|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Standard name** | **Systematic Name** | **Protein** |  | **Primers used for PCR amplification** | | |
|  | **Fw** |  | **Rv** |
|  | | | | | | |
| **Primers used to amplify genes for cloning to the pAG414pGPDβ11ch for genomic integration at the TRP1 locus** | | | | | | |
|  | | | | | | |
| *ALA1* | YOR335C | cytecARS |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGACGATCGGTGATAAGC |  | ACTTTGTACAAGAAAGCTGGGTCTGGTCTTAATCTCTTTGGATCTC |
|  |  | mtecARS |  | gaacttagtttcgacggattctagaactagtACGACGTCAACTACCGG |  | TGCACGtaagcttgatatcgaattcctgcagCCAATGGAAAGCTTCTCCTTGAAC |
| *CRS1* | YNL247W | N100cCRS |  | agtttcgacggattctagaactagtATGAATATCTTCATAAAAGCCCTG |  | taagcttgatatcgaattcctgcagCCCACAAATTGCACGTCGTAAC |
| *DPS1* | YLL018C | cDRS |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGTCTCAAGACGAAAATATTGTC |  | ACTTTGTACAAGAAAGCTGGGTCTGGTCTTAATCTCTTTGGATCTC |
| *GUS1* | YGL245W | cERS |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGCCATCTACCTTGACTATTAATG |  | ACTTTGTACAAGAAAGCTGGGTCTTTCTTTGCACCATACTTGTTG |
|  |  | N30cERS |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGCCATCTACCTTGACTATTAATG |  | ACTTTGTACAAGAAAGCTGGGTCAGCTAACGCATTCACAATACG |
|  |  | N70cERS |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGCCATCTACCTTGACTATTAATG |  | ACTTTGTACAAGAAAGCTGGGTCACCATTATCGAAGATGGCG |
|  |  | N200cERS |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGCCATCTACCTTGACTATTAATG |  | ACTTTGTACAAGAAAGCTGGGTCACCCATTTTGGCATCTGG |
|  |  | ∆N30cERS |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGAACTCCATAGCTATTAAGTTGG |  | ACTTTGTACAAGAAAGCTGGGTCTTTCTTTGCACCATACTTGTTG |
|  |  | ∆N200cERS |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGGAAGTCGTCACTCGTTTCC |  | ACTTTGTACAAGAAAGCTGGGTCTTTCTTTGCACCATACTTGTTG |
| *FRS1* | YLR060W | cFRS1 |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGCCTACCGTCTCCG |  | ACTTTGTACAAGAAAGCTGGGTCTAGGAAGACTTCGGCATTAAC |
| *FRS2* | YFL022C | cFRS2 |  | gaacttagtttcgacggattctagaactagtATGTCTGACTTCCAATTAGAAATTC |  | TGCACGtaagcttgatatcgaattcctgcagCCTTCGTACAAGTCTTCGTCC |
| *GRS1* | YBR121C | cytecGRS1 |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGAGTGTAGAAGATATCAAGAAGG |  | ACTTTGTACAAGAAAGCTGGGTCGTCAGTTTCAGCTTCAGC |
|  |  | mtecGRS1 |  | gaacttagtttcgacggattctagaactagtTTGTCGTTCTTCAATATCAGTAGAC |  | TGCACGtaagcttgatatcgaattcctgcagCCGTCAGTTTCAGCTTCAGCTTC |
| *GRS2* | YPR081C | cGRS2 |  | gaacttagtttcgacggattctagaactagtATGCCGTTAATGTCCAATTCG |  | TGCACGtaagcttgatatcgaattcctgcagCCTATCTTAACAGGCGACAGTCC |
| *HTS1* | YPR033C | mtecHRS |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGCTTAGTAGATCACTAAATAAAGTAG |  | ACTTTGTACAAGAAAGCTGGGTCTAATCCTTTAATTAAACGAGTGACC |
|  |  | cytecHRS |  | gaacttagtttcgacggattctagaactagtATGTCATCCGCTACCGC |  | TGCACGtaagcttgatatcgaattcctgcagCCTAATCCTTTAATTAAACGAGTGACC |
| *ILS1* | YBL076C | cIRS |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGTCCGAGAGTAACGCAC |  | ACTTTGTACAAGAAAGCTGGGTCTAATTTGAACACTTTTAATTTGAAAATGG |
| *KRS1* | YDR037W | cKRS |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGTCTCAACAAGATAATGTCAAAG |  | ACTTTGTACAAGAAAGCTGGGTCATTTTCTTCTTCCTTTTTGACTTCC |
| *CDC60* | YPL160W | cLRS |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGTCTTCTGGTTTGGTCTTAG |  | ACTTTGTACAAGAAAGCTGGGTCAATATTTTGGAAGACAACACCTG |
