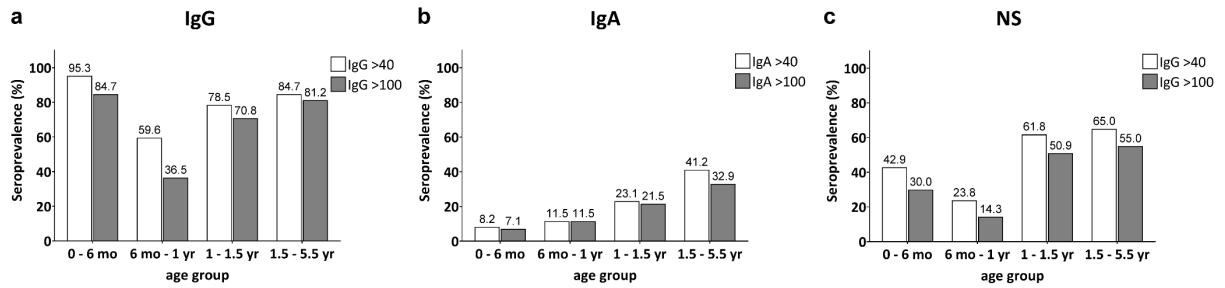


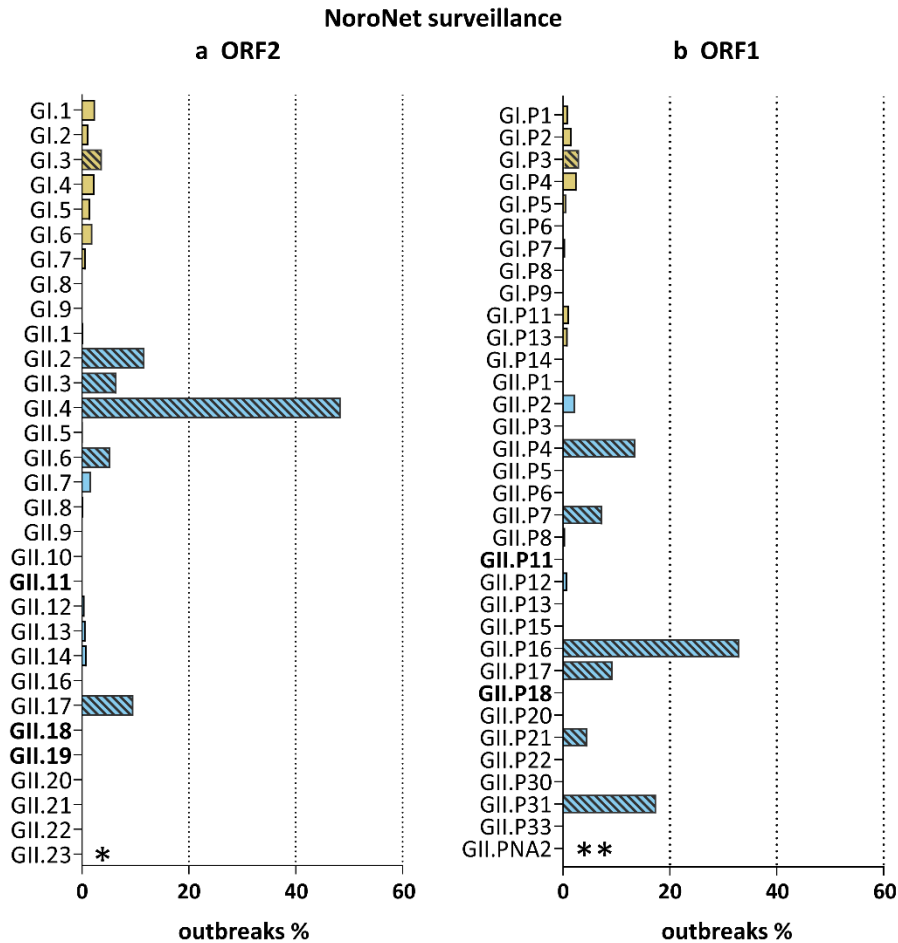
# **Profiling of humoral immune responses to norovirus in children across Europe**

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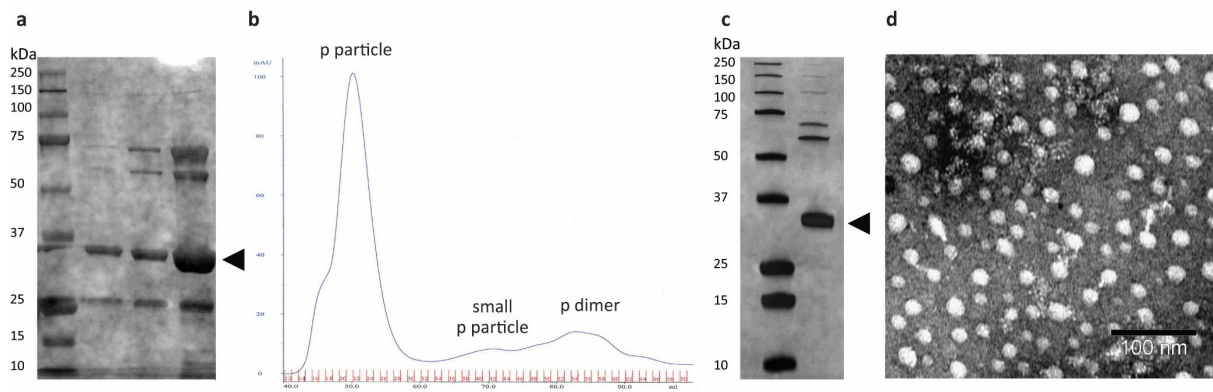
## Supplementary information



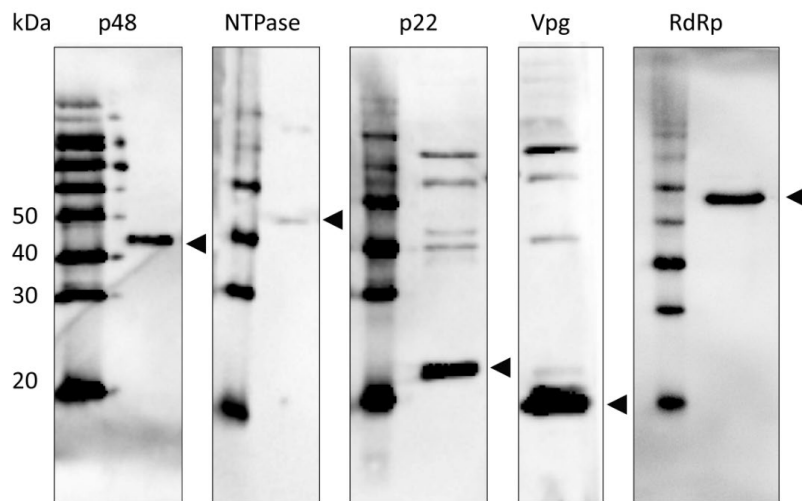
**Supplementary Figure 1. Norovirus seroprevalence in four age groups.** Seroprevalence is calculated with a cutoff of >40 and >100 for titers to be considered positive a) IgG, b) IgA, and c) IgG against NS proteins. Mo=months, yr=years



