

Supplementary Materials

PV1 SC6b P1 Sequence

ATGGGAGCTCAGGTTTCATCACAGAAAGTGGGCGCACATGAAAAC TCAAATGGAGCGTATGGTGGTTC
TACCATTAATTACACCACCATTAATTATTATAGAGATTGAGCTAGTAACGCGGCTTCGAAACAGGACT
TCTCTCAAGACCC TTCCAAGTTCACCGAGCCCATCAAGGATGTCCTGATAAAAACAGCCCCAATGCTA
AACTCGCCAAACATAGAGGCTTGCGGGTATAGCGATAGAGTACTGCAATTAACACTGGGAAACTCCAC
TATAACCGCACAGGAGGCGGCTAATTCAGTAGTCGCTTATGGGCGTTGGCCTGAATATCTGAGGGACA
GCGAAGCCAATCCAGTGGACCAGCCGACAGAACCAGAAGTTCGCTGCATGCAGTTTTTATACGCTAGAC
ACCGTGTCTTGACGAAAGAGTTCGCGAGGGTGGTGGTGGAAAGTTGCCTGATGC ACTGAGGGACATGGG
ACTCTTTGGGCAAAAATATGTACTACCACTACCTAGGTAGGTCCGGGTACACCGTGCATGTACAGTGTA
ACGCCTCCAAATTCACCAGGGGGGCACTAGGGGTATTTCGCCGTACCAGAGATGTGTCTGGCCGGGGAT
AGCAACACCACTACCATGCACACCAGCTATCAAATGCCAATCCTGGCGAGAAAGGAGGCAC TTTTAC
GGGTACGTTCACTCCTGACAACAACCAGACATCACCTGCCCGCAGGTTCTGCCCGGTGGATTACCTCC
TTGGAAATGGCACGTTGTTGGGGAATGCCTTTGTGTTCCCGCACCAGATAATAAACCTACGGACCAAC
AACTGTGCTACACTGGTACTCCCTTACGTGAATCCCTCTCGATAGATAGTATGGTAAAGCACAATAA
TTGGGGAATTGCAATATTACCATTTGGCCCCATTAATTTTGTCTAGTGAGTCCCTCCCCAGAGATTCCAA
TCACCTTGACCATAGCCCCTATGTGCTGTGAGTTCAATGGATTAAGAAAACATCACCTGCCACGCTTA
CAGGGCCTGCCGGTCATGAACACCCCTGGTAGCAATCAATATCTTACTGCAGACA ACTTCCAGTCACC
GTGTGCGCTGCCTGAATTTGATGTGACCCACCTATTGACATACCCGGTGAAGTAAAGAACATGATGG
AATTGGCAGAAATCGACACCATGATTCCCTTTGACTTAAGTGCCACAAAAAAGAACACCATGGAAATG
TATAGGGTTTCGGTTAAGTGACAAAACCACATACAGACGATCCCATACTCTGCCTGTC ACTCTCTCCAGC
TTCAGATCCTAGTGTGTACATACTATGCTTGGAGAAATCCTAAATTACTACACACACTGGGCAGGAT
CCCTGAAGTTCACGTTTATGTTCTGTGGATCCATGATGGCAACTGGCAAAC TGTGGTGTGCATACGCG
CCTCCTGGAGCCGACCCACCAAAGAAGCGTAAGGAGGCGATGTTGGGAACACATGTGATCTGGGACAT
AGGACTGCAGTCCCTCATGTACTATGGTAGTGCCATGGATTAGCAACACCACGTATCGGCTAACCATAG
ATGATAGTTTTACCGAAGGCGGATACATCAGCGTCTTCTACCAAAC TAGAATAGTCGTCCCTCTTTTCG
ACACCCAGAGAGATGGACATCCTTGGTTTTGTGTGTCAGCGTGAATGACTTCAGCGTGCCTTGTGCG
AGATACCACACATATAGAGCAAAAAGCGCTAGCACAGGGGTTAGGTCAGATGCTTGAAAGCATGATTG
ACAACACAGTCCGTGAAACGGTGGGGGCGGCAACATCTAGAGACGCTCTCCCAAACACTGAAGCCAGT
GGACCAACACACTCCAAGGAAAATCCGGCACTCACCGCAGTGGAAACTGGGGCCACAAA TCCACTAGT
CCCTTCTGATACAGTGCAAACCAGACATGTTGTACAACATAGGTCAAGGTCAGAGTCTAGCATAGAGT
CTTTCTTCGCGCGGGGTGCATGCGTGACCATTATGACCGTGGATAACCCAGCTTCCACCACGAATAAG
GATAAGCTATTTGCAGTGTGGAAGATCACTTATAAAGATACTGTCCAGTTACGGAGGAAAATTGGAGTT
CTTCACCTATTCTAGATTTGATATGGAACCTTACCTTTGTGGTTACTGCAAAATTTCACTGAGACTAACA
ATGGGCATGCCTTAAATCAAGTGTACCAAATTTATGTACGTACCACCAGGCGCTCCAGTGC CCGAGAAA
TGGGACGACTACACATGGCAAACCTCATCAAATCCATCAATCTTTTACACCTACGGAACAGCTCCAGC
CCGATCTCGGTACCGTATGTTGGTATTTTGAACGCCTATTCACACTTTTACGACGGTTTTTTCCAAAG
TACCACTGAAGGACCAGTCGGCAGCACTAGGTGACTCCCTTTATGGTGCAGCATCTCTAAATGACTTC
GGTATTTTGGCTGTTAGAGTAGTCAATGATCCCAACCCGACCAAGGTCACCTCCAAAATCAGAGTGTA
TCTAAAACCCAAACACATCAGAGTCTGGTGGCCGCTCCACCGAGGGCAGTGGCGTACTACGGCCCTG
GAGTGGATTACAAGGATGGTACGTTACACCCCTCTCCACCAAGGATCTGACCACATATTAG

