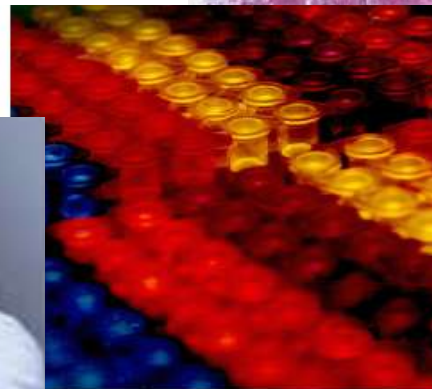
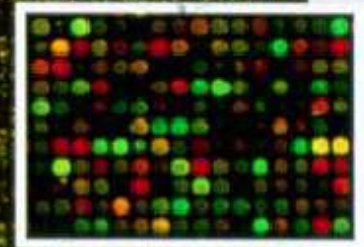
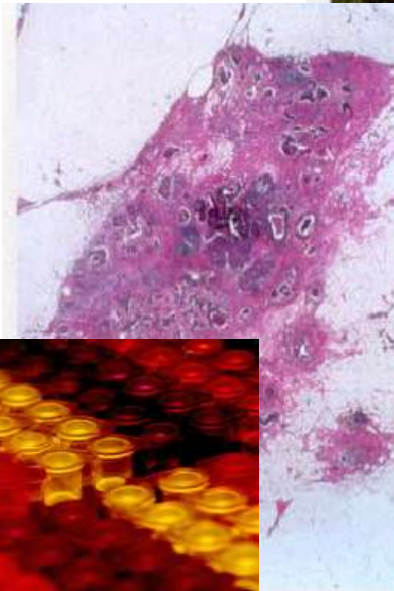
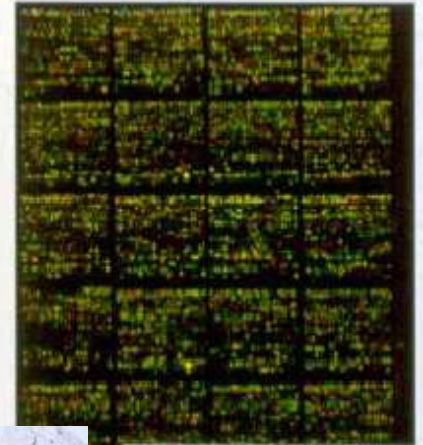


# Biobanks and Scientific Research

Dr. Beáta Scholtz  
*Debrecen Clinical Genomics Center*



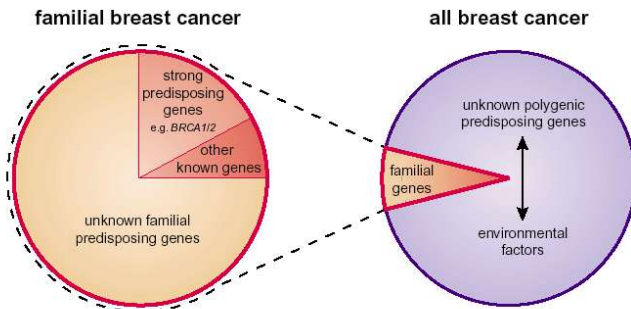
# Human biobanks for scientific research