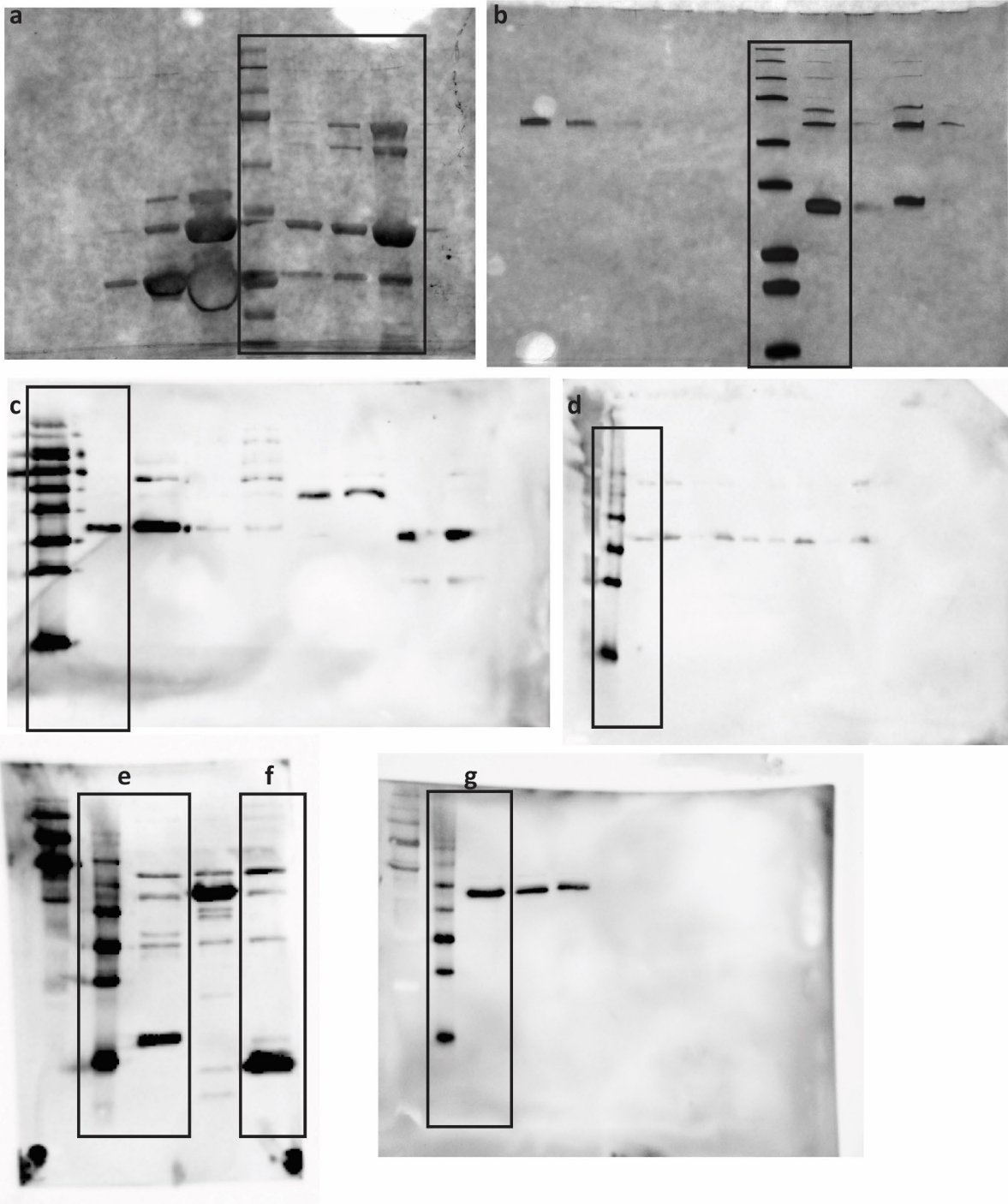
**Supplementary Figure 2. NoroNet data from outbreaks in Europe between 2016 and 2019.** Prevalence of **a) ORF2** and **b) ORF1** genotypes detected in outbreaks. \*GII.23 is not listed in NoroNet as a genotype yet. \*\*GII.pNA2 is not included in the NoroNet database. The genotypes most commonly reported during outbreaks are marked with a pattern. In bold are the porcine genotypes. The numbers of outbreaks for each ORF1 and OR2 genotypes were extracted separately from NoroNet with a sample collection date between 1.1.2016 and 31.12.2019. Data were extracted on 8.7.2021.



**Supplementary Figure 3. P particle expression and purification.** **a)** GST-tagged fusion proteins were cleaved with PreScission and the fractions were collected. **b)** samples were purified by high performance liquid chromatography and the fraction with the peak representing the P particles, were collected. **c)** Samples were concentrated and added on SDS-PAGE gel for quantification. **d)** Analysis of P particles by electron microscopy. **Black arrow heads** show the p domain at its estimated size of 35 kDa. Original gels are presented in **Supplementary Figure 5**.



**Supplementary Figure 4. Expression of non-structural proteins.** His-tagged proteins were expressed in 293T cells and purified using Ni-NTA resin. The presence of proteins was confirmed by Western blot with an anti-His6 antibody (MA1-21315). **Black arrow heads** show the ns proteins. Original blots are presented in **Supplementary Figure 5**.



**Supplementary Figure 5. Original SDS-page gels and Western blots.** The rectangles mark the excerpt presented in **a)** Supplementary Figure 3a, **b)** Supplementary Figure 3c, and Supplementary Figure 4 **c)** p48 **d)** NTPase **e)** p22 **f)** VPg and **g)** RdRp.

**Supplementary Table 1.** IgG titers against NS proteins in pre- and post-infection sera. Marked in **red** are the titers that were >4-fold increased in post-infection sera compared to pre-infection sera. IgA titers are not shown as they were all negative.

	GI.P2	GI.P3	GI.P4	GI.P11	GI.P2	GI.P4	GI.P7	GI.P16	GI.P17	GI.P18	GI.P21	GI.P31	GI.PNA2	GI.II.P2	GI.V.P1	GI.VI.P1	GI.VII.P1	GI.VIII.P1	GX.P1
GII.1	Pre	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40
	Post	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40
	fold increase	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GII.3	Pre	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40
	Post	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40
	fold increase	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GIII.4 Haag 2006b	Pre	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40
	Post	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40
	fold increase	0	0	0	0	0	2	0	9	0	40.2	19.6	24.4	0	0	0	0	0	0
GIII.4 New Orleans	Pre	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40
	Post	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40
	fold increase	0	0	0	0	0	8.5	0	0	0	0	0	0	0	0	0	0	0	0
GIII.4 New Orleans	Pre	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40
	Post	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40
	fold increase	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

## Antigen sequences

### P domains

#### GI.1

##### >M87661 Norwalk virus

QKTRPFTLPNLPSSLSNSRAPLPISSMGISPDNVQSVQFQNGRCTL DGRLVGTTTPVSLSHVAKIRGT  
SNGTVINLTELDGTPFHFPFEGPAPIGFDPDLGGCDWHINMTQFGHSSQTQYDVDTTTPDTFVPHLGS IQA  
NGIGSGNYVGVLSWISPPSHPSGSQVDLWKI PNYGSSITEATHLAPSVYPPGFGEVLVFFMSKMPGPG  
AYNLPCLLPQEYISHLASEQAPT VGEAALLHYVDPDTGRNLGEFKAYPDGFLTCVPNGASSGPQQLPI  
NGVVFVSWVSRFYQLKPVGTASSARGRLGLRR

#### GI.2

##### >KP064095 Norovirus GI.2

QKTRAFVTPNIPLQTLNSRFP SLIQGMILSPDASQVVQFQNGRCLIDGQLLGTTPATSGQLFRVRGK  
INQGARTLNLTEVDGKPFMAFDS PAVGVFPDFGKCDWHMRI SKTPNNTSSGDPMRSVSVQTNVQGFVP  
HLGSIQFDEVFNHPTGDYIGTIEWISQPSTPPGTDINLWEIPDYGSSLSQAANLAPPVFPFGFGEALV  
YFVSAFPGPNRSAPNDVPCLLPQEYITHFVSEQAPTMGDAALLHYVDPDTNRNLGEFKLYPGGYLTC  
VPNGVGAGPQQLPLNGVFLFVSWVSRFYQLKPVGTASTARGRLGVRI

