OpenHelix




# NCBI Map Viewer

NCBI Map Viewer

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OpenHelix

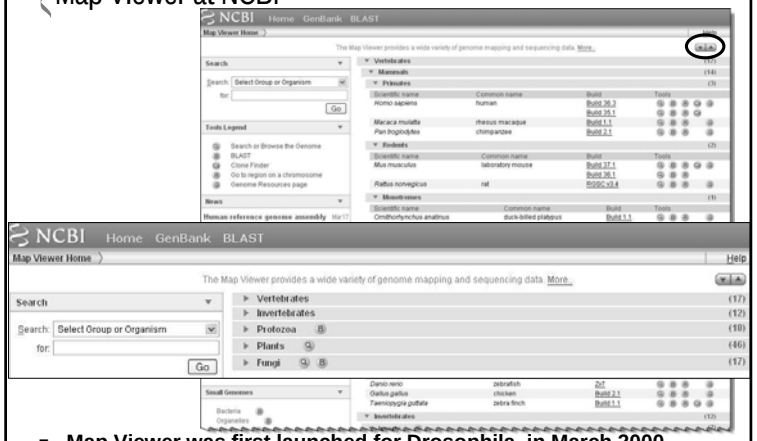
## Map Viewer Agenda

- Introduction and Credits
- Basic Searches
- Map Options
- Additional Searches
- BLASTing a Genome
- Summary
- Exercises

**Map Viewer: http://www.ncbi.nlm.nih.gov/mapview/**




## Map Viewer at NCBI




- **Map Viewer was first launched for Drosophila, in March 2000**
- **At this time there are more than 100 species; regularly added**
- **Goal: providing context to genome information**

## Credits to NCBI Folks


- **Map Viewer is only one of the many projects at NCBI**
- **Learn more about the NCBI offerings in the annual Nucleic Acids Research database issue**

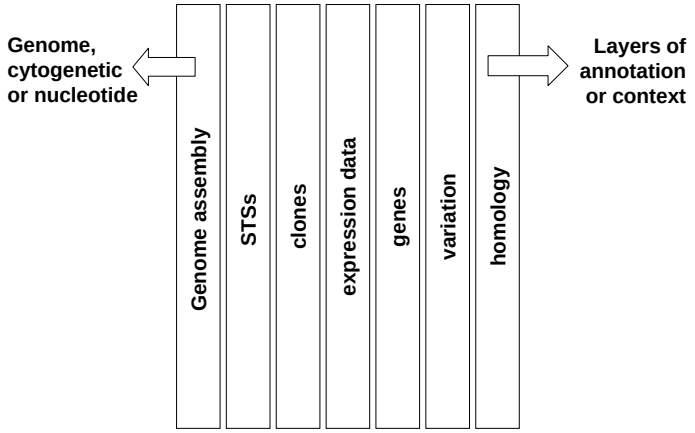



## Map Viewer Tools

- Compare maps in different coordinate systems (genetic maps vs sequence maps)
- Robust query interface (basic, advanced, text or sequence searches)
- Configure the display for your needs
- Reports, and download maps and annotations
- Customize the transcript sequence (Model Maker)
- Detailed descriptions and links for the objects you see



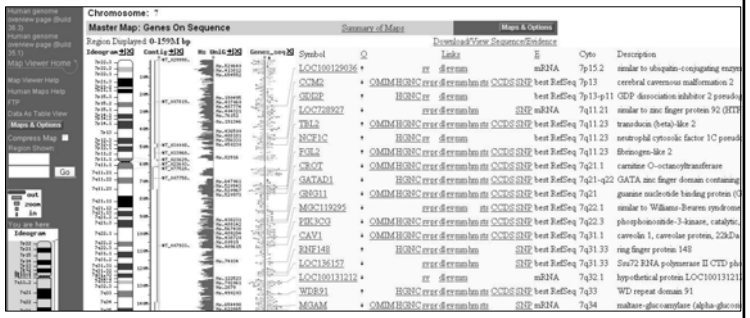

## Map Viewer, Conceptually







## Sample Image of Map Viewer



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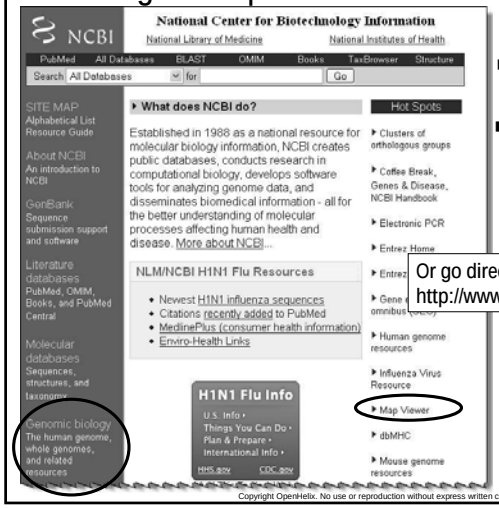
## Finding the Map Viewer at NCBI

