Genomic Public Resource Workshop: Integrative Genomics Viewer (IGV)
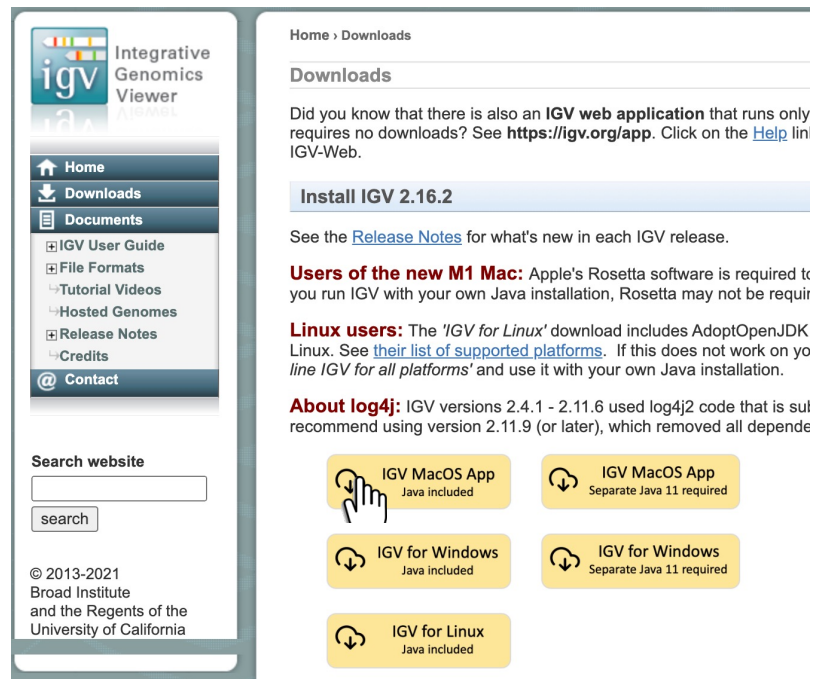
Genomic researchers use genomic visualization browsers such as IGV to explore the genome.

Common Terminology & Supporting Resources

- **Gene:** A gene is the basic physical and functional unit of heredity (link).
- **Genetic variant:** A gene variant is a permanent change in the DNA sequence that makes up a gene (link).
- **Variant nomenclature:** Genetic variants (and sometimes mutations or polymorphisms), are described using a specific language. A standard has been developed for this language, the HGVS nomenclature standard (link).
- **rsID:** Single Nucleotide Polymorphism (SNP) is a location in the genome that is known to differ between individuals. The rs number is used by researchers and databases to refer to specific SNPs (link).
- **Genome build:** Successive "versions" of the human genome reference, commonly called assemblies or builds, have been published since the original draft Human Genome Project publication (link).
- **Tracks:** Genome Browser annotation tracks are based on files in line-oriented format. Each line in the file defines a display characteristic for the track or defines a data item within the track. Annotation files contain three types of lines: browser lines, track lines, and data lines (link).
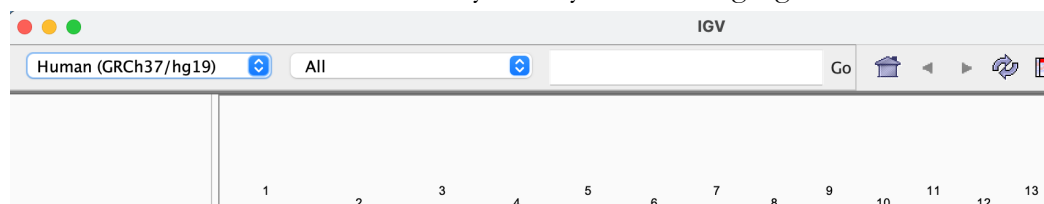
To download IGV (desktop version):

1 Go to https://software.broadinstitute.org/software/igv/download, and select the version based on your operating system.

Note: We recommend you use the version that includes Java.

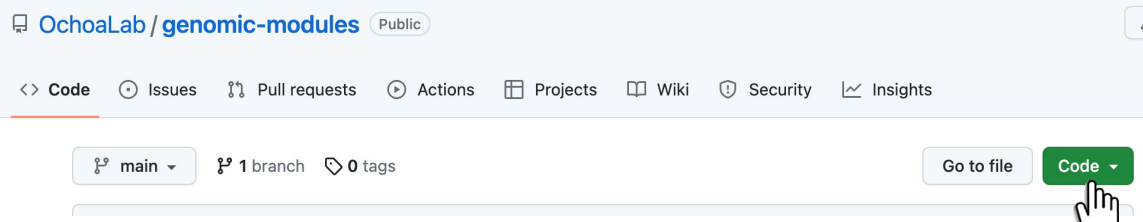**2** Once downloaded to your local computer, unzip file (for Mac), then begin install by opening **IGV_2.16**.2 (Mac) or **IGV_Win_2.16.2-WithJava-installer.exe** (Windows).

3 You have now downloaded IGV and are on your way to becoming a genomicist.
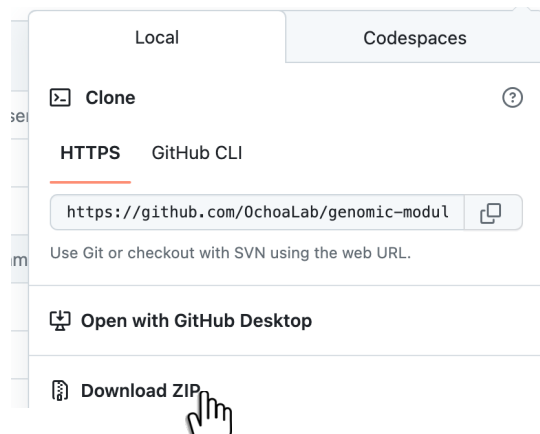
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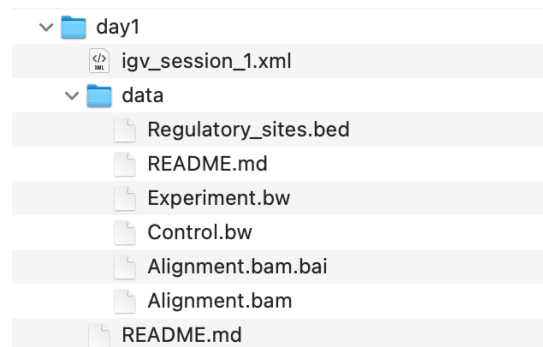## To load data files from GitHub into IGV:

1 Go to https://github.com/OchoaLab/genomic-modules, and select green Code button.

2 Select 'Download ZIP'.

3 You will now have the ZIP file on your local computer.

4 Open IGV desktop version and select 'Open session' and select 'igv_session_1.xml'. If there is a popup message, select 'OK'.