

Table 1. Primers used in this study.

Name	Sequences 5'- 3'	Size [bp]	Note
ToCV-F	ATGGAGAACAGTGTCTGTTGCA	432	forward primer of ToCV (1-21 in CP gene; 4332 - 4352 in RNA2, KC709510)
ToCV-R	CCATCTACCTCAAAGTAG'		reverse primer of ToCV (414-432 in CP gene; 4745 - 4763 in RNA2)
TY-F	CTACTTTGAGGTAGATGGTGTATGTCGAAGCGACCA405 GGCG	405	forward primer of TYLCV (Lowercase letters are the sequence of CP gene from 1-19 in CP gene; capital letters are overlapping areas with ToCV-R)
TY-R	CTGATTAGTGTGATTCTGC		reverse primer of TYLCV (387-405 in CP gene)
attB-ToCV-F	GGGGACAAGTTTGTACAAAAAGCAGGCTCAATG GAGAACAGTGTCTGTTGCA		forward primer of ToCV with attB adapter
attB-TY-R	GGGGACCACTTTGTACAAGAAAGCTGGGTACTGA TTAGTGTGATTCTGC		reverse primer of TYLCV with attB adapter
P35SP	ACTGACGTAAGGGATGACGCAC		universal primer of 35S promoter
T35SP	GATTTGTAGAGAGAGACTGGT		universal primer of 35S terminator
shanghaiF	GAGGGATGAGTACAGGCCATATA	573	forward primer of detecting TYLC (694-716 in CP gene)
shanghaiR	GCCCATGTATAGGAAGCCAG		reverse primer of detecting TYLCV (144-164 in CP gene)
ToCV CP-F	GAATCTTTTAGAAGCTTTGGTTTAAGG	847	forward primer of detecting ToCV (4301 - 4327 in RNA2)
ToCV CP-R	ATCCTCTTGATCCTCATAGATTAC		the reverse primer of detecting ToCV (5123 - 5147 in RNA2)
M13F	GGTAACGCCAGGGTTTTCC		the universal forward primer of entry vector
M13R	CAGGAAACAGCTATGACC'		the universal reverse primer of entry vector