

Supplementary Information

Cell-free protein synthesis of norovirus virus-like particles

Jiayuan Sheng^a, Shaohua Lei^b, Lijuan Yuan^b and Xueyang Feng^{a*}

- a. Department of Biological Systems Engineering, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061
- b. Department of Biomedical Sciences and Pathobiology, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061.

* To whom correspondence should be addressed. X.F: Phone: (540) 231-2974. E-mail:

xueyang@vt.edu.

Table 1S Sequences of the constructs used in this study.

Name	Sequence (5'-3')
VP1-GII.3	ATGTCGGTTCTCATCATCATCATCATATAGCAGCGGCATCGAAGGCCGCGCCGCTTAATTAA AACCATGGCAAAGTCGACTAAGATGGCGTCGAATGACGCCGCTCCATCTAATGATGGTGCCGCCG GCCTCGTCCCAGAGATCAACAGTGAGGCGATGGCGCTAGAGCCAGTGGCGGGTGCAGCGATAGC AGCACCCCTCACTGGTCAGCAAAAATAAATTGATCCCTGGATTATGAATAATTTTGTGCAAGCAC CTGGTGGTGAGTTCACAGTATCCCCTAGAAAATCCCCTGGTGAAGTTCTTCTCAATTTGGAATTGG GTCCAGAAAATAATCCCTACTTGGCCCATCTTGCTAGAATGTATAATGGTTATGCAGGTGGATTG AAGTGCAGGTGGTCTAGCTGGAAATGCGTTTACAGCAGGAAAGATAATCTTTGCAGCTATTCCC CCTAATTTCCAATTGATAATCTAAGTGCAGCACAGATACAATGTGTCCACATGTGATTGTGGAT GTTAGACAGCTGGAACCAGTCAACCTCCCGATGCTGACGTTGCAATAACTTTTCCATTATAAT CAGGGGTCTGATTGAGATTGCGCCTAATTGCAATGCTATATACACCTCTTAGGGCAAATAACTCT GGGGATGATGTCTTCACTGTGTCTTGACAGAGTGCTAACTAGACCTAGTCCCTGATTTCTCATTTAAT TTCCTTGTGCCACCCACTGTGGAGTCAAAGACAAAACCCTTTTCCCTCCCACTTAACTATCTCT GAAATGTCCAATTCTAGTTCCAGTACCAATTGATTCTCTGCACACCAGCCCTACTGAGAACATT GTTGTCAGTGCCAGAATGGACGCGTCACCCCTTGATGGTGAGTTGATGGGCACCACCCAACCTTT ACCTAGCCAAATCTGTGCTTTCAGGGGCATGCTCACCAGATCAACAAGCAGGGCCAGTGACCAGG CCGATACAGCAACCCCTAGATTGTTAATTATTATTGGCATATACAATTGGATAACCTAAATGGA ACTCCTTATGACCCTGCAGAAGATATACCAGGCCCTTAGGGACACCAGATTTCCGGGGCAAAGT CTTTGGCGTGGCCAGCCAGAGAAATCCTGATGCCACGACTAGGGCAGTGAAGCAAAGATAGAC ACAACATCTGGCCGCTTACCCCAAAATTAGGCTCACTAGAGATTTCCACTGAGTCTGGAGATTTT GATCAAAACCAACCAACAAGATTCACCCAGTTGGCATTGGGGTTGACCATGAGGCAGATTTTCA ACAATGGACTCTTCCCGACTATGCTGGCCAGTTCACCCACAACATGAACCTAGCCCCAGCTGTGTC TCCCAACTTCCCTGGTGAGCAGTCTTTTCTCCGCTCACAGTTGCCATCTTCTGGTGGGCGGTCC AACGGGATTCTAGACTGCCTGGTCCCCAAGAATGGGTACAGCACTTCTACCAAGAATCAGCCCC CTCCAAACTCAAGTGGCCCTGGTTAGGTATGTCAACCCTGACACTGGTAGAGTGCTATTTGAGG CCAAGCTGCACAAATTAGGTTTCATGACTATAGCCAAGAGTGGTACTCTCCAATAACTGTCCCC CCAAATGGATACTTCAAGTTGAATCTTGGGTGAACCCCTTCTATACACTTGCCCCATGGGAACT GGGAATGGGCGTAGAAGGATTCAACGGGATCCGTAA
VP1-GII.4	ATGTCGGTTCTCATCATCATCATCATATAGCAGCGGCATCGAAGGCCGCGCCGCTTAATTAA AACCATGGCAAAGTCGACTAAGATGGCGTCGAATGACGCCAACCCATCTGATGGGTCCGCAGCC AACCTCGTCCCAGAGGTCAACAATGAGGTTATGGCTTTGGAGCCCGTTGTCGGTGCCGCTATTGC GCGCCTGTAGCGGGCAACAAAATGTAATTGACCCTGGATCAGAAAATAATTTGTACAAGCCC CTGGTGGAGAGTTCACAGTATCCCCTAGAAACGCTCCAGGTGAAATACTATGGAGCGCGCCCTTA GGCCCTGATCTGAATCCCTACCTATCTCATTTGGCCAGAATGTATAATGGTTATGCAGGTGGTTTT GAAGTGCAGGTGATCCTCGCGGGGAACGCGTTCACCGCCGAAAAATTAATTTGCAGCAGTCCC ACCAAATTTCCAAGTGAAGGCTTGTAGTCCCAGCCAGGTCACTATGTTTCCCACATAATAGTAG ATGTTAGGCAATTGGAACCTGTGTTGATTCCCTTACCTGATGTTAGGAATAACTTCTATCACTATA ATCAGTCAAATGATTCTACCATTAATTTGATAGCAATGCTGTACACACCCTTAGGGCCAATAAT GCCGGGATGATGTCTTACAGTCTCTTGTGCGAGTCTCAGGAGCCATCCCTGATTTTGACTTC ATATTTTGGTGCCACCTACAGTTGAGTCAAGAATAAGCCATTTACTGTCCCAATCTTGACTGTT GAAGAAATGACCAATTCAAGATCCCCATTCCTTTGGAAAAATGTTTACGGGTCCCAGCAGTGC CTTTGTGTTCAACCACAAAATGGCAGATGCACGACTGATGGCGTGCTCTTAGGCACCACCCAAC

