User Guide

Version 1.0

Last updated 2017/4/21

1. HOW TO DOWNLOAD CIRCVIEW AND TEST DATA

Download CircView application from

http://github.com/GeneFeng/CircView/blob/master/CircView.tar.gz

Download circRNAs test data from

https://github.com/GeneFeng/CircView/blob/master/testdata/

Download MRE data from

http://gb.whu.edu.cn/CircView/testdata/mre_human.tar.gz

Download RBP data from

http://gb.whu.edu.cn/CircView/testdata/rbp_human.tar.gz

2. BEST PRACTISE

2.1 Basic Feature: CircRNAs Visualization

2.1.1 Java Virtual Machine need be installed before running this program. See 6 HOW TO INSTALL JAVA VIRTUAL MACHINE.

2.1.2 Download and decompress “CircView.tar.gz” from

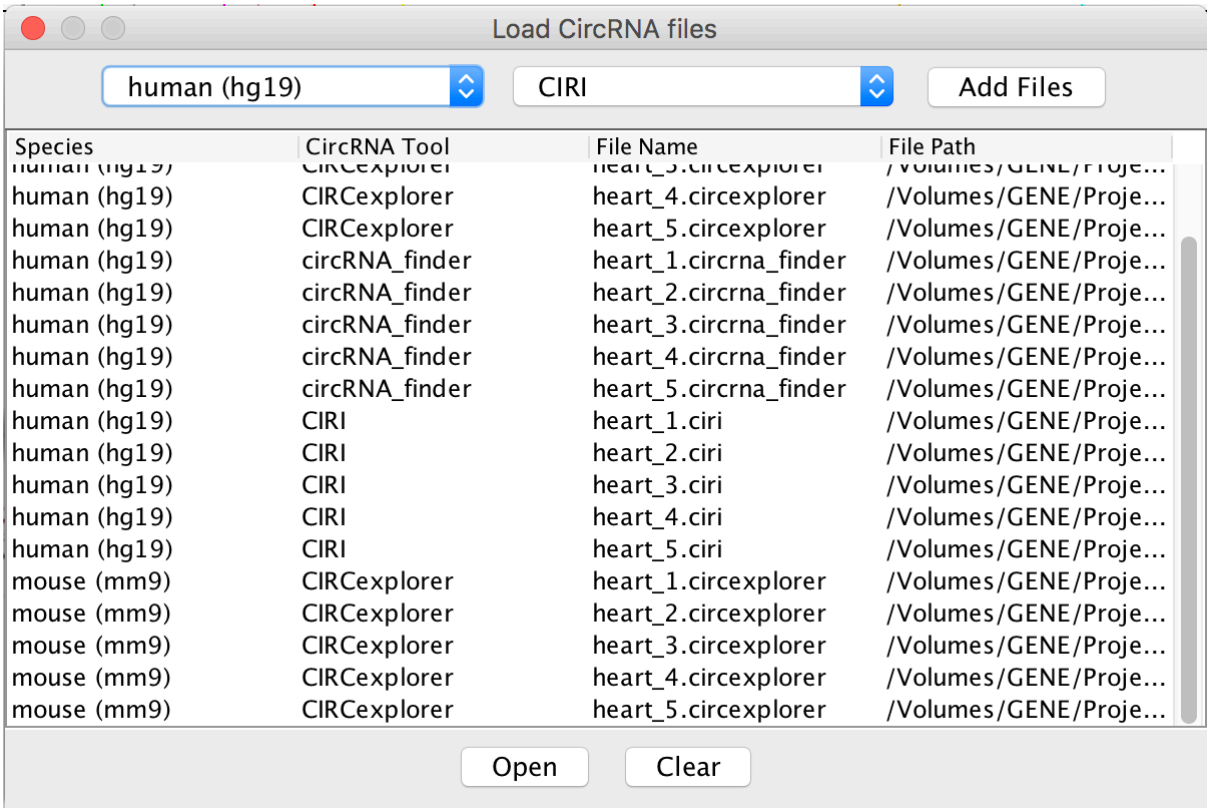
http://github.com/GeneFeng/CircView/blob/master/CircView.tar.gz

Double click “CircView.jar” to launch the program.

