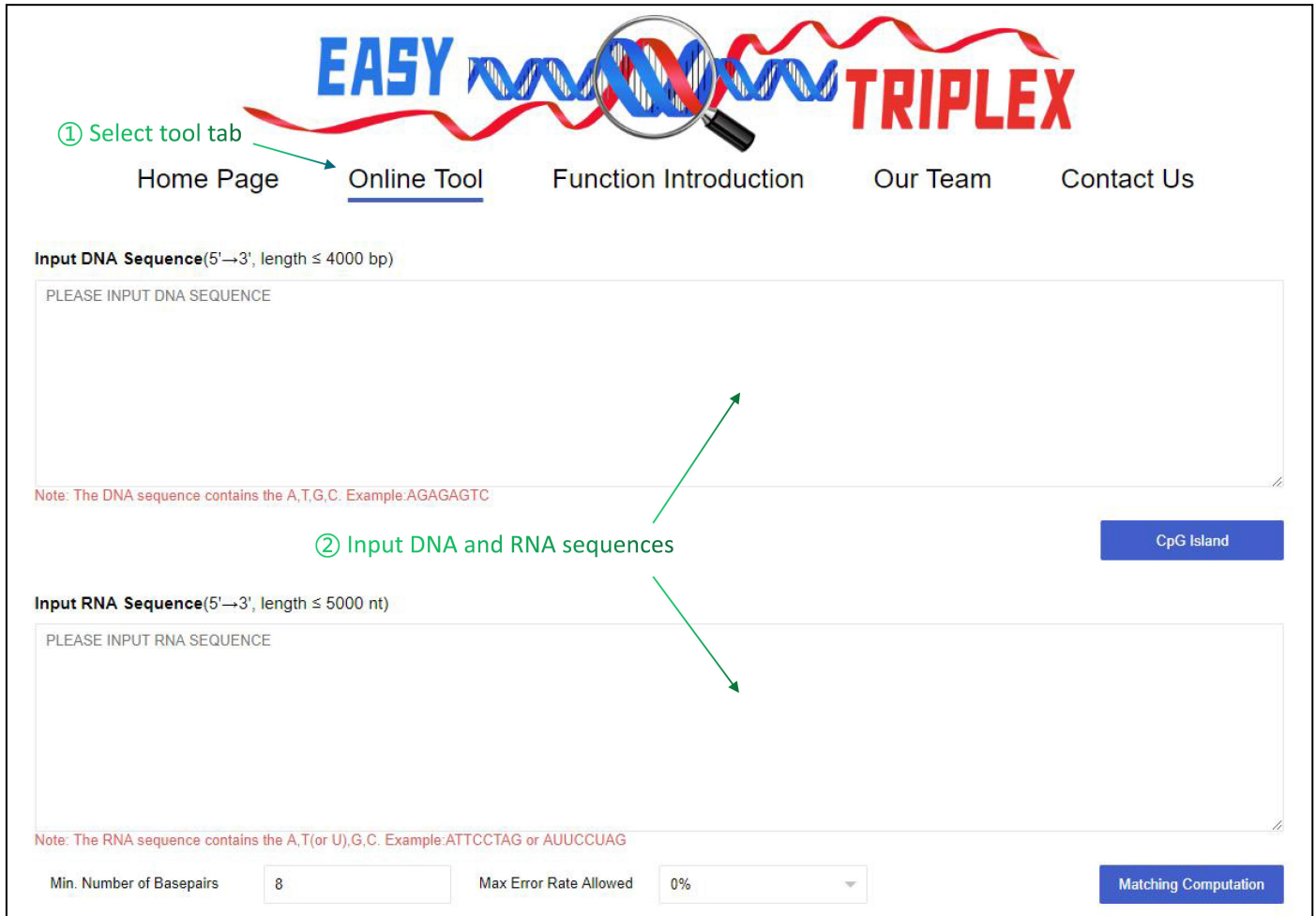


1 Sequence Input:

- Input the sequences of interest into the designated RNA and DNA sequence fields located in the toolbar. Considering the computational time required for online processing, we impose a restriction that DNA sequences shall not exceed 4000 bases and RNA sequences shall not exceed 5000 nucleotides.



