

Supplemental Table 1 List of primers used in this study

Name	Sequence(5'-3')	purpose
NbUBC9-GW-F	CACCATGGCATCCAAGAGGATTCT	Group III VIGS fragment <i>NbUBC9</i> cloning
NbUBC9-VIGS-R	TGTAGCCTGCCAGTGAACAT	Group III VIGS fragment <i>NbUBC9</i> cloning
NbUBC10-VIGS-F	GAAGATATGTTTCACTGGCA	Group III VIGS fragment <i>NbUBC10</i> cloning
NbUBC10-VIGS-R	TATTTATATTGGATGGAAAACTTTG	Group III VIGS fragment <i>NbUBC10</i> cloning
NbUBC11-VIGS-F	CAAAAGTATTTCCATCCAAATATA	Group III VIGS fragment <i>NbUBC11</i> cloning
NbUBC11-VIGS-R	TCGTCTGGATTTGGATCTGT	Group III VIGS fragment <i>NbUBC11</i> cloning
NbUBC39-VIGS-F	ACAGATCCAAACCCAGACGA	Group III VIGS fragment <i>NbUBC39</i> cloning
NbUBC39-R	TGCTCGAGTTATCCCATCGCATATTTTGA	Group III VIGS fragment <i>NbUBC39</i> cloning
NbUBC12-VIGS-F	ATGGGATAACTCGAGCATCTATCCATTTCC	Group III VIGS fragment <i>NbUBC12</i> cloning
NbUBC12-VIGS-R	TGCTGTTTATGTTTGGGTGG	Group III VIGS fragment <i>NbUBC12</i> cloning
NbUBC30-VIGS-F	GGTTTTCCACCCAAACATAAACAGCA	Group III VIGS fragment <i>NbUBC30</i> cloning
NbUBC30-VIGS-R	GATTAGGGTCCGTCAGAAGTG	Group III VIGS fragment <i>NbUBC30</i> cloning
Nb/slUBC12VIGS-F	CACCAGATTATCCATTCAAGCCCCC	Nonoptimized VIGS fragment cloning for silencing <i>NbUBC12</i> alone or the four E2 genes <i>NbUBC12</i> , <i>10</i> , <i>28</i> and <i>31</i> .
Nb/slUBC12VIGS-R	GCATATGGTGAAAGCAGCACCTTGGATACAGTAAG	Nonoptimized VIGS fragment cloning for silencing the three E2 genes <i>NbUBC10</i> , <i>28</i> and <i>31</i> or the four E2 genes <i>NbUBC12</i> , <i>10</i> , <i>28</i> and <i>31</i> .
Nb/slUBC10VIGS-F	CACCATATGCTTGGACATACTGAAGGAGCAG	Nonoptimized VIGS fragment cloning for silencing the three E2 genes <i>NbUBC10</i> , <i>28</i> and <i>31</i> or the four E2 genes <i>NbUBC12</i> , <i>10</i> , <i>28</i> and <i>31</i> .
Nb/slUBC10VIGS-R	CACTGCAAGTACATGTGAGCAATCTCAGGAAC	Nonoptimized VIGS fragment cloning for silencing the three E2 genes <i>NbUBC10</i> , <i>28</i> and <i>31</i> or the four E2 genes <i>NbUBC12</i> , <i>10</i> , <i>28</i> and <i>31</i> .
NbUBC28VIGS-F	CACATGTACTTGCAGTGCCGGCCCCGTTGGAGAG	Nonoptimized VIGS fragment cloning for silencing the three E2 genes <i>NbUBC10</i> , <i>28</i> and <i>31</i> or the four E2 genes <i>NbUBC12</i> , <i>10</i> , <i>28</i> and <i>31</i> .
NbUBC28VIGS-R	AATGGATAGTGACTAAAAATACACCCC	Nonoptimized VIGS fragment cloning for silencing the three E2 genes <i>NbUBC11</i> , <i>29</i> , <i>39</i> and <i>40</i> .
Nb-UBC12VIGS-G-F	CACCAGTATTTGTCTGGACATCTTAAAG	Optimized VIGS fragment cloning for silencing <i>NbUBC12</i> alone or the four E2 genes <i>NbUBC12</i> , <i>10</i> , <i>28</i> and <i>31</i> .
Nb-UBC12VIGS-G-R	AAGCAAAACCTTGGTGAGCAGCACCTTGGATACAGT	Optimized VIGS fragment cloning for silencing <i>Nb-UBC12</i> alone or the four E2 genes <i>NbUBC12</i> , <i>10</i> , <i>28</i> and <i>31</i> .
Nb-UBC10VIGS-G-F	CACCAAGGTTTTGCTTTCAATCTGC	Optimized VIGS fragment cloning for silencing the three E2 genes <i>NbUBC10</i> , <i>28</i> and <i>31</i> or the four E2 genes <i>NbUBC12</i> , <i>10</i> , <i>28</i> and <i>31</i> .
Nb-UBC10VIGS-G-R	TTATTGTAGCTTGGTGGCAATCTCAGGAACAAGGGG	Optimized VIGS fragment cloning for silencing the three E2 genes <i>NbUBC10</i> , <i>28</i> and <i>31</i> or the four E2 genes <i>NbUBC12</i> , <i>10</i> , <i>28</i> and <i>31</i> .
Nb-UBC28VIGS-G-F	CACCAAGCTACAATAATGGGCC	Optimized VIGS fragment cloning for silencing the three E2 genes <i>NbUBC10</i> , <i>28</i> and <i>31</i> or the four E2 genes <i>NbUBC12</i> , <i>10</i> , <i>28</i> and <i>31</i> .
Nb-UBC28VIGS-G-R	AATGGATAGTGACTAAAAATAC	Optimized VIGS fragment cloning for silencing the three E2 genes <i>NbUBC10</i> , <i>28</i> and <i>31</i> or the four E2 genes <i>NbUBC12</i> , <i>10</i> , <i>28</i> and <i>31</i> .
Nb-EF1a-F	AGCCTGGTATGGTTGTGACTTTTG	RT-PCR for reference gene <i>NbEF1a</i>
Nb-EF1a-R	CATGGGCTTGGTGGGAATC	RT-PCR for reference gene <i>NbEF1a</i>
Nb-UBC8-RT-F	CACCATGGCATCCAACGGATTCTCAAAG	RT-PCR for <i>NbUBC8</i>
Nb-UBC8-RT-R	AGCCCCTCCAGAGATGGTCACT	RT-PCR for <i>NbUBC8</i>
Nb-UBC9-RT-F	CACCATGGCATCCAAGAGAATTCTGAAAG	RT-PCR for <i>NbUBC9</i>
Nb-UBC9-RT-R	CCAAATATTTGTGTTTCAGCAACTAACCC	RT-PCR for <i>NbUBC9</i>
Nb-UBC10-RT-F	CACCATGGCTTCGAAACGAATATTGAA	RT-PCR for <i>NbUBC10</i>
Nb-UBC10-RT-R	CCGCCATAGGCAATATTTAGCCCA	RT-PCR for <i>NbUBC10</i>
Nb-UBC11-RT-F	CACCATGGCATCCAGGAGAATTCA	RT-PCR for <i>NbUBC11</i>
Nb-UBC11-RT-R	CAACTCAATTCATAGCAAACTTTGG	RT-PCR for <i>NbUBC11</i>

