**Table 1. Primers used for gene cloning and mutant construction**

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| Primer | Sequence | Utilization |
| *Atu*COG1058 fw | CACCATGTCCAATCCCTCCTCCACCTCC | Cloning of *A. tumefaciens* COG1058 in pET100/D-TOPO |
| *Atu*COG1058 rev | TCAGGCGGTTGCATCGCCCTTGCTTGC | Cloning of *A. tumefaciens* COG1058 in pET100/D-TOPO |
| E21A fw | CCATCGGCGACGCACTGCTGTCCGG | Mutant generation |
| E21A rev | CCGGACAGCAGTGCGTCGCCGATGG | Mutant generation |
| D54A fw | CGCATCGTCGCCGCCGAGGAGGAATCG | Mutant generation |
| D54A rev | CGATTCCTCCTCGGCGGCGACGATGCG | Mutant generation |
| D54N fw | CCGCATCGTCGCCAACGAGGAGGAATC | Mutant generation |
| D54N rev | GATTCCTCCTCGTTGGCGACGATGCGG | Mutant generation |
| D85A fw | CCGACCCATGACGCCATCACCGCGGAC | Mutant generation |
| D85A rev | GTCCGCGGTGATGGCGTCATGGGTCGG | Mutant generation |