

NBIA Radiology Portal User's Guide

Topics on this page describe how to use the National Biomedical Imaging Archive (NBIA) Radiology Portal to search local and remote image databases for radiologic images.



You can [print and export](#) this user guide.



Unknown macro: 'ui-expand'

Introduction to the NBIA Radiology Portal

The NBIA Radiology Portal enables you to search for images in the local NBIA *in vivo* image repository. If available, you can also search remote imaging archives.

NBIA submissions are organized in the following hierarchy, which is important to remember in creating your search query and reviewing search results:

Collection > Patient (Subject) > Study > Series > Images

In other words, a collection is the largest organizing concept within NBIA and it includes data about patients (also called subjects). As you continue to drill down to more granular concepts, patients contain studies, studies contain (image) series, and series contain individual images.

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Browser Support

NBIA supports the latest versions of Google Chrome and Mozilla Firefox browsers.

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Searching for Image Studies

You can search and download public data without logging in to the NBIA Radiology Portal. To access restricted data, however, you must log in first to see that data in your search results.

TCIA provides two ways to search for image studies:

- [Simple Search](#)
- [Text Search](#)

When you first open the NBIA Radiology Portal, the Summary tab displays filters for a simple search and pie charts showing counts of collections, image modalities, and anatomical sites in the database. Each pie "slice" is a filter you can use to narrow the data in the portal. Hover over a pie chart slice to view the name of each filter. The size of each pie slice is relative to the size of that filter's representation in the database.

[blocked URL](#)

Click one or more boxes next to each search filter to select it. As you select search filters, they move to the top of the list. They also appear in Boolean query format above the pie charts. This query specifies the filters you have applied to your search. Click **Clear** if you want to remove all of your filters at once and start over. You can save your query as a URL for later use or to put in an email to a colleague. For more information about sharing, go to [Sharing a Query](#) and [Sharing Data in Your Cart](#).

You can narrow your search by the following filters:

- Collections
- Image Modality
- Anatomical Site
- Species
- Phantoms
- 3rd-Party Analysis Results
- Clinical Time Points
- Exclude collections with commercial use restrictions
- Date Released
- Subject IDs

You can also specify the minimum number of image studies you want to match each search filter. For Collections, if you know the name of the collection, click [blocked URL](#) to enter it instead of finding and clicking the collection's box.



3rd-party analysis results are derived data (e.g. segmentations) that were contributed by researchers who were not part of the group that originally submitted a collection to TCIA.

The Simple Search page shows a summary of image studies that match your search criteria. Your selections appear in the following ways:

- Boxes you selected are checked.
- Pie charts update to show the exact search results.
- Breadcrumb-style labels at the top of the page show the applied search filters (not all may display due to space constraints).
- Count of search results appears.

[blocked URL](#)

The pie charts show the count of image studies in your search results by Collection, Image Modality, and Anatomical Site. Click a pie slice or hover over it to see the name of the Collection, Image Modality, or Anatomical Site, and number of each, in your search results.

[blocked URL](#)

The Search Results tab shows the same results as the pie charts but in tabular form.

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Text searches involve entering any text that might appear in any search filter.

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Results are displayed in pie charts and a table, just as with the simple search.

Accessing Limited-Access Collections

You can search and download public data without logging in to the NBIA Radiology Portal. To access restricted data, however, you must log in first to see that data in your search results. Consult the [TCIA Collections](#) page to learn which collections have limited access.



1. In the top menu bar, click

The Login window appears.

The screenshot shows a login window with a light blue header containing the word "Login". Below the header are two input fields: the first is labeled "User name" with a person icon, and the second is labeled "Password" with a lock icon. At the bottom of the form is a "Log in" button.

2. Enter your user name and password, then click **Log In**.

Creating a TCIA Account

To create a new account, do the following.

1. Go to the [Legal Framework and Ethical Use of This Resource](#) page to accept the terms.
2. Read all of the content on the page and then click the **CLICKING HERE** link at the bottom.

[blocked URL](#)

The New User Registration page appears.

[blocked URL](#)

3. Complete the form and click **Create**.

For username and password help, go to [TCIA Account Help](#).



