

Supplementary file 2: nucleotide sequences and length of the upstream and downstream regions used to design eGFP expression cassettes, obtained by Sanger sequencing of the fragments amplified from *P. tricornutum* (strain UTEX646). Untranslated regions (UTR) are underlined in blue.

>*PtPhos1* upstream region, 949 bp

CCGGTGTGTAATATACGATACCCGGAGCCGCGTTGGAGATTCATTCACTGTCAACGCTC
GGCCACGGCAATTTGCCCTAATATCGTAACACATAAAAATGGCGACGTTCCCTGCACGAC
CATAATTTTCGTTACGGCAGGGATTTTGGCGTCGAGATTCGTTTCATGGGACCAAACTAG
CAGGAGGATTGGTTTTTTCAGCATAATAGATTTCGTGTCCCCGTTTCGATTTTTCTCTGCGGC
CGTCCCACCGGACTCGAAAAAATTTCAAAGTTAGAGCATTTGGTGAAATCGTACGCCAA
GTTTCCCGCTAGAAATAATGTGGACCGAGGGTTAAGTGTGCGCATGTGCGAAGAATGCG
CTGGGAGCTGACTTCCCGGCCGACTGTAATTAGAGAAGAACATAGATTAAAAAAAGACT
TGTC AATTCGGAAGACACACAAGTAGACACAGAATACTAAACAAGAAGAGAGAAGCATG
ACTCATCTTTTTAAGCATCATAATAGATGATTTGCAGGGCGTTTGTATGAGTCAGCCAAGT
GCAAATATGTTTTACGTGTCAACGAATCTTAAAGATCCATGACAAAAACGCCATACACCA
GAACCATGAAATGGACGCTTCGTTAATGTAAAGTGTGCAATCTTCAGTTCACATTTTTCAA
GATTCGCTAGATTCGACAGTGATAAATCATCTTTGTCAAACAATCTTCATGGTTGTTGAA
CGATATACGGTCTATACGTCCTAAATCAGAGAACCGTTCACAAATTACAATTAGATTCTTT
AGAGAAACCATGACCAGGCTCACGTGTACTTTCTTACAATTGATGGGATCGGATGCAAGA
CCGAGGAAAAGATCTCATCTCTTGGGCGCACTGATAAAGCTCATAATTTTTGTGAGTTGCC
ACCAAGGATTTTTCTATCGGCATCCTAACATTATCGGACCTGCAA

>*PtPhos1* downstream region, 523 bp

TCGGATTCTTGCAAGCTTGAGCACAGGAATTTGAGACTTATATATGTTGCGTCCGAAATTT
ACAGTTAGGCTTTTCGTCCGATTTTGTATGTAGGCGGAAATAGCATAGAATCATGTTACA
CAGTTAAGGCACTCATAGTTGTACATAGTGTGGTGCATTTTAGAGCTGTTTGGAAACAAGC
AAACATTTTGAGTGCAGATTCCCCACCCATGGAATGTGAGCGTTGCTCGCGCAGAATGT
CGATTTTACAGTTAGTTGGAACGGTGGCGCCCGCTGGAGCCGACTTTTGATTGGAAGTACT
GTTCTGAACTGGTACACGTCGAGTCATACCCTGCCCTTCTTACATCTTATTGAGAGACGAT
GGCACTTTGCGAACAAAGTGGTTGTGATGTTCTAACAGTAAATATAAAAGGCTGTAGGTA
GTTTACCTAGCTCTACACGCAAACGGAGGACCGCATCAATTCGTCGGAGGCCGTTACCG
TGTTGCTTAGGCTACCGACCGGCCCGTCTTTAGGCACTC

>*PtPhos2* upstream region, 1042 bp

GACCTGCAATACACCTAAGCGGGCCTAGGGACTGTAAACTCAACTCGCTTACGACGCTC
CCCACGGGTTAGACAGCGGATACGAGGACCTATGCTAACGCAATATTTGGATCAATATCT
TTCTAAAACAATGAGAAGAAGATTGTTCTACTACTAGTCCATCGGGCTTGAGAGGTCCAG
TTCACTGGACTACCGTTACCATGTTCCAGATAATCTTACTCACATATATGAGTCTTGTTCT
TTTAAGTATAAATCCCTAAAAAATATAGAAATCCTAGAAGCAGTCAGTAAATGTAAATC
CATCACTAATGTAACCTAAGTTCCTCTACTAGTCAATTGTACAACATAAATTCTTCACT
GATTGTGACTTTGAATTTTAGGACACACTCTCTAGAGAGGATTGATAGTGAAAACCTTAT
TCATTGTCAGAGCTTAAGCCGGTCTGGTCTATCTTTCCACTGTCAAACAGCTCTTGATTGT
CGCCCGCGCGAAAATAGTAGCACTAACTGTAACCTCAAATAACAAAATGTTCTCTGTTAC
CATAAGTGAATGTAACCTTTGCAATTGACAGTATTAGTAGTCGATTGACAGTGAGGCAC
GCCCTCAATGTGCGAGGTGGAAAATATACCAGCATGACAATGAATCTTGGAGATTCTTT
TGCTGTCATCAAGATTCACCGCAAATCTTCAGGAACCTATCACGTCCACAGGCGATGTT
AATTCTTGAGTCGTCAAACAAGTCTGTCCTACCTGTAGAAGTTGACAGCGAGCAATT
GTATGCAAACCTTCTGACTTTGTTATAATAACATTAAAGGTAATTAAGTATCTTCAATTAGG
CATTTTGTCACTGTGAGTCCGTTCCGACAATATAGGTAGATTTGGAATGAATCTTTTCTAT

