

Figure 1

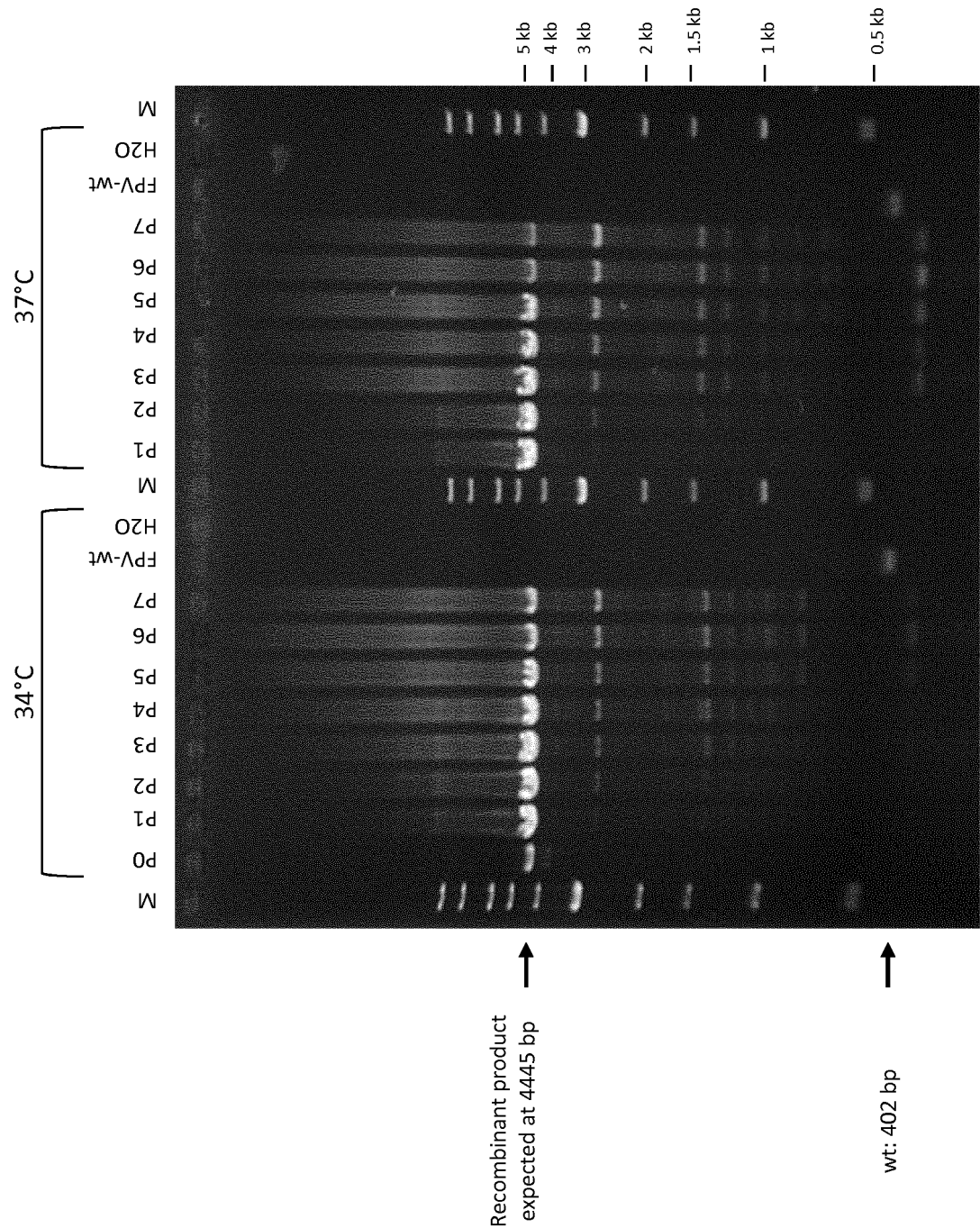


Figure 2A

PANVAC - MUC1

6x VNTR

MTPGTQSPFFLLLLTLVLTGSGHASSTPGGEKETSATQRSSVPSSTEKNAV

SMTSSVLSSHSPGSGSSTTQGQDVTLAPATEPASGSAALWGQDVTSPVTRPAL

GSTAPPAHGVTSAPDTRPAP

GSTAPPAHGVTSAPDTRPAP

GSTAPPAHGVTSAPDTRPAP

GSTAPPAHGVTSAPDTRPAP

GSTAPPAHGVTSAPDTRPAP

GSTAPPAHGVTSAPDTRPAP

VNTR #1

VNTR #2

VNTR #3

VNTR #4

VNTR #5

VNTR #6

ASTLVHNGTSARATTTASKSTPFSIPSHHSDTPTTLASHSTKTDASSTHHSTV

PPLTSSNHSTSPQLSTGVSEFFFLSFHISNLQFNSSLEDPSTDYYQELQORDISEM

FLQIYKQGGFLGLSNIKFRPGSVVQTLTAFREGTINVHDVETQFNQYKTEAAS

RYNLTISDVSVDVPFPFSAQSGAGVPGWGIALLVLCVLVALAIVYLIALAVC

QCRKNGYQQLDIFPARDTYHPMSEYPTYHTHGRYVPPSSSTRSPYEKVSAGNGG

SSLSYTNPAVAATSANL-

Figure 2B

mBN336/mBN373/mBN420 - MUC1

MTPGTQSPFFLLLLLTVLTVVTGSGHASSTPGGEKETSA^TQRSSVPSSTEKNAV
SMTSSVLSSHSPGSGSSTTQGDVTLAPATEPASGSAALWGQDVTSPVPVTRPAL

3x VNTR

G^LAPPAHGVTSYLDTRPAP ← VNTR #1 (PANVAC VNTR # 2)

V^STAPPAHGVTSAPDTRPAP ← VNTR #2 (PANVAC VNTR # 1)

G^STAPPAHGVTSAPDTRPAP ← VNTR #3 (PANVAC VNTR # 3)

ASTLVHNGTSARATTTTPASKSTPFSIPSHHSDIPTTLASHSTKTDASSTHHSTV
PPLTSSNHSTSPQ^LSTGVSEFFLSFHISNLQFNSSLEDPS^TDYYQELQ^RDISEM
FLQ^IYKQGGFLGLSNIKFRPGSVVQ^LTLAFREGTINVHDVETQ^FNQYKTEAAS
RYNLTISDVSVSDVPFPFSAQ^SSGAGVPGWGIALLVLCVLVYLAIVYLLIALAVC
Q^VRRKNYGQ^LDI^FPARDTYHPMSEYPT^YHTHGRYVPPSS^LFRSPYEKVSAGNGG
SYLSYTNPAVAATSANL⁻

