National Cancer Institute

CLINICAL PROTEOMIC
TUMOR ANALYSIS CONSORTIUM

Interrogating Cancer Biology to Address Clinically Relevant Questions

Building a Comprehensive Cancer Atlas

(A Proteogenomic Community Resource)

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April 8, 2013

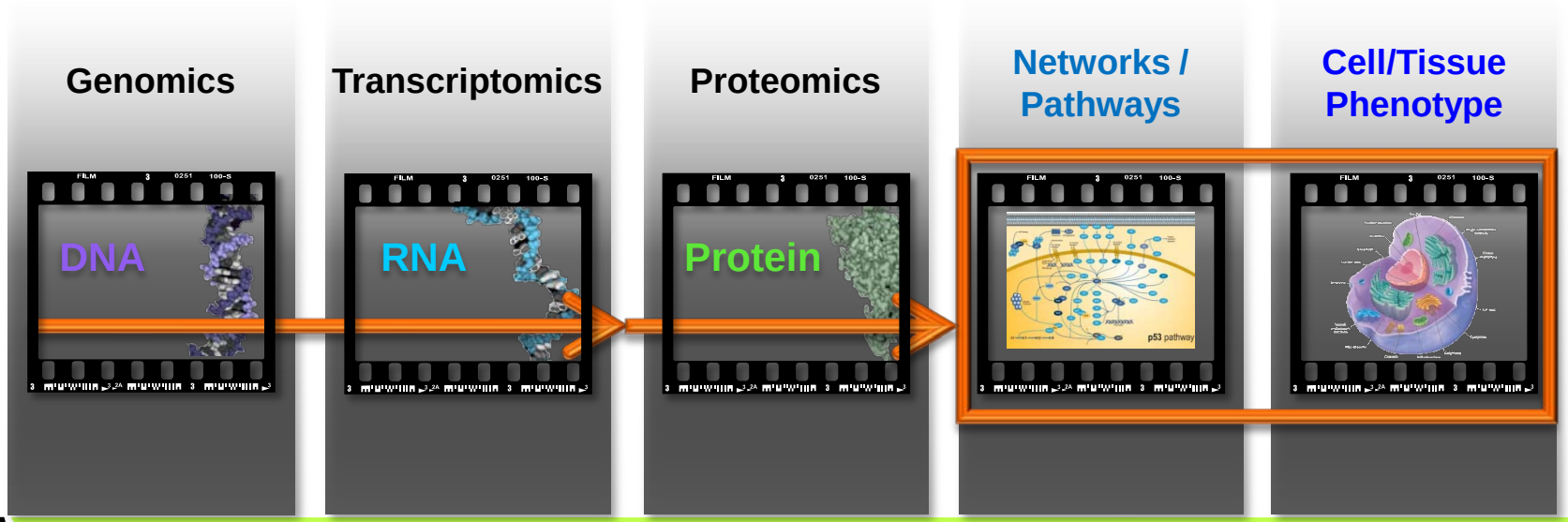
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
National Institutes of Health

Overview of NCI's Clinical Proteomics Program

- Technology Assessment (2006-2011)
  - Analytical Reproducibility
  - Reagents/Public Datasets
- Understanding cancer biology (2011-2016)

