

Lung Phantom

Summary

The [FDA anthropomorphic thorax phantom](#) with 12 phantom lesions of different sizes (10 and 20 mm in effective diameter), shapes (spherical, elliptical, lobulated, and spiculated), and densities (630, 10, and +100 HU) was scanned at Columbia University Medical Center on a 64-detector row scanner (LightSpeed VCT, GE Healthcare, Milwaukee, WI). The CT scanning parameters were 120 kVp, 100 mAs, 64x0.625 collimation, and pitch of 1.375. The images were reconstructed with the lung kernel using 1.25 mm slice thickness.

This data set was provided to TCIA for use in the National Cancer Institute's Quantitative Imaging Network ([QIN Lung CT Segmentation Challenge](#)). A [TCI Digital Object Identifier](#) was created to enable easy re-use of the complete multi-site challenge data set.




About the NCI QIN

The mission of the QIN is to improve the role of quantitative imaging for clinical decision making in oncology by developing and validating data acquisition, analysis methods, and tools to tailor treatment for individual patients and predict or monitor the response to drug or radiation therapy. More information is available on the [Quantitative Imaging Network Collections](#) page. Interested investigators can apply to the QIN at: [Quantitative Imaging for Evaluation of Responses to Cancer Therapies \(U01\)](#).

Data Access

Data Access

Click the **Download** button to save a ".tcia" manifest file to your computer, which you must open with the [NBIA Data Retriever](#). Click the **Search** button to open our Data Portal, where you can browse the data collection and/or download a subset of its contents.

Data Type	Download all or Query/Filter
Images (DICOM, 127.5 MB)	 
DICOM Metadata Digest (CSV)	

Click the Versions tab for more info about data releases.

Third Party Analyses of this Dataset

TCIA encourages the community to [publish your analyses of our datasets](#). Below is a list of such third party analyses published using this Collection:

- [QIN multi-site collection of Lung CT data with Nodule Segmentations](#)

Detailed Description

Detailed Description

Collection Statistics	Updated 2014/08/26
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Modalities	CT
Number of Participants	1
Number of Studies	1
Number of Series	1
Number of Images	237
Image Size (MB)	127.5

Supporting Documentation and Metadata

No supporting documentation is available for this collection.

Citations & Data Usage Policy

Citations & Data Usage Policy

This collection is freely available to browse, download, and use for commercial, scientific and educational purposes as outlined in the [Creative Commons Attribution 3.0 Unported License](#). See TCIA's [Data Usage Policies and Restrictions](#) for additional details. Questions may be directed to help@cancerimagingarchive.net.

Please be sure to include the following citations in your work if you use this data set:

Data Citation

Zhao, Binsheng. (2015). Data From Lung_Phantom. The Cancer Imaging Archive. <http://doi.org/10.7937/K9/TCIA.2015.08A1IXOO>

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. ([paper](#))

QIN Challenge DOI Citation

Jayashree Kalpathy-Cramer, Sandy Napel, Dmitry Goldgof, Binsheng Zhao. (2015). Multi-site collection of Lung CT data with Nodule Segmentations. The Cancer Imaging Archive. <http://doi.org/10.7937/K9/TCIA.2015.1BUVFJR7>

Other Publications Using This Data

TCIA maintains [a list of publications](#) that leverage our data. At this time, we are not aware of any publications based on this data. If you have a publication you'd like to add, please [contact the TCIA Helpdesk](#).

Versions

Version 1 (Current): Updated 2014/08/26

Data Type	Download all or Query/Filter
Images (127.5 MB)	<div data-bbox="610 520 805 579">Download</div> <div data-bbox="813 520 976 579">Search</div> <p data-bbox="610 621 1003 653">(Requires the NBIA Data Retriever.)</p>
DICOM Metadata Digest (CSV)	<div data-bbox="610 682 805 741">Download</div>