Figure 4A

PANVAC_MUC1 mBN336_MUC1	60 60	ATGACACCGGGCACCCAGTCTCCTTTCTTCTCCTGCTGCTCCTCCTCCTCCTTACAGTT ATGACACCGGGCACCCAGTCTCCTTTCTTCTCCTGCTGCTCCTCCTCCTCCTTACAGTT *****
PANVAC_MUC1 mBN336_MUC1	120 120	GTTACGGGTTCTGGTCATGCAAGCTTACCCAGGTGGAGAAAAGGAGACTTCGGGTACC GTTACGGGTTCTGGTCATGCAAGCTTACCCAGGTGGAGAAAAGGAGACTTCGGGTACC *****
PANVAC_MUC1 mBN336_MUC1	180 180	CAGAGAAGTTCAGTGCACAGCTCTACTGAGAGAATGCTGTGAGTATGACAAGCTCCGTA CAGAGAAGTTCAGTGCACAGCTCTACTGAGAGAATGCTGTGAGTATGACAAGCTCCGTA *****
PANVAC_MUC1 mBN336_MUC1	240 240	CTCTCCAGCCACAGCCCGGTTACGGCTCCTCCACCCTCAGGGACAGGATGTCACCTCG CTCTCCAGCCACAGCCCGGTTACGGCTCCTCCACCCTCAGGGACAGGATGTCACCTCG *****
PANVAC_MUC1 mBN336_MUC1	300 300	GCCCCGGCCACGGAAACCAGCTTCAGGTTCAAGTCCCTTGTGGGACAGGATGTCACCTCG GCACCGGCCACGGAAACCAGCTTCAGGTTCAAGTCCCTTGTGGGACAGGATGTCACCTCG ** *****
PANVAC_MUC1 mBN336_MUC1	360 360	GTACCAGTTACTAGACCAGCTTTAGGTAGCACAGCACCTCCTGCTCATGGAGTAACTAGT GTACCAGTTACTAGACCAGCTTTAGGTAGCACAGCACCTCCTGCTCATGGCGTTACATCG *****
PANVAC_MUC1 mBN336_MUC1	420 396	GCTCCTGATACTCGTCCAGCTCCTGGCAGTACTGACACCCAGCCGCACATGGCGTAACATCA TATTGGACACTCGACCGGCACCACTTACACAGCA----- * ** *****
PANVAC_MUC1 mBN336_MUC1	480 396	GCACCTGATACAAGACCTGCACCTGGATCTACAGCGCGCTGCGCACGGAGTGACATCG -----
PANVAC_MUC1 mBN336_MUC1	540 415	GCGCCCGATACGCGCCCGCTCCCGGTAGCACCGCACCGCCGCCACGGTGTACAAAGT -----CTCCCGCACACGGTGTA ** ***** *
PANVAC_MUC1 mBN336_MUC1	600 420	GCACCCGATACCCGGCGGCACCCGGAAGTACCGCTCCACTGCACACGGGGTCAACAAGC -----CTAGC * ***
PANVAC_MUC1 mBN336_MUC1	660 480	GCGCCAGACACTCGACCTCGCCAGGGTCGACTGCCCTCCGGCGCATGGTGTGACCTCA GCGCTGATACACGTCGGCTCCCGGATCTACCGCTCCGCAGCGCACGGAGTGACCTCA *****
PANVAC_MUC1 mBN336_MUC1	720 540	GCTCCTGACACAAGGCCAGCCCCAGTAGCACTCTGGTGACAACGGCACCTCTGCCAGG GCACCAATACGAGGCCAGCGCTCTGTAGCACTCTGGTGACAACGGCACCTCTGCCAGG ** ** *
PANVAC_MUC1 mBN336_MUC1	780 600	GCTACCAACAACCCAGCCAGCAAGAGCACTCCATTCTCAATTCCAGCCACCCTCTGAT GCTACCAACAACCCAGCCAGCAAGAGCACTCCATTCTCAATTCCAGCCACCCTCTGAT *****

Figure 4A
(Cont.)

PANVAC_MUC1 mBN336_MUC1	840 660	ACTCCTACCAACCCCTTGCCAGCCATAGCAACCAAGACTGATGCCAGTAGCACTCACCATAGC ACTCCTACCAACCCCTTGCCAGCCATAGCAACCAAGACTGATGCCAGTAGCACTCACCATAGC *****
PANVAC_MUC1 mBN336_MUC1	900 720	ACGGTACCTCCTCTCACCTCTCCCAATCACAGCACTTCTCCAGTTGCTACTGGGGTC ACGGTACCTCCTCTCACCTCTCCCAATCACAGCACTTCTCCAGTTGCTACTGGGGTC *****
PANVAC_MUC1 mBN336_MUC1	960 780	TCCTTTCTTTTCTCCTGCTTTTTCACATTTCAAACCTCCAGTTTAAATTCCTCTCTGGAAGAT TCCTTTCTTTTCTCCTGCTTTTTCACATTTCAAACCTCCAGTTTAAATTCCTCTCTGGAAGAT *****
PANVAC_MUC1 mBN336_MUC1	1020 840	CCCAGCACCGACTACTACCAAGAGCTGAGAGAGAGACATTTCTGAAATGTTTTTCAGATTT CCCAGCACCGACTACTACCAAGAGCTGAGAGAGAGACATTTCTGAAATGTTTTTCAGATTT *****
PANVAC_MUC1 mBN336_MUC1	1080 900	TATAACAAGGGGGTTTTCTGGCCCTCTCCAATATAAGTTCAGGCCAGGATCTGTGGTG TATAACAAGGGGGTTTTCTGGCCCTCTCCAATATAAGTTCAGGCCAGGATCTGTGGTG *****
PANVAC_MUC1 mBN336_MUC1	1140 960	GTACAAATTGACTCTGGCCCTCCGAGAAGTACCATCAATGTCCACGAGTGGAGACACAG GTACAGTTGACTCTGGCCCTCCGAGAAGTACCATCAATGTCCACGAGTGGAGACACAG *****
PANVAC_MUC1 mBN336_MUC1	1200 1020	TTCAATCAGTATAAAGGAGCAGCCCTCTCGATATAACCTGACGATCTCAGACGTCAGC TTCAATCAGTATAAAGGAGCAGCCCTCTCGATATAACCTGACGATCTCAGACGTCAGC *****
PANVAC_MUC1 mBN336_MUC1	1260 1080	GTGAGTGATGTGCCATTTCCCTTCTCTGCCAGTCTGGGGTGGGTGCCAGGCTGGGGC GTGAGTGATGTGCCATTTCCCTTCTCTGCCAGTCTGGGGTGGGTGCCAGGCTGGGGC *****
PANVAC_MUC1 mBN336_MUC1	1320 1140	ATCGCGCTGCTGGTGTCTGTGTTCTGGTTGGCTGGCCATTGTCTATCTCATTTGCC ATCGCGCTGCTGGTGTCTGTGTTCTGGTTGGCTGGCCATTGTCTATCTCATTTGCC *****
PANVAC_MUC1 mBN336_MUC1	1380 1200	TTGGCTGTCTGTGAGTCCGCGGAAAGAACTACGGGCAGCTGGACATCTTCCAGCCCGG TTGGCTGTCTGTGAGTCCGCGGAAAGAACTACGGGCAGCTGGACATCTTCCAGCCCGG *****
PANVAC_MUC1 mBN336_MUC1	1440 1260	GATACCTACCATCCTATGAGCGAGTACCCACCTACACACCATGGGCGCTATGTGCC GATACCTACCATCCTATGAGCGAGTACCCACCTACACACCATGGGCGCTATGTGCC *****
PANVAC_MUC1 mBN336_MUC1	1500 1320	CCTAGCAGTACCGATCGTAGCCCTATGAGAAGGTTTCTGAGGTAATGTTGGCAGCAGC CCTAGCAGTCTGTTCCGTAGCCCTATGAGAAGGTTTCTGAGGTAATGTTGGCAGCTAC *****
PANVAC_MUC1 mBN336_MUC1	1548 1371	CTCTCTTACACAAACCAGCAGTGGCAGCCACTTCTGCCAACTTGTAAG-- CTCTCTTACACAAACCAGCAGTGGCAGCCACTTCTGCCAACTTGTAAG *****

Figure 4B
(cont.)