Sometimes, if you emailed the helpdesk before you create your TCIA account, you won't be able to create a new TCIA account using that same email on your own. Often the solution is to use the "forgot password" link and then you can proceed.

If that does not work, contact help@cancerimagingarchive.net with the subject line **Account Creation - email taken**.

Performing a Simple Search

A simple search allows you to search for image studies based on a combination of the following search filters: Collections, Image Modality, Anatomical Site, Species, Phantoms, Third-Party Analysis Results, Date released on TCIA, and Subject IDs. The more criteria you select, the fewer results you receive.

To perform a simple search

- 1. On the TCIA home page, click the **Simple Search** tab.
The Simple Search page appears.
[blocked URL](#)
- 2. Select filters to narrow down the available image series.

To Select	Do This
Collections	Option 1: Click the box next to each collection name you want to select. blocked URL  Hovering over a collection name opens a window with information about the collection in it. Quickly move your mouse to this window, where you can select text and click links. The window stays open until you move your mouse away from it. blocked URL
	Option 2: Click the magnifying glass to enter a name. blocked URL
Image Modality	Click the box next to one or more image modalities. If you select more than one image modality, clicking ANY returns any study that is associated with any of the modalities you selected. Clicking ALL returns all studies that are associated with all of the modalities you selected.  When you select the ANY search modifier here, only the studies that match your search criteria are returned. Be aware that these may be only be a subset of the studies belonging to a single subject (patient). The potential difference between total studies available and the number of studies returned by your search becomes clearer when you select the Total Studies and Total Series columns to appear in your search results. To do so, click  at the top of the Search Results tab. Select Total Studies and Total Series in the Pick Columns list. Pick columns ☒ Cart ☒ Collection ID ☒ Subject ID ☒ Studies ☒ Total Studies ☒ Series ☒ Total Series blocked URL
Anatomical Site	Click the box next to each anatomical site you want to select. Click alpha or num to sort the list alphabetically or numerically. Select Not Specified to find data for which the BodyPartExamined field is empty. blocked URL
Species	Click the box next to the species you want your search results to represent, either human or Mus musculus (mouse). blocked URL
Phantoms	Click the box next to the phantom option you want to select. blocked URL

3rd-Party Analysis Results	Third-party analysis results are derived data (e.g. segmentations) that were contributed by researchers who were not part of the group that originally submitted a collection to TCIA. To enhance the value of TCIA collections, TCIA encourages the research community to publish their analyses of existing TCIA image collections. Examples of this kind of data includes radiologist or pathologist annotations, image classifications, segmentations, radiomics features, or derived/reprocessed images. Click the box next to each third-party analysis results option you want to select. Only DICOM data from third-party analysis results appear when using this search filter. A full listing of all third-party analysis data inclusive of non-DICOM formats appears in the Analysis Results Directory. blocked URL
Clinical Time Points	Some datasets encode Clinical Time Point information in the image metadata. This filter allows you to refine search results based on how many days have passed since a particular clinical event occurred when these metadata are included by the data submitter (e.g. "Days since diagnosis"). Click select to view the types that are available in the database, plus their available date range. In the from and to boxes, enter numbers that correspond to the range of days from and to that time point. blocked URL
Exclude collections with commercial use restrictions	TCIA supports collections with different types of licenses. Some licenses prohibit the commercial use of the collection. You can filter your search results to exclude those collections that have commercial use restrictions. blocked URL
At least X time point (DICOM studies)	Enter the minimum number of time points that match the criteria of your search. This filter allows you to see subjects that have more than one DICOM study (that is, the patient was seen at multiple time points). blocked URL
Date Released	Enter a From and To date to narrow your search results to studies that TCIA first made available during that date range. Alternately, select the Apply "Available" date range box to exclude studies that were unavailable to TCIA during the selected date range. Click the blocked URL button to return the dates to the default date range. blocked URL
Subject IDs	Enter Subject IDs associated with the image series you want to receive in your search results. Separate each Subject ID with a comma and then click Apply Subject IDs. blocked URL

3. Select which columns you want to have appear in the detailed search results on the Search Results tab by clicking  at the top of the Search Results tab. The Pick Columns panel appears.