PV1 SC6b 6xHIS P1 Sequence

ATGGGAGCTCAGGTTTCATCACAGAAAGTGGGCGCACATGAAAACCTCAAATGGAGCGTATGGTGGTTC
TACCATTAATTACACCACCATTAATTATTATAGAGATTAGCTAGTAACGCGGCTTCGAAACAGGACT
TCTCTCAAGACCCCTCCAAGTTCACCGAGCCCATCAAGGATGTCCTGATAAAAACAGCCCCAATGCTA
AACTCGCCAAACATAGAGGCTTGCGGGTATAGCGATAGAGTACTGCAATTAACACTGGGAAACTCCAC
TATAACCGCACAGGAGGCGGCTAATTCAGTAGTCGCTTATGGGCGTTGGCCTGAATATCTGAGGGACA
GCGAAGCCAATCCAGTGGACCAGCCGACAGAACCAGAAGTCGCTGCATGCAGGTTTTATACGCTAGAC
ACCGTGTCTTGGACGAAAGAGTCGCGAGGGTGGTGGTGGAAAGTTGCCTGATGCACTGAGGGACATGGG
ACTCTTTGGGCAAAAATATGTACTACCACTACCTAGGTAGGTCCGGGTACACCGTGCATGTACAGTGTA
ACGCCTCCAAATTCACCAGGGGGCACTAGGGGTATTTCGCCGTACCAGAGATGTGTCTGGCCGGGGAT
AGCAACACCACTACCATGCACACCAGCTATCAAAATGCCAATCCTGGCGAGAAAGGAGGCACCTTCAC
GGGTACGTTCACTCCTGACAACAACCAGACATCACCTGCCCGCAGGTTCTGCCCGGTGGATTACCTCC
TTGGAAATGGCACGTTGTTGGGGAATGCCTTTGTGTTCCCGCACCAAGATAATAAACCTACGGACCAAC
AACTGTGCTACACTGGTACTCCCTTACGTGAACCTCCCTCTCGATAGATAGTATGGTAAAGCACAATAA
TTGGGGAATTGCAATATTACCATTGGCCCCATTAATTTTTGCTAGTGAGTCTCCCCAGAGATTCCAA
TCACCTTGACCATAGCCCCTATGTGCTGTGAGTTCAATGGATTAAGAAACATCACCCCTGCCACGCTTA
CAGGGCCTGCCGGTCATGAACACCCCTGGTAGCAATCAATATCTTACTGCAGACAACCTCCAGTCACC
GTGTGCGCTGCCTGAATTTGATGTGACCCACCTATTGACATACCCGGTGAAGTAAAGAACATGATGG
AATTGGCAGAAATCGACACCATGATTCCCTTTGACTTAAGTGCCACAAAAAAGAACACCATGGAAATG
TATAGGGTTCGGTTAAGTGACAAACCACATACAGACGATCCCATACTCTGCCTGTCACTCTCTCCAGC
TTCAGATCCTAGGTTGTACATACTATGCTTGGAGAAATCCTAAATTACTACACACACTGGGCAGGAT
CCCTGAAGTTCACGTTTATGTTCTGTGGATCCATGATGGCAACTGGCAAACTGTTGGTGTACATACGG
CCTCCTGGAGCCGACCCACCAAAGAAGCGTAAGGAGGCGATGTTGGGAACACATGTGATCTGGGACAT
AGGACTGCAGTCCCTCATGTACTATGGTAGTGCCATGGATTAGCAACACCACGTATCGGCTAACCATAG
ATGATAGTTTTACCGAAGGCGGATACATCAGCGTCTTCTACCAAAGTAGAATAGTCGTCCCTCTTTTCG
ACACCCAGAGAGATGGACATCCTTGGTTTTGTGTGACGCTGTAATGACTTCAGCGTGCCTTGTTCGG
AGATACCACACATATAGAGCAAAAAGCGCTAGCACAGGGGTTAGGTGAGATGCTTGAAAGCATGATTG
ACAACACAGTCCGTGAAACGGTGGGGGCGCAACATCTAGAGACGCTCTCCCAAACACTGAAGCCAGT
GGACCAACACACTCCAAGGAAATTCGGCACTCACCGCAGTGGAAACTGGGGCCACAAATCCACTAGT
CCCTTCTGATACAGTGCAAACCAGACATGTTGTACAACATAGGTCAAGGTCAGAGTCTAGCATAGAGT
CTTTCTTCGCGCGGGGTGCATGCGTGACCATTATGACCGTGGATAAACCAGCTTCCACCACGAATAAG
GATAAGCTATTTGCAGTGTGGAAGATCACTTATAAAGATACTGTCCAGTTACGGAGGAAATTTGGAGTT
CTTACCTATTCTAGATTTGATATGGAACCTACCTTTGTGGTTACTGCAAATTTCACTGAGACTAACA
ATGGGCATGCCTTAAATCAAGTGTACCAAATATGTACGTACCACCAGGCGCTCCAGTGGCCGAGAAA
TGGGACGACTACACATGGCAAACCTCATCAAATCCATCAATCTTTTACACCTACGGAACAGCTCCAGC
CCGGATCTCGGTACCGTATGTTGGTATTTTGAACGCCTATTCACACTTTTACGACGGTTTTTCCAAAG
TACCACTGAAGGACCAGTCGGCAGCACTAGGTGACTCCCTTTATGGTGCAGCATCTCTAAATGACTTC
GGTATTTTGGCTGTTAGAGTAGTCAATGATCCCAACCCGACCAAGGTCACCTCCAAAATCAGAGTGTA
TCTAAAACCCAAAACACATCAGAGTCTGGTGGCCGCTCCACCGAGGGCAGTGGCGTACTACGGCCCTG
GAGTGGATTACAAGGATGGTACGTTACACCCCTCTCCACCAAGGATCTGACCACATATCATCACCAT
CACCATCACTAG

