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Geschäftsmodell Biobank

Welche Marktkräfte konkurrieren und können wir langfristig finanzieren ?

Dr. Rainer Warth, MBA
www.biobank-suisse.ch

Aktivitäten seit 2006

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- Kollaboration (National und International)
  - **2007** Zentraler Server (Forscher könne nach biologischen Material aus CH-biobanken)
  - **2008** Schweizer Biobank Register
  - **2010** International Zusammenarbeit mit CRIP
  - **4.** Swiss BIG (Workshop for Swiss biobanks)
- Harmonisierung
  - **2009, 2013**Patienteneinwilligung und Information (SAMW und BAG)
  - **2007** Inter-operational datatbank Software (CAISIS)
- Studien
  - **2007** Multi-centric biobank study in Switzerland(Mamma-Ca)
  - **2009** RNA study mit 4 biobanken.
  - **2010** Prostate Study
- Anfragen
  - **2013** National Agenturen (BAG, SAMW, Universitäten)
  - International (FP7, BBMRI, ISBER, etc.)

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- Legal Notice

Find biospecimens
- Partner Biobanks

Support
- Researcher
- Biobank Manager

Biobank Registry

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Biobank-suisse network

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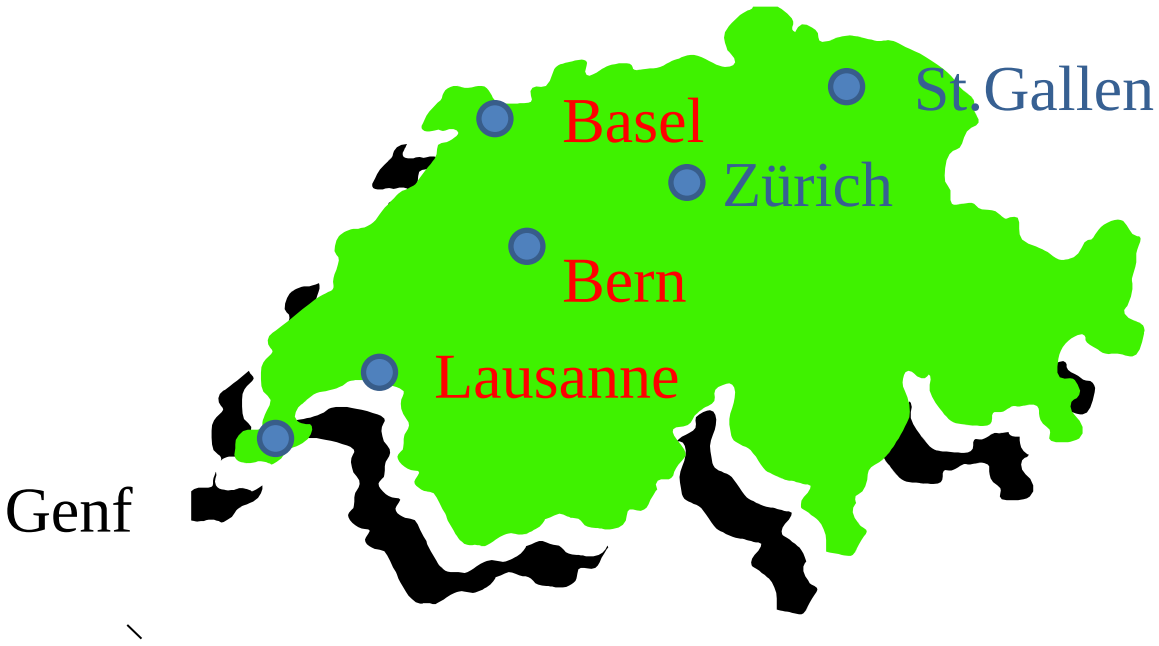

- Specimen info
- IT infrastructure

BBS database

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Patients by age
(end of 2012)

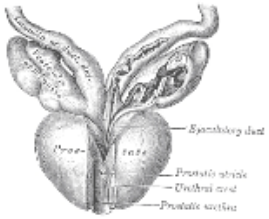
	Patients	*Specimens*
Patients 40 or older	19922	65494
Patients younger than 40	4091	13761
Patients younger than 16	666	1651
Total	24013	79255

Specimens from selected cancer

	FF		*FFPE*		*FF+RNAlatter*	
	Patients	*Specimens*	*Patients*	*Specimens*	*Patients*	*Specimens*
Breast	6030	8616	3688	4306	227	444
Prostate	824	1334	265	265	279	587
Kidney	856	2097	216	1201		
Liver	1559	3410	328	1686		
Ovaries	584	1417	252	951		
Skin	425	1461	274	1249		
Colon	2268	5443	1233	3994		
Brain	162	228	1	2		

https://www.biobank.ch/QueryV2/Quer

Biobank-suisse



Research Query for Prostate Cancer Biospecimens

Help

Patient

Age at diagnosis: From 50 To

Gender: male

Pathology

Primary Gleason: -all-

Secondary Gleason: -all-

Node Positive: -all-

Biospecimen

Type: -all-

Subtype: -all-

Storage Type: -all-

Clear Search

The database contains 1155 Biospecimens and 279 Patients.

