospecimens

- **Biospecimens are collected on NCTN Trial protocols (U10 grants) and used for integral and integrated marker studies/assays (prognosis/prediction)**
- **Specimens that remain in excess after clinical trial requirements have been met become “legacy” specimens and are distributed to investigators following a defined NCTN access process and approval of the study by expert review**
- **NCTN Biospecimens**
 - **Validation studies of predictive/prognostic markers**
 - **Assay development/validation**
 - **Discovery**

Cooperative Group Banks (CGB) History

- **Current 9 Cooperative Group Banks:**
ACOSOG, CALGB, NCCTG, NSABP, RTOG, GOG, ECOG, SWOG, COG
- **Banks are an integral part of the NCTN (supported by U10 grants)**
- **Unique resource: collect, store and provide researchers with well-annotated specimens and clinical data from phase III and large phase II NCI Cooperative Group Clinical trials**
- **NCI Cooperative Group Banking RFA (Cancer Diagnosis Program):**
9 U24 Cooperative Agreement Grants (9/2005-3/31/2010)
9 U24 grant supplements (4/1/2010-3/31/2012)
9 U24 Cooperative Agreement Grants (4/1/2012-3/31/2015)
Supplements for common IT Navigator development (9/2012-present)
- **Present U24 CA RFA supports a harmonized NCTN banking network for reorganized 4 Adult and 1 Pediatric NCTN Groups:**
ALLIANCE, NRG, ECOG-ACRIN, SWOG, COG

Specimen Activities in 9 Cooperative Group Banks (2008-2012)

Solid Tumor Specimens Collected	400,866
Solid Tumor Specimens Distributed	277,063
Serum Specimens Collected	129,148
Serum Specimens Distributed	45,823
Intra/Inter Group Investigators Supported	418
External Investigators Supported	93
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Leukemia Specimens Collected	93,805
Leukemia Specimens Distributed	37,501
Intra/Inter Group Investigators Supported	109
External Investigators Supported	54

Scientific Impact (2008-2012)

- High-dose daunorubicin selectively benefits AML patients with mutations in DNMT3A, NPM1 or MLL translocations (Patel JP, *et al.*, *NEJM*; 2012)
- *OncotypeDx*[™] test improved risk stratification in stage II & III colon cancer (O'Connell MJ, *et al.*, *J Clin Oncol*; 2010)
- Relative paucity of recurrent somatic mutations in pediatric neuroblastomas challenges current therapeutic strategies that rely on frequently altered oncogenic drivers (Pugh TJ, *et al.*, *Nature Genet*, 2013)
- HPV associated oropharyngeal cancers are a different clinical entity compared to smoking related head and neck cancers (Ang KK, *et al.*, *NEJM*, 2010; & Fakhry C, *et al.*, *JNCI*, 2008)
- Identification of new recurrent mutations, such as ID3, in Burkitt's & DLBCL opens possibility of better clinical trial design in patients with targetable mutations (Love C, *et al.*, *Nature Genet.*, 2012)

U24 Banking RFA Goals

- Consolidate current CGBs into a harmonized NCTN biospecimen banking network for 4 Adult and 1 Pediatric NCTN Groups
- Support banking infrastructure for prospective collection and storage of specimens on ongoing and new NCI trials
- Build a system for cataloging and retrieving of “legacy specimens” and specimen-associated data
- Support NCTN Biospecimen IT Navigator system, a central inventory database of specimens available for research with an integrated search engine to access specimens for the research community
- Support a bank to collect, store, and distribute biospecimens from early phase trials performed by CTEP’s Experimental Therapeutics-Clinical Trials Network (ET-CTN)
- Streamline access to biospecimens:
 - Create a centralized Front Door specimen application process to support access to the NCTN Banks (CDP)
 - Create Central Correlative Science Review Committee to review NCTN biospecimen proposals (CTEP)

