The Clinical Proteomic Tumor Analysis Consortium Cutaneous Melanoma Collection (CPTAC-CM)

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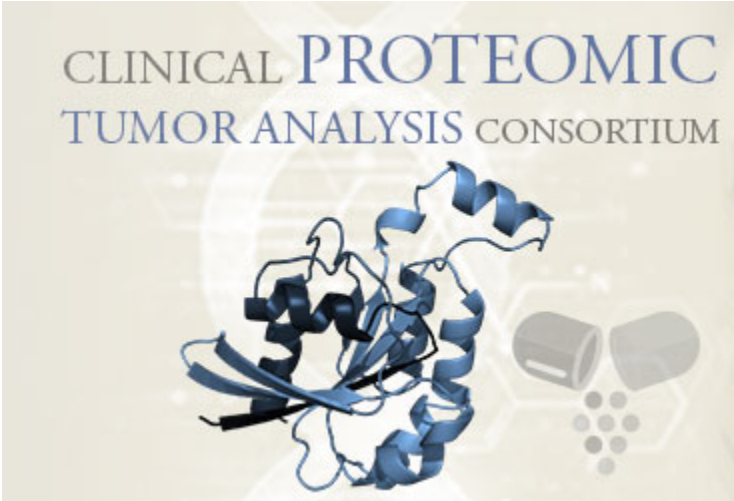
Summary



This collection contains subjects from the National Cancer Institute's Clinical Proteomic Tumor Analysis Consortium Cutaneous Melanoma (CPTAC-CM) cohort. CPTAC is a national effort to accelerate the understanding of the molecular basis of cancer through the application of large-scale proteome and genome analysis, or proteogenomics. Radiology and pathology images from CPTAC patients are being collected and made publicly available by The Cancer Imaging Archive to enable researchers to investigate cancer phenotypes which may correlate to corresponding proteomic, genomic and clinical data.

Imaging from each cancer type will be contained in its own TCIA Collection, with the collection name "CPTAC-*cancerty pe*". Radiology imaging is collected from standard of care imaging performed on patients immediately before the pathological diagnosis, and from follow-up scans where available. For this reason the radiology image data sets are heterogeneous in terms of scanner modalities, manufacturers and acquisition protocols. Pathology imaging is collected as part of the CPTAC qualification workflow.

All CPTAC cohorts are released as either a single combined cohort, or split into *Discovery* and *Confirmatory* where applicable. There are two main types of proteomic studies: discovery proteomics and targeted proteomics. The term "discovery proteomics" is in reference to "untargeted" identification and quantification of a maximal number of proteins in a biological or clinical sample. The term "targeted proteomics" refers to quantitative measurements on a defined subset of total proteins in a biological or clinical sample, often following the completion of discovery proteomics studies to confirm interesting targets selected. Commonly used proteomic technologies and platforms are different types of mass spectrometry and protein microarrays depending on the needs, throughput and sample input requirement of an analysis, with further development on nanotechnologies and automation in the pipeline in order to improve the detection of low abundance proteins, increase throughput, and selectively reach a target protein *in vivo*. Once the protein targets of interest are identified, high-throughput targeted assays are developed for confirmatory studies: tests to affirm that the initial tests were accurate. A summary of CPTAC imaging efforts can be found on the CPTAC Imaging Proteomics page.

CPTAC Imaging Special Interest Group

You can join the CPTAC Imaging Special Interest Group to be notified of webinars & data releases, collaborate on common data wrangling tasks and seek out partners to explore research hypotheses! Artifacts from previous webinars such as slide decks and video recordings can be found on the CPTAC SIG Webinars page.

Acknowledgements

We would like to acknowledge the individuals and institutions that have provided data for this collection:

- St. Joseph's Hospital and Medical Center, Phoenix, AZ - Special thanks to **Jennifer Eschbacher, MD** from the Department of Neuropathology, **Catherine Seiler, PhD**, **Rosy Singh** and **Beth Hermes** from the Biobank Core Facility, and **Victor Sisneros**, RT(R)(CT), CPSA.

