# **Supplementary material**Publications analyzed and description of biobanks

Typology of biobanks

Biobank or network	Location and ownership	Scope	Nature of contents	Financing arrangements
Europe				
Biobank Graz (Austria)	University hospital	D + P	Tissue, blood and derivatives	Mixed public funding
Bank of Biological Material (BBM)	First Faculty of Medicine of	D	Tissue, blood and derivatives	95% government, 5% institution
(Prague, Czech Republic)	Charles University	_		budget
Neuroinflammation Biobank in	University hospital Münster	D	Blood and derivatives, CSF	Investment 60% industry, 33% grants,
the Department of Neurology (Münster, Germany)				7% institution budget; running costs (including personnel) 28% industry,
(Funster, Germany)				34% grants, 38% institution budget
Erasmus Medical Center Tissue	University hospital	D	Tissue	institution budget, user fees
Bank (Rotterdam, Netherlands)				
BancoADN or Spanish National	University of Salamanca	D	Blood and derivatives	Public funding, institution budget
DNA Bank Carlos III (Salamanca,				
Spain)		_		
Centro National de Investigationes	Research institute	D	Tissue, blood and derivatives	Charitable funding, private and
Oncologicas Tumor Bank Network (CNIO) (Madrid, Spain)				commercial donors
Spanish HIV HGM BioBank	University hospital	D	Tissue, blood and derivatives	85% grants, 15% other
(SHIVBB) (Madrid, Spain)		-	o.oou and derivatives	6
Swietokrzyski Biobank (Chęciny,	Regional Science and Technology	Р	Blood and derivatives	100% institution budget
Poland)	Center			
Biobanco-IMM (Lisbon, Portugal)	Lisbon Academic Medical Center	D	Tissue, blood and derivatives	49% institution budget, 49% public
				targeted donation/foundation, 2%
		_	<b>*</b>	user fees
Uppsala Biobank (Sweden)	Uppsala University and Uppsala University Hospital	D	Tissue, blood and derivatives	90% institution budget, 10% user fees
Global Biobank of AstraZeneca	Pharmaceutical company	D	Tissue, blood and derivatives,	Corporate funding
(Sweden, UK)			others	
Nottingham Health Science	Nottingham University Hospital	D	Tissue, blood and derivatives	100% grants
Biobank (UK)	Trust			
Infectious Diseases Biobank (IDB)	Guy's Hospital	D	Blood and derivatives	75% grants, 25% other
at King's College London (UK)				
Wales Cancer Bank (Cardiff, UK)	Cardiff University	D	Tissue, blood and derivatives	Government and charitable funding
UK Biobank	Hosted by the University of	Р	Blood, others	Government and charitable funding
	Manchester			_
Abcodia (London, UK)	University College London	D	Serum	Venture capital, institution budget,
	spin-off			mixed public funding, charitable
Biobanking Solutions (Manchester,	University of Manchester	D	Tissue blood and deminatives	funding  Public funding and institution budget
UK), now Center for Integrated	Oniversity of Manchester	D + P	others	Public funding and institution budget
Genomic Medical Research				
(CIGMR) biobank				
Nottingham Arthritis Pain Center	University of Nottingham	D	Tissue, blood and derivatives,	Public funding and charitable funding
(NAPC) biobank (UK)			others	
Scleroderma and Raynaud's	University of Manchester	D	Tissue, blood and derivatives,	General research funds of principal
Research Tissue Bank (Manchester,	•		others	investigator, institution budget, public
UK)				funding
UK Brain Banks Network	Coordinated by the University	D	Tissue, blood and derivatives	Public funding and UK clinical
	of Edinburgh			research collaboration (research
				infrastructure)

Access arrangements	Cost recovery: access fees	Fee-for-service	Website	Reference(s)
Controlled	Handling	Yes	http://www.medunigraz.at/strategische- projekte/biobank	1
Controlled			http://biobanka.lfl.cuni.cz/en	2
			NA	3
Controlled	Tiered-fee schedule	Yes	http://www.erasmusmc.nl/pathologie/ tissuebank/?lang=en	4
Controlled	Tiered-fee schedule, price list available online	Yes	http://www.bancoadn.org/en	5, 6
Controlled	Fixed cost per case, additional charges for nonstandard procedures		https://www.cnio.es/ing/servicios/ biobanco/index.asp	6
Controlled	Shipping only		NA	7
			http://biobank.rcnt.pl/en	8
Controlled			http://biobanco.pt/?setLn=en	9, 10
Controlled			http://www.uppsalabiobank.uu.se/en	П
Controlled	Free to internal users, external access via collaborations only		NA	12, 13
Controlled	Tiered-fee schedule	Yes	http://nuhrise.org/nottingham-health- science-biobank	14
Controlled	Tiered-fee schedule	Yes	http://www.kcl.ac.uk/lsm/research/ divisions/diiid/about/facilities/biobank/ index.aspx	15, 16
Controlled	Fixed-fee schedule (handling, processing, data provided), price list available online	Yes	http://www.walescancerbank.com	17
Controlled	Fixed-fee schedule (administrative fee, data, samples), price list available online		http://www.ukbiobank.ac.uk	6
Controlled	Flexible contractual and financial arrangements	Yes	http://www.abcodia.com/serum_new.php	12, 13
Controlled	Flexible contractual and financial arrangements	Yes	http://www.population-health.manchester. ac.uk/biobanking	12, 13
Controlled	Cost recovery for commercial users.  Contracts drawn individually: costs calculated for users on an as-needs basis		https://www.nottingham.ac.uk/paincentre/research/epidemiologyandbiobanks.aspx	12, 13
Controlled	No charge		http://www.inflammation-repair. manchester.ac.uk/scleroderma/research/ tissuebank	12, 13
Controlled	Fixed-fee schedule (sample, administrative fee, packaging, shipping), price list available online		http://www.mrc.ac.uk/research/facilities- and-resources-for-researchers/brain- banks	12, 13

