

## Supplementary Materials

**Information S1.** Nucleotide sequence of extracellular solute-binding protein (ESBP) gene used for cloning (Sequence Length: 1,650, GC%: 55.70).

CATATG

ATGAAGAAGAAGGCGCTGGCGTTTGCGGCGATGGCGTGCAGCGTGGCGATGCTGCTGAGCGCGTGCGGCGGTAGCAATAGC  
AATGCGGGCAGCGGGGATACCGCGGTAGCAACATCATTACCGCGTACAACAGCGAGCCGCAAAACCCGCTGATCCCGGGCA  
ACACCAACGAAACCGGTGGCGGTAAACCGGTGGACCTGCTGTTACAGCCGTCTGGTTAGCTTTGACAAGGATGGTAAAGCGAG  
CAACGAGGTGGCGGAAAGCATTACCCCGAACGACGATGCGACCCAATATACCATCAAGATTAAGCGGGCTGGAAGTTTACC  
GACGGTACCCCGGTTACCGCGGAGAGCTTACCAAAGCGTGGAGCTACGTGGCGAACGTTAAGAACCGCGCAGAAATGCAGC  
AGCTTCTTTAGCACCATCAAAGGCTATGACGGTCTGCAGGCGGATGGCCTGAAGGGTGACGAACAACGAGCGGTCTGAAAG  
TGGTTGACGATACCACCTTACCCTGGATCTGAACCAGAGCGACAGCGTGTCCCGATTAAAGGTTGGTTATAGCGCGTTTGC  
CCGCTGCCGGAGAGCTTTTATAAGGATCCGAAAGCGTTCGGTGAAGCGCCGGTTGGCAACGGTCCGTACAAGTTTAGCAAAT  
GGGATCACAACAAAGAGATCGCGCTGGTGAAGAACCCGGACTATAAAGGCAACGAAGACGTTAAGAACGATGGTGTGACCT  
TCAAAGTTTACACCGACGATAGCGCGGGCTATCGTGATATCAAGCGGGCAACCTGGACGTGATGGAGAGCGTTCGGCGGC  
GTTACCAAGACCTTTAAAACCGACAAGAAAGTGCAGGCGTACAGCGAAGCGGGCAGCGTTATCCAAACCTTTACCATTCCG  
AGCAGCCTGGATCACTTCAAGAACGACGAGGAAGGTCAACTGCGTCGTAAGCGATCAGCATGGCGATTAACCGTGACCAGC  
TGATCGATAAGGTGCTGAACGGTAACGCGACCGCGGACCGAGTTTACCAGCCCGAAAACCCCGGGCTACAGCGATATACCT  
GAAGGGTGCGGACAACCTGAAATTC AACGCGAGCAAGGCGAAAGAAGCTGTGGCGAAGGCGGATGCGATCAGCAATAACG  
ACGGCCAACCTGACCTTTAGCTATAACGCGGATAGCGGTGCGAAGCCGCTGTATGATGCGGTGGTTAACCAGCTGAAAAACA  
CCTGGGTATCGATGCGGGCACC AACCCGATTCCGACCTTCCAGGAGTTTCGTGACCGGTTACCAACCGTCAAATGAAGGGC  
GCGTTTCGTACCGGTTGGCAGCCGATTATCCGTTTCGCGGAAAACCTACCTGTGGCAACTGTACAGCACCGCGGGCGGCGGATG  
GTAACGGTAGCAACGACGGCGATTACAAGAACCCGGCGTTCGACGATCTGTGCAACAAGCGGGCGGGCGGAGCAGCACCG  
ATGATGCGAACAACCTGTATCAGCAAGCGGAGGAAATCCTGCTGAACGACCTGCCGGCGATTCCGCTGTACTATAGCAACGC  
GAGCGGTGTGGCGAGCCTGAACGTTAAAAGCGGTTATGCGTTTGACTGGCAAAATCTGCCGACCTACACCGAAATGAGCAAG  
AAG

CTCGAG

**Information S2.** Protein sequence of extracellular solute-binding protein (ESBP)

MKKKALAFAMACSVAMLLSACGGSNSNAASGDTAGSNIITAYNSEPQNPLIPGNTNETGGGKPVDLLFSRLVSFDKDGKASNEV  
AESITPNDDATQYTIKIKSGWKFDTGTPVTAESFTKAWSYVANVKNAQKCSSFFSTIKGYDGLQADGLKGDEQLSGLKVDDTTFT  
VDLNQSDSVFPIKVGYSAPLPEFYKDPKAFGEAPVGNPGYKFSKWDHNKEIALVKNPDYKGNEDVKNDGVTFKVYTDSDAA  
YRDIQAGNLDVMESVPAFTKTFKTDKVVQAYSEAGSVIQTFTIPSSLDHFKNDEEQLRRQAISMAINRDQLIDKVLNGNATAAT  
EFTSPKTPGYSDSLKGADNLKFNASKAKELWAKADAISKYDGLTFSYNADSGAKPLYDAVVNQLKNLGLDAATNPIPTFQEFRD  
AVTNRQMKGAFRTGWQPDYFPAENYLWQLYSTAAADGNGSNDGDYKNPAFDDLCKQAAAASSTDDANKLYQQAEEILLNDLPA  
IPLYSNASGVASLVKSGYAFDWQNLPTYTEMSKK