

Cancer biobanking : the European perspective

EORTC-NCI-ASCO Meeting on Molecular Markers in Cancer

Brussels, November 15-17, 2007

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& School of Medicine. Université de la Méditerranée

Cancer biobanking : a quite distinct issue from population-based blood sample collections

- Tumour tissues are obtained during surgical procedures that tend to produce smaller tissue fragments as diagnosis of cancer is made earlier
 - Cryopreservation of tumour tissues in the own interest of the patient, and constitution of collections of biological resources for science
- Rapid establishment of cancer diagnosis and selection of tissue fragments to be cryopreserved are performed by highly trained pathologists
 - Primary tumour, peri-tumoral tissues, lymph nodes and other distant tumour sites
- Rapid degradation of sub-cellular species such as RNA preclude long distance shipping before cryopreservation
 - Ideally less than 30' before freezing
 - Improvement in reagents used for intermediate preservation (RNAlater, ...) ?



Issues to be cleared

- Many hospitals have established tumour banks
 - Heterogeneity in professional practices / heterogeneity in biological materials
 - Tumour banks for patients vs tumour banks for sciences
 - In the first situation, the tumour sample is part of the patient medical file
 - In the second situation, the tumour sample is part of a collection that should be made accessible to scientists, upon certain conditions
- Patient consent / patient denial
- Association with accurate / up-to-date clinical and biological data
 - How much information ?
 - To answer which question ? (project dependent)



Cancers as orphan diseases !

- Addition of numerous biological and clinical criteria to define more homogeneous groups of patients results in smaller patient populations !
 - Splitting cancers in numerous entities
 - Individualized treatments / Individualized diseases !
- Increasing difficulties for one tumour cell bank to establish a collection with a significant number of biological samples
 - Network biobanks
 - Example : EuroBioBank
 - Rare cancers





Local and regional initiatives

Specimen tracking & management

For each specimen

- Laboratory code number
- Date and time of collection
- Tipe of specimen (tissue, blood, etc.)
- Quantity and quality of tissue
- Fixation procedure
- Freezer and storage location
- Specimen utilization

ANAGRAFICA STORIA CLINICA DATI GENETICI NUOVA RICERCA
PRELIEVI DATI GESTIONALI CONGELAZIONE ESCI

Nuovo prelievo
Questo paziente ha effettuato 1 prelievi

Prelievo nr. 03/M447	Diagnosi: Patologia Mammaria	Frazione
Data di arrivo: 17/10/2003	Data di inserimento: //	
Intervallo dal prelievo: //		
Situazione clinica: Tumore primitivo	Tipo di sito: //	
Diagnosi clinica: Patologia Mammaria	Tipo prelievo: tessuto	
Tipo di campione: Tessuto neoplastico	Nr. istologico: S03-14445	Frazioni ricavate: 1
Quantità: 420 mg	Qualità: Buono	
Provenienza prelievo: //		
Note: //		

Prelievo nr. 1

Operatore: Veneroni Data inserimento: //

Numero di prelievo: 03/M447

Data di arrivo: 17/10/2003 Intervallo dal prelievo: // (minuti) Intervallo non determinabile

Situazione clinica: Tumore primitivo

Diagnosi clinica: Patologia Mammaria

Tipo di prelievo: Tessuto Tipo di intervento: //

Provenienza prelievo: //

Tipo di campione: Tessuto neoplastico

Numero istologico: S03-14445

Quantità: 420 u.m. mg

Qualità macroscopica: Buono

Numero di frazioni ricavate: 1

Path immagine: file://S03-14445.pdf

Note: //

Stampa Cancella Salva

FRAZIONI del prelievo
Questo prelievo è stato suddiviso in 1 frazioni

Frazione nr. 1	Data di arrivo: 17/10/2003
Quantità iniziale: 420 mg	Manipolazione: SPEZZETTAMENTO
Materiale ottenuto: CONGELATO	Quantità ottenuta: //
Operazione: Veneroni	Nr. aliquote iniziale: //
Stoccaggio: PEZZI IN SCATOLA	
Nr. aliquote ricavate: //	
Note: //	