Pick columns

☒ Cart
 ☒ Collection ID
 ☒ Subject ID
 ☒ Studies
 ☒ Total Studies
 ☒ Series
 ☒ Total Series

Search results are shown in two different ways, as a summary and as detailed search results, and which one appears first matches your last choice. The Summary tab shows updated pie charts and the number of image series in the search results.

[blocked URL](#)

Click the Search Results tab for [more detailed results](#).

Performing a Text Search

A text search allows you to query many of the database fields, DICOM image tag data and their values, and annotation files that are not available in the Simple search. You can also use the text search to query for content of DICOM Structured Reports (DICOM SR) and strains from mouse and rat collections. Refer to the [DICOM Data Dictionary](#) for tags or field names you can use in a text search and [Structure of DICOM SR Documents](#) for a description of the fields in a DICOM SR.



DICOM Examples

- Enter *pancreas* in the Text Search box and find all subjects associated with the value *pancreas*.
- Query using the *attribute:searchTerm* technique: for example, *Body Part Examined:pancreas*. In this example, the colon interprets the DICOM field from the value.
- Query by DICOM codes, such as *0018,0015:pancreas*. *0018,0015* is the DICOM code for *Body Part Examined*.
- Query by DICOM SR attributes, such as *0008,0104* for Code Meaning. Entering *0008,0104:tonsil*, returns all subjects with a Code Meaning that includes the word "tonsil," and *0008,0104:tonsil adenoid* returns all subjects with a Code Meaning that includes both "tonsil" and "adenoid."
- Use a wildcard search such as *Body Part Examined:panc** to find all subjects associated with values beginning with *panc*, including *pancreas*, *pancreatic duct*, and *pancreatic duct and bile duct systems*.

Examples for Strains

- Query for the strain name or parts of the strain name or use a value name pair to construct the query. You can query by the Mouse Genome Informatics (MGI) number or query for MGI in the coding scheme designator field. Examples follow.
- *Strain Description (0010,0212)* = "*NOD.Cg-Prkdc<scid> Il2rg<tm1Wjl>/SzJ*"
- *Strain Nomenclature (0010,0213)* = "*MGI_2013*"
- *Strain Code Sequence (0010,0219)*:
 - *Code Value (0008,0100)* = "*3577020*"
 - *Coding Scheme Designator (0008,0102)* = "*MGI*"
 - *Code Meaning I0008,0103* = "*NOD.Cg-Prkdc<scid> Il2rg<tm1Wjl>/SzJ*"

The text search does have some restrictions. These are:

- The text string you use must have more than one character. The search won't return any values if the text string has only one character.
- Do not use a forward slash (/) in your text string.
- Do not use complex searches with AND or OR statements (text search supports [Lucene syntax](#) but only a single field can be searched at a time).

To perform a text search

1. On the TCIA home page, click **Text Search** or **Search Images > Text Search**.
The Text Search page appears.

[blocked URL](#)

2. In the Text Search box, enter a text string of two characters or more.
3. Click [blocked URL](#).
The search results appear.

[blocked URL](#)



Navigation Tips

- Click the down arrow next to the Subject ID column header to sort the results alphabetically (A to Z or Z to A) by Subject ID.
- Click the arrows at the bottom of the table to display the first, previous, next, or last page of results.
- Click the page number links to move to a specific page of results.
- In the Show (10) entries box in the bottom left, edit the default 10 to the number of entries you want to see on a search results page.

The following table describes each item in the search results table.

Search Result	Description
blocked URL	Click the caret to view the subject details . Click the cart symbol to add image series to your cart .
Collection ID	Collection identifier
Subject ID	Click the Subject ID to view all study images for this subject in a DICOM web viewer, a single series' thumbnails, or the DICOM header for the first image in the series. See Search Results (Studies for Subject) .
Hit	The field in the study where the text string you entered as your search criteria appears.

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Viewing Subject Details

The search results from your query are presented both on the Summary tab in pie charts and on the Search Results tab in a table. Each record in the table corresponds to one subject (patient) and displays the collection(s), study(ies), and image series associated with that subject.

From the Search Results tab, you can view subject details, view all image series associated with the subject, and add image series to your cart for download. You can also view the DICOM header for a selected image series. In the future, you will be able to view the image.

