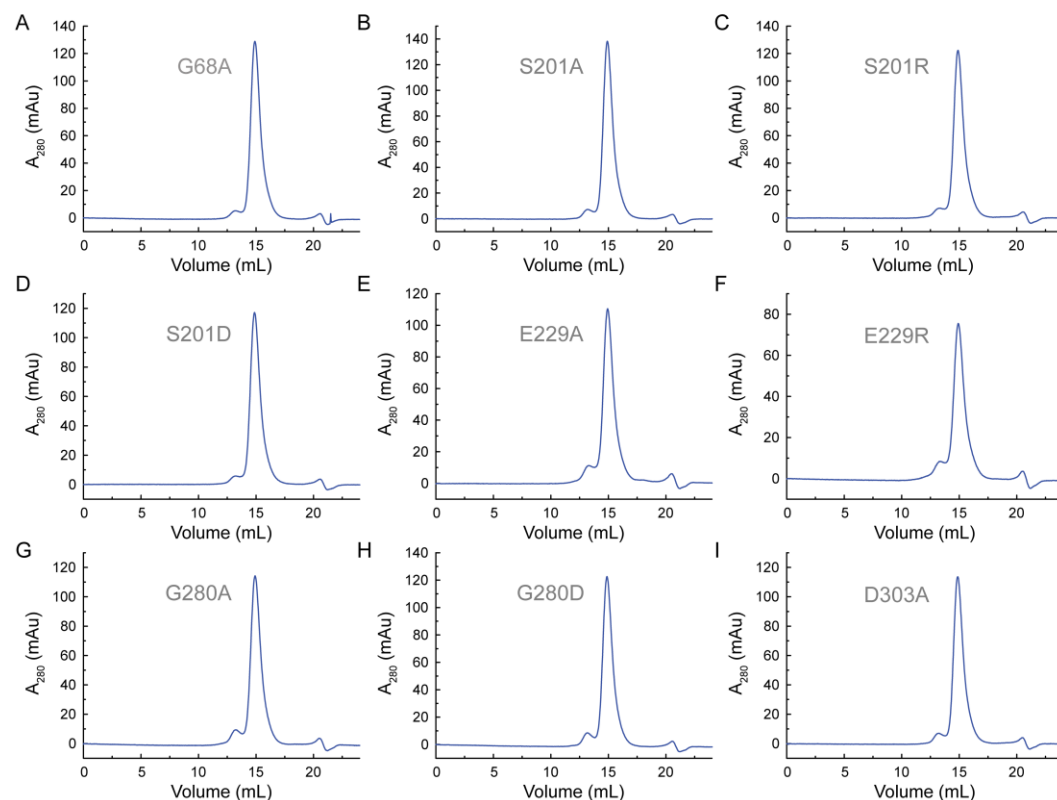


**Table S1.** The primer sets of BmADK mutants.

| Name    | Sequences                      |
|---------|--------------------------------|
| G68A-F  | GCAGAGTATATTGCTGCCGGAAGCGTTCAG |
| G68A-R  | CTGAACGCTTCCGGCAGCAATATACTCTGC |
| S201A-F | GTTATGAACTTGGCCGCGCCCTTTGTCTC  |
| S201A-R | GAGACAAAGGGCGCGGCCAAGTTCATAAC  |
| S201D-F | GTTATGAACTTGGATGCGCCCTTTGTCTC  |
| S201D-R | GAGACAAAGGGCGCATCCAAGTTCATAAC  |
| S201R-F | GTTATGAACTTGC GCGCGCCCTTTGTCTC |
| S201R-R | GAGACAAAGGGCGCGCGCAAGTTCATAAC  |
| E229R-F | CGGGAATGAATCGCGCGCAGACGCTTTCG  |
| E229R-R | CGAAAGCGTCTGCGCGCGATTCAATCCCG  |
| E229A-F | CGGGAATGAATCGGCCGCGAGACGCTTTCG |
| E229A-R | CGAAAGCGTCTGCGGCCGATTCAATCCCG  |
| G280A-F | TGGTACAGAGCGCCCGAGTCACCCTGATA  |
| G280A-R | TATCAGGGTGACTCGGGCGCTCTGTACCA  |
| G280D-F | TGGTACAGAGCGATCGAGTCACCCTGATA  |
| G280D-R | TATCAGGGTGACTCGATCGCTCTGTACCA  |
| D303A-F | ACAAACGGTGCCGGAGCCGCCTTTACTGGT |
| D303A-R | ACCAGTAAAGGCGGCTCCGGCACCGTTTGT |

**Figure S1****Figure S1.** Purification of BmADK mutants by gel filtration.