Plasmid pHyg3 for Chlamydomonas Transformation

(Berthold et al. 2002. Protist, Vol. 153, 401–412)



05 Jun 2023 Molecule Information

Molecule: pHyg3, 4376 bps DNA Circular

Molecule Features:

Type Start End Name Description

GENE 230 559 P-tub Chlamydomonas beta-tubulin promoter

GENE 560 646 HygR 5' 5' part of hygromycin resistance gene

GENE 647 791 rbcS2-I1 rbcS2 gene intron 1

GENE 792 1703 HygR 3' 3' part of HygR gene

GENE 1704 1946 rbcS2 3' Chlamydomonas rbcS2 3' region

GENE 2505 3435 AmpR AmpR gene (without AmpR promoter)

REGION 3590 4209 ori

pHyg3-sequence

1 gcgcccaata cgcaaaccgc ctctccccgc gcgttggccg attcattaat

51 gcagctggca cgacaggttt cccgactgga aagcgggcag tgagcgcaac

101 gcaattaatg tgagttagct cactcattag gcaccccagg ctttacactt

151 tatgcttccg gctcgtatgt tgtgtggaat tgtgagcgga taacaatttc

201 acacaggaaa cagctatgac catgattacg aattcgatat caagcttctt

251 tcttgcgcta tgacacttcc agcaaaaggt agggcgggct gcgagacggc

301 ttcccggcgc tgcatgcaac accgatgatg cttcgacccc ccgaagctcc

351 ttcggggctg catgggcgct ccgatgccgc tccagggcga gcgctgttta

401 aatagccagg cccccgattg caaagacatt atagcgagct accaaagcca

451 tattcaaaca cctagatcac taccacttct acacaggcca ctcgagcttg

501 tgatcgcact ccgctaaggg ggcgcctctt cctcttcgtt tcagtcacaa

551 cccgcaaaca tgacacaaga atccctgtta cttctcgacc gtattgattc

601 ggatgattcc tacgcgagcc tgcggaacga ccaggaattc tgggaggtga

651 gtcgacgagc aagcccggcg gatcaggcag cgtgcttgca gatttgactt

701 gcaacgcccg cattgtgtcg acgaaggctt ttggctcctc tgtcgctgtc

751 tcaagcagca tctaaccctg cgtcgccgtt tccatttgca gccgctggcc

801 cgccgagccc tggaggagct cgggctgccg gtgccgccgg tgctgcgggt

851 gcccggcgag agcaccaacc ccgtactggt cggcgagccc ggcccggtga

901 tcaagctgtt cggcgagcac tggtgcggtc cggagagcct cgcgtcggag

951 tcggaggcgt acgcggtcct ggcggacgcc ccggtgccgg tgccccgcct

1001 cctcggccgc ggcgagctgc ggcccggcac cggagcctgg ccgtggccct

1051 acctggtgat gagccggatg accggcacca cctggcggtc cgcgatggac

1101 ggcacgaccg accggaacgc gctgctcgcc ctggcccgcg aactcggccg

1151 ggtgctcggc cggctgcaca gggtgccgct gaccgggaac accgtgctca

1201 ccccccattc cgaggtcttc ccggaactgc tgcgggaacg ccgcgcggcg

1251 accgtcgagg accaccgcgg gtggggctac ctctcgcccc ggctgctgga

1301 ccgcctggag gactggctgc cggacgtgga cacgctgctg gccggccgcg

1351 aaccccggtt cgtccacggc gacctgcacg ggaccaacat cttcgtggac

1401 ctggccgcga ccgaggtcac cgggatcgtc gacttcaccg acgtctatgc

1451 gggagactcc cgctacagcc tggtgcaact gcatctcaac gccttccggg

1501 gcgaccgcga gatcctggcc gcgctgctcg acggggcgca gtggaagcgg

1551 accgaggact tcgcccgcga actgctcgcc ttcaccttcc tgcacgactt

1601 cgaggtgttc gaggagaccc cgctggatct ctccggcttc accgatccgg

1651 aggaactggc gcagttcctc tgggggccgc cggacaccgc ccccggcgcc

1701 tgataaggat ccccgctccg tgtaaatgga ggcgctcgtt gatctgagcc

1751 ttgccccctg acgaacggcg gtggatggaa gatactgctc tcaagtgctg

1801 aagcggtagc ttagctcccc gtttcgtgct gatcagtctt tttcaacacg

1851 taaaaagcgg aggagttttg caattttgtt ggttgtaacg atcctccgtt

1901 gattttggcc tctttctcca tgggcgggct gggcgtattt gaagcgggta