GCTGCTGCGAATCTTGTACACCTTTGAGGCCGTAGATTCTGTCCGACGAAGCGATAATTA
TTGCAAAATACATGGACTCATTATTTTGATTTCGATTTCTTTTTGGTATCCGACTCGAAAAG
ATCCATCACGGCGAGC

>*PtPhos2* downstream region, 500 bp

GTATAGAAGGTCACGTAGCTAGAGAAAAGAAAGAGTTAATCTCAAAAAGAGTCAAGTCCA
CGAACTTCAAATAAACATAAGTCTTCTTTTCGTTTACCCATTGGCCTTCATCCTTCCAATC
AACACTCGATTCTGAACAGAAAATTGGACCGGGAATGATTCTGCGATACTGTAAGCGAT
TTCCCTACCTGATTCTCGATGCCATTAATCTTCGGCAGCTGCGCGGCGCATTGCGTTCA
GTGCTCTAATCGCCCTATGCTGTCCACCAGATGAAGCTCCGGTTGAAAGAACCGAAACAC
GCCTAATATCGTCACGAAATTTTCTAATGACTTTTGGTTGGCATCGCTGCGAAACATGAA
ATCAGCACGACGGGTCAAACACGCCAGAATCTGGTTTGACCTGAAGCAGCAAGTAGATA
TACAGAACGAAGTCTGTGCTCGAACAGCAATTTCTACAGCAGCTTCTGCAAGGCCTCCGC
AGCAATGGAGACCTCCGGA

>*PtPhos3* upstream region, 1000 bp

CGCATTTCGCAACCCGCTGGGTCGAATAAAGCGTTCGTATTTGGGAGCTTTCCGGGTAAAA
GAGTCTCCTACAAAGGTGCATTTGGTAACCACACGCTTCCACGCCTTGTTCTGTTTCTTAC
CGGTCCGCATGACTTTGAACATTTTCGTCATCGGCTACCGGCTTGACCTTGGGAATGGGCA
CTTCCATTTTCCGGCCTTTTCTTTCCGCTTTTGGCTTAATCGTATTCGACAAAACCTTGCCA
CGGGAGACACCTTGACGGTCTAACAAATAGGCCGGTACGGCCCCATCGGCGACGGCATC
GTCGTCCGCGTGTGTTGTTGCGTTCGTTGTGCATCGCGATCGTTTTGCGCATGGTGGCC
TTTTCTTGAACCGCTTCTTTTGGTAGAGTTTCGCCC GAATACCGTGTACTTTTTGGGCAA
ATTCGGAGCGCTTGTGCACCATAACGCGCTTCTTTTTGCGCTCACGCTCCTCGGCGTCGAA
CCGACGGCCGTGAAGCTTGGCGTGGCGTTCATATGTTTCGTGCTGCGGCATGGTGGAAACG
AAGGACCTGTTGTTTATTGCGCAACTACGATTGTCGGAGAATATGAATGAATAAATGAAT
GAATAAATTGGTTGTACCGTCTCTTGTGCACAGACGCTATTGTCTAGCGATGCGAACA
AATCTGCCGAGATACGCCGGTGTACCAGCTTGGTTACTGGACGACGCGTCTATCCGGACG
AGAAAGCCAGCGCGGAAAAACGGGAGATGCGCAAGTTTGGTCGGCATTATTTCTTGGT
TGGCGAGTTGCCACGGGACCGGATGACGTCCAAACCTAACGACACCGGAAAATGTCTG
ACATCTGTCCCAAAGCCGTGGACCTTATGTGAATTGTAAGACACACGCGCCCGAGAAGCA
AAACCGCACTCCGGCACGCGATTTCGTCCTCCGGTGGGGGCGAATCTCAACGAACGGAGA
ATTTGACCGTACGCGTTCGTCGTTCAATATTCTCATCGGTACACC