Biobank or network	Location and ownership	Scope	Nature of contents	Financing arrangements
Confederation of Cancer Biobanks (UK)	·	D	Tissue, blood and derivatives	Collaboration between biobanks, each with its own funding sources
EuroBioBank (EU)	Coordinated by Fondazione Telethon (Italy)	D	Tissue, derivatives, cell lines	European Commission, institution budget, charitable funding
Organization of European Cancer Institutes (OECI) – Tubafrost: European human tumor frozen tissue bank (EU)	<i>、,</i>	D	Tissue, blood and derivatives, cell lines	European Commission, public targeted donation/foundation
Biobanking and BioMolecular Resources Research Infrastructure: European Research Infrastructure Consortium (BBMRI-ERIC) (EU)	Headquarters in Graz (Austria)	D+P	Tissue, blood and derivatives, cell lines, others	European Commission, membership contributions
Picardie Biobank (Amiens, France)	University hospital	D+P	Tissue, blood and derivatives, cell lines	50% institution budget, 30% public funding, 13% research grants, 7% user fees
Necker-Enfants Malades Tissue Cell-Somatic-Genetics Bank (Paris, France)	University hospital	D		90% public funding, 10% institution budget
Jean Dausset Foundation: CEPH BRC (Paris, France)	Public research foundation	D + P	Blood and derivatives, cell lines	Public funding (Ministry of Health), research grants (from EU and National Institute of Cancer, INCa)
Quinze-Vingts National Ophthalmology Hospital BRC (Paris, France)	Hospital	D	Tissue, blood and derivatives, others	,
Bichat-Claude Bernard Hospital BRC (Paris, France)	Hospital	D + P	Tissue, blood and derivatives, others	70% research grants, 20% institution budget, 10% public funding
Grenoble University Hospital BRC (Grenoble, France)	University hospital	D		100% public funding
CRLCC Paul Strauss Biobank (Strasbourg, France)	Hospital	D + P	Tissue, blood and derivatives	50% institution budget, 50% research grants
EPIGENETEC Saints Pères BRC (Paris, France)	Public research institute	D	Tissue, blood and derivatives, others	50% research grants, 30% public funding, 15% institution budget, 5% others
Gene—environment interaction in cardiovascular physiopathology BRC (Nancy, France)	University	Р	DNA	50% research grants, 30% institution budget, 10% public funding, 10% private funding from industry
Institut Paoli Calmettes (IPC) oncology BRC (Marseille, France)	Cancer center	D	Tissue, blood and derivatives	70% institution budget, 10% public funding, 10% research grants, 5% private funding from industry, 5% public targeted donation/ foundation
REFGENSEP French Multiple Sclerosis genetic network (Paris, France)	Hospital	D	DNA, cell lines	30% institution budget, 30% research grants, 30% public targeted donation, foundation, 10% private funding from industry
Champagne Ardenne Tumor Bank (Reims, France)	Hospital	D	Tissue, blood and derivatives	90% public funding, 10% institution budget
ean Godinot Institute Tumor Bank (Reims, France)	Cancer center	D	Tissue, serum	74% institution budget, 26% public funding
AP-HM Marseille Hospitals Tumor Bank (Marseille, France)	Hospital	D	Tissue	40% institution budget, 40% public funding, 15% research grants, 5% public targeted donation/ foundation
CHU-CAL-UNSA Tumor Bank (Nice, France)	University hospital	D	Tissue, blood and derivatives, cell lines	70% institution budget, 20% research grants, 10% public funding
Cochin Hospital Tumor Bank (Paris, France)	Hospital	D	Tissue and derivatives	55% public funding, 45% institution budget