www.ncbi.nlm.nih.gov

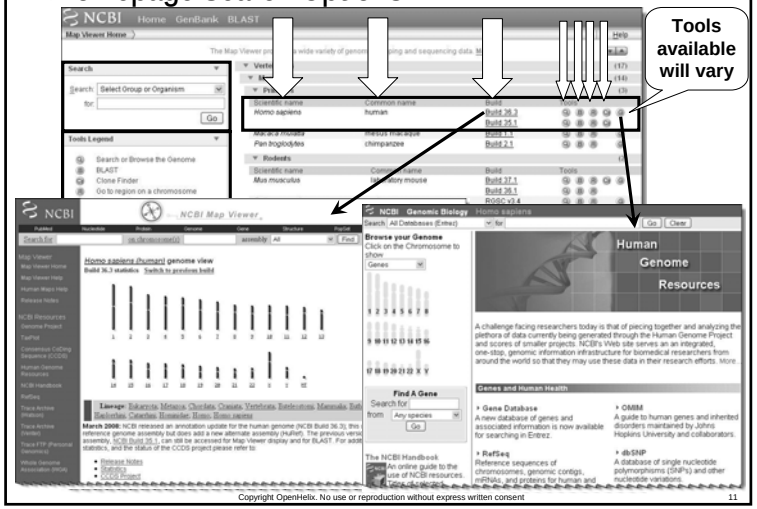



- Genomic biology link
- Map Viewer link

Or go directly to http://www.ncbi.nlm.nih.gov/mapview/



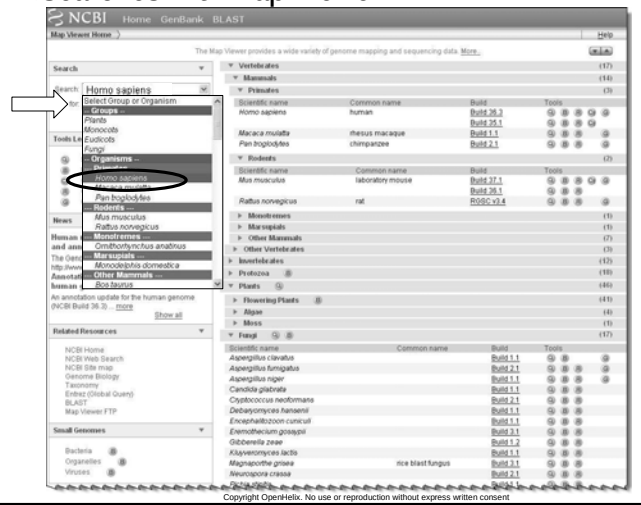

## Homepage Search Options



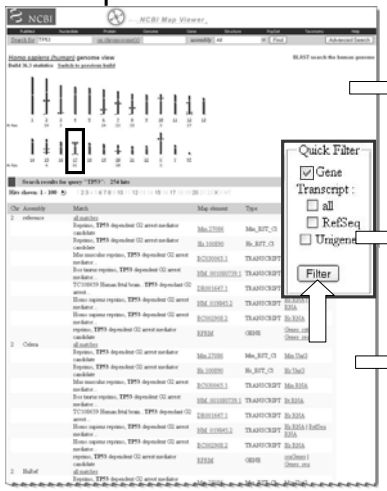




## Searches with Map Viewer



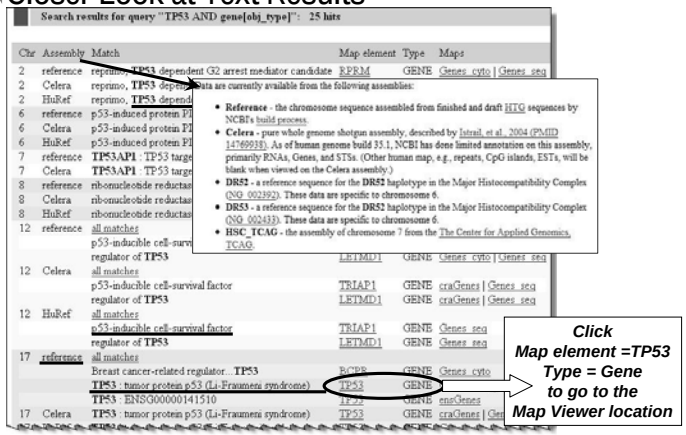
## Sample Search: Human TP53




- Diagram shows location of hits and numbers of results (red)
- Click the Gene filter to simplify results for this example
- Text format output of the same results as diagram