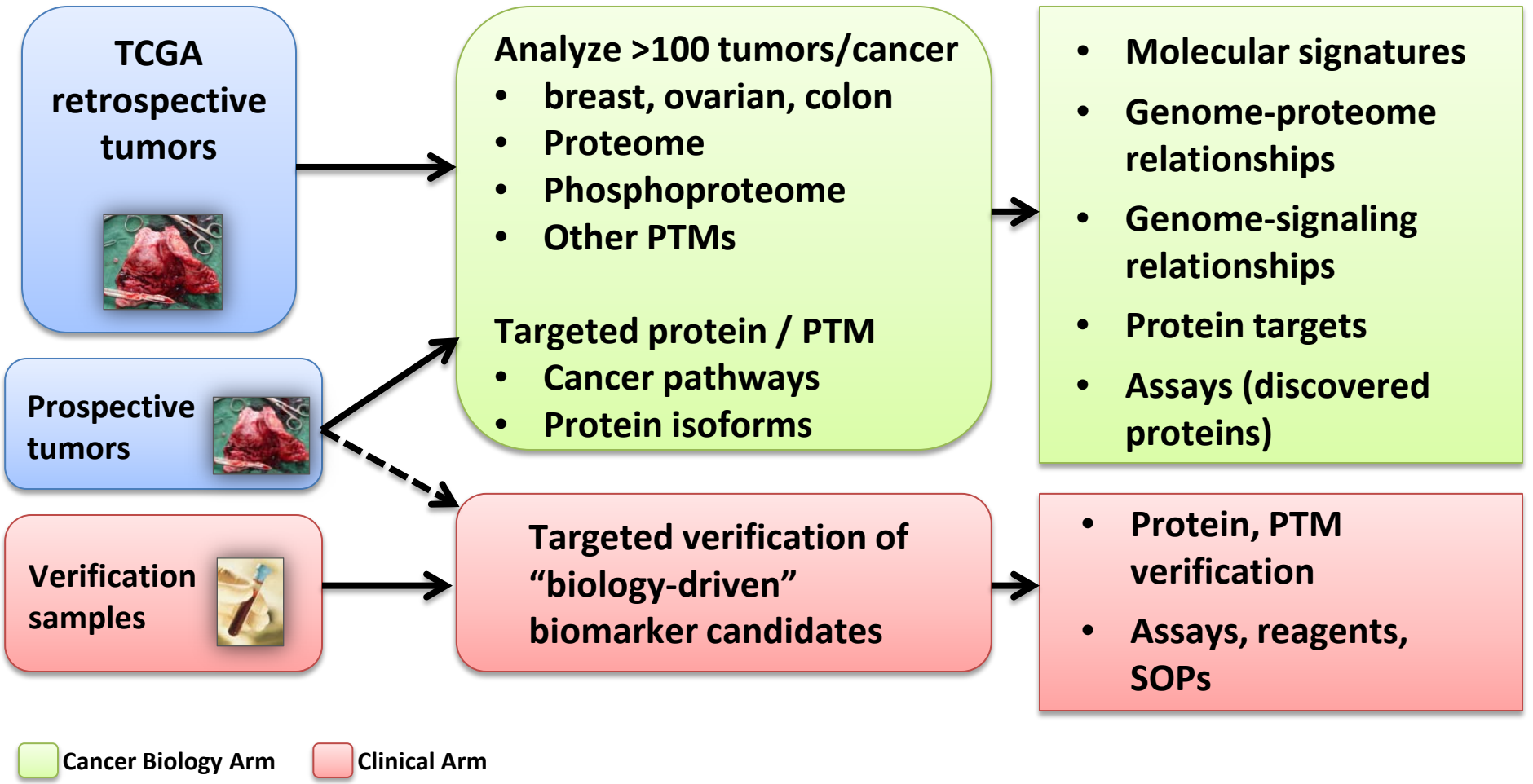
NCI-CPTAC: Flow of Biological Information

2006 — TCGA — 2011 – CPTAC –



Understanding Gene to Protein to Phenotype

Map Proteomes to Each Patient's Genome; Develop Assays for Pathways/Candidates



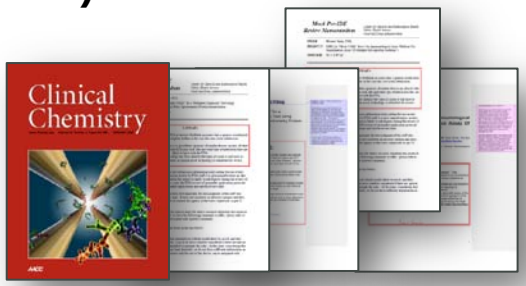
The Centers: Broad/FHCRC; PNNL; Vanderbilt; Wash U.; Johns Hopkins

Key Outputs as Community Resources for Proteomics

Goal: Demonstrate MRM assay accuracy and reproducibility across labs to measure proteins in plasma