Access arrangements	Cost recovery: access fees	Fee-for-service	Website	Reference(s)
Controlled	Fixed-fee schedule (retrieving,		http://ccb.ncri.org.uk	6
	processing, and dispatching)  Varies by participating bank: processing and shipping fees apply		http://www.eurobiobank.org	6
Controlled	Provider negotiates directly with the requestor regarding cost compensation		http://www.tubafrost.org/index.php	6
			http://www.bbmri-eric.eu	18
	Tiered-fee schedule, free of charge for public sector	Yes	[Questionnaire]	NA
Controlled	No access fee or cost recovery		[Questionnaire]	NA
Controlled	Cost recovery not otherwise specified	Yes	[Questionnaire]	NA
Controlled			[Questionnaire]	NA
	Tiered-fee schedule, free of charge for		[Questionnaire]	NA
	public sector Tiered-fee schedule		[Questionnaire]	NA
Controlled	No access fee or cost recovery		[Questionnaire]	NA
	Cost recovery not otherwise specified	Yes	[Questionnaire]	NA
	Tiered-fee schedule, free of charge for public sector		[Questionnaire]	NA
	Tiered-fee schedule, free of charge for public sector		[Questionnaire]	NA
	Fixed-fee schedule		[Questionnaire]	NA
Controlled	No access fee or cost recovery		[Questionnaire]	NA
Controlled	No access fee or cost recovery		[Questionnaire]	NA
Controlled	Tiered-fee schedule		[Questionnaire]	NA
	Tiered-fee schedule, free of charge for		[Questionnaire]	NA
Controlled	public sector Tiered-fee schedule, free of charge for public sector		[Questionnaire]	NA

Biobank or network	Location and ownership	Scope	Nature of contents	Financing arrangements
Saint Etienne BRC - Tumor Bank (Saint Etienne, France)	University hospital	D	Frozen tissue, blood and derivatives	60% public funding, 30% institution budget, 10% research grants
Saint Louis Hospital Tumor Bank (Paris, France)	Hospital	D	Blood and derivatives	100% public funding
Ouest Atlantique-Thorax Biobank (Nantes, France)	Hospital	D	DNA	67% targeted donation/foundation, 16% institution budget, 13% research grants, 6% public funding
Nancy University Hospital BRC (Nancy, France)	University hospital	D	Tissue and derivatives	64% institution budget, 28% research grants, 8% others
BRC Toxoplasma (Reims and Limoges, France)	University hospital	D	DNA	65% institution budget, 30% research grants, 5% user fees
Clinical Research Center CIC 0204-CRB (Rouen, France)	University hospital	D	Blood and derivatives	100% institution budget
Ferdinand Cabanne BRC (Dijon, France)	Hospital	D	Tissue, blood and derivatives	71% public funding, 15% research grants, 11% institution budget, 3% user fees
COPACETIC study (Netherlands)	Managed by the Netherlands	D	DNA	100% research grants (EC FP7 program)
Asthma follow-up cohort (longitudinal) (Netherlands)	University	D	Tissue, blood, others	50% research grants, 30% public targeted donation/foundation, 10% institution budget, 10% private funding from industry
Asthma trios (TRIONL) (Groningen, Netherlands)	University	D	Blood and derivatives	50% research grants, 30% public targeted donation/foundation, 10% institution budget, 10% private funding from industry
Wheezing Illnesses Study Leidsche Rijn (WHISTLER) (Utrecht, Netherlands)	University	P		70% research grants, 20% institution budget, 10% private funding from industry
PIAMA Research Project (Utrecht, Netherlands)	University	P	Blood and derivatives	70% research grants, 10% institution budget, 10% public targeted donation/foundation, 10% public funding
Netherlands Cancer Institute (Amsterdam, Netherlands)	Hospital and research institute	D + P	Tissue, blood and derivatives	95% research grants, 5% institution budget
MDL: University Medical Center Nijmegen (UMCN) (Nijmegen, Netherlands)	University hospital	D + P	Tissue, blood and derivatives	40% institution budget, 30% public funding, 20% research grants, 5% private industry funding, 5% user fees
Amsterdam Cohort Studies (ACS) on HIV infection and AIDS (Netherlands)	University hospital	D	Blood and derivatives	50% public funding, 50% institution budget
Nijmegen Breast Cancer Frozen Tissue Bank (Netherlands)	Hospital	D	Tissue, blood and derivatives	100% institution budget
Etiologic Research into Genetic, Occupational and Environmental Risk Factors for Anomalies in Children (AGORA) (Nijmegen, Netherlands)	University hospital	D	Blood and derivatives	90% institution budget, 9% research grants, 1% public targeted donation/foundation
Genetic Modifiers of Traumatic Brain Injury Sequelae (Netherlands)	University hospital	D	DNA	100% institution budget
Brain Inging Genetics (BIG) (Nijmegen, Netherlands)	University	Р	DNA	90% institution budget, 10% research grants
Dutch Dyslexia Program (DDP), genetic component (Netherlands)	University	D	DNA	90% research grants, 10% institution budget