>*PtPhos3* downstream region, 538 bp

CACAATTCACATTTTTAAGTTTTCGAATGTGCTACAATAAACACCGTTTTTTCTGGAGCTGT
TCCAGTTTTGTTCTGTTGTTGGGATGCTCGGGCTGTAAGAGCTGCTTGATAGACGTTGAA
TATAACTGGTCGTCTAGTCCATTGGCCAGTACCTTGCTATAGAAGAATATCGGGTTATTG
CTTCCAGAACC CGGACACGTCGATTTGCATCATTGGAGGCTCCAAGCGCTTCCGATGG
TCCAAATTGCATTCGGATTGAAAGTGCCCGACCAAACCACAGTTCCAACAAGGTGTCGCC
GCTGCGGCAGCCTGTAAGAGGCAACTTTGAGCTTGCTTGTGCGGGAGGAAGTGTGGGGCAC
TGTCGGAGCCAGTGGTCTTCGAGTCACAAAGGAAGCAGACTCCGATTGATCGGTTCTTC
CTTCGCTTTGCTTCGTAGCGTTCATTGTTTTGCCTGCGTTGCCTACGCTTTTCGTCGTTTTC
GTAGCAGCAGACATACAAACAACGATCGGTAGGGGCAATATTCTTGGCCGTTA

>*PtPhos5* upstream region, 1073 bp

AGAAATCGCGTGGTTGGAAATTGATGCCCCCGAGTTATCGTAGTACATTGTGTTGATGG
TACCGACGGCATGATCAAGTAGGGCGGCGTTGGCGGTGAGTCTTTCGTCGGAGTCCCTT
CCCGCATAATGTTCCAGTAGCGCTCTTTAGAAGAAGGCAAACCTGACCATTTTCGCCTGCCA
ATACCGGTGCTATCATCACGGAACATAATTTGCAGTGCACCAAAGCGCTGATGAGGCACT
TGGACGCGTATTGGGCAAACGTTGGACCGGGAGTACGCGGGGGACGGCGGAGTGACCGCA
TCAGTGTGGGAGCAAAGTCATCCGCATTGCACAAACGTTTCCGCGCCGTCAATGCCGTG
GTAGGACAAAGGCCTAGAAGTACCTTACTTGAACGTGAATCCAACGACGATCGTGTAGGT
GGTAAAATCCAAGCGTGCACGTCGCCTTGTGCAATAAAACCAATAGTGACGAGCAGCAG
TGGCGTGAGAAGCCGACGACCGGAGAAGTTCCGAATGTTCCGACGGCTTTGGATCATCTC

ATTTCGAATCTCTCCTTGGGTGTACGGATACTCTGGGGGATTGTTACGGACTGGCAGTGGT
GCAATGTTTGGATGGGTTTGACAGTGAATCGTCCCACAACCTTTCTGTTAGTATGCGACGAT
TGCACTCTATAGGAGTAACGGAAGGAAAGGGCGAGAGGGCAAATTCGGTAAACAGCTCT
TCGGTCCATGTAGGAATTCGGCAGAGAGCATGTCAGCCAACGTGTGCTGGTGGTTTTGCT
GACATCACGATTATACCAATGGTCCTATGGTATTCCACGGATTCCAAAGGATACTTTCCCT
CTTTATTCTCATTGGCCATAAATGTCGGACTTTGAACCTTCGCACCGTGCATGCTCCTAG
CTAGTAGGACATATAGACTGGACACGTAGAGTAGTAGCACAGTATATCGGAAAGGAATA
CAAAGTGCATTGACCTGAATGGTCCTCTCACACAGTCAGTCTCTTGTATACGTACAAAGC
ACACACTCGGTTTCTAGTACCAGTGTATATGTGTGTATCGAACAAGAATACCA

>*PtPhos5* downstream region, 500 bp

GCTCCCGAATGTTTGTTCCTAGAGAACAGGACAAGCTAGGCCTCCAGCACTCTC
CTTGGCACTGATTGGAGCGGAAACGATCACCGTATACAACTGTAATATGTGTTTGCTA
ATTGACAGAGTACACGTCTTGCCAATGCAAATTAAGCCAGCACTGAACACTTATTACCTT
AAAACATGGAACGCGTATTCGACTAGCCCGGAGTCGATTGAATCAACCAACACGGAAC
ATTTCTTACGTCTACAGCGTGTTCGACTAGCCCGAAGTTGTTCCGGTTTCCGTACTTTCAA
TCACCTTTGCCAGCTCTTCCCTGGCCGAGTCCTGAGAAGAGAAAGAAGTCAGGTTTGTCA
AATTTACCAATACAAGTTTAAGGATTTTTTAATCACATACCTTGCAACTGTGACCCAGA
GTGCACTGTCCAGAAGATTGTCTCGGGCAATGTGCATAATGTGGGATGTCAGATATTCG
TTCATCCACCGCACTTGC