To view subject details

- 1. [Search](#) for studies that match criteria that interest you.
The Summary tab refreshes to show your search results in pie chart form.
- 2. Click the **Search Results** tab.
The search results that match your criteria appear sorted by Subject ID.

 You can [add](#) all studies associated with a subject to your cart at the same time or drill down to an individual study and add it to your cart instead.

- 3. Click a **Subject ID** link.
All studies associated with this subject appear. In this example, this subject is only associated with one study, and only one image series is associated with that study.

 The red asterisk indicates that the date, which is the date that this series was first available at TCIA, has been offset to protect private health information.

- 4. Click the date or the arrow to the left of the study cart icon to view details about the selected study.
All of the image series associated with that study appear.

You can now

- [Add an image series to your cart](#).
- View the series description, modality, manufacturer, number of images, and series ID.
- [View thumbnails](#) of the image series.
- [View an animation](#) of the image series.
- [View DICOM data](#) for this image series.

Viewing Thumbnails of the Image Series

You can view thumbnails of all images in the selected series and then open selected images for further analysis in another image system.

To view thumbnails

- 1. [View the details](#) for a subject.
- 2. Select a study and view its details.

- 3. In the row for an image series, click .

0522c0001

✓	Aug 23, 1999	Neck*HeadNeckPETCT		3 Series	Study UID: ...54903251		
Cart	Description	Modality	Manufacturer	Images	Series	Viewers	DICOM
	CT 5.0 H30s	CT	SIEMENS	113	...60055580		
	PET WB-uncorrected	PT	CPS	112	...97217760		
	PET WB	PT	CPS	112	...07064772		
>	Aug 31, 1999			4 Series	Study UID: ...2.26555		
>	Dec 07, 1999	Neck*HeadNeckPETCT		3 Series	Study UID: ...78294515		
>	Dec 07, 1999	Abdomen*AbdomenPETCT		3 Series	Study UID: ...88515740		

Thumbnails of all of the images in the selected image series appear.



- Click any image to download it to your computer.
Follow your browser's instructions to open or save the file.



Viewing TCIA Collections

You can visualize TCIA collections before you download them by launching an image animation when there are more than two images in the series.

To view a TCIA collection

- [View the details](#) for a subject.
- Click the study date link for the collection you want to view.
The image series associated with this study appear.
[blocked URL](#)
- In the row for an image series, click [blocked URL](#).
The images in the series open in the [Open Health Imaging Foundation \(OHIF\) Viewer](#).
[blocked URL](#)
- Click [blocked URL](#) to display the images in the series sequentially.

Viewing DICOM Data

Digital Imaging and Communications in Medicine (DICOM) is a standard for handling, storing, printing, and transmitting information in medical imaging.

You can view the DICOM tags that form the header of the selected image series.

To view DICOM data

- [View the details](#) for a subject.
- Select a study and view its details.



- In the row for an image series, click .
The DICOM tags associated with the image series appear.

The screenshot shows a table with columns: Cart, Collection ID, Subject ID, Studies, and Series. The selected row is 'Head-Neck Cetuximab-Demo' with Subject ID '0522c0001', 4 Studies, and 13 Series. Below this, a detailed view for '0522c0001' is shown, including a date 'Aug 23, 1999', modality 'Neck*HeadNeckPETCT', 3 Series, and Study UID '54903251'. A table of image series follows, with columns: Cart, Description, Modality, Manufacturer, Images, Series, Viewers, and DICOM. The selected row is 'CT 5.0 H30s' with Modality 'CT', Manufacturer 'SIEMENS', 113 Images, and Series '60055580'. A red arrow points to the 'DICOM' icon in the 'Viewers' column. Below this, a 'DICOM Tags for Image: 1.3.6.1.4.1.14519.5.2.1.5099.8010.450907270983318878770885558335' window is open, displaying a table of DICOM tags.