Access arrangements	Cost recovery: access fees	Fee-for-service	Website	Reference(s)
Controlled	Access fee depends on labor, consumables and reagents, etc. Price list available online	Yes	[Questionnaire]	NA
	Cost recovery not otherwise specified		[Questionnaire]	NA
	Tiered-fee schedule		[Questionnaire]	NA
Controlled	Tiered-fee schedule		[Questionnaire]	NA
Controlled	Tiered-fee schedule, price list available online		[Questionnaire]	NA
	No access fee or cost recovery		[Questionnaire]	NA
Controlled	Tiered-fee schedule	Yes	[Questionnaire]	NA
	Tiered-fee schedule		[Questionnaire]	NA
	No access fee or cost recovery		[Questionnaire]	NA
	No access fee or cost recovery		[Questionnaire]	NA
	Tiered-fee schedule, free of charge for public sector		[Questionnaire]	NA
	Tiered-fee schedule, free of charge for public sector		[Questionnaire]	NA
			[Questionnaire]	NA
	Cost recovery not otherwise specified		[Questionnaire]	NA
Controlled access: access committee			[Questionnaire]	NA
	Cost recovery: no charge for public sector and private not-for-profit organizations, charge for private for-		[Questionnaire]	NA
	profit organizations Tiered-fee schedule		[Questionnaire]	NA
	No access fee or cost recovery		[Questionnaire]	NA
Controlled access: data only			[Questionnaire]	NA
(not samples)			[Questionnaire]	NA

Biobank or network	Location and ownership	Scope	Nature of contents	Financing arrangements
International Multicenter ADHD Genetics Study, Dutch part: Image	University	D	DNA	90% institution budget, 10% research grants
NL (Netherlands) Family and Health Study (FHS)	University	Р	DNA	50% institution budget, 50% research
(Netherlands) Nijmegen Biomedical Study	University	P	Blood and derivatives, others	grants 100% institution budget
(Netherlands) Netherlands Cohort Study	University	P	Tissue, DNA	50% public targeted donation/ foundation, 30% research grants, 10% private funding from industry, 10%
Polygene Study (Netherlands)	University	D + P	Blood and derivatives	institution core funding 85% research grants, 10% institution budget, 5% private funding from industry
Netherlands Study of Depression and Anxiety (NESDA)	University	D + P	Blood and derivatives, cell lines, others	75% research grants, 25% institution budget
Netherlands Twin Register (NTR) (Amsterdam, Netherlands)	University	Р	Blood and derivatives, cell lines, others	90% research grants, 10% institution budget
International Multicenter persisting ADHD collaboration Dutch part: Impact NL (Netherlands)	University	D	DNA	90% institution budget, 10% research grants
Utrecht Health Project (Netherlands)	University	Р	Blood and derivatives, cell lines	Institution budget (UMC Utrecht), public funding (ZonMW), government (VWS)
Europe/Asia				
Chernobyl Tissue Bank (Russia)	Institute of Endocrinology and Metabolism (Kiev, Ukraine) and A Tsyb Medical Radiological Research Center in (Obninsk, Russia)	D	Tissue, blood and derivatives	European Commission, government (USA), public targeted donation/ foundation (Japan)
Asia Shanghai Biobank Network (SBN) (China)	Shanghai Clinical Research Center	D	Tissue, blood and derivatives, others	Hospital budget and grants (various percentages) for 16 biobank units, 90% grants and 10% user fees for one biobank
Chiba University School of Medicine and its affiliated hospitals (Chiba, Japan)	Chiba University Graduate School of Medicine	D	Tissue, blood and derivatives	100% grants from government
Kanagawa Cancer Research and Information Association (KCRIA) Tumor Tissue Center (Yokohama,	Kanagawa Cancer Center	D	Tissue, blood and derivatives	97% institution budget, 2% grants, <1% user fees
Japan) Yokohama City University Advanced Medical Research Conton biobank (Japan)	Medical Research Center	D	Tissue	92.5% grants from government, 5% public targeted donation/foundation, 2.5% institution budget
Center biobank (Japan) Chiba Cancer Center (CCC) biobank (Japan)	Chiba Cancer Center	D	Tissue and derivatives	80% institution budget, 15% grants, 5% public targeted donation/ foundation
Tsukuba Human Tissue Biobank (THB) (Japan)	University of Tsukuba hospital	D	Tissue	90% institution budget, 10% grants
Autopsy Tissue Bank of TMGH- Autopsy Resource (Tokyo, Japan)	Tokyo Metropolitan Geriatric Hospital (TMGH)	P	Tissue, serum	90% institution budget, 5% grants, 5% user fees
Rare Disease Bank of the Ministry of Health, Labor and Welfare (Osaka, Japan)	National Institute of Biomedical Innovation	D	Blood and derivatives	90% institution budget, 10% grants, <1% user fees
National Cancer Center Hospital Biobank (Tokyo, Japan)	National Cancer Center	D	Blood and derivatives	60% grants, 40% institution budget