With the chosen search criteria, your result set will contain:

1134 **Biospecimens**
275 **Patients**

[timed out] **Cases at CRIP** (including only parameters marked with)

Turn webservices On/Off: CRIP **On**

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Kriterien

Anzahl

International Cooperation

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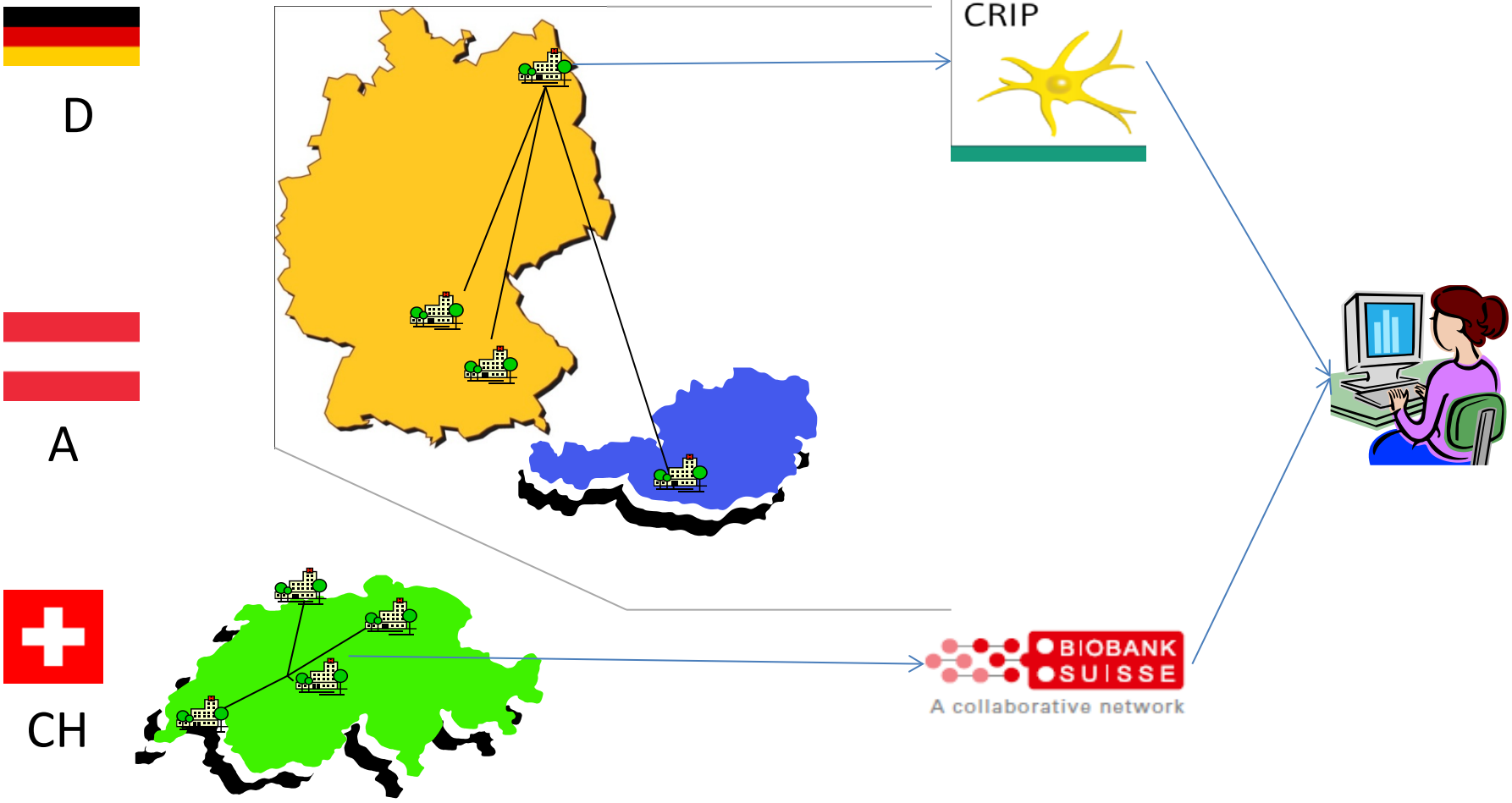