NCTN IT- Navigator Goals

1. Consolidate
inventory of
biospecimens

2. Connect
biospecimens
and clinical data

3. Provide
biospecimen
access to research
community

The screenshot displays the NCTN Navigator website. At the top, the National Cancer Institute logo and name are visible, along with the text "at the National Institutes of Health | www.cancer.gov". The main content area shows a search interface with "76,767 Participants" and "653,979 Specimens" counts. A prominent red "View Results" button is highlighted. Below this, a "Query" section shows a list of results, with "Primary Diagnosis" selected. A video player is overlaid on the search results, showing a play button and a progress bar at 0:15 / 0:39. To the right, a login section titled "Powering Next Generation Cancer Research NCTN NAVIGATOR" includes a welcome message, a login form with "Username" and "Password" fields, and a "Log in" button. Below the login form are links for "Can't Access Navigator?" and "Guest Access". At the bottom, a "SCIENTIFIC IMPACT" section titled "Clinical Trial Biospecimen Utilization" features three articles with images and titles: "MicroRNA expression in cytogenetically normal acute myeloid leukemia" (New England Journal of Medicine), "Improved survival of patients with human papillomavirus-positive head..." (Journal of the National Cancer Institute), and "The genetic basis of early T-cell precursor acute lymphoblastic leukemia" (Nature). A fourth article, "Increased EGFR gene copy number detected by FISH predicts outcome in..." (Journal of Clinical Oncology), is partially visible on the right. At the bottom center, a large statistic reads "3,209,756 Total Publications Using NCTN Biospecimens" with the date "As of November 5th, 2013".

NATIONAL CANCER INSTITUTE National Cancer Institute at the National Institutes of Health | www.cancer.gov

76,767 Participants 653,979 Specimens View Results

Next Element: Intervention Type Query Expand All Close All

Trials

Primary Diagnosis Match Criteria ANY ALL

Adenoma - Villous

Intervention Type

Study Design

Arm

0:15 / 0:39

Powering Next Generation Cancer Research NCTN NAVIGATOR

Welcome to Navigator, a comprehensive index & request tool for biospecimens collected from NCI's clinical trials. Please log in using your NCI Credentials.

Username Password Log in

Can't Access Navigator? | Guest Access

Interested In Learning More? Visit Our FAQ

SCIENTIFIC IMPACT Clinical Trial Biospecimen Utilization

MicroRNA expression in cytogenetically normal acute myeloid leukemia New England Journal of Medicine

