5F9.m28BBz ATGATGAAGTTCACCGTGGTGGCCGCTGCCTGCTGCTGGGAGCTGTCGAGCTGCCGATATCGAGATCGTGATGACCCAGAGCCCCGCCACCCTGAGTGTGTCTCCAGGCGAGAGAGCCACCCTGTCCTGTAGAG M M K F T V V A A A L L L L G A V R A A D I E I V M T Q S P A T L S V S P G E R A T L S C R BiP Signal Peptide SCFV CCAGCCAGAGCGTGTCCAGAAACCTGGCCTGGTATCAGCAGAAGCCCGGCCAGGCTCCCAGACTGCTGATCTACGGCGCCCAGACACAAGAGCCACAGGCATCCCCGCTAGATTCAGCGGCTCTGGCAGCGGCACCGAGTT ASQSVSRNLAWYQQKPGQAPRLLIYGASTRATGIPARFSGSGSGTE SCFV CACCCTGACAATCGGCAGCCTGCAGAGCGAGGACTTCGCCGTGTACTACTGCCAGCAGTACAAGACCTGGCCCAGAACCTTCGGCCAGGCCACGTGGAAATCAAGGCTAGCGGCGGAGGCGGATCTGGCCGAAGGCT TLTIGSLQSEDFAVYYCQQYKTWPRTFGQGTNVEIKASGGGGSGG GGAAGTGGCGGGGGGGGGGGCGGGGGCGGAGGCTCTGAGCTCCAGGTGCAACTGCAGCAGTGGGGCGCTGGACTGCTGAAGCCTAGCGAAGCCTGAGCCTGAGCCTGACCTGAGCCTGCGCTGTGTTCGGCGGCAGCTTCTCCCGGCTACT G S G G G G G G G S E L Q V Q L Q Q W G A G L L K P S E T L S L T C A V F G G S F S G Y ACTGGTCCTGGATCAGACAGCCCCCTGGCAAGGGCCTGGAATGGATCGGCGAGATCAACCACAGAGGCAACACCAACGACAACCCCCAGCCTGAAGTCCAGAGTGACCATCAGCGTGGACACCAAGAACCAGTTCGC Y W S W I R Q P P G K G L E W I G E I N H R G N T N D N P S L K S R V T I S V D T S K N Q F A K L S S V T A A D T A V Y Y C A R E R G Y T Y G N F D H W G Q G T L V T V S S CD8 Hinge GTGATGTACTTCAGCAGCGTGGTGCCCCGTGCTGCAGAAAGTGAACAGCACCACCACCAAGCCTGTGCTGAGAACCCCCAGCCCTTGCGCACCATCTCAGCCCTACCGGCACATCTCAGCCCTAGAGGCCCCGAGGACTGCAGACCTAGAG V M Y F S S V V P V L Q K V N S T T T K P V L R T P S P V H P T G T S Q P Q R P E D C R P CD8 Hinge G S V K G T G F W A L V V V A G V L F C Y G L L V T V A L C V I W T N S R R N R L L Q S D Y M CD8 Hinge CD28 P F K K T T G A A Q E E D A 4-1BB R K P Y Q P Y A P A P W R K K F P H I F K Q P NMTPRRPGL TGTAGCTGCAGATGCCCTCAGGAAGAAGAGGGGGGGAGGCGGCGGATACGAACTGCAGCTGGCATGCAGAGCCAAGTTCTCCAGAAGCGCCGAGACTGCCCCAACCTGCAGGACCCTAACCAACTGTACAACGAGCTGA C S C R C P Q E E E G G G G Y E L Q L A C R A K F S R S A E T A A N L Q D P N Q L Y N E L ACCTGGGCAGACGGGAAGAGTACGACGTGCTGGAAAAGAAGAGAGCCAGGGACCCCGAGATGGGCGGCAAGCAGCAGAGAAGAAACCACCACGGAAGGCGTGTACAACGCCCTGCAGAAAGACAAGATGGCCGAGGC N L G R R E E Y D V L E K K R A R D P E M G G K Q Q R R R N P Q E G V Y N A L Q K D K M A E CD3ζ E I G T K G E R R R G K G H D G L Y Q C CD37 G L S T A T K D T Y D A L H M Q T L A P

Supplementary Figure S3. 5F9.m28BBz sequence.