#### GI.3

##### >MZ735697 Norwalk virus

QKTRPFTLPNLPSSLSNSRAPLPISSMGISPDNVQSVQFQNGRCTL DGRLVGTTTPVSLSHVAKIRGT  
SNGTVINLTELDGTPFHFPFEGPAPIGFDPDLGGCDWHINMTQFGHSSQTQYDVDTTTPDTFVPHLGS IQA  
NGIGSGNYVGVLSWISPPSHPSGSQVDLWKI PNYGSSITEATHLAPSVYPPGFGEVLVFFMSKMPGPG  
AYNLPCLLPQEYISHLASEQAPT VGEAALLHYVDPDTGRNLGEFKAYPDGFLTCVPNGASSGPQQLPI  
NGVVFVSWVSRFYQLKPVGTASSARGRLGLRR

#### GI.4

##### >KT732281 Norovirus GI.4

QKTRPFTVPNIPLKYLSNSRI PNPIEGMSLSPDQTQNVQFQNGRCTIDGQPLGTTTPVSVS QLCKFRGR  
ITSGQKVLNLTELDGSPFMAFAAPAPAGFPDLGSCDWHIEVSKI PNSSTQGNPIVVNSVKPNSQQFVP  
HLSSITLDDNVSSGGDYIGTIQWTSPPSDSGGANTNFWKI PDYGSSLAEASQLAPAVYPPGFNEVIVY  
FMASIPGPNQSGSPNLVPCLLPQEYITHFISEQAPIQGEAALLHYVDPDTNRNLGEFKLYPGGYLTCV  
PNSSTGPPQQLPLDGVFVFASWVSRFYQLKPVGTAGPARGRLGVRR

#### GI.5

##### >AM263418 Norovirus Hu/GI/Babbacombe/1996/GBR

QKTRPFSVPNIPLQLLSNSRVNLIQSMVLSPDQAQNVQFQNGRCTTDGQLLGT  
TPVSVS QILKFRGKVSAGSRVINLTELDGSPFLAFEAPAPTGFDPDLGTS DWHVEMSLNSNSQSSGNPI  
LLRDIQPNSSDFVPHLGSVAVTTAIDVAGDYTGTIQWTSQPSNVTVPVDVNFWTIPQYGSNLAEASQL  
APVVYPPGFGEAIVYFMSPIPGPNTAHKPNLVPCLLPQEFVTHFVSEQAPSMGEAALVHYVDPDTNRN  
LGEFKLYPEGFITCVPNGTGPQQLPLNGVVFASWVSRFYQLKPVGTASSARGRLGVRR

#### GI.6

##### >AF093797 Norwalk virus

QKTRVFSVPNIPLKDLNSRVPTLIQGMFVSPDVNQSVQFQNGRCQIDGQLQGTTPVSLSQLCKIRGR  
TSSNTRVLNLSEVDGTPFVPLESPAVGVFPDIGGCDWHVGFTEARDQDPSQNVTFATNDSSFPYLG  
SISPHNGDGFHSGDIIGSLDWISAPSDGSALDVWSIPKYGSSLPDVTHLAPAVFPPGFGEVILYFHSK  
FPGSGPTDKLRVPCLI PQEFITHFCNEQAPIAGEAALLHYVDPDTGRNLGEFKLYPDGFMTCPVNSIS  
SGPQTLPI NGVVFVSWVSRFYQLKPVGTASAARRLGLRRI



**GI.7**

**>AJ844469 Hu/NV/Chiba/030100/2003/JP**

QKTRQLTVPNIPLNLSNSRVPAMISKMAISSDANQVVQFQNGRCTTDGQLLGTTPISASQVARIRGK  
VFSTSSGKGLNLSSELDGSPYHAFESPAPVGFDPDLGYCDWHVSSFKADHNSSSDPI SRLDIKQGASFAP  
HLGSI EYTT SQNPDGDQLGTLTWISSPSDDTPGHGTINLWKI PSYGSTVTESVHLAPPI YPPGFGETL  
VYFMSDFPIGHTNSNMAQVPCTLPQEFVAHFVNEQAPVRGDAALLHYVDPDTHRNLGEFKLYPEGYIT  
CVPNTGGGGPQSLPINGVFISSWVSRYYQLKPVGTAGPARRLGVRV

**GI.8**

**>KJ196298 Norovirus GI/Hu/JP/2007/GI.P8\_GI.8/Nagoya/KY531**

QRTKPFVSNIPMNLMSNSRVSMIDGMMVSNQVQVQFQNGRVTLDGQLQGTTVSAACVARMRGR  
IFNNGNYGVNLTLDGNPYHAFDSPAPLGFDPDFGNCDLHMTFVKINPNELSSGDPGKVVIIHSYDAT  
FAPHLGTVKLENDDELARFVGKEVVLELTWVSNREGATLNLWAVPNYGSSTLQASQLAPPI YPPGFGE  
AIVYFTSTFPTVSNPKVPCTLPQEFVSHFVNEQAPTRGDAALLHYVDPDTHRNLGEFKMYPEGYMTCV  
PNAGGGPQTLPI NGVVFVFISSWVSRYYQLKPVGTAGAARRLGLRS

**GI.9**

**>KF586507 Norovirus GI.9**

QKTKQFSVSNLPLNVMSNSRVPSSLNAMVVS PDQAQVVQFQNGRCTLDGQMLGTTTVSASCVARFRGK  
TFQAPDNRLGINLAEISGEPYHAFESPAPLGFDPDFGDGDWHVTATKVTSPQLEANDPVVMGNVQPYNP  
QFAPHLGTLVVENPTPDNVTTGTDLLFNITWLSNRANNRFPWVIPNYGSTLTEAAQLAPSI FPPGFGE  
ETIVYFNSTFPAVGATTHAAI PCLLPQEFVAHFVNEQAPIRGEAALLHYIDPDTHRNLGEFKIYPEGF  
VTCVFNVGGTGPQSLPTNGIFVVFVSWVSRYYQLKPVGTAGQARRLGFRRV

**GII.1**

**>LN854570 GII/Hu/NL/2014/GII.2/Groningen**

SKTKPFTLPILTIGELSNRFPVPIDILYTS PNEGVVVQFQNGRSTLDGELLGTTQIVPSNICALRGR  
INAHVPNEPNQWNLQVTNANGT PFDPTEDVPAPLGTPDFQANIYGVGTQQRNSDSSCRAHDGVLATWSP  
KFTPKLGSVVLGTWEKEDFNINQPTRFTPI GLHNTEHFQWVLPNYSGMLTLNMNLAPSVAPLFPGEQ  
ILFFRSFIPLNGGKSDGAIDCLLPQEWIQHFYQESAPSPTDVALIRYTNPDTGRVLF EAKLHRQGFIT  
VASSGSKPIVVPNGYFRFDSWVNQFYSLAPMGTGNGRRRVQ

**GII.2**

**>AB662902 Norovirus Hu/GII.2/OH10031/2010/JP**

SKTKPFTLPILTIGELSNRFPVSI DQMYTSPNEVISVQCQNGRCTLDGELQGTTLQVSGICAFKGE  
VTAHLHDNDHLYNITITNLNGSPFDPSEDI PAPLGVPDFQGRVFGIISQRDKHNSPGHNEPANRGHDA  
VVPTYTAQYTPKLGQIQIGTWQTDLLTVSQPVKFTPVGLNDTEHFNQWVVPYAGALNLTNLAPSV  
PVFPGERLLFFRSYIPLKGGYGNPAIDCLLPQEWVQHFYQEAAPSMSEVALVRYINPDTGRALFEAKL  
HRAGFMTVSSNTSAPVVVPANGYFRFDSWVNQFYSLAPMGTGNGRRRVQ

**GII.3**

**>MZ841819 Norovirus GII**

SKTKPFSLPILTISEMSNSRFPVPIDSLHTSPTENIVVQCQNGRVTLDGELMGTTQLLPSQICAFRGV  
LTRSTSRASDQTDATPRLFNYYWHIQLDNLNGTPYDPAEDI PGPLGTPDFRGKVFVGVASQRNPDATT  
RAHEAKIDTTSGRFTPKLGSLEISTESSDFDQSQPTRFTPVGIGVDHEADFQQWTL PDYAGQFTHNMN  
LAPAVAPNFPGEQLLFFRSHLPSSGGRSNGILDCLVPQEWVQHFYQESAPSQSQUALVRYVNPDTGRV  
LFEAKLHKLGFMTIAKNGDSPITVPPNGYFRFESWVNPFFYTLAPMGTGNGRRRIQ

