

Supplemental Help - Clone Manager Professional v 9.4

The latest update to Clone Manager Professional (ver 9.4) includes a new function to help you manage and use sequence phrases. To help you get started with this new update, the following help text is provided.

Sequence Phrase Collections

Collections of sequence phrases are stored in special sequence phrase collection files (*.sx5). These collection files contain essential information about your sequence phrases, often stored in group of phrases that are related in some way. You can create new collection files, as needed, and create folders to organize your collection files. All your collection files are stored within the folder SeqPhrases, located in your home directory.

The information stored for each sequence phrase includes the sequence phrase name, description, sequence, and type (DNA or Protein). For each sequence phrase, you also select the match mode to be used when searching molecules for this phrase and the way you want to add found sites to your molecule file. Match modes include Exact match required, Allow limited mismatches, or Allow gaps and limited mismatches. Found sites can be entered as genes, regions, or labels. You can open your sequence phrase collections using the Manage Sequence Phrase option on the Operations menu or use toolbar button to access.

Shared Sequence Phrase Collections

If you are running the program under a multi-user license (Small WorkGroup or Concurrent User license types), you can share sequence phrase collection files, if these files have been made available for you. To access the shared resources, click File, Preferences, Share Data, and enter the location (complete path and folder) where you can access shared enzyme lists, primer collection files, and sequence phrase collection files. When you open the sequence phrase collection window, shared collection files will appear in a folder below your sequence phrase collections. Shared collection files will be opened as read-only resources.

Construct and Use Sequence Phrase Collections

You can enter new sequence phrases directly to a collection file or you can import sequence phrase collection data. Once you have sequence phrases in your collection files, you can view, edit, organize, or select these sequence phrases for use. You can also search your collection files to find a specific sequence phrase.



Click on the Manage Sequence Phrases toolbar button to open the sequence phrase collections. Click on the Collections folder to open folders or files in this location. When you are just getting started, you will have one empty file ready for your first sequence phrase to be added to this collection file. You can click the first toolbar button Folder Options to add new folders or new empty collection files, or to rename or delete any of the files or folders you have created.

Enter new sequence phrase -- click on a collection file to open this collection. Then click the toolbar button Add Entry. Fill in the information about the new sequence phrase.

Import sequence phrase collection data -- you can use an import function to prepare a sequence phrase collection from a tab-delimited text file that contains sequence phrase information prepared in another application.

Using your Sequence Phrase collections

Click on the Manage Sequence Phrases toolbar button to open the collection. Click on the My SeqPhrases folder to open folders or files in this location. Use the Tab key or Shift + Tab to move between the left and right panels or click with the mouse.



Click on the Folder Options toolbar button to add new folders or new empty collection files, to rename or delete any of the files or folders you have created or to export or import sequence phrase collections.



Click on a collection file in the left panel to display the contents of this file in the right panel. For each sequence phrase in this collection, the name, description, length, enter as and match mode are shown.

Click on column headers to sort by the values in that column. Move the mouse to the join between two column headings, depress the mouse button and drag to resize the column. Use the mouse to drag out the dialog box borders to resize the window.

View or Edit sequence phrase information -- select a sequence phrase by clicking on the entry in the list in the right panel. Use the toolbar buttons to edit the information about this phrase, delete this entry, or copy the entry to paste into another collection file. When changes have been made to your collection files, these changes are automatically saved for you.

Document collection file contents -- You can use toolbar buttons to print the contents of the active collection file or send this list of sequence phrases to the clipboard for use in another application. Or you can export the data in the active collection file in tab-delimited format to import into another application -- click the Folder Options button and select Export.

Entering Sequence Phrase Information

You can view, edit, or enter information about a sequence phrase.

Location -- The collection file name is reported. This location cannot be edited. For a new entry, the active collection file open at the left is shown -- this is the location where the new sequence phrase will be entered.

Name -- Enter a name for the sequence phrase. If you plan to enter the sequence phrase site as a label site on a molecule map, a short name is helpful.

Description -- The description is saved as a part of the collection file format. Enter a short description of the sequence phrase. This description will appear on some program screens and printed reports.

Type -- Set to DNA or Protein, matching the type of bases you will enter for the sequence phrase.

Sequence -- Enter the sequence of bases for your new sequence phrase or copy from the clipboard.

Match mode -- Select the match mode to be used when searching molecules for this phrase. You can select Exact match required, Allow limited mismatches, or Allow gaps and limited mismatches. When searching for sequence phrases you can use the Automatic option to use the match mode you set or you can override for a specific search, as needed.

Enter as -- Specify how you want found sites added to your molecule. You can enter found sites for this sequence phrase as a gene or region, setting a style for the feature type. This option works well for longer sequence phrases that will show up well as features in your molecule. You can also enter found sites as a label. This option works well for short sequence phrases. You can show these on your molecule map in place of enzyme sites or primer sites. When you complete a search for sequence phrases, found sites will always be entered as specified.

Search in Sequence Phrase Collections

You can search in your sequence phrase collection files to locate a specific phrase or a group of sequence phrases that have a common text string in the entry. You can search using a sequence phrase name or any text that could be found in the name, description, or sequence fields.

To start a search:

- Open the Sequence Phrase collections
- Click on the collection file or folder in the left panel that you want to search
- In the Find edit box (lower area), type in the text to search for
- Click the Go button

If sequence phrases are found that meet the search criteria, these will be listed in a new folder called Search Results, found at the bottom of the folder list in the left panel. (Click on the Search Results folder to open this folder, if it is not already open.) You can select a sequence phrase for use from this list or you can print the list or copy it to the clipboard. When you close the sequence phrase collections module, the Search Results folder will be discarded. You can click the small question mark button to the right of the Go button to select the fields you want to search. You can also search within the Search Results folder, to further refine your search, as needed.