1951 ccgggcccgt catcccatgg aagcttggca ctggccgtcg ttttacaacg

2001 tcgtgactgg gaaaaccctg gcgttaccca acttaatcgc cttgcagcac

2051 atcccccttt cgccagctgg cgtaatagcg aagaggcccg caccgatcgc

2101 ccttcccaac agttgcgcag cctgaatggc gaatggcgcc tgatgcggta

2151 ttttctcctt acgcatctgt gcggtatttc acaccgcata tggtgcactc

2201 tcagtacaat ctgctctgat gccgcatagt taagccagcc ccgacacccg

2251 ccaacacccg ctgacgcgcc ctgacgggct tgtctgctcc cggcatccgc

2301 ttacagacaa gctgtgaccg tctccgggag ctgcatgtgt cagaggtttt

2351 caccgtcatc accgaaacgc gcgagacgaa agggcctcgt gatacgccta

2401 tttttatagg ttaatgtcat gataataatg gtttcttaga cgtcaggtgg

2451 cacttttcgg ggaaatgtgc gcggaacccc tatttgttta tttttctaaa

2501 tacattcaaa tatgtatccg ctcatgagac aataaccctg ataaatgctt

2551 caataatatt gaaaaaggaa gagtatgagt attcaacatt tccgtgtcgc

2601 ccttattccc ttttttgcgg cattttgcct tcctgttttt gctcacccag

2651 aaacgctggt gaaagtaaaa gatgctgaag atcagttggg tgcacgagtg

2701 ggttacatcg aactggatct caacagcggt aagatccttg agagttttcg

2751 ccccgaagaa cgttttccaa tgatgagcac ttttaaagtt ctgctatgtg

2801 gcgcggtatt atcccgtatt gacgccgggc aagagcaact cggtcgccgc

2851 atacactatt ctcagaatga cttggttgag tactcaccag tcacagaaaa

2901 gcatcttacg gatggcatga cagtaagaga attatgcagt gctgccataa

2951 ccatgagtga taacactgcg gccaacttac ttctgacaac gatcggagga

3001 ccgaaggagc taaccgcttt tttgcacaac atgggggatc atgtaactcg

3051 ccttgatcgt tgggaaccgg agctgaatga agccatacca aacgacgagc

3101 gtgacaccac gatgcctgta gcaatggcaa caacgttgcg caaactatta

3151 actggcgaac tacttactct agcttcccgg caacaattaa tagactggat

3201 ggaggcggat aaagttgcag gaccacttct gcgctcggcc cttccggctg

3251 gctggtttat tgctgataaa tctggagccc gtgagcgtgg gtctcgcggt

3301 atcattgcag cactggggcc agatggtaag ccctcccgta tcgtagttat

3351 ctacacgacg gggagtcagg caactatgga tgaacgaaat agacagatcg

3401 ctgagatagg tgcctcactg attaagcatt ggtaactgtc agaccaagtt

3451 tactcatata tactttagat tgatttaaaa cttcattttt aatttaaaag

3501 gatctaggtg aagatccttt ttgataatct catgaccaaa atcccttaac

3551 gtgagttttc gttccactga gcgtcagacc ccgtagaaaa gatcaaagga

3601 tcttcttgag atcctttttt tctgcgcgta atctgctgct tgcaaacaaa

3651 aaaaccaccg ctaccagcgg tggtttgttt gccggatcaa gagctaccaa

3701 ctctttttcc gaaggtaact ggcttcagca gagcgcagat accaaatact

3751 gtccttctag tgtagccgta gttaggccac cacttcaaga actctgtagc

3801 accgcctaca tacctcgctc tgctaatcct gttaccagtg gctgctgcca

3851 gtggcgataa gtcgtgtctt accgggttgg actcaagacg atagttaccg

3901 gataaggcgc agcggtcggg ctgaacgggg ggttcgtgca cacagcccag

3951 cttggagcga acgacctaca ccgaactgag atacctacag cgtgagctat

4001 gagaaagcgc cacgcttccc gaagggagaa aggcggacag gtatccggta

4051 agcggcaggg tcggaacagg agagcgcacg agggagcttc cagggggaaa

4101 cgcctggtat ctttatagtc ctgtcgggtt tcgccacctc tgacttgagc

4151 gtcgattttt gtgatgctcg tcaggggggc ggagcctatg gaaaaacgcc

4201 agcaacgcgg cctttttacg gttcctggcc ttttgctggc cttttgctca

4251 catgttcttt cctgcgttat cccctgattc tgtggataac cgtattaccg

4301 cctttgagtg agctgatacc gctcgccgca gccgaacgac cgagcgcagc

4351 gagtcagtga gcgaggaagc ggaaga