National Cooperation

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Intern.	BBMRI	SAKK	IACR	ECRIN
Federal	**biobank-suisse**	SAKK	NICER	SCTO
Cantonal	Pathologie Biobank	Oncologie Pathologie	Krebsreg.	CTU

Geschäftmodel

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Aktivitäten der Stiftung biobank-suisse seit 2006

Biobanken und Nutzer Klassifizieren
5-Kräfte Modell des Kompetitiven Umfeldes
Eckdaten des Marktes
Business Model Canvas

Biobank Klassifizierung

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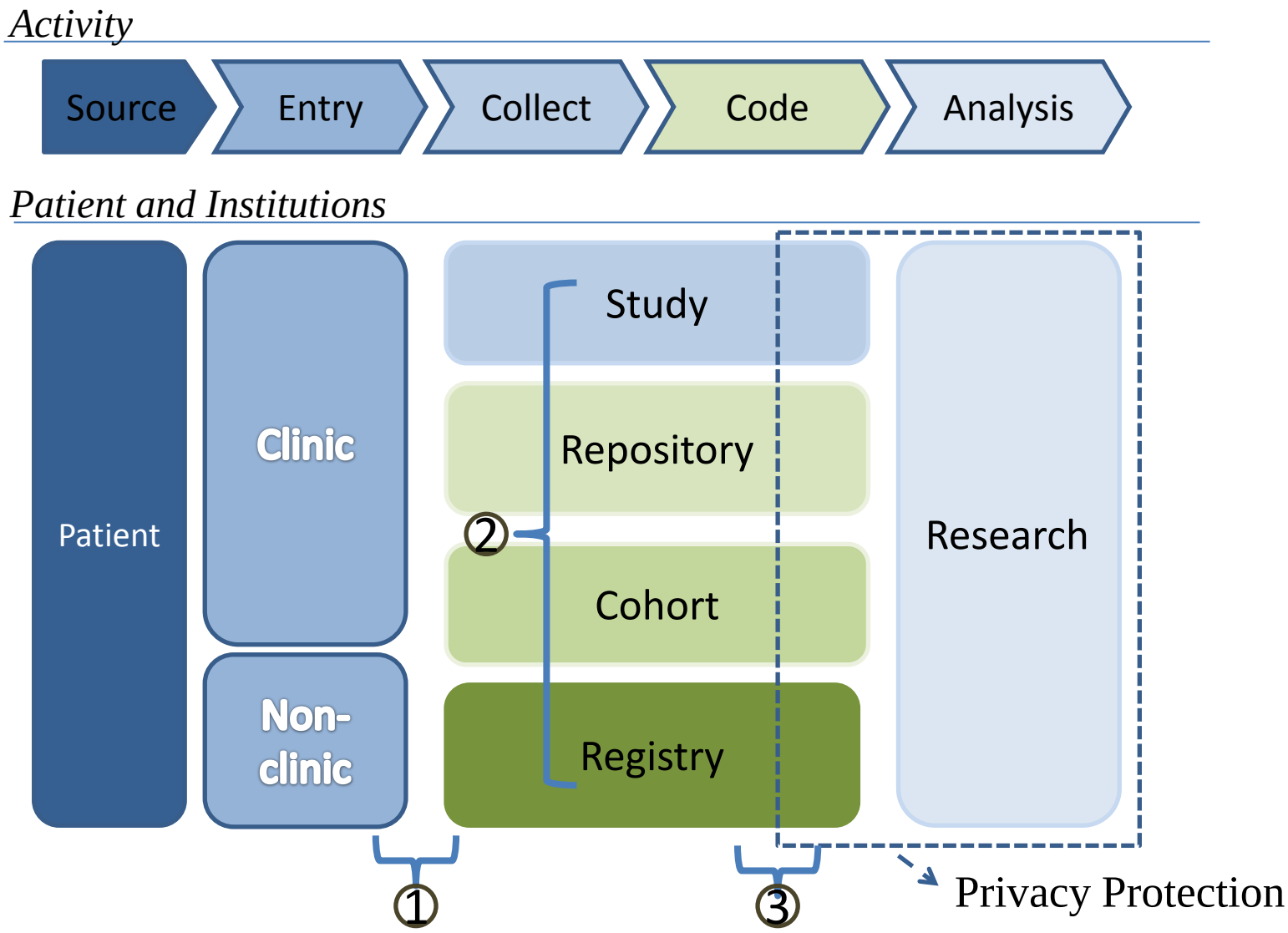
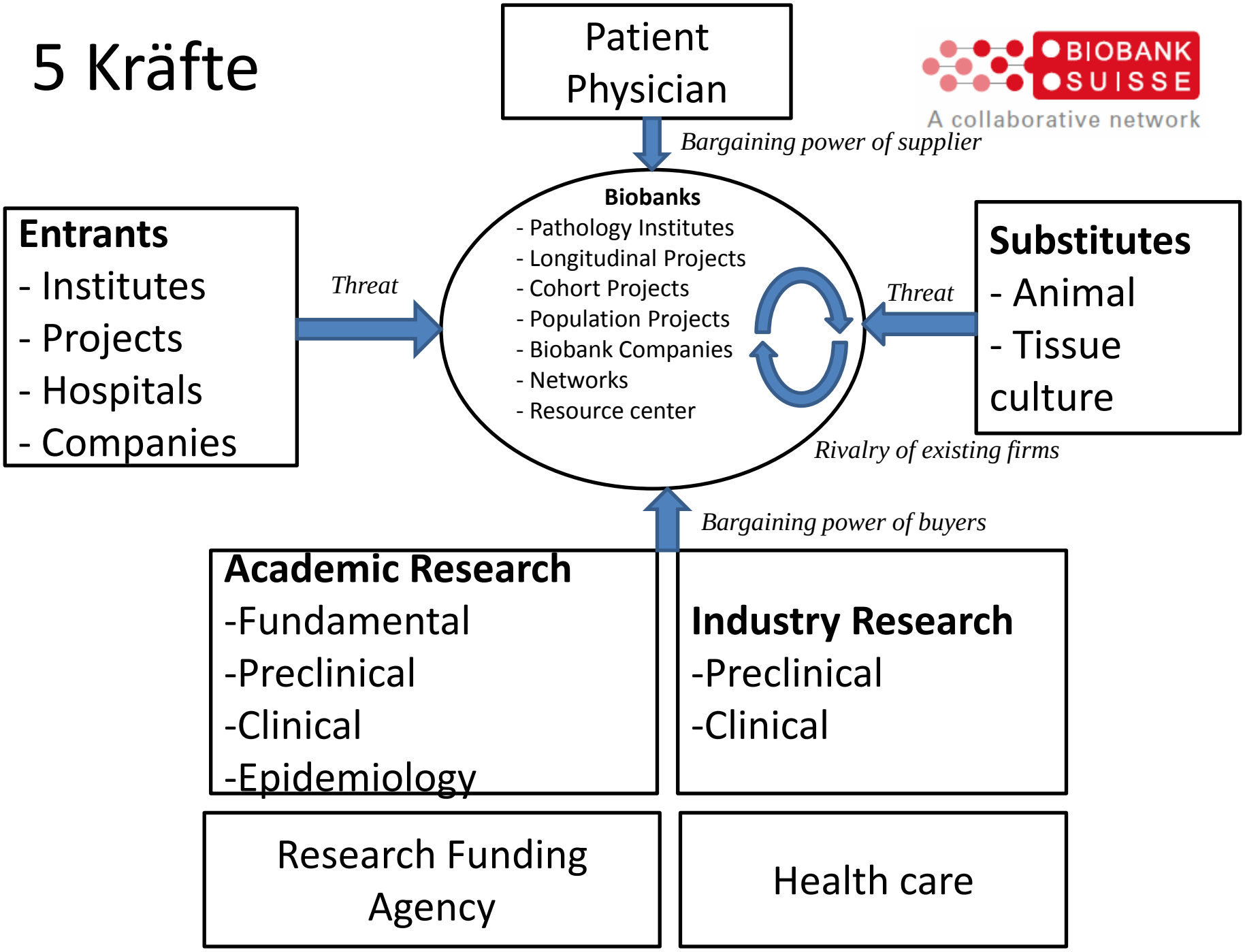


5 Kräfte


Patient
Physician
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Bargaining power of supplier
Biobanks
- Pathology Institutes
- Longitudinal Projects
- Cohort Projects
- Population Projects
- Biobank Companies
- Networks
- Resource center
Entrants
- Institutes
- Projects
- Hospitals
- Companies
Threat
Threat
Substitutes
- Animal
- Tissue culture
Rivalry of existing firms
Bargaining power of buyers
Academic Research
-Fundamental
-Preclinical
-Clinical
-Epidemiology
Industry Research
-Preclinical
-Clinical
Research Funding Agency
Health care

Ausgaben in % des BIP

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Science

	2004	2005	2006	2007	2008	2009	2010	2011
AU	2.24	2.46	2.44	2.51	2.67	2.71	2.79	2.75
DE	2.50	2.51	2.54	2.53	2.69	2.82	2.80	2.84
CH	2.82	..	..	..	2.87	..	..	..