**GII.4**

**>MT23205 Norovirus GII**

SRTKPFVSVPLTVEEMTNSRFPIPLEKLFTGPSSAFVVQFQNGRCTTDGVLLGTTQLSPVNICTFRGD  
VTHITGSRNYTMNLASQWNNYDPTEEIPAPLGTPDFVGGKI QGVLTQTTRTDGSTRGHKATVYTGSD  
FAPKLG RVQFETDTHDFEANQNTKFTPVGVIQDGSTTHRNEPQQWVLPSSYGRNTPNVHLAPAVAPT

FPGEQLLFFRSTMPGCSGYPNMDLDCLLPQEWVQYFYQEAAAPAQSDVALLRFVNPDTGRVLFECKLHK  
SGYVTVAHGTQHDLVIPPNGYFRFDSWVNQFYTLAPMGNGTGRRRAL

## GII.5

### >KJ196288 Norovirus GII/Hu/JP/2002/GII.P5\_GII.5/Saitama/T52

SKTKPFTLPVLTTLGELSNSRFPLSIDEMVTSFNESIVVQPQNGRVTLDGELLGTTQLQACNIC SIRGK  
VTGQVPNEQHMMWNLQITNLNGTQFDPTDDVPAPLGVPDFAGEVFGVLSQRNRGESNPANRAHDAVVAT  
YSDKYTPKLGVLVQIGTWNTNDVENQPTKFTPIGLNEVANGHRFEQWTLPRYSGALTLNMNLAPAVAPL  
FPGERLLFFRSYVPLKGGFGNPAIDCLVPQEWVQHFYQESAPSLGDVALVRYVNPDTGRVLF EAKLHK  
GGFLT VSSTSTGPPVVPANGYFRFDSWVNQFYSLAPMGTGNGRRRFQ

## GII.6

### >AB039778 Norwalk-like virus

SKTKPFTLPILTLGELSNSRFPAIDMLYTDPNETIVVQPQNGRCTLGDTLQGTTLQVPTQICSFRTG  
LISQTSRSADSTDSAPRVRNHPLHVQLKNLDGTPYDPTDEVPAVLGAIDFKGTVFGVASQRNTTGSSV  
GATRAHEVHIDTTPRYTPKLGSVLMYSESSDFDDGQPTRFTPIGMGADDWHQWELPEYSGHLTLNMN  
LAPAVAPAFPGERILFFRSVVP SAGGYGSGQIDCLIPQEWVQHFYQEAAPSQSAVALIRYVNPDTGRN  
IFEAKLHREGFITVANSNNPIVVPNGYFRFEAWVNQFYTLTPMGTGQGRRRVQ

## GII.7

### >KJ196295 GII/Hu/JP/2010/GII.P7\_GII.7/Musashimurayama/TAKAsanKimchi

SKTKQFTLPILKISEMTNSRFPVPEMMYTARNENQVVQPQNGRVTLDGELLGTTPLLAVNICKFKGE  
VIAKNGDVRSYRMDMEITNTDGTPI DPTEDTPGPIGSPDFQGILFGVASQRNKNEQNPATRAHEANIN  
TGGDQYAPKLAQVKFFSESQDFEVHQPTVFTPVGVAGDTSHPFRQWVLP RYGGHLTNNTHLAPAVAPL  
FPGEQILFFRSQIPSSGGHELGYMDCCLVPQEWVQHFYQEAATAQSEVALIRFINPDTGRVLF EAKLHK  
QGFITVAHTGDNPIMPPNGYFRFEAWVNQFYSLAPVGTGNGRRRIQ

## GII.8

### >AB039780 Norwalk-like virus

SKTKAFTLPILKISEMTNSRFPPIVDQMYTSRNNENIVVQPQNGRVTLDGELQGTTLQPVVICGFRGT  
LQTRLADQPNYTYQVHLENLDGSPVDPTDEVPAPLGTPDFQAQLFGVISQRSSDNATRAHEARVNTND  
PTFAPQIAQVRFKSPSNDFFDNEPIKFTPVGISVDSQNSYNQWLLPRYGGHLTNNTHLAPSVPMPFPG  
EQILFFRSFMPGASGHTDGAIDCLLPQEWVAHFYQEAATAQTDVALIRFVNPDTGRVLF EFKLHKQGF  
ITISNSGDHPIMVPANGYFRFEAWVNQFYSLAPVGTGSGRRRIQ

## GII.9

### >AY038599 NLV/VA97207/1997

SKTKAFTIPVLKISEMTNSRFPVVDQMYTSRSEGI VVQPQNGRATIDGELLGTTLVSPVSVCNFKGN  
LQAEVPGQHLYQLQLTNLDGSPIDPTDDTPGPLGCPDFTGLLYGVASQ RGPGDATRAHEARIDTGS D  
TFAPKIGQVRFYSTSSDFETNQPTHFTPIGIYIEGNSSDFNQWQLPRYGGHLANNH LAPAVSPLFPG  
EQILFFRSFIPGASGHTNGEMDCLLPQEFVQHFYQEAATARSEVALLRFVNPDTGRALFESKLHKQGF  
MTIASSGDHPIMPTNGYFRFEAWVNQFYSLAPVGTGSGRRRIQ

## GII.10

### >AY237415 Human calicivirus strain Mc37

SKSKPFTLPILTLGELTNSRFPLPIDVLYTNPNE SAIVQCQNGRCTLGDELQGTTLQLLPTGICAFR GK  
VTQQVQDEHRGTHWNMTVTNLNGT PFDPTEDVPAPLGTPDFSGQIYGVISQRNTNTVPGE GNL PANRA  
HEAVIATYSPKFTPKLGNIQFSTWETQDVSSGQPTKFTPVGLASVDANSHFDQWTLPSYSGAL TLNMN  
LAPSVAPVFPGECLLFFRSFIPKGGYGNPAIDCLMPQEWVQHLYQESAPSLSDVALVRYVNPETGR T  
LFEAKLHRNGFLTVARNSAGPVVAPTNGYFRFDSWVNQFYTLAPMGNGSGRRRMQ

**GII.11**

**>AB074893 Swine norovirus**

SKTKPFSLPGLTLDELNSRFPAPIVQLYTNPHDNLIVQPQNGRCTIDGLLQGTTQLVSCNVCSFRGT  
MGEQQAHAHSEDEIMPMAFNVQREIMLENLDGSPYDPTDDIPAVLGSPDFQGVFMFGILSQRNTDGQTR  
AHEAKVDTRAARFAPKLGFFVATVESTDFHANQPSRFTPVGLGGDTNRDFNQQWQLPAYGGALTNNTNL  
APPVMPVYPGEQLLFFRSQLPSSGGVVAGWLDCLLPQEWVQHFFQESATSQSDVALVRYVNPPTTGRVL  
FEAKLHKQGFLTVAASGSYPLVVPADGYFRFESWVNQFYTLAPMGNGSGRRRAR

**GII.12**

**>KP064099 Norovirus GII.12**

SKTKPFTLPILTIGELTNSRFPVPIDELYTSPNESLVVQPQNGRCALDGELQGTTQLLPTAICSFRRGR  
INQKVSQDNHVVNMQVTNINGTPFDPTEDVPAPLGTPDFSGKLFVLSQRDHDNACRSHDAVIATDSA  
KFTPKLGAIQIGTWEEDDVHINQPTKFTPVGLFEREGFNQWTLPNYSGALTLNMGLAPPVAPTFFPGEQ  
ILFFRSHIPLKGGVADPVIDCLLPQEWIQHLYQESAPSQTDVALIRFTNPDTGRVLFEAKLHRSGYIT  
VANTGSRPIVVPANGYFRFDSWVNQFYSLAPMGTGNGRRRVQKG