>*PtPhos6* upstream region, 1000 bp

TGTGAAAGTTTCTGCTCAAGTAGCAAATTGTAGGACAATAGAAAGGCAAAAAGGGAAAA
CGAAAAGGATTTAAGAATAATGTGAGTAACGACTGAAAGGAAGCTGAGCTATTGTGCAA
CCTGTGCAATGAGTAATTGGTTGGCAAAAATGTCTTGCCATAGCTTTTAATCTAAAAGG
TTTTGTGGCAACAAGTTCAAATTGTCCGCGGCTTCGAAATTGGTATCGAAAGTATCTGTCT
TTCGTATTTAGCAGTAAGCAGAGAAACATTCACCCAGAGCGAAGCACTCGAACAAAGTA
TACCTATGGATATAAATGCTACACTTGGAAATACACTGCGTGCTCTACACTGAGGAATG
GAATGGCGATGTAGCTGCAAAAAGTTGGTTCCGCCAACAGACTTTCGGAGAGCAATTGT
TTGTTTGCCCTTCTAACACACTCTTACAGTTAATCGACTGAGAAATAGAGATAATTTCCAT
TTTGCCGCGTTTAATTCGGGTCGTGCCCTTATTTTCCAAAGTCAAGATTCATCTCATTCTCA
AGATTCTTCGCAACATGACGTTTCTTGCTTCGTCGAGAATCTCTACATCGCATGAAAATGT
CTCTTTGTGAAGTCTTCCGTAGGAACTGGAACAAGCAATGCTGCCTTGGTGTAGGGCTCC
GTAAGGCTAGTAGTGGTAGTAGATTTGTTTGAACGAATTTGAAGTTTAGGTTGGCTGAGG
TCGCGAATCTCGGAGATGGATTGACAACCTGCCACTGAGAACTCCCACGCCGCACGCACAA
CGATTTTTTACAATACAGGCCTTGTGCAACTGGCTAGAAAAGAAATAGACTCAGGCGT
ACTTGATGCACTGTATTCCATTTTGAATCCTCAAAAAGAGATTTGGATTATCTGGTCCCT
TTTGTGATTTTCAATTTCCGATTATCCCTGTCTCGCTTTGCCAGACCCATTGAAACATATTC
GGGAAATCCACCCCGCTTTTTTCTTACAGTGAAC

>*PtPhos6* downstream region, 500 bp

AAAGTTTTTGTTCCTTTATAAAAATCATCGTTGGGACAAACGTTCTTCCCAATTA
TGAACCGGCTTGTAGTTTACAGTCGTAACATAGGCAGCGACGACGCGCCAGGTCCGTACC
ATGAAATCTAGAAGGCGCATTACGTATTCTAACGTTAAAAAATGCTATTGACCGTAAGA
ACCCCTTGCCAGAATCTAAGACACGGCAGCAGCCTTGGCGTAGGTTACTTCGGGATTGGC
TCCGTCGATAGTCTTGGTCGACTGGGCGGGCGTTGGAGCACTCGCAGGCTCACCGTTTTC
CTTGACGAGTCCCAAGGGCTTGGAGACCGTCAAAAACAACGGTTTGAAAATCTCTTCCGT
TTTACCGACCGCCCCATGACGGTCTGAACCACGGCCTTGATGGCAGGATTCAAAACGTT
ATCGTCCAAGCCGTGCAAGTTGTGCCTAAACGGAGGGGAATCGAGAGAACAGAAAGATA
CTTAGTATCATACGGTGTGCG

>*PtPhos8* upstream region, 910 bp

ACAGGTTTGTGCTTGGGAACAGCCGTCGCAACTGTCGTTGTGCTATAGTCTTCCGATGCC
TTTCTAGGCGTCAAAGGAGACTTTTAATTCTCGTGTAACAAGCAAGAATTGTTTCAAAG
CCAACAGTACTTTTTCTTCTAATTTACAGTCTTGTACCGTTTCCCATCTTCATCGACAGTAA
GGTTGTTTCGTCCCCTGGCCTACGTAGTTTACGTGTGAGCGCTGTCAGTTGCAGCTATCAC
AAGAAAAGACATTTGCACAGTGGCATTTCATCATGCAAAAAGACTGGTGGTGAATCAACAC
TTAATGTGCATTTGCTGTTCAAACCTCCTGGAGTCTGGCGACAGTTTGTGCTCTGTATGC
TTGGGGTAAAGTGTTACAGTCAACTGCTGTGAAGCAGATTGATCGAAGCTTGACGGGTT
GGAGGCAGCTCATCCATGCCAATGCGATACCTCCGCTATATCATAACAGAGCATAACACC
AAGCATTGGATTATTTTCTAATTGCTAATTTTACTTAAAAGCCGTTTCGCGTCGAAATAGC
GATTTTTTTCATGTCGCAGAGACCGAAATAGCGGTTTTCTCAAGGTATTTCTATCCTTCTA
ATTGACGTTATGTATGACACATTTGCTGTAACACTGGGAGAGGTTAATTGAAAGTTCCCT
GCCAACTTATCTTACCAGATTCAAACCTCTGAAAGGAGATTCAATCCTCCCCTCGCATTCC
AAACAAGATTCTTCTGCAAATCTTTTCGATTTGGAAAACAGATTCTTTTGATTCTTTCTGT
ACCATCTAGTATGCCTCATTGTACCGACGCTCAAGTTCCTGCAGACCACAAAAAAGATC
TTTGCACATTTTCGTTTACAGTTTACTGTTACGCTGATTTCCCTGGTGAAAAGAATTCTTCG