Focus on specific disease

Complex pathomechanisms

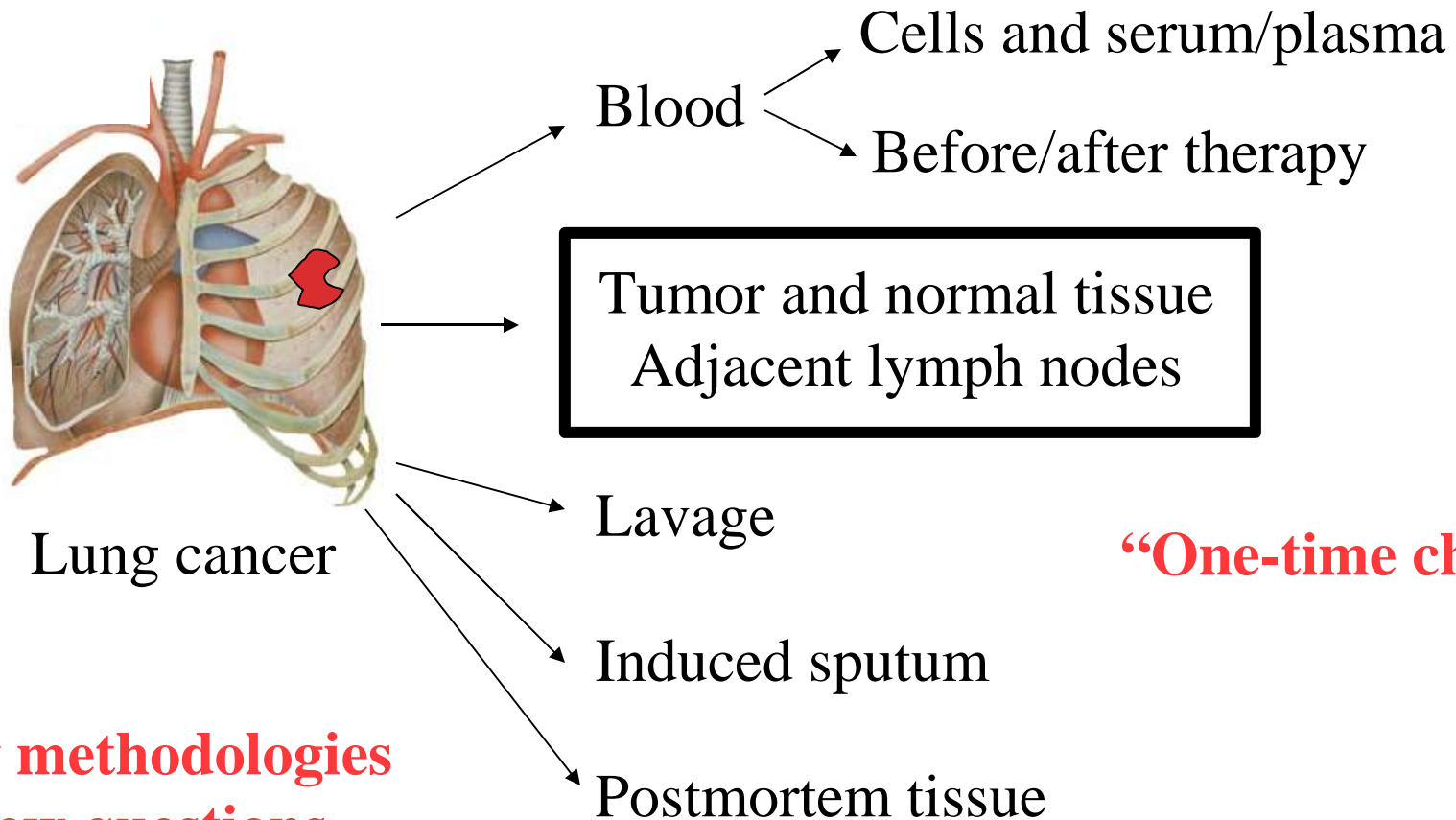
“Outbred” human population



Large number of biospecimens needed:  
Hundreds or thousands of samples

# COMPLEX DISEASES

Comprehensive sample collection



**“One-time chance”**

**New methodologies**  
**New questions**

# COMPLEX DISEASES

Diversified sample processing

Microarray  
analyses

Genetic  
polymorphisms

Histology

Proteomics



Standard molecular biology

# COMPLEX DISEASES

Comprehensive sample collection

Diversified sample processing



International Society for  
Biological and Environmental  
Repositories

<http://www.isber.org>

## What Can ISBER Provide for You?

- ▶ **Forum** to address repository management issues
- ▶ **Place** to communicate and share ideas
- ▶ **Forum** for information about managing the data associated with stored specimens
- ▶ **Access** to expertise
- ▶ **Forum** to increase awareness of regulatory requirements
- ▶ **Source** of technical information and vendor resources
- ▶ **Assistance** with human subject and confidentiality issues

# COMPLEX DISEASES

Comprehensive sample collection

Diversified sample processing

- **BEST PRACTICES (a collection)**
- **Links to discussion forums**
- **List of Hungarian core facilities or researchers with relevant expertise**



**Will be posted on GKEE Biobank Homepage,  
and updated regularly**



# Centralization and Networking

Traditional biobank  
maintained in  
researcher's lab

**Time, manpower,  
cost**



- Tissue Core Facilities
- Tissue procurement organizations
- National biobank networks
- International biobank consortia