Element	Name	Data
(0002,0001)	File Meta Information Version	0001
(0002,0002)	Media Storage SOP Class UID	1.2.840.10008.5.1.4.1.1.2
(0002,0003)	Media Storage SOP Instance UID	1.3.6.1.4.1.14519.5.2.1.5099.8010.450907270983318878770885558335
(0002,0010)	Transfer Syntax UID	1.2.840.10008.1.2.1
(0002,0012)	Implementation Class UID	1.2.40.0.13.1.1.1
(0002,0013)	Implementation Version Name	dcm4che-1.4.34
(0008,0005)	Specific Character Set	ISO_IR 100
(0008,0008)	Image Type	ORIGINAL PRIMARY AXIAL CT_SOM5 SPI
(0008,0016)	SOP Class UID	1.2.840.10008.5.1.4.1.1.2

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Downloading Study Data

You can download items you add during the current work session. Before you download items you must [download](#) and then [install the NBIA Data Retriever](#).

You select items to download by first [searching](#) for them in NBIA and then [adding](#) them to your cart.

You can also [export data in your cart](#) to a spreadsheet.

Adding Data to the Cart



To remove all of the data associated with this subject from the cart, click the cart icon again.

cy App
Search
Login
Download
Share
Cart 2 61 MB
Help

Clear
Anatomical (HEADNECK)

Summary
Search Results

Showing 1 - 10 of 10 Subjects
1 page
<< < 1 > >>

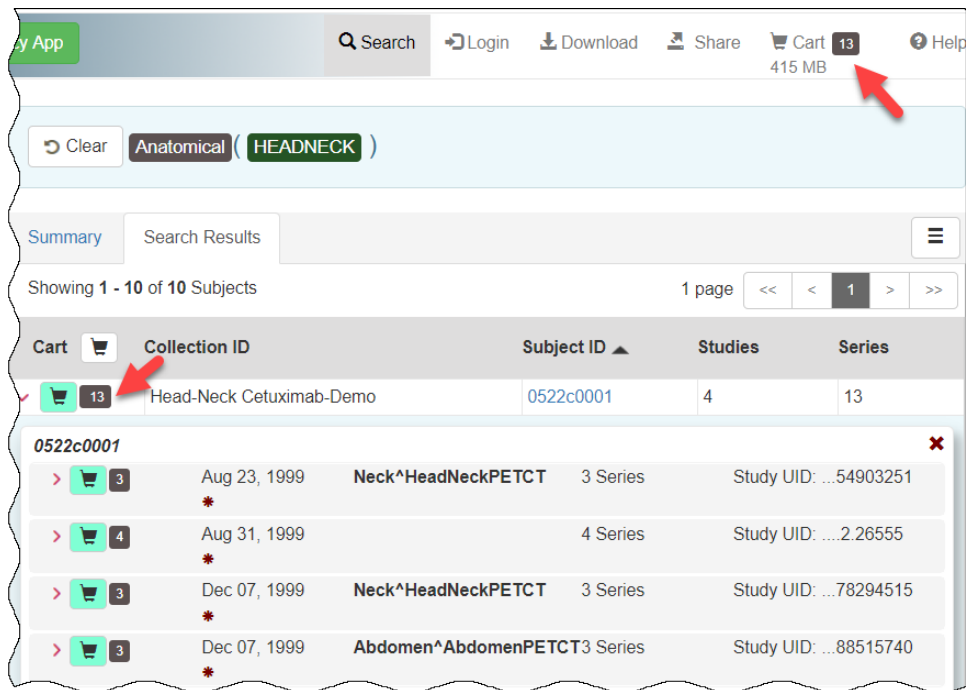
Cart	Collection ID	Subject ID ▲	Studies	Series
> 	Head-Neck Cetuximab-Demo	0522c0001	4	13
> 	Head-Neck Cetuximab-Demo	0522c0002	5	16
> 	Head-Neck Cetuximab-Demo	0522c0003	5	16
> 	Head-Neck Cetuximab-Demo	0522c0009	5	16
> 	Head-Neck Cetuximab-Demo	0522c0012	3	11
> 	Head-Neck Cetuximab-Demo	0522c0013	5	16
> 	Head-Neck Cetuximab-Demo	0522c0014	7	14
> 	Head-Neck Cetuximab-Demo	0522c0015	4	32
> 	Head-Neck Cetuximab-Demo	0522c0017	4	26
> 	Head-Neck Cetuximab-Demo	0522c0027	3	12

Show 10 entries
1 page
<< < 1 > >>

To add all image series associated with a study to the cart

1. [Search](#) for the subject.
2. Click the **Search Results** tab.
3. Click a **Subject ID** link.
All of the studies associated with this subject appear.
4. Click the cart icon next to one or more studies.
All of the image series in the selected studies are added to the cart.
 - The cart icon in the study row turns green. If you did not select all of the studies associated with the subject, the cart icon in the subject row turns yellow.
 - The cart itself, in the upper-right of the window, shows how many image series are in it and how large the download will be.