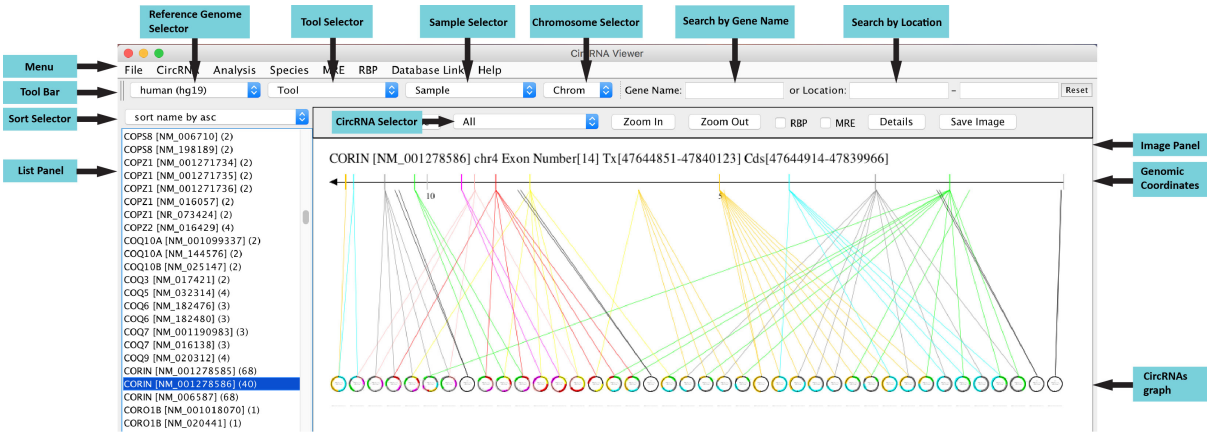
2.1.3 Download and decompress circRNA data from

