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| **Supplementary Table 2 – Primers used for cloning and mutagenesis of PglC and LpxM variants** | |
| PglC\_F\_NdeI | 5’-AAAAAACATATGTATGAAAAAGTTTTTAAAAGAATTTTTG-3’ |
| PglC\_R\_XhoI | 5’-AAAAAACTCGAGGTTCTTGCCATTAAATTTCTCTG-3’ |
| K4C\_F | 5’-GGAGATATACATATGTATGAATGCGTTTTTAAAAGAATTTTTG-3’ |
| K4C\_R | 5’-CAAAAATTCTTTTAAAAACGCATTCATACATATGTATATCTCC-3’ |
| SUMO\_K4C\_F | 5’-GGTGGGATGTATGAATGCGTTTTTAAAAGAATTTTTG-3’ |
| SUMO\_K4C\_R | 5’-CAAAAATTCTTTTAAAAACGCATTCATACATCCCACC-3’ |
| F6C\_F | 5’-CATATGTATGAAAAAGTTTGCAAAAGAATTTTTGATTTTATTTTAGC-3’ |
| F6C\_R | 5’-GCTAAAATAAAATCAAAAATTCTTTTGCAAACTTTTTCATACATATG-3’ |
| SUMO\_F6C\_F | 5’-GGGATGTATGAAAAAGTTTGCAAAAGAATTTTTGATTTTATTTTAGC-3’ |
| SUMO\_F6C\_R | 5’-GCTAAAATAAAATCAAAAATTCTTTTGCAAACTTTTTCATACATCCC-3’ |
| S88C\_F | 5’-GGAAAAATCGTTAGATGCTTAAGTTTGGATGAGCTTTTGC-3’ |
| S88C\_R | 5’-GCAAAAGCTCATCCAAACTTAAGCATCTAACGATTTTTCC-3’ |
| S186\_F | 5’-GGTTTTAAAACGAAGTGGGGTATGCAAAGAAGGCCATGTTAC-3’ |
| S186\_R | 5’-GTAACATGGCCTTCTTTGCATACCCCACTTCGTTTTAAAACC-3’ |
| S23A\_F | 5’-GCTTTAGTGCTTTTAGTGCTTTTTGCTCCGGTGATTTTAATC-3’ |
| S23A\_R | 5’-GATTAAAATCACCGGAGCAAAAAGCACTAAAAGCACTAAAGC-3’ |
| P24A\_F | 5’-GATTAAAATCACCGCAGAAAAAAGCACTAAAAGCACTAAAGC-3’ |
| P24A\_R | 5’-GCTTTAGTGCTTTTAGTGCTTTTTGCTCCGGTGATTTTAATC-3’ |
| S23A/P24A\_F | 5’-GCTTTAGTGCTTTTAGTGCTTTTTGCTGCGGTGATTTTAATC-3’ |
| S23A/P24A\_R | 5’-GATTAAAATCACCGCAGCAAAAAGCACTAAAAGCACTAAAGC-3’ |
| I26A/L27A\_F | 5’-GTGCTTTTTTCTCCGGTGGCTGCAATCACTGCTTTACTTTTAAAAATCAC-3’ |
| I26A/L27A\_R | 5’-GTGATTTTTAAAAGTAAAGCAGTGATTGCAGCCACCGGAGAAAAAAGCAC-3’ |
| K187A/E188A\_F | 5’-CGAAGTGGGGTAAGCGCAGCAGGCCATGTTACAACAGAG-3’ |
| K187A/E188A\_R | 5’-CTCTGTTGTAACATGGCCTGCTGCGCTTACCCCACTTCG-3’ |
| K7A\_F | 5’-GTATGAAAAAGTTTTTGCAAGAATTTTTGATTTTATTTTAGCTTTAGTGC-3’ |
| K7A\_R | 5’-GCACTAAAGCTAAAATAAAATCAAAAATTCTTGCAAAAACTTTTTCATAC-3’ |
| K4C/K7A\_F | 5’-GTATGAATGCGTTTTTGCAAGAATTTTTGATTTTATTTTAGCTTTAGTGC-3’ |
| K4C/K7A\_R | 5’-GCACTAAAGCTAAAATAAAATCAAAAATTCTTGCAAAAACGCATTCATAC-3’ |
| F6C/K7A\_F | 5’-GTATGAAAAAGTTTGTGCAAGAATTTTTGATTTTATTTTAGCTTTAGTGC-3’ |