**GII.13**

**>KC662537 Norovirus Hu/GII/Hy-718/KOR**

SKTKPFTLPILTISELTNSRFPPIEQLYTAPNETNVVQCQNGRCTLGELQGTTQLLSSAVCSYRGR  
TVANNGDNWDQNLQLTYPNGASYDPTDEVPAPLGTQDFSGMLYGVLTQDNVNVSTGEAKNAKGIYIS  
TTSQKFTPKIGSIGLHSITEHVHPNQSRFTPVGVAVNENTPFQQWVLPHYAGSTRSHTNLGTALAPT  
FPGEQLLFFRSRVPCVQGLQGQDAFIDCLLPQEWVNHFYQEAAPSQADVALIRYVNPDTGRTLFEAKL  
HRSGFITVSHTGAYPLVPPNGHFRFDSWVNQFYSLAPMGTGNGRRRIQ

**GII.14**

**>GQ856465 Hu/GII.4/Beijing/55028/2007/CHN**

SKTKNFTLPVLRVSEMTNSRFPVVLQMYTSRNNIIVQPQNGRCTTDGELLGTTILQSVSICNFKGT  
MQAKLNNEEPYQLQLTNLDGSPIDPTDDMPAPLGTPDFQAMLYGVASQRSSTDNATRAHDAQIDTAGD  
TFAPKIGQVRFKSSNDFDLHDPTKFTPIGVNVDDQHPFRQWSLPNYGGHLALNNHLAPAVTPLFPGE  
QILFFRSYIPSAAGHTDGAMDCLLPQEWVEHFYQEAAPSQSDIALVRFINPDTGRVLFEAKLHKQGFL  
TIAASGDHPVMPNGYFRFEAWVNPFTLAPVGTGSGRRRIQ

**GII.16**

**>GQ856476 Hu/GII.4/Beijing/55171/2008/CHN**

SKTKPFVSVPLTLNELTNSRFPVIDAMYTSPNDSIVVQPQNGRATIDGELLGTTQLIPSGICSFRRGK  
ITTHLADDRHLWNIQVSNLNGTPFDPTDDVPAPLGMPDFSGQIFGVVSQRDTGTNPANRAHDAVLATY  
SAKYTPKLGSVQIGTWDTEDLLERQPVKFTPVGLNEIGQDKHFDQWVLPNYSGALGLNMHLAPAVSPL  
FPGERLLFFRSYIPLKGGHGDPFIDCLVPQEWIQHFYQESAPAQSSVALLRYVNPDTGRTLFEAKLHK  
GGFITVSSTENRPVIVPPNGYFRFDSWVNQFYSLAPMGTGNGRRRMQ

**GII.17**

**>KX424646 Norovirus GII**

SKTKPFSLPILTLSELTNSRFPVIDSLFTAQNNVLQVQCQNGRCTLGELQGTTQLLPSGICAFRRGR  
VTAQINQRDRWHMLQNLNGTTPFDPTDDVPAPLGTPDFKGVVFGMVSQRNVGNDAPGSTRAQQAVVST  
YSPQFVPKLGSVNLRI SDNDDFQFQPTKFTPVGVNDDDDGHPFRQWELPNYSGELTLNMNLAPPVAPN  
FPGEQLLFFRSFVPCSGGYNQGIIDCLIPQEWIQHFYQESAPSQSDVALIRYVNPDTGRTLFEAKLHR  
SGYITVAHSGDYPLVVPANGHFRFDSWVNQFYSLAPMGTGNGRRRAQ

**GII.18**

**>AY823305 swine/GII/OH-QW125/03/US**

SKSKPFTIPQLTLSELSNSRFPAPIDMLYTSNDNIIVVQPQNGRCTLGGELQGTTQLQPSLICSFRRGV  
TLNETSRMLVDQEEEEEGEVQRPQARAFNHEYHLQLQNLGDGTDYDPAGDLPATLGAPDFIGTVYGVVS  
QRTTRDSAARAHEAKITTSDFRYAPKLGSVVEFVTESTDIVLNDQTKFTPVGLAHNRAVDYKQWELPHY

AGELTANTNLAPPVAPVYPGEQLLFFRSNLPFLAGGTAASVLDCLLPQEWIQHFYQESFAPQSDIALLR  
YVNPDTGRVLFEAKLHRQGYITVAGAGTSPVAVPPNGYFRFESWVSQFYTLAPMGSGTGRRRNQ

## GII.19

>AY823306 swine/GII/OH-QW170/03/US

SKTKPFSLPNLTLAELSNSRFPPLPIEQLYTNPLDNLVVQPQNGRCTIDGILLGTTQLVPSLICSMRGT  
LEADQASGHTDDESQVSRFNRQRSLMLENPDGSAFDPSDEVPAVLGVPDFRQVVFVGLSQRNNGDGT  
RSHEAKIDTRRPRYAPKLGFEVLTESDDFQNGPPTKFTPVGLGGDGNPDFQQWALPDYGGALTNNTN  
LAPPVVPVYPGEQILFFRSQLPSSGGTVAGWLDCLLPQEWIQHFYQDSAAAQSDVALVRYINPATGRV  
LFEAKLHRQGFLLVSAAGPHPVVAPADGYFRFESWVNQFYTLAPMGNGSGRRRVY

## GII.20

AB542917 Hu/OC07118/2007/JP

SKSKPFTIPMLTIEEMTNSRFPAPLELMTTGPSHDIVVQPQNGRCTIDGVLLGTTQLSPVNICSLRGV  
PTKRNGNDNCFVQLENPNGSAYDPTEDI PAVLGSPDFVGEYGTITQRSSDNSTRAHPFTLNTGSPR  
YTPKIGSVDIRVTDVSDLQDHPVKLTPVGLSGDRGSIHQWQLPNYSGVATHNMHLAPSVAPLFPGEQ  
ILFFRSTVPGCGYPNSNIDCLIPQEWVQHFYQEGAPARTDVALLRFINPDTGRVLFECKLHKHGFI  
TVAISGNHDLVMPNGYFRFESWVNQFHTLAPMGTGSGRRRIQ

## GII.21

>KR921942 Hu/GII.21/CUHK-NS-626/HKG/2015

SKTKPFTLPILTIGELTNSRFPAPIDQLYTSNADVVPQNGRCTLGELQGTQLLTTAICSYRGT  
TSNPTS DYWDHLLHLVHPNGATYDPTEDVPAPFGTQDFRGILYGVLTQNTQNPREDVSNRGIYISS  
TSDKFTPKLGTIGLHQVQGDASNQSKFTPVGIAVNQNTPFKQWELPNYSGALTLNTNLAPAVGNF  
PGEQILFFRSNVPSVQGNHPTQEIDCLIPQEWVSHFYQESAPSQSDVALVRYVNPDTGRTIFEAKLHR  
QGFITIAATGSNPVVPPNGYFRFDSWVNQFYALAPMGTGNGRRRAQ

## GII.23

>KJ19629\_Norovirus GII/Hu/JP/2011/GII/Yuzawa/Gira2HS

SKTTPFTLPRLPISEMTNSRFPVLVIKGMVDPNLPQANFQNGRITLDGELQGTTLPTSTSIGRISGT  
HMSSTPSRIIQHEDSGDSTQPRVFNVPVWMDLTENNWTEFQPFNDQPAPLGCDFKAKILGTLIRQPN  
GSYYFDAYLDTRQHGTFAPYTGHAHVSDQQAAGHLAQGYKIQFSPTGIESDQNTDLNQLPDYGGAMTV  
SKGLAPAAAPDFPGEMILYFVSDMPVRNPNGERRDEILCLLPQEMVTHFYEQQAPSQGDVALVRYIN  
AETGRVMFEGKLRNGFFTVSATARTLIVPDGYFRFDSWVNRFYTLSPMGTGNGRRRARMLE

