

# Serolis

## Dot-plot software for literal and genetic sequences and DNA translation

Serolis is a small tool to investigate sequences visually by dot-plots. It allows to process strands of several hundreds or thousands of symbols and to interactively zoom into the plots. For genetic investigation it has build-in tables for DNA to protein translations and can BLAST sequences via web-access. Thus, one can easily execute a full workflow without 'program-hopping'. Beside normal text files Serolis imports FASTA and Multi-FASTA files. The software can be directly run from any USB storage device without installation, what makes it an interesting tool to take with.

## License/Terms of use

This software is donation-ware. Even when you use it sporadically, it is strongly recommended to donate a voluntary amount for keeping it up to date, investments in new techniques and even to accredit the authors work. Proposed amounts per installation for non-commercial, scientific and civil use are given during start-up and start with ~10 Euro . But any other fundings are also welcomed ;-). If you use the program for your scientific work please reference it.

## Disclaimer

The program is delivered 'as is'. Functionality has been checked by the author but a guarantee can not be given. This means the author is not responsible for incorrect results, unreliable data or anything else that is related to the use of the program. The software has been carefully checked for errors. Anyhow a complete freedom of errors can not be guaranteed. Thus, it is recommended that you control results produced with this software.

## Operating system

## Serolis - Software package for dot-plot creation

Written by Jan Schulz

Thursday, 15 May 2008 16:06 - Last Updated Thursday, 23 April 2009 13:33

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Serolis was written for Windows 2000, XP and Vista operating systems. No guarantee is given for the operating systems Windows 95 and Windows 98. Serolis was tested to run in emulated Windows environments on Mac OS X. In tests Serolis was found to run without problems for strands of several hundreds to thousands of symbols when enough memory was available.

Since version 1.0 Serolis processes Unicode characters. This allows investigation of non ASCII characters, but also limits the application to the operating systems Windows 2000, XP and Vista. For compatibility reasons Serolis v0.9 release is still available.

## Download

File	Version	Description	Updated
<a href="#">Serolis</a>	1.2.0.7	Serolis dot-plot software with Unicode support	28 <sup>th</sup>
<a href="#">Serolis</a>	0.9.9	Serolis dot-plot software for Windows operating systems	22 <sup>nd</sup> July 2008

## Schematic

Overview and explanation how dot-plot-are created, modified and interpreted is found on the algorithms section of this web-site.

## Screenshot

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The screenshot displays the Serolis software interface with several panels:

- Sequence workspace:** Lists various sequences, with *Ceratoserolis trilobitoides s.str. B094* highlighted.
- Sequence preview:** Shows the DNA sequence for *Ceratoserolis trilobitoides s.str. B094* (Length: 486). The sequence is:
 

```
AGGGGACGACAAGACCCTATAAAACCTTATTTTAAACAGCCTATTTACAAGAACTAAAACAA
TAAAAAATTTATACTGGGGCGGTAAAATTTAAGTAATTATCA7TTTTTATTCTAACAA7TTTT
ATGACTTTTATTACCTCGTTTTAAAAACA AAAACAAGCTACTTTAGGGATAACAGCACTATAT
TTTCTTAGAG7TCGTATCCGCCGAAAATGTT7TGACCTCGATGTTGAATTGAGGGCCCTCTAT
AAAACAGCTTTTATGCCAGGAAGTCTGTTCCACTTATAACCCCTC
```
- frmStatistics:** Contains a bar chart and a table of nucleotide frequencies (C, T, A, G) for three sequences.
 

	C	T	A	G
<i>Ceratoserolis cornuta ssp. dinae B001</i>	84	165	165	70
<i>Ceratoserolis trilobitoides s.str. B094</i>	85	167	162	72
<i>Ceratoserolis meridionalis B156</i>	97	153	160	70
- Dot Plot:** A dot plot comparing *Ceratoserolis cornuta ssp. dinae B001* (y-axis, 0-460) and *Ceratoserolis trilobitoides s.str. B094* (x-axis, 0-250). The plot shows a strong diagonal correlation, indicating high sequence similarity.
- Sequence Alignment:** A table showing the alignment of segments between the two sequences.
 

Seq 2 (rev)	262
Seq 2 (rev)	AGTTTCTTGTAAGTAGTGCCTTAA
Seq 1	CTCCTAGTATTGT
Seq 1	11
Seq 1	CTCCTAGTATTGT
Seq 2	AGGGGACGACAAGACCCTATAAAAC
Seq 2	212

Screenshot of Serolis.