

Primer3

The *Primer3* plugin is a port of the [Primer3 tool](#). It is intended to pick primers from a DNA sequence.

To use the *Primer3*, open a DNA sequence and select the *Analyze Primer3* context menu item. The dialog will appear:

The image shows a software window titled "Primer Designer" with a standard Windows-style title bar (minimize, maximize, close buttons). The window contains several tabs: "Main", "General Settings", "Internal Oligo", "Penalty Weights", "RT-PCR", "Sequence Quality", and "Result Settings". The "Main" tab is currently selected. Inside the "Main" tab, there are several input fields and controls:

- "Excluded regions": A text input field.
- "Targets": A text input field.
- "Product size ranges": A dropdown menu with options: 150-250, 100-300, 301-400, 401-500, 501-600, 601-700, 701-850, 851-1000.
- "Mispriming/Repeat library": A dropdown menu with the option "NONE".
- A section with six numeric input fields, each with up/down arrows:
 - "Number to return": 5
 - "Max 3' stability": 9.00
 - "Max repeat mispriming": 12.00
 - "Pair max repeat mispriming": 24.00
 - "Max template mispriming": 12.00
 - "Pair max template mispriming": 24.00
- "Start codon position": A text input field.
- Three checkboxes with associated text:
 - ☒ "Pick left primer or use left primer below" (with a text input field below)
 - ☐ "Pick hybridization probe (internal oligo) or use oligo below" (with a text input field below)
 - ☒ "Pick right primer or use right primer below (5' to 3' on opposite strand)" (with a text input field below)
- At the bottom, a "Region" dropdown set to "Whole sequence", followed by a range "1 - 199950".
- At the bottom right, four buttons: "Help", "Save settings", "Load settings", "Reset form", and "Pick primers" (highlighted in blue).

All available parameters are the same as in the original Primer3.

However there is one additional feature available which is not originally a part of [Primer3 tool](#). It allows user design primers for RT-PCR experiments by choosing which exons/introns to span with the primer product. This feature is described in detailed below. When you select the parameters you can save and load settings with a help of the corresponding buttons in the right corner of the dialog.

- [RT-PCR Primer Design](#)