Health

	2005	2006	2007	2008	2009	2010	2011	2012
AU	10.4	10.2	10.3	10.5	11.2	11.0	10.8	
DE	10.8	10.6	10.5	10.7	11.8	11.5	11.3	
CH	10.9	10.4	10.2	10.3	11.0	10.9	11.0	11.3

Model: Beitrag

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Währung in $

	Bevölk. in Mil.	BIP pro Kopf	Ausgaben Gesundheit pro Kopf	Ausgaben Forschung pro Kopf	Gebühr pro Kopf 0.10%	Total in Mil.
AU	8.4	39'468	4'546	1'066	4.55	38.2
DE	80.3	42'408	4'494	1'145	4.49	361.3
CH	8.0	45'999	5'642	1'242	5.64	45.2

8. KP Key Partnerships
Some activities are outsourced and some resources are acquired outside
---
Patients
Clinicians

7. KA Key Activities
….by performing a number of Key Activities.

6. KR Key Resources
Key resources are the assets required to offer and deliver the prevously described elements…

2. VP Value Propositions
It seeks to solve customer problems and satisfy customer needs with value propostions
---
- Access to human biomaterial
-- Access to biomedical records for research

4. CR Customer Relationships
Customer relationship are established and maintained with each Customer Segment.

3. CH Channels Value propositions are delivered to customers through communication, distribution, and sales Channels

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1, CS Customer Segments
An organization serves one or several Customer Segments
---
1. Director of hospital

2. Research group
-Orphan
-Disease
-Basic

3. Enterprise
-Biomarker Stratifikation

9. C$ Cost Structure
The business model elements result in the cost structure

5. R$ Revenue Streams
Revenue streams

Business Modell Canvas nach A. Osterwalder

3 Schlüsse

Kompetitives Umfeld ist günstig

- Preisfindung schwierig

5.64 $ pro Person und Jahr entspricht
0.1 % der Gesundheitsausgaben

- 45 mio $ / für CH biobanken

Individuelles Business Modell ist notwendig

- Business Modell Canvas

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Stratfication

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Biospecimens Lifecycle

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Medical Treatment | **Clinical Biobanking** | **Medical Research**

Donor Consent | Medical/ Surgical Procedures | Transport | Receiving | Storage | Annotation | Processing | Quality | Release, Distribution Transport | Scientific Analysis | Restocking/ Destruction

Measure in Minutes — **Measure in Years**

Pre-acquisition

- Antibiotics
- Other drugs
- Type of anesthesia
- Anesthesia duration
- Arterial clamp time

Acquisition

- Processing Time
- Temperature
- Fixation Agent
- SOP's

Post Acquisition

- Storage Media
- Storage Method
- Storage Temperature
- Quality Controls
- Pathology Review
- Disease Site
- Clinical Data
- Data Standards
- SOP's

Pre- Release

- Study Design
- SOP's
- Equipment
- Cohort Definition
- SOP's
- Material Transfer
- Ethics

Courtesy Peter Riegman Erasmus University and Marble Arch International Working Group on Human Specimen Biobanking for Biomedical Research