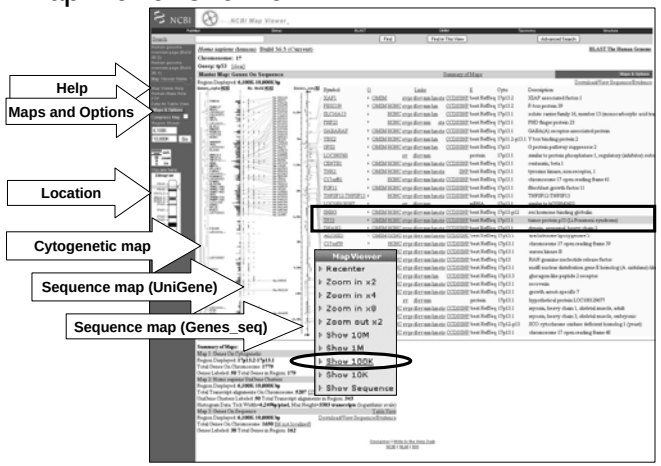

## Closer Look at Text Results




- Assembly, different groups provide genome sequences
- Reference assembly will be shown in our example




## Map Viewer Overview




- Default maps shown; you can add/remove any maps




## Map Viewer, Zoom to Show 100k View

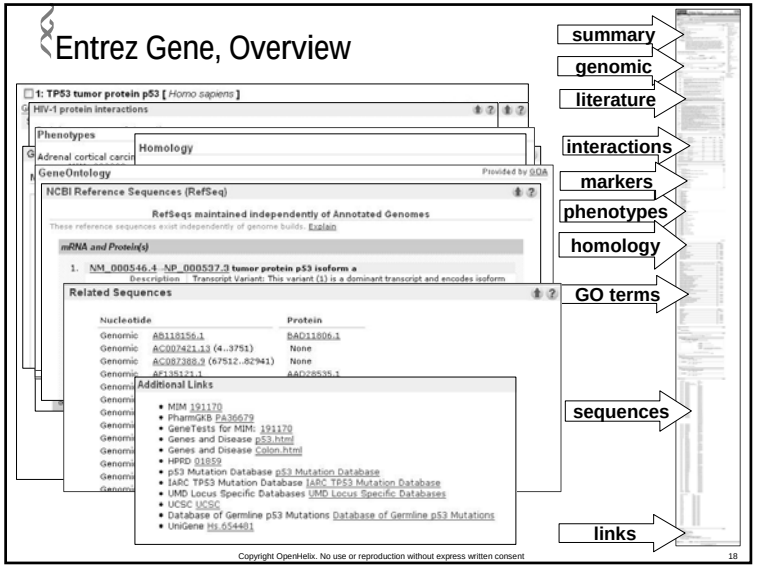

- From previous results, chose zoom to show 100k region
- Image shows the TP53 region (pink highlight)
- For info on Maps, click the Map names
- Links offer additional information as well

## TP53 Links to Entrez Gene


- Gene symbol links to Entrez Gene



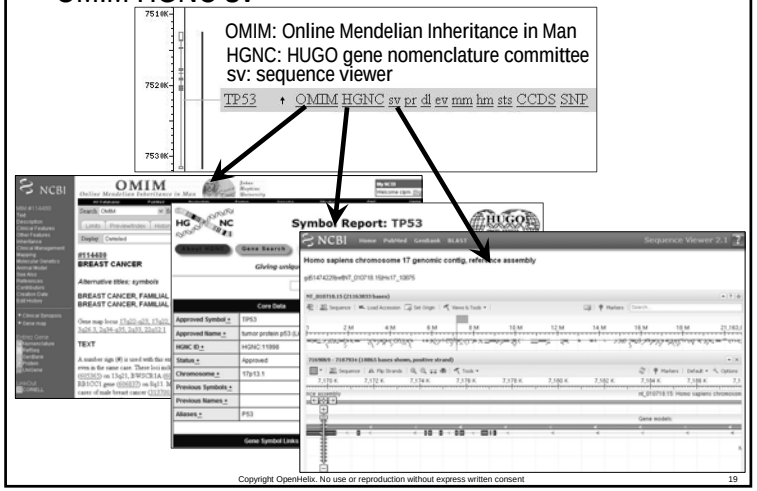

## Entrez Gene, Overview







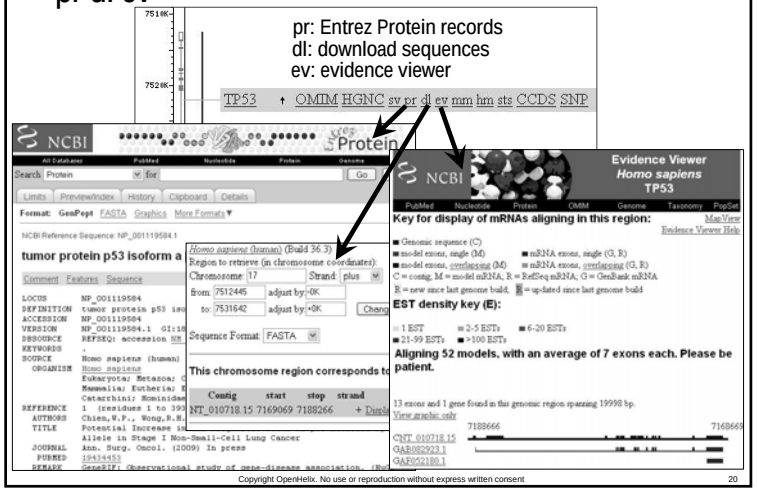
## Genes_seq LinkOut Options, TP53 OMIM HGNC sv