Modifica

Frazione nr. 1

Operatore: Veneroni Data frazione: 17/10/2003

Quantità iniziale: 420 u.m. mg Manipolazione: SPEZZETTAMENTO

Materiale ottenuto: CONGELATO

Quantità ottenuta: 420 u.m. mg

Stoccaggio: PEZZI IN SCATOLA

Nr. aliquote iniziale: 1

Congelatore: UO 10

Colonna: 3

Luogo conservazione: Scatola 1

Posizione: Posizione

Note: //

Utilizza

Stampa Cancella Salva Annulla

Schema della scatola 1 della colonna 3 del congelatore 1

	1	2	3	4	5	6	7	8	9
A			03/M447/1						
B									
C									
D									

Stampa Salva Annulla

Utilizzo nr. 1

Operatore: Veneroni Data utilizzo: 10/06/2004

Quantità iniziale: 420 u.m. mg

Quantità prelevata: //

Rimanenza: //

Aliquota totalmente utilizzata: NO SI

Richiedente: //

Stampa Cancella Salva Annulla

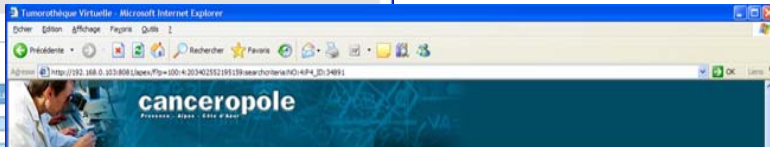
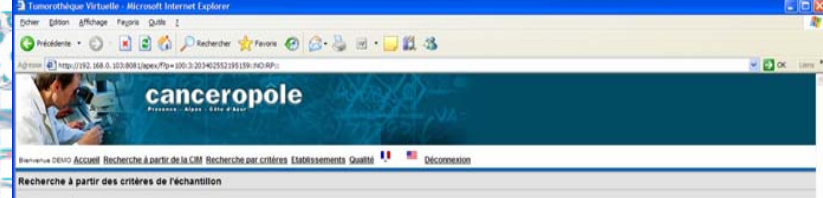
Courtesy of Maria Grazia Daidone - mariagrazia.daidone@istitutotumori.mi.it
Experimental Oncology Department.
Fondazione IRCCS - Istituto Nazionale dei Tumori
Milan



Building up a common catalogue for collections hosted in the three tumour cell banks within the cancéropôle PACA

- Three partners
 - Nice University Hospital (CHUN) & regional cancer research centre (CAL)
 - Marseille University Hospital (AP-HM)
 - Marseille regional cancer research centre (IPC)
- Coordination task force
- A common set of essential minimal data to be shared
 - DHOS/INCa listing
 - Pre-defined format
- A pilot product designed by the ModulBio company





Recherche

Chercher

Nettoyer la page

0 échantillon(s) trouvés.

Information site

Site de gestion: Institut Paoli-Calmettes

Informations patient

ID patient:

Intervalle d'âge:

Sexe: Masculin

Condition: Vivant

Informations maladie

Diagnostique principal: C19.00

Version cTMM: 3

Informations prélèvement

Type d'échantillon biologique conservé:

Ressources biologiques associées:

Fiche de réchantillon

Echantillon n° 34891 Précédent


Informations patient		Informations maladie		Informations prélèvement	
Site de gestion	Institut Paoli-Calmettes	Diagnostique principal	C27.00	Site de stockage	Institut Paoli-Calmettes
ID patient	9900117	Date de diagnostic	19990120	ID prélèvement	9653
Date de naissance	19291112	Version du cTMM utilisé	X	Date du prélèvement	19990120
Sexe	Homme	T cTMM (suite de la tumeur)	X	Type de prélèvement	Pièce opérée
Condition	Vivant	N cTMM (ensemblement gendopneux)	X	Classification utilisée	C10
Date de dernière nouvelle	20030110	M cTMM (extension métastatique)	X	Code origine	C27.0
				Type Maladeuse histopathologique	96983
				Type d'échantillon	Tumeur primitive
				Version du pTMM utilisé	X
				T pTMM (suite de la tumeur)	X
				N pTMM (ensemblement gendopneux)	X