PANVAC_MUC1 mBN373_MUC1	ACGGTACCTCCTCTCACCTCCTCCATCACAGACTTCTCCAGTTGTCTACTGGGTC ACGGTACCTCCTCTCACCTCCTCCATCACAGACTTCTCCAGTTGTCTACTGGGTC *****	900 720
PANVAC_MUC1 mBN373_MUC1	TCCTTCTTTTTCCTGTCTTTTCACATTTCAAACCTCCAGTTAATTCTCTCTGGAAGAT TCCTTCTTTTTCCTGTCTTTTCACATTTCAAACCTCCAGTTAATTCTCTCTGGAAGAT *****	960 780
PANVAC_MUC1 mBN373_MUC1	CCAGCACCGACTACTACCAAGAGCTGCAGAGAGACATTTCTGAAATGTTTTTGCAGATT CCAGCACCGACTACTACCAAGAGCTGCAGAGAGACATTTCTGAAATGTTTTTGCAGATT *****	1020 840
PANVAC_MUC1 mBN373_MUC1	TATAACAAGGGGTTTTCTGGGCTCTCCAATATTAAAGTCAGGCCAGGATCTGTGGTG TATAACAAGGGGTTTTCTGGGCTCTCCAATATTAAAGTCAGGCCAGGATCTGTGGTG *****	1080 900
PANVAC_MUC1 mBN373_MUC1	GTACAATTGACTCTGGCTTCCGAGAAGGTACCATCAATGCCAGCGTGGAGACACAG GTACAGTTGACTCTGGCTTCCGAGAAGGTACCATCAATGCCAGCGTGGAGACACAG *****	1140 960
PANVAC_MUC1 mBN373_MUC1	TTCAATCAGTATAAAACGAAGCAGCCTCTCGATATAACCTGACGATCTCAGAGTCAGC TTCAATCAGTATAAAACGAAGCAGCCTCTCGATATAACCTGACGATCTCAGAGTCAGC *****	1200 1020
PANVAC_MUC1 mBN373_MUC1	GTGAGTGATGGCCATTTCTCTGCCCAGTCTGGGGCTGGGTGCCAGGCTGGGGC GTGAGTGATGGCCATTTCTCTGCCCAGTCTGGGGCTGGGTGCCAGGCTGGGGC *****	1260 1080
PANVAC_MUC1 mBN373_MUC1	ATCGGCTGTGGTGCTGTGTGTGTGTGGTGGCTGGCCATTTGTCTATCTCATTTGCC ATCGGCTGTGGTGCTGTGTGTGTGTGGTGGCTGGCCATTTGTCTATCTCATTTGCC *****	1320 1140
PANVAC_MUC1 mBN373_MUC1	TTGGCTGTCTGTCTAGTGGCGCCGAAGAAGTACGGGCAGCTGGACATCTTCCAGCCCGG TTGGCTGTCTGTCTAGTGGCGCCGAAGAAGTACGGGCAGCTGGACATCTTCCAGCCCGG *****	1380 1200
PANVAC_MUC1 mBN373_MUC1	GATACCTACCATCCTATGAGCGAGTACCCACCTACACACCCATGGGCGCTATGTGCC GATACCTACCATCCTATGAGCGAGTACCCACCTACACACCCATGGGCGCTATGTGCC *****	1440 1260
PANVAC_MUC1 mBN373_MUC1	CCTAGCAGTACCGATCGTAGCCCTATGAGAAGTTTCTCAGGTAATGGTGGCAGCAGC CCTAGCAGTCTGTTCCGTAGCCCTATGAGAAGTTTCTCAGGTAATGGTGGCAGCTAC *****	1500 1320
PANVAC_MUC1 mBN373_MUC1	CTCTCTTACAAACCCAGCAGTGGCAGCCACTTCTGCCAACTTGTAG--- CTCTCTTACAAACCCAGCAGTGGCAGCCACTTCTGCCAACTTGTAGTGA *****	1548 1371

PANVAC_MUC1	ATGACACGGGCACCCAGTCTCCTTTCTTCTCTGCTGCTGCTCCTCAAGTGCTTACAGTT	60
mBN420_MUC1	ATGACACCTGGCACTCAGTCACCAATCTTCTGCTGTTACTCTTGACAGTGCTTACAGTT	60
	***** :*:***** * * * * *	
PANVAC_MUC1	GTTACGGGTTCTGTCATGCAAGCTCTACCCAGGTGGAAAAAGGAGACTTCGGCTACC	120
mBN420_MUC1	GTTACAGGTTCTGTCATGCAAGCTCTACCCAGGTGGAAAAAGGAGACTTCGGCTACC	120
	****. *****	
PANVAC_MUC1	CAGAGAAGTTCAGTGCCTCAGCTCTACTGAGAAGAAATGCTGTGAGTATGACAAGTCCGTA	180
mBN420_MUC1	CAGCGGAGTTCAAGTCCCTAGCTCTACTGAGAAGAAATGCTGTGAGTATGACAAGTCCGTA	180
	. **	
PANVAC_MUC1	CTCTCCAGGCACAGCCCGGTTCAGGCTCCTCCACCACCTCAGGGACAGGATGTCACTCTG	240
mBN420_MUC1	CTCTCCAGGCACAGCCCGAGGTTCAAGCTCCAGACCACCTCAAGGACAGGATGTCACTCTG	240
	***** :*:***** * * * * *	
PANVAC_MUC1	GCCTCCGGCCACGGAAACAGCTTCAGGTTCAAGTGCCTTGTGGGGACAGGATGTCACTCTG	300
mBN420_MUC1	GCACCGGCCACGGAAACAGCTTCAGGTTCAAGTGCCTTGTGGGGACAGGATGTCACTCTG	300
	** *****	
PANVAC_MUC1	GTACCAGTTACTAGACAGAGCTTTAGGTAGCACAGCACTCTGCTCATGGAGTAACTAGT	360
mBN420_MUC1	GTACCAGTTACTAGACAGAGCTTTAGGCTACCTGGCGCCACC-----	341
	***** :*.***	
PANVAC_MUC1	GCTCTGATACTCGTCAGCTCCTGGCAGTACTGCACCCGGGCACATGGCGTAAACATCA	420
mBN420_MUC1	-----GGTCTATGGCGTTACATCG	360
	:**:****.	
PANVAC_MUC1	GCACCTGATACAAGACCTGCACCTGGATCTACAGCGCGGCTGCGCACGGAGTGACATCG	480
mBN420_MUC1	TATTTGGA-----	368
	.. **	
PANVAC_MUC1	GGCGCCGATAGCGCGCCGCTCCCGGTAGCACCGCACCGCCCGCCACGGTGTACAGT	540
mBN420_MUC1	-----CACT-----	372
	**	
PANVAC_MUC1	GCACCCGATACCCGGCGGCAACCGGAAGTACCGTCCACTGCACACGGGGTCACAAGC	600
mBN420_MUC1	-----CGACCGGCACCAAGTTAGCACACCACTCCCGCACACGGGTGTAACTAGC	420
	** ***** * : ** ** :*:*** ** ***** ** :*:***	
PANVAC_MUC1	GGCGCAGACTCGACTGCGCCAGGTGCACTGCCCTCCGGCGGATGGTGTGACCTCA	660
mBN420_MUC1	GGCGCTGATACAGTCCCGCTCCCGGATCTACCGCTCCGCCAGCGGAGTGCAGTCA	480
	*****:*** ** :*:*** ** ** ** **	
PANVAC_MUC1	GCTCTGACACAAGGCCAGCCCGCAGCTAGCACTCTGGTGACAAAGGCACTCTGCCAGG	720
mBN420_MUC1	GCACCAAGATACGAGGCCAGCGCTGCTAGCACTCTGGTGACAAATGCACATCTGCCAGG	540
	** :*:*** ** ***** :*:*****	