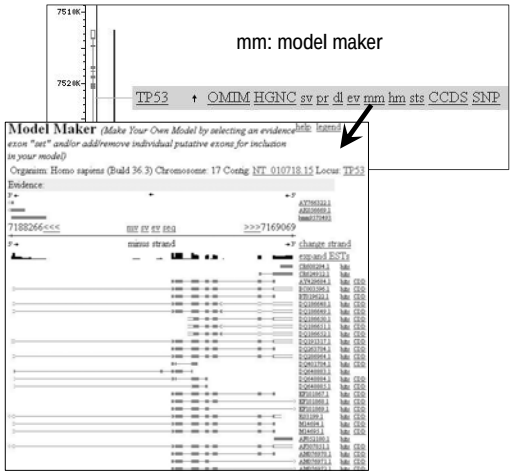




## Genes_seq LinkOut Options, TP53 pr dl ev



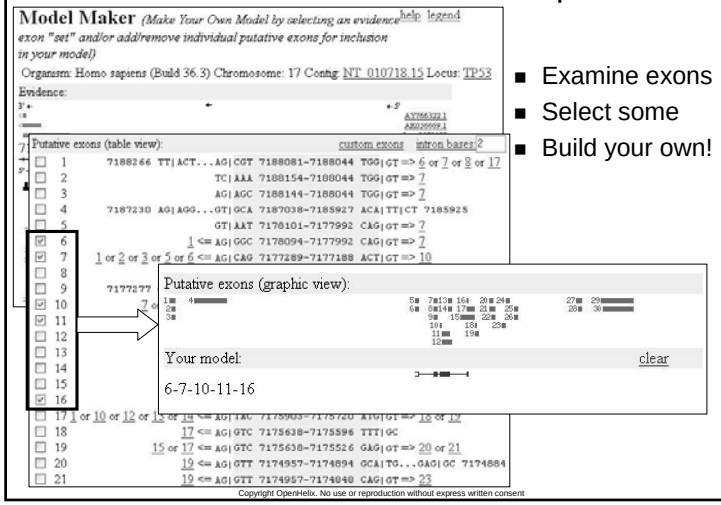
## Genes_seq LinkOut Options, TP53 mm







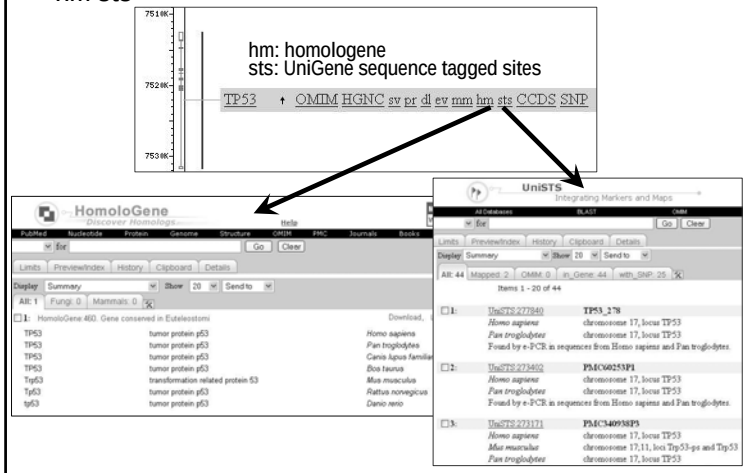
## Model Maker: Build Your Own Transcript




- Examine exons
- Select some
- Build your own!



