HMM2

The *HMM2* plugin is a toolkit based on the Sean Eddy's HMMER2 package.

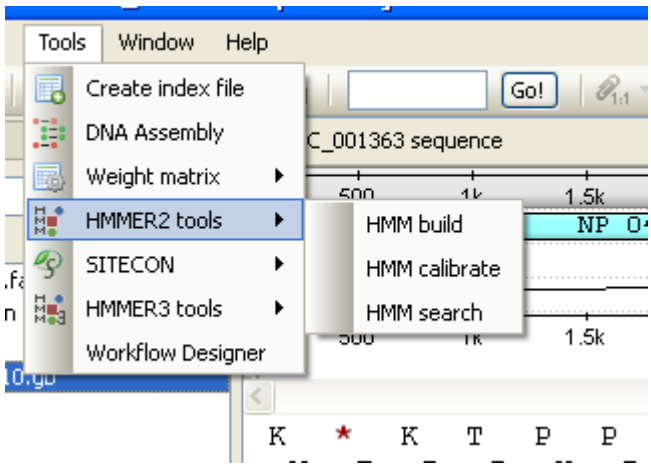
While working on this plugin we were guided by the following principles:

- Make the HMMER2 tools accessible to a wider user audience by providing graphical interface for all supported utilities for most of the platforms.
- Be compatible with the original HMMER2 package.
- Create the high-performance solution utilizing modern multi-core processors and SIMD instructions.

The current version of UGENE provides user interface for three HMM2 tools: *HMM build*, *HMM calibrate* and *HMM search*.

In the original program the corresponding commands are: "hmmbuild", "hmmcalibrate" and "hmmsearch".

To access these tools select the *Tools HMMER2 tools* submenu of the program main menu:



We highly recommend reading the original HMMER2 documentation to learn how to use utilities provided by the plugin.

> SSE2 algorithm is implemented by Leonid Konyaev, Novosibirsk State University. Use of the SSE2 optimized version of the *HMM search* algorit hm with quad-core CPU gives >30x performance boost when compared with the original single-threaded algorithm (single sequence mode).

- Building HMM Model (HMM Build)
- Calibrating HMM Model (HMM Calibrate)
- Searching Sequence Using HMM Profile (HMM Search)