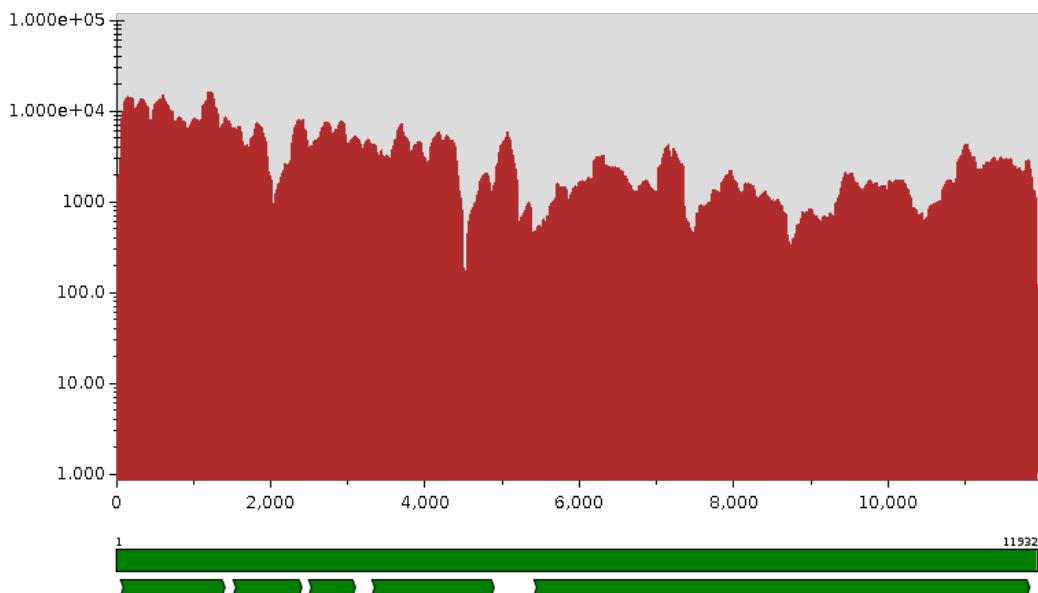


NGS Details (MG-5-RNASeq021-ZymoSeq): Lyssavirus rabies

Assembly

Coverage Length	11926 (1 contig(s))
Depth Of Coverage	3257.0
Number Of Reads	299088
Reads Per Million	4189.87 rpm (after QC)
Ambiguities	0
Assembly Method	de novo + reference guided assembly
Consensus Caller	Bcf Tools

Coverage Map



Assignment

Type	Lyssavirus rabies (Taxonomy ID: 11292)
Reference Genome	NC_001542.1
NT Identity (%)	80.7734
AA Identity (%)	90.9116
Number Of Stop Codons	5
Number Of CDS	5

Alignment

Alignment Score	14615.0 (NT) + 23189.0 (AA) = 37804.0
Concordance (%)	77.0425

Alignment Method

Local, heuristic, nucleotide (BLASTN)

Genome Region

Sequence starts at position 1 and ends at position 11926 relative to NC_001542.1 reference sequence.

Alignment Detailed Statistics

	Begin	End	Coverage	Score	Concordance	Matches	Identities	I/D/M/F*	Stop Codons
NT	1	11926	99.9%	14615	61.4%	11918 (99.9%)	9629 (80.7%)	3/8	



	Begin	End	Coverage	Score	Concordance	Matches	Identities	I/D/M/F*	Stop Codons
NT	1	11926	99.9%	14615	61.4%	11918 (99.9%)	9629 (80.7%)	3/8	
13C>A, 15G>A, 20A>G, 25A>G, 28A>G, 29C>T, 36C>T, 40A>G, 41A>T, 42T>C, 43G>T, 44G>A, 47G>A, 51A>C, 65T>C, 109G>A, 115C>T, 119T>C, 130G>A, 136C>T, 139G>A, 142T>C, 163T>A, 166C>T, 175T>C, 188T>A, 195C>T, 196T>C, 197C>T, 211C>G, 214T>C, 217A>G, 220T>C, 226A>T, 232G>A, 244A>C, 245T>G, 247C>A, 252G>A, 253C>T, 256C>A, 262A>G, 268T>C, 274C>T, 283T>C, 286C>T, 290T>C, 292G>A, 295G>T, 310T>C, 319G>A, 320A>G, 321C>T, 325T>C, 328G>C, 331A>G, 353G>T, 358T>A, 366A>G, 367A>G, 382C>A, 385A>G, 394G>C, 400G>C, 405A>G, 409T>A, 413G>C, 418A>G, 421A>G, 436G>A, 442A>G, 445C>T, 451A>G, 452C>T, 457A>T, 460A>G, 472C>T, 473C>T, 475T>G, 478G>A, 484G>A, 487C>T, 490A>G, 493C>T, 532C>T, 535G>A, 538A>G, 540G>A, 544T>C, 547T>C, 550C>T, 553T>C, 565G>A, 565T>C, 568G>A, 568A>G, 571C>T, 574G>A, 589T>G, 601T>C, 607T>A, 610A>G, 614G>A, 616G>A, 619A>G, 622C>T, 628T>C, 629C>T, 631A>G, 640T>C, 652T>C, 655T>C, 658T>C, 667T>C, 685T>C, 688G>A, 691A>C, 694A>G, 700T>C, 718G>A, 730A>G, 739A>G, 742C>T, 748G>A, 778T>C, 784A>G, 785C>T, 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CDS