Tissus et / ou cellules tumorales		Tissus et / ou cellules non tumorales		Ressources biologiques associées	
Prélèvement tumoral	Oui	Prélèvement non tumoral	Oui	Sérum	Non
Mode de conservation	Azote liquide	Mode de conservation	Congélation à -80°	Plasma	Non
Type d'échantillon	Tissus	Type d'échantillon	Tissus	Liquides	Oui
Mode de préparation	Inconnu	Mode de préparation	Inconnu	ADN constitutif	Oui
Date de congélation	Inconnu	Date de congélation	Inconnu		
Contrôle sur frozen	Inconnu	Contrôle sur frozen	Inconnu		
Quantité	0	Quantité	0		
Daté utilisé	-	Daté utilisé	-		
Pourcentage de cellules tumorales	0%	ACR dérivé	Non		
ADN dérivé	Non	ARR dérivé	Non		
ADN dérivé	Non	Problèmes dérivés	Non		
Problèmes dérivés	Non				

Renseignements complémentaires

CRK métastatopathologique standardisé requis	Non
Données cliniques disponibles dans une base	Non
Inclusion dans un protocole thérapeutique	Non
Nom du protocole	

Image de la tumeur



Echantillons de même patient

0 échantillon(s) trouvés.

Fiche de l'établissement et / ou de centre de stockage

INSTITUT PAOLI-CALMETTES

Informations

Éditeur: Institut Paoli-Calmettes

N° FR 55: 130001647

Abréviation: IPC

Adresse: 222 Boulevard de St Marguerite B.P. 156

Code postal: 13273

Site: Marseille

Site web: <http://www.institutpaolicalmettes.fr>

Rapport d'activités: Consulter

Liste des échantillons

Gérés par cet établissement (4875)

Stockés par cet établissement (4875)

Importer des échantillons

Contacts

Nouveaux contacts

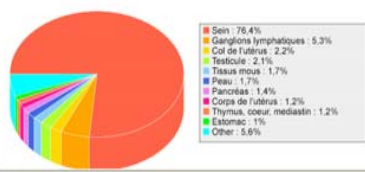
Dr Christian Chabannon

chabannon@marcelle.fr

Amélie Honstetter

honestetter@marcelle.fr

Prélèvements majoritairement conservés par organes




Results

- The system is working !
- But ... reveals huge caveats !
 - High frequency of missing data and data in incorrect format for samples that have been collected during day-to-day medical practice, outside of a pre-established biomedical or scientific research project
 - Need for improved quality of clinical and biological databases
 - More manpower !





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Welcome to Wales Cancer Bank

The Wales Cancer Bank aims to collect samples of tumour, normal tissue and blood from all patients in Wales who are undergoing an operation to remove tissue where cancer is a possible diagnosis. These samples will be banked to build up a research resource that will be used by research groups to help understand the molecular mechanisms involved in cancer and work towards the selection of optimum targeted treatment for individuals.

[Click here](#) to download the March 2007 Newsletter.

[Read the Wales Cancer Bank Annual Report](#) →

[Current Vacancies](#) →

[Biosample Search](#) GO >>

For Researchers

[Click here for information on how to apply for tissue](#)