Nb-UBC12-RT-F	TCTTACTGTATCCAAGGTGCTGCT	RT-PCR for <i>NbUBC12</i>
Nb-UBC12-RT-R	CCAAATGTTTTTCATCCCATGGCATAT	RT-PCR for <i>NbUBC12</i>
Nb-UBC28-RT-F	TAGAATTCATGGCTTCGAAACGGATATT	RT-PCR for <i>NbUBC28</i>
Nb-UBC28-RT-R	CATGGGTTAAACCGTTACCTATGG	RT-PCR for <i>NbUBC28</i>
Nb-UBC29-RT-F	CACCATGGCATCCAGGAGAATTCA	RT-PCR for <i>NbUBC29</i>
Nb-UBC29-RT-R	CTTCATGTCTTCAGACTCAGTTCATA	RT-PCR for <i>NbUBC29</i>
Nb-UBC30-RT-F	CACCATGGCTTCCAAGCGGATCT	RT-PCR for <i>NbUBC30</i>
Nb-UBC30-RT-R	TTAGCCCATGGCATACTTCT	RT-PCR for <i>NbUBC30</i>
Nb-UBC31-RT-F	CACCATGGCTTCGAAACGAATATTGAA	RT-PCR for <i>NbUBC31</i>
Nb-UBC31-RT-R	GCCGCCATAGGCAATAGTTAGCCC	RT-PCR for <i>NbUBC31</i>
Nb-UBC38-RT-F	ACGGATCCATGGCATCCAAGCGGATTC	RT-PCR for <i>NbUBC38</i>
Nb-UBC38-RT-R	CTAACCCATGGCGTACTTTT	RT-PCR for <i>NbUBC38</i>
Nb-UBC39-RT-F	AGGAATTCATGGCGTCGAAGCGCATAT	RT-PCR for <i>NbUBC39</i>
Nb-UBC39-RT-R	GGACACTTTCCGCATCATCCCATATA	RT-PCR for <i>NbUBC39</i>
Nb-UBC40-RT-F	TTGAATTCATGGCGTCGAAGAGGATATT	RT-PCR for <i>NbUBC40</i>
Nb-UBC40-RT-R	TCATTCAACACAAGCACATAAGA	RT-PCR for <i>NbUBC40</i>
Nb-UBC27-RT-F	CACCGTGGACTTGGCTAGGGTTCA	RT-PCR for <i>NbUBC27</i>
Nb-UBC27-RT-R	GCTGTGCAACAACATGCATCT	RT-PCR for <i>NbUBC27</i>
NbFni3-RT-F1	CACCAGGAATAAGTGCATCTC	RT-PCR for <i>NbUBC13</i>
NbFni3-RT-R1	ACTAGCATATAGGCGTGTCCTCA	RT-PCR for <i>NbUBC13</i>