

A) pGag DNA Insert Sequence

GGATCCGCCGCCACCATTGGACTTGGATCTTATTTTAAAGTTGCTGCTGCTACTAGAGTTCATTCTGGTGCAGAGCGTCCGGTATTAGCGGGGGAATAGATAAATGGAAAAATTCG
GTTAAGGCCAGGGGGAAGAAACAATATAAACTAAAACATATAGTATGGCAAGCAGGGAGCTAGAACGATTCCGAGTTAATCCTGGCCTTTAGAGACATCAGAAGGCTGTAGACAAATACTGG
GACAGCTACAACCATCCCTTCAGACAGGATCAGAAGAACTTAGATCATATATAAATAAGCATAGCAGTCCCTTATTGTGTGCATCAAAGGATAGATGAAAAGACACCAAGGAAGCCTTAGATAAGATA
GAGGAAGAGCAAAACAAAGTAAGAAAAGGCACAGCAAGCAGCAGCTGACACAGAAACAACAGCCAGGTCAGCCAAAATACCCTATAGTGCAGAACCTCCAGGGGCAATGGTACATCAG
GCCATATCACCTAGAACTTTAAATGCATGGTAAAAGTAGTAGAAGAGAAGGCTTTAGCCAGAAAGTAATACCCATGTTTTAGCATTATCAGAAGGAGCCACCCCAAGATTTAAATACCATGC
TAAACACAGTGGGGGACATCAAGCAGCCATGCAAAATGTAAAAGAGACCATCAATGAGGAAGCTGCAAGAAATGGGATAGATTGCATCCAGTGCATGCAGGGCCTATTGCACCAGGCCAGATGAG
AGAACCAGGGGAAGTGACATAGCAGGAACCTACTAGTACCCCTTCAGGAACAATAAGGATGGATGACACATAATCCACCTATCCAGTAGGAGAAATCTATAAAAGATGGATAATCCTGGGATTAAT
AAAATAGTAAGAAATGATAGCCCTACCAGCATTCTGGACATAAGACAAGGACCAAAAGGAACCTTTAGAGACTATGTAGCCGATTCTATAAAACTCTAAGAGCCGAGCAAGCTTCACAAGAGGTA
AAAATTTGGATGACAGAACTTGTGGTCCAAAATGCGAACCCAGATTGTAAGACTATTTAAAAGCATTGGGACCAAGGAGCGACACTAGAAGAAATGATGACAGCATGTCAGGGAGTGGGGG
GACCCGGCCATAAAGCAAGATTTTGGCTGAAGCAATGAGCCAAGTAACAAATCCAGCTACCATAATGATACAGAAAGGCAATTTAGGAACCAAGAAAGACTGTTAAGTGTTCATTTGGCA
AAGAAGGCCACATAGCCAAAATTCAGGGCCCTAGGAAAAGGGCTGTTGGAATGTGGAAGGAAGGACACCAATGAAAGATTGTACTGAGAGACAGGCTAATTTTTAGGGAGATCTG
GCCTTCCACAAGGGAAAGGCCAGGGAATTTCTTACAGAGCAGACCAGAGCCAACAGCCCAACAGAAAGAGAGCTTACAGGTTGGGGAAGAGACAACAACCTCCCTCAGAAAGCAGGAGCCGA
TAGACAAGGAATGTATCCTTTAGCTCCCTCAGATCACTTTTGGCAGCGACCCCTCGTCAAAATACCCATACCGACTACGCTTAACTCGAG

B) pA27L DNA Insert Sequence

AAGCTTCCGCCACCATTGGACTTGGATCTTCTTCTGGTGGCCGCTGCCACAAGAGTGACAGCGACGGAACCTTTTCCCGGAGATGACGATCTTCAAATCCAGCAACTGAATTT
TTTTTACAAAAGCTGCTAAAAGCCAGAGGCTAAACGCGAAGCAATTTTAAAGCCGATGAAAGACCAATGAGGAACTCTCAAACACCGCTAACTAATTTGAAAAAAGATTACTAATGTA
ACAACAAGTTTGAACAATAGAAAAGTGTGTAAGCGCAACGATGAAGTTCTATTAGTTGGAAAATCAGCTGAAACTTAAAGAGCGGCTATGATATCTGGTAAAAAGATTGATGTTCAGA
CTGGACGGCCCATATGACTACCCATACCGACTACGCTTAACTCGAG

C) pOD1A27Lopt DNA Insert Sequence

GGATCCGCCGCCACCATTGGACTTGGATCTTATTTTAAAGTTGCTGCTGCTACTAGAGTTCATTCTAATGGCAGTCTAGCAGAAGAAGAGATAGTAATTAGATCTGAAAATTCACAAAACAAT
GGCAGTCTAGCAGAAGAAGAGATAGTAATTAGATCTGAAAATTCACAAAACAATGCTAAAACATAATAGTACAGCTGAACGAATCTGTAGTAATTAATGTACAAGACCCAAACAATACAGAAA
AAGTATAAATATAGGACCAGGGAGAGCATTTGTATACAACAGGAGAAATAATGAGGATATAAGACAAGCATTGTAACTTAGTAAAACACAATGGGAAAACACTTTAGAACAGATAGCTATAAAT
AAAAGAACAATTTGGGAATAATAAAAACAATAATCTTTAATCCATCTCAGGAGGGGACCCAGAATTTAACAACACAGTTTTAATTTGGGAGGGGAATTTTCTACTGTAATCAACACAAGTGT
CTTGGAAATGATACTAGAAAAGTAAATAACACTGGAAGAAATATCACACTCCATGTAGAATAAAAACAATATAAATATGTGGCAGGAAGTAGGAAAAGCAATGTATGCCCTCCCATCAGAGGACAA
ATTAGATGTTTCATCAAATATACAGGGCTGCTATTAACAAGAGATGGTGGTAAGGACACGAAACGGGACTGAGATCTTACAGACTGGAGGAGGAGATAGAGGGACAATTTGGAGAAGTGGCGCCG
GCGCCGGCCGACGGAACCTTTTCCCGGAGATGACGATCTTGAATTCAGCAACTGAATTTTTTCTACAAGGCTGCTAAAAGGCCAGAGGCTAAACGCGAAGCAATGTTAAAGCCGA
TGAAGCAGCAATGAGGAACTCTCAAACAACGGCTAACTAATTTGAAAAAAGATTACTAATGTAACAACAAGTTTGAACAAATAGAAAAGTGTGTAACGCAACGATGAAGTTCTATTAGG
TTGAAAATCAGGCTGAACTCTAAGAGCGGCTATGATATCTCGCTAAAAGATTGATGTTAGACTGACGCGCCCATATGACTACCCATACCGACTACGCTTAACTCGAG

S1 File. Antigen DNA Sequence Constructs A) DNA sequence of pGag. Green and Blue nitrogen bases correspond to BamHI and XhoI restriction sites, respectively. Kozak sequence is represented by purple color, while orange is for IgE leader sequence. Black and pink colors were assigned to Gag and HA tag sequences, respectively. B) DNA sequence of pA27L. Green and Blue nitrogen bases correspond to HindIII and NotI restriction sites, respectively. Kozak sequence is represented by purple color, while orange is for IgE leader sequence. Black and pink colors were assigned to A27L and HA tag sequences, respectively. C) DNA sequence of pOD1A27Lopt. Green and Blue nitrogen bases correspond to BamHI and NotI restriction sites, respectively. Kozak sequence is represented by purple color, while orange is for IgE leader sequence. Black and pink colors were assigned to OD1 and HA tag sequences, respectively. A27Lopt sequence is gray-highlighted.