>*PtPhos8* downstream region, 500 bp

TTTTGTGGAGTTCTTTTTCTTTATCAATCCGGATTGTGATTGTTTGAAGTTTCCCTGATCAA
TACCTGACATCGCTTGTCTACAACACTACTGGACCGAAACGGATTCACAGTCACTGTGAGTA
CCTTTTGCATCTATATTTAACTACTCTTGATCGTTGGCTACGCCTGCAGAATTCAACTCTTC
ATACAAGTCTTTTACGCCGAATCTACATACGCACAAAATTGATCTGTATTAACAGAAAGG
CGGTCTACGGAACAACACTATGTATGATACAAAAAGCATATTCTTCTCCCATAGAAGAACAC
TAAAATACGACTGCAAACCTTCTCATCATCAACTTATTCGACATCGTTGCGTTCGTCATCT
TCGAAGATGATCCGCTGTAGCTCACGCAAAATGGCATTCCCAGGACTCGGTGTCCCTCC
ACCGAAAGATGAACATAGTCCGGCATAAGATCCGAAACAATCTGTTGCGACTTTGCCGTA
TAGTGGTTCGTTGCC

>*PtPho4* upstream region, 996 bp

GAAACACTGGTATTTAAGTCAAAGTCGTATCCACCGAGAACGCTACTAACTTGGACCTAG
TGCCAAACAATAGCTCTTTGGACGGGACGGGTGGCAATGCGGATACCAAGACTGCGTCC
ACAATCCAATACATCGCTGTGATCTTGTGCGCCCTGGTATCCTCCATGCCGTTACTGTCTC
CATCGGACCCTCCAGTGTCCCCTCGCTAATACCTTCCCGACTGCCTTCCACTCAAAGTCC
TCATCACCTCCAGGTAGTTCCAGTGCCTTGTGATCGGGAGTGCCTTCGAGCGCAAAGTCG
GCTACGCTGTGTCAAATCCTTCGATTGCACCGTTGTTGAGTGCCTTGGGTATTCCATTGG
CTTACCCTTCTGCAACCTTTGTCATTGCCGTGCGAAAGGCCGCCAGTACGCCTTTGGA
AGCCCCGTGCGTATTTCCATATCCCTTTACGCTGACCCGAACCCTAATCTTCTGATGCCAC
ATTAAGAAAGAAATTACACCGTTAAAAGTTTTGTGCGTAGGATACCAGTACTCGGAATCCG
CTTCGACGTCTTCGTATGCCATTGCGTAAAAATTGCACACTTCGAAGAGACCTCACGACA
GAGAGAAGGCCAAACAAATCGACTTATGTTTCGTTTTCTTTGCATCTTCGAGATTCATGCCG
AGGAGTCGCTTTTCTAGCGCTTCACTGTCATGCAACAGGTAACACTCGATTGATGGCTGCCT
GAGTCTTCCCTCGAATTCTCTTTTCCAGCATGAAATCTTTGGCCGGAAATCGATTTTACCGG
TCTATTTGACTCCCATTACAATGATAGCCCTGAGTGAATTTTAAAGATCCGATACCGCAG
AGAGCTCTTGGATACAATGCGAACTGTTCCAGACATTGCGATGATTGAAAAGTGGAAAA
GTCGTACCTGAAGGGGAGCTTATAAACGACAGCCACTCTTCAACGATCTTCCCGAAAA
GCTAGCTTTCCATTTTGGAGACCGATATCATC

>*PtPho4* downstream region, 500 bp

GACAGCTTGCATGCCCATGCACTGGATCCGTTTAAACAATGGGTAGAATATCCCAATT
TGAGTAGCACTTAAAATAATTCCATGAATTTATATGCATTCATAAATTGGAATAGTGCTTG
CTGTTAATTTTCATGAATGACATATATGAAAAATAACTTGTATAACAGTGAATTCATAAAT
CAAAGAAAGAGAGGAAACTGTAAACTATTGGAAGGAGAAAGAGAATGCTGTTATAGCGA
AAGAGTTTGAAGTAACAACAGGCTTATACCATCATTACTTTTGGTTTTCGTTTGTGCTCG
ACGTTTGTATCCTCCCTATCGTCATCATGATTGCCACTCTCGCGTCCGTCTTCTTGCCTTC