RABVgp1	1	451	100%	2968	95.5%	451 (100%)	429 (95.1%)	0/0/0/0	1
Protein mutations:									
	C40S (188T>A), T42I (195C>T 196T>C), V56I (236G>A), C59G (245T>G 247C>A), S61N (252G>A 253C>T), T84V (320A>G 321C>T), E87D (331A>T), V95L (353G>T), K99R (366A>G 367A>G), E110D (400G>C), K112R (405A>G), D115N (413G>A 415T>C), P135S (473C>T 475T>G), S157N (540G>A), V182I (614G>A 616G>A), I257L (839A>C), A332T (1064G>A), Q367K (1169C>A), D378E (1204C>G), V379A (1206T>C 1207A>T), G397S (1259G>A), I410M (1300A>G)								
Codon mutations:									
	CAG13CAA (109G>A), GTC15GTT (118C>T), TTG17CTG (119T>C), GAG20GAA (130G>A), ATC22ATT (136C>T), GTG23GTA (139G>A), GAT24GAC (142T>C), CCT31CCA (163T>A), GCC32GCT (166C>T), GAT35GAC (188T>A), ACT42ATC (195C>T 196T>C), CT43TAA (197C>T), CCC47CCG (212C>G), GAT48GAC (214T>C), TA49TGT (217A>G), AAT50AAC (220T>C), GCA52GCT (226A>T), AAAG5AAA (232G>A), GTT56ATT (236G>A), TCA58TC (244A>C), TGC59GGA (245T>G 247C>A), AGC61AAAT (252G>A), TGC62GCA (255G>A), GCG76GCT (289G>C), TTT80TTC (310T>C), GGG83GGA (319G>A), AAC84GTA (320A>G 321C>T), TG875TGC (325T>C), CCG86CCC (328G>C), GAA87GAT (331A>T), GTG95TTC (353G>T), AT96AAT (358T>A), AAC99AGG (366A>G 367A>G), ACC104ACA (382C>A), CCA105CCC (386A>G), CTC108CTT (394G>T), GA110GAC (400G>C), AAA112AGA (405A>G), CGT113CGA (409T>A), GAT115AAC (413G>A 415T>C), GAT116GTC (418A>G), GAA117GAC (421A>G), CTG122CTA (436G>A), GGA124GGG (442A>G), GGC125GGT (445C>T), GAA127GAG (451A>G), CTG128TTG (452C>T), AC1929ACT (457A>T), AGA130AGG (460A>G), GTC134GTT (472C>T), CCT135CG (473C>T 475T>G), GAG136GAA (478G>A), GCG138GCA (484G>A), TCC139TCT (487C>T), TT140TTG (490A>G), GTC141GTT (493C>T), TCC154TCT (532C>T), GG155GGG (535G>A), AAC156CAG (538A>G), AGC157AAC (540G>A), ACT158ACC (544T>C), AAC159GGC (545T>A), AAC160AAAT (550C>T), TAT161TAC (553C>T), AAC162AAA (556G>A), ATT165ATC (565G>T), GCA166GCT (568A>T), GAC167GAT (571C>T), AAC168GAA (574G>A), TTT173TTC (589T>C), CCT177CCC (601T>A), AAA180AAG (610A>G), GTT179GTA (607T>A), AAC1810AAG (610A>G), GTG182ATA (614G>A 616G>A), GAA183GAG (619A>G), CAC184CAT (622C>T), ACT186ACC (628T>C), CTAA187TTG (629C>T 631A>G), ACT190AAC (640T>C), TG194TGC (652T>C), GCT195GCC (655T>C), AAT196AAC (658T>C), ACT199ACC (667T>C), TTT205TT (685T>C), TTG206TTA (688G>A), GGC207GCA (691C>A), GGA208GGG (694A>G), TAT210TAC (700T>C), CGG216CGA (718G>A), CTA2241TGC (730A>G), GCA224CGC (739A>G), AT2244TGC (740A>G), AT2245TGC (741A>G), AT2246TGC (742A>G), AT2247TGC (743A>G), AT2248TGC (744A>G), AT2249TGC (745A>G), AT2250TTC (746A>G), 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	Begin	End	Coverage	Score	Concordance	Matches	Identities	I/D/M/F*	Stop Codons
NT	1	11926	99.9%	14615	61.4%	11918 (99.9%)	9629 (80.7%)	3/8	
Codon mutations:									
	CGT5CGC (2510T>C), GTG8GTA (2519G>A), AAA9AAG (2522A>G), AAT10AAC (2525T>C), TGC11TGT (2528C>T), AGG12AGA (2531G>A), GAC13GAT (2534C>T), GAG14GAA (2537G>A), AAA18AAG (2549A>G), TCT20TC (2555T>C), CCC21TTC (2556C>T) 2557C>T), TCA23TCG (2564A>G), GCC24GCT (2567C>T), CTG26CCA (2572T>C) 2573G>A), GAC28GAT (2579C>T), GAC30GAT (2585C>T), CTT33TGT (2592C>T) 2594T>G), CCA34CCC (2597A>C), CCC35CC (2600C>T), CCT36CCA (2603T>A), TAC38TAT (2609C>T), GTC39GTT (2612C>T), AAA42AAG (2621A>G), GAA43GAG (2624A>G), CTT44CTC (2627T>C), AGC46GGC (2631A>G), AAG48AAA (2639G>A), AGG50ATG (2644G>T), AGG51AGA (2648G>A), ATC55GTC (2658A>G), AAC56AA (2663C>A), GGG58GAA (2668G>A), GGG59GTC (2672T>C), AAA60AGA (2675A>G), TTG67TGT (2693C>T), GTC68TCA (2699G>A), TTC69TTT (2702C>T), GGG70AGG (2703G>A), CTG76TGT (2721C>T), AGA77AAA (2725G>A), ATA82ATC (2741A>C), GGG85GGA (2750G>A), CAT87CAA (2756T>A), AGG88AGA (2759G>A), GTC90ATC (2763G>A), GGG91GGA (2768G>A), TTA92TTG (2771A>G), GTA96GTC (2780A>T), GTT96GTC (2783T>C), ATT97GAT (2784A>G), CTG99TTG (2790C>A), TGT100GCA (2795A>C), GGA103GGG (2804A>G), GCT104GCC (2807T>C), CCT107CCA (2816T>A), AAC111AAT (2828C>T), TTC122TT (2861C>T), TCC122TCT (2876C>T), CTT131CTA (2888T>A), CAG140CAA (2915G>A), GAG141GAA (2918G>A), ATC142ATT (2921C>T), ACT143ACC (2924T>C), ATT147GAC (2934A>G) 2936T>C), ACT148ACA (2939T>A), GAG149GAA (2942A>G), TTC150TGT (2945C>T), GTC151ATC (2946G>A), CAA154GAA (2955C>G), AGA156CGA (2961A>G), AAA160AGG (2974A>G) 2975A>G), CAG161CAA (2978G>A), TG162GTC (2981T>C), ATC164ATT (2987C>T), CGG165CG (2989G>A), AGA167AGG (2996A>G), ATC168ATT (2999C>T), ATC171ATT (3008C>T), AAC174AAT (3017C>T), TGCG175CT (3020C>T), AGA176CGG (3021A>C) 3023A>G), GCA177GGC (3026A>G), GGT178TGT (3027G>T), CTAA180TTG (3033C>T) 3035A>G), CTT186CTC (3035T>C), CAG187CAA (3056G>A), TCC191TCT (3068C>T), GAA192GAG (3071A>G), GAC194GAT (3077C>T), GAT196GAC (3083T>C), TCC197TCT (3089C>T), CTG199GTA (3090C>G), TCA201CTT (3098A>T), TAA203TAG (3104A>G)								
RABVgp4	1	525	100%	3288	86.5%	525 (100%)	446 (85.0%)	0/0/0	1
Protein mutations:									
	V21 (3321G>A 3323T>C), F8L (3339T>C 3341T>G), L12V (3351C>G 3353G>T), V13I (3354G>A 3356T>C), F14S (3358T>C 3359T>C), P15S (3360C>T), F18L (3367T>C 3371T>C), N56S (3484A>G 3485C>T), M7V (3540A>G), T109M (3643C>T) 3644A>G), P110S (3645C>T), M121V (3678A>G) 3680G>A), H132V (3713C>A), L151I (3768C>A) 3770C>T), V151I (3771G>A) 3773T>C), R166K (3814G>A), H169R (3823A>G) 3824C>G), V171I (3831G>A) 3833C>T), N177V (3848T>G), S179L (3853C>T) 3854A>G), V181I (3858G>A), N201E (3918A>G) 3920T>A), P202A (3921C>G) 3923G>A), G205E (3934T>C) 3935G>A), M206I (3934T>C) 3936G>A), R224K (3987G>A), T225P (3991C>T), K243R (4045A>G) 4046A>G), L250S (4065C>T) 4066T>A), M262I (4103G>T), N266E (4113A>G) 4115T>G), P273S (4134C>T) 4136C>T), G274D (4138G>A), H280R (4156A>G), R283H (4165G>A), V296I (4203G>A), R349N (4364G>A), R365K (4411G>A), N375D (4404A>G), M404I (4529G>A), V408P (4540A>G) 4541A>G), D429N (4596A>G) 4598C>A), D429N (4602G>A) 4604C>T), D433N (4614G>A) 4616T>C), V442I (4641G>A) 4643G>T), E444K (4647G>A), R445Q (4651G>A) 4652G>A), I446V (4653A>G), V449I (4662G>A), K458R (4690A>G) 4691G>A), V460F (4695G>T) 4697A>T), L462M (4701C>A), A464V (4708C>T), T468A (4719A>G) 4721T>A), M471I (4730G>T), I473T (4735T>C), M477I (4748G>T), W480C (4757G>C), N484K (4769I>A), S486I (4773A>G) 4775G>A), E487K (4776G>A), P488S (4779C>T) 4781A>G), T489I (4783C>T) 4784A>G), H491Q (4790C>A), N492G (4791A>G) 4792A>G), L493P (4795T>C) 4796C>T), R494E (4797A>G) 4798G>A), G495E (4801G>A), T496S (4803A>G), J497R (4806G>A) 4808G>A), E499K (4812G>A) 4814G>A), S506N (4834G>A), I509V (4842A>G), S515L (4860T>C) 4861C>T) 4862A>G), S518N (4870G>A) 4871C>T), G523K (4884G>A) 4885A>G)								
	GTT2ATC (3321G>A 3323T>C), CTC6CCT (3335C>T), CTG7CTA (3338G>A), TTT8GTC (3339T>C 3341T>G), GTC9GTC (3344A>G), CCC10CCT (3347C>T), CTT11CTC (3350T>C), CTG12GTT (3351C>G 3353G>T), GTT13ATC (3354G>A 3356T>C), TTT14TC (3358T>C 3359T>C), CCA15TCA (3360C>T), TTT18TC (3369T>C 3371T>C), CCT22CC (3383T>C), ATT23ATC (3386T>C), CTT30ATC (3407T>C), GTC71CTC (3410T>C), CCC32CT (3413C>T), AGC34AGT (3413A>C), R224K (3419G>A), TCA71TCT (3530A>C), P202A (3531G>C), ATT80GTC (3540A>G), TCG80TGT (3557C>T), AAC181ACC (3560A>C), GGC82GG (3563C>T), AAC186GAA (3572G>A), GAG86GAA (3575G>A), GAA88GAG (3581A>G), TAC90TAT (3587C>T), ACT91ACC (3590T>C), TCC93TGT (3596C>T), ACA89ACC (3611A>G), ACC100AAC (3617G>A), AAC102AAC (3623A>G), AAC104AAC (3640A>G), AAC105AAC (3652T>C), AAC109ATG (3643C>T) 3644A>G), CCA101TCA (3645C>T), TGT113TCT (3656C>T), GTC116TCT (3656C>T), GCG116GCT (3665G>T), ATG121GTA (3678A>G) 3680G>A), CTC125CT (3692C>T), CTA131CTC (3710A>C), CAC132CAA (3713C>A), TAC135TCT (3722C>T), GAC137GAT 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	Begin	End	Coverage	Score	Concordance	Matches	Identities	I/D/M/F*	Stop Codons