PV1 3CD *Pichia*-optimised Sequence

ATGGGGCCTGGGTTTACTATGCAGTAGCCATGGCCAAGAGAAACATTGTTACAGCAACTACATCCAA
AGGTGAGTTCACAATGTTGGGTGTTTCATGATAATGTTGCAATTTTACCAACTCACGCTTCACCAGGCG
AATCAATTGTCATTGATGGGAAGGAGGTGGAGATACTAGACGCTAAAGCTTTAGAGGATCAGGCCGGC
ACCAACTTAGAAATCACCATTATCACATTA AAAAGAAAACGAAAAATTCCGAGACATCAGACCACACAT
TCCTACTCAGATTACTGAGACAAAACGATGGGGTCTTGATTGTCAATACGTCTAAGTATCCCAATATGT
ATGTTCCAGTTGGAGCTGTAACAGAGCAAGGGTACTTAAACTTGGGTGGTAGACAGACTGCCAGAACT
CTTATGTACAACCTTTCCTACAAGAGCTGGTCAGTGCAGTGGAGTGATTACCTGCACAGGAAAGGTCAT
TGGTATGCACGTTGGTGGTAATGGTTCCCACGGTTTCGCTGCCGCTTTGAAGCGTTCCTATTTTACTC
AATCCTCCCAAGGAGAGATCCAGTGGATGAGACCCTCTAAAGAGGTTGGCTATCCCATAATTAACGCC
CCTTCTAAGACTAACTTGAGCCATCTGCCTTTCATTATGTCCTTGAAGGCGTCAAAGAACCCGCAGT
GTTGACTAAGAATGACCCTAGATTGAAAACGGATTTTGAGGAGGCCATATTTTCTAAATATGTCGGTA
ACAAGATTACCGAAGTTGATGAATACATGAAGGAAGCCGTTGACCATTATGCTGGACAGTTGATGTCT
TTGGACATTAACACTGAGCAGATGTGCCTTGAAGATGCTATGTACGGTACTGATGGTCTGGAAGCTTT
AGATCTGAGTACCTCTGCTGGTTATCCATATGTCGCTATGGGTAAGAAGAAAAGAGATATTTCTGAATA
AACAACTAGAGATACTAAGGAAATGCAAAAGCTGTTGGACACATACGGGATCAATCTTCCTTTGGTG
ACCTATGTAAAAGATGAGCTAAGGTCTAAGACAAAGGTTGAACAGGGTAAGTCTCGATTAATTGAAGC
ATCTTCACTTAATGATTCTGTAGCAATGAGGATGGCCTTTGGTAACCTTTATGCTGCCTTCCATAAAA
ACCCAGGCGTGATCACGGGATCTGCTGTGCGTTGCGATCCCGATTTGTTTTGGTCCAAAATCCCTGTG
CTAATGGAGGAGAAGTTATTTGCCTTTGACTACACTGGCTATGACGCATCATTATCTCCAGCATGGTT
CGAAGCCTTGAAAATGGTCCTTGAGAAGATAGGCTTTGGAGATAGAGTAGATTACATTGATTATTTGA
ATCACTCTCATCATTTATATAAGAATAAGACTTACTGTGTTAAGGGTGGAATGCCTTCTGGTTGTTCC
GGGACATCCATTTTCAATAGTATGATCAACAACCTTGATCATAAGAACATTGCTGCTTAAAACGTACAA
