Command: python APHID.py AT3G02260.1 2342 GFP.fa BIG\_GFP  
Transcript: AT3G02260.1  
Cargo: GFP  
Insertion location: After amino acid 2342  
  
CATCAGGCGTATAGACTGGGTTCCTGGTTCACAGGTTCAGTTAATGGTCGTTACGAACAAATTCGTGAAGATTTATGATCTATCCCAGGATAGCATCAGTCCAACACAGTACTTCACTTTGCCAAACGACATGATTGTGGATGCTACTCTTTTTGTTGCTTCTCGTGGGAGGGTTTTCCTTCTTGTTCTTTCAGAACAAGGGAATTTGTATAGGTTCGAACTATCTTGGGGCGGCAATGCAGGCGCAACACCGCTTAAGGAAATCGTTCAGATTATGGGAAAGGATGTTACGGGAAAGGGTTCATCTGTCTATTTCTCTCCAACATATCGACTGCTTTTCATATCCTATCATGATGGAAGTTCTTTTATGGGTCGACTCAGCTCAGATGCAACATCCTTAACTGATACATCTGGCATGTTTGAGGAAGAATCAGATTGTAAACAAAGGGTGGCTGGATTGCATCGTTGGAAAGAGTTGTTGGCTGGCAGTGGATTATTTATTTGCTTCTCCAGCGTGAAGTCAAATGCTGTCTTAGCTGTGTCCTTGAGGGGCGATGGGGTATGTGCACAGAATCTCCGTCATCCGACAGGATCATCTTCCCCTATGGTTGGAATAACCGCATACAAACCTTTGTCAAAAGACAATGTTCACTGTCTAGTTCTGCATGATGATGGCAGCCTTCAGATTTATTCTCATGTTCGTAGTGGAGTTGATACTGACTCAAATTTCACAGCTGAAAAAGTTAAAAAGTTGGGTTCTAAGATACTTAACAACAAAACCTATGCTGGTGCAAAGCCAGAGTTTCCCCTGGATTTCTTTGAGAGGGCATTTTGCATTACAGCAGATGTGAGACTTGGTAGTGATGCTATTAGAAATGGTGATTCCGAGGGAGCAAAACAGAGCTTGGCATCTGAGGATGGCTTTATTGAGAGCCCCAGTCCCGTGGGCTTCAAGGTATGGTTGGAATTCTGCAGTAATTTTTCTTGATAAGTTTATCTGCATACTATGCTTGGTTATTAGTTTAGTACTCTGAAGAGTATTTTGTCCGCCCAATTATGAGTATATGGGTTGCTTGTCTCCAGTTATCTAACCTCCTTCTCTCTTTCAGATATCTGTCTCCAATCCAAACCCTGACATTGTTATGGTTGGCATCCGGATGCATGTGGGTACTACATCAGCAAGCTCTATACCTTCAGAAGTGACCATTTTCCAGAGATCGATTAAGATGGATGAGGGCATGAGGTGCTGGTATGACATCCCATTTACTGTGGCTGAGTCACTTCTAGCTGATGAAGATGTTGTAATCTCTGTGGGGCCGACTACTAGTGGGACTGCACTGCCCAGAATAGACTCGCTTGAAGTATATGGTCGAGCTAAAGATGAATTTGGCTGGAAAGAAAAAATGGATGCTGTGCTAGATATGGAAGCTCGTGTGCTTGGTCATGGTTTGCTTCTTCCAGGCTCTAGTAAAAAGAGAGCGTTGGCACAGTCTGCTTCAATGGTGAGCAAGGGCGAGGAGCTGTTCACCGGGGTGGTGCCCATCCTGGTCGAGCTGGACGGCGACGTAAACGGCCACAAGTTCAGCGTGTCCGGCGAGGGCGAGGGCGATGCCACCTACGGCAAGCTGACCCTGAAGTTCATCTGCACCACCGGCAAGCTGCCCGTGCCCTGGCCCACCCTCGTGACCACCTTCACCTACGGCGTGCAGTGCTTCAGCCGCTACCCCGACCACATGAAGCAGCACGACTTCTTCAAGTCCGCCATGCCCGAAGGCTACGTCCAGGAGCGCACCATCTTCTTCAAGGACGACGGCAACTACAAGACCCGCGCCGAGGTGAAGTTCGAGGGCGACACCCTGGTGAACCGCATCGAGCTGAAGGGCATCGACTTCAAGGAGGACGGCAACATCCTGGGGCACAAGCTGGAGTACAACTACAACAGCCACAACGTCTATATCATGGCCGACAAGCAGAAGAACGGCATCAAGGTGAACTTCAAGATCCGCCACAACATCGAGGACGGCAGCGTGCAGCTCGCCGACCACTACCAGCAGAACACCCCCATCGGCGACGGCCCCGTGCTGCTGCCCGACAACCACTACCTGAGCACCCAGTCCGCCCTGAGCAAAGACCCCAACGAGAAGCGCGATCACATGGTCCTGCTGGAGTTCGTGACCGCCGCCGGGATCACTCACGGCATGGACGAGCTGTACAAGATGGAAGAGCAAGTTATCGCTGATGGTCTTAAGCTCCTATCAATCTATTATTCAGTTTGTAGGCCACGGCAAGAAGTAGTGCTTAGCGAACTCAAATGCAAACAGCTACTAGAGACGATTTTCGAAAGTGATAGGGAAACCCTATTACAAACGACAGCTTGCCGTGTTTTGCAGTCTGTCTTTCCAAGAAAGGAGATATACTACCAGGTAATGTTTCTACCAAATTCAGTCTTGCATGTTCAGTAGATATTTCCGGGCGCAGATATTCTTTAAATTTGTATGTTGTCTTTGGCATTGATTATATCTGTTGCTATAGGTCAAAGACACCATGCGACTCCTTGGAGTGGTCAAGGTGACCTCCATTCTTTCTTCGAGGTTGGGGATTTTGGGTACTGGAGGTTCGATTGTTGAAGAGTTCAATGCTCAGATGCGGGCGGTGTCTAAAGTAGCTTTGACCCGTAAATCAAATTTCTCCGTCTTTCTGGAGATGAATGGTATATGCTGTTTCAGTTATTATCTACAGTGTGTCTATTTGCATGTGTAGTTCAAAATTCAAACACAATTTTGTTTATTATCCTTGTATTATGTAATAGGAGCGGCTGTTTGTCATACAAATATAATCTTCCTTTCATATAGTTTTGTTTATATGAGATATGTTTGTTATGTAGGCTCTGAAGTGGTTGATAATCTGATGCAAGTGCTATGGGGAATTTTGGAGTCAGAGCCACTCGACACACCTACTATGAACAATGTCGTGATGTCCTCCGTTGAACTAATCTATAGCTATGCAGAGTGTTTGGCATCTCAAGGAAAGGATACAGGGGTTCATTCTGTAGCTCCTGCAGTTCAGTTACTGAAAGCACTTATGTTGTTTCCCAATGAGTCTGTGCAAACATCCAGCAGGTGTGTTCTTGTGTATGTTTTTTATACTCTGCTCTCTTAGATATGTACTAGTCTTCTAACTCAGTTTCTTTACAGCCTAGCTATATCATCAAGGTTACTTCAGGTTCCTTTCCCAAAGCAAACAATGTTGACAACAGATGATTTGGTTGACAATGTTACAACTCCTTCGGTGCCTATCAGAACAGCTGGTGGAAATACACATGTCATGATTGAGGAGGACTCTATAACTTCATCTGTTCAATACTGCTGTGATGGCTGCTCCACCGTCCCTATACTGAGAAGAAGGTGGCACTGCACTGTTTGTCCAGATTTTGATCTATGTGAGGCATGCTATGAAGTGTTAGATGCAGATCGTCTACCACCACCACACACTCGAGATCATCCTATGACAGCAATTCCAATAGAAGTGGAATCACTTGGTGCAGACACCAATGAGATTCAGTTCTCTGCGGATGAAGTAGGTATTTCAAATATGTTGCCGGTGGTAACCAGTAGCATTCCACAAGCTTCAACTCCCTCCATCCATGTCTTGGAACCTGGTGAATCTGCTGAGTTCTCTGCCTCACTGACCGATCCTATTTCTATCTCAGCGTCAAAG  
  
Cloning primers:  
BIG\_GFP\_L\_F: TAAAACGACGGCCAGTGCCATGTCTCCAATCCAAACCCTG  
BIG\_GFP\_L\_R: TCCTCGCCCTTGCTCACCATTGAAGCAGACTGTGCCAACG  
BIG\_GFP\_R\_F: GCATGGACGAGCTGTACAAGATGGAAGAGCAAGTTATCGCTGATG  
BIG\_GFP\_R\_R: GATATATTGTGGTGTAAACACCGCTCCTATTACATAATACAAGGATAATAAACA  
GFP\_F: ATGGTGAGCAAGGGCGAGG  
GFP\_R: CTTGTACAGCTCGTCCATGCC  
GFP\_gRNA\_F: ATTGCTTGTATTATGTAATAGGAG  
GFP\_gRNA\_R: AAACCTCCTATTACATAATACAAG  
  
Genotyping primers:  
BIG\_GFP\_GT1: GAGTATTTTGTCCGCCCAATTAT  
BIG\_GFP\_GT2: ACCACTTCAGAGCCTACATAAC  
  
Left homology arm length: 385  
Right homology arm length: 599  
Cargo sequence length: 717