PANVAC_MUC1 mBN420_MUC1	GCTACCAACAACCCAGCCAGCAAGAGACACTCCATTCTCAATTCCCAAGCAACCACTCTGAT GCTACCACAACTCCAGCCAGCAAGAGACACTCCATTCTCAATTCCCAAGCAACCACTCTGAT *****	780 600
PANVAC_MUC1 mBN420_MUC1	ACTCCTACCACCCTTGCCAGCCATAGCAACCAAGACTGATGCCAGTAGCACTCACCATAGC ACTCCTACCACACTTGCCAGCCATAGCAACCAAGACTGATGCCAGTAGCACTCACCATAGC *****	840 660
PANVAC_MUC1 mBN420_MUC1	ACGGTACCTCCTCTCACCCTCCCTCCAAATCACAGCACTTCTCCCGAGTTCTCTACTGGGGTC ACGGTACCTCCACTCACCTCCTCCAAATCACAGCACTTCTCCCTGAGTTCTCTACTGGAGTC *****	900 720
PANVAC_MUC1 mBN420_MUC1	TCCTTCTTTTCTCTCTCTTTTCAATTTCAAACTCCAGTTAACTCTCTCTCTGGAAGAT TCCTTCTTTTCTCTCTCTTTCAATTTCAAACTTGCACTTCAATTTCTCCCTGGAAGAT **	960 780
PANVAC_MUC1 mBN420_MUC1	CCAGACCCGACTACTACCAAGAGCTGCAGAGACATTTCTGAAATGTTTTTGCAGATT CCAGACCCGACTACTACCAAGAGCTGCAGAGACATTTCTGAGATGTTCTTTCAGATT *****	1020 840
PANVAC_MUC1 mBN420_MUC1	TATRAACAAGGGGTTTCTGGGCTCTCCAAATATTAAGTTTCCAGCCAGGATCTGTGGTG TATRAACAAGGTGGATTCTTGGGCTCTTAATATTAAGTTTCCAGCCAGGATCTGTGGTG *****	1080 900
PANVAC_MUC1 mBN420_MUC1	GTACAATTGACTCTGGCTTCGAGAGGTACCATCAATGTCCAGCACTGGAGACACAG GTACAGTTGACTCTGGCTTCGAGAGGTACCATCAATGTCCAGCACTGGAGACACAG ****	1140 960
PANVAC_MUC1 mBN420_MUC1	TTCAATCAGTATAAAGCGGAGCAGCTCTCATATAAACCCTGACGATCTCAGACGTCAGC TTCAATCAGTATAAAGCGGAGCAGCTCACGATATAACCTGACGATCTCAGACGTCAGC *****	1200 1020
PANVAC_MUC1 mBN420_MUC1	GTGAGTGATGTGCCATTTCCCTTCTCTGCCAGTCTGGGGCTGGGGTCCAGGCTGGGC GTTAGTGATGTGCCATTTCCCTTCTCTGCCAGTCTGGAGCTGGTGCCAGGCTGGGC **	1260 1080
PANVAC_MUC1 mBN420_MUC1	ATCGGGCTGCTGGTGCTGTGTGTCTGGTTGGCTGGCCATTTGTCTATCTCATTTGCC ATCGGGCTGCTGGTGCTGTGTGTCTGGTTTACCTGGCCATTTGTCTATCTCATTTGCC *****	1320 1140
PANVAC_MUC1 mBN420_MUC1	TTGGCTGTCTGTCACTGCCGCGAAGAACTACGGGCGAGCTGGACATCTTTCAGGCCCGG TTGGCTGTCTGTCACTGCCGCGAAGAACTACGGAGCTGGACATCTTTCAGGCTCGG *****	1380 1200
PANVAC_MUC1 mBN420_MUC1	GATACCTACCATCCTATGAGCGAGTACCCCACTACACACCAATGGGGCTATGTGCC GATACCTACCATCCTATGAGCGAGTACCCCACTACACACCAATGGCTATGTGCCA *****	1440 1260
PANVAC_MUC1 mBN420_MUC1	CCTAGCAGTACCGATCGTAGCCCTATGAGAAGTTTCTGAGGTAATGGTGGCAGCAGC CCTAGCAGTCTGTCCGTAGTCCCTATGAGAAGTTTCTGAGGTAATGGTGGCAGCTAC *****	1500 1320
PANVAC_MUC1 mBN420_MUC1	CTCTCTTACACAACCCAGCAGTGGCAGCCACTTCTGCAACTGTAG--- CTCTCTTACACAACCCAGCAGTGGCAGCCACTTCTGCAACTGTAGTA *****	1548 1371

Figure 4C
(cont.)

PANVAC_CEA
mBN373/420_CEA
60
60
atggagtctccctcggccctccacacagatggtgcatccctggcagaggctcctgctc
atggagtctccctcggctccacacagatggtgcatccctggcagaggctcctgctc
*****.***** ***** *****

PANVAC_CEA
mBN373/420_CEA
120
120
acagcctcaacttctaactcttggaaccgcacacactgccaaagctcactattgaatcc
acagcctcaacttctaactcttggaaccgcacacactgccaaagctcactattgaatcc

PANVAC_CEA
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180
180
acgccgttcaatgtcgcagagggaaggaggtgtcttacttgcacaaatctgccccag
acgccgttcaatgtcgcagagggaaggaggtgtcttacttgcacaaatctgccctcag

PANVAC_CEA
mBN373/420_CEA
240
240
catcttttggctacagctggtacaaaagtgaaagagtggaagggaaccgtcaaaattata
catctcttggctacagctggtacaaaagtgaaagagtggaagggaaccgtcaaaattata

PANVAC_CEA
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300
ggatatgtaataggaaactcaacaagctaccagggccgcacacagtggtcgagagata
ggatatgtaataggaaactcaacaagctaccagggccgcacacagtggtcgagagata

PANVAC_CEA
mBN373/420_CEA
360
360
atataccccaatgcataccctgctgatccagaacatcatccagaatgacacaggattctac
atataccctaatgcataccctgctgatccagaacatcatccagaatgacacaggattctac

PANVAC_CEA
mBN373/420_CEA
420
420
accctacacgtcataaagtcagatcttgtgaatgaagaagcaactggccagttccgggta
accctacacgtcataaagtcagatcttgtgaatgaagaagcaactggccagttccgggta

PANVAC_CEA
mBN373/420_CEA
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PANVAC_CEA
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PANVAC_CEA
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aacaaccagtccttgctgtcctcctagactccaactcagcaacggaaatagaactctg

PANVAC_CEA
mBN373/420_CEA
660
660
accctgtttaacgtgaccaggaacgacacagcaagctacaaatgcgaaccccaaatcca
accctgtttaacgtgaccaggaacgacacagcaagctacaaatgcgaaccccaaatcca

Figure 5

Figure 5
(cont.)

