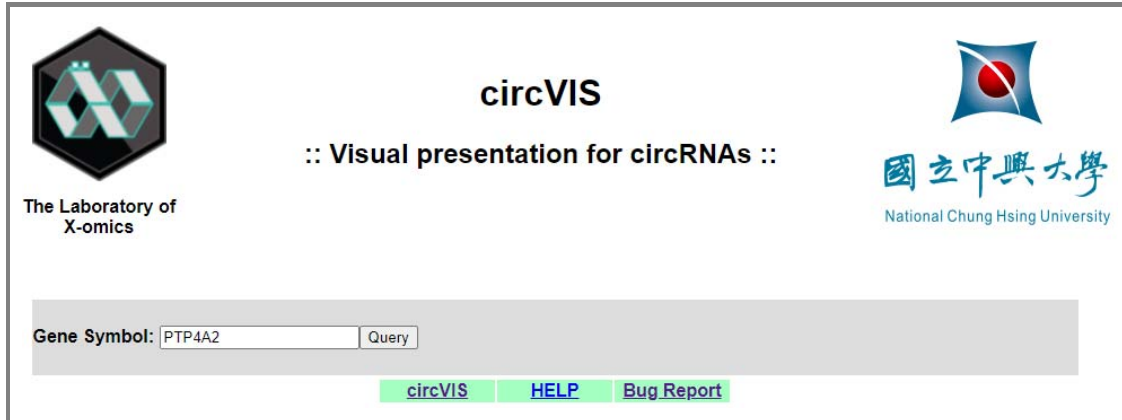# circVIS – User Manual

This document will briefly guide user how to use the circVIS service and interpret the results. To access circVIS, please go to http://lab-x-omics.nchu.edu.tw/circVIS/. From the main page of the circVIS, an input form is provided for entering a valid gene symbol:
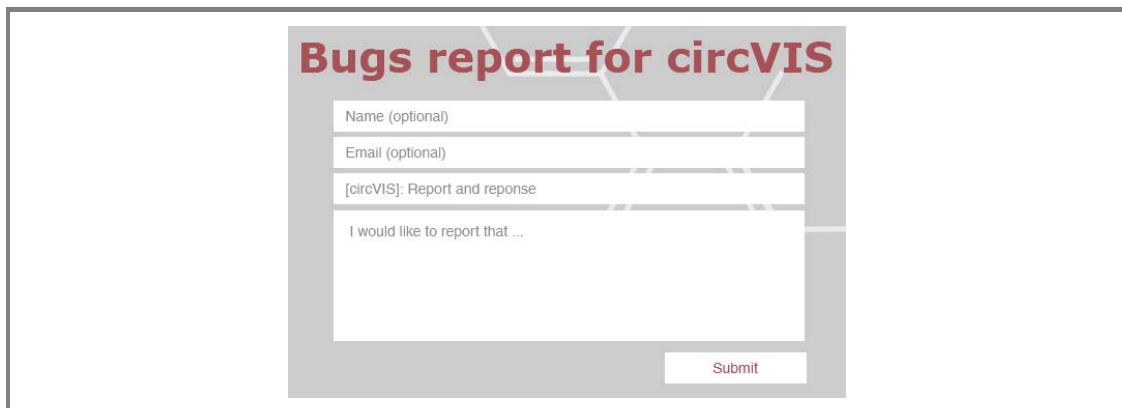
The default gene symbol 'PTP4A2' is provided as an example. At the bottom, 3 links – **circVIS**, **HELP** and **Bug Report** are provided. 'circVIS' will link to the main page, 'HELP' will link to this user manual and 'Bug Report' will link to the following page:

Any comments can be submitted here.

By clicking the button 'Query', the result page will be retrieved as following:

The ***first part*** of the results is a table listing the circRNAs associated with the given gene. The origin of each circRNA is listed as chr# followed by the beginning and end site in the column of position. The column Ref and exon M/N show the backsplice taking place between the pair of exons from the representative transcript. The column of subcellular info shows 'green' if a given circRNA is identified in corresponding different subcellular compartments (CP: cytoplasm; NP: nucleoplasm; CA: chromatin-associated; PS: polyribosome). Similarly, if having predicted ORF, the column of 'cORF' (circORF)