GGGTATTGATCTAGATCACTTGAAAATGATCGCTTACGGTGACGATGTCATCGCTTCCATCCTCACG
AAGTCGACGCATCTCTTCTTGCCAGAGTGGAAAAGATTACGGACTAACCATGACTCCAGCAGACAAG
AGTGCTACTTTTGAACCGTGACATGGGAAAACGTGACTTCTTGAAGAGGTTTTTTTAGAGCCGACGA
AAAAATACCCATTTCTAATACACCCCGTCATGCCTATGAAGGAAATTCACGAGTCTATCCGTTGGACGA
AAGACCCACGTAACACTCAGGATCATGTGAGGTCTCTATGTCCTATTAGCTTGGCACAATGGTGAAGAG
GAGTACAATAAATTCCTTGCAAAGATCAGAAGTGTTCCTATAGGACGTCATTGTTGTTGCCAGAATA
TTCCACCCTGTACCGTAGATGGCTAGACTCTTTTTAG

PV1 SC6b VP0

ATGGGAGCTCAGGTTTCATCACAGAAAGTGGGCGCACATGAAAAC TCAAATGGAGCGTATGGTGGTTC
TACCATTAATTACACCACCATTAATTATTATAGAGATTCAGCTAGTAACGCGGCTTCGAAACAGGACT
TCTCTCAAGACCC TTC AAGTTCACCGAGCCCATCAAGGATGTCCTGATAAAAACAGCCCCAATGCTA
AACTCGCCAAACATAGAGGCTTGC GGGTATAGCGATAGAGTACTGCAATTAACACTGGGAAACTCCAC
TATAACCGCACAGGAGGCGGCTAATTCAGTAGTCGCTTATGGGCGTTGGCCTGAATATCTGAGGGACA
GCGAAGCCAATCCAGTGGACCAGCCGACAGAACCAGAAGTCGCTGCATGCAGTTTTTATACGCTAGAC
ACCGTGTCTTGGACGAAAGAGTCGCGAGGGTGGTGGTGGAAAGTTGCCTGATGC ACTGAGGGACATGGG
ACTCTTTGGGCAAAATATGTACTACCACTACCTAGGTAGGTCCGGGTACACCGTGCATGTACAGTGTA
ACGCCTCCAAATTCACCAGGGGGCACTAGGGGTATTCCCGGTACCAGAGATGTGTCTGGCCGGGGAT
AGCAACACCACTACCATGCACACCAGCTATCAAATGCCAATCCTGGCGAGAAAGGAGGCAC TTTTCAC
GGGTACGTTCACTCCTGACAACAACCAGACATCACCTGCCCGCAGGTTCTGCCCGGTGGATTACCTCC
TTGGAAATGGCACGTTGTTGGGGAATGCCTTTGTGTTCCCGCACCAGATAATAAACCTACGGACCAAC
AACTGTGCTACACTGGTACTCCCTTACGTGAACCTCCTCTCGATAGATAGTATGGTAAAGCACAATAA
TTGGGGAATTGCAATATTACCATTGGCCCCATTAATTTTGCTAGTGAGTCTCCCCAGAGATTCCAA
TCACCTTGACCATAGCCCCTATGTGCTGTGAGTTC AATGGATTAAGAAACATCACCTGCCACGCTTA
CAG