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- BioPartners, CA - Special thanks to **Alexander Gasparian, PhD.** from the Department of Drug Discovery and Biomedical Sciences, University of South Carolina College of Pharmacy, **Kakhaber Zaalishvili, MD** Medical Advisor and Staff Pathologist at BioPartners, LLC, **Milla Gorodnia,** President of BioPartners, Inc., **Victoria Christensen,** Global Business Development/Project Coordination Manager, **Oksana Havryliuk, MD.** Chief of Research department of radiodiagnostics of NCI (Ukraine), **Marianna Gredil',** Director of BioPartners, LLC, and **Anna Legenka** Chief of the Data Department at BioPartners, LLC
- International Institute for Molecular Oncology, Pozna, Poland - Special thanks to **Maciej Wiznerowicz MD, PhD** and **Jan Lubiski MD PhD**, **Tomasz Czernicki MD, PhD** and **Andrzej Marchel MD, PhD** from Central Clinical Hospital in Warsaw, **Pawel Jarmuek MD, PhD**, **Jakub Stawicki MD** and **Piotr Makarewicz MD** from Karol Marcinkowski Regional Clinical Hospital in Zielona Góra; and **Wojciech Szopa MD, PhD** and **Wojciech Kaspera MD, PhD** from Regional Clinical Hospital Sosnowiec in Poland

Data Access

Data Access

Data Type	Download all or Query/Filter	License
Radiological Images (DICOM, 14 GB)	*Download* *Search* (Download requires the NBIA Data Retriever)	CC BY 3.0
Tissue Slide Images (SVS, 107 GB)	*Download* *Search* (Download and apply the IBM-Aspera-Connect plugin to your browser to retrieve this faspex package)	CC BY 3.0

Click the Versions tab for more info about data releases.

Additional Resources for this Dataset

The NCI Cancer Research Data Commons (CRDC) provides access to additional data and a cloud-based data science infrastructure that connects data sets with analytics tools to allow users to share, integrate, analyze, and visualize cancer research data.

- Imaging Data Commons (IDC) (Imaging Data)

Detailed Description

Detailed Description

	Radiology Image Statistics	Pathology Image Statistics
Modalities	CT, MR, PT	Pathology
Number of Participants	13	92

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Number of Studies	19	N/A
Number of Series	186	N/A
Number of Images	32,091	404
Images Size (GB)	14.9	107

A Note about TCIA and CPTAC Participant Identifiers and Dates

Participant Identifiers:

A participant with radiology and pathology images stored in TCIA is identified with a de-identified project Patient ID that is identical to the Patient ID of the same participant with clinical, proteomic, and/or genomic data stored in other CPTAC databases and web sites.

Dates:

The radiology imaging data is in DICOM format. To provide temporal context information aligned with events in the clinical data set for each participant, TCIA has inserted information in DICOM tag (0012,0050) *Clinical Trial Time Point ID*. This DICOM tag contains the number of days from the *date the patient was initially diagnosed pathologically with the disease* to the date of the scan. E.g. a scan acquired 3 days before the diagnosis would contain the value -3. A follow up scan acquired 90 days after diagnosis would contain the value 90.

The DICOM date tags (i.e. birth dates, imaging study dates, etc.) are modified per TCIA's standard process which offsets them by a random number of days. The offset is a number of days between 3 and 10 years prior to the real date that is consistent for each TCIA image-submitting site and collection, but that varies among sites and among collections from the same site. Thus, the number of days between a participant's longitudinal imaging studies are accurately preserved when more than one study has been archived while still meeting HIPAA requirements.