 To remove all of the data associated with this subject from the cart, click the cart icon again.

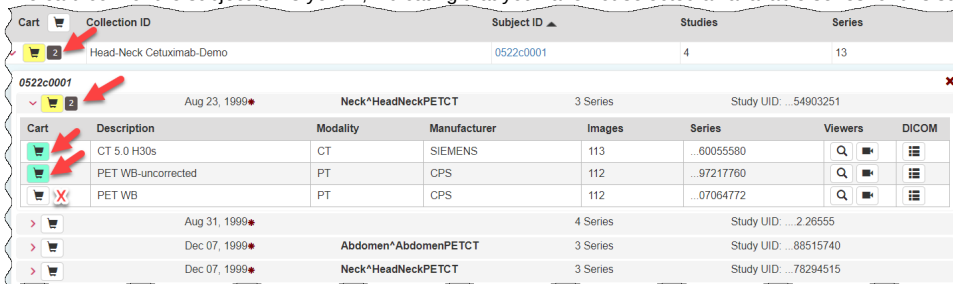


To add one or more image series to the cart

1. [Search](#) for the subject.
2. Click the **Search Results** tab.
3. Click a **Subject ID** link to open all series associated with that subject.
4. Click the cart icon for one or more series.

The cart icon you select turns green.

The cart icon for the subject turns yellow, indicating that you have not selected all available series for this subject.



Downloading the NBIA Data Retriever

After you search for images of interest and add them to your data basket, you can download them.

The most convenient method of downloading is by using the NBIA Data Retriever. You must install the NBIA Data Retriever before you begin downloading. You only have to install it once to use it in future downloading sessions.

Consult the [NBIA Data Retriever FAQ](#) for more information about NBIA Data Retriever versions and usage.

Get the NBIA Data Retriever

Platform	File
Windows	NBIA Data Retriever-4.4.msi
Mac	NBIA Data Retriever in the Mac App Store
Linux (tested on CentOS)	NBIADataRetriever-4.4.1.x86_64.rpm

	To run this file, type the following at the command prompt: <pre>sudo yum -v -y remove NBIADDataRetriever-4.4.x86_64.rpm;sudo yum -y install NBIADDataRetriever-4.4.1.x86_64.rpm</pre>
Linux (tested on Ubuntu)	nbia-data-retriever-4.4.1.deb To run this file, type the following at the command prompt: <pre>sudo -S dpkg -r nbia-data-retriever-4.4.deb;sudo -S dpkg -i nbia-data-retriever-4.4.1.deb</pre>



The following new and updated features are available in NBIA Data Retriever 4.3, which was [released](#) in April 2021.

April 2022

- Any version of the NBIA Data Retriever that is below the minimum version configured on the server or has an unknown version will be prompted to upgrade to the latest version.
- A resume downloading feature is now part of the [command line interface](#) (CLI) of the app.
- The policy window is read-only.

Installing the NBIA Data Retriever

You can install the NBIA Data Retriever on Windows, Mac, or Linux.

To install the NBIA Data Retriever on Windows

1. Download the installer package for Windows using the [Windows link above](#).
2. Save the installer package file to your computer.
3. Install the app by double-clicking the installer package file.
4. Agree to the terms in the License Agreement and click **Install**.
5. When the Setup Wizard ends, click **Finish**.

To install the NBIA Data Retriever on Mac



The Mac version of the NBIA Data Retriever is only available through the iOS App Store. It requires a manifest file to work. You can download the app first or create a manifest file first. If you download the app first, right-click the manifest file and select **Open With Downloader App**. If you create a manifest file first, right-click it and select **Open With App Store**. This installs the app and then opens the manifest file in the app.