NT	1	11926	99.9%	14615	61.4%	11918 (99.9%)	9629 (80.7%)	3/8	
CTC2ATC (5421C>A), CCT4CCA (5429T>A), GAG6GAT (5435G>T), GTC7GTT (5438C>T), CCT11CCC (5450T>C), GAC13GAT (5456C>T), CCA14CCT (5459A>T), ATC15ATT (5462C>T), TTA17TCA (5467T>C), GCT19ACT (5472G>A), GAA20GAG (5477A>G), CCC21ACG (5478C>A), GGA23GGG (5486A>G), ACC24AAC (5488C>A), CCC25CCT (5492C>T), ACT26AAC (5495T>C), GTC27ATT (5496G>A, 5498C>T), TTG31TTA (5510G>A), AGG32AGA (5513G>C), TCT40TCC (5537T>C), TTG42CTA (5541T>C, 5543G>A), GAA44GAG (5549A>G), CCT46TCA (5553C>T, 5555T>A), GCT47GCC (5558T>C), AGA48AAA (5560G>A), TTA51TTG (5570A>G), TTA54TTG (5579A>G), GGG57GGA (5588G>A), AGA59AGG (5594A>G), TAT615CC (5598T>C, 5599A>C, 5600T>C), CTAG65CTG (5612A>G), TCC70TCC (5627G>T), TCT72TCC (5633T>C), TCT73STAT (5635T>A, 5636C>T), AGA74AAA (5638G>A), CCT75GTC (5642T>C), TAT79TGC (5653A>G, 5654T>C), AGA82AGA (5656G>A), TTA103ATA (5657A>G), TTA104TC (5672G>C), TCC110TCG (5747C>G), AGA115AA (5671G>A, 5762A>G), ATA117AA (5768A>G), ACA118ATC (5760C>T, 5771A>C), GAC119GAT (5774C>T), GCC121GCT (5780C>T), CAT122CAC (5783T>C), TCG127TCT (5798G>T), GAG131GAA (5810G>A), AGA132AAA (5813G>A), AAT135AAC (5822T>C), CTC136TGC (5823C>T, 5824T>G), ACC137ACA (5831A>C), GGA139GGA (5834A>G), CTG143CTT (5846G>T), AGA148AAT (5859G>A, 5861G>T), GGA149GCG (5864A>G), GTG150GTC (5867G>C), TTA151CTC (5868T>C), TGCI517CTG (5876C>T), GAG155GAA (5882G>A), TAT159TAC (5894T>C), AAT161GGG (5898A>G, 5899A>G), GAG164GGG (5909A>G), AGC166GCA (5910A>C, 5912G>A), CTT167CTG (5918T>G), GCC168GCT (5921C>T), AGC170ATA (5926C>T, 5927G>A), TAT171TAC (5930T>C), TAC174TAT (5939C>T), TTG175CTG (5940T>C), TTC177TTT (5948C>T), GTC179GTC (5954A>G), TTA182TC (5961T>C, 5963A>G), TAC183TAT (5966T>C), TCA187TTG (5976C>T, 5979A>G), GAC188GAT (5981C>T), GAA191GAG (5990A>G), GAA192GAG (5993A>G), AAC193AGG (5995A>G), ATC195ATT (6002C>T), TTA198CTA (6009T>C), AAA200AGG (6016A>G, 6017A>G), GTG205ACA (6030G>A, 6031T>G, 6032G>A), TCC207GTT (6036A>G, 6038T>C), GTA212GTC (6053A>C), TCC214TTT (6059C>T), CTC216GAT (6065C>T), 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(7292T>C), AGA627AGG (7298G>A), TTG628CTG (7301A>G), GAG629GAA (7304G>A), TCA630TCT (7307A>T), GTC637TGT (7328C>G), CTG638CTT (7331A>T), TTG644TTC (7349G>A), AGA646AGG (7355A>G), TTG648TTC (7361T>C), TCT649TCC (7364T>C), AGA650AGG (7367A>G), ACA651ACT (7370A>T), CAC652CT (7373C>T), CGG672TGT (7431C>T), TCT679CTG (7452T>C), TGA679CTG (7452T>C), AGC686GAC (7457T>C), CGC681ATG (7458G>A), TCC682CTA (7463C>A), AAC683AAT (7466C>T), CCA685CCG (7468A>C), ACC686A (7475C>A), TGT687TGC (7478T>C), AAC689AG (7484T>C), GTC689TCA (7491A>G), TCT690TTC (7495G>A), GGG690GCA (7514G>A), AGA701AAA (7520G>A), TCA705CTC (7523A>G), TTT708CTC (7541A>G), AGC699AG (7544G>A), GGG697GTC (7550A>G), GGC697GTC (7558A>G), TTA698TTC (7561A>G), TCA708TCA (7567T>C), ATT708TAC (7572C>T), CAA717CAG (7576A>G), GTC718AGA (7577G>A), GTC719GTC (7581A>G), TCA720TCT (7583C>T), ATT720TAC (7586C>T), CAA721TCA (7589A>G), TCA722TCA (7591G>A), TCA723TCA (7593A>G), TCA724TCA (7595G>A), TCA725TCA (7597G>A), TCA726TCA (7599G>A), 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(8169G>A), TCA1012TCA (8171G>A), TCA1013TCA (8173G>A), TCA1014TCA (8175G>A), TCA1015TCA (8177G>A), TCA1016TCA (8179G>A), TCA1017TCA (8181G>A), TCA1018TCA (81									