Anzahl Patienten und Proben

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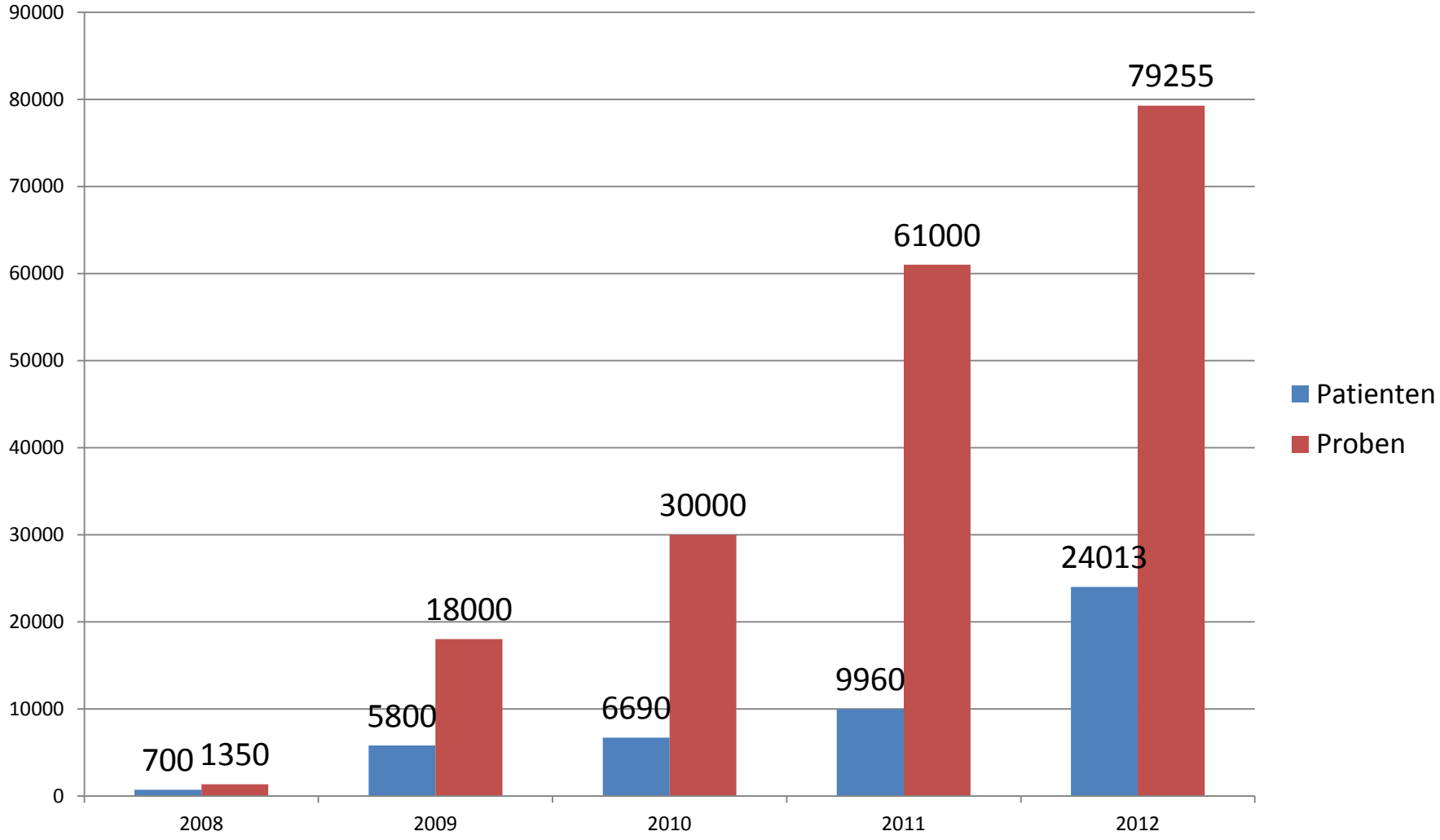

My Favorite Article 2012

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The genomic and transcriptomic architecture of 2,000 breast tumours reveals novel subgroups

Christina Curtis1,2{*, Sohrab P. Shah3,4*, Suet-Feung Chin1,2*, Gulisa Turashvili3,4*, Oscar M. Rueda1,2, Mark J. Dunning2, Doug Speed2,5{, Andy G. Lynch1,2, Shamith Samarajiwa1,2, Yinyin Yuan1,2, Stefan Gra¨f1,2, Gavin Ha3, Gholamreza Haffari3, Ali Bashashati3, Roslin Russell2, Steven McKinney3,4, METABRIC Group{, Anita Langerød6, Andrew Green7, Elena Provenzano8, Gordon Wishart8, Sarah Pinder9, **Peter Watson3,4,10**, Florian Markowetz1,2, Leigh Murphy10, Ian Ellis7, Arnie Purushotham9,11, Anne-Lise Børresen-Dale6,12, James D. Brenton2,13, Simon Tavare´1,2,5,14, Carlos Caldas1,2,8,13 & Samuel Aparicio3,4

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6Department of Genetics, Institute for Cancer Research, Oslo University Hospital Radiumhospitalet, Montebello, 0310 Oslo, Norway. 7Department of Histopathology, School of Molecular Medical Sciences,
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0V9, Canada. 11NIHR Comprehensive Biomedical Research Centre at Guy's and St Thomas' NHS Foundation Trust and King's College London, London WC2R 2LS, UK. 12Institute for Clinical Medicine,
Faculty of Medicine, University of Oslo, 0316 Oslo, Norway. 13Cambridge Experimental Cancer Medicine Centre, Cambridge CB2 0RE, UK. 14Molecular and Computational Biology Program, University of
Southern California, Los Angeles, California 90089, USA. {Present addresses: Department of Preventive Medicine, Keck School of Medicine, University of Southern California, Los Angeles, California 90033,
USA (S.S.); University College London, Genetics Institute, WC1E 6BT, UK (D.S.).