TTCTGCAGCACCCGTCTCGGCATCATCATAAATTGCACAGCTCGTGTCTTCTTCGTTTTGA
CTCGTCGCGAGCTCCAGATGCGCTTACCAGCTTCTTCCGAAATCCTTCCCCTACCACAT
ACCCAGACTCGGTGT

>*PtHp1* upstream region, 996 bp

TCAGACCTCGGGCAGCAAGCCTATAAGCCCTACTGGGGTTCAACGGTGGTTGATTATTTG
TTGAATCAGTCCAATGAATCTTCGTTGAGCATTATGGACGTTTCGAAAAGGACATCAATC
ATGGCCGAAGACATCGTTTTTACGTTGAATCAACTAGGGATTTTGAAGATCATCAACGGT
ATATACTTTATCGCAGCCGAAAAGAGCCTGCTTCAGCGATTGGCAGAAAAATACCCCGTA
AAGGAACCTCGAGTGGATCCATCCAAGCTTCATTGGACTCCCTTTTTGACTGACATCAAG
CGAGACAAGTTCAGTATACATAGCAAGAAGCCTAATGTTGAAACGGACGAAGTCCGAGG
TACGGGAGGCTTTTAAATGGTGGCTTTCCTCAACCAAATTGACGAAGCCAATATTACTTT
GAAAGGAGGTTTTCTACTGGCACACATTTCGTTGGCTTGATGAGCCTTGTCTACACCTGGCT
AGGCAAGTTTGGTGGCCACGCGTGTTCGTTTTTTGCCGCGTTGTTTCGCTCTCATGAGA
AAGTTACGATTGGGTAGAAAGTTGACTAATTGTATCACCAACAGTAAGGAATTCTGGCT
GTTGCGCTTGCTTCACAAATACTTTCAAATCTTCTAGCAGACAATCATCTTTAACAGTTA
GTGCAACGTTGAGGCTACGCTGCTGCCTCTAGAGGATTCAAATACTGCGCAGAACCGTGG
GGCGGAAACAAAGTAGACTTTGATGGTTCAGGCAAAAACAGAGAATGCTCTCATCAGTG
AAACATAACTCACCTTCGAGCTCCAATAGTTGGCTGTCAAATTTCCGCCGGTTGACAA
TAGGTGTTCTCATTTTTTACGGACGCTCCTGTAATCATGATCGGACGGGAAAGCGAACTG
TCTCACTTTCATCAACTCACTATCAGTTCTGCGCCACAAGTATTGGAAAAGCACCAACA
ATTCAGCAACTTACACTTGCATTAGCGTTCGGTAAA

>*PtHp1* downstream region, 500 bp

GAAGGCAACACAGTTATTAACTTTAAGGAAGAAAGAACTAGGTAGTTGATCACGAATCT
GTGGGTAAACAAAGAGCTTTACCGCGTACATTCACTTCAGTCTTCGCGGGCATATGTATA
GGAAACAAATAAGATTGTCTCCAATGCGGCAAAAATGAAGCTTGATTTGCACACACAGCT
AGAGCCTCTCTGATCCATCCACTCCAATTGATTGTAAAATATCACAGATGTACCATTTTAT
CTCGTTAGAAATACTCCTTTCCTTAAATACTCCATTACATGGTTCTTTCTATTTTTCGAATT
TTCTCGAGGAAAACCGCTATCCCGGTCTGCAAACTTAAAAAATCGCTATTTTCGATCAGA
TCTGAAAATCGCTAAGTATTTTTGAGTGAGCGGAATCGGCTTTTAAAGTAAAATTAACAA
TTATAATCCAATGCTCGGTGAATACTCTGCATATGATATAGCGGAGGTATGGCGCTGGCA
GGGATGAGCTGCTTCCAA