## P48

### GI.2[P2]

>KF306212.1\_Norovirus/Hu/GI.2/Jingzhou/2013401/CHN

MMMASKDVVATNVASNNNANNTSATSRLSRFKGLGGGASPPSPIKIKSTEMALGLIGRTTPESTGTA  
GPPPQQQRDRPPRTQEEVQYGMGWSDRPIDQNVKSWEELDTTVKEEILDNHKEWFDAGGLGPCTMPPT  
YERVRDSDPPGEQVKWSARDGVNIGVERLTTVSGPEWNLCPPLPIDLRNMEPASEPTIGDMIEFYEGH  
IYHYSIYIGQKTVGVHSPQAAFSVARVSIQPIAAWWRVCYIPQPKHRLSYDQLKELENEPWPYAAIT  
NNCFEFCCQVMNLEDTWLQRRLVTSGRFHHTQSWSQQTPEFQQDSKLELVRDAILAAVNGLVSQPFK  
NFLGKCLKPLNVLNLSNCDWTFMGVVEVILLLELFGVFWNPPDVSNFIASSLPDFHLQ

### GI.3[P3]

>KY934262.1\_Norovirus\_GI\_isolate\_0304-19

MMMASNDIAVADVSNNNANTNNDNIGSRLMARIRGRIGPQRGETTTKIKDANMALDLLRRSQTSPSPS  
RQESPPKSQRDRPPRTASEVKKVLGWDVEPEHQESTAKAWCDLTQEEKEEIMRNNEKLF DAGGITPST  
LPSTFERADPVDSPIEQQPVTWSASGGVDIGVNDLTTVRGPFWNMCPLPPLDARNNGPAKEPLIGDMI  
EFYEGHIFHYAIYIGQKTVGVHSPQAAFSIPRITIHPLVAWWRVCYVPTNQQLTYDQLKELENEPWP  
PYASITNNCYEFCCRVMLDDTWLERLLVSTGKFNHPTQDWSQDTPDFHQDSKLEMVRDAVLSAINGL  
VSQPFKNILSKIKPLNVLNLLSNCDWTFMGVVELIVLLAELFDVFWTPPDISSFIASLLPEFHLQ

GI.4[P4]

>LN854563.1\_Norovirus/GI/Hu/NL/2011/GI.4/Groningen

MMMASKDVVAATAASAENTS DNSSDSIK N R F F T R L K N L G S N N K P I K I E N T H M A L N L I S R G P S P I P Q D K P  
PKDQRDKPPRNVAETQQAMGWIDPPMDQNLPTWEELSQTEKQEILKNNSNWFDAGGLAPAS IPTGYVK  
NTEQQPPDHQVKWSASNGVDLGVGNLTTVPGPAWNLCPMPPI DQRNNGPAKEPLIGDMIEFYEGHIYH  
YAIYIGQGKTVGVHSPQAAFSIARITIHPIAAWWRVCYVPTPDQRLNYDQLKELENEPWPYAAVTNNC  
YEFCCRI LNLQDSWLERRLVTSGRFNHPAQDWSRDTPDFQQDSKLEIVRDAVLA AINGLVSKPFKDLL  
NKLKPLNVLNLLSNCDWTFMGV VETI ILLMELFGIFWNPPDVSSFIASLLPDMHLQ

GI.6[P11]

>LN854564.1\_Norovirus GI/Hu/NL/2012/GI.6/Groningen

MMMASKDVVATNVASNNNANNTSATS RFLSRFRGLGGGASPPNPIKIKSTEMALGLIGKTTQGAAGAN  
DLPPKQQRDRPPRTQEEVQYDMGWTERPMDQNVKSWEELDTSTKEEILDSHKWEFDAGGLPCTMPST  
CEQAKDDSPPEQVKWSVRDGVDLGVNRLTTVSGPEWNLCP LPPIDL RNMEPASEPTIGDMIEFYEGH  
IYHYSIYIGQGKTVGVHSPQAAFSVARVTIQPIAAWWRVCYI PPKHRLSYDQLKELENEPWPYAAIT  
NNCFEFCCQVMNLEDTWLQRR LITSGRFHHP SQSWSQQTPEFQQDSKLELVRDA I LA AVNGLVSQPFK  
NFLGK LKPLNVLN ILSNCDWTFMGV VEMV I L L L E L F G V F W N P P D V S N F V A S L L P D F H L Q

GII.2[P2]

>LC209463.1\_Norovirus/Hu/GII/JP/2008/GII.P2\_GII.2/Hokkaido-15

MKMASNDASAAA AVNSNNDNTKSSSDGMLN NMAVTLKRALGARPKQPAPG EKPPRPPRPPTPELVKRI  
PPPPNDGDEPTVMFSTVGGVSGLPELTTVGQPPEANTAFSVPPLSQREN RDAKEPLTGTILEMWDGE  
IYHYGLYVERGLVLGVHKPPAAISIAKVELTPLSLYWRPVYTPQYLI PPDTLRKLHGELFPYTA FENN  
CYAFCCWVLDLND SWLSRRMI SRTTGFFRPYQEWNRKPLPTMDDSKLKKVANIVLCALSSLFTRPIKD  
IIGK LKPLN I L N I L A S C D W T F A G I V E S L I L M A E L F D V F W T P P D V S A M I A P L L G D Y E L Q

GII.4[P4]

>KY905331.1\_Norovirus/Hu/GII.P4\_New\_Orleans\_2009\_GII.4\_Sydney\_2012/NSW789Z/2016/AU

MKMASNDASAAA VADSNNDTAKSSSDGVLSSMAVTFKRALGARPKQPPPREKPPRPPRPPTPELVKNI  
PPSPNGEDEIVVSYSVKDGVSGLPDLSTVRQPEESNTAFSVPPLNQREN RDAKEPLTGTILEMWDGE  
IYHYGLYVERGFVLGVHKPPAAISLAKVELAPLSLYWRPVYTPQYLI SPDTLKKLSGETFPYTA FDN  
CYAFCCWVLDLND SWLSRRMI QRTTGFFRPYQDWRNKPLPTMDDSKIKKVANIFLCALSSLFTRPIKD  
IIGKIRPLN I L N I L A S C D W T F A G I V E S L I L L A E L F G V F W T P P D V S A M I A P L L G D Y E L Q

GII.6[P7]

>LN854568.1\_Norovirus/GII/Hu/NL/2014/GII.6/Groningen

MKMASNDATAAFGSQNSVND SINTAPSNKEEVGAFSNIKVGFKKMLGAVPKGTKAPSSDQHCP LVKIG  
TKTLTVPPPEPPNGEDTVQFD AKSETVRGLPDLTTVQNEHENTPYTVPPLS EREHRPATEPLPGTILEM  
WDGEFYHYSVYVSGGKALGVHKPPAAISLATI E L T P I S L Y W R P V Y T P N Y L V C P D T L K G L A G E K F P Y T A  
FSNNCYNFCCWVLELND TWLSRRSISRTTGFFRPYQSWNRKPLPTVDDGKIKKVANAILCALGSLFSK  
PIKDLLGK LKPLN L L H L L A S C D W T F A G I V E T V I L M A E L F N I F W T P P D V S S F I A S L I G D F E L Q

GII.4[P16]

>LC175468.1\_Norovirus/Hu/GII/JP/2016/GII.P16\_GII.4\_Sydney2012/Kawasaki194

MKMASNDATVAVACNNNDKEKSSGEG LFTNMSSTLKKALGARPKQPAPRDEPQKPPRPPPTPELVKRI  
PPPPNGEGEEEEPVIRYEVKSGISGLPELTTVPQPDVANTAFSVPPLSLRENREAKEPLTGAIEMWD  
GEIYHYGLYVEKGLVLGVHKPPAAISMARVELTPLSLYWRVYTPQYLI SPETLRRLNGEAFPYTA FD  
NNCYAFCCWVLDLND SWLSRRMVQRTTGFFRPYQEWNRKPLPTMDDSKIKKVANIFLC SLSTLFTTRPI  
KDLIGKIKPLN I L N I L A T C D W T F A G I V E S L I L F A E L F G V F W T P P D V S A M I A P L L G D Y E L Q