https://github.com/GeneFeng/CircView/blob/master/testdata/human.tar.gz

2.1.4 Click “CircRNA”->”Load Data” to load circRNA files according species and tools.

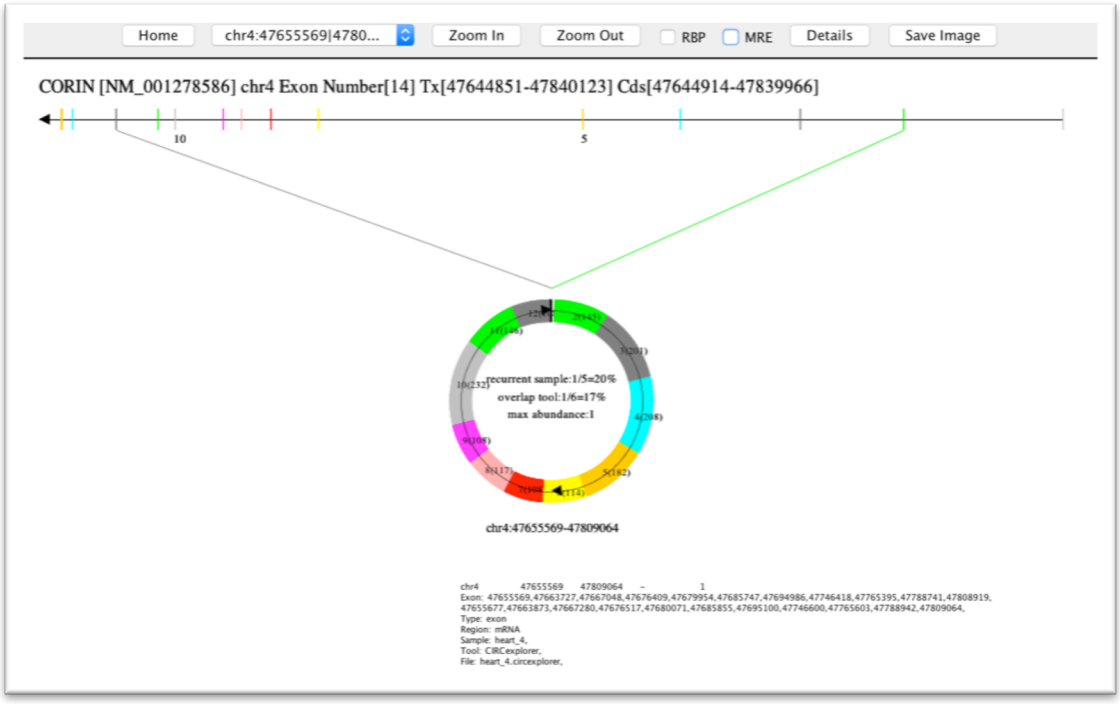


2.1.5 Click gene transcript name on left panel to view the image of the circRNAs.



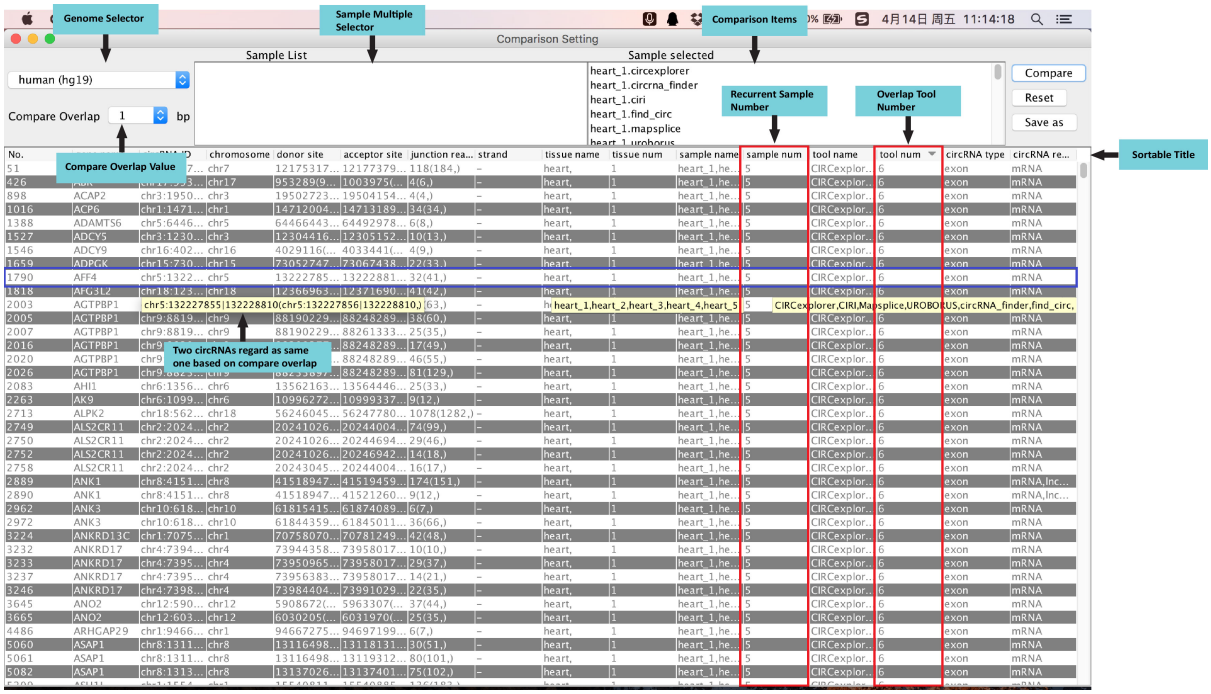
2.1.6 Gene transcript can be searched by name or location.