My Favorite Article 2012 II

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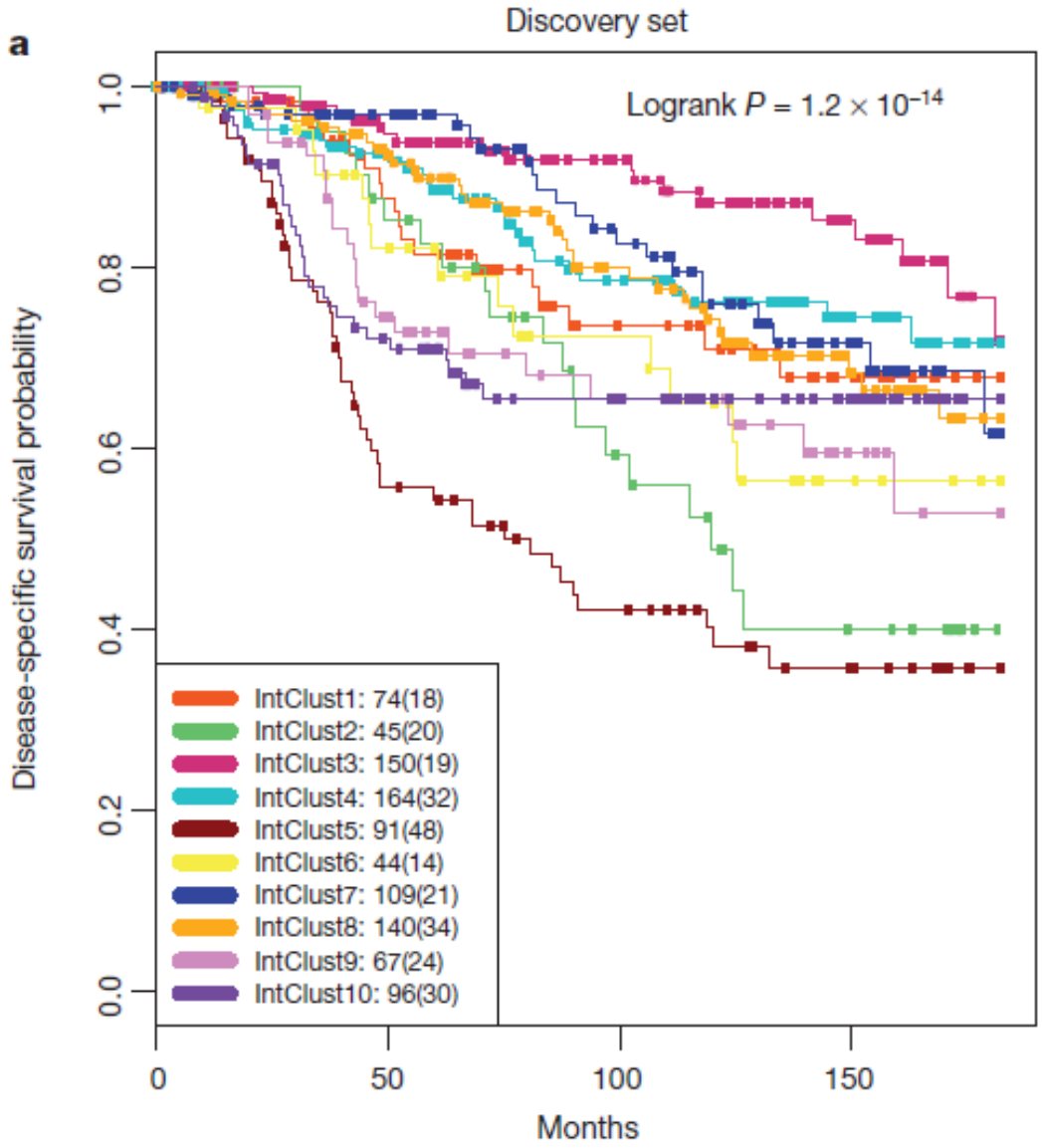