PANVAC_CEA mBN373/420_CEA	720 720	gtcagcgcaggaggtctgattcagtgattctcaacgtgctttacggaccgatgctcct gtcagcgcaggaggtctgattcagtgattctcaacgtgctttacggaccgatgctcct *****
PANVAC_CEA mBN373/420_CEA	780 780	acaatcagccctctaaacacacagctatagatcaggggaaaaatctgaatctgagctgtcat acaatcagccctctaaacacacagctatagatcaggagaaaaatctgaatctgagctgtcat *****
PANVAC_CEA mBN373/420_CEA	840 840	gcgcgtagcaatcctccgcaccaatacacagctggtttgtcaatggcactttccaacagtc gcgcgtagcaatcctccagctcaatacacagctggtttgtcaatggcactttccaacagtc *****
PANVAC_CEA mBN373/420_CEA	900 900	accaggaaactgttcattcccaatattacccgtgaacaatagtggtatcctacacgtgccaa accaggaaactgttcattcccaatattacccgtgaacaatagtggtatcctacacgtgccaa *****
PANVAC_CEA mBN373/420_CEA	960 960	gctcacaatagcgacacccggactcaacccgcacaacccgtgaacacgattaccgtgtatgag gctcacaatagcgacacccggactcaacccgcacaacccgtgaacacgattaccgtgtatgag *****
PANVAC_CEA mBN373/420_CEA	1020 1020	ccacaaaaaccattcataactagtaacaattcttaaccacgttgaggatgaggaacgcagtt ccacaaaaaccattcataactagtaacaattcttaaccacgttgaggatgaggaacgcagtt *****
PANVAC_CEA mBN373/420_CEA	1080 1080	gcattaaactgtgtgagccagagattcaaaaataccacttatttatggtgggtcaataaccaa gcattaaactgtgtgagccagagattcaaaaataccacttatttatggtgggtcaataaccaa *****
PANVAC_CEA mBN373/420_CEA	1140 1140	agtttgccggttagccacgcttgagttgtctaatgataacccgcacattgacactcctg agtttgccggttagccacgcttgagttgtctaatgataacccgcacattgacactcctg *****
PANVAC_CEA mBN373/420_CEA	1200 1200	tccgttactcgcaatgatgtaggaccttatgagtggtggcattcagaatgaattatccgtt tccgttactcgcaatgatgtaggaccttatgagtggtggcattcagaatgaattatccgtt *****
PANVAC_CEA mBN373/420_CEA	1260 1260	gatcactccgaccctgttatcottaatgttttgtatggcccagacgacccaaactatct gatcactccgaccctgttatcottaatgttttgtatggcccagacgacccaaactatct *****
PANVAC_CEA mBN373/420_CEA	1320 1320	ccatcatacacotactacogtcccggcggtgaacttgagcctttcttgccatgagcatcc ccatcatacacotactacogtcccggcggtgaacttgagcctttcttgccatgagcatcc *****

PANVAC_CEA mBN373/420_CEA	aaccocccctgcacagtaactcctggctgattgattgagaaacattcagcagcagatactcaagag aatccacctgcacagtaactcctggctgattgattgagaaacattcagcagcagatactcaagag ** * 1380 1380
PANVAC_CEA mBN373/420_CEA	ttatttataagcaacataaactgagaagaacacagcgagactctatacttgcagggccataaac ttatttataagcaacataaactgagaagaacacagcgagactctatacttgcagggccataaac ***** 1440 1440
PANVAC_CEA mBN373/420_CEA	tcagccagtggtcacagcagcagactacagttaaaacaataaactgtttccggcgagctgccc tcagccagtggtcacagcagcagactacagttaaaacaataaactgtttccggcgagctgccc ***** 1500 1500
PANVAC_CEA mBN373/420_CEA	aagccctccatctccagcaacaactccaaacccgtggaggacaaggatgctgtgtgccccttc aagccctccatctccagcaacaactccaaacccgtggaggacaaggatgctgtgtgccccttc ***** 1560 1560
PANVAC_CEA mBN373/420_CEA	acctgtgaacctgaggctcagaacaacacactacctctgtgtgggtaaaatggtcagagccctc acctgtgaacctgaggctcagaacaacacactacctctgtgtgggtaaaatggtcagagccctc ***** 1620 1620
PANVAC_CEA mBN373/420_CEA	ccagtcagtcocaggctgcagctgtccaatggcaacaggaccctcactctattccaatgtc ccagtcagtcocaggctgcagctgtccaatggcaacaggaccctcactctattccaatgtc ***** 1680 1680
PANVAC_CEA mBN373/420_CEA	acaagaaatgaacgaagagcctatgtatgtggaatccagaactcagtgagtgcaaaacgc acaagaaatgaacgaagagcctatgtatgtggaatccagaactcagtgagtgcaaaacgc ***** 1740 1740
PANVAC_CEA mBN373/420_CEA	agtgaaccagtcaccctggatgtcctctatatgggcgggacacccccatcatttcccccca agtgaaccagtcaccctggatgtcctctatatgggcgggacacccccatcatttcccccca ***** 1800 1800
PANVAC_CEA mBN373/420_CEA	gactgtcttaacctttcgggagcggagcctcaacctctcctgcactcggcctctaaacca gactgtcttaacctttcgggagcggagcctcaacctctcctgcactcggcctctaaacca ***** 1860 1860
PANVAC_CEA mBN373/420_CEA	tcoccgagtatcttggcgatcaatgggataccgcagcagcaacacacacaagttctcttt tcoccgagtatcttggcgatcaatgggataccgcagcagcaacacacacaagttctcttt ** 1920 1920
PANVAC_CEA mBN373/420_CEA	atcgccaaaatcacgccaaaataataaaggcgacccctatgcctgttttgtcttaacttggct atcgccaaaatcacgccaaaataataaaggcgacccctatgcctgttttgtcttaacttggct ***** 1980 1980

Figure 5
(cont.)

PANVAC_CEA mBN373/420_CEA	actggccgcaataattccatagtcgaagagcatcacagtcctctgcacatctggaaacttctcct actggccgcaataattccatagtcgaagagcatcacagtcctctgcacatctggaaacttctcct *****	2040 2040
PANVAC_CEA mBN373/420_CEA	ggtctctcagctggggccactgtcggcatcatgattggagtcgtggtgggttgctctg ggtctctcagctggagccactgtcggcatcatgattggagtcgtggtgggttgctctg *****.	2100 2100
PANVAC_CEA mBN373/420_CEA	atatag atatag *****	2106 2106

Figure 5
(cont.)

[illegible]

PANVAC_ICAM-1
 mBN373/420_ICAM-1
 atggtccacagcagcccccggcccggtcccgactcctgtcctgtcggggctctg 60
 atggtcctcagctcacctagacacagctctgctgccctgtcgtcgtcgtcgtcgtg 60
 ***** ** : ** .*.***.*** ***** ** ** ** *****.*****

 PANVAC_ICAM-1
 mBN373/420_ICAM-1
 ttccacaggacctggcaatgccacagacatctgtgtcccccctcaaaagtcatcctgtccccg 120
 ttccctggaccaggcaacgccacagacagcgtgtcacctagcaaaagtattctgtccaga 120
 *****:*****.*****.*****.*****.*****.*****.*****.

 PANVAC_ICAM-1
 mBN373/420_ICAM-1
 ggaggctccgtgtgtgtgacatgcagcacctcctcgtgacacagcccaagttgttgggcata 180
 ggaggctccgtgtgtgtcacatgtagcacagctgcgcacagcccaagctcctcgggatac 180
 *****:*****.*****.*****.*****.*****.*****.*****.

 PANVAC_ICAM-1
 mBN373/420_ICAM-1
 gagacccctgtgcctaaaaaggagttgtcctcgtggtgggaacacacoggaagtgtatgaa 240
 gagacacctctgcccaagaagagctgctcctgcaggaacacatcggaaagtgtacgag 240
 ***** ** *** ** .*.***.*** *****:*** *****.***** **

 PANVAC_ICAM-1
 mBN373/420_ICAM-1
 ctgagcaatgtgcaagaagatagcccaacccaatgtcctattcaaaactgccctgatgggcag 300
 ctgtccaatgtgcaggagatagccagcccatgtgtcactccactgtccagacggccag 300
 : **.*****.*****.*****.***** ** ***** ** ** **

 PANVAC_ICAM-1
 mBN373/420_ICAM-1
 tcaacagctaaaaacttctccctggtactgtgactccagacgggtggaaactggcacccc 360
 agcaocgcacaagaccttctgcoggtgtactgtgacacctgagcgggtggaaactggctcca 360
 :.*** ** ***** ** *****:***.***.*****.*****.*****.***

 PANVAC_ICAM-1
 mBN373/420_ICAM-1
 ctccctcttggcagccagtgggcaagaaccttaccctacgtgccaggtggaggtggg 420
 ctgccagctggcagccagtgggcaagaaccttaccctacgtgccaggtggaggtggg 420
 ** ***: *****.*****.*****.*****.*****.*****.*****.