The screenshot displays the 'EASY TRIPLEX' web application interface. At the top, the title 'EASY TRIPLEX' is shown with a magnifying glass icon over the word 'TRIPLEX'. Below the title is a navigation bar with five tabs: 'Home Page', 'Online Tool' (which is underlined and has a green arrow pointing to it), 'Function Introduction', 'Our Team', and 'Contact Us'. A green circled '1' with the text 'Select tool tab' and an arrow points to the 'Online Tool' tab.

The main content area is divided into two sections for sequence input:

- Input DNA Sequence (5'→3', length ≤ 4000 bp)**: A large text input field with the placeholder text 'PLEASE INPUT DNA SEQUENCE'. Below the field is a red note: 'Note: The DNA sequence contains the A,T,G,C. Example:AGAGAGTC'. To the right of the field is a blue button labeled 'CpG Island'.
- Input RNA Sequence (5'→3', length ≤ 5000 nt)**: A large text input field with the placeholder text 'PLEASE INPUT RNA SEQUENCE'. Below the field is a red note: 'Note: The RNA sequence contains the A,T(or U),G,C. Example:ATTCCTAG or AUUCCUAG'. To the right of the field is a blue button labeled 'Matching Computation'.

At the bottom of the form, there are two input fields: 'Min. Number of Basepairs' with the value '8' and 'Max Error Rate Allowed' with a dropdown menu showing '0%'. A green circled '2' with the text 'Input DNA and RNA sequences' and two arrows points to the DNA and RNA input fields respectively.

- CpG Island Prediction (Optional): If you wish to perform only CpG island prediction, please click the "CpG Island" button to open a new page. On the new page, input the DNA sequence and click the "CpG Island" button to initiate the prediction.

EASY TRIPLEX

Home Page Online Tool Function Introduction Our Team Contact Us

Input DNA Sequence(5'→3', length ≤ 4000 bp)

PLEASE INPUT DNA SEQUENCE

Note: The DNA sequence contains the A,T,G,C. Example:AGAGAGTC

① Click to open a new page → CpG Island

Input RNA Sequence(5'→3', length ≤ 5000 nt)

PLEASE INPUT RNA SEQUENCE

Note: The RNA sequence contains the A,T(or U),G,C. Example:ATTCCTAG or AUUCCUAG

Min. Number of Basepairs 8 Max Error Rate Allowed 0%

Matching Computation

↓ (new page)

EASY TRIPLEX

Home Page Online Tool Function Introduction Our Team Contact Us

Input DNA Sequence(5'→3', length ≤ 4000 bp)

PLEASE INPUT DNA SEQUENCE

Note: The DNA sequence contains the A,T,G,C. Example:AGAGAGTC

② Input DNA sequence

③ Predicting CpG island

CpG Island

3 Results:

- The predicted triplexes will be displayed in a tabular format, with each column representing specific information about an individual triplex. Detailed information will be revealed upon clicking the corresponding result entry. The predicted binding regions for the TTS (blue) and TFO (red) will be shown according to their respective positions within their sequences. The detailed sequence information for the selected triplex will be presented in the box below.

Matching Result										
Serial	Gene	Direction	motif	Start	End	Matched Sequence	Error Rate	G Content	U Content	Matched Num
1	DNA	5'→3'	Mixed motif	1913	1927	GAGAGAGAGGA...	6.67%	/	/	15
	RNA	5'→3'		2369	2383	GUGUGUGUGGU...	6.67%	53.33%	46.67%	15
2	DNA	5'→3'	Mixed motif	1907	1921	AGGGAGGAGAG...	6.67%	/	/	15
	RNA	3'→5'		2369	2383	UUGGUGGUGUG...	6.67%	53.33%	46.67%	15
3	DNA	5'→3'	Mixed motif	1925	1939	GGAGGAGAGAG...	6.67%	/	/	15
	RNA	3'→5'		2367	2381	GGUGGUGUGU...	6.67%	60%	40%	15
4	DNA	5'→3'	purine motif	1901	1916	GAGAGGAGGGA...	6.25%	/	/	16
	RNA	3'→5'		668	683	GAGAGAAGGGA...	6.25%	56.25%	0%	16
5	DNA	5'→3'	purine motif	1917	1932	GAGAGGAGGGA...	6.25%	/	/	16
	RNA	3'→5'		668	683	GAGAGAAGGGA...	6.25%	56.25%	0%	16