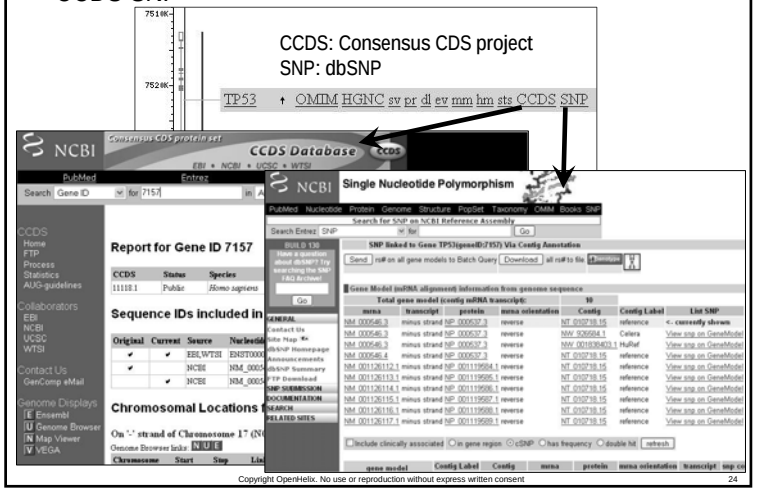

## Genes_seq LinkOut Options, TP53 hm sts







## Genes_seq LinkOut Options, TP53 CCDS SNP



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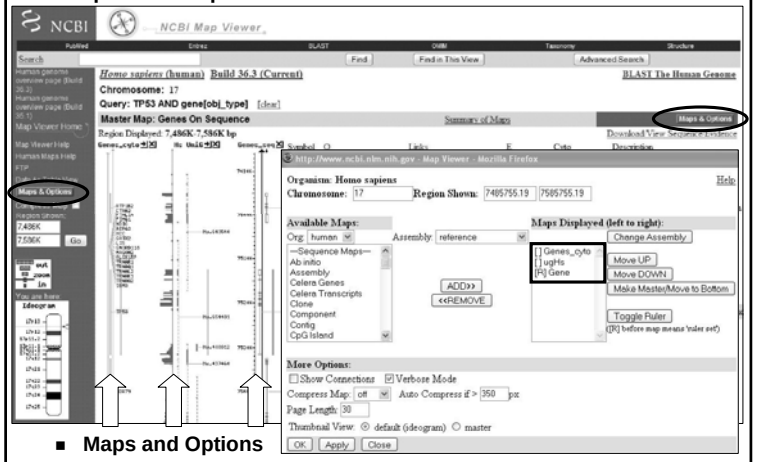
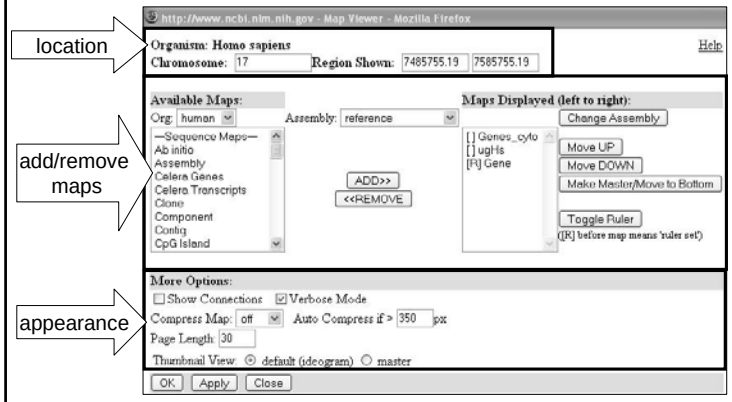
## Maps and Options to Add/Remove Tracks




