



GENOME DATABASE FOR VACCINIUM

Genomics, genetics, and breeding resources for blueberry, cranberry, bilberry, and lingonberry research

Issue 3 | April 2022

What is GDV?

GDV is a centralized database for genomics, genetics, and breeding data and analysis tools for *Vaccinium* sp. 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 a private breeding program data, access to the Breeding Information Management System (BIMS) can be requested through GDV. Visit us at www.vaccinium.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.

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 [Ortholog/Paralog Search](#) 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.

Ortholog/Paralog Search

Retrieve orthologs/paralogs that are detected using MCScanX (Wang et al. 2012) using default settings between different assemblies/annotations of the same species represents potentially the same genes. I used in the analysis and genes were used only when mRNAs are not available. The result table provide

Genome

Chromosome/Scaffold

Gene/Transcript Name No file chosen

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!

Ortholog/Paralog Search Results

Link to download results as file

Genome 1 information

Genome 2 information

419 records were returned

Download Table

#	Genome1	Chromosome/Scaffold1	Ortholog/Paralog1	Genome2	Chromosome/Scaffold2	Ortholog/Paralog2	Associated Gene
1	Vaccinium macrocarpon cv. Ben Lear v1.0 genome sequence	Vmac_chr01	Vmac_003598-T1	Vaccinium macrocarpon cv. Stevens v1.0 genome sequence	chr1	vmacro00196-RA	vmacro00196
2	Vaccinium macrocarpon cv. Ben Lear v1.0 genome sequence	Vmac_chr01	Vmac_003557-T1	Vaccinium macrocarpon cv. Stevens v1.0 genome sequence	chr1	vmacro00222-RA	vmacro00222
3	Vaccinium macrocarpon cv. Ben Lear v1.0 genome sequence	Vmac_chr01	Vmac_003559-T1	Vaccinium macrocarpon cv. Stevens v1.0 genome sequence	chr1	vmacro00219-RA	vmacro00219
4	Vaccinium macrocarpon cv. Ben Lear v1.0 genome sequence	Vmac_chr01	Vmac_003564-T1	Vaccinium macrocarpon cv. Stevens v1.0 genome sequence	chr1	vmacro00217-RA	vmacro00217
5	Vaccinium macrocarpon cv. Ben Lear v1.0 genome sequence	Vmac_chr01	Vmac_003585-T1	Vaccinium macrocarpon cv. Stevens v1.0 genome sequence	chr1	vmacro00204-RA	vmacro00204
6	Vaccinium macrocarpon cv. Ben Lear v1.0 genome sequence	Vmac_chr01	Vmac_003587-T1	Vaccinium macrocarpon cv. Stevens v1.0 genome sequence	chr1	vmacro00203-RA	vmacro00203
7	Vaccinium macrocarpon cv. Ben Lear v1.0 genome sequence	Vmac_chr01	Vmac_003591-T1	Vaccinium macrocarpon cv. Stevens v1.0 genome sequence	chr1	vmacro00200-RA	vmacro00200
8	Vaccinium macrocarpon cv. Ben Lear v1.0 genome sequence	Vmac_chr01	Vmac_003615-T1	Vaccinium macrocarpon cv. Stevens v1.0 genome sequence	chr1	vmacro00192-RA	vmacro00192

Hyperlink to mRNA details

Hyperlinks to mRNA and gene details

Hyperlinks to genome information

Join the [GDV Mailing List](#) and follow us on [Twitter](#)

Funded by:
 USDA National Research Project (NRSP10)
 SCRI-NIFA Award 2019-51181-30015 (VacCAP)