

Supplementary Table 1 - Oligonucleotide primers used in this work. Site-Directed Mutagenesis primers were HPLC purified by the supplier (Operon); all others were supplied salt-free. [Acrd] denotes a 5' acrydite modification.

| <b>Name</b>                              | <b>Sequence</b>                                      | <b>Purpose</b>   |
|--|--|--|
| <b>WTPGK1F</b>                           | <b>ATGTCTTTATCTTCAAAGTTGTCTGTCC</b>                  | <b>Forward primer; amplifies PGK1 for use as template in polony reaction</b> |
| <b>WTPGK1R</b>                           | <b>TTATTTCTTTTCGGATAAGAAAGCAACA</b>                  | <b>Reverse primer; amplifies PGK1 for use as template in polony reaction</b> |
| <b>PGK1ModB</b>                          | <b>AAAAGCTTTTATTTCTTTTCGGATAAGAAAGCAACACCTG</b>      | <b>Reverse primer; amplifies entire PGK1 gene and add 3' Hind III site</b>   |
| <b>PGK1ModC</b>                          | <b>TTGGATCCATGTCTTTATCTTCAAAGTTGTCTGTCCAAGA</b>      | <b>Forward primer; amplifies entire PGK1 gene and add 5' Bam H I site</b>    |
| <b>Site-Directed Mutagenesis Primers</b> |  |  |
| <b>PGK1Arg65SerF</b>                     | <b>GCTTCTCACTTGGGTAGTCCAAACGGTGAAAGA</b>             | <b>Forward primer mutates PGK1 A195T</b>                                     |
| <b>PGK1Arg65SerR</b>                     | <b>TCTTTCACCGTTTGGACTACCC AAGTGAGAAGC</b>            | <b>Reverse primer mutates PGK1 A195T</b>                                     |
| <b>PGK1Leu76TrpF</b>                     | <b>GAAAGAAACGAAAAATACTCTTGGGCTCCAGTTGCTAAGGAATTG</b> | <b>Forward primer mutates PGK1 T230G</b>                                     |
| <b>PGK1Leu76TrpR</b>                     | <b>CAATTCCTTAGCAACTGGAGCCCAAGAGTATTTTTCGTTTCTTTC</b> | <b>Reverse primer mutates PGK1 T230G</b>                                     |
| <b>PGK1Val114AspF</b>                    | <b>GCTTCTGCCCCAGGTTCCGATATTTGTTGGAAAACCTTG</b>       | <b>Forward primer mutates PGK1 T344A</b>                                     |
| <b>PGK1Val114AspR</b>                    | <b>CAAGTTTTCCAACAAAATATCGGAACCTGGGGCAGAAGC</b>       | <b>Reverse primer mutates PGK1 T344A</b>                                     |
| <b>PGK1Ile124PheF</b>                    | <b>GAAAACCTGCGTTACCACTTCGAAGAAGAAGGTTCC</b>          | <b>Forward primer mutates PGK1 A373T</b>                                     |

