Primers used in this study:

**pET-DUET TbPKAR(199-499) (expression of TbPKAR(199-499) in E. coli)**

TbPKAR199-499\_FW gccaGGATCCGgaaaacctgtattttcagGGATCTGGCCG GAAGCGACG  
TbPKAR199-499\_RV cattatgcggccGCttaCTTCCTCCCCTCTGCCCT

**pET-DUET TbPKAR(199-499)\_mutant 8 (expression of TbPKAR(199-499)\_mutant 8 in E. coli)**

TbPKAR\_M8\_RV atatatGCGGCCGCTTACTTCCTCCCCTCTGCCCTTAAAGTA

GTTTTCAGTTTCGACTGGGCGGCCTCATA

**pET-DUET TcPKAR(200-503) (expression of TcPKAR(200-503) in E. coli)**

TcPKAR200-503\_FW agccaGGATCCGgaaaacctgtattttcagGGATCTGGCAG AAACCGCCGCC  
TcPKAR200-503\_RV cattatgcggccGCTTATACATCATCCACGTACGATG

**pET-DUET LdPKAR1(200-502) (expression of TcPKAR(200-503) in E. coli)**

LdPKAR1200-502\_FW TAGTGGATCCGGCCGGGCTCGTCGCCAGACAG

LdPKAR200-502\_RV attatgcggccGCCTACGCGCTCTCGTG

**Co-expression of TbPKAR-10xHis and Strep-TbPKAC1 in Lexsy (vectors pLEXSY\_I-ble3, pLEXSY\_I-neo3)**

5’PKAR SaII ATGCATCTCGAGATGTCTGAAAAGGGAACATCG

3’PKAR NotI TATATAATAGTTTAGCGGCCGCTCAGTGGTGGTGATGGTGGTGGT

GGTGGTGATGGCTACCGCCCTTCCTCCCCTCTGCCCTTAA

5’Strep BamHI CGCGGATCCATGGCTTCGGCTTGGAGCCAC

PKAC1 Rev NotI ACTATGCAATAGTTTAGCGGCCGCCTAAAAACCACGGAATGCAAC

5’Ble BamHI GCCGGATCCACCATGGCCAAGTTGACCAGT

3’Ble SpeI CTAGAACTAGTTCAGTCCTGCTCCTCGGCCA

**Co-expression of LdPKAR1-6xHis and Strep-LdPKAC1 in Lexsy (vectors pLEXSY\_I-ble3, pLEXSY\_I-neo3)**

LdPKAR\_FW ccgcctcgagatgggcagcagccatcaccatcatcaccacagccaggatccggaaaacctgtatttt

cagggatctATGTCCGCGGAAGACACCCCC

LdPKAR\_RV gagggcggccgccttaCTGGACCGCCGCCGGGGCACC

LdPKAC1\_FW gCCACCAgatctgCCATGGCTTCGGCTtggagccacccgcagttcgaaaaaGCTTCG

TCTGCTGCCAAGGACAGCTGTCCGGCGGA

LdPKAC1\_RV AGGAGGGCGGCCGCCTAAAAGCCATTGAATTCCGCCTGC

**Co-expression of TcPKAR-6xHis and Strep-TcPKAC2 in Lexsy (vectors pLEXSY\_I-ble3, pLEXSY\_I-neo3)**

TcPKAR\_FW ccgcctcgagatgggcagcagccatcaccatcatcaccacagccaggatccggaaaacctgtatttt

cagggatctATGTCCGCGGAAGACACCCCC

TcPKAR\_RV gagggcggccgccttaCTGGACCGCCGCCGGGGCACC

TcPKAC2\_FW gCCACCAgatctgCCATGGCTTCGGCTtggagccacccgcagttcgaaaaaGCTAC

GTTGAAGAATGCACCTGAATTTGTAAAGCCGGACGC

