

# Supplementary Information For:

## ***CT-Finder*: A Web Service for CRISPR Optimal Target Prediction and Visualization**

Houxiang Zhu<sup>1</sup>, Lauren Misel<sup>1</sup>, Mitchell Graham<sup>1</sup> and Chun Liang<sup>1, 2, \*</sup>


<sup>1</sup> Department of Biology, Oxford, Ohio, 45056, USA;

<sup>2</sup> Department of Software Engineering, Miami University, Oxford, Ohio 45056, USA;

\* To whom correspondence should be addressed: [liangc@miamioh.edu](mailto:liangc@miamioh.edu)

## Installation instruction

To install *CT-Finder* locally, users can follow the installation manual on our website (<http://bioinfolab.miamioh.edu/ct-finder/interface/Installation.php>), which includes the links to download *CT-Finder* virtual machine (<http://bioinfolab.miamioh.edu/ct-finder/vmware/Ubuntu.tar.gz>) and *CT-Finder* source code (<https://sourceforge.net/projects/ct-finder/files/latest/download>).



The image shows the header of the CT-Finder web service. The title "CT-Finder" is in white, "CRISPR Optimal Target" is in blue, and "Prediction and Visualization" is in red. The background features a dark blue pattern of CRISPR/Cas9 icons and a DNA sequence visualization with nucleotide bases (A, T, C, G) and line numbers (60, 70, 80, 90).

Home

Cas9

Cas9 Nickase

RFNs

Installation

Contact

## Optimal Target Prediction and Visualization for Genome Editing with CRISPR/Cas Systems

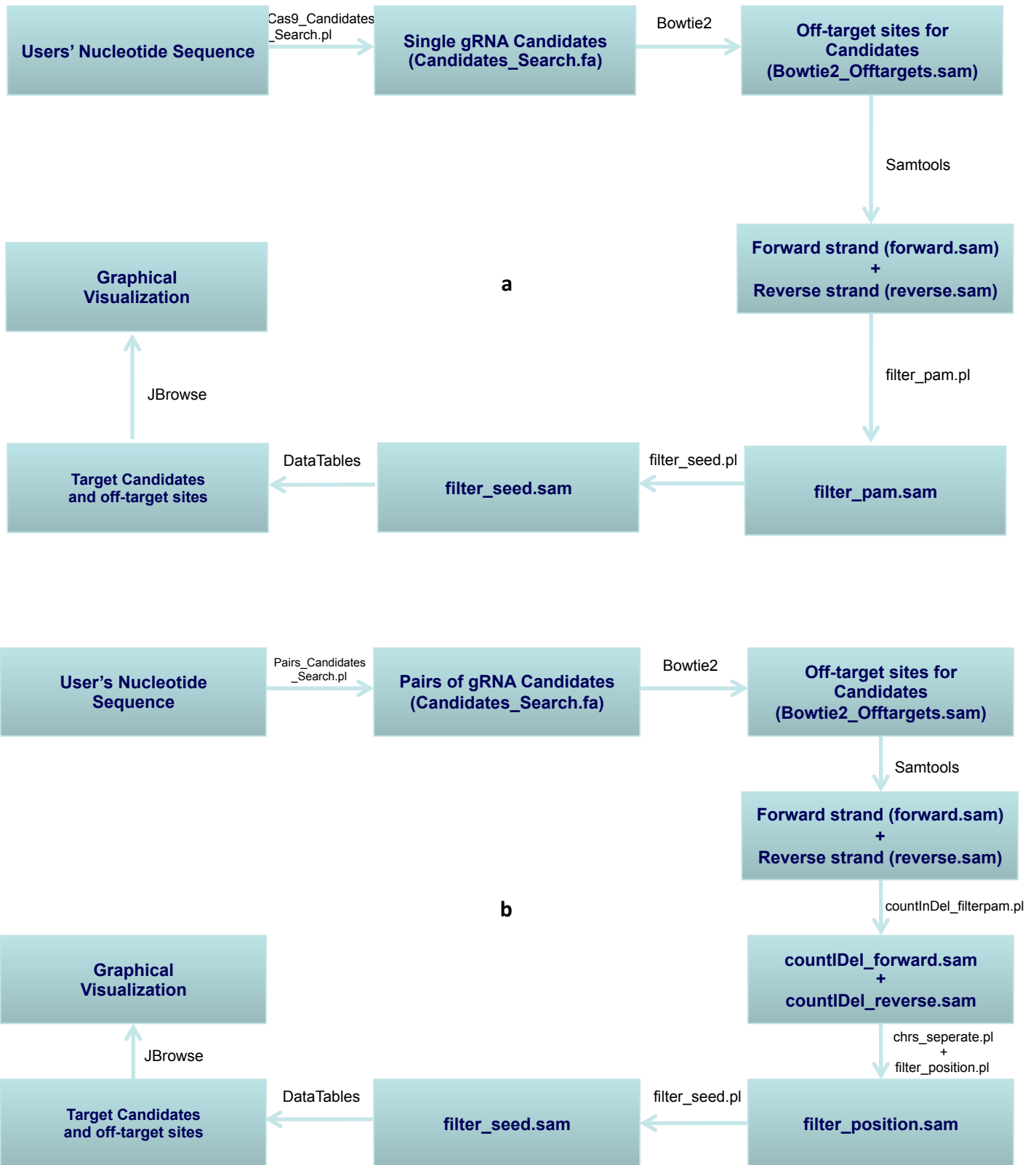
CT-Finder is a web service that allows a user to upload DNA sequences, set specifications according to experimental goals, and receive candidate guide RNA targets. Optimal candidates are suggested through consideration of predicted off-target effects. A visualization of on-target and off-target matches against the chosen reference genome is provided in JBrowse.

Three modes are available:

- (1) **Cas9 system** - Returns candidate single guide RNA targets
- (2) **Cas9 nickase (Cas9n) system** - Returns candidate paired guide RNA targets
- (3) **RNA guided Fok1 nuclease (RFN) system** - Returns candidate paired guide RNA targets

Copyright © 2015 Liang Lab. All rights reserved.

**Supplementary Figure S1.** The home page of *CT-Finder* web service, including three primary working modes: Cas9, Cas9n, and RFNs systems.



**Supplementary Figure S2. Workflow of *CT-Finder* web service that includes web interfaces and a backend bioinformatics pipeline.** Panel a: the workflow for finding the optimal target candidates for Cas9. Panel b: the workflow for finding the optimal target candidates for Cas9n and RFN.