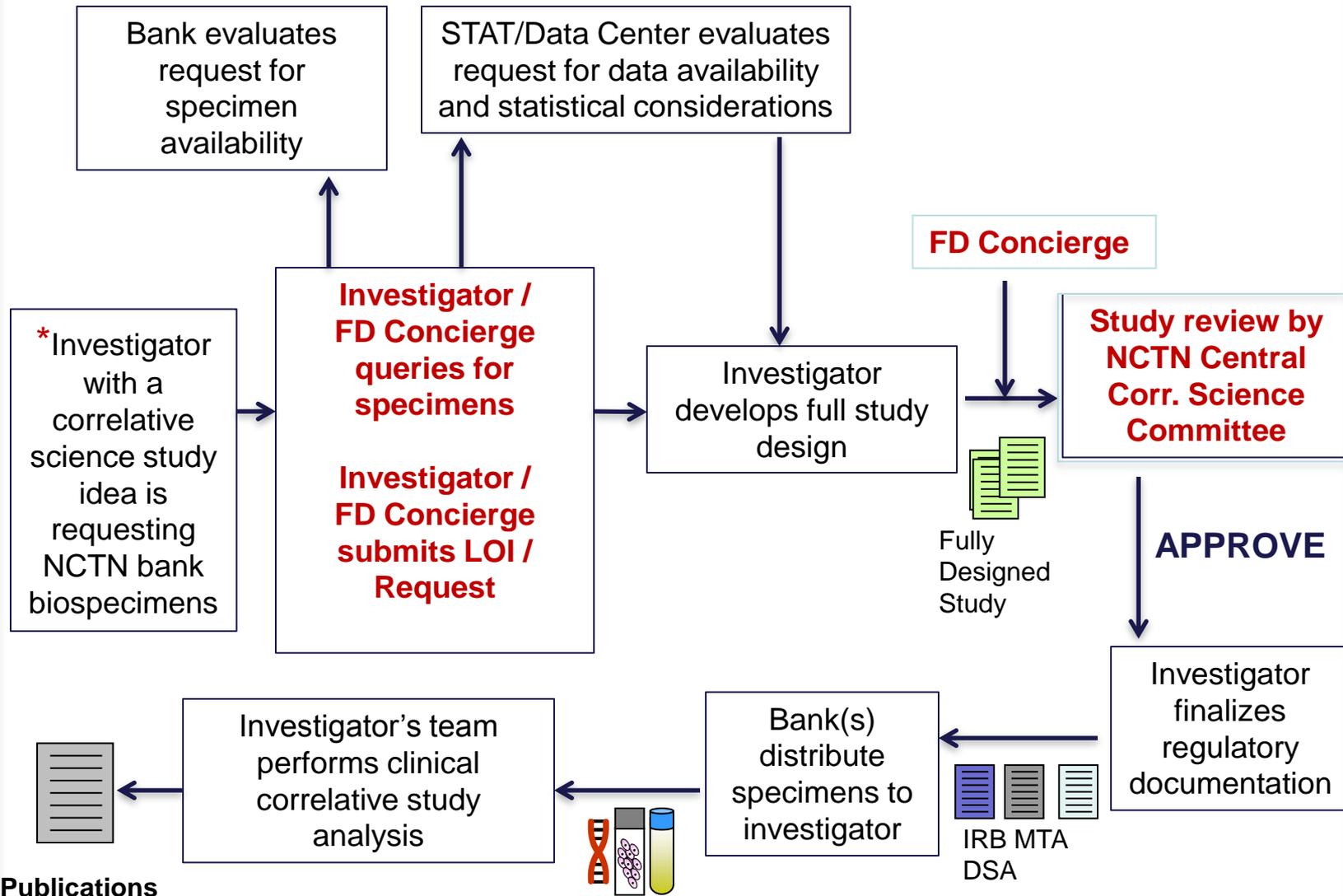
Improved survival of patients with human papillomavirus-positive head... Journal of the National Cancer Institute

The genetic basis of early T-cell precursor acute lymphoblastic leukemia Nature

Increased EGFR gene copy number detected by FISH predicts outcome in... Journal of Clinical Oncology

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'Front Door (FD)' NCTN Biospecimen Request Process



New U24 Banking RFA

- **Consolidated NCTN biospecimen banking network**
- **One U24 banking grant for each new NCTN Group (5 awards)**
- **Grant PIs - specialists in biospecimen banking**
- **ALL solid tumor & leukemia banking infrastructure & operations with common SOPs**
- **NCTN Biospecimen IT Navigator: common inventory; specimen-data link; access for researchers; monitoring**
- **Centralized Front Door process: access to “legacy” specimens; application tracking, timekeeping**
- **One bank to collect, store & distribute biospecimens from ET-CTN trials**

U24 Banking RFA Budget

- **Portfolio analysis: no similar resource at the NCI**
- **5 awards to support 5 NCTN Biospecimen Banks**
- **Total cost for 5 banks per year:** **\$11.75M**
 - **Banking Operations/Infrastructure:** **\$9.68M**
 - **Banking IT + IT Navigator Maintenance:** **\$1.32M**
 - **Banking Early Phase Clinical Trial Specimens:** **\$0.75M**
(restricted funds)
- **Total cost for 5 banks over 5 years:** **\$58.75M**