- **Maps and Options**
- **Change default maps, or add new ones**



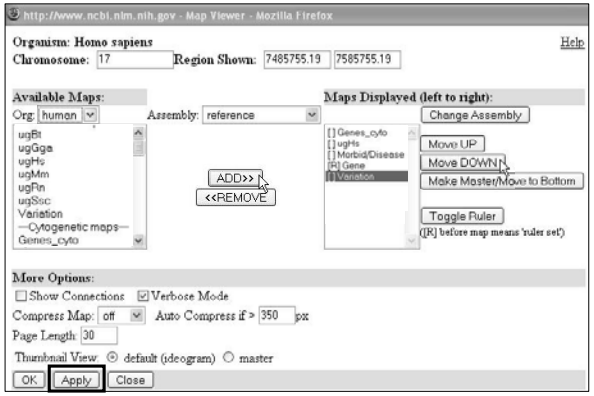

## Add Additional Detail Using Maps and Options Tool



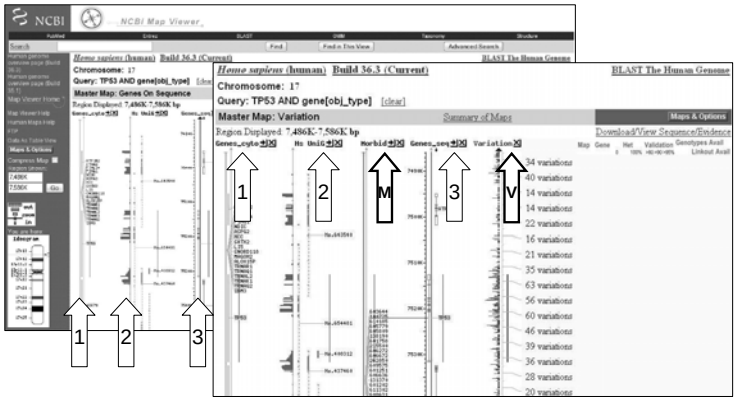




## Add Additional Detail Using Maps and Options Tool



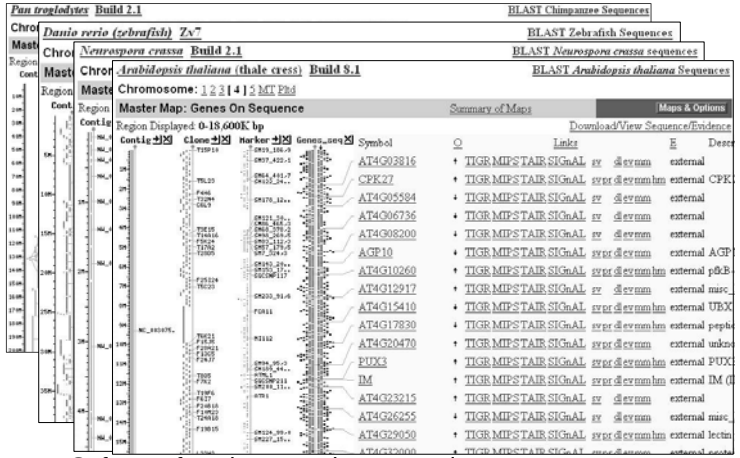
## Add Additional Detail Using Maps and Options Tool




- 2 new maps added *(M = Morbid map, V = Variation map)*
- Can put them in any order you like




## Different Species, Different Maps, Same Software




- Software functions are the same; data types may vary

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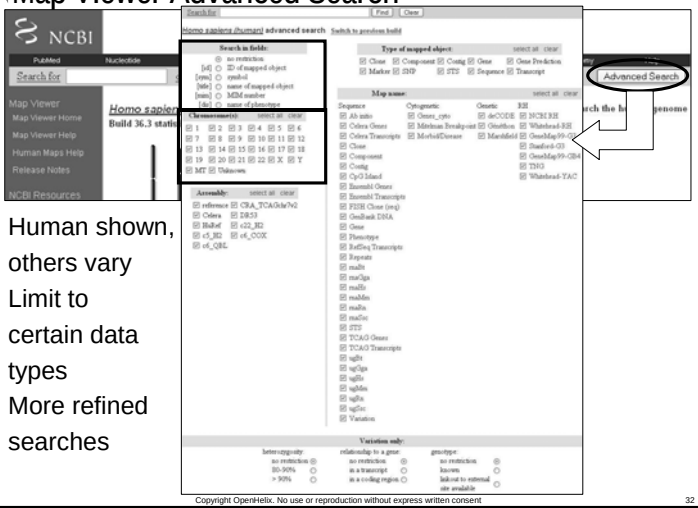
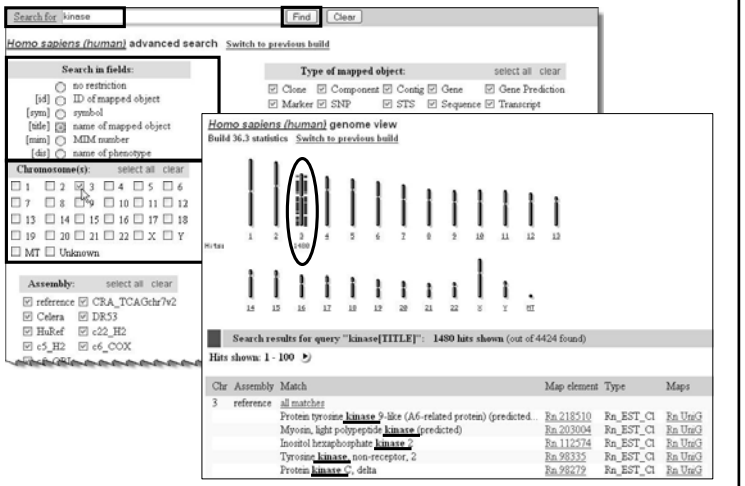
## Map Viewer Advanced Search




- Human shown, others vary
- Limit to certain data types
- More refined searches

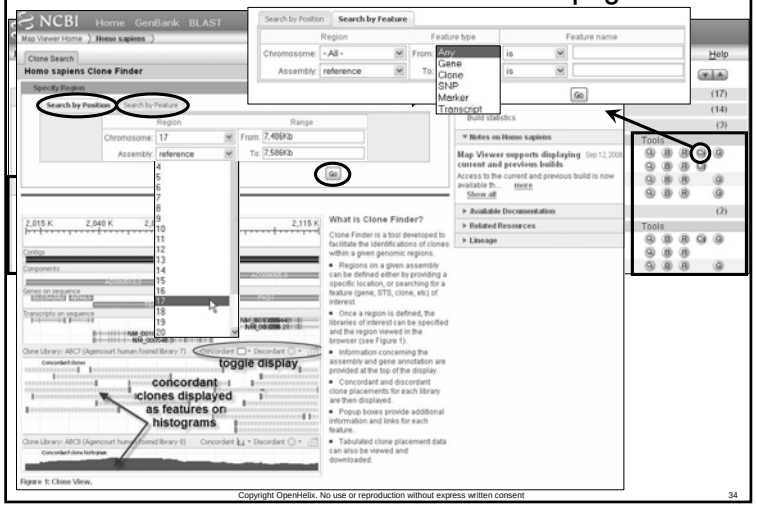
# Advanced Search: Kinase, Human Chromosome 3