(10130C>T), TTG1572CTA (10131T>A), CAG1575CAA (10142G>A), GGC1578GGT (10151C>T), CAC1580CAT (10157C>T), GGA1581GGT (10160A>T), GAT1583GAA (10166T>A), GAG1586GAT (10175G>T), GAC1589GAA (10184C>A), AAC1590GAC (10185A>G), CAA1592CAG (10193A>G), CGA1593AGG (10194C>A, 10196A>G), CTA1594CTG (10199A>G), CTA1595TTA (10200C>T), AAA1596AAG (10205A>G), TTA1599TTG (10214A>G), CGA1600CGC (10217A>C), AGA1603AAG (10225G>A, 10226A>G), GTG1605GTA (10232G>A), GAG1608GAA (10241G>A), GCT1613CGC (10256T>C), ACC1615ACT (10262C>T), ACT1617ACA (10268T>A), GAT1619GCT (10273A>G), AAC1623AGT (10285A>G, 10286C>T), GTG1626ATG (10293G>A), TCC1627CTG (10298C>G), CGT1628CGC (10301T>C), AAC1629AAA (10304G>A), GTA1630GCA (10306T>C), GGA1631GGG (10310A>G), GAA1634GAG (10319A>G), GTC1636GTT (10325C>T), CAA1640CAG (10337A>G), CCA1643CGC (10346A>G), TCT1645CTA (10352T>A), GCA1648CGC (10361A>G), CGC1650CCA (10367G>A), GTC1653CTG (10375G>A), CTC1654CTA (10379G>A), CTC1656CTA (10385T>A), GAC1657GAT (10388C>T), ATA1658ATC (10391A>C), CTC1661CTT (10400C>T), AAG1663AAG (10405A>G, 10406G>A), AGG1664AAG (10408G>A), TTC1665CTG (10410T>C, 10412C>T), CAG1666CAA (10415G>A), CCT1668CCG (10421T>G), TCG1671CTC (10421T>G), TCC1671CTC (10430G>T), TTG1673CTG (10434T>C), GCA1679GCG (10454A>G), ACC1680ACA (10457C>A), GGT1681GGG (10460T>G), GCT1682GCC (10463T>C), CTC1686GCTC (10475T>C), AAG1687AAA (10478G>A), CTA1690CTG (10487A>G), GAT1692GAC (10493T>C), GTT1695GTA (10502T>A), TTC1696TTT (10505C>T), CCA1697CCG (10508A>G), TCT1698TCC (10511T>C), CTC1699TTG (10512C>G), TGC1700TGT (10517C>T), GAT1703GTT (10523A>G), GGG1706GGA (10535G>A), AGG1712AGA (10553A>C), GTC1714CTA (10559C>A), CTC1715TTA (10560C>T, 10562C>A), CCA1719CCG (10574A>G), CTT1723CTA (10586T>A), AAC1726ATA (10595C>T), AAC1727ATA (10596C>T), CTC1728TTA (10599C>T, 10601T>A), ATA1729CTT (10604A>G), AAT1732AAC (10613T>C), CTG1734TTA (10617C>T, 10619G>A), GCT1736GCA (10625T>A), TCC1737TCA (10628C>A), TCT1738ACT (10630A>G), CTC1739GTT (10632T>C), GCA1740GAT (10634A>G), CTC1741GTC (10635T>C), GAT1742GAT (10637A>G), GGT1743GTC (10638T>C), TCC1744GTC (10639A>G), AAC1745GAT (10640A>G), CCT1745GTC (10641T>C), GTC1746GTC (10642A>G), GAT1747GAT (10643A>G), GGT1748GTC (10644T>C), TCC1749GTC (10645A>G), AAC1750GAT (10646A>G), CCT1750GTC (10647A>G), GTC1751GTC (10648A>G), GAT1752GAT (10649A>G), GGT1753GTC (10650A>G), TCC1754GTC (10651A>G), AAC1755GAT (10652A>G), CCT1756GTC (10653A>G), GTC1757GTC (10654A>G), GAT1758GAT (10655A>G), GGT1759GTC (10656A>G), TCC1760GTC (10657A>G), AAC1761GAT (10658A>G), CCT1762GTC (10659A>G), GTC1763GTC (10660A>G), GAT1764GAT (10661A>G), GGT1765GTC (10662A>G), TCC1766GTC (10663A>G), AAC1767GAT (10664A>G), CCT1767GTC (10665A>G), GTC1768GTC (10666A>G), GAT1769GAT (10667A>G), GGT1770GTC (10668A>G), TCC1771GTC (10669A>G), AAC1773GAT (10670A>G), CCT1774GTC (10671A>G), GTC1775GTC (10672A>G), GAT1776GAT (10673A>G), GGT1777GTC (10674A>G), TCC1778GTC (10675A>G), AAC1781GAT (10676A>G), CCT1779GTC (10677A>G), GTC1780GTC (10678A>G), GAT1781GAT (10679A>G), GGT1782GTC (10680A>G), TCC1783GTC (10681A>G), AAC1789GAT (10682A>G), CCT1784GTC (10683A>G), GTC1785GTC (10684A>G), GAT1786GAT (10685A>G), GGT1787GTC (10686A>G), TCC1788GTC (10687A>G), AAC1795GAT (10688A>G), CCT1789GTC (10689A>G), GTC1790GTC (10690A>G), GAT1791GAT (10691A>G), GGT1792GTC (10692A>G, 10694T>C), TCC1793GTC (10695T>C), GTC1794GTC (10696A>G), AAC1797GAT (10697A>G), CCT1795GTC (10698A>G), GTC1796GTC (10699A>G), GAT1797GAT (10700A>G), GGT1798GTC (10701A>G), TCC1799GTC (10702A>G), AAC1799GAT (10703A>G), CCT1799GTC (10704A>G), GTC1800GTC (10705A>G), GAT1801GAT (10706A>G), GGT1801GTC (10707A>G), TCC1802GTC (10708A>G), AAC1803GAT (10709A>G), CCT1803GTC (10710A>G), GTC1804GTC (10711A>G), GAT1805GAT (10712A>G), GGT1805GTC (10713A>G), TCC1806GTC (10714A>G), AAC1807GAT (10715A>G), CCT1807GTC (10716A>G), GTC1808GTC (10717A>G), GAT1809GAT (10718A>G), GGT1809GTC (10719A>G), TCC1810GTC (10720A>G), AAC1811GAT (10721A>G), CCT1811GTC (10722A>G), GTC1812GTC (10723A>G), GAT1813GAT (10724A>G), GGT1814GTC (10725A>G), TCC1815GTC (10726A>G), AAC1816GAT (10727A>G), CCT1816GTC (10728A>G), GTC1817GTC (10729A>G), GAT1818GAT (10730A>G), GGT1819GTC (10731A>G), TCC1820GTC (10732A>G), AAC1821GAT (10733A>G), CCT1822GTC (10734A>G), GTC1823GTC (10735A>G), GAT1824GAT (10736A>G), GGT1825GTC (10737A>G), TCC1826GTC (10738A>G), AAC1827GAT (10739A>G), CCT1827GTC (10740A>G), GTC1828GTC (10741A>G), GAT1829GAT (10742A>G), GGT1829GTC (10743A>G), TCC1830GTC (10744A>G), AAC1831GAT (10745A>G), CCT1832GTC (10746A>G), GTC1833GTC (10747A>G), GAT1834GAT (10748A>G), GGT1835GTC (10749A>G), TCC1836GTC (10750A>G), AAC1837GAT (10751A>G), GTC1838GTC (10752A>G), GAT1839GAT (10753A>G), GGT1839GTC (10754A>G), TCC1840GTC (10755A>G), AAC1840GAT (10756A>G), CCT1841GTC (10757A>G), GTC1842GTC (10758A>G), GAT1843GAT (10759A>G), GGT1844GTC (10760A>G), TCC1845GTC (10761A>G), AAC1846GAT (10762A>G), CCT1847GTC (10763A>G), GTC1848GTC (10764A>G), GAT1849GAT (10765A>G), GGT1849GTC (10766A>G), TCC1850GTC (10767A>G), AAC1851GAT (10768A>G), CCT1852GTC (10769A>G), GTC1853GTC (10770A>G), GAT1854GAT (10771A>G), GGT1855GTC (10772A>G), TCC1856GTC (10773A>G), AAC1857GAT (10774A>G), CCT1858GTC (10775A>G), GTC1859GTC (10776A>G), GAT1860GAT (10777A>G), GGT1861GTC (10778A>G), TCC1862GTC (10779A>G), AAC1863GAT (10780A>G), CCT1864GTC (10781A>G), GTC1865GTC (10782A>G), GAT1866GAT (10783A>G), GGT1867GTC (10784A>G), TCC1868GTC (10785A>G), AAC1869GAT (10786A>G), CCT1870GTC (10787A>G), GTC1871GTC (10788A>G), GAT1872GAT (10789A>G), GGT1873GTC (10790A>G), TCC1874GTC (10791A>G), AAC1875GAT (10792A>G), CCT1876GTC (10793A>G), GTC1877GTC (10794A>G), GAT1878GAT (10795A>G), GGT1879GTC (10796A>G), TCC1880GTC (10797A>G), AAC1881GAT (10798A>G), CCT1882GTC (10799A>G), GTC1883GTC (10800A>G), GAT1884GAT (10801A>G), GGT1885GTC (10802A>G), TCC1886GTC (10803A>G), AAC1887GAT (10804A>G), CCT1888GTC (10805A>G), GTC1889GTC (10806A>G), GAT1890GAT (10807A>G), GGT1891GTC (10808A>G), TCC1892GTC (10809A>G), AAC1893GAT (10810A>G), CCT1894GTC (10811A>G), GTC1895GTC (10812A>G), GAT1896GAT (10813A>G), GGT1897GTC (10814A>G), TCC1898GTC (10815A>G), AAC1899GAT (10816A>G), CCT1899GTC (10817A>G), GTC1900GTC (10818A>G), GAT1901GAT (10819A>G), GGT1901GTC (10820A>G), TCC1902GTC (10821A>G), AAC1903GAT (10822A>G), CCT1903GTC (10823A>G), GTC1904GTC (10824A>G), GAT1905GAT (10825A>G), GGT1905GTC (10826A>G), TCC1906GTC (10827A>G), AAC1907GAT (10828A>G), CCT1907GTC (10829A>G), GTC1908GTC (10830A>G), GAT1909GAT (10831A>G), GGT1909GTC (10832A>G), TCC1910GTC (10833A>G), AAC1911GAT (10834A>G), CCT1911GTC (10835A>G), GTC1912GTC (10836A>G), GAT1913GAT (10837A>G), GGT1913GTC (10838A>G), TCC1914GTC (10839A>G), AAC1915GAT (10840A>G), CCT1915GTC (10841A>G), GTC1916GTC (10842A>G), GAT1917GAT (10843A>G), GGT1917GTC (10844A>G), TCC1918GTC (10845A>G), AAC1919GAT (10846A>G), CCT1919GTC (10847A>G), GTC1920GTC (10848A>G), GAT1921GAT (10849A>G), GGT1921GTC (10850A>G), TCC1922GTC (10851A>G), AAC1923GAT (10852A>G), CCT1923GTC (1085