 PANVAC_ICAM-1
 mBN373/420_ICAM-1
 gcaocccgggccaacctcaccgtgtgtcgtcgtcgtgggagagagagctgaaacgggag 480
 gctccagagccaacctgacagtggtgtcctgcagcggagagagagagagctgaaacgggag 480
 :.***.*****.*****.*****.*****.*****.*****.*****.

 PANVAC_ICAM-1
 mBN373/420_ICAM-1
 ccagctgtggggagcccgctgaggtcacaccacgggtgtgtgagagagatcacccat 540
 cctgcctggggcagccagccgaagtgacacacacccgtcgtcgtcgtcgtcgtcgtcgtcgt 540
 :*.*****.***.***.***.***.***.***.***.***.***.***.***.***.***.***

 PANVAC_ICAM-1
 mBN373/420_ICAM-1
 ggagccaattctcgtgccgcactgaactggaactggcccccagggcctggagctgttt 600
 ggagccaacttcagctgagaaacccagctggaactcaggccacagggcctggaaactgttc 600
 ***** ***: ***.***.***.*****.***.***.***.***.***.***.***.***

 PANVAC_ICAM-1
 mBN373/420_ICAM-1
 gagaacaactcggcccccctacagctccagacettgtcctgcacaggaactccccacaa 660
 gagaacacagcgtcctcctacagctccagacettgtcgtcctccaggaacacacacacacag 660
 *****: ** *****.*****.*****.*****.*****.*****.*****.

 PANVAC_ICAM-1
 mBN373/420_ICAM-1
 cttgtcagcccccgggtcctagaggtggacacagcaggggacogtggctgttccctggac 720
 ctgggtcacctcgggtgtggaagtgagacacccagggcacagctcgtgtgcagcctggac 720
 ** **: ** *****.***.***.*****.*****.*****.*****.*****.

 PANVAC_ICAM-1
 mBN373/420_ICAM-1
 gggctgttccagctcggaggcccccaggtccacctggcactgggggacacagaggttgaac 780
 ggcctgttcccggtccgaagctcagctccacctggctcgtcgtccaggaacacacacacacag 780
 ** ***** ** ** ** .*.***.*** *****:*** ** *****.*****.*****

 PANVAC_ICAM-1
 mBN373/420_ICAM-1
 cccacagctcacctatggcaacgactccttctcggccaaggcctcagtcagtcgtgacccgca 840
 octacogtgacctaoggaatgacagcttccagtcgccaagcctcgtcgtcgtgacccgccc 840
 ** **.*** ***** ***: ****: *****.*****.***: *****.*****.

Figure 7

Figure 7
(cont.)

PANVAC_ICAM-1 mBN373/420_ICAM-1	gaggacgagggcaccagggcgtgacgtgtgcaataatactggggaaccagagccaggag 900 gaggatgaaggcaccagaggtgacatgctgctgattctgggaaccagagccaggaa 900 ***** **.*.*****.***** **.*.***;***** *****.*****.
PANVAC_ICAM-1 mBN373/420_ICAM-1	acactgcagacagtacacattctacagctttccgggcgcccaacgtgattctgaacagcca 960 accctgcagaccgtcacattctatagcttccctgcacctaatgtgatccctgacaagccc 960 **.*.***** **.*.***** ***** **.*.*** **.*.***** *****.
PANVAC_ICAM-1 mBN373/420_ICAM-1	gaggtctcagaaggacccaggtgacagtggaagtgtgagccacccctagagccaaaggtg 1020 gaggtgtccaggggcaactgaagtgaactgaatggaggccacccctagagccaaaggtg 1020 ***** **.*.*** **.*.*****.***** **.*.***** *****.***
PANVAC_ICAM-1 mBN373/420_ICAM-1	acgtgaatgggttccagcccccactggcccgagggccacagctcctgctgaaggcc 1080 accctgaacggcgtgccaccccccactggacccagagcacagctcctgctgaaggcc 1080 **.*.***** **.*.***** ***** **.*.*** **.*.***** *****.
PANVAC_ICAM-1 mBN373/420_ICAM-1	acccagaggaacacgggocagcttctctctgtctgtcaacccctggaggtggccggccag 1140 acaccgaggataacggccggtccttctctcagggctacccctggaagtggccggacag 1140 **.*.***** ***** **.*.*****; ***** **.*.***** *****.
PANVAC_ICAM-1 mBN373/420_ICAM-1	cttatacacaagaaccagaccggagcttctgtctgtatggcccccactggacagag 1200 ctgatccacaagaaccagaccagagctgagagtgctgtacggccctagactggacagag 1200 **.*.***** ***** **.*.***** **.*.***** *****.
PANVAC_ICAM-1 mBN373/420_ICAM-1	agggattgtccgggaactggacgtggccagaaaattcccagcagactccaattgtgccag 1260 agagactgccagggcaactggaactggcccgagaaactcccagcagacacccatgtgccag 1260 **.*.*** **.*.***** ***** **.*.*** *****.*****.
PANVAC_ICAM-1 mBN373/420_ICAM-1	gcttgggggaacccattgcccagagctcaagtgtctaaaggatggcaacttcccactgccc 1320 gcttggggcaacccactgccagagctgaagtgcctgaaggaggaaccttccctctgcc 1320 ***** ***** **.*.***** ***** **.*.***** *****.
PANVAC_ICAM-1 mBN373/420_ICAM-1	atcggggaatcagtgactgcactcgagatcttgaggggcacctacctctgtcgggccagg 1380 atcggcgagtcctgacagtgaccagggacctggaaaggcacctacctgtgcagagccaga 1380 ***** **.*.*****;*** **.*.*** **.*.***** ***** **.*.*****.
PANVAC_ICAM-1 mBN373/420_ICAM-1	agcactcaaggggaggtcaccccgaggtgacccgtgaatgtgtctccccccgggtatgag 1440 tccacacagggggaagtgaacacggaggtcacccgtgaatgtgtgtcacctcgtctacgag 1440 :***;*** **.*.*** **.*.***** ***** ***** **.*.*** **.*.***
PANVAC_ICAM-1 mBN373/420_ICAM-1	attgtcatcatcactgtgtagcagcccgagtcataatgggcactgcaggcctcagcaog 1500 atcgtgtatcatcacogtggctgctgcagctgtgatcatcagggcacagccggactgagcaca 1500 **.*.***** *****;***;*** **.*.*** **.*.*****;*** **.*.*****.
PANVAC_ICAM-1 mBN373/420_ICAM-1	tacctctataaccgccagcgaagatcaagaataacagactacaacagggcccaaaagg 1560 tacctgtacaacccggcagcgaagatcaagaagtacaggtcagcagggccagaaaggc 1560 ***** **.*.***** ***** *****;***** **.*.***** *****.
PANVAC_ICAM-1 mBN373/420_ICAM-1	accccatgaacccgaacacacacagccacgcctccctga 1599 acacccatgaagcccaacacccaggccaactcctccctga 1599 **.*.*****;*** ***** ***** *****

