

View UCSC Track Hubs in IGB

Convert UCSC track data hubs to IGB Quickloads

UCSC track data hubs are web-accessible directories of genomic data. As UCSC track data hubs have a similar organization to IGB Quickloads, we have created a website - translate.bioviz.org - that can create converted track data hub URLs that can be used in IGB as IGB Quickloads. This is accomplished through an API that dynamically converts the track data hub information to the IGB Quickload format that can be used by IGB.

More information about how UCSC track data hubs work can be found at: <https://genome.ucsc.edu/goldenPath/help/hgTrackHubHelp.html>

The screenshot shows the BioViz website's conversion tool. It has a header with navigation links: About, Help, Developers, Tools, Apps for IGB, and BioViz Connect. A red 'Install IGB' button is in the top right. The main heading is 'Convert Track Hub URL to IGB Quickload URL'. Below it is a form with a label 'Enter hub.txt URL for a Track Hub'. A text box contains the URL 'https://hgdownload.soe.ucsc.edu/hubs/plants/hub.txt' with a green checkmark. A 'Do it' button is to the right. Below the text box is an example URL. Underneath is a section 'Converted Trackhub URL' with a blue box containing the converted URL: 'https://translate.bioviz.org/api?hubUri=https://hgdownload.soe.ucsc.edu/hubs/plants/hub.txt&filePath='. To the right of this box is a smaller box with the text 'To add this trackhub url as data source to IGB, click on the button below' and an 'Add to IGB' button. Labels with arrows point to various parts: 'Track hub URL' points to the input text box; 'Example track hub URL' points to the example text; 'Converted URL' points to the converted URL box; 'Convert track hub to IGB Quickload' points to the 'Do it' button; and 'Add converted track hub to IGB' points to the 'Add to IGB' button.

Steps to convert a UCSC track data hub URL to IGB Quickload URL

1. In a web browser, navigate to <https://translate.bioviz.org/>
2. In the URL text box, enter the track hub URL you would like to convert.
 - a. For example: <https://hgdownload.soe.ucsc.edu/hubs/plants/hub.txt>
3. Click the "Do it" button to convert the track data hub URL.
 - a. If successful, the converted URL will appear in the blue box.
4. Click the Add to IGB button to add the converted track data hub to IGB as a Quickload.
 - a. Note: IGB 9.1.10 or later must be running.

View public UCSC track data hubs in IGB

Public Hubs are a collection of track data hubs that are of general interest to the research community and have been registered with UCSC. We utilized the UCSC API to create a website - bioviz.org/public-trackhubs.html - which populates the searchable list of Public Hubs. Public Hubs of interest can then be added to IGB by clicking the "+" icon.

The screenshot shows the BioViz website's public track hubs page. The header is the same as the previous screenshot. The main heading is 'View UCSC Track Hubs in Integrated Genome Browser'. Below the heading is a search bar with the placeholder text 'Search hub name, description, and genome version'. Below the search bar is a table of public track hubs. The table has four columns: '#', 'Hub Name', 'Description', and 'Genome Versions'. There are four rows of hubs. Each row has a '+' icon in the first column and a link icon in the second column. Labels with arrows point to various parts: 'Search hub name, description, and genome version' points to the search bar; 'Add Track Hub to IGB' points to the '+' icon in the first row; 'Copy Quickload link' points to the link icon in the second row; 'Open genome in IGB' points to the 'Open in IGB' link in the first row; 'Open genome in UCSC' points to the 'Open in UCSC' link in the first row; and 'View additional hub information' points to the 'More Info...' link in the first row.

#	Hub Name	Description	Genome Versions
1	ABC of cellular microRNAome	Advanced BarChart configuration of cellular microRNAome. Evaluation of >20 billion small RNA-seq reads from 196 primary cell types (+plasma, +platelets) across 175 main studies. More Info...	hg38 (H_sapiens_Dec_2013) Open in IGB Open in UCSC
2	ALFA Hub	NCBI's Allele Frequency Aggregator (ALFA) allele frequency for variants in dbGaP studies. More Info...	hg38 (H_sapiens_Dec_2013) Open in IGB Open in UCSC hg19 (H_sapiens_Feb_2009) Open in IGB Open in UCSC
3	Bird Alignment (363 species)	Bird Alignment (363 species) More Info...	Open in UCSC Anthoscopus_minutus Open in UCSC Asarcomis_scutulata Open in UCSC Chlamydotis_macqueenii Open in UCSC
4	Bird assemblies	Bird genome assemblies More Info...	GCA_009769595.1 Open in UCSC GCF_000699105.1 Open in UCSC

Steps to add a public UCSC track data hub to IGB

1. In a web browser, navigate to <https://bioviz.org/public-trackhubs.html>

2. Find a track data hub of interest using the Search bar or navigating through the list of public hubs.
3. Click the "+" below the hub name to add the public hub to IGB as a Quickload.
 - a. Note: IGB 9.1.10 or later must be running.
4. If available, click the Open in IGB link to open the genome in IGB.