

Supplementary Materials: Construction and Characterization of a Humanized Anti-Epstein-Barr Virus gp350 Antibody with Neutralizing Activity in Cell Culture

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DNA sequence S1. *Bam*HI-chimeric HC VR-*Sca*I

CCAGGGATCCATGGGATGGAGGTGGATCTTTCTCTCCTCCTGTCAGGAACTGCAGGTGTCC
ACTCTGAGGTCCAGCTGCAACAGTCTGGACCTGAACTGGTGAAGCCTGGAACCTCAATGAA
GATATCCTGCAAGGCTTCTGGTTCCTATTCACTGACTACACCATGAACTGGATGAAGCAGA
GCCATGGAAAGAACCTTGAGTGGATTGGACTTATTAATCCTTACAATGGTGGTACTAGGTAC
AACCAGAAAGTTCAAGGGCAAGGCCACATTAACCTTTAGACAAGTCATCCAGCACAGCCTAC
ATGGAGGTCTCAGTCTGACATCTGAGGACTCTGCAGTCTACTACTGTGCAGGGGGATTGCG
ACGGGTAAACTGGTTTGCTTACTGGGGCCAAGGGACTCTGGTCTCTGTCAGTACTCTGCA

DNA sequence S2. *Hind*III- chimeric 72a1 LC VR *Hinc*II

AAGCTTCCATGGCCTGGATTTCACTTATACTCTCTCCTGGCTCTCAGCTCAGGGGCCATTT
CCCAGGCTGTTTTGACTCAGGAATCTGCACTCACCACATCACCTGGTGAACAGTCACACTC
ACTTGTGCTCAAGCACTGGGGCTGTCACAACTAGCAACTATGCCAACTGGGTCCAAGAAA
AACCAGATCATTATTTCACTGGTCTAATAGGTGGTACCAACAACCGAGTTCAGGTGTTCT
GCCAGATTCTCAGGCTCCCTGATTGGAGACAAGGCTGCCCTCACCATCACAGGGGCACAGA
CTGAGGATGAGGCAATATATTTCTGTGTTCTATGGCACAGCAATCATTGGGTGTTCCGTGGA
GGAACCAAGTTAACTGACTGTCCTA

DNA sequence S3. *Bam*HI-human HC VR-*Sca*I

CCAGGGATCCATGGGGTGGCGCTGGATATTCCTTTCTTGCTTAGCGGCACTGCCGGGGTAC
ATTCCCAGGTCCAGCTGGTCCAATCTGGTGCCGAAGTTAAAAACCTGGTGCATCTGTGAA
GGTCAGCTGCAAGGCATCTGGTTCATCTTCACAGACTACACTATGAACTGGGTTCGCCAAG
CGCCCGGCCAGGGTTTGAATGGATGGGCCTGATAAACCCGTACAACGGTGGCACTCGGTA
TAACCAGAAATTTAAGGGCAGAGTCACAATGACCCGCGACACCTCCACCAGCACCGTGTAT
ATGGAAGTGTCTCTCTGCGGTCCGAGGACACAGCGGTGTACTATTGCGCTGGAGGGCTCC
GGCGCGTCAACTGGTTTGCTATTGGGGCCAAGGCACACTTGTAGCGTGAGTACTCTGCA

DNA sequence S4. *Hind*III-human LC VR-*Hinc*II

AAGCTTCCATGGCGTGGATTTCACTTATGATCCTTTCTCTGCTCGCGCTGTCATCTGGTGCTATAT
CTCAGACGGTTGTACCCAAGAGCCTTCCCTGACAGTGTCTCCGGGGGGTACGGTAACGCT
GACTTGCAGATCATCTACGGGCGCAGTAACTACATCCAACCTATGCGAATTGGTTTCAACAG
AAGCCCGGTCAAGCCCCGCGCACCTTGATAGGGGGCACAAACAACCGAGTTCGGGGGGT
CCGGATCGGTTTTCTGGCAGTATACTTGGGAATAAGGCCGCACTGACAATTACAGGGGCAC
AGGCCGATGATGAGTCCGACTACTATTGCGTCTGTGGCACTCTAATCATTGGGTGTTGGT
GGTGAACCAAGTTAACTCACTGCTCT

