

CPTAC Imaging Proteomics

The National Cancer Institute's [Clinical Proteomic Tumor Analysis Consortium \(CPTAC\)](#) 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. Data (genomics, proteomics, imaging), assays, and reagents are made available to the public as a Community Resource to accelerate cancer research and advance patient care. CPTAC has been conducted in multiple phases. For the phase 3 prospective data collection activities TCIA has partnered with CPTAC to host both the radiology and pathology imaging data generated by the project. The other data types will be hosted in separate databases managed by the CPTAC program. TCIA will provide links to these resources as they become publicly available.

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!

CPTAC Phase 3 Histopathology and Radiology Imaging

CPTAC imaging data is being made available on a quarterly release schedule. Learn more about each cancer type by clicking on the collection names in the table below. Data currently available is listed below. Clicking on the number of subjects will take you to these data portals with that particular cancer type pre-selected. You can access the radiology and pathology data directly from the respective data portals.

- [Radiology Data Portal](#)
- [Pathology Data Portal](#)

Collection	Cancer Type	Location	Radiology Modalities	Radiology (Subjects)*	Pathology (Subjects)**
CPTAC-AML	Acute Myeloid Leukemia	Bone Marrow	--	--	88
CPTAC-CCRCC	Clear Cell Carcinoma	Kidney	CR, CT, DX, MR, SR	63	222
CPTAC-CM	Cutaneous Melanoma	Skin	CR, CT, MR	13	94
CPTAC-GBM	Glioblastoma Multiforme	Brain	CR, CT, DX, MR, NM, SC	66	189
CPTAC-HNSCC	Head and Neck Squamous Cell Carcinoma	Head-Neck	CT, SC, MR	64	112
CPTAC-LSCC	Squamous Cell Carcinoma	Lung	CR, CT, DX, NM, PT	39	212
CPTAC-LUAD	Adenocarcinoma	Lung	CT, MR, PT, CR, DX, NM	33	244
CPTAC-PDA	Ductal Adenocarcinoma	Pancreas	CT, MR, DX, CR, PT, XA	74	168
CPTAC-SAR	Sarcomas	Soft Tissue	CT,MR	24	94
CPTAC-UCEC	Corpus Endometrial Carcinoma	Uterus	CT, MR, PT, CR, DX	74	250

*links go to TCIA NBIA radiological search portal

** links go to TCIA CPTAC Pathology Portal

Quick introduction to the [TCIA CPTAC Pathology Portal](#):



CPTAC Phase 2 - TCGA Cancer Proteome Studies

TCIA did not formally participate in CPTAC phase 2, but a small subset of the radiology imaging studies for this cohort are available due to overlap with NIH's Cancer Genome Atlas activity. Specifically there are 28 ovarian (TCGA-OV) and 14 breast (TCGA-BRCA) cases in TCIA which have corresponding CPTAC phase 2 proteomic analysis data. The Proteomic Analysis Data is available at: <https://cptac-data-portal.georgetown.edu/cptacPublic/>.

Images and Clinical Data Downloads

These subsets of radiology images can be accessed using the following links:

- [CPTAC Proteomic Breast TCIA TCGA cases](#)
- [CPTAC Proteomic Ovarian TCIA TCGA cases](#)

The clinical data for these subjects can be found in these spreadsheets:

- [TCGA-BRCA Clinical data](#)
- [TCGA-OV Clinical data](#)

References

An early CPTAC publication which reports on a more comprehensive collection of cases from those TCGA tumor data collections (BRCA and OV) can be found at: "Comprehensive quantitative analysis of ovarian and breast cancer tumor peptidomes". Xu Z, et al., *J Proteome Res*. 2015 Jan 2;14(1):422-33. doi: [10.1021/pr500840w](https://doi.org/10.1021/pr500840w).

An excellent review of proteomic biomarkers is the publication: "Proteomics in cancer biomarkers discovery: challenges and applications." Sallam RM1. *Dis Markers*. 2015;2015:321370. doi: [10.1155/2015/321370](https://doi.org/10.1155/2015/321370).

Also: Identification of protein biomarkers in human serum using iTRAQ and shotgun mass spectrometry [Methods Mol Biol](#). 2013;1061:291-307. doi: [10.1007/978-1-62703-589-7_18](https://doi.org/10.1007/978-1-62703-589-7_18). [Koutroukides TA](#)