PANVAC_LFA-3	atggttgctggagacgcggggggccctgggggtcctcagcgtgtctgcctgctg	60
mBN373/420	atggtgctggtctgatcgaggagagccctggagtgctgtctgctgtgctgctg	60
	***** : ** ** ** ** .***** ** ** ; ** ** *****	
PANVAC_LFA-3	cactgcttgggttcattcagctgtttttcccaacaaatatatggtgtgtgtatgggaat	120
mBN373/420	cactgcttcggtctcattcagctgtctcagccagcagatctacggagtgctacggcaac	120
	***** ** ***** ** : ** ** ** ** .***** ** ** ** ** ** **	
PANVAC_LFA-3	gtaactttccatgtaccaagcaatgfgcctttaaagaggtcctatggaaaaacaaaag	180
mBN373/420	gtgaccttccatgtccagcaacgtgcctctgaagaggtgctctggaagaacagag	180
	** ** ***** ** ***** ** ***** ** ***** ** *****	
PANVAC_LFA-3	gataaagttgcagaactcggaaaattctgaattcagagctttctcatottttaaaaatagg	240
mBN373/420	gacaagttcgagagctcggagaaacagaggttcgggcttcagcagctcagaacogg	240
	** ** ***** ** : ** ** ** .***** ** ** ** : ** ** **	
PANVAC_LFA-3	gttattttagacaactggtcaggtagcctcactatctacaacttaacatcatcagatgaa	300
mBN373/420	gtgtacctggcacacgtgtccggcagctgacctaccatctacaactgaacagcagag	300
	** ** * ***** ** ***** ** ***** ** ***** ** . : ** **	
PANVAC_LFA-3	gatgagtatgaatggaatgcgcacattactgtataccatgaagtctcttttatgtg	360
mBN373/420	gaadgagtccagatgaaagccctacaactcagccagcccatgaagttctctgtatgtg	360
	** ***** ** ***** : ** ** ** ** ** ** ** ***** ** ***** ** *****	
PANVAC_LFA-3	cttgagttctcttcattccacactaaactgtgattgactaactggaagcattgaagtc	420
mBN373/420	ctggaaagctgccacgcccaactgacgtgtgcctgaccaaggtccatogaggtg	420
	** ** : ** ** : ***** ** ***** ** ***** ** : ** **	
PANVAC_LFA-3	caatgcattgataccagagcattacaacagccatcagggacttataatgtactcatggat	480
mBN373/420	cagtgcattgattcccgagcactacactccacagagccctgacatgtactcttggagac	480
	** ***** ** ***** : ** ** ** .***** ** ***** : *****	
PANVAC_LFA-3	tgtcctatggagcaatgtaacgttaactcaaccagtatatatttaagatggaaaaatgat	540
mBN373/420	tgccctatggaaacagtgcaaggccacagcaccagcatctacttcaagatgggaacagac	540
	** ***** ** ** ** : ** ** : ***** ** ** ***** ** **	
PANVAC_LFA-3	cttcacaaaaaatacacagtgtactcttagcaatccattatttaatacacatcatcaatc	600
mBN373/420	ctcctcagaagatccagtgccacactgagaaatccactgttcaacacacatccagcatc	600
	** ** : ** ** .***** ** : ***** ** * ** ***** : ** **	
PANVAC_LFA-3	attttgacaacctgtatcccaagcagcgggtcattcaagacacagatatgcactataccc	660
mBN373/420	atcctgacaacctgtattccagcagtgggccacagcagacacagatacgcctgatccct	660
	** ***** ** ** * ** : ***** ** * ** ***** ** **	
PANVAC_LFA-3	ataccattagcagtaattacaacatgtattgtgctgtatatgaatgtattctgaatgt	720
mBN373/420	attcaactgocgtgatcccatgatgcctgtgctgtacatgaacggcatcctgaagtc	720
	** : ** * .** ** .***** ** ***** ** ***** ** ** *****	
PANVAC_LFA-3	gacagaaaaacagacagaaacccaactcgaattga	753
mBN373/420	gaccggaagcccgacagcgaccacagcaactga	753
	*** . * ** .***** : ***** ** *****	