Access arrangements	Cost recovery: access fees	Fee-for-service	Website	Reference(s)
Controlled access: academics only			[Questionnaire]	NA
academics only				
Controlled access:	No access fee or cost recovery		[Questionnaire]	NA
academics only			[Questionnaire]	NA
	Tiered-fee schedule, free of charge for public sector		[Questionnaire]	NA
	Fixed-fee schedule		[Questionnaire]	NA
Controlled access: academics only	Tiered-fee schedule		[Questionnaire]	NA
Controlled access: academics only	No access fee or cost recovery		[Questionnaire]	NA
Controlled access: academics only	No access fee or cost recovery		[Questionnaire]	NA
	Tiered-fee schedule, free of charge for public sector		[Questionnaire]	NA
Controlled	No charge for specimens, shipping only		http://www.chernobyltissuebank.com/index.htm	6
Closed or not specified			NA	19–36
			NA	37
Controlled	Distributed essentially free of charge		NA	37
Controlled			NA	37
Controlled			NA	37

Biobank or network	Location and ownership	Scope	Nature of contents	Financing arrangements
Americas				
A C Camargo Hospital Biobank (Sao Paulo, Brazil)	AC Camargo Cancer Center	D	Tissue and blood	Grants, institutional funds
Pediatric Immunological Disorders Biorepository (PIDBioRep) (Sao Paulo, Brazil)	University of Sao Paulo Medical School, children's hospital	D	Tissue, blood and derivatives, others	90% grants, 10% institution budget
Alberta Cancer Research Biorepository (ACRB) (Canada)	Cross Cancer Institute (Edmonton) and Tom Baker Cancer Center (Calgary)	D	Tissue, blood and derivatives	86% grants, 9% institution budget, 5% user fees
The BC Cancer Agency Tumor Tissue Repository (BC-TTR) (Victoria, Canada)	Vancouver Island Center	D	Tissue, blood and derivatives	In 2010, 50% public targeted donation/foundation, 45% grants, 5% user fees; in 2014, 95% institution budget, 5% user fees
The Ontario Tumor Bank (Toronto, Canada)	Ontario Institute for Cancer Research	D	Tissue, blood and derivatives	In 2010, 85% institution budget and 15% user fees; in 2014, 75% institution budget and 25% user fees
Réseau de Recherche sur le Cancer du FRSQ (Québec, Canada)	Hospitals in Montreal, Sherbrooke, Québec City	D	Tissue, blood and derivatives	70% grants, 25% public targeted donation/foundation, 5% user fees
Manitoba Breast Tumor Bank (Winnipeg, Canada)	University of Manitoba	D	Tissue, blood and derivatives	40% institution budget, 40% public targeted donation/foundation, 20% grants
NCIC Clinical Trials Group Tumor/Tissue Data Repository (Kingston, Canada)	Queen's University	D	Tissue, blood and derivatives	65% grants/contracts, 20% institution budget, 10% public targeted donation/foundation, 5% user fees
Research Institute of the McGill Institute University Health Center Liver Disease Biobank (RI-MUHC- LDB) (Montreal, Canada)	Hospital	D	Tissue, blood	Grant, access and service fees, donations
Clinical Research Laboratory and Biobank (CRLB) (Hamilton, Canada)	Hospital	D+P	Frozen samples	Grants, industry and mixed public research funds
Canadian Tumor Repository Network (CTRNet)		D	Tissue, blood and derivatives, others	Government, user fees
Conversant Bio (Huntsville, AL, USA)	Corporation	D	Tissue, blood and derivatives	
Biobank Core Facility (Phoenix, AZ, USA)	St Joseph's Hospital and Barrow Neurological Institute	D	Tissue, blood, CSF, others	Foundation and contracts
Brain and Body Donation Program (BBDP) (Sun City, AZ, USA)	Banner Sun Health Research Institute	D	Tissue, blood, CSF	Grants
DNASU Plasmid Repository	Arizona State University	0	Plasmids	Grants
(Tempe, AZ, USA) 23andMe Database/DNA biobank (Mountain View, CA, USA)	Corporation	Р	Saliva and derivatives	Private, venture capital
Tissue Procurement Core (TPC) (Iowa City, IA, USA)	University of Iowa, Carver College of Medicine	D + P	Tissue, blood and derivatives	Institution budget, contracts, grants from government
BWH/Harvard Cohorts Biorepository (Boston, MA, USA)	Brigham and Women's Hospital	Р	Tissue, blood and derivatives, others	Access and service fees
Beaumont Health System BioBank (Royal Oak, MI, USA)	Hospital	D	Tissue, blood and derivatives, others	Public targeted donation/foundation, institution budget, government, user fees