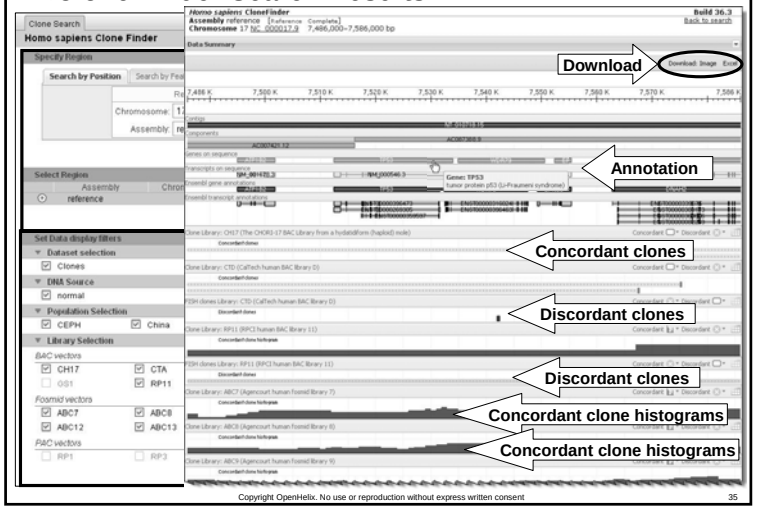
# Clone Finder – Access Tool From Homepage







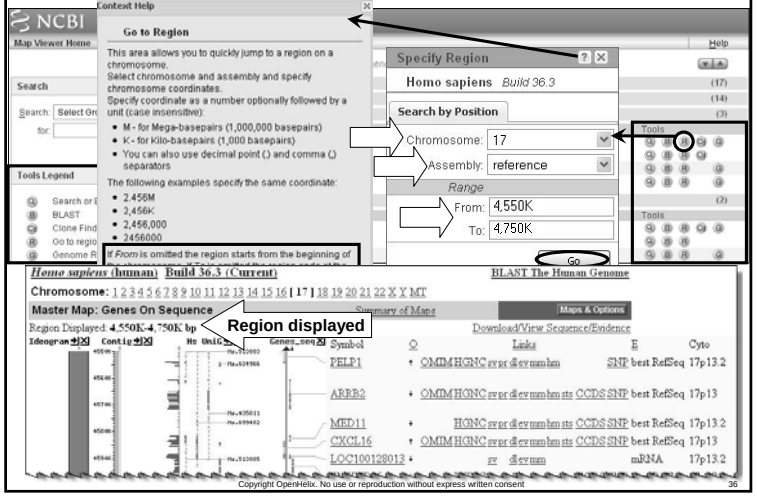
# Clone Finder Search Results







# Jumping to a Chromosomal Region



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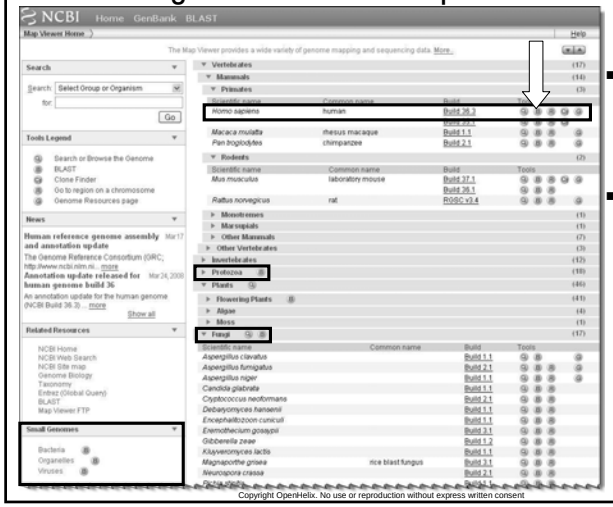
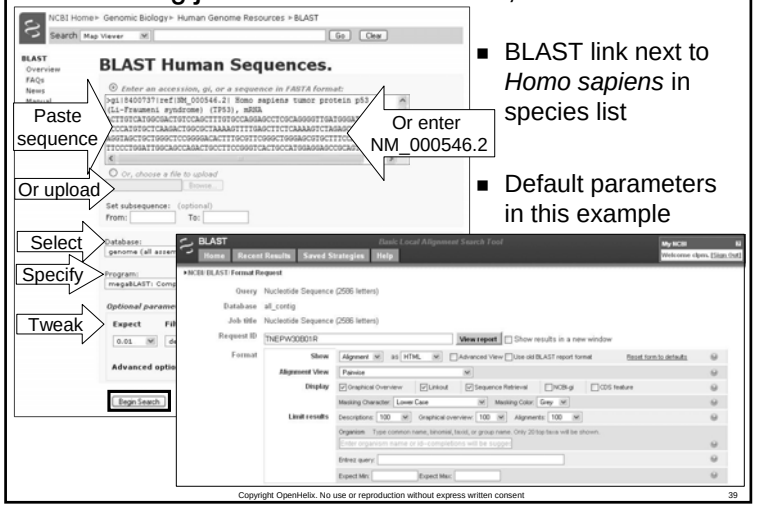
## BLASTing a Genome from Map Viewer Homepage




