

Table S1. List of primers

Construction of yeast strain with *bar1*Δ allele (IM-4)

Amplification of LEU2 marker from pRS405 (American Type Culture Collection, Manassas, VA, USA)

5'ATCGCCTAAAATCATACCAAATAAAAAGAGTGTCTAGAAGGGTCATATATCGACTACGT
CGTAAGGCCGTTTCTGACAG

5'ACTATATATTTGATATTTATATGCTATAAAGAAATTGTACTCCAGATTTCTCGACGGTCTGA
GGAGAACTTCTAGTATATC

Construction of α-factor secretion plasmid

*Generation of s.s.-α-factor-FLAG-*taa* fragment for pUESCαf from pUESCαf*

5'-CCCCGGATCCATGAGATTTCTTCAATTTT

5'-AAAACTCGAGTTACTTGTTCATCGTCATCCT

Construction of α-factor displaying plasmids (Flo42, Flo102, Flo146, Flo318 and 3'AG)

Generation of s.s.-α-factor-FLAG fragment for pUESCαf from BY4741 genomic DNA

5'-CCCCGGATCCATGAGATTTCTTCAATTTT

5'-AAAACTCGAGCTTGTTCATCGTCATCCTTGTAGTCGTACATTGGTTGGCCAGGTTTTAGT
TGCAACCAATGCCA

Generation of s.s.-α-factor-FLAG(+gg) fragment for pUESCαf(AG) from pUESCαf

5'-CCCCGGATCCATGAGATTTCTTCAATTTT

5'-AAAACTCGAGCCCTTGTTCATCGTCATCCTTGTAGTCGTACATTGGTTGGCCAGGTTTTA
GTTGCAACCAATGCCA

Generation of FLO42 anchor fragment for pUESCαf-FLO42 from pIF42 (Sato et al.)

5'-TTCCCTCGAGAGCAGCATGGTAGGATATAG

5'-CCCCGCTAGCTTAAATAATTGCCAGCAATA

Generation of FLO102 anchor fragment for pUESCαf-FLO102 from pIF102 (Sato et al.)

5'-TGGGCTCGAGAAAACAGTAGTCACCTCTTC

5'-CCCCGCTAGCTTAAATAATTGCCAGCAATA

Generation of FLO146 anchor fragment for pUESCαf-FLO146 from pIF146 (Sato et al.)

5'-TTTTCTCGAGGCGAATGAAGAGTCTGTCTAG

5'-CCCCGCTAGCTTAAATAATTGCCAGCAATA

Generation of FLO318 anchor fragment for pUESCαf-FLO318 from pIF318 (Sato et al.)

5'-GTTTCTCGAGTTACCACCTGCTACCACTACAAAACGAGCGAACAAACCA

5'-CCCCGCTAGCTTAAATAATTGCCAGCAATA

Generation of 3'-half of α -agglutinin anchor fragment for pUESC α -AG from BY4741 genomic DNA

5'-GGGACTCGAGCGCCAAAAGCTCTTTTATCT
5'-TCCCGCTAGCTTAGAATAGCAGGTACGACA

Construction of somatostatin (S-14) displaying plasmid

Generation of FLAG-FLO42 fragment for pGK426-tgFLO42 from pUESC α -FLO42

5'-CCCCGTCGACGACTACAAGGATGACGATGACAAGAGCAGCATGGTAGGAT
5'-GGGGAGATCTTTAAATAATTGCCAGCAATA

Generation of s.s. fragment with partial S-14 sequence for overlapping PCR from pUESC α

5'-GGGGGCTAGCATGAGATTTCTTCAATTTT
5'-ATTCTTGCAGCCAGCTCTTTTATCCAAAGA

Generation of s.s.-S-14 fragment for pGK-S1442 by overlapping PCR

5'-GGGGGCTAGCATGAGATTTCTTCAATTTT
5'-AAAAGTCGACACAGGATGTGAAAGTCTCCAGAAGAAATTCTTGCAGCCAGC

Construction of other peptides displaying control plasmids

Generation of s.s. fragment with partial α -factor sequence for overlapping PCR from pUESC α

5'-GGGGGCTAGCATGAGATTTCTTCAATTTT
5'-TTGCAACCAATGCCATCTTTTATCCAAAGA

Generation of s.s.- α -factor fragment for pGK- α 42 by overlapping PCR

5'-GGGGGCTAGCATGAGATTTCTTCAATTTT
5'-AAAAGTCGACGTACATTGGTTGGCCAGGTTTTAGTTGCAACCAATGCCA

Generation of s.s.-All fragment for pGK-All42 from pUESC α

5'-GGGGGCTAGCATGAGATTTCTTCAATTTT
5'-TTTTGTCGACGAAGGGGTGTATGTACACCCGGTCTTTTTATCCAAAGATACCC

Generation of s.s.-ET1 fragment for pGK-ET142 from pUESC α

5'-GGGGGCTAGCATGAGATTTCTTCAATTTT
5'-TTTTGTCGACCCAAATGATGTCCAGGTGGCAGAAGTAGACACACTCTTTATCCATCAGG
GACGAGCAGGAGCATCTTTTATCCAAAGATACCC

Generation of s.s. fragment without peptide sequence for pGK42 from pUESC α

5'-GGGGGCTAGCATGAGATTTCTTCAATTTT
5'-GGGGGTCGACTCTTTTATCCAAAGATACCC

Construction of α -factor displaying plasmids (Suc2(N), Suc2(C), FS(N) and FS(C))

Generation of SUC2(N) anchor fragment for pUESC α -SUC2(N) from pWGP3-SUC2 (Tanino et al.)