Access arrangements	Cost recovery: access fees	Fee-for-service	Website	Reference(s)
Controlled	Tiered-fee schedule		http://www.accamargo.org.br/Biobank	38
Controlled			NA	39
Controlled	Cost-recovery system not otherwise specified	Yes	http://www.acrb.ca/	40
Controlled	Cost-recovery system not otherwise specified		http://www.bccrc.ca/dept/ttr	41, 40
Controlled	Tiered-fee schedule, price list available online	Yes	http://www.ontariotumourbank.ca	41, 40
			http://www.rrcancer.ca/en/publique/ accueil	41
Controlled	Fixed-fee schedule (sample, data, shipping), price list available online		https://www.umanitoba.ca/institutes/ manitoba_institute_cell_biology/MBTB/ Index4.htm	41
Controlled			https://www.ctg.queensu.ca/public/ correlative-science-tumour-bank	41
	Tiered-fee schedule	Yes	NA	38
		Yes	NA	42
Controlled	Cost-recovery system not otherwise specified	Yes	http://www.ctrnet.ca	6
Controlled	4	Yes	http://www.conversantbio.com	38
Controlled	Tiered cost-recovery system in development, price list provided in publication		NA	43
Controlled	Cost-recovery system not otherwise specified; no charge for nonprofit organizations during their pilot study investigations (up to 24 samples)		https://www.bannerhealth.com/ Research/Research+Institutes/Ban ner+Sun+Health+Research+Institu te/Research/Research+Programs/ Brain+and+Body+Donation/ Brain+and+Tissue+Bank.htm	NA
Open	Tiered-fee schedule, shipping, price list available online		https://dnasu.org/DNASU/Home.do	43
Controlled	Data shared with or sold to third parties for purposes of scientific research and commercial applications, patents, or operating licenses		NA	44
Controlled	Tiered-fee schedule, price list available	In progress	https://www.icts.uiowa.edu/	45
Controlled	online Fixed-fee schedule	Yes	tissueprocurement/tissueProcurement.jsp http://cohortsbio.bwh.harvard.edu/	46
Controlled	Commercialization of samples (contract); matrix of costs depending on type of donor, type of biospecimen	In progress	http://www.beaumont.edu/biobank/	47, 48

Biobank or network	Location and ownership	Scope	Nature of contents	Financing arrangements
Tissue Procurement Core (TPC) (Saint Louis, MO, USA)	Washington University School of Medicine at Barnes-Jewish Hospital	D	Tissue, blood and derivatives	Grants
Kathleen Price Bryan Brain Bank and Biorepository (Durham, NC, USA)	Alzheimer's Disease Research Center at Duke University	D	Tissue and derivatives, CSF	Public-private partnerships, grants, public targeted donation/foundation institution budget
Center for Clinical and Translational Sciences (CCTS) biobank (Houston, TX, USA)	University of Texas Health Science Center	D	Tissue, blood and derivatives, others	Grants from government, institution budget
Cooperative Human Tissue Network (CHTN) (USA)		D	Tissue, blood and derivatives	Government
Australia Australian Prostate Cancer BioResource (APCB) (Brisbane) Australian Breast Cancer Tissue	Queensland University of Technology University of Sydney	D D	Tissue, blood and derivatives, cell lines Tissue, blood and derivatives	Government, private funding, public targeted donation/foundation 65% grants, 34% public targeted
Bank (ABCTB) (Sydney)	Offiversity of Sydney	D	rissue, blood and derivatives	donation/foundation, 1% user fees
New South Wales Brain Tissue Resource Center (NSWBTRC) (Sydney)	University of Sydney	D	Tissue	Government, institution budget
Tumor Bank of the Children's Hospital at Westmead (TB-CHW) (Sydney)	Children's hospital	D	Tissue, blood, CSF	Government, public funding, public targeted donation/foundation
Victorian Cancer Research Tissue Bank (Melbourne)		D	Tissue, blood and derivatives	Government, public targeted donation/foundation
Australasian Biospecimen Network (ABN) (Melbourne)	Peter MacCallum Cancer Center	D	Tissue, blood and derivatives, cell lines	Government, public targeted donation/foundation
Kathleen Cuningham Consortium for Research into Familial Breast Cancer (kConfab) (Melbourne)	Peter MacCallum Cancer Center	D	Tissue, blood and derivatives	Government, public targeted donation/foundation

**Abbreviations:** BRC, Biological Resource Centre; CSF, cerebrospinal fluid; D, disease-focused; D + P, disease-focused and population-based; NA, not applicable; O, other; P, population-based.

## References

- Sargsyan K, Macheiner T, Story P, et al. Sustainability in biobanking: model of Biobank Graz. *Biopreserv Biobank*. 2015;13(6):410–420.
- Frankova V, Jirsova K, Zima T. The Bank of Biological Material (BBM) of the First Faculty of Medicine of Charles University in Prague, Czech Republic. *Biopreserv Biobank*. 2015;13(4):299–300.
- Posevitz-Fejfar A, Wiendl H. The neuroinflammation biobank in the Department of Neurology, University Hospital Muenster, Germany. *Biopresery Biobank*. 2014:12(1):74–75.
- 4. Riegman PH. From AAA+ to BB- and on the way back again. *Biopreserv Biobank*. 2014;12(5):292–293.
- Gonzalez-Sanchez MB, Lopez-Valeiras E, Garcia-Montero AC. Implementation of a cost-accounting model in a biobank: practical implications. *Pathobiology*. 2014;81(5–6):286–297.
- Vaught J, Kelly A, Hewitt R. A review of international biobanks and networks: success factors and key benchmarks. *Biopreserv Biobank*. 2009;7(3):143–150.
- [No authors listed]. The Spanish HIV HGM BioBank (SHIVBB). Biopreserv Biobank. 2013;11(4):253–254.
- 8. Swietokrzyski biobank. Biopreserv Biobank. 2014;12(3):222.
- Afonso A, Pereira JP, Dias S. Biobanco-IMM, Lisbon Academic Medical Centre. *Biopreserv Biobank*. 2014;12(6):433–434.
- Fonseca JE. Biobanco-IMM, Lisbon Academic Medical Centre: a case study. Acta Med Port. 2013;26(4):312–314.
- 11. [No authors listed]. Uppsala biobank. *Biopreserv Biobank*. 2013;11(2): 129–130.

