NCI Small Cell Lung Cancer Consortium

State of the state
2018

Charles Rudin MD PhD

Memorial Sloan Kettering Cancer Center
Goals of the Center

- Facilitation of data exchange and meetings among investigators
- Centralized database support for SCLC research
- Characterization of and access to relevant preclinical models

**Aim 1: Communication**
- Website
- Monthly WebEX
- Annual meeting: (NCI, IASLC, alternating years)

**Aim 2: Analytics**
- cBioPortal (omic data)
- Vanderbilt CQS (clinical correlates)

**Aim 3: Models**
- GEMMs
- Cell lines
- PDX/CDX
- TMAs
NCI SCLC “Consortium”

U01

Patrick Nana-Sinkam/ James Lee
Extracellular vesicles

U01

U24
Coordinating Center

U01

J.T. Poirier
DLL3-targeted theranostic

U01

Kwok-Kin Wong
Nathanael Gray
CDK7/12 targeting

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Components of the U24 Coordinating Center

**Cell line resources**
- Minna Gazdar

**Clinical correlates database**
- Shyr Berry

**Coordination**
- Forry
- Szabo
- Ujhazy

**Tissue microarrays**
- Dowlati

**GEMM models**
- Jacks

**PDX/CDX models**
- Farago

**Molecular profiling**
- Berger
- Taylor
- Schultz
- Shen

**PDX models**
- Rudin
- Poirier

**GEMMs**
- Ventura
- Lowe

**UT Southwestern Medical Center**

**Vanderbilt University**

**Case Western Reserve University**

**Memorial Sloan Kettering Cancer Center**

**cBioPortal** for Cancer Genome
Aim 1: Communication

1. Website

NCI Small Cell Lung Cancer Consortium

For Research Scientists / Research Programs / Extramural Collaborations
NCI Small Cell Lung Cancer Consortium

Specific Aims

Members

Contact

Research Projects

SCLC Consortium Clinical Portal

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The goals of this coordinating center include facilitating information exchange among investigators in the NCI Small Cell Lung Cancer (SCLC) Consortium, supporting data integration and data analysis, and serving as a central resource for characterization and distribution of model systems. By providing these resources, and by coordinating frequent data-sharing opportunities and leading annual face-to-face meetings among SCLC investigators, we believe this center can substantially accelerate progress against this deadly disease.

3. Monthly WebEx

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2. Annual meeting

SMALL CELL LUNG CANCER RESEARCH CONSORTIUM MEETING

Meeting Agenda
March 14-16, 2018
MEMORIAL SLOAN KETTERING CANCER CENTER
5170 Medical Center Drive
Room 1054, 37th Floor

Thursday, March 15, 2018

OPENING SESSION
Welcome and Introductions
Suzanne Forero, Lee Sobe, Peter Urry
SCLC Consortium Clinical Portal
Vanda Shukla

DISCUSSION
3:00 - 4:30

BREAK
MEGACELLULAR PATHOLOGY
Cell Line Genomic Profiling and Molecular Signatures
Biologic Mechanisms of Disease
Extramural SCLC Cell Line
DISCUSSION

LUNCH
DETECTION
Tumor RNA and Extracellular Vesicles
Proteomic and Genomic Approaches to Imaging and Targeting SCLC DISCUSSION

BREAK
ONE-OFFMENTS AND TUMOR MODIFIABILITY
Sequential and Concurrent Therapies
Targeting ASCL1 and Stem Cells
MRNA Instability and COM/CON Tumor DISCUSSION

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Aim 2: Analytics

- **Consortium members**
  - Vanderbilt
  - MIT
  - MGH
  - UT Southwestern Medical Center
  - Case Western Reserve University
  - National Cancer Institute

- **Distributed pipeline**
  - Raw genomic data
  - Mutation calling
  - Variant annotation
  - Hotspot detection
  - Mutational signatures
  - Copy-number calling

- **Annotated genomic data**
  - cBioPortal for Cancer Genomics
    - Frequent data updates
    - Maintenance
    - User training and support
    - New feature development

- **Clinical annotation**

- **Secure access for analysis and visualization**
Current SCLC resources in cBioPortal

- www.cbioportal.org/sclc

Coming soon –
- WES data from MSKCC
- CDX models from MGH
- Cell line data from UTSW
- TMA tumors from CWRU
Aim 3: Models

- Cell line repository at UTSW
  - Over 105 SCLC lines
  - Mutational, expression, and proteome profiling
  - Comprehensive drug sensitivity screen (Teicher)

- PDX and CDX models at MSKCC and MGH (and elsewhere)
  - Rapidly emerging resource with CDX at MGH (Farago/Drabkin/Dyson)
  - Chemosensitive and chemoresistant pairs
  - Additional models (MDACC, U Manchester)

- GEMM models
  - Recent informative models from UTSW (Johnson), Utah (Oliver), and Stanford (Sage)
  - Multiple models being generated by others
Where we might invest some resources/effort (among other areas)

- Improving human data collection/annotation/display
  - Incorporation of additional datasets – tumors and models
  - Consistent clinical annotation
  - Gene expression / Methylome / Proteome…

- Mouse model database
  - A GEMM working group
  - Annotation of existing/emerging models
  - A cBioPortal for GEMMs
    - Genomic/RNA/proteomic datasets

- Please, let’s think about this over the next couple days