1. On your Mac, find the [NBIA Data Retriever on the Mac App Store](#).



The NBIA Data Retriever is free but still requires you to log in to download it. Consider changing your iOS Password Settings so that you can download free software without having to log in separately for it.

2. Click **Get**, then click **Install App**. The NBIA Data Retriever is free.
The app starts downloading to your Mac. When the download is complete, you can open a manifest file with the NBIA Data Retriever.

To install the NBIA Data Retriever on Linux (centOS or Ubuntu)

You must have the sudo privilege on your computer and a sudo password to install the NBIA Data Retriever on CentOS and Ubuntu.

1. Download the installer package for CentOS or Ubuntu using the [links above](#).
2. Save the installer package file to your computer.
3. Open a command window and go to the location where you saved the installer.

Downloading Images Using the NBIA Data Retriever

When you download images you have added to your cart, TCIA provides a list of these images in a manifest file (manifest-xxx.tcia). You must have already [installed](#) the NBIA Data Retriever to open this manifest file and download the images.



You can share the manifest file with collaborators, so that they can download the same images that you have added to your cart. Collaborators must also install the NBIA Data Retriever to open the manifest file.

If you want to share a manifest file that includes links to **private** image collections, you must first manually [install the latest NBIA Data Retriever](#). The latest version of the NBIA Data Retriever controls access to private collections. In addition, your collaborators must have the same access to those private collections as you do. Otherwise, your collaborators will not be able to download images from those collections.

To download images using the NBIA Data Retriever

1. [Search](#) for images of interest.
2. [Add](#) those images to your cart.
3. Click the cart icon in the top-right of the page _____.
The cart contents appear.

4. Click _____.
A message appears reminding you to download the NBIA Data Retriever. If you have already downloaded it, click **Do not show this message** again and click _____. Otherwise, click _____ to go to a page with links for downloads for each operating system.
5. Open the manifest-xxx.tcia file.
The Data Usage Policy notification appears.
6. Click **Agree**. You must agree to the data usage policy before you can proceed with downloading the data in your cart. Note that this policy is included in the license file accompanying your download.
 - If you have added limited-access series to your cart, the NBIA Data Retriever login window appears. Enter your user name and password and click **Submit**.
 - If all of the series you have added to your cart are public, the NBIA Data Retriever appears, showing the items you added to your cart in the Downloads table.

Notes:

- To verify the integrity of the download, select **File > Checksum Verification** prior to clicking **Start**. This calculates the checksum value of files you are downloading, comparing it with the same data in the database. If a mismatch is detected, an error message will appear, and you can also click the three dots in the Status column for more information. If you do not select Checksum Verification, the NBIA Data Retriever will still verify the download by comparing the file size of the series you are downloading against the database.
- If there are series in your download that have commercial use restrictions, the NBIA Data Retriever displays a message referring you to the license information for these series.
- You can hover your mouse over the Patient ID, Study Instance, and Series Instance columns to reveal the complete corresponding IDs. You can also resize a column by selecting and dragging the column border.
- If you do not want to download any of those items, select them in the Downloads table and then click **Delete**. When you remove an item from the Downloads table, it stays in your cart in the Radiology Portal.



If you close the NBIA Data Retriever in the middle of a download, NBIA Data Retriever remembers the partial download. When you restart the NBIA Data Retriever, choosing the same download directory as before, and click **Start**, you are prompted to specify whether you want to download just the missing series or download all of the series in the original manifest file.

If you choose *Download all*, the existing download folder will be overwritten with all of the series in the original manifest file. If you choose *Download missing series*, only those series you have not previously downloaded appear in the Downloads table in the NBIA Data Retriever window, then download only those series.



NBIA Data Retriever File Naming System

The file naming system used by the NBIA Data Retriever provides a natural ordering of the files within each series. The DICOM files are first ordered by ordinal position of acquisition number and then by ordinal position of instance number. The files are then assigned numbers with the lowest acquisition being 1 and the lowest instance number within that acquisition being 1, separated by a dash. The numbers are incremented by 1 as the next values are encountered. All values are left-padded with zeros to provide for the ordering within the file system.