Latest News

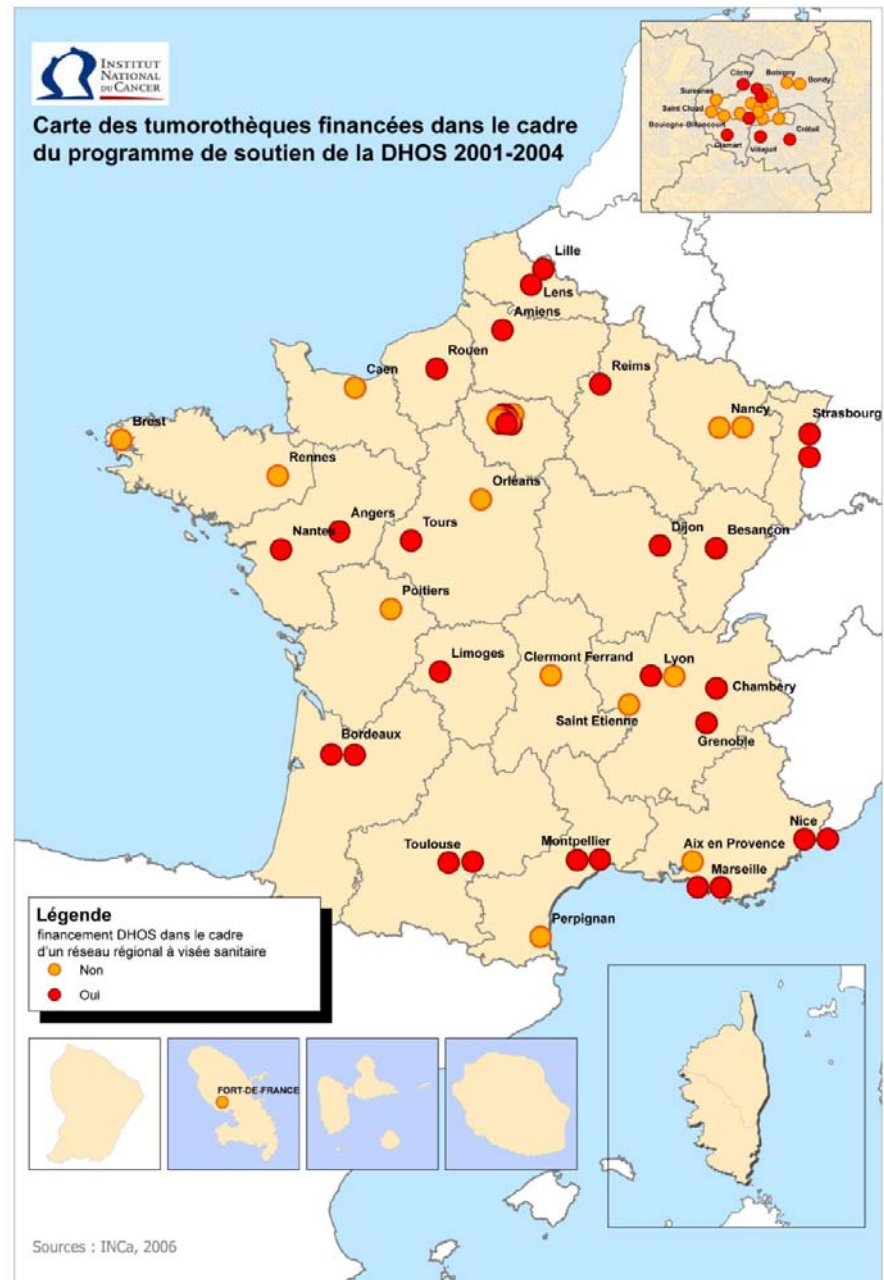




National initiatives

Financial support to French Tumour banks (DHOS, INCa)

- 2001-2005
- Re-structuring : infrastructures, equipment, personnel ...
- Yet still insufficient in most tumour banks :
 - To overcome structural problems associated with hospital day to day
 - to fulfill other than local needs and become a true “BRC in Oncology”