TcPKAC2\_RV AGGAGGGCGGCCGCTTAGAACCCAATAAACTCCGCCTGT

**Co-expression of TbPKAR-mutant1 and Strep-TbPKAC1 in Lexsy (vectors pLEXSY\_I-ble3, pLEXSY\_I-neo3)**

Mutant1\_RBC-A\_FW GGAGAGCTTGcACTTATGTATCAGACACCAcgTGcTGCCACGGTG

Mutant1\_RBC-A\_RV CACCGTGGCAgCAcgTGGTGTCTGATACATAAGTgCAAGCTCTCC

Mutant1\_RBC-B\_FW GGTGAGCTGGcATTCCTTAACAATCACGCCcgTGcAGCAGATGTT

Mutant1\_RBC-B\_RV AACATCTGCTgCAcgGGCGTGATTGTTAAGGAATgCCAGCTCACC

**Co-expression of TbPKAR-mutant2 and Strep-TbPKAC1 in Lexsy (vectors pLEXSY\_I-ble3, pLEXSY\_I-neo3)**

Mutant2\_RBC-A\_FW GGAGAGCTCGcACTTATGTATCA

Mutant2\_RBC-A\_RV TGATACATAAGTgCGAGCTCTCC

Mutant2\_RBC-B\_FW AGCTGGcATTTTTAAACAAT

Mutant2\_RBC-B\_RV ATTGTTTAAAAATgCCAGCT

**Co-expression of TbPKAR-mutant3 and Strep-TbPKAC1 in Lexsy (vectors pLEXSY\_I-ble3, pLEXSY\_I-neo3)**

Mutant3\_RBC-A\_FW GTAGGAGAGCTTGAACTTATGTATCAGACACCggtTGTTGCCACG

Mutant3\_RBC\_A\_RV CACCGTGGCAACAaccGGTGTCTGATACATAAGTTCAAGCTCTCCTAC

Mutant3\_RBC-B\_FW GTGGGTGAGCTGGAATTCCTTAACAATCACGCCgtTGTgGCAGAT

Mutant3\_RBC-B\_RV ATCTGCcACAacGGCGTGATTGTTAAGGAATTCCAGCTCACCCAC

**Co-expression of TbPKAR-mutant4 and Strep-TbPKAC1 in Lexsy (vectors pLEXSY\_I-ble3, pLEXSY\_I-neo3)**

Mutant4\_RBC-A\_FW CAGACACCAcgcGTCGCGACGGTG

Mutant4\_RBC-A\_RV CACCGTCGCGACgcgTGGTGTCTG

Mutant4\_RBC-B\_FW AATCACGCCcggGTAGCAGACGTCGTG

Mutant4\_RBC-B\_RV CACGACGTCTGCTACccgGGCGTGATT

**Co-expression of TbPKAR-mutant5 and Strep-TbPKAC1 in Lexsy (vectors pLEXSY\_I-ble3, pLEXSY\_I-neo3)**

Mutant5\_RBC-A-FW GTAGGAGAGCTCGcACTTATGTATCAGACACCAcgcGTCGCGACGGTG

Mutant5\_RBC-A-RV CACCGTCGCGACgcgTGGTGTCTGATACATAAGTgCGAGCTCTCCTAC

Mutant5\_RBC-B-FW GGTGAGCTGGcATTTTTAAACAATCACGCCcggGTAGCAGACGTCGTG

Mutant5\_RBC-B-RV CACGACGTCTGCTACccgGGCGTGATTGTTTAAAAATgCCAGCTCACC

**Co-expression of human PKARIalpha and mouse PKACalpha (in pETDuet-1)**

5’strep (NdeI) Mm Cα ttGGAATTCCATATGGCTTCGGCTtggagccacccgcagttcgaaaaaGCTGGCAAC

GCCGCCGCCGCCAAGAAGGGC

3’(AvrII)MmCα ttcTGCCTAGGCTAAAACTCAGTAAACTCCTTGCC

6H.tev./HsPKARIaf GCCAGGATCCGGAAAACCTGTATTTTCAGGGATCTATGGAGTCTGGCAGTA

6H.tev/HsPKARIaf attatgcggccGCTCAGACAGACAGTGA