	Begin	End	Coverage	Score	Concordance	Matches	Identities	I/D/M/F*	Stop Codons
NT	1	11926	99.9%	14615	61.4%	11918 (99.9%)	9629 (80.7%)	3/8	
	ATC4ATT (1525C>T), GTC6GTT (1531C>T), AAT7AAC (1534T>C), CCT8CCA (1537T>A), GCT10GCA (1543T>A), ATT11ATC (1546T>C), AGA12AGG (1549A>G), GCC13GCA (1552C>A), CTG15TTG (1556C>T), GCC16GCA (1561C>A), CTT18CTA (1567T>A), GCT21GCA (1576T>A), GAA22GAG (1579A>G), GTT25GIG (1588T>G), CTG27CTA (1594G>A), ATC28ATT (1597C>T), AAT29TCT (1598A>T 1599A>C), AGA30AGG (1603A>G), AAT31AAC (1606T>C), GAA33GAG (1612A>G), GAC34GAT (1615C>T), GCT37GCG (1624T>G), GGG41GGA (1636G>A), GAA42GAT (1639A>T), GAA45GAG (1648A>G), AAT48AGT (1656A>G), CTC49CTT (1660C>T), GAG51GAA (1666G>A), GGG54AAA (1673G>A) 1674G>A), CAC57CAA (1684C>A), CTC65TTA (1685C>T), GAT59GAC (1690T>C), GAT60AA (1691G>A), GGA61GAA (1695G>A), AAA62AGA (1698A>G), TC663CCA (1700T>C 1702G>A), CCC64CT (1703C>T), AAC65GCG (1706A>G), CTC66CTC (1710C>T 1711T>G), CGT67GCC (1714T>C), AAG71AAA (1726G>A), GTG72GCA (1728T>C 1729G>A), GGA73GGG (1732A>G), GAA74GAG (1735A>G), GGC75AGC (1736G>A), TAT77TGT (1743A>G), CGA78CAG (1746G>A) 1747A>G), GAG79GAA (1750G>A), CAGB2CAA (1759G>A), GAA85GAG (1768A>G), GGA86GCG (1770G>A) 1771A>G), GAT88GAC (1777T>C), CCT89GCC (1780T>C), AGC90GCT (1781A>G) 1782G>C), CTG92TTG (1787C>T), TCA95CTC (1798A>G), GAG98AT (1807C>T), GTT100GTC (1813T>C), GTC102GTT (1819C>T), ATA104ATG (1825A>G), CAA107GCA (1833A>G), ATA108ATG (1837A>G), TTT114TTC (1855T>C), CAC120CAA (1873A>G), ACC121GCA (1874A>G), GTC122GTC (1878A>G), GTC122GTC (1879A>G), GAA123GAG (1882A>G), GAG124GAA (1885G>A), ATT125ATC (1888T>C), GCG130AGC (1901G>A), GTC131GCC (1905T>C), AAC132AAAT (1909C>A), AAC135AGT (1917A>G) 1918C>T), CTC136CCG (1921T>G), CCA137TCG (1922C>T) 1924A>G), GGA138GGG (1927A>G), TCT140CCC (1931T>C) 1933T>C), GAG142AAA (1937G>A) 1939G>A), GAT143GCC (1942T>C), TCA145GCC (1946T>C) 1948A>G), CAG147CAA (1954G>A), ACC149GCC (1958A>G), GGC150AAC (1961G>A) 1962G>C), CGA151CCG (1966A>G), GAG152GAA (1969G>A), ACA158GTA (1985A>G) 1986C>T), CCC159TCC (1988C>T), ACT160GCC (1991A>G) 1993T>C), CAG163CAA (2002G>A), GAA165GAC (2008A>G), AGC166AAC (2010A>G), TCC168CCA (2015T>C) 2017C>T), TCG169TCC (2020G>C), GGC171ACC (2024G>A), AGG172AAC (2026G>A) 2029G>C), ACT177ACC (2044T>C), GCT178GCC (2047T>C), TCT179CTC (2050T>C), GGC180GGT (2053C>T), CCA182CCC (2059A>C), CGC183GCT (2062C>T), CTT184CTA (2065T>A), GAA185GAG (2068A>G), TCG197GTA (2074G>A), GAG198GAT (2076G>A), GAG200GAA (2113G>A), CAC203CAT (2122C>A), GCA206GCT (2131A>T), AGT208AGC (2137T>C), AAA211AAG (2146A>G), AAA212AAG (2149A>G), TAT213TAC (2152T>C), TCC219CTA (2170C>A), CTC223TTC (2180C>T), GAT236GAC (2211T>C), GTT238GTC (2227T>C), GCA241TCA (2234G>T), GTG246AGC (2249G>A) 2251T>C), GTG247GTA (2254G>A), ACC248ATC (2256C>T), CGT249GCC (22601C>T), TAA2501TG (2263A>G), CGT252CAC (2268G>A) 2269T>C), GAC253GAT (2272C>T), AAA256GAA (2280A>G), CCG258CCT (2287C>T), CTA259CTG (2290A>G), CTG262GTC (2299A>G), GTC266GTT (2311C>T), GGC267GCT (2314C>T), TTG268CTA (2315T>C) 2317G>A), AAC270AT (2323C>T), TCT271TCC (2326T>C), AAC272AA (2329G>A), AAC273AA (2323A>G), TTG276CTG (2339T>C), TTA277TTG (2344A>G), GTC278GTT (2347C>T), GAA279GAG (2350A>G), TCC280CCC (2351T>C), AAC281GAC (2354A>G), AAC282AA (2359G>A), CTG283CTA (2362G>A), AGT284AAT (2364G>A), ATC286ATA (2371C>A), TTT291CTG (2384T>C), AAT292AAC (2389T>C), CGC293CGT (2392C>T), ACA295TCA (2396A>T), TCT296TTC (2400C>T) 2401T>C), TGC297CTC (2402T>C) 2403G>T), TAA298TGA (2406A>G)	Codon mutations:							