< 1 > To 1 Page Enter Total 5 Item 5 Item/Page

Details of Selected Interaction Position of TTS Show CpG Island

DNA: 5'→3', Total:2000

RNA: 5'→3', Total:2415

Details Sequence Position of TFO

DNA: 5' ... GAGAGAGAGGAGGGA ... 3'
 RNA: 5' ... GUGUGUGUGUGGU ... 3'

← Matching sequences

Details of each triplex

- By clicking on "Filter Column," users can selectively determine which relevant information regarding the predicted triplexes to display based on their individual preferences. Furthermore, all pertinent information related to the triplexes can be conveniently downloaded

Download the details of triplexes

Filter column


Serial	Gene	Direction	motif	Start	End	Matched Sequence	Error Rate	G Content	Num
1	DNA	5'→3'	Mixed motif	1913	1927	GAGAGAGAGGA...	6.67%	/	
	RNA	5'→3'		2369	2383	GUGUGUGUGGU...	6.67%	53.33%	
2	DNA	5'→3'	Mixed motif	1907	1921	AGGGAGGAGAG...	6.67%	/	
	RNA	3'→5'		2369	2383	UUGGUGGUGUG...	6.67%	53.33%	
3	DNA	5'→3'	Mixed motif	1925	1939	GGAGGAGAGAG...	6.67%	/	
	RNA	3'→5'		2367	2381	GGUGGUGUGU...	6.67%	60%	
4	DNA	5'→3'	purine motif	1901	1916	GAGAGGAGGGA...	6.25%	/	
	RNA	3'→5'		668	683	GAGAGAAGGGA...	6.25%	56.25%	
5	DNA	5'→3'	purine motif	1917	1932	GAGAGGAGGGA...	6.25%	/	16
	RNA	3'→5'		668	683	GAGAGAAGGGA...	6.25%	56.25%	0%

Serial
 Gene
 Direction
 motif
 Start
 End
 Matched Sequence
 Error Rate
 G Content
 U Content
 Matched Num


1 To 1 Page Total 5 Item 5 Item/Page

Details of Selected Interaction Show CpG Island

DNA: 5'→3', Total:2000



RNA: 5'→3', Total:2415



Details Sequence

```

      1913           1927
      |             |
DNA: 5' ... GAGAGAGAGGAGGGA ... 3'
      | | | | | | | | | | | | | | | | | |
RNA: 5' ... GUGUGUGUGGUGGU ... 3'
      2369           2383
    
```

- Display CpG Islands (Optional): When the option to display CpG islands is enabled, a green translucent box representing the CpG islands will appear on the gray DNA sequence bar. The width and extent of this box correspond to the length and positional context of the CpG islands within the sequence.


Matching Result

Serial	Gene	Direction	motif	Start	End	Matched Sequence	Error Rate	G Content	U Content	Matched Num
1	DNA	5'→3'	Mixed motif	1913	1927	GAGAGAGAGGA...	6.67%	/	/	15
	RNA	5'→3'		2369	2383	GUGUGUGUGGU...	6.67%	53.33%	46.67%	15
2	DNA	5'→3'	Mixed motif	1907	1921	AGGGAGGAGAG...	6.67%	/	/	15
	RNA	3'→5'		2369	2383	UUGGUGGUGUG...	6.67%	53.33%	46.67%	15
3	DNA	5'→3'	Mixed motif	1925	1939	GGAGGAGAGAG...	6.67%	/	/	15
	RNA	3'→5'		2367	2381	GGUGGUGUGU...	6.67%	60%	40%	15
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	RNA	3'→5'		668	683	GAGAGAAGGGA...	6.25%	56.25%	0%	16
5	DNA	5'→3'	purine motif	1917	1932	GAGAGGAGGGA...	6.25%	/	/	16
	RNA	3'→5'		668	683	GAGAGAAGGGA...	6.25%	56.25%	0%	16


< 1 > To 1 Page Enter Total 5 Item 5 Item/Page

Details of Selected Interaction

DNA: 5'→3', Total:2000



RNA: 5'→3', Total:2415



Download the details of CpG island → [CpG Export](#) Show CpG Island

Show CpG island

Details Sequence

```

      1913      1927
      |        |
DNA: 5' ... GAGAGAGAGGAGGGA ... 3'
      | | | | | | | | | | | | |
RNA: 5' ... GUGUGUGUGGUGGUU ... 3'
      |        |
      2369      2383
          
```