>*PtNap2* upstream region, 991 bp

GGTACGATTTCCGGTGGACGCCAAAACGGACAAAATTTTGGGAGCCAGTATTGTGGGAG
TTGGCGCGGGAAATATGATTTCCGGAAGTTACGCTTGCCATGCAGTCGGCAACTGGACTAG
GATCACTGGCCAATGTAATTCATCCGTACCCAACCTACCGCTGAAGTCCTTCGCCAGTCTG
GCGATCTCTACAACCAAGACCAAATGACAATGACGGCGAAAAAGATTCTCCGTGGTGTG
GTCAAGCTGCAACGTTAAAGGGACTTCTGTTACATGCATATTTCTTCGGGGAAAGTCGGA
CAAAGTGACTTTCTACATTTAAAGTCTGTGGGAATCAAGTTTTGGAGGTCAAAGATCTC
ATAAATGTCAAAGATACTATCATGTTTGTAGCAGAGACCACAAATATGAATCGCATACT
TCCAGAATTGCGAGCTGGATGACCATGATTCACCGTCAGGGGGGTATAGTGGTCAGTAGC
ATATTTCTGACCGTGAAGCAGTACCTGTACAATGTTTCTGGTGCAAACGTGATACTTACTC
GCATGGAGAGATAATGACGTAGAAGTTTCTTCTTTTTAGACAAGACCAGTACGCAGAGGG
TTGTTGACATCCCTCCTCAATGAAATTTCTGATATATGTGGGCTCGTGGGGCACTGTCGATTG
AAGATACACTGACGTAAGTTTCATGACGTCGAAAGCGAAAATGAACCTTTGACTTTGAA
GCTCCATGAATCTGGAAGATTCATGTTGACTTCTGTAGAATTGGTATATTTCTTACGTAGA
GATCTTTTGTGATTATACCTTTGCGATGAGCGGAGGTGGCCTGGCTATGTTCTTCATAG
TATCAATAGTGATGTCTCATTCTTTCGAGCTCGAAATTTAAGAGATTTTTGGAGCTTGT
TTGAAGGTCTGCTCACAATTTGCAGTGGCAGCGACCGTGAAACATTCTGACATACTGCGA
GCTCGAGCAATCGTTTGAATAATCAACC

>*PtNap2* downstream region, 500 bp

GCATTC AATCACGAGAGGTCGATATCACCGTTGATCGGTTTGGAGTCCCCTCTATTTTCCC
ATATTTCTGTTT TAGCCAAATAAATACTGTGCCGAGAGCTTCTCGTTGTGTGTGGTTTTGC

GCACACTGCTGGAGAATATAACATCTTGGATTAAAGTGTCTTTTACTTCCCCTTTCTGTGC
TCCAACCTTTAAATGGCTTGGTTGACTTCCTTGATCTCCAGCAGGATTAGTCCTTTTGAAAA
AATGGTGTGTTTCAACCGGCGCAACTACTACCTCTTTCTCCGGTTCACCGGATTGCCAT
CAAGTGTCTCGTTTTTTCACAGCACATCATTCTGACGATCGCTTCCAAAGCCGACGTGAAA
AACGAGGAATATTGGTGAGTTGCTTCACTCTAGGCTGGAGAAACACGTTGGCCGGCGTGC
TCAAATCTTTCTTCCATACACGATTGCAAAGTTCATCTCACAATGCGGTATTCTTACTG
TAAATGCAATTTAT

>*PtNap₄* upstream region, 1000 bp

AATTTGGTTGTTTTATTTGAATATTGTGCCAAGTCTGTTCTCGCTTGTTAAAGCTAGAGTT
ACTATAAACCTTTGGAATATAACCACGCTTTTTGTTTTGATTCCGTTGTACGTAGGTATTCTA
AGGTTCTGTGAAGCCCTCTTAAACTAGGACTTTTGACCAGGGGGGAAATGGTCTACAAT
TAGAAACTCTATTCCAATTGGAAGAATCGCTCTCGCAAGAATCCTTCAATGAAACAAAAA
TGTTCACTGTCAATTCTGGGAGGAGAGGAGGATGTGACCGTGTGCTACAAACTCAGTAGAA
GTAGGTTTTACATTAAGACAAATATCCATTTTTGATGTCCAAAGTCTCGGAGAATGGGT
CTTTTAAATCAGGGCCTGGAGCGGATTGATTGATACCACAGATTTGATCATTGCGAAACA
GAAAATTTCTCAAGTTTTCACTTCTCTAGTTTCTGATGCTTGTTCCTCACAGTCAGTATTAG
GCGAAACTTTATATTCTGGCAGTGAATTCCTTTTATTGTTGGCACGCTTGATCTATAGAGA
TTCGGACTAGAGTAAGAGAGTTTAGACTTGGGACGGATCATCTCGCTATCCTAAAAAATG
TACCTGAAAAATCAAAGTTTTTGGGACGATGTTGATTCACCCTAATGTAACATATGGATA
AATTTGAGTTGACGTTTATCGGAGACTTCACGCAGCTCATGTCAACAGTTCTGGACATGTT
TCTCTTTCTAAGAAAGAGATCGAACCGCGACTAAACGACGGAATTTTATATCGAAAGGAT
GACGTCAATCGGCGCTCCATTGCTTTTACAAAGAAAAAGATTTTCCGCGATGTGAATCTG
CGAGATTCGTGATCGATTCTGTAGAAACGGTATACTTCGTACGTAGATCTTGAAATTATCT
CGTGGATTTGTGTAGGAGGCCGTACATACGTGGCTCAGTCAGCTTGATGTGAGTTGTCAC
TTTCGCCTTTGGTCTGACTTTGAGGAGTCTCC