Export / Import Sequence Phrase Collections

You can use the Export option to prepare a tab-delimited text file containing the information in a sequence phrase collection file. Programs like Microsoft Excel or Microsoft Access can import this data allowing you to use this information in other applications.

Export a sequence phrase collection:

1. Click Manager Sequence Phrases and select (highlight) the sequence phrase collection you want to export.
2. Click the Folder Options button and select Export.
3. In the Export Collection dialog box, select which data to export.
4. Use the checkbox to indicate if you want the exported file to contain headers at the top of each column of data.
5. Select to export to a disk file or copy to the clipboard.

You can use the Import option to read in data contained in a tab-delimited file prepared in another application in order to create a new sequence phrase collection.

Import a sequence phrase collection:

1. Click Manager Sequence Phrases and click My Collections.
2. Click the Folder Options button and select Import.
3. Select the tab-delimited text file containing your sequence phrase data.
4. In the Import Collection dialog box, specify the first row that contains sequence phrase data to import. (If your file has column headers, the data usually starts at row 2.)
5. Use the small drop-down arrow keys above each column to pick the type of data in that column or indicate that the data should be skipped (not imported).
6. If your data does not contain match mode or enter as information, you can select one match mode and enter as type to be used for all sequence phrases in the new collection.
7. Enter the name for the new sequence phrase collection and click OK.

Find Sequence Phrases



Found on the Operations menu or use toolbar button to access from map window.

You can use this function to find sites where sequence phrases are found in the active molecule. You can scan for sequence phrases that are stored in your Sequence Phrases collection files (*.sx5). The program will open each sequence phrase collection, read each phrase sequence and attempt to match the sequence in the active molecule.

You can set the match mode to Automatic to use the match mode settings associated with each stored sequence phrase. Or you can override this setting and select a match mode to use for all sequence phrases during this particular search. When the search has been completed, you can view the search results. Sequence phrase sites found can be added to the molecule file and can be displayed on the molecule map or sequence display.

Selecting sequence phrase files or folders to search



Click the Add Collection button to access your Sequence Phrase collections and select a file or folder to add to the search list.

Select the collection file you want to add to the list and click OK. During the search, the program will attempt to open the file and read all the sequence phrase data contained in the file. If you have selected a folder of collection files, the program will attempt to open each file within the folder.

Set the Match Mode

Use the dropdown control to select the match mode to use for this search. Select Automatic to use the match mode setting associated with each stored sequence phrase. To override these stored settings and use one specified match mode for all sequence phrases in this search, select one of the following settings:

Exact match required -- all bases in the sequence phrase must match the bases in the molecule sequence.

Allow limited mismatches -- the number of differences is limited to 1 mismatch for each 10 bases in the search sequence. For short search sequences of less than 10 bases, one mismatch is permitted.

Allow gaps and mismatches -- the number of differences is limited to 1 gap or mismatch for each 10 bases in the search sequence. For short search sequences of less than 10 bases, one difference (gap or mismatch) is permitted.

When you have selected the files and folders to search and set the match mode, click **OK** to begin the search for sequence phrase sites.

Find Sequence Phrase Results

When a search for sequence phrase sites has been completed, the results will be presented in a scrolling list box and location map display. You can print or copy this list to the clipboard. You can add some or all of these sites to your molecule file for display on the map or formatted sequence.

In the results display, found sequence phrase sites are listed, showing the phrase name and the basepair position of the 5' end of the sequence phrase site. Also reported are the number of differences (mismatches or gaps, if permitted), the length of the phrase and the sequence found. Mismatches are shown using upper case letters and gaps appear as dashes. Click on the column headers to sort by name or position of the sequence phrase site.

Vertical bars above the icon map show the approximate location of the sequence phrase sites. A red arrow and red vertical bar mark the highlighted site.

To tag sequence phrase sites you want to add, mouse-click on the checkbox in front of the phrase name. Click the Tag All button to automatically tag all of the sites in the list. To untag a site, mouse-click again or click the Clear button to untag all sites in the list.

Click the **Add Sites** button to add all of the tagged sequence phrase sites to the molecule file and close the results window.

Scan for Molecules with Sequence Phrase Sites

Found on the Operations menu. You can use this function to scan molecule files to look for sites where the specified sequence phrase can be found. You can scan molecule files in folders on your computer or local network. The program will open each molecule file, read the sequence and search for matching sites.

You can use the match mode stored for this sequence phrase (select Automatic match mode) or override using a different match mode for this search. When the search has been completed, you can view the search results. You can print or copy the list of molecules and binding sites found.

Selecting molecule files or folders to search



Click the Add Folder button to select a folder location to add to the search list. Navigate to the folder you want to add to the list and click OK. The program will attempt to open and read all molecule files in the location specified, including those contained in subfolders.



Click the Add File button to select a molecule file to add to the list. Navigate to the molecule file you want to add to the list and click OK. The program will attempt to open and read this file during the search procedure.

If you routinely use the same molecule file locations, you can save the list of files and folders and recall this list at a later time.

Click **OK** to begin the scan for molecule sites.

Find Molecule Sites Results

When a search for molecule sites for the specified sequence phrase has been completed, the results will be presented in a scrolling list box. In the results display, the molecule name is listed, as well as the basepair position of the 5' end of the matching site. Also reported is the number of differences (mismatches or gaps, if applicable). Click on the column headers to sort by molecule name or file name.

You can print or copy the results list or load a molecule file for use.