- **BLAST: can choose a single species**
- **Sometimes groups (notice Protozoa, Fungi, Bacteria, others)**



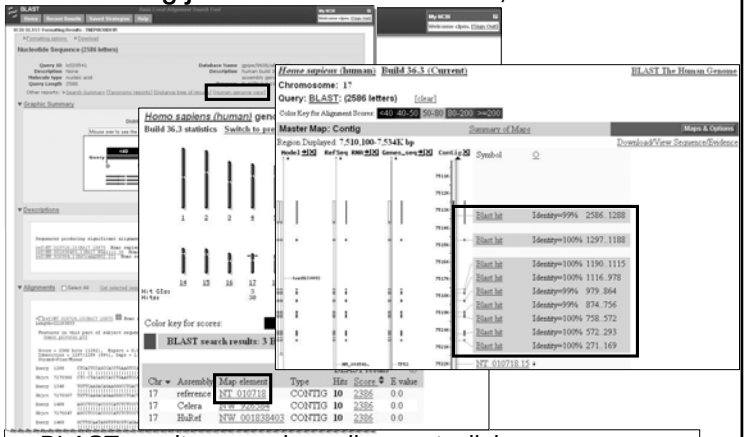

## BLASTing just the Human Genome, Part I




- BLAST link next to *Homo sapiens* in species list
- Default parameters in this example




## BLASTing just the Human Genome, Part II




- BLAST results page gives alignments, links
- Also provides the option to view location in Map Viewer

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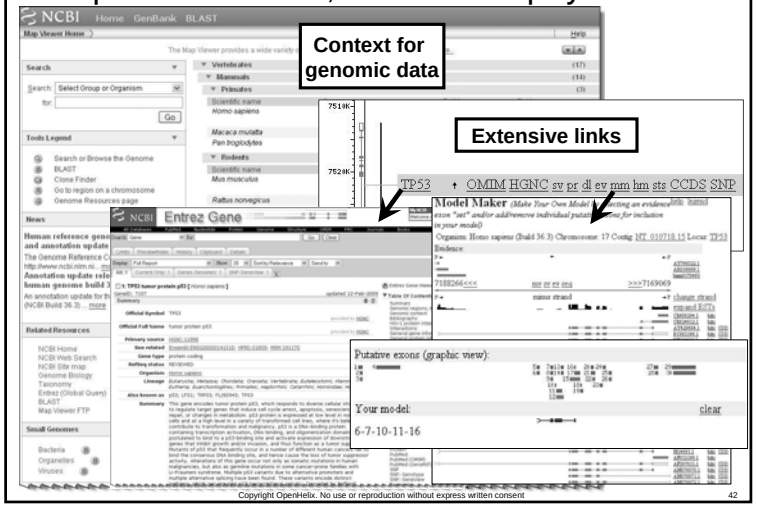
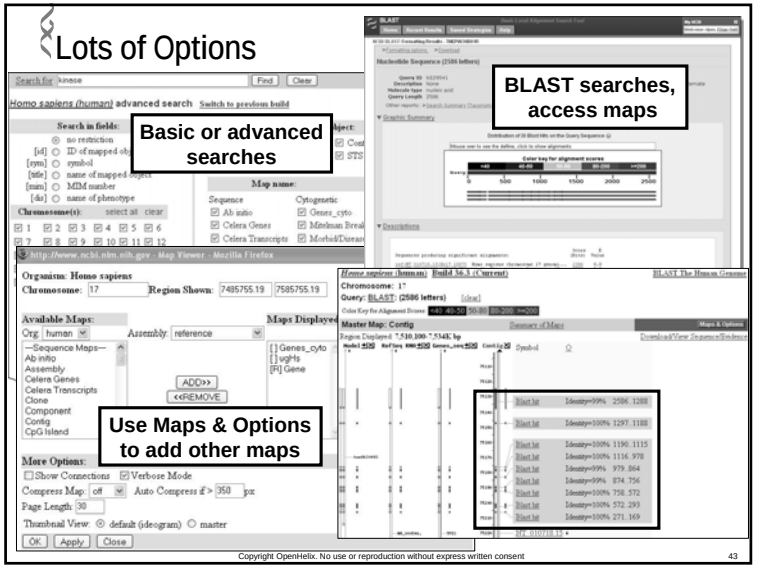
## Map Viewer – Search, Retrieve & Display Your Data







## Lots of Options







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