

CLC Protein Workbench creates a software environment that enables users to make a large number of advanced protein sequence analyses, combined with smooth data management, and excellent graphical viewing and output options.

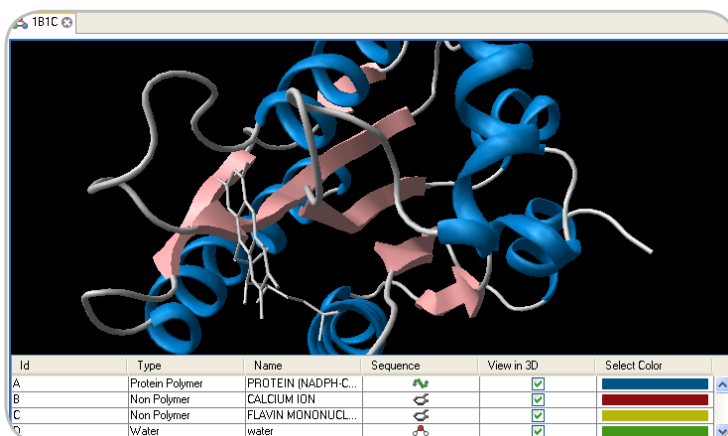
Features and benefits of CLC Protein Workbench

CLC Protein Workbench from CLC bio is a user-friendly desktop program featuring a number of unique and innovative bioinformatics tools for supporting advanced biochemistry lab research.

CLC Protein Workbench is available for Windows, Mac OS X, and Linux platforms. CLC Protein Workbench is fully integrated across these platforms and fully compatible with all other programs from CLC bio.

Protein biochemistry

CLC Protein Workbench has integrated viewing of three-dimensional structures in both PDB and mmCIF formats. Furthermore the 3D structures can be retrieved directly from the Protein DataBank via integrated BLAST homology searches. Structures can be visualized in a range of ways, creating stunning graphics, which can be used for presentations and reports.



Alignment

Contrary to most other alignment programs, CLC Protein Workbench allows you to show the annotations of the individual sequences in a multiple sequence alignment. This can easily identify whether certain domains are conserved throughout an alignment.

Moreover, the information content of the alignment can be shown in form of a sequence logo, which can show information on highly conserved regions. The conservation of the individual residues in the alignments is shown as a histogram below the alignment.



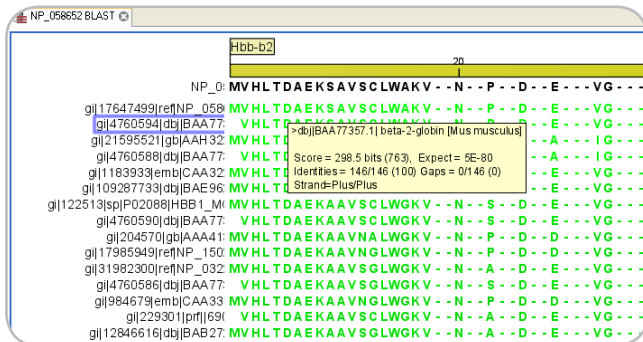
BLAST/DB search

CLC Protein Workbench offers to conduct BLAST searches on protein and DNA sequences or a combination of these using NCBI or it can run local if proprietary sequences are used. BLAST results are presented in a graphical overview together with a detailed tabular representation of the results. Sequence hits can easily be downloaded and analyzed further.

It is also possible to search your own data for homologous without the hassle of creating a BLAST database first. This can be done “on-the-fly” and can also be used to match primers against a larger sequence. Plug-ins

CLC bio’s modern and flexible IT architecture facilitates easy development of plug-ins for all of our bioinformatics workbenches, through our open API. When one or more plug-ins is installed on your computer, it is fully integrated with your CLC workbench – it runs as if it were one single (expanded) application.

You can develop your own plug-ins using our Developer Kit, or you can choose to use plug-ins developed by us or by third parties.



Data management

Sequence data may be typed, copied, imported or downloaded into the workbench. These data, as well as calculations, search results, and files in external data formats are arranged in projects and can be saved locally on your desktop computer or stored on a shared network drive. The split-screen option allows easy comparison of different types of analyses made on the same data.

Efficient collaboration support

The full integration between all CLC workbenches provides strong support for efficient collaboration within research groups: advanced analyses and data searches can be performed on a CLC Protein Workbench, while more basic work tasks may be performed by other researchers equipped with CLC Free Workbenches.

Throughout the project, all researchers can be given easy access to knowledge obtained through sharing of sequence data and sharing of research results. Examples could be figures showing annotated sequences, alignments and their underlying sequences, reports on protein characteristics, phylogenetic trees, graphical views of BLAST results, etc.

Import and export formats

CLC Protein Workbench is extremely flexible in regard to importing and exporting bioinformatics data. Sequences, alignments and phylogenetic trees can be imported and exported in a large number of formats:

The advanced but easy-to-use graphics export allows you to use high-end graphic elements in presentations and papers on your research.

Simply adjust the layout of the element in the Workbench with graphs and colors, and press Graphics export. You can select from three bitmap formats: png, jpg and tiff, and four vector graphics formats: pdf, svg, ps and eps. When exporting bitmaps, the resolution can be adjusted to produce very high-quality graphics.

Below is a sequence annotated with PFAM domains