| *MES1* | YGR264C | cMRS |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGTCTTTCCTCATTTCCTTTG |  | ACTTTGTACAAGAAAGCTGGGTCCACTTGTTGACCACCATATTTG |
| *DED81* | YHR019C | cNRS |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGTCATCTTTGTACATTAAGGAGG |  | ACTTTGTACAAGAAAGCTGGGTCTGGCTTACATCTACCGCTG |
|  |  |  |  |  |  |  |
| *GLN4* | YOR168W | cQRS |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGTCTTCTGTAGAAGAATTGACTC |  | ACTTTGTACAAGAAAGCTGGGTCCTTGGAAGTTGCGTCCTTC |
| *RRS1* | YDR341C | cRRS |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGGCTAGCACAGCAAATATG |  | ACTTTGTACAAGAAAGCTGGGTCCATTCTTTCTACGGGAGTTAAAC |
| *SES1* | HDR023W | cSRS |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGTTGGACATCAACCAATTTATC |  | ACTTTGTACAAGAAAGCTGGGTCATTCTTCTTTTTCTTGTCTTTACTAGAG |
| *THS1* | YIL078W | cTRS |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGAGTGCTAGTGAAGCAG |  | ACTTTGTACAAGAAAGCTGGGTCAGCTAAGACGTTGTCACCTC |
| *VAS1* | YGR094W | mtecVRS |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGAATAAGTGGTTAAACACATTATC |  | ACTTTGTACAAGAAAGCTGGGTCCAATTTCAAACGCTTCAAGTTTTC |
|  |  | cytecVRS |  | gaacttagtttcgacggattctagaactagtATGAGCGATCTTGATAATTTGCC |  | TGCACGtaagcttgatatcgaattcctgcagCCCAATTTCAAACGCTTCAAGTTTTC |
| *WRS1* | YOL097C | cWRS |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGAGCAACGACGAAACTG |  | ACTTTGTACAAGAAAGCTGGGTCCTTCTTTTCTTGCTTAGTTTTTGG |
| *TYS1* | YGR185C | cYRS |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGTCCTCTGCTGCCAC |  | ACTTTGTACAAGAAAGCTGGGTCCAATTTGGTTTCCTCTAGTTTCG |
| *PAM16* | YJL104W | Pam16 |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGGCTCACAGGGC |  | ACTTTGTACAAGAAAGCTGGGTCCTGATTGCTGCTTGCAC |
| *PGK1* | YCR012W | Pgk1 |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGTCTTTATCTTCAAAGTTGTCTG |  | ACTTTGTACAAGAAAGCTGGGTCTTTCTTTTCGGATAAGAAAGCAAC |
| *ATP4* | YPL078C | Atp4 |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGAGCATGAGTATGGGTG |  | ACTTTGTACAAGAAAGCTGGGTCCTTCAATTTAGAAAGCAATTGTTCA |
| *Ago2* |  | *Mmu*Ago2 |  | gaacttagtttcgacggattctagaactagtatggacatccccaaaattgac |  | GCACGtaagcttgatatcgaattcctgcagCCagcaaagtacatggtgcg |
| *AGO2* |  | *Hsa*Ago2 |  | gaacttagtttcgacggattctagaactagtatggacatccccaaaattgac |  | GCACGtaagcttgatatcgaattcctgcagCCagcaaagtacatggtgcg |
| *At5g26710* |  | *Ath*cERS |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGGATGGGATGAAGCTTTC |  | ACTTTGTACAAGAAAGCTGGGTCCCTTAGCGGCTCTTCC |
| *OVA3* |  | *Ath*mt/chlERS |  | ACAAGTTTGTACAAAAAAGCAGGCTTCATGGCGAGCCTTGTCTAC |  | ACTTTGTACAAGAAAGCTGGGTCCGGTTGATACTGTGGCTG |
| **Primers used to amplify genes for cloning to the pAG304pGPDβ11ch for genomic integration at the *TRP1* locus** | | | | | | |
|  | | | | | | |
| *GUS1* | YGL245W | cERS |  | tatagggcgaattggagctcTCCGATATGTTCGCAACTTG |  | actaattacatgactcgagTCAGGTACCAGTAATACCAGC |
| *PGK1* | YCR012W | Pgk1 |  | tatagggcgaattggagctctcgagtttatcattatcaatactcgc |  | gtgacataactaattacatgactcgagTCAGGTACCAGTAATACCAGC |
| *PAM16* | YJL104W | Pam16 |  | tatagggcgaattggagctctcgagtttatcattatcaatactcgc |  | gtgacataactaattacatgactcgagTCAGGTACCAGTAATACCAGC |
| **Primers used to amplify the WT coding sequence of *ADE2* for restauration of adenine auxotrophy** | | | | | | |
|  | | | | | | |
| *ADE2* | YOR128C | Ade2 |  | TGACAAATGACTCTTGTTGCATGGC |  | AATTATTCCTTGCTTCTTGTTACTGG |

**Supplementary file 3.**