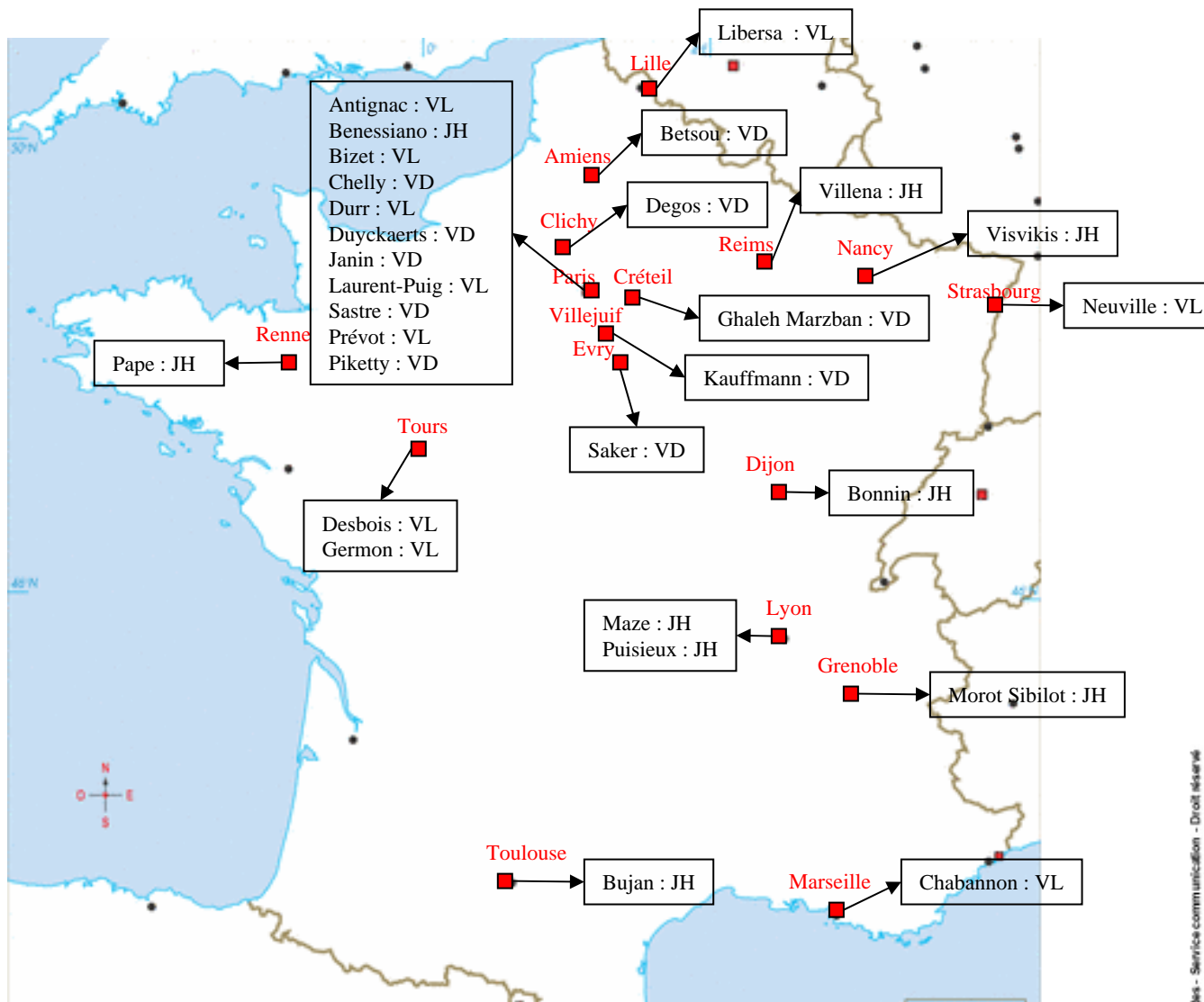


Quality insurance in French biobanks

28/29 putative BRC that are financially supported by the National Agency for Research agreed for a pre-audit

39 storage sites were visited in 2007

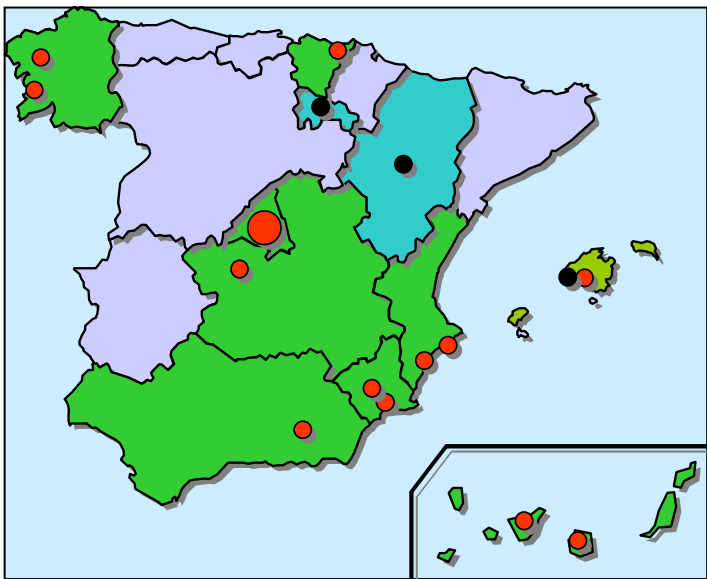
Inserm



I: CNIO Tumour Bank Network

SPANISH NATIONAL TUMOR BANK NETWORK

The Network currently includes a total of **21 Hospital Centres** (8 autonomous regions) and the **CNIO itself**, plus another 2 Hospital Tumour Banks presently in progress.