- Gee S, Oliver R, Corfield J, Georghiou L, Yuille M. Biobank finances: a socio-economic analysis and review. *Biopreserv Biobank*. 2015;13(6): 435–451.
- Gee S, Georghiou L, Oliver R, Yuille M. Financing UK Biobanks: Rationale for a National Biobanking Research Infrastructure. Manchester: University of Manchester; 2013.
- Matharoo-Ball B, Thomson BJ. Nottingham Health Science Biobank: a sustainable bioresource. *Biopreserv Biobank*. 2014;12(5):312–316.
- Kozlakidis Z, Mant C, Cason J. Bridging the financial gap through providing contract services: a model for publicly funded clinical biobanks. *Biopreserv Biobank*. 2012;10(4):357–360.
- [No authors listed]. The Infectious Diseases BioBank (IDB) at King's College London, United Kingdom. *Biopreserv Biobank*. 2012;10(3):295–296.
- Parry-Jones A. Assessing the financial, operational, and social sustainability of a biobank: the Wales Cancer Bank case study. *Biopreserv Biobank*. 2014;12(6):381–388.
- Mayrhofer MT, Holub P, Wutte A, Litton JE. BBMRI-ERIC: the novel gateway to biobanks – from humans to humans. *Bundesgesundheitsblatt* Gesundheitsforschung Gesundheitsschutz. 2016;59(3):379–384.
- [No authors listed]. Hypertension biobank of Ruijin Hospital. *Biopreserv Biobank*. 2011;9(2):135–136.
- [No authors listed]. The biobank unit of Shanghai Cancer Center. Biopreserv Biobank. 2011;9(2):134.
- 21. [No authors listed]. Rheumatism biobank of Changzheng Hospital. *Biopreserv Biobank*. 2011;9(2):136.
- 22. [No authors listed]. Bone tumor biobank of Changzheng Hospital. *Biopreserv Biobank.* 2011;9(2):136.

Access arrangements	Cost recovery: access fees	Fee-for-service	Website	Reference(s)
Controlled	No charge for specimens, fee for laboratory services (reagents and consumables, infrastructure, labor)	Yes	http://pathology.wustl.edu/research/cores/ ltp/index.php and http://icts.wustl.edu/icts- researchers/icts-cores/find-services/by- core-name/tissue-procurement-core-tpc	49
Controlled	Tiered-fee schedule		https://adrc.mc.duke.edu/index.php/ research/brain-bank	50
Controlled	Handling, shipping, administrative fee		https://www.uth.edu/biobank	51
Controlled	Processing, shipping, price list available	Yes	https://chtn.org	6
Controlled	Fixed-fee schedule, price list available online		https://www.apcbioresource.org.au	6
Controlled	Cost-recovery system not otherwise specified		http://www.abctb.org.au/abctbNew2/ default.aspx	52, 53
Controlled	Cost-recovery system not otherwise specified		http://sydney.edu.au/medicine/pathology/ btrc/index.php	54
Controlled	Cost recovery in most cases, but tissue may be provided at no charge; packaging, shipping		http://www.tumourbank.chw.edu.au	55
Controlled	Tiered-fee schedule, price list available online	Yes	https://www.viccancerbiobank.org.au	6
Controlled	Cost-recovery system not otherwise specified		http://abrn.net	6
Controlled	Tiered-fee schedule, price list available online		http://www.kconfab.org/Index.shtml	6