- **Platform Validation (analytical)**

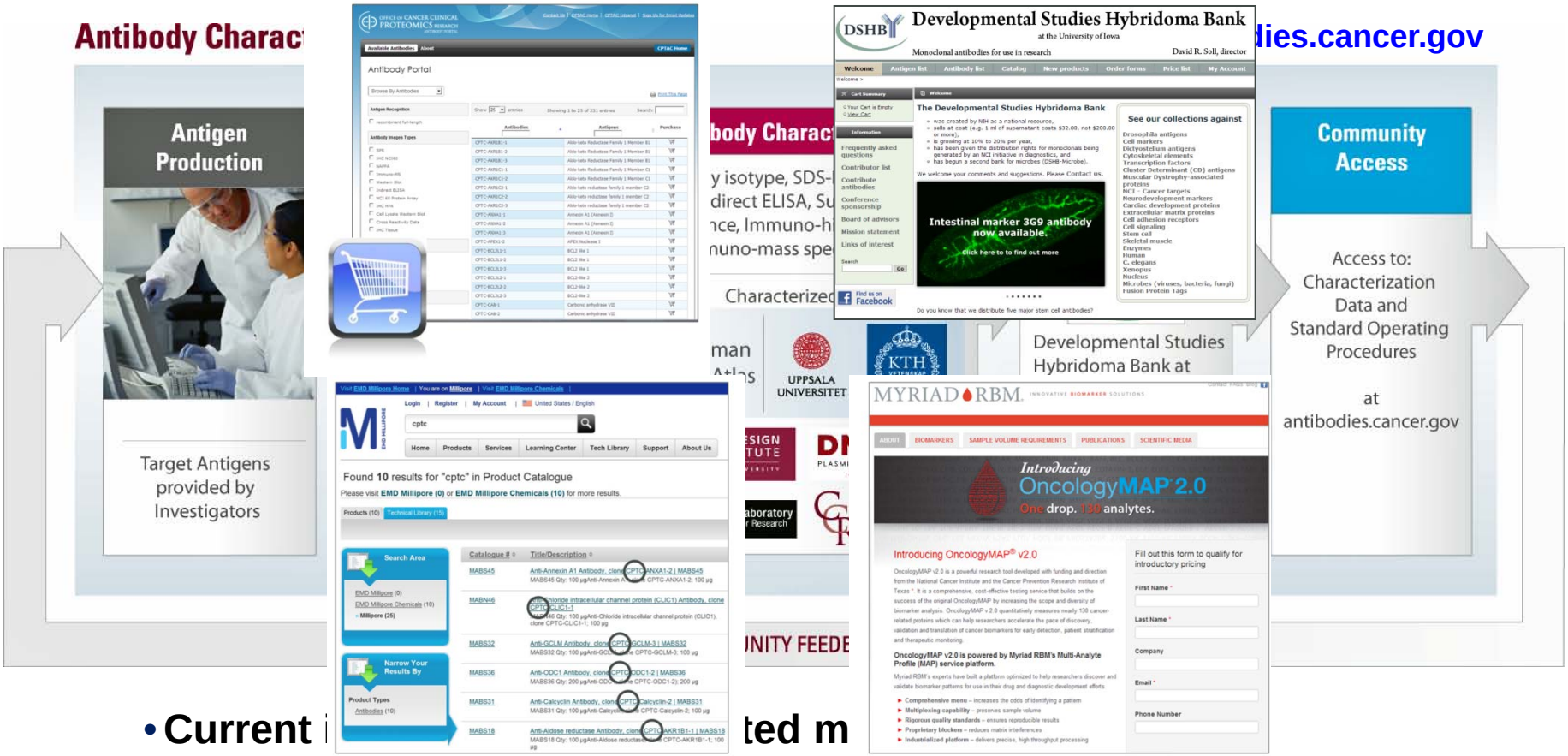
FDA AACC



Affinity Reagents

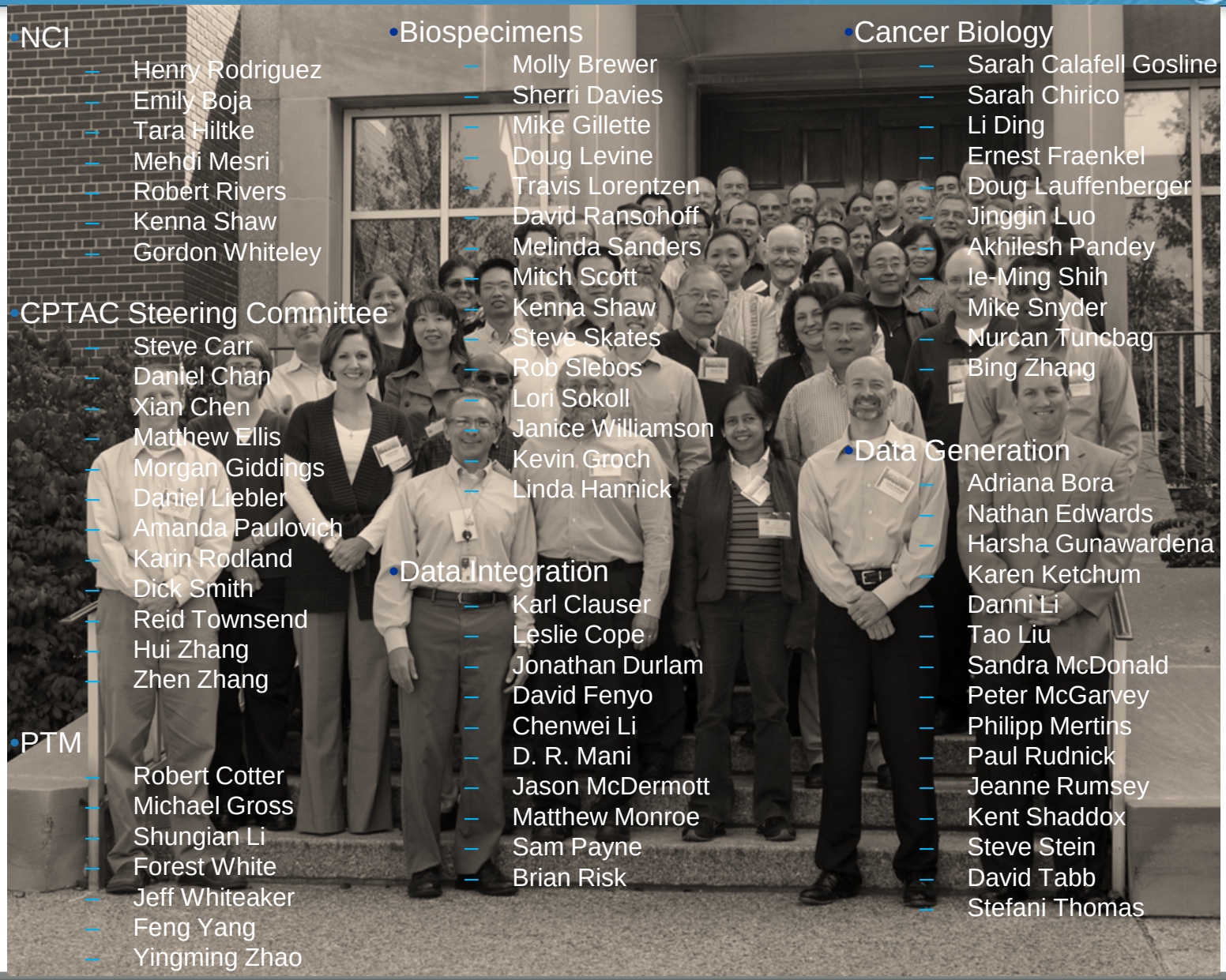
- **Purchasing and/or Licensing the NCI-funded mAbs for distribution**

http://antibodies.cancer.gov
(mAb homepage)



- **Current i ted m**

Acknowledgments



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Community Resources for Proteomics
(http://proteomics.cancer.gov)

Resources	Types	Purposes	Web URLs
CPTAC mAbs	Renewable Affinity Reagents (mouse)	WB, IHC, iMRM-MS, ELISA, etc.	http://antibodies.cancer.gov **(Assay Portal under development)**
CPTAC Data	Raw, Processed & Meta Data	Data for download, query & analyses (Phase I & II)	https://cptac-data-portal.georgetown.edu/cptacPublic/
FDA mock 510(k)s	Mock Assay Submissions	Illustrating assay procedures for FDA clearance (iMRM-MS & affinity array)	http://proteomics.cancer.gov/resources/regulatoryscience
NIST MSQC	QC Software	Monitoring real-time MS "health"	http://peptide.nist.gov/metrics http://massqc.nicorelli.us/
NIST RM8323	Reference Material	Benchmarking MS performance	http://www.nist.gov/srm