Madrid	Hospital 12 de Octubre Hospital Clínico de San Carlos Hospital Gregorio Marañón Hospital La Paz Hospital Puerta de Hierro Hospital Ramón y Cajal Fundación Hospital de Alcorcón Hospital Ernest Lluch, Móstoles Hospital Severo Ochoa, Leganés MD Anderson Spain (Madrid)
Castilla - La Mancha	Hospital Virgen de la Salud (Toledo)
Basque Country	Inst. Oncológico de San Sebastián
Galicia	Hospital Xeral-Cies de Vigo Hospital Clínico de Santiago
Canary Islands	Complejo Hospitalario Dr. Negrín Hospital Univ. La Candelaria
Murcia	Hospital Virgen del Rosell (Cartagena) Hospital Morales Meseguer (Murcia)
Andalucía	Hospital V. de las Nieves (Granada)
Baleares	Hospital Son Dureta (Palma Mallorca)
National Centre	CNIO
In Progress	Hospital S.Millan / S.Pedro (Logroño) Hospital Miguel Servet (Zaragoza)

2: CNIO Tumour Bank Network

The Spanish National Tumour Bank Network (SNTBN), created and coordinated by the CNIO's Molecular Pathology Program from September-2000, aims to satisfy the demand of human neoplastic tissue under ideal conditions for the development of large-scale studies of clinical significance in Spain, and for small high quality series for basic researchers.

As a National Centre, our first goal is to promote high-quality Tumour Banks within every Spanish hospitals .

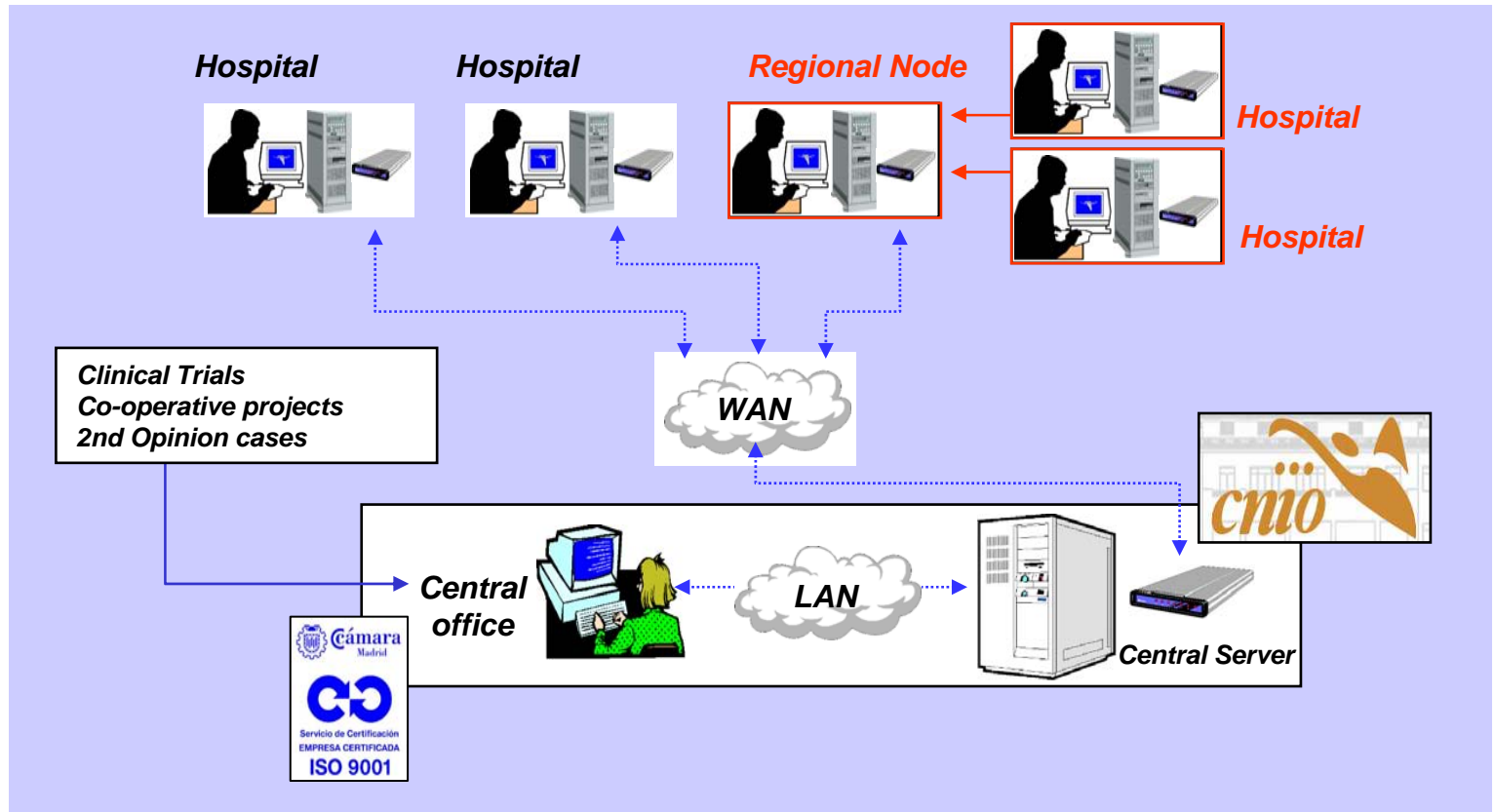
Those banks are invited to participate in a collaborative network based on homogeneous procedures for the collection, processing and storage of neoplastic and normal tissue samples.

