



## About CottonGen

CottonGen initiated in 2013 from the consolidation of CottonDB and the Cotton Marker Database (CMD). Since then, it has expanded to include annotated transcriptome, genome sequence, marker-trait-locus and breeding data, as well as enhanced tools for easy querying and visualizing research data and has become a centralized database containing genomics, genetics, and breeding data and analysis tools for cotton. Annotated genome sequences are available to view and search and there is also information about genetic maps, molecular markers, and QTL. If you are a breeder who needs to manage private breeding program data, access to the Breeding Information Management System (BIMS) can be requested. Visit us at [www.cottongen.org](http://www.cottongen.org) to see everything that is available. Each issue of the newsletter will focus on a different type of data and what features are available. Short monthly how-to videos are available from the site.

## New Ortholog/Paralog Search

While ortholog and paralog data are stored in our database as part of the [MCScanX](#) synteny analysis are viewable in the [Synteny Viewer](#) tool, there was not a way to search that data directly. To remedy this, we have designed the new [Search Orthologs and Paralogs](#) feature. See the diagram below for details on how to use it.

Remember that clicking on mRNA names opens the details page for that mRNA where you can see all the functional annotation details. Can't find your genome on the list in the new search? Only genomes that are within the Synteny Viewer are currently available. The missing genomes will be added soon. Please [contact us](#) with feedback.

## Search Orthologs and Paralogs

Retrieve orthologs/paralogs that are detected using MCScanX (Wang et al. 2012) using default settings. Sequences in ortholog/paralog columns between different assemblies/annotations of the same species represents potentially the same genes. In most cases, mRNA transcripts were used in the analysis and genes were used only when mRNAs are not available. The result table provides associated gene names as well.

Genome:

Chromosome/Scaffold:

Gene/Transcript Name:    No file selected

Compare to:

Chromosome/Scaffold:

Select the first genome and refine with a chromosome or gene/mRNA name

Refine more by selecting the second genome and chromosome

*See the Page 2 for the results!*

# Results of Orthologs and Paralogs Search

Link to download results as file

Genome 1 information

Genome 2 information

5008 records were returned

Download Table

#	Genome1	Chromosome/Scaffold1	Ortholog/Paralog1	Genome2	Chromosome/Scaffold2	Ortholog/Paralog2	Associated Gene
1	Gossypium raimondii (D5) 'D5-4' genome NSF_v1	D5_03	D5.v1.pred_00024641-RA	Gossypium hirsutum (AD1) 'TM-1' genome UTX_v2.1	D02	Gohir.D02G240300.3	Gohir.D02G240300
2	Gossypium raimondii (D5) 'D5-4' genome NSF_v1	D5_03	D5.v1.pred_00024641-RA	Gossypium hirsutum (AD1) 'TM-1' genome UTX_v2.1	A03	Gohir.A03G218400.1	Gohir.A03G218400
3	Gossypium raimondii (D5) 'D5-4' genome NSF_v1	D5_03	D5.v1.pred_00024648-RA	Gossypium hirsutum (AD1) 'TM-1' genome UTX_v2.1	D02	Gohir.D02G239800.1	Gohir.D02G239800
4	Gossypium raimondii (D5) 'D5-4' genome NSF_v1	D5_03	D5.v1.pred_00024648-RA	Gossypium hirsutum (AD1) 'TM-1' genome UTX_v2.1	A03	Gohir.A03G217800.1	Gohir.A03G217800
5	Gossypium raimondii (D5) 'D5-4' genome NSF_v1	D5_03	D5.v1.pred_00024655-RA	Gossypium hirsutum (AD1) 'TM-1' genome UTX_v2.1	D02	Gohir.D02G238900.2	Gohir.D02G238900
6	Gossypium raimondii (D5) 'D5-4' genome NSF_v1	D5_03	D5.v1.pred_00024655-RA	Gossypium hirsutum (AD1) 'TM-1' genome UTX_v2.1	A03	Gohir.A03G217300.1	Gohir.A03G217300
7	Gossypium raimondii (D5) 'D5-4' genome NSF_v1	D5_03	D5.v1.pred_00024661-RA	Gossypium hirsutum (AD1) 'TM-1' genome UTX_v2.1	D02	Gohir.D02G238400.1	Gohir.D02G238400
8	Gossypium raimondii (D5) 'D5-4' genome NSF_v1	D5_03	D5.v1.pred_00024661-RA	Gossypium hirsutum (AD1) 'TM-1' genome UTX_v2.1	A03	Gohir.A03G216800.1	Gohir.A03G216800

Hyperlink to mRNA details

Hyperlinks to mRNA and gene details

Hyperlinks to genome information

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