Supplementary Materials

The sequence of primers and cDNA

The cDNA sequences of α-1 mating factor and Aga2 signal sequences, and acid-base coils (En-Kn) are shown in Supplementary Fig. 1. The primers used to construct YS2H vector are listed in Supplementary Table. 1.

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E5:
       1   GAAGTTT CTGCTTT GGAAAAG GAAGTTT CTGCTTT GGAAAAG GAAGTTT CTGCCTT AGAGAAA
      64   GAGGTCT CCGCTTT GGAAAAG GAAGTTT CTGCTTT GGAAAAG
E4:
       1   GAAGTTT CTGCTTT GGAAAAG GAAGTTT CTGCCTT AGAGAAA GAGGTCT CCGCTTT GGAAAAG
      64   GAAGTTT CTGCTTT GGAAAAG
E3:
       1   GAAGTTT CTGCCTT AGAGAAA GAGGTCT CCGCTTT GGAAAAG GAAGTTT CTGCTTT GGAAAAG

K5:
       1   AAGGTTT CTGCTTT GAAGGAA AAGGTTA GTGCATT AAAAGAG AAAGTCT CCGCTTT GAAGGAA
      64   AAGGTTT CTGCTTT GAAGGAA AAGGTTT CTGCTTT GAAGGAA
K4:
       1   AAGGTTT CTGCTTT GAAGGAA AAGGTTA GTGCATT AAAAGAG AAAGTCT CCGCTTT GAAGGAA
      64   AAGGTTT CTGCTTT GAAGGAA
K3:
       1   AAGGTTT CTGCTTT GAAGGAA AAGGTTA GTGCATT AAAAGAG AAAGTCT CCGCTTT GAAGGAA

α-1 mating factor signal sequence
       1   ATGAGAT TTCCTTC AATTTTT ACTGCAG TTTTATT CGCAGCA TCCTCCG CATTAGC TGCTCCA
      64   GTCAACA CTACAAC AGAAGAT GAAACGG CACAAAT TCCGGCT GAAGCTG TCATCGG TTACTCA
     127   GATTTAG AAGGGGA TTTCGAT GTTGCTG TTTTGCC ATTTTCC AACAGCA CAAATAA CGGGTTA
     190   TTGTTTA TAAATAC TACTATT GCCAGCA TTGCTGC TAAAGAA GAAGGGG TATCTCT CGAGAAA
     253   AGAGAGG CTGAAGC T

Aga2 signal sequence
       1   ATGCAGT TACTTCG CTGTTTT TCAATAT TTTCTGT TATTGCT TCAGTTT TAGCA
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Supplementary Figure 1. cDNA sequences.

Supplementary Table 1. DNA sequences of forward (f) and reverse (r) primers are shown.

Product	Primers
E5	f:5'AGCTGCTAGCGAAGTTTCTGCTTTGGAAAAGGAAGTTTCTGCTTTGGAAAAGGAAGTTTCTGCCTTAGAGAAAGAGGTCTCC-3' r:5'CACCACTAGTCTTTTCCAAAGCAGAAACTTCCTTTTCCAAAGCGGAGACCTCTTTCTCTAAGGC -3'
K5	f:5'CACCATCGATTTCCTTCAAAGCAGAAACCTTTTCCTTCAAAGCAGAAACCTTTTCCTTCAAAGCGGAGACTTTCTCTTTTAATGCACT -3' r:5'CTCGACGCGTGGTGGTGGTGGTTCTGGTGGTGGTGGTTCTAAGGTTTCTGCTTTGAAGGAAAAGGTTAGTGCATTAAAAGAGAAAGTCTCC -3'
LFA-1 I domain	f:5'- TTGTGTCGACAACGTAGACCTGGTATTTCT-3' r:5'-CCATGGAGTCAGGTCCTGTTTGCTTG-3'
AL57	f:5'-GGATGCTAGCGAAGTTCAATTGTTAGAGTC-3' r:5'- GGTCGGATCCAGTTCGTTTGATTTCCACC-3'
TS1/22	f: 5'- AGCAGCTAGCCAGGTTCACCTGCAGCAATC -3' r: 5'- CACCACTAGTAGCCCGTTTCAGCTCCAGC -3'
BoNT/A-LC	f:5'-CGTTGTCGACCAATTCGTTAACAAGCAGTTCAAC-3' r:5'- AGTCCCATGGTTTGCTCGTTATAATGCCTCTAAC-3'
BoNT/B-LC	f:5'-CGTTGTCGACCCGGTGACGATCAACAACTTC-3' r:5'-AGTCCCATGGAACGCTCTTACACATTTGGATTT-3'
VHH-B8 & G6	f:5'-AGCTGCTAGCGCATGCCAGGCTCATGTCCAGCTGC-3; r:5'-GTTCGGATCCACTAGTTGGTTGTGGTTTTGGTGTCTTGG-3'
VHH library	f:5'-AGCTGCTAGCCAGRCTSAGKTGCAGCTCGTGGAG-3' r-I:5'-TGGTGGATCCTTGTGGTTTTGGTGTCTTGGG-3' r-II:5'-TGGTGGATCCGGGGTCTTCGCTGTGGTGCG-3'