2.1.7 Click one "Circle" to view details of each circRNA.



2.1.8 Detailed information and image of CircRNAs can be saved for further use.

2.1.9 Click "Analysis"->"Comparison" to make a comparison between circRNAs with different samples and/or tools.



2.2 Advanced Feature: MRE and RBP sites Visualization on CircRNAs

2.2.1 MySQL need to be installed, see 7 HOW TO INSTALL MYSQL

2.2.2 Restart CircView.jar

2.2.3 Download and decompress MRE data from

http://gb.whu.edu.cn/CircView/testdata/mre_human.tar.gz

2.2.4 Click “MRE”->”Load Data” to load MRE file.

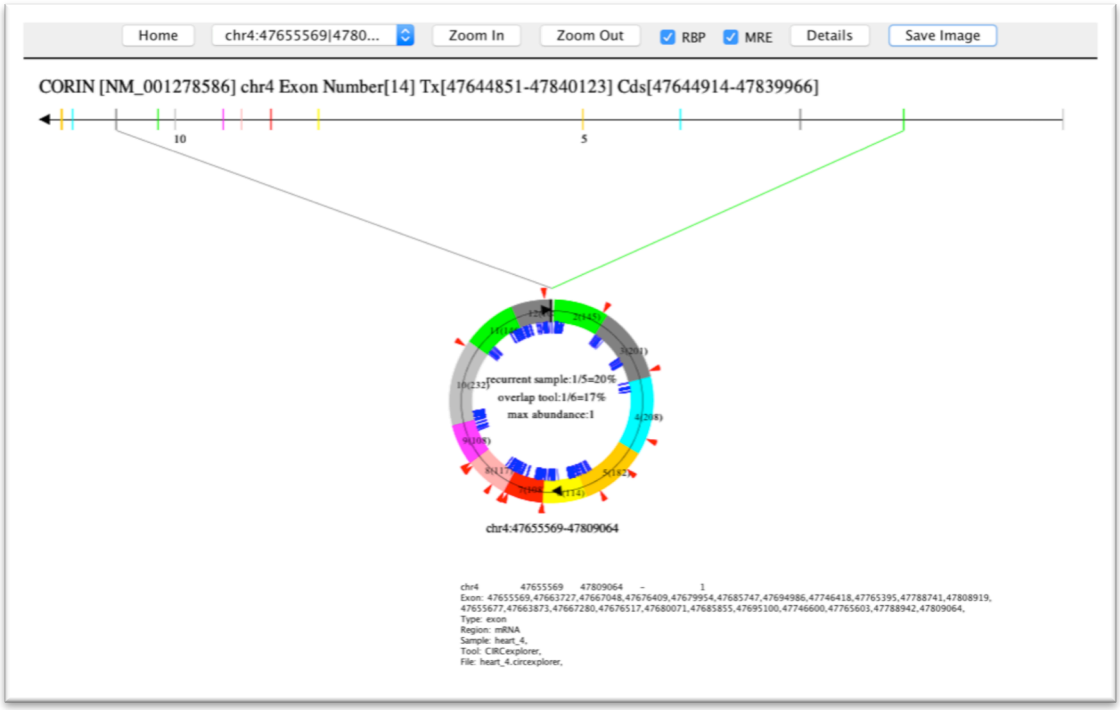
2.2.5 Download and decompress RBP data from

http://gb.whu.edu.cn/CircView/testdata/rbp_human.tar.gz

2.2.6 Click “RBP”->”Load Data” to load RBP file.

2.2.7 Load circRNAs data, see 2.1.4

2.2.8 Check MRE or RBP to add MRE sites (blue lines) or RBP sites (red triangles) to CircRNAs



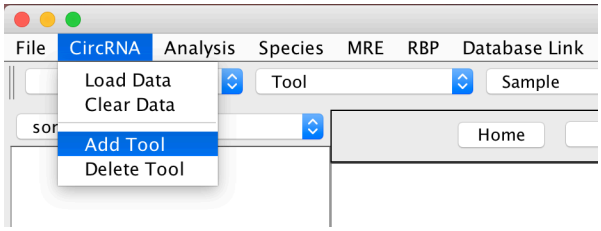
3. HOW TO MANAGE CIRCRNAS DATA

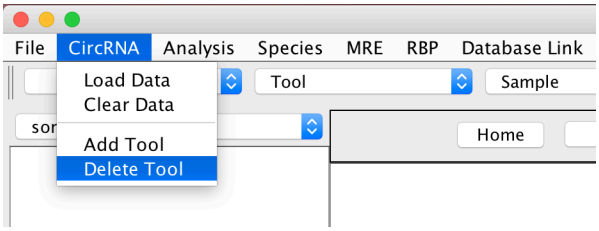
3.1 CircRNAs Identification Tool Management

CircView integrates 6 CircRNAs identification tools (CIRCexplorer, circRNA_finder, CIRI, find_circ, Mapsplice, and UROBORUB) by default.

Users can add or delete tool by using menu “CircRNA”->”Add Tool” or “CircRNA”->”Delete

Tool”.

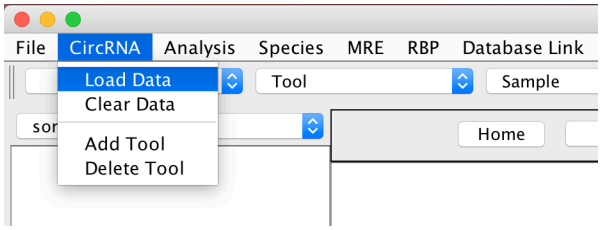


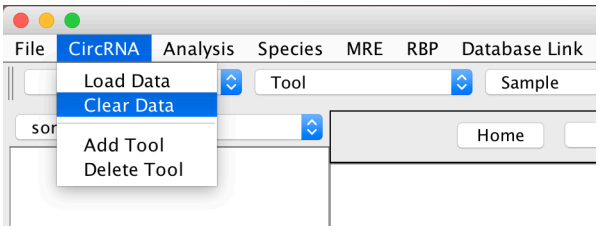


3.2 CircRNAs Data Management

CircView can load CircRNAs data directly from output of default 6 CircRNAs identification tools.

Users can also import circRNAs identified by other tools with six tab delimited columns, including chromosome, start position, end position, running number/name, junction reads and strand.