- [No authors listed]. The biobank unit of Shanghai Mental Health Center. Biopreserv Biobank. 2011;9(2):136–137.
- 24. [No authors listed]. Liver cancer biobank of Zhongshan Hospital. *Biopreserv Biobank*. 2011;9(2):135.
- 25. [No authors listed]. The biobank unit of Shanghai Chest Hospital. *Biopreserv Biobank*. 2011;9(2):137.
- 26. [No authors listed]. The biobank unit of Shanghai 9th People's Hospital. *Biopreserv Biobank*. 2011;9(2):137.
- 27. [No authors listed]. The biobank unit of Longhua Hospital. *Biopreserv Biobank*. 2011;9(2):137–138.
- 28. [No authors listed]. The biobank unit of birth defect research center. *Biopreserv Biobank*. 2011;9(2):138.
- [No authors listed]. The biobank unit of Shanghai Children's Medical Center. *Biopreserv Biobank*. 2011;9(2):137.
- [No authors listed]. Shanghai Biobank Network (SBN). Biopreserv Biobank. 2011;9(2):133.
- 31. [No authors listed]. The biobank unit of Shanghai Diabetes Research Center. *Biopreserv Biobank*. 2011;9(2):134.
- [No authors listed]. The biobank unit of Renji Hospital. Biopreserv Biobank. 2011;9(2):134.
- [No authors listed]. Shanghai sperm bank. Biopreserv Biobank. 2011;9(2):134–135.
- [No authors listed]. The clinical biology information of Zhongshan Hospital. *Biopreserv Biobank*. 2011;9(2):135.
- 35. [No authors listed]. The biobank unit of Xinhua Hospital. *Biopreserv Biobank*. 2011;9(2):135.
- 36. [No authors listed]. Endocrine disease biobank of Ruijin Hospital. *Biopreserv Biobank*. 2011;9(2):136.

- [No authors listed]. A network of bioresource facilities in Japan: the human bioresource consortium technical chapter (Japanese Association for Human Bioresource Research). *Biopreserv Biobank*. 2013;11(1): 57–63.
- Campos AH, Schreeder M, Parry-Jones A, et al. Addressing the challenge of financial sustainability in biobanking. *Biopreserv Biobank*. 2015; 13(6):387–395.
- [No authors listed]. Pediatric Immunological Disorders Biorepository (PIDBioRep) at University of Sao Paulo Medical School, Brazil. *Biopreserv Biobank*. 2013;11(5):324–326.
- Albert M, Bartlett J, Johnston RN, Schacter B, Watson P. Biobank bootstrapping: is biobank sustainability possible through cost recovery? *Biopreserv Biobank*. 2014;12(6):374–380.
- [No authors listed]. Canadian tumour repository network. *Biopreserv Biobank*. 2010;8(4):181–185.
- McQueen MJ, Keys JL, Bamford K, Hall K. The challenge of establishing, growing and sustaining a large biobank: a personal perspective. Clin Biochem. 2014;47(4–5):239–244.
- Seiler CY, Eschbacher J, Bowser R, LaBaer J. Sustainability in a hospital-based biobank and university-based DNA biorepository: strategic roadmaps. *Biopreserv Biobank*. 2015;13(6):401–409.
- Stoeklé HC, Mamzer-Bruneel MF, Vogt G, Hervé C. 23andMe: a new two-sided data-banking market model. BMC Med Ethics. 2016;17:19.
- Galbraith JW. Sustainability in the modern biorepository environment from the perspective of the Tissue Procurement Core at the University of Iowa. *Biopreserv Biobank*. 2015;13(6):430–432.
- Sawyer SJ, Otto JM, Suh KS. Ensuring biobank value through effective utilization. *Biopreserv Biobank*. 2015;13(6):396–400.

- Wilson GD, D'Angelo K, Pruetz BL, Geddes TJ, Larson DM, Akervall J. The challenge of sustaining a hospital-based biobank and core molecular laboratory: the Beaumont experience. *Biopreserv Biobank*. 2014;12(5):306–311.
- Akervall J, Pruetz BL, Geddes TJ, Larson D, Felten DJ, Wilson GD. Beaumont health system biobank: a multidisciplinary biorepository and translational research facility. *Biopreserv Biobank*. 2013;11(4):221–228.
- McDonald SA, Sommerkamp K, Egan-Palmer M, Kharasch K, Holtschlag V. Fee-for-service as a business model of growing importance: the academic biobank experience. *Biopreserv Biobank*. 2012;10(5): 421–425.
- Uzarski D, Burke J, Turner B, Vroom J, Short N. A plan for academic biobank solvency: leveraging resources and applying business processes to improve sustainability. *Clin Transl Sci.* 2015;8(5):553–557.

- 51. Sanner JE, Nomie KJ. The biobank at the University of Texas Health Science Center at Houston. *Biopreserv Biobank*. 2015;13(3): 224–225.
- 52. [No authors listed]. Australian Breast Cancer Tissue Bank (ABCTB). *Biopreserv Biobank*. 2011;9(3):217.
- Carpenter JE, Clarke CL. Biobanking sustainability: experiences of the Australian Breast Cancer Tissue Bank (ABCTB). *Biopreserv Biobank*. 2014;12(6):395–401.
- 54. Sutherland GT, Sheedy D, Stevens J, et al. The NSW Brain Tissue Resource Centre: banking for alcohol and major neuropsychiatric disorders research. *Alcohol.* 2016;52:33–39.
- Zhou L, Nath N, Markovich O, Yuksel A, Roberts A, Catchpoole D. The tumour bank of the Children's Hospital at Westmead. *Biopreserv Biobank*. 2015;13(2):147–148.