**Supplemental Table S2 Primer sequences used for the introduction of Flag-CPNE1 mutations.**

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| Mutations | Primer Sequences |
| K60R | F:AAGCCCTGAGTTCTCCAGGACTCTACAGCTTGAGT  R:ACTCAAGCTGTAGAGTCCTGGAGAACTCAGGGCTT |
| K84R | F:CTATGACATAGACAACAGGACGCCAGAGCTGAGGG  R:CCCTCAGCTCTGGCGTCCTGTTGTCTATGTCATAG |
| K120R | F:GATGCTGAAGCCTGGAAGGCCTGCTGGGCGGGGGA  R:TCCCCCGCCCAGCAGGCCTTCCAGGCTTCAGCATC |
| K135R | F:CTCAGCTCAGGAATTAAGGGACAATCGTGTAGTAA  R:TTACTACACGATTGTCCCTTAATTCCTGAGCTGAG |
| K157R | F:GAAGGACTTCCTGGGAAGGTCAGATCCATTTCTGG  R:CCAGAAATGGATCTGACCTTCCCAGGAAGTCCTTC |
| K190R | F:CCTGAACCCTACATGGAGGCGTTTCTCAGTCCCCGT  R:ACGGGGACTGAGAAACGCCTCCATGTAGGGTTCAGG |
| K522R | F:AGGGTTGGGCCCCGCTCAGGCCACTTCCACCCTCAG  R:CTGAGGGTGGAAGTGGCCTGAGCGGGGCCCAACCCT |
| K529R | F:ACTTCCACCCTCAGCCAGGGATCCTGCACAGGCC  R:GGCCTGTGCAGGATCCCTGGCTGAGGGTGGAAGT |