

Data Analysis Tools

UGENE provides GUI for a lot of different bioinformatics tools. A tool is supplied either as embedded or external:

- **Embedded tool:** the tool is integrated into the UGENE source code. Such tools are always available in UGENE independently on the UGENE package type and operating system.
- **External tool:** the tool executable file (or files) is provided with UGENE. It is launched when one uses the tool in the UGENE GUI. The result is also shown in the UGENE GUI. Note that the tool may be available on some operating systems only.

Specify external tools in the installed package

The external tools (if available on the target operating system) are provided by default in the Online Installer, Full and NGS UGENE packages.

One can specify the tools manually:

1. Download the tools executables, see links on the "[Download UGENE and components](#)" page:
 - **External Tools Package:** the package contains all external tools except JRE (i.e. "java") and RScript.
 - **Java Runtime Environment (JRE):** although UGENE is not a Java application, a few tools (e.g. FastQC, Trimmomatic) require JRE. Make sure [JRE 8](#) or higher is installed.
 - **RScript:** R is currently used in UGENE for ChIP-Seq data analysis only.
2. Configure the tools in UGENE: [open the UGENE Application Settings](#) dialog, select the "[External Tools](#)" page and specify the external tools executables.

Integrated external tools

See the list of the currently integrated external tools, information about their availability on different operating systems and version included into the corresponding External Tools Package in the table below.

| External tool | Windows (64-bit) | Windows (32-bit) | macOS (64-bit) | Linux (64-bit) | Linux (32-bit) |
|-------------------|---|-----------------------|--------------------------|--------------------------|----------------|
| bedGraphToBigWig | 4 | N/A | 4 | 4 | N/A |
| bedtools | 2.20.1 | 2.20.1 | 2.20.1 | 2.20.1 | 2.20.1 |
| BLAST | 2.2.26 | 2.2.26 | 2.2.26 | 2.2.26 | 2.2.26 |
| BLAST+ | 2.2.30 | 2.2.30 | 2.2.30 | 2.2.30 | 2.2.30 |
| Bowtie | 0.12.7 | 0.12.7 | 1.0.0 | 1.0.0 | 1.0.0 |
| Bowtie2 | 2.1.0 | 2.0.6 | 2.1.0 | 2.1.0 | 2.1.0 |
| BWA | 0.7.12 | 0.7.12 | 0.7.12 | 0.7.12 | 0.7.12 |
| CAP3 | 12/21/07 | 12/21/07 | 12/21/07 | 12/21/07 | 12/21/07 |
| CEAS | 1.0.2 | 1.0.2 | 1.0.2 | 1.0.2 | N/A |
| CLARK | N/A | N/A | 1.2.4 (UGENE-customized) | 1.2.4 (UGENE-customized) | N/A |
| ClustalO | 1.2.1 | 1.2.1 | 1.2.1 | 1.2.1 | 1.2.1 |
| ClustalW | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 |
| ConductGO | Version not specified | Version not specified | Version not specified | Version not specified | N/A |
| conservation_plot | 0.1.0 | 0.1.0 | 0.1.0 | 0.1.0 | N/A |
| Cufflinks tools | N/A | N/A | 2.0.2 | 2.0.2 | N/A |
| Cutadapt | 1.7.1 | 1.7.1 | 1.7.1 | 1.7.1 | 1.7.1 |
| DIAMOND | N/A | N/A | 0.9.22 | 0.9.22 | N/A |
| FastQC | 0.11.2 | 0.11.2 | 0.11.2 | 0.11.2 | 0.11.2 |
| JRE (java) | JRE is not included into the External Tools Packages. | | | | |
| HMMER | 3.1b2 | 3.1b2 | 3.1b2 | 3.1b2 | 3.1b2 |
| Kraken | N/A | N/A | 1.0 | 1.0 | N/A |
| MACS | 1.4.2 | 1.4.2 | 1.4.2 | 1.4.2 | N/A |
| MAFFT | 7.212 | 7.212 | 7.212 | 7.212 | 7.212 |
| MetaPhlAn2 | 2.0.0 | 2.0.0 | 2.0.0 | 2.0.0 | 2.0.0 |
| MrBayes | 3.2.3 | 3.2.3 | 3.2.3 | 3.2.3 | 3.2.3 |
| peak2gene | 1.02 | 1.02 | 1.02 | 1.02 | N/A |

| | | | | | |
|-------------|--|-----------------------|-----------------------|-----------------------|-----------------------|
| perl | 5.10.0.5 (32-bit) | 5.10.0.5 | N/A | N/A | N/A |
| PhyML | 20120412 | 20120412 | 20120412 | 20120412 | 20120412 |
| python | 2.7.5 | 2.7.5 | 2.7.5 | 2.7.5 | 2.7.5 |
| Rscript | R is not included into the External Tools Packages. However, it may be installed using the UGENE Online Installer package. | | | | |
| samtools | 0.1.19 | 0.1.19 | 0.1.19 | 0.1.19 | 0.1.19 |
| SeqPos | 1.01 | 1.01 | 1.01 | 1.01 | N/A |
| SnEff | 4.3i | 4.3i | 4.3i | 4.3i | 4.3i |
| SPAdes | N/A | N/A | 3.12.0 | 3.12.0 | N/A |
| Spidey | Version not specified | Version not specified | N/A | Version not specified | Version not specified |
| StringTie | N/A | N/A | 1.3.4d | 1.3.4d | N/A |
| T-Coffee | 8.99 | 8.99 | 11.00 | 11.00 | 11.00 |
| TopHat | N/A | N/A | 2.0.9 | 2.0.8b | N/A |
| Trimmomatic | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 |
| vcftools | 0.1.12b | 0.1.12b | 0.1.12b | 0.1.12b | 0.1.12b |
| WEVOTE | N/A | N/A | Version not specified | Version not specified | N/A |