GII.17[P17]

>KT970377.1\_Norovirus/GII/isolate/Hu/Guangzhou/GZ2015-L362/CHN/2015

MKMASNDASAAVAGKNNNDKEKSSDSL FANMSVTFKKALGARSKQPPPGETKQIQKPPRPPPTPELV  
KRIPPPPPNGEDEPGIVYKVGEGVSGLPDLTTVVQPD AQNTAYSVPPLSQREVGEAKEPLPGSILEMW

DGEIYHYGLYVERGHVLGVHKPPAAISLAKIEITPLSLYWRVVYTPQYLIDPGTLKNLSETFPYTAF  
DNNCYAFCCWVLDLNDWLSRRMIQRTTGFFKPYQDWNRKPLPTMDEPKIKKAANAVLCALSSLFTRP  
IKDIIGKLRPLNILNILATCDWTFAGIVESLILLAELFGVFWTTPDVSAMIAPLLGDYEMQ

**GII.18[P18]**

**>AY823305.2\_Norovirus/swine/GII/OH-QW125/03/US**

MMASNDVNVAAGDNTNGNEKQTKMPTSGIFTNVKVGIKKILGDRDCDAQPPAPTPREKPEPPPPPEET  
VAGEPPPEGCVAYHKDGRIDGLPRGPADAEPKCMAYSAPPPHEREDGPAMEPLPGSILEMWDGEIYH  
YGLYVNDGLVLGVHRPASAICTATIELTPLSLYWRVVHVPQNVIPSETLKRKLAGEKFPYTAFDNNCYA  
FCCWVLDLNDWLSRKMINRTTGFKPYQVWNRKPLPTMDDGKMKKVTNVLLCALSSLFTRPIKDVIG  
SLKPLNLLNLLASCDWTFGGIVETLVLVGELEFGIFWTPPDVSAFLAPLLGDYELQ

**GII.3[P21]**

**>LN854569.1\_Norovirus/GII/Hu/NL/2014/GII.21/Groningen**

MKMASNDASAAAAKSNNDNAKSSSDGVLSNMAVTFKRALGARPKQPPPSDKPPKPPRPPTPELVKAI  
PPPPNGEDGPIISYNVKGVSGLPELSTVTQLEENSTAFSVPPLSQRENRLAKEPLTGTILEMWDGE  
IYHYGLYVERGLVLGVHKPPAAISLAKIELAPLSLYWRPVYTPQYLISPDTLRKLHGETFPYTAFDNN  
CYAFCCWVLDLNDWLSRRMIQRTTGFFRPYQDWNRKPLPTMDDSKVKKVANVLLCALSSLFTRPIKD  
IIGKLPNLLNLLASCDWTFAGIVESLILLAELFGVFWTTPDVSAMIAPLLGDYELQ

**GII.4[P31]**

**>MT232050\_Norovirus/Hu/GII/2014/NL**

MKMASNDASAAAVANSNNDIAKSSSDGVFSNMAVTFKRALGARPKQPPPKEIPPRPPRPPTPELVKKI  
PPPPNGEDELVVSYSKADGVSGLPELTTVRQPEETNTAFSVPPLNQRESRDAKEPLTGTIEMWDGE  
IYHYGLYVERGLIILGVHKPPAAISLAKVELAPLSLFWRPVYTPQYLISPDTLRRLHGESFPYTAFDNN  
CYAFCCWVLDLNDWLSRRMIQRTTGFFRPYQDWNRKPLPTMDDSKLKKVANIFLCTLSSLFTRPIKD  
IIGKLPNLLNLLASCDWTFAGIVESLILLAELFGVFWTTPDVSAMIAPLLGDYELQ

**GII.NA2[PNA2]**

**>MG706448.1\_Norovirus/Hu/GII/PNV06929/2008/PER**

MKMASNDAATATAGTTSSNSEIHNKDVSNQNI FANMTVGIKRALGARPKQPPPKPSTKKEDKTTLP  
PIPPPPNGEDIVITYNKQDDKVSQVPIVSTVETSPLHDTAYSVPPLDQREKVDAKEPLTGSILEMWD  
GEIYHYGLYVEKGLVLGVHKPPSALSARIELTPLSLYWRVYTPPYLVAPDTLKKLHGESFPYTAFD  
NNCYTFCCWVLDLNDWLSRNRKCVSRTTGFFRPYQDWNRKPLPTMDESCLKKVANVFLCGLSSLFTRPI  
KDLVGRKLPNLLNIVTNCWTFPGVVEALILLAELFGIFWTPPDISAFVASLLGDYEMQ

**GIII.2[P2]**

**>EU794907.1\_Norovirus/Bo/GIII/B309/2003/BEL**

MDSSTVKVTGPLAAKASDPDSTFAKLLKAKFSALRSPHPPNAQGSPSPAETPPTAAPPLGSPPIPLPPGW  
EPAEPKREEVDQFPVRFAGGTVHFVHPPHNAQGPSWNGCPLPPVEQRSTPEPAEPPVGAILEFYEGY  
IFHYAIYVGGGKTVGVHSPQMALSVPTIPVQSLSAWWRVAYIPRDPPRDQLLSLEGERWPYASVTSN  
CYTFCCVLDLDDWLSRRLVRSRGGPFHHPSPWNKAVPEFHQDSKMELVRDAILTALNALVSQPMREL  
INVIKPLNVLSILSHCDWTFGIVEAAVLLAELFGILWQPPDVASFLANLTPECVLQ

**GIV.1[P1]**

**>KC894731.1\_Norovirus/Hu/GIV.1/CCDC\_GR1113-59/CHN/2011**

MKMASNDASVANSNKTI AANN TTT PKQGGVFANMKI GLKKVLEPKSETPTVRPKDVGKPGGTSPPDD  
PPGVTIKYDAQSDTIEGLPNLSTVPQPEARQVKCVPPMAEREVKNAEPQTGSLLEMYDGSFYHYAIY  
IENGLVAGINRPSKALTTATVDVEPIGLWWRVVYTPPFSVSTSALYHLQGEKFPYNAFDNNCYNFCCQ  
VLELDCCWMRRKFVQRTTGFFDPYQKWNPKPSQYVADSKLERVGDALLTALGALFSKPIKNIIGKLP  
LNFLNLLSSCDWTFPSIVETIILIAELFDVYWEPPDVTGFLMPLLLDDYEFQ

**GIV.2[GVI.P1]**

**>JF781268.1\_Norovirus/cat/GIV.2/CU081210E/USA/2010**

MASNDAI PAASPKANNEKKSNDGSANNTAYVQPEVGVFANMKVGMQKLLSSGARPVKVRPQKPPDRGGT  
EQMANAGKPNTARAPVAEGDDHPGLAPQADQGPPEVEAVLGSAGRVRYIRDQDRIEGLPDLHAA  
PFLSEREVKRAPPLDRREFSAAREPPSGSILEMWDGDYHYAIYLERGLIVGINRPGKALGTATVNIE  
PIGLWWRVHVPRMRVSLPALYKLNGEKFPYNAFNNNCYTFCCQVLELDDSWLNRKYVQRTTGFYDPY  
QSWNKKPSIHVADTKMEKVGDMLLTALGALFSRPIKSIINKFKPLNLLNILASCDWTFGGIVEALILI  
AELFGVYWEPPDVTAFMLPLLDDEFELQ

**GVII.1[P1]**

**>FJ692500.1\_Norovirus/dog/HKU\_Ca026F**

MMMASNDVTPCGNEIPKTEINNQSSGRIDRQAE TRTTTGTQDGAPPAPAGGFFTRLKDRVKQPKAPP  
QPPGHETQRQEEFPVVTYEVRTEAVRGPVDVKAADLPPGYVVPPLPPIKLRRESQDAPEPPTGAILEMW  
DGAYYHYGVVYEKGLVLGIHNPPAALSEATVELIPIISLFFRVVHVPSNRPSIRALKRLQGEKYPYNAL  
THNCYTFCCELLEDDDDWEARRLVQRTTGFYDPNQRWNDKPVPLVADSRVVKIADALLAALAGVAAQP  
IRDIVNKLKPLNLVHLILSSCDWTLSGVVMVILLAE LFGIFWTPPDVTP LIVSLDDWEMQ