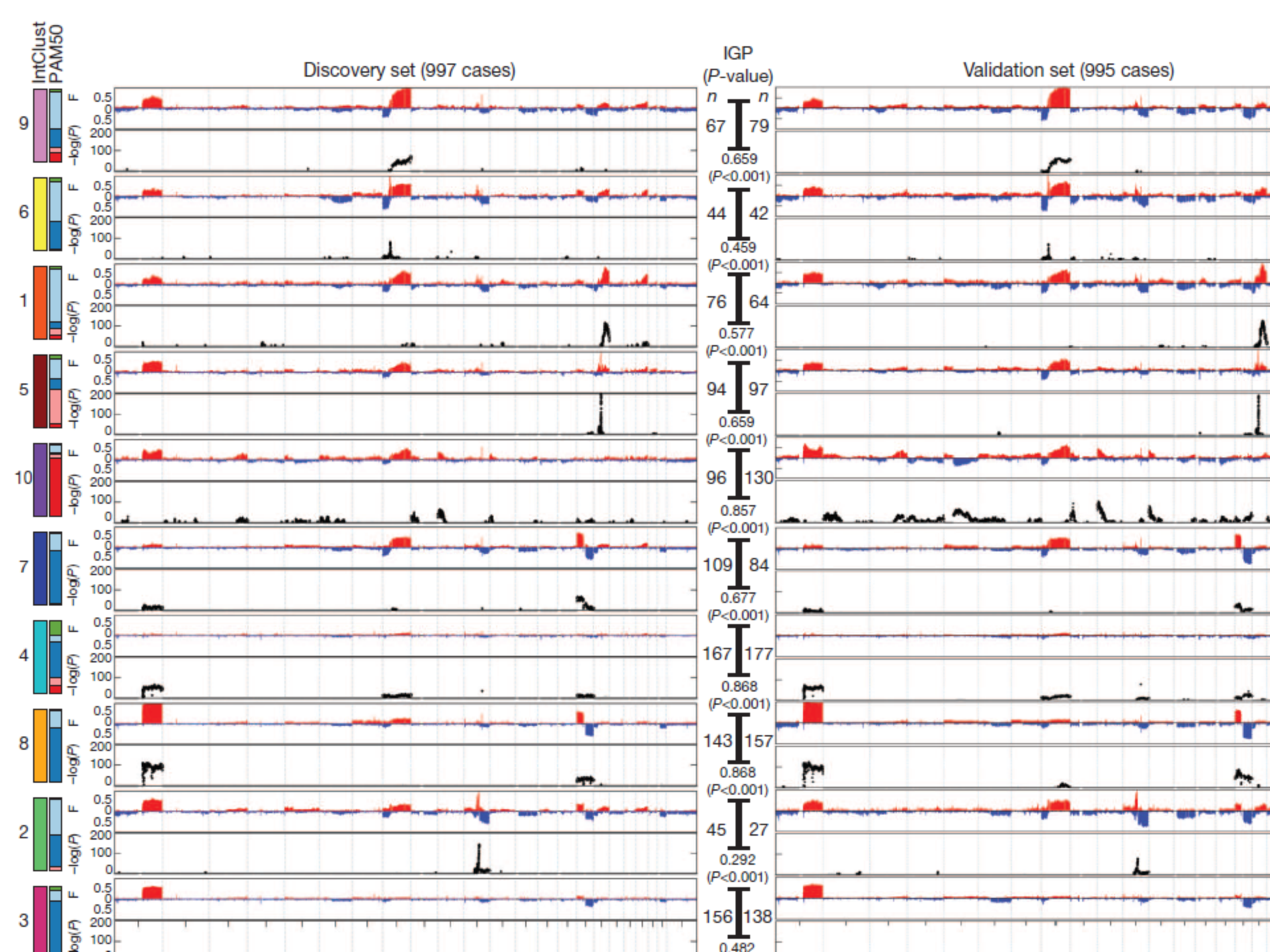
IntClust
PAM50
Discovery set (997 cases)
IGP
(P-value)
Validation set (995 cases)
n
n
9
67
79
0.659
(P<0.001)
6
44
42
0.459
(P<0.001)
1
76
64
0.577
(P<0.001)
5
94
97
0.659
(P<0.001)
10
96
130
0.857
(P<0.001)
7
109
84
0.677
(P<0.001)
4
167
177
0.868
(P<0.001)
8
143
157
0.868
(P<0.001)
2
45
27
0.292
(P<0.001)
3
156
138
0.482
F
−log(P)
0.5
0
0.5
200
100
0