shows green. The last three columns indicate in which database (DB) the given circRNA was archived (cBase: circBase; cRNADb: circRNADb; cVIS: circVIS).
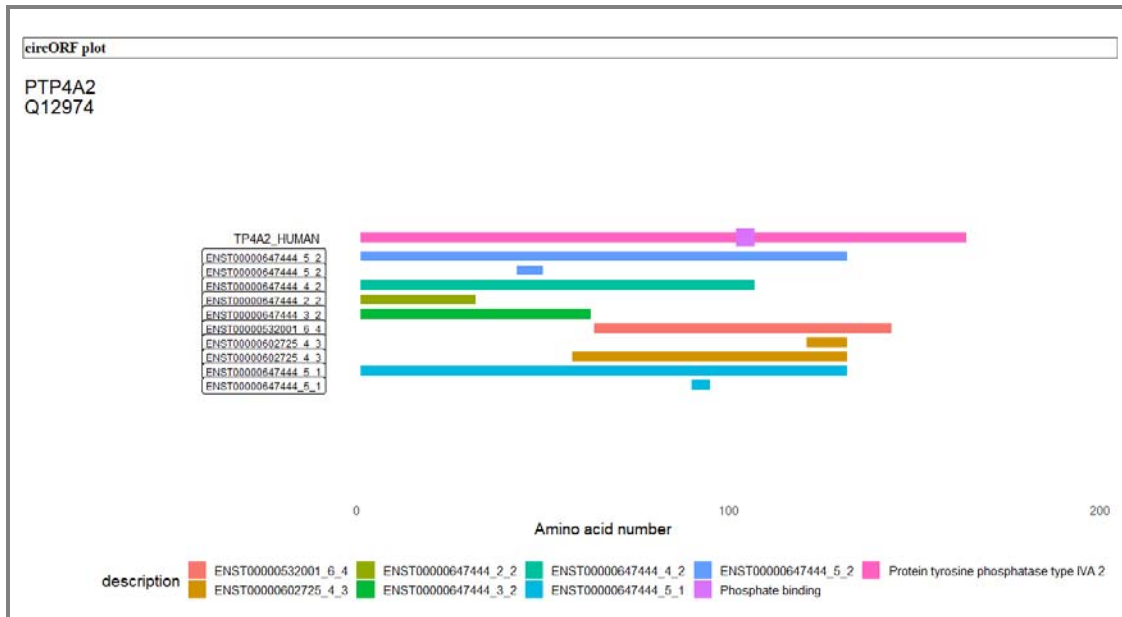
Gene Symbol	PTP4A2												
circVIS_ID	Position	Ref	Exon M	Exon N	Subcellular info				cORF	DB			
					CP	NP	CA	PS		cBase	cRNADb	cVIS	
circVIS_0003932	1 31910038-31919658	ENST00000647444	2	5					■	hsa_circ_0011335	hsa_circ_11917		
circVIS_0003933	1 31911696-31919658	ENST00000647444	2	4					■	hsa_circ_0004893	hsa_circ_32289		
circVIS_0003934	1 31918970-31919658	ENST00000647444	2	2	■				■	hsa_circ_0011338	hsa_circ_12625		
circVIS_0007389	1 31915895-31919658	ENST00000647444	2	3				■	■	hsa_circ_0007364	hsa_circ_22452		
circVIS_0017935	1 31910038-31913023	ENST00000532001	4	6					■			■	
circVIS_0023503	1 31906421-31910112	ENST00000647444	5	6						hsa_circ_0011331			
circVIS_0023504	1 31906421-31915987	ENST00000647444	3	6						hsa_circ_0011332			
circVIS_0023505	1 31906421-31919658	ENST00000647444	2	6						hsa_circ_0011333			
circVIS_0023506	1 31910038-31911826	ENST00000602725	3	4	■				■	hsa_circ_0005674	hsa_circ_01986		
circVIS_0023507	1 31911696-31915987	ENST00000602725	2	3						hsa_circ_0011337			
circVIS_0025148	1 31906421-31938379	ENST00000647444	1	6						hsa_circ_0011334			
circVIS_0025149	1 31910038-31938379	ENST00000647444	1	5						hsa_circ_0011336			
circREF plot													