5'-TGGGCTCGAGATGACAAACGAAACTAGCGA

5'-CCCCGCTAGCCTATTTACTTCCCTTACTT

Generation of SUC2(C)-FLAG- α -factor fragment for pUESC-SUC2f α (C) from pWGP3-SUC2 (Tanino et al.)

5'-GGGAGTCGACATGCTTTTGCAAGCTTTCCT

5'-CCCCGCTAGCCTTAGTACATTGGTTGGCCAGGTTTTAGTTGCAACCAATGCCACTTGTCA
TCGTCATCCTTGAGTCTTTACTTCCCTTACTTGGAACT

Generation of FS(N) anchor fragment for pUESC α -FS(N) from pWIFS (Matsumoto et al.)

5'-TTTTCTCGAGGAGGCGTGCTTACCAGCAGG

5'-AAAACCGCGGTTAGGTGATTTGTCCTGA

Generation of FS(C)-FLAG- α -factor fragment for pUESC-FSf α (C) from pWIFS (Matsumoto et al.)

5'-AAAAGGATCCATGACAATGCCTCATCGCTA

5'-CCCCCTCGAGTTAGTACATTGGTTGGCCAGGTTTTAGTTGCAACCAATGCCACTTGTCA
TCGTCATCCTTGAGTCGGTGATTTGTCCTGAAGATGATG

Construction of other types of somatostatin displaying plasmids

Generation of s.s.(prepro- α -factor) fragment with partial S-28 sequence for overlapping PCR from pUESC α

5'-GGGGGCTAGCATGAGATTTCTTCAATTTT

5'-GTTTGAGTTAGCAGATCTTTTATCCAAAGA

Generation of s.s.(prepro- α -factor)-S-28 fragment for pGK-S2842 by overlapping PCR

5'-GGGGGCTAGCATGAGATTTCTTCAATTTT

5'-AAAAGTCGACACAGGATGTGAAAGTCTTCCAGAAGAAATTCTTGCAGCCAGCTTTGCGT
TCTCGGGTGCCATAGCCGGGTTTGAGTTAGCAGA

Generation of s.s.(pre- α -factor)-S-14 fragment for pGK-AS1442 with synthetic oligonucleotides

5'-AAAAGCTAGCATGAGATTTCTTCAATTTTTACTGCAGTTTTATTTCGCAGCATCCTCCGC
ATTAGCTGCTGGCTGCAAGAATTTCTTCTGGAAGACTTTTACATCCTGT

5'-AAAAGTCGACACAGGATGTGAAAGTCTTCCAGAAGAAATTCTTGCAGCCAGC

Generation of s.s.(Suc2)-S-14 fragment for pGK-SS1442 with synthetic oligonucleotides

5'-AAAAGCTAGCATGCTTTTGCAAGCTTTCTTTTCTTTTGGCTGGTTTTGCAGCCAAAAT
ATCTGCAGCTGGCTGCAAGAATTTCTTCTGGAAGACTTTTACATCCTGT

5'-AAAAGTCGACACAGGATGTGAAAGTCTTCCAGAAGAAATTCTTGCAGCCAGC

Cell wall trapping of autocrine peptides for human G-protein-coupled receptors on the yeast cell surface

Generation of s.s.(GLA)-S-14 fragment for pGK-GS1442 with synthetic oligonucleotides

5'-AAAAGCTAGCATGCAACTGTTCAATTTGCCATTGAAAGTTTCATTCTTTCTCGTCCTCTC
TTACTTTTCTTTGCTCGTTTCTGCTGCTGGCTGCAAGAATTTCTTCTGGAAGACTTTTCAC
5'-AAAAGTCGACACAGGATGTGAAAGTCTTCCAGAAGAAATTCTTGCAGCCAGC

Generation of s.s.(prepro- α -factor)-S-14-GS5 (GGGGS linker) fragment for pGS5-S1442 from pGK-S1442

5'-GGGGGCTAGCATGAGATTTTCTTCAATTTT
5'-TTTTGTCGACAGAACCACCACCACCACAGGATGTGAAAGTCTTCCAGAAG

Generation of s.s.(prepro- α -factor)-S-14-GS9 (GGGSGGGGS linker) fragment for pGS9-S1442 from pGK-S1442

5'-GGGGGCTAGCATGAGATTTTCTTCAATTTT
5'-TTTTGTCGACAGAACCACCACCAGAACACCACCACCACAGGATGTGAAAGTCTTCCA
GAAGAAATTCTTGCAGCC