PV1 SC6b VP3

GGCCTGCCGGT CATGAACACCCCTGGTAGCAATCAATATCTTACTGCAGACAACTTCCAGTCACCGTG
TGCGCTGCCTGAA TTTGATGTGACCCACCTATTGACATACCCGGTGAAGTAAAGAACATGATGGAAT
TGGCAGAAATCGACACCATGATTCCTTTGACTTAAGTGCCACAAAAAGAACACCATGGAAATGTAT
AGGGTTCGGTTAAGTGACAAACCACATACAGACGATCCCATACTCTGCCTGTCACTCTCTCCAGCTTC
AGATCCTAGGTTGTCACATACTATGCTTGGAGAAATCCTAAATTA CTACACACACTGGGCAGGATCCC
TGAAGTTCACGTTTATGTTCTGTGGATCCATGATGGCAACTGGCAA ACTGTTGGTGT CATACGCGCCT
CCTGGAGCCGACCCACCAAGAAGCGTAAGGAGGCGATGTTGGGAACACATGTGATCTGGGACATAGG
ACTGCAGTCCCTCATGTACTATGGTAGTGCCATGGATTAGCAACACCACGTATCGGCTAACCATAGATG
ATAGTTTCACCGAAGGCGGATACATCAGCGTCTTCTACCAA ACTAGAATAGTCGTCCCTCTTTTCGACA
CCCAGAGAGATGGACATCCTTGGTTTTGTGTCAGCGTGTAATGACTTCAGCGTGCCTTGTTCGAGA
TACCACACATATAGAGCAAAAAGCGCTAGCACAG

PV1 SC6b VP1

GGGTTAGGTCAGATGCTTGAAAGCATGATTGACAACACAGTCCGTGAAACGGTGGGGGCGGCAACATC
TAGAGACGCTCTCCCAAACACTGAAGCCAGTGGACCAACACACTCCAAGGAAATTCGGCACTCACCG
CAGTGGAAACTGGGGCCACAAA TCCACTAGTCCCTTCTGATACAGTGCAAACCAGACATGTTGTACAA
CATAGGTCAAGGTCAGAGTCTAGCATAGAGTCTTTCTTCGCGCGGGGTGCATGCGTGACCATTATGAC
CGTGGATAACCCAGCTTCCACCACGAATAAGGATAAGCTATTTGCAGTGTGGAAGATCACTTATAAAG
ATACTGTCCAGTTACGGAGGAAATTTGGAGTTCCTTACCTATTCTAGATTTGATATGGAAC TTAACCTTT
GTGGTTACTGCAAATTTCACTGAGACTAACAATGGGCATGCCTTAAATCAAGTGTACCAAATTTATGTA
CGTACCACCAGGCGCTCCAGTGCCCGAGAAATGGGACGACTACACATGGCAAACCTCATCAAATCCAT
CAATCTTTTACACCTACGGAACAGCTCCAGCCCGGATCTCGGTACCGTATGTTGGTATTTTCGAACGCC
TATTCACACTTTTACGACGGTTTTTCCAAAGTACCACTGAAGGACCAGTCGGCAGCACTAGGTGACTC
CCTTTATGGTGCAGCATCTCTAAATGACTTCGGTATTTTGGCTGTTAGAGTAGTCAATGATCCCAACC
CGACCAAGGTACCTCCAAAATCAGAGTGTATCTAAAACCCAAACACATCAGAGTCTGGTGGCCGCGT
CCACCGAGGGCAGTGGCGTACTACGGCCCTGGAGTGGATTACAAGGATGGTACGCTTACACCCCTCTC
CACCAAGGATCTGACCACATAT

GSG-Porcine Teschovirus 2A

GGAAGCGGAGCTACTAACTTCAGCCTGCTGAAGCAGGCTGGAGACGTGGAGGAGAACCCTGGACCT