A region-based structure is very welcome



3: CNIO Tumour Bank Network

Our model does not correspond to a Central Tumour Bank, but to a *co-operative and coordinated Network of Hospital Banks*, based on homogeneous and optimal tissue-treatment protocols, and *interconnected* by a computer-based network.



4: CNIO Tumour Bank Network

CNIO TB-Unit plays the role of central coordination office that means a guaranty for...



- *Confidentiality*
- *Stability*
- *QA/QC policy*
- *Homogeneous protocols*
- *Stable recognition by Research Agencies and Ethic Review Boards*
- *Leadership*

*... the so-called "**HONEST BROKER**" design*



But Hospitals are the main players in this design



Serving as a national cancer biospecimen and information resource to enable research towards the development and discovery of new interventions against cancer

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Search GO

Healthcare Professionals

This section provides information on the pivotal role played by Healthcare Professionals to the success of onCore UK's mission.




Researchers

This section provides information about the services onCore UK will provide to cancer researchers.

Donors

This section provides information about the services onCore UK will provide to cancer researchers.




Ethics & Governance

This section provides information on the Ethics upon which onCore UK is founded and the standards to which it will operate.

Policies and Practices

This section contains onCore UK policies and procedures which are available for others to...



Press Release
Wednesday 5 September 2007
"National Cancer Tissue Bank now open for Donations"

[Click here to view BBC Article](#)
[Click here to view Daily Mail Article](#)
[Click here to view CRUK Article](#)

Joint NCRi Informatics & NCICB workshop
12&13 July 2007

[Click here to view pdf.](#)
[Click here to view presentations](#)

NCRi Late Phase Clinical Trials Forum
5 July 2007

[Click here to view link](#)

NCRi Cancer Conference 2007

onCore UK will exhibit at the NCRi Cancer Conference 2007 at the ICC in Birmingham 30th September - 2 October 2007

[Click here to view details](#)

Jobs



European initiatives

European initiatives

Tubafrost - Microsoft Internet Explorer

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Adresse <http://www.tubafrost.org/>

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Welcome to Tubafrost

The European Human Tumor Frozen Tissue Bank

In this web site you will find the central European database collecting the information of frozen tumor tissue specimens. In addition, a complete description of our intentions, how to join as collector or as scientist looking for tumor samples and how to use this facility is given. Our goal is by centralizing the tumor tissues information to facilitate the search of doctors/researchers for tumor tissues, which they need for their cancer research therewith facilitating cancer research.