Standard operating procedures

Established teamwork

Flexibility - commissioned research

Comprehensive clinical data collection

**Independent, long term funding!**

# Biobank Networks

2002-2005

**TuBaFrost Project**



**European Frozen Tumor  
Tissue Biobank**



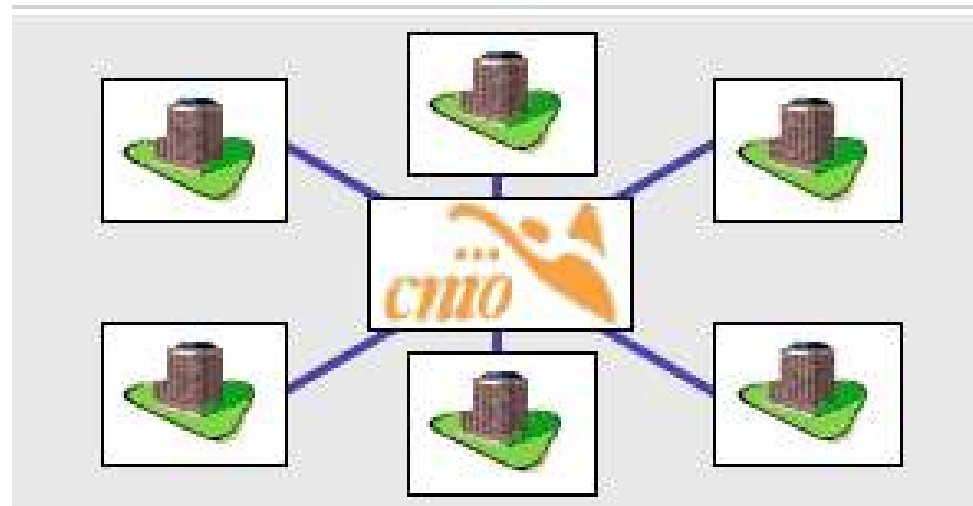
EU-funded development  
One central database - multiple  
locations

Committed to improve  
methodology and bioinformatics  
support



# Spanish National Tumor Bank Network

<http://www.cnio.es>



“Virtual” biobank  
Samples stored at hospitals  
Shared protocols  
Government funding and donations  
Accessible for Spanish researchers

# Centralization and Networking

## GKEE Consortium - Biobank Homepage

Registry of existing biobanks

Description of sample collection

Research objectives

Contact person

One-time collection of information

Timely addition of data on new collections

Biobanking community:

Increase awareness of biobanking issues

Foster exchange of ideas

Promote collaborations and networking

# Clinical Databases

Disease and project specific data collection

Oncologists, pathologists, researchers:

# Questionnaires

# Case Report Forms

## **GKEE Consortium Biobanking:**

# Collections or sources of questionnaires and CRFs on homepage

## eCRF database

Patient code:	0321
Study:	Ciphergen & Genetics

Protocol	Valid
Vital statistics	Valid
Pulmonary function tests	Valid
Symptoms	Valid
Other diseases	Valid
Medication	Valid
Blood tests	Valid
Urine tests	Valid
Alpha-1 antitrypsin	Valid

Back

# Biobank Databases

Disease and project specific  
**data collection**

Oncologists, pathologists,  
researchers:

# Questionnaires

# Case Report Forms

**Data warehousing**

Donor privacy: anonymization

Data safety

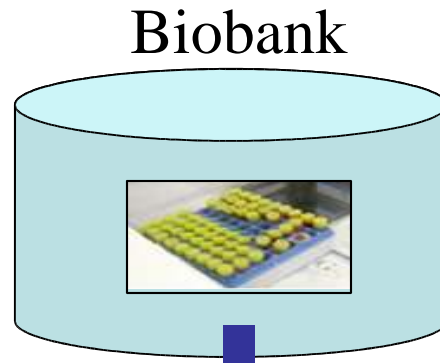
Integration of multiple LARGE  
datasets

## **GKEE Consortium Biobanking:**

Collect information on successful developments

Contact persons

# BIOBANKS = TREASURIES



**GKEE Consortium**

Knowledge base and  
forum

Research



Better Diagnosis



Better  
Treatment



Better  
Therapies



Better Outcomes



Thank you for your attention

**Happy Biobanking!**