As an example, a series with 2 acquisition numbers with each acquisition having 42 instance numbers would start with 1-01.dcm for the lowest acquisition number and the lowest instance number in that acquisition. The last file in that acquisition would be 1-42.dcm. Then the second acquisition would start with 2-01.dcm, ending with 2-42.dcm, in that acquisition. For the purposes of ordering, an empty value in either acquisition number or instance number is lower than a file having a value for those numbers.

7. Click **Browse** to navigate to the destination where you want the images/annotations to be downloaded.
8. Click **Start** to begin the download. You can monitor the status of the full download in the progress bar on top, and for each collection in the Progress column. The Status column indicates when the download for each item is complete.

At any point in the process, you can click the **Pause** and **Resume** buttons to temporarily stop and restart the process.

The downloaded files are stored in a child folder under the destination folder such as Collection Name > Patient ID > part of Study Date + part of Study ID + part of Study Description + last 5 digits of Study Instance UID > part of Series Number + part of Series Description + last 5 digits of Series Instance UID.



Network Error?

If network errors occur during large downloads, the NBIA Data Retriever retries downloading the series in the manifest file the number of times that your administrator has configured. The default is four times.

After the automatic retries, you have the option of retrying just the failed series, saving an error report, which you can share with the [TCI A help desk](#), and exiting.

Downloading Private Data

If you are downloading any private data, you are prompted to log in.

Once you log in, the NBIA Data Retriever appears.

If you do not have permission to access even one of the collections/sites to which the images you have in your manifest file, you are prompted to contact the [TCIA help desk](#) to request permission to access all of the images.



The following topics are in this section:

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Exporting Data to a Spreadsheet

Once data is in your cart, you can export it to a Comma-Delimited Values (CSV)-format spreadsheet for analysis or sharing with others.

To export your cart

- [Add data](#) to your cart.
- Click [blocked URL](#).
The cart appears.
[blocked URL](#)
- Click [blocked URL](#).
A CSV file called "metadata" opens in your browser. This file provides an overview of the downloaded files.
[blocked URL](#)
Metadata file in the manifest folder

This file includes the following columns:

- Series Instance UID
- Collection
- 3rd Party Analysis
- Data Description URI
- Subject ID
- Study UID
- Study Description
- Study Date
- Series Description

- Modality
- Manufacturer
- SOP Class Name
- SOP Class UID
- Number of Images
- File size
- File Location
- Download Time Stamp

[blocked URL](#)

Metadata file opened in Microsoft Excel

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Sharing a Query

You can save your query for later use or share it with a colleague by email.

To share a query

1. In the top menu bar, click  and then select **Share my query**.
The Query URL box appears.

Query URL

Want to save your query for later use or share it with a colleague?
You can do it using the following URL.

<https://public.cancerimagingarchive.net/nbia-search/?MinNumberOfStudiesCriteria=1&CollectionCriteria=NSCLC-Radiomics>

Note: if new data are added to TCIA at a later date which match your query your search results will be updated to reflect these additions.
If you want to share a static set of data use the 'Share my cart' option instead.

Copy URL
Close

2. Click **Copy URL**.
The URL copies into your Clipboard.
3. Paste the URL into an email or a document.



Shared queries honor data permissions that may exist. Each person that runs the shared query will only see search results that he or she is allowed to see.

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Sharing Data in Your Cart

Once you have added data to your cart, you can share it as a URL to a static set of data. When you or a colleague opens the URL in a browser window, NBIA opens to the cart page.

In the legacy NBIA data portal, this was called a shared list.

To share data in your cart

1. [Add data to your cart](#).
2. In the top menu bar, click  and then select **Share My Cart**.
The Retrieve Cart Data URL box appears.

Cart data URL

Want to save your Cart data for later use or share it with a colleague?
You can do it using the following URL.

<https://public.cancerimagingarchive.net/nbia-search/?saved-cart=nbia-79341542636681286>

Copy URL
Close

3. Click **Copy URL**.
The URL copies into your Clipboard.

4. Paste the URL into an email or a document.



The shared cart honors data permissions that may exist. Each person that opens the shared cart will only see data that that person is allowed to see.

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