	<p>TGTCTCCTGTCAACATCTGCACCTTCAGAGGGGATGTCACCCACATTGCGGGTTCTCGTAATTACA CAATGAATTTGGCCTCTCTAAATTGGAACAATTATGACCCAACAGAAGAAATTCAGCCCCTCTG GGAACTCCAGATTTTCGTGGGAAAGATCCAAGGTGTGCTCACTCAAACCACAAAGGGAGATGGCT CGACCCGGGGCCATAAAGCTACAGTTTACACTGGGAGTGCCGACTTTACTCCAAAGCTGGGCAGT GTTCAATTTGCTACTGATACAGAAAATGATTTTGAAACTACCAAAAACACAAAATTCACCCCAGT CGGTGTCATCCAGGATGGTAGCACCACCCACCGAAATGAACCCCAACAATGGGTGCTCCCAAGTT ATTCAGGTAGAAATGTCCATAATGTACACCTAGCCCCTGCTGTAGCCCCCAATTTTCCGGGTGAAC AACTTCTTCTTCAGGTCCACTATGCCCGGATGCAGCGGGTATCCCAACACGGATTTGGATTGCC TACTCCCCCAGGAGTGGGTGCAGCACTTCTACCAAGAGGCAGCTCCAGCACAATCTGATGTGGCT CTATTGAGATTTGTGAATCCAGACACGGGTAGGGTCTTGTGTTGAGTGCAAACCTCATAAATCAGG TTATGTCACAGTGGCTCACACCGGCCAACATGATTTGGTCATCCCCCAATGGTTATTTTAGGTT TGATTCCTGGGTAAATCAATTCTATACACTCGCCCCATGGGAAATGGAACGGGGCGTAGACGTG CATTACGGGATCCGTAA</p>
Primers	Sequence (5'-3')
GII3__F	ACGCG <u>GTCGAC</u> TAAGATGGCGTCAATGACG
GII3__R	CGC <u>GGATCCC</u> GTGAATCCTTCTACGCC
GII4__F	ACGCG <u>GTCGAC</u> TAAGATGGCGTCAATGACG
GII4__R	CGC <u>GGATCCC</u> GTGAATGCACGTCTACGCC

Figure S1. Plasmid construction for expression of VP1-GII.3 and VP1-GII.4 in cell-free protein synthesis system. The target gene was inserted into pIVEX2.4c plasmid using the restriction enzymes *SalI* and *BamHI*.