Figure 9
mBN336

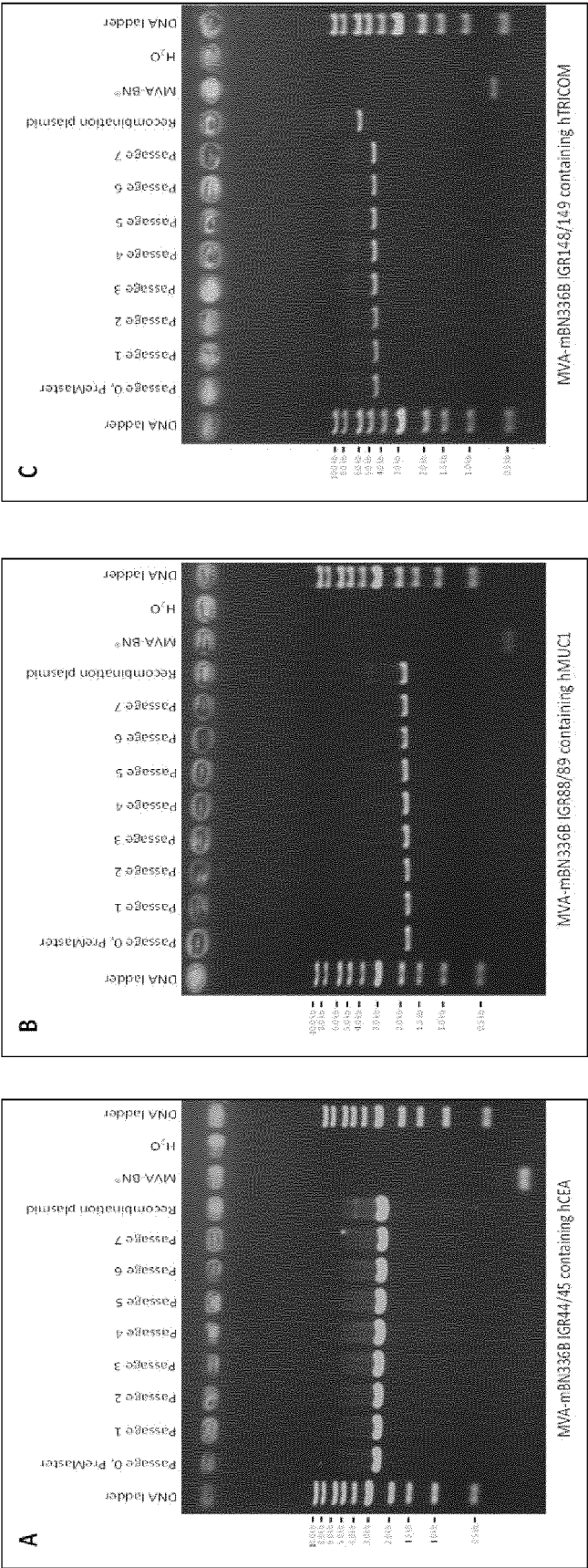


Figure 10
mBN336

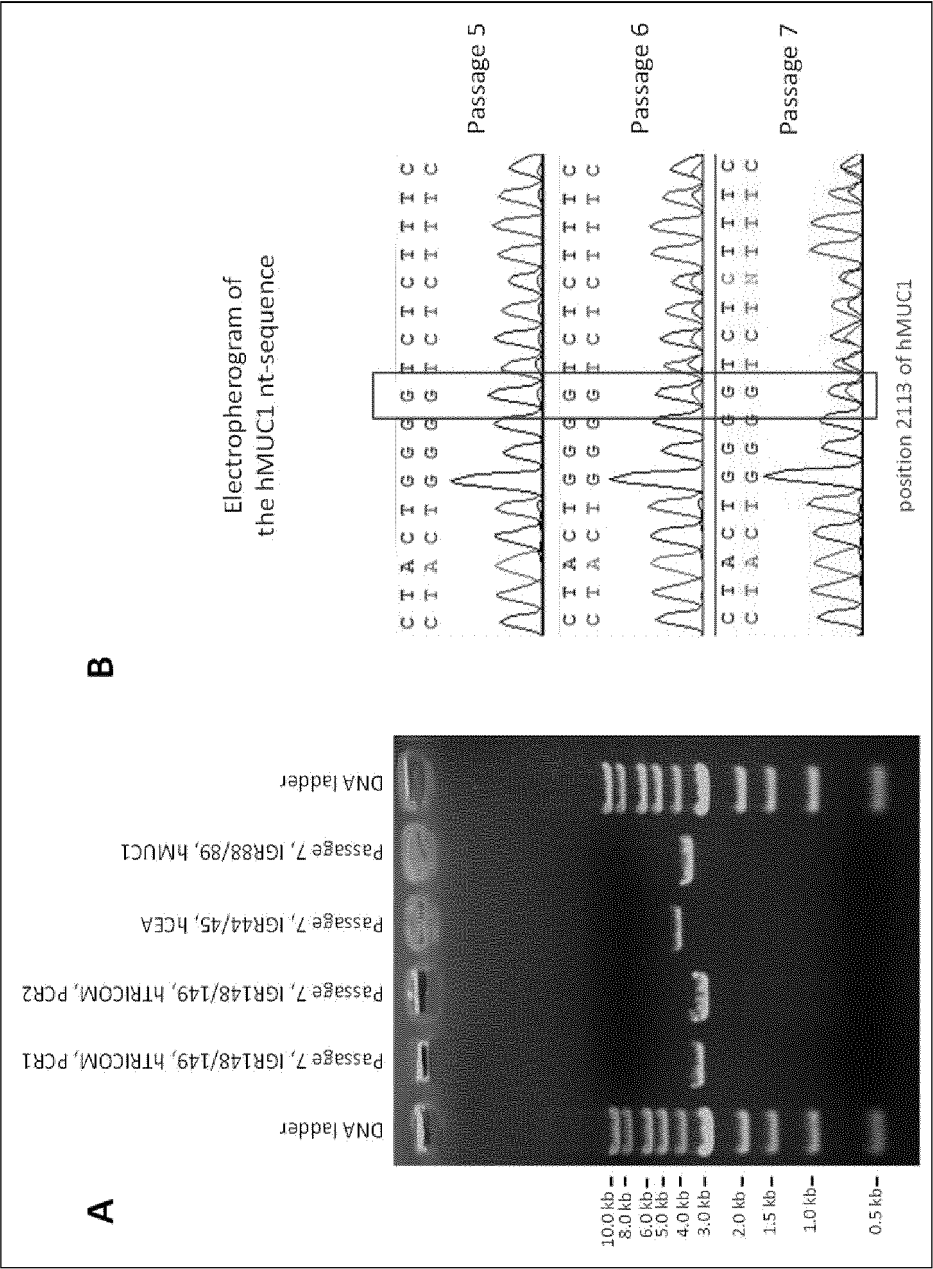
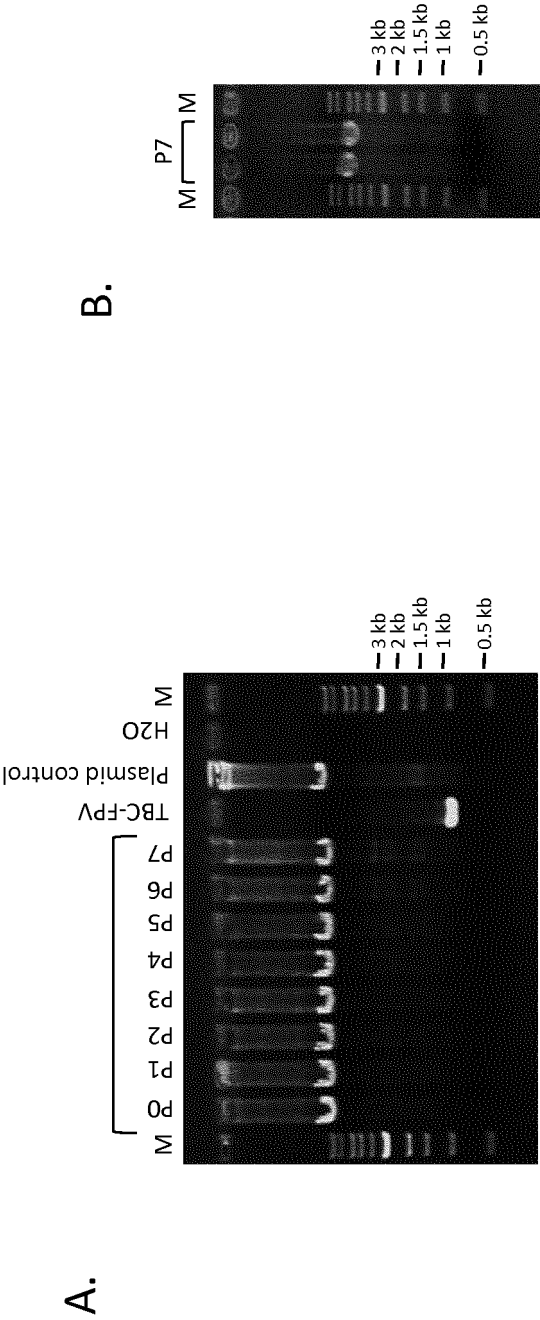


Figure 11

mBN373



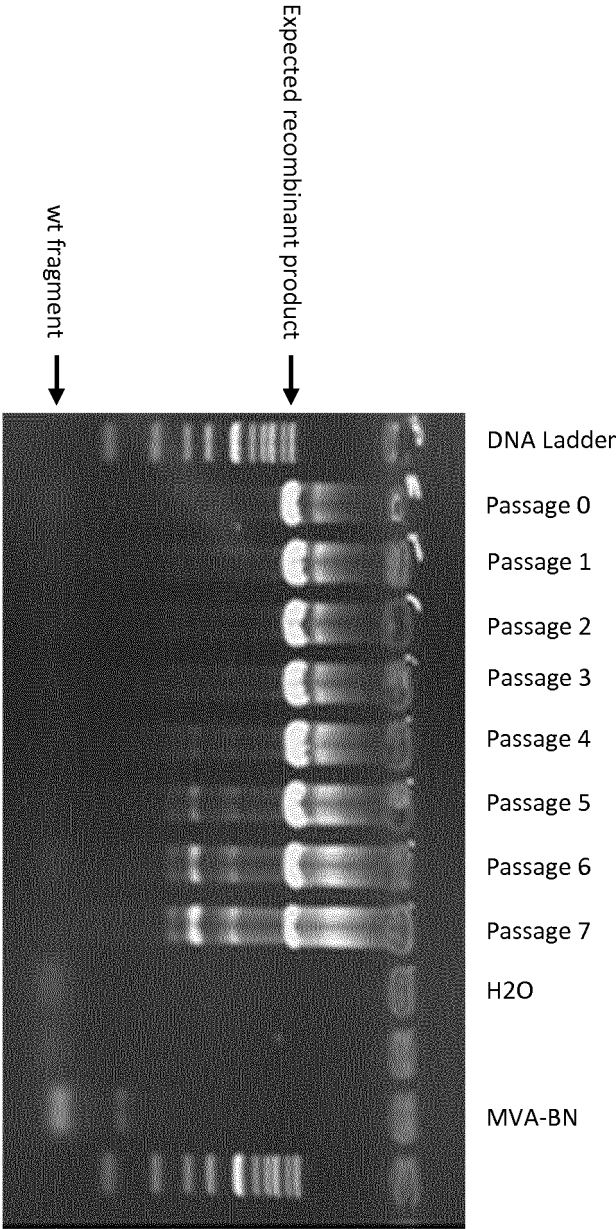


Figure 12