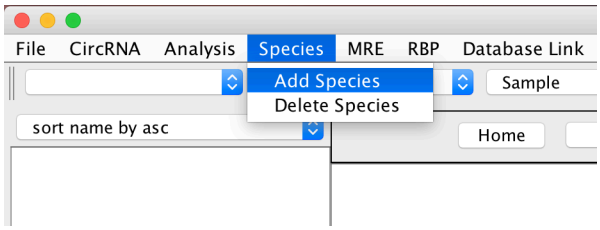


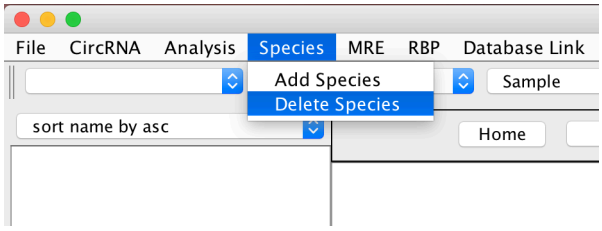


4. HOW TO MANAGE SPECIES DATA

CircView provides 7 species (Human (hg19), Human (hg38), Mouse (mm10), Mouse (mm9), Zebrafish (zv9), Fly (dm6), C.elegans (ce10)) by default.

Users can also add or delete species annotation data with compatible format by using menu “Species”->”Add Species” or “Species”->”Delete Species”.



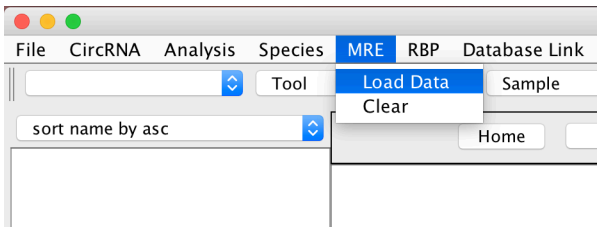


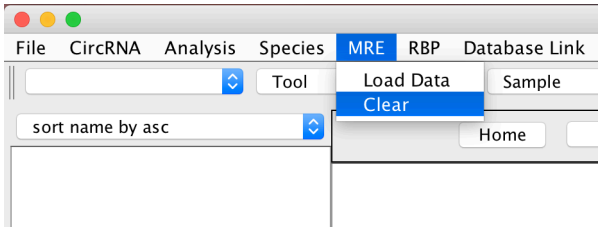
5. HOW TO MANAGE MRE AND RBP DATA

CircRNAs mainly function as sponges for the regulatory elements, such as miRNA respond elements (MREs) and RNA binding proteins (RBPs). CircView provides advanced features to display regulatory elements.

This module requires the users to install MySQL locally, see **7 HOW TO INSTALL MYSQL**. Users can load and display the MRE data identified by TargetScan (http://targetscan.org/) and/or the RBP data identified by starBase (http://starbase.sysu.edu.cn/) or any other software. The format requires five tab delimited columns, including chromosome, start position, end position, MRE/RBP name and description.

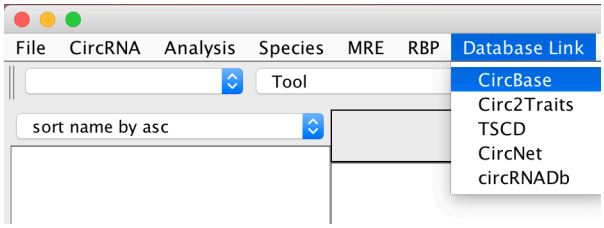
Load MRE or RBP file will create table and deposit data into MySQL database, and Clear MRE or RBP will remove data from the database. As the data are persistent, users should not load the same data for more than once.





6. HOW TO FIND SOME CIRCRNA DATABASES

CircView provides links to some circRNA databases.



7. HOW TO INSTALL JAVA VIRTUAL MACHINE

Java Virtual Machine need to be installed before running this program. Simply

access http://www.java.com, download Java, and install it.

8. HOW TO INSTALL MYSQL

8.1 For Windows

8.1.1 Download and decompress MySQL Installation file from

http://gb.whu.edu.cn/CircView/MySQL/mysql_windows.tar.gz

8.1.2 Double click “NDP46-KB3045557-x86-x64-AllOS-ENU.exe” to install .NET Framework.

8.1.3 Double click “mysql-installer-community-5.7.16.0.msi” to install MySQL. Please create password “12345” for user root during installation.

8.2 For Mac OS

8.2.1 Download MySQL Installation file from

http://gb.whu.edu.cn/CircView/MySQL/mysql-5.7.17-macos10.12-x86_64.dmg

8.2.2 Double click “mysql-5.7.17-macos10.12-x86_64.dmg” to install MySQL. Please create password “12345” for user root during installation.