**GX.1[P1]**

**>MF373609.1\_Norovirus/bat/isolate\_NPIH26**

MPPLEDSEDDPFRVSYVRATNTVITFPDMSYCPEDSGAPRPRACPPLFQRAEDPHAAEPQIGAIIEEY  
EGQFNHYSLYAGNGEVVGLHSPAAAISMAKVEKRPI SLWWRPVYAPKRQYRVAEVVMLVGETVPYVAT  
SNNCYDFCVAALGLDDSWLCKRYVTHDTGYYPPKQTNWNGNFVDLEQMSKLELVRDAALSFAAVFSQP  
VKDLLNKFKPLNLLHILSSCDWTFSGIVEAVVLVAGLLGVLWSPPDVVAFLAPLMPSLQLQ

**P22**

**GI.2[P2]**

**>KF306212.1\_Norovirus/Hu/GI.2/Jingzhou/2013401/CHN**

GKMYDFDDDRVSAFTTMARDNGLGILSMAGLGKCLRGTMEGLKNALKGYKISACTIKWQAKVYSLE  
SDGNSVNIKEERNILTQQQSVCAASVALTRLRAARAVAYASCTQSAITSILQIAGSALVVNRVAVKRM  
FGTRTATLSLEGPPREHKCRVHMAKAAGKGP IGHDDVVEKYGLCETEEDDEEVAHTEIPSATME

**GI.3[P3]**

**>KY934262.1\_Norovirus\_GI\_isolate\_0304-19**

GAVYNFDEDRVSAFTSLARANGLGLLSMATLGKRLRSVKSMEGLRNALVGYKIGECDI IWNTRVYSIK  
SDGSTVTIKEKQTP TSPQYQAI STATLALSRLRAARALAYASCLQSAVLSILQVAGSALVVSRAVKRM  
FGTRTEQPMLEGGKHKEHNCRVHRAEAAGHGPIGHGDGVIERYGLCESEQEEEGEQTVELPTANKE

**GI.4[P4]**

**>LN854563.1\_Norovirus/GI/Hu/NL/2011/GI.4/Groningen**

GQVYDFDADRITAF TSLARANGLGLISMASLGKCLRGVDSVHGLKNALSGYTITPCSIKWQARVYDIE  
SDGTNVRIKENTSAQTQRQOSIDTAALALTRLKAARAAAYAACIQSAIT TILQMAGSAIVINRAVKRM  
FGAHSSTIALEGPPREHRCRAHLAKAAGGGPIGHDDVIDKYGLCETEEDTSEEINVELPTATSE

**GI.6[P11]**

**>LN854564.1\_Norovirus GI/Hu/NL/2012/GI.6/Groningen**

GKMYDFDDDRVSAFTTMARDNGLGILSMASLGKCLRGTSM EGLKNALKGYKIGACTIKWQAKVYSLE  
SDGNSVNIREEKVLTQQQSVCAASIALTRLRAARAVAYASCIQSAITSILQIAASALVVNRVAVKRM  
FGTRTAALSLEGPPKEHKCRVHQAKAAGKGP IGHDDVVDKYGLCETEEDDEEVVHTEMP SATIEG

**GII.2[P2]**

**>LC209463.1\_Norovirus/Hu/GII/JP/2008/GII.P2\_GII.2/Hokkaido-15**

GPPLSTFNFDNRNKIAAFRQLAAENKYGLVD TMRVGNQLRNVTTMDELKKA IKNIIIRKCQIVYSGNTY  
TLES DGKGKVVVERVQSTSVQINNEIAGAVHHLRCARVRYVVKCVQEA IYSL LQIAGTVFVTSRIVSR  
MNIQNLWSRPLAEDA DEATMKEGCPKPREEEEFVVSDDIKPE

**GII.4[P4]**

>KY905331.1\_Norovirus/Hu/GII.P4\_New\_Orleans\_2009\_GII.4\_Sydney\_2012/NSW789Z/2016/AU

GPALTTTFNFDNRNKVLAFRQLAAENKYGLMDTMRVGKQLKGVKTMPELKQALKNVSIKCCQIVYSGCTY  
MLES DGKGNVVDRIQSAAVQTNNELAGALHHLRCARIRYVVKCVQEALYSIIQIAGAAAFVTTTRIVKR  
MNIQDLWSKPQVENTEETT SKDGC PKPKDDEEFV ISSDDIKTE

**GII.6[P7]**

>LN854568.1\_Norovirus/GII/Hu/NL/2014/GII.6/Groningen

GNDLQTYNFDNTRVSAFRKLAADNKYGLMETMRVGTALKSVKTLLEDLKVLRDVKFNECEIIYRNSKY  
RVSSNGKGSVSVDKVEDQTSQTANEVGAALLRLRQARARYVSCFQDLVYTTLIQVAGASFVNRISKR  
FCWERWVKPTETQETSESEKEVAQGRWEIEPKDTEPE

**GII.4[P16]**

>LC175468.1\_Norovirus/Hu/GII/JP/2016/GII.P16\_GII.4\_Sydney2012/Kawasaki194

GPTITTFNFDNRNRI TAFRQLAAENKYGLVDTMKVGNQLKGVKTMEEELKQAIRNVTIKRCRIIYGGSTY  
DLES DGKGVKLVVEKIKNTSVQTNNELAGALHHLKHARIRYVVKCVQEAVYSIIQIAGAAAFVTTTRIARR  
MNIQELWSKPQLDQNESETKEEAPKSEDDEFI ISSKDIKEEG

**GII.18[P18]**

>AY823305.2\_Norovirus/swine/GII/OH-QW125/03/US

GDTGAVYNFDNNKIGAFRKLAAADNKYGLMETMRVGAKLQSVKNIDQLRANLRDITIKPCLIIYNSSTY  
SLESNGKGNVVIKVENQVVQSRNTIHTAILRMKQAKIRYIYKCIQEAIYSLLQVAGASFVVARITRK  
FTRDAWSHWDNTPDQAPPVPTPPQDASWEIAAADVTPE

**GII.3[P21]**

>LN854569.1\_Norovirus/GII/Hu/NL/2014/GII.21/Groningen

GPTPTTFNFDNRNKVLAFRQLAAENKYGLVDTMRVGSQKLVKTMTELKQALKNISVKKCQLVYGGGTY  
TLES DGKGNVHVEKVNNTSVQTNNELSGVLHHLRCARIRYVVKCVQEALYSILQIAGAAAFITTRIAGR  
TNIQNLWSKPQAEEDLEETNNEVGC PKPKNDDEEFVSSDDIKTE

**GII.4[P31]**

>MT232050\_Norovirus/Hu/GII/2014/N

GPALTTTFNFDNRNKILAFRQLAAENKYGLMDTMRVGKQLKDVKTMSDLKQALKNIAIKCCQIVYNGGTY  
TLEADGKGSVKIDKVQSATVQTNNELAGALHHLRCARIRYVVKCVQEALYSIIQIAGAAAFVTTTRIAGR  
MNIQNLWSKPQVEDTEEMANKDGLKPKDDEEFVSSDDIKTE

**GII.NA2[PNA2]**

>MG706448.1\_Norovirus/Hu/GII/PNV06929/2008/PER

GPPELPIYNFDQNKVASFRKLAADNKYGLMETIKAGNKLKEVKTLDQFKEAVRDIRIKPCRIIYNSTAY  
DLESNGSGKVTVKVGDQKVQANNELYSALNNLRARIRYVVKCFQEMIYSLLQIAGAAAFVTSRMTQR  
MNVGKLWTKPERTMKAPTEPPAPPIDWDTINPVDTIPE