| F6C/K7A\_R | 5’-GCACTAAAGCTAAAATAAAATCAAAAATTCTTGCACAAACTTTTTCATAC-3’ |
| R8A\_F | 5’-GTATGAAAAAGTTTTTAAAGCAATTTTTGATTTTATTTTAGCTTTAGTGC-3’ |
| R8A\_R | 5’-GCACTAAAGCTAAAATAAAATCAAAAATTGCTTTAAAAACTTTTTCATAC-3’ |
| K4C/R8A\_F | 5’-GTATGAATGCGTTTTTAAAGCAATTTTTGATTTTATTTTAGCTTTAGTGC-3’ |
| K4C/R8A\_R | 5’-GCACTAAAGCTAAAATAAAATCAAAAATTGCTTTAAAAACGCATTCATAC-3’ |
| F6C/R8A\_F | 5’-GTATGAAAAAGTTTGTAAAGCAATTTTTGATTTTATTTTAGCTTTAGTGC-3’ |
| F6C/R8A\_R | 5’-GCACTAAAGCTAAAATAAAATCAAAAATTGCTTTACAAACTTTTTCATAC-3’ |
| K7A/R8A\_F | 5’-GTATGAAAAAGTTTTTGCAGCAATTTTTGATTTTATTTTAGCTTTAGTGC-3’ |
| K7A/R8A\_R | 5’-GCACTAAAGCTAAAATAAAATCAAAAATTGCTGCAAAAACTTTTTCATAC-3’ |
| K4C/K7A/R8A\_F | 5’-GTATGAATGCGTTTTTGCAGCAATTTTTGATTTTATTTTAGCTTTAGTGC-3’ |
| K4C/K7A/R8A\_R | 5’-GCACTAAAGCTAAAATAAAATCAAAAATTGCTGCAAAAACGCATTCATAC-3’ |
| F6C/K7A/R8A\_F | 5’-CATATGTATGAAAAAGTTTGTGCAGCAATTTTTGATTTTATTTTAGC-3’ |
| F6C/K7A/R8A\_R | 5’-GCTAAAATAAAATCAAAAATTGCTGCACAAACTTTTTCATACATATG-3’ |
| SUMO\_E3\_F | 5’-GGTGGGATGTATTGCAAAGTTTTTAAAAGAATTTTTGATTTTATTTTAGC-3’ |
| SUMO\_E3\_R | 5’-GCTAAAATAAAATCAAAAATTCTTTTAAAAACTTTGCAATACATCCCACC-3’ |
| I163C\_F | 5’-GAACTTGATGTGTATTATGTGAAAAATTGCTCTTTTCTGCTTGATTTAAAAATC-3’ |
| I163C\_R | 5’-GATTTTTAAATCAAGCAGAAAAGAGCAATTTTTCACATAATACACATCAAGTTC-3’ |
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| LpxM\_C73S\_F | 5’-CAACCTGAGCCTGAGCTTCCCGGAACG-3’ |
| LpxM\_C73S\_R | 5’-CGTTCCGGGAAGCTCAGGCTCAGGTTG-3’ |
| LpxM\_C240S\_F | 5’-CTGATGAAGGTGAGCCGTGCGCGTGTG-3’ |
| LpxM\_C240S\_R | 5’-CACACGCGCACGGCTCACCTTCATCAG-3’ |
| LpxM\_S8C\_F | 5’-CCAAGAAAAACAACTGCGAATACATCCCGGAGTTC-3’ |
| LpxM\_S8C\_R | 5’-GAACTCCGGGATGTATTCGCAGTTGTTTTTCTTGG-3’ |
| LpxM\_I11C\_F | 5’-GAAACCAAGAAAAACAACAGCGAATACTGCCCGGAGTTC-3’ |
| LpxM\_I11C\_R | 5’-GAACTCCGGGCAGTATTCGCTGTTGTTTTTCTTGGTTTC-3’ |
| LpxM\_S17C\_F | 5’-GGAGTTCGACAAATGCTTTCGTCACCCGCG-3’ |
| LpxM\_S17C\_R | 5’-CGCGGGTGACGAAAGCATTTGTCGAACTCC-3’ |
| LpxM\_M89C\_F | 5’-GAACGTGAGGCGATTGTGGACGAGTGTTTTGCGACCG-3’ |
| LpxM\_M89C\_R | 5’-CGGTCGCAAAACACTCGTCCACAATCGCCTCACGTTC-3’ |