>*PtNap₄* downstream region, 500 bp

GCACCAAACAAGAGGTCGATATCGCCGAATATTGGTTGGAGGTCCCCTTTTGATTATCCG
TTTAGTATATATAGTATATAACAACCTGTGCCAAGACCATAGTTCTCGCAGATTCTGCTTGA
GAATAAAATAACTTGGGAATGTTTATCTTATTCTGACTGCATGTAGAAACATTATAGTATC
AGGATGCTGCACACAGCTCTTTTCATTTCAACTGCGGTTCAAACCTAACTGTAACCTTAAT
CGTTGTGCTGTCAATGGTCGGCGTCCCTAGCCGTAAAAAGGTTAACGCCACATTCATGAA
TCAATTGTTTCTTAACTTTGCTTCTGAATCTATCGGCGTGTACGTTTCTCCCTATTAAGGTC
TAAAGAGAGAATGTGACTTCGAGTAGAAATAGGATATCTATTCATATACGAACGATTTTC
ACTCACCTCGCCGTGAACCTCAACAATTATATCGACCCTGACAGCACGAGCAGTCGTGTT
GCACAGTGCACCCGA

>*PtVpt1* upstream region, 1025 bp

TTGGAAACCGAATTTTCAGCTGTGTGCGTACCCGCGATACTCTGATGTGCTGGAATAGCA
GCCGGGCTGCGTTGACTGGATTGGGCGTGGTATTCATCGTTTCGTCATCGCTTGGCGTTCAC
TGTAGGCATTCTGCGAGTCAGGTTTTTTATCAGCGAGACCACCGCGGCACTCTACAACGG
TCTCTGAATTGTGTGGCTTATGCACAATGTGACCAAGAAGAAGTAGGGAAGGGGACA
GCCAACGAATCATTGGCTTTGACGCGAGTATTCACAACAGAGATTTTCGCGCCAACGTCG
ACTTTTTCTTGTGTTGAGGAGGAGCCAATACCGAGATTTTCGCTGGTTCGTTGCCCGGGGAG
ACTGTACATTCATCTCCGCTGCGAATGGGAAGGGCGCAACGACCCTTGATGCTGTGGT
CGGTATTCATATGGTGACGGAAGTACTCAGTGCGTTGCCGAAACAAGCCAACGAAAATAT
TGTTGTATTCCAAATGGCGATTTTTGCTGTTTGTGACGTCGCGTTGCTTACAGTGAATAAC
GAAATTAACAGTACCATAAAAAAGGAGGCAATGTGAGTTTTTCGTTCAAATTACCAAATT
CTTCCCAGTTCGACAGGATTTCTGCGTTGGCAACAACATTCCTGATTCCATAGATTAAT
TTCGAATCAAAGTATGGTAGGTATTGATAGACCAAGCGAGATTCATTTTGAATCTTAC
AGAAAAGTCTGTATCTCTGTCCACGCAAGGTTGTCTTTTTTGTTCGTGCTTTCGAAAGCAT
CGTTTCTGATATTGCGTGAAAAGCATAGGTATACCCATTTTCATCGGCAAAACCGACTTTTT
TGCATCTATGGATTGTTGCAAAACACACTCGAATATATTGACTTACTGTTAGAATCTCGTA
GTGCAACTTTACGCATACGCAGAGGCGCTGCCGAGACGACGCGACGTAACCTCTAGTCGC
GTTCTTGAATTGTGAATGACGCCGTTACCGTTCCTTGGCGAAAGCTCAATTTTACAAAC

>*PtVpt1* downstream region, 503 bp

AGGTAGTAACATTGCCTCTTGGTGCTACTACACGATTTGATATCGATATCCTTCAGTACAT
GTTGACATGTGAGTAGAATGTGCAAATAAAAACGAAAACAATTTGCGGAGACTCTTCAA
AATATCATCCCCTTTAAAAATTTTCCTTATTTTTATGGACACATAGTAAACTATATAGAAGT
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GTTCAATTGTTCCCTTCAACCCTTGAGCCTCCTTGTTTTGTAGCATAAATTCGTAGCCCCGCT
TTTTAATGTACGGGCGTAGAGATTTAGTATTGATTGGATTCCACCAACAGTGGGTGCAGC
GAATTATGGTATCCAAATTTTCTGGATCACAATGCATGCTGTGCTTGGATCGGTTGTCCCG
AATCGTGGATCTAATTTTCGTCCTTGAGCTCCGTCGAAATGGTATGCTCTGACGCGTACAT
GTGAGTCACCTTGGTATC