Citations & Data Usage Policy

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Users must abide by the TCIA Data Usage Policy and Restrictions. Attribution should include references to the following citations:

Data Citation

National Cancer Institute Clinical Proteomic Tumor Analysis Consortium (CPTAC). (2018). **The Clinical Proteomic Tumor Analysis Consortium Cutaneous Melanoma Collection (CPTAC-CM)** (Version 10) [Data set]. The Cancer Imaging Archive. https://doi.org/10.7937/K9/TCIA.2018.ODU24GZE

Acknowledgement

The CPTAC program requests that publications using data from this program include the following statement: "**Data used in this publication were generated by the National Cancer Institute Clinical Proteomic Tumor Analysis Consortium (CPTAC)**."

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TCIA Citation

Clark K, Vendt B, Smith K, Freymann J, Kirby J, Koppel P, Moore S, Phillips S, Maffitt D, Pringle M, Tarbox L, Prior F. **The Cancer Imaging Archive (TCIA): Maintaining and Operating a Public Information Repository**, Journal of Digital Imaging, Volume 26, Number 6, December, 2013, pp 1045-1057. DOI: 10.1007/s10278-013-9622-7

Other Publications Using This Data

TCIA maintains a list of publications which leverage TCIA data. If you have a manuscript you'd like to add please contact TCIA's Helpdesk.

Versions

Version 10 (Current) 2023/02/24

Data Type	Download all or Query/Filter
Images (DICOM, 14 GB)	*Download* *Search* (Requires NBIA Data Retriever .)
Tissue Slide Images (SVS, 107 GB)	*Download* *Search*
Genomics (web)	*Search*

Radiology modality data cleanup to remove extraneous scans.

Version 9: 2020/09/03

Data Type	Download all or Query/Filter
Images (DICOM, 14 GB)	*Download* *Search* (Requires NBIA Data Retriever .)
Tissue Slide Images (SVS, 107 GB)	*Download* *Search*

Changed to new Aspera download link for histopathology slides.

Version 8: Updated 2020/06/30

Data Type	Download all or Query/Filter
Images (DICOM, 14 GB)	*Download* *Search* (Requires NBIA Data Retriever .)
Tissue Slide Images (SVS, 107 GB)	*Search*

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Added radiology imaging for 4 participants.

Version 7: Updated 2020/03/31

Data Type	Download all or Query/Filter
Images (DICOM, 10.7 GB)	*Download* (Requires NBIA Data Retriever .)
Tissue Slide Images (SVS, 107 GB)	

Added 3 Radiology subjects & 2 Pathology subjects.

Version 6: Updated 2019/12/13

Data Type	Download all or Query/Filter
Images (DICOM, 7.3 GB)	*Download* (Requires NBIA Data Retriever .)
Tissue Slide Images (SVS, 107 GB)	

Added 3 new Radiology Subjects.

Version 5: Updated 2019/10/30

Data Type	Download all or Query/Filter
Images (DICOM, 4.1 GB)	*Download* (Requires NBIA Data Retriever .)
Tissue Slide Images (SVS, 107 GB)	

Added Pathology Subjects

Version 4: Updated 2019/06/30

Data Type	Download all or Query/Filter
Images (DICOM, 4.1 GB)	*Download* (Requires NBIA Data Retriever .)
Tissue Slide Images (SVS, 99 GB)	

Corrected ClinicalTrialTimepointID in 1 subject.

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Version 3 : Updated 2019/03/31

Data Type	Download all or Query/Filter
Images (DICOM, 4.1 GB)	*Download* (Requires NBIA Data Retriever .)
Tissue Slide Images (web)	*Search*

Added subjects

Version 2 : Updated 2018/06/30

Data Type	Download all or Query/Filter
Images (DICOM, 3.3 GB)	*Download* (Requires NBIA Data Retriever.)
Tissue Slide Images (web)	*Search*

Version 1: Updated 2018/01/10

Data Type	Download all or Query/Filter
Images (DICOM, 1.59 GB)	*Download*
Tissue Slide Images (web)	*Search*
Proteomics (web)	*Search*
Genomics (web)	*Search*

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