Sequence S5. Gp350 no splice optimized sequence

CCTGCAAGTACTGGCCCCACTGTAAGTACCGCCGACGTAACGTCTCCACACCAGCGGGGA
CAACATCCGGCGCCTCTCCCGTGAATCCATCCCCATCCCCCTGGGACAACGGAACAGAGTC
TAAGGCACCAGATATGACCAGCAGCACATCTCCCGTAACGACGCCTACGCCCAATGCCACG
TCTCCTACACCGGCTGTAACCTACCCCAACGCGAACCTCCCCGACTCCCGCGGTGA
CGACCCCTACCCCGAATGCTACAAGCCCAACATTGGGAAAGACCTCACCTACTTCTGCTGTT

ACGACGCCAACGCCGAACGCAACTTCACCCACCCTGGGTAAGACAAGTCCCACGTCAGCT
 GTCACCACTCCAACCCCCAATGCCACTTCCCCGACTCTCGGGAAAACAAGTCCTACCTCTGC
 AGTTACTACACCCACTCCAAACGCAACGGGACCAACGGTGGGCGAAACCAGTCCACAAGC
 GAACGCCACCAACCACACGCTGGGCGGTACCTCACCGACACCAGTAGTCACATCCCAACCT
 AAGAACGCGACCTCCGCGGTCACTACCGGCCAACATAACATTACATCCTCCAGCACTTCAT
 CTATGTCATTGCGGCCGTCTTCCAACCCTGAAACTCTTTCCCCTAGTACAAGCGATAATTCTA
 CTAGCCATATGCCGCTCTTGACATCCGCCCACCCAACGGGCGGGGAAAACATTACACAGGT
 GACCCACGCTTCCATAAGCACACACCATGTGAGCACCAGCAGTCCAGAACCTCGCCCTGGG
 ACGACGTCCCAGGCGAGTGGACCAGGCAACTCATCTACCTCTACAAAACCTGGTGAAGTCA
 ACGTGACAAAAGGCACTCCGCCCCAGAATGCAACGAGTCCACAGGCCCTAGCGGACAGA
 AAAGTCCCGTTCCAAGTGAAGTCTACCGGGGGAAAAGCGAACTCAACTACAGGAGGAA
 AGCACACTACAGGGCATGGGGCAAGGACCAGCACAGAACCGACTACTGATTATGGAGGGG
 ATAGCACGACGCCAGGCCAGATACAACGCAACCACTTATCTTCCACCCTCAACGTCAAG
 TAAGCTCAGGCCGAGGTGGACGTTACGAGTCCACCCGTAAGTACCGCCCAAGCTACAGTT
 CCAGTCCCGCTACCTCACAACCCCGATTGAGCAATTTGTCTAACCTCTCCATGGCTAGTAC
 TGGAGGT

Sequence S6. EBV gp350 LVL-thrombin recognition site GG-LTPRGVRL-GG and a 6xHis-tag HHHHHH -G coding sequence flanked by *ScaI* and *XbaI* restriction sites

agtactGGGAGGCTTAACACCAAGAGGTGTAAGACTAGGTGGACATCACCATCACCACCATGG
 GTGATAGGGtctagacc

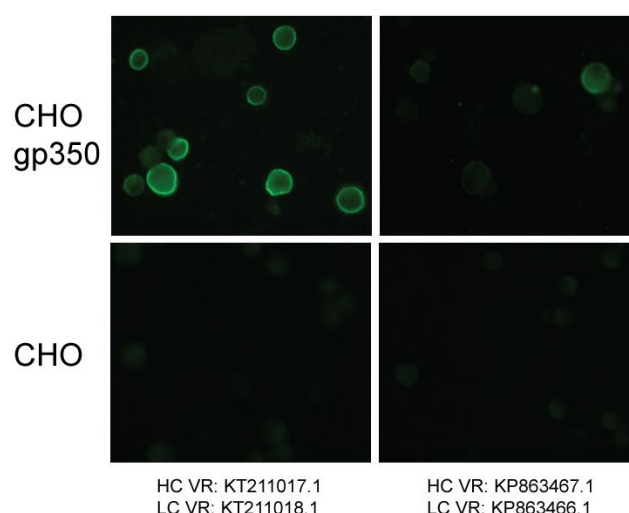


Figure S1. Chimeric 72a1 reactivity to gp350 expressed on the surface of CHO cell clone 5.20 (CHO gp350) or parental CHO-K1 cell line (CHO). Chimeric 72a1 antibody was constructed from GenBank heavy and light chain variable regions KT211017.1 and KT211018.1 (left column) or GenBank KP863467.1 and KP863466.1 (right column). Ch72a1 antibody was detected with biotinylated affinity-pure goat anti-human serum and DTAF-streptavidin.