Who are we ?
We are a group of pathology and research departments based in hospitals across Europe. Each hospital is involved in one or more of the following areas:

- The care of cancer patients
- Research into how cancer develops
- Research into new cancer treatments

What is the benefit for the patient ?
The main reason for collecting tissue samples is to find new ways of diagnosing and treating cancer. The benefit to the donor are few. The main benefit is to future cancer patients.

What is the benefit for the researcher ?
The scientist/doctor who collects the sample is taking part in an international scheme to support future research in to diagnosis and treatment of cancer. The scientist/doctor who uses the sample will know that the tissue they receive is of high quality because of the international standards which all hospitals in the TuBaFrost group agree too.

Webdesign & development by [Spiritus bvba](#)

Save the tissues

Our founding members

CRO Aviano

Our sponsors

THE FIFTH FRAMEWORK PROGRAMME
1998-2002

QUALITY OF LIFE AND
MANAGEMENT OF LIVING RESOURCES

OECI
ORGANIZATION OF EUROPEAN CANCER INSTITUTES

Terminé Internet

Démarrer B. P. C. G. A. M. C. C. R. O. E. E. R. a. T. FR 14:20

European initiatives

EuroBioBank - European Network of DNA, Cell and Tissue banks for Rare Diseases - Microsoft Internet Explorer

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Adresse <http://www.eurobiobank.org/index.jsp>

EuroBioBank **TREAT-NMD** **Contact us** **Language**

European Network of DNA, Cell and Tissue banks for Rare Diseases

November 2007 - Biobanking and Biorepositories Conference
13-14 November 2007
Holiday Inn, Munich City Centre (Germany)

For an easy access to quality human biological resources for rare diseases

Our sponsors: **PromoCell** **Deutsche Gesellschaft für Muskelkranke** **AFM**

Designed and maintained by Teamlog and HC Forum 03881 visits since March 06 © EuroBioBank 2002-2007

European initiatives

European Biobanks | UNITED FACILITY

THE FACILITY | BACKGROUND | ABOUT BIOBANKS | ROADMAP | PARTNERS | CONTACT

THE FACILITY

A pan-European and broadly accessible network of existing and de novo biobanks and biomolecular resources. The infrastructure will include samples from patients and healthy persons (with links to epidemiological and health care information), molecular genomic resources and biocomputational tools to optimally exploit this resource for global biomedical research.

Partner and Stakeholder Meeting

Partner and Stakeholder Meeting in Vienna on March 17th. More detailed [info here](#).

Information Package

Information package describing the goals and structure of European Biobanks can be found in following [document](#).

Construction of new infrastructures - preparatory phase

Information can be acquired as [word doc](#) or [webpage](#).

Partner and Stakeholder Meeting >
Information Package >
Construction Of New Infrastructures >

Conclusion

- Needs for :
 - Standard definition for practices
 - Improved tools for sample identification, preservation and tracking
 - Better coordination
 - Between banks
 - Between local, national and European initiatives
 - But most importantly, good scientific projects !



Acknowledgements



Région



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 - Pr. Luc Xerri
 - Dr. Jocelyne Jacquemier
 - Dr. Geneviève Monges
 - Pr. Patrice Viens
 - Dr. Dominique Genre
 - Pr. Dominique Maraninchi
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 - Dr. Sylvie Romain
 - Pr. Dominique Figarella-Branger
 - Pr. Pierre Cau
 - Melle Marie-José Bonavita
 - Pr. Jean-Paul Bernard
 - Pr. Yvon Berland



- CHU de Nice
 - Pr. Paul Hofman
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- Modul-Bio SA
 - Mr. Laurent Jacotot
 - Mr. Philippe Vaglio
- Pôle de compétitivité SCS – Projet MISTRALS
 - Mr. Christophe Prior





AISBL International Non-Profit Association under Belgian law IVZW