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|---|---|--|
| <b>PGK1Ile124PheR</b>                       | <b>GGAACCTTCTTCTTCGAAGTGG<br/>TAACGCAAGTTTTC</b>        | <b>Reverse primer mutates<br/>PGK1 A373T</b>   |
| <b>PGK1Lys131GluF</b>                       | <b>GAAGAAGGTTCCAGAGAGGTC<br/>GATGGTCAAAGG</b>           | <b>Forward primer mutates<br/>PGK1 A391G</b>   |
| <b>PGK1Lys131GluR</b>                       | <b>CCTTTTGACCATCGACCTCTCT<br/>GGAACCTTCTTC</b>          | <b>Reverse primer mutates<br/>PGK1 A391G</b>   |
| <b>PGK1Glu190GlnF</b>                       | <b>CCGGTTTCTTGTTGGAAAAGCA<br/>ATTGAAGTACTTCGGTAAGGC</b> | <b>Forward primer mutates<br/>PGK1 G568C</b>   |
| <b>PGK1Glu190GlnR</b>                       | <b>GCCTTACCGAAGTACTTCAATT<br/>GCTTTTCCAACAAGAAACCGG</b> | <b>Reverse primer mutates<br/>PGK1 G568C</b>   |
| <b>PGK1Gly370AlaF</b>                       | <b>CCGTCATCATTGGTGCTGGTGA<br/>CACTGCCAC</b>             | <b>Forward primer mutates<br/>PGK1 G1109C</b>  |
| <b>PGK1Gly370AlaR</b>                       | <b>GTGGCAGTGTACCAGCACCA<br/>ATGATGACGG</b>              | <b>Reverse primer mutates<br/>PGK1 G1109C</b>  |
| <b>PGK1His388GlnF</b>                       | <b>CTGACAAGATCTCCCAGGTCTC<br/>TACTGGTGGT</b>            | <b>Forward primer mutates<br/>PGK1 T1164G</b>  |
| <b>PGK1His388GlnR</b>                       | <b>ACCACCAGTAGAGACCTGGGA<br/>GATCTTGTCAG</b>            | <b>Reverse primer mutates<br/>PGK1 T1164G</b>  |
| <b>Primers Used in Polony Amplification</b> |   |  |
| <b>PGK1/159-466F</b>                        | <b>[Acrd]CCACCCAAGATACGTTGT<br/>CTTG</b>                | <b>Forward primer; yields<br/>polonies containing<br/>Arg65Ser, Leu76Trp,<br/>Val114Asp, Ile124Phe and<br/>Lys131Glu; used to in<br/>expression quantification<br/>experiments</b> |
| <b>PGK1/159-466R</b>                        | <b>CCAAAGAGCTCAATTCGTGTCT<br/>G</b>                     | <b>Reverse primer; yields<br/>polonies containing<br/>Arg65Ser, Leu76Trp,<br/>Val114Asp, Ile124Phe and<br/>Lys131Glu; used to in<br/>expression quantification<br/>experiments</b> |
| <b>PGK1/275-600F</b>                        | <b>[Acrd]TCACCTTCTTGAACGACT<br/>GTGTC</b>               | <b>Forward primer; yields<br/>polonies containing</b>  |

|   |  |   |
|---|--|---|
|   |  | <b>Glu190Gln</b>  |
| <b>PGK1/275-600R</b>                            | <b>CTCCAAAGCCTTACCGAAGTAC</b>          | <b>Reverse primer; yields colonies containing Glu190Gln</b>   |
| <b>PGK1/902-1231F</b>                           | <b>[Acrd]ACAAGGAAGGTATTCCAGCTGGCTG</b> | <b>Forward primer; yields colonies containing His388Gln</b>   |
| <b>PGK1/902-1231R</b>                           | <b>AAGCAACACCTGGCAATTCCTTACC</b>       | <b>Reverse primer; yields colonies containing His388Gln</b>   |
| <b>AKY2/257-564F</b>                            | <b>[Acrd]ATGGGTTCATCTTGGACGTTTCC</b>   | <b>Forward primer; yields colonies containing bp 257-564 of AKY2 gene</b>   |
| <b>AKY2/257-564R</b>                            | <b>TGGTTCGGTTTGAGCATGGTAA GC</b>       | <b>Reverse primer; yields colonies containing bp 257-564 of AKY2 gene</b>   |
| <b>Single Base Extension Sequencing Primers</b> |  |   |
| <b>Arg65SerSBE</b>                              | <b>TTTCGTTTCTTTCACCGTTTGG</b>          | <b>Used to identify nucleotide at position 195</b>  |
| <b>Leu76TrpSBE</b>                              | <b>AATTCCTTAGCAACTGGAGCC</b>           | <b>Used to identify nucleotide at position 230</b>  |
| <b>Val114AspSBE</b>                             | <b>GGTAACGCAAGTTTTCCAACAAATA</b>       | <b>Used to identify nucleotide at position 344</b>  |
| <b>Ile124PheSBE</b>                             | <b>CTTTCTGGAACCTTCTTCTTCG A</b>        | <b>Used to identify nucleotide at position 373; used to identify PGK1 colonies in expression quantification experiments</b> |
| <b>Lys131GluSBE</b>                             | <b>GACCTTTTGACCATCGACCT</b>            | <b>Used to identify nucleotide at position 391</b>  |
| <b>Glu190GlnSBE</b>                             | <b>AAGCCTTACCGAAGTACTTCAATT</b>        | <b>Used to identify nucleotide at position 568</b>  |
| <b>His388GlnSBE</b>                             | <b>GCACCACCACCAGTAGAGAC</b>            | <b>Used to identify nucleotide at position 1164</b>   |
| <b>AKY2SBE</b>                                  | <b>CTTCAAGGCGTCTGCATTGTCA TC</b>       | <b>Used to identify AKY2 colonies in expression quantification experiments</b>  |