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Introduction:

In Bioinformatics, a genome browser is a graphical interface for display of information from a biological database for genomic data. To interactively visualize genomic data, Genome Browser is the program for that, which can use to visualize the entire genome of an organism like SARS-CoV-2 Viral Genome.

Steps:

- First, go to the Genome Browser which you can access [here](#).
- Now search 'SARS-CoV-2' in the search bar.
- Select the 'Assembly' (Recent one) and Click on the 'GO'.

Note: There's no need to type anything in 'Position/Search Term' box as we want the whole genome

- The genome graphical representation will be displayed which can be analyzed and compare with other organisms.

Note: It might take few minutes, as SARS-CoV-2 have been searched highly in research community.

- The Red Bar on the right top of the page represents the region being displayed.
- Zoom out 100x to see the whole genome (which you can compare).
- The entire 29,903 bp have been selected.
- Once, the graph shows up, you will be able to see the 'Scale' on top of it.
- The graph actually represents the 'GC Content'.
- Down below the graph, you can see list of Parameters, through which you can get the kind of data you want to be represented.

Parameters

- First make sure to hide all of the data by clicking on the 'Hide All' tab.
- In 'Mapping and Sequencing', Set the *GC Percent* 'Full', *RefSeqAcc* 'Dense'.
- In 'Genes and Gene Prediction', set *NCBI Genes* to 'Full'.
- In 'Variation and Repeats', set *RepeatMasker* to 'Dense'.
- Then, click on the 'Refresh' and the data will be displayed according to the selected parameters which you can visualize and analyze.

Visualization

- Tracks will be displayed according to the selected parameters.
- Accession number of the genes will be available beside them.
- GC Percent graph shows the graphical representation of GC content in the genome; higher the bar of the graph, higher the GC content.
- RepeatMasker represents the rate of repeating elements in the genome.
- Now, if you want to visualize a specific gene instead of the whole genome, simply zoom in 3x to a particular region.
- That region will be zoomed in and you can see every gene has its own accession number along with it.
- You can click on these accession numbers to access/retrieve the sequence of that specific gene.

Summary:

In this video, we got to see how we can visualize genomic data on the Genome Browser by using the SARS-CoV-2 Viral Genome as an example.

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