The **_second part_** of the results shows the representative transcript(s) labeled with ENST ID (red) and circRNAs with the paired exons of backsplice (for example, '5_2' stands for backsplice taking place between exon 2 and 5). In addition, circRNAs with predicted ORF are colored in green; otherwise in blue.
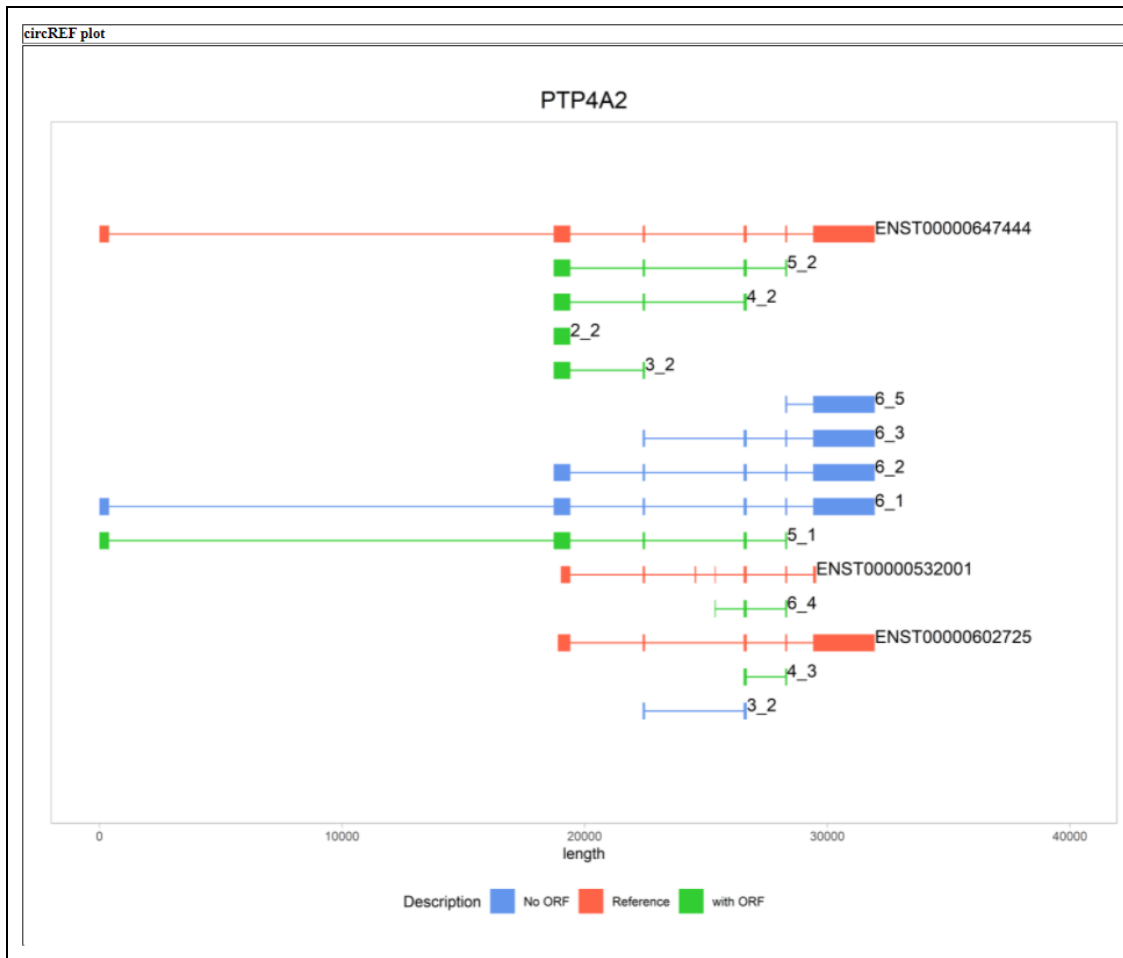
The ***third part*** of results is a plot for mapping potential ORF to the parental protein. The gene symbol and uniprot accession number are shown at the top-left corner. The annotation features from uniprot are drawn in the first row (begin with TP4A2_HUMAN). The figure legend shown what features are. For example, PTP4A2 have two features 'Protein tyrosine phosphatase type IVA 2' (in pink) and 'Phosphate binding' (in purple). The ORFs from circRNA are labeled with corresponding representative transcript and the paired exons for backsplice (ENST_N_M).

■ Common error messages:

Gene Symbol	N0T1234GENE is not a valid official gene symbol.

Solution: a valid official gene symbol is required. Please go get an official gene symbol at databases such as HGNC, Ensembl and GeneCards.

Gene Symbol	No circRNAs are expressed from FTCD.

Cause: This means there is no circRNA identified from this gene in circBase, circRNADb or circVIS. If you think this information might not be accurate, please report it through 'Bug report'.

500 Internal Server Error

Cause: It is a very rare event typically caused by dis-placed output files or slow internet connection. If you think this information might not be accurate, please report it through 'Bug report'.