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:**
  - **Integrated (supported) 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.
  - **Custom external tool:** it is possible to add any custom external tool as a workflow element in the Workflow Designer. See "Custom External Tools" documentation chapter for details.

Specify integrated external tools in the installed package

Most of the external tools (if available on the target operating system) are installed by default in the Online Installer.

One can specify the tools manually:

1. Download the tools executables, see links on the web page http://ugene.net/download-all.html:
   - **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)	macOS (64-bit)	Linux (64-bit)
bedGraphToBigWig	4	4	4
bedtools	2.20.1	2.20.1	2.20.1
BLAST+	2.2.30	2.2.30	2.2.30
Bowtie	0.12.7	1.0.0	1.0.0
Bowtie2	2.3.4.3	2.3.4.3	2.3.4.3
BWA	0.7.12	0.7.12	0.7.12
CAP3	12/21/07	12/21/07	12/21/07
CEAS	1.0.2	1.0.2	1.0.2
CLARK	N/A	1.2.4 (UGENE-customized)	1.2.4 (UGENE-customized)
ClustalO	1.2.2	1.2.3	1.2.4
ClustalW	2.1	2.1	2.1
ConductGO	Version not specified	Version not specified	Version not specified
conservation_plot	0.1.0	0.1.0	0.1.0
Cufflinks tools	N/A	2.0.2	2.0.2
Cutadapt	1.7.1	1.7.1	1.7.1
DIAMOND	N/A	0.9.22	0.9.22
FastQC	0.11.2	0.11.2	0.11.2
JRE (java)	1.8.0	N/A	N/A
HMMER	3.1b2	3.1b2	3.1b2
Kraken	N/A	1.0	1.0
MACS	1.4.2	1.4.2	1.4.2
MAFFT	7.450	7.450	7.450
MetaPhlAn2	N/A	2.0.0	2.0.0
MrBayes	3.2.3	3.2.3	3.2.3

peak2gene	1.02	1.02	1.02
perl	5.24.3	N/A	N/A
PhyML	20120412	20120412	20120412
python	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
SeqPos	1.01	1.01	1.01
SnpEff	4.3i	4.3i	4.3i
SPAdes	N/A	3.12.0	3.12.0
Spidey	Version not specified	N/A	Version not specified
StringTie	N/A	1.3.4d	1.3.4d
T-Coffee	8.99	11.00	11.00
TopHat	N/A	2.1.1	2.1.1
Trimmomatic	0.38	0.38	0.38
vcftools	0.1.12b	0.1.12b	0.1.12b
WEVOTE	N/A	Version not specified	Version not specified