M2 protein (NP_056795.1)	1	203	100%	1359	92.1%	203 (100%)	185 (91.1%)	0/0/0/0	1
Protein mutations:	P21F (2556C>T) 2557C>T), L26P (2572T>C) 2573G>A), S46G (2631A>G), R50M (2644G>T), I55V (2658A>G), G58E (2668G>A) 2669G>A), G70R (2703G>A), R77K (2725G>A), H87Q (2756T>A), V90I (2763G>A), I97V (2784A>G), N147D (2934A>G) 2936T>C), V151I (2946G>A), Q154E (2955C>G), K160R (2974A>G) 2975A>G), R165Q (2989G>A), G178C (3027G>T), L199V (3090C>G) 3092G>A)								
Codon mutations:	CGT5CCG (2510T>C), GTG8GTT (2519G>A), AAA9AAG (2522A>G), ATT10AAC (2525T>C), TGC11TGT (2527C>T), AGG12AGA (2531G>A), GAC13GAT (2534C>A), GAG14GAA (2537G>A), AAA18AAG (2549A>G), TCT20TCC (2555T>C), CCC21TTC (2556C>T) 2557C>T), CTC23TCG (2564A>G), CGC24GCT (2567C>T), CTG262CA (2572T>C) 2573G>A), GAC28GAT (2579C>T), GAC30AT (2585C>T), CTT33TTG (2592C>T) 2594T>G), CCA34CCC (2597A>C), CCC35CCCT (2600C>T), CTC36CCA (2603T>A), TAC38TAT (2609C>T), GTC35GTT (2612C>T), AAA42AAC (2621A>G), GAA43GAG (2624A>G), CTT44CTC (2627T>C), AGC46GCG (2631A>G), AAG48AAA (2639G>A), AGG50ATG (2644G>T), AGG51AGA (2648G>A), ATC55GTC (2658A>G), AAC56AAT (2663C>T), GGG58GAA (2668G>A) 2669G>A), TTS59GTC (2672T>C), AAA60AAG (2675A>G), TG76T2G (2681T>C), AGC63AGT (2684C>T), CGCG64CA (2687G>A), GTC66GGC (2693T>C), TAC67TAT (2696C>T), TCG68TCA (2699G>A), TTC69TTT (2702C>T), GGG70AGG (2703G>A), CGT76TTG (2712C>T), AGA77AAA (2725G>A), ATT82ATC (2741A>C), CGG85GGA (2750G>A), CAT87CAA (2756T>A), AGG88AGA (2759G>A), GTC90ATC (2763G>A), GGG91GGA (2768G>A), TTA92TTG (2771A>G), GTA95GTT (2783T>A), ATT96GTT (2784A>G), CTG97GTT (2790C>T), GCT100GCA (2795A>G), GAA103GGG (2804A>G), GCT104GCC (2807T>C), CCT107CCA (2816T>A), AAC111ATA (2828C>T), TTC122TTT (2861C>T), TCC122TCT (2867C>T), CTT131CTA (2887T>A), CAG140CAA (2915G>A), GAG141GAA (2918G>A), ATC142ATT (2921C>T), ACT143ACC (2924T>C), AAT147GAC (2934A>G) 2936T>C), ACT148ACA (2939T>A), GAG149GAA (2942G>A), TTC150TTT (2945C>T), GTC151ATC (2946G>A), CAA154GAA (2961G>A), AAC160AGG (2974A>G) 2975G>A), CAG161CA (2978G>A), CTC162TGC (2981T>C), ATC164ATT (2987C>T), CGG165GAG (2989G>A), AGA167AGG (2996A>G), ATC168ATT (2999C>T), ATC171ATT (3008C>T), AAC174ATA (3017C>T), TCG175TC (3020G>T), AGA176CGG (3021A>C) 3023A>G), CAA177GCC (3026A>G), GGT178TGT (3027C>T), CTA180TTG (3033C>T), AAC187CAA (3035G>A), CTC191TCT (3068C>T), AAC192AGG (3071A>G), GAC194AT (3077C>T), GAT196GAC (3083T>C), TCC197TCT (3086C>T), TCT198TCA (3089T>A), CTG199GTA (3090C>G) 3092G>A), CTA201CTT (3098A>T), TAA203TAG (3104A>G)								
transmembrane glycoprotein G (NP_056796.1)	1	525	100%	3288	86.5%	525 (100%)	446 (85.0%)	0/0/0/0	1
Protein mutations:	V21 (3321G>A) 3323T>C), F8L (3339T>C) 3341T>G), L12V (3351C>G) 3353G>T), V13I (3354G>A) 3356T>C), F14S (3358T>C) 3359T>C), P15S (3360C>T), F18L (3367T>C) 3371T>C), N56S (3484A>G) 3485C>T), M7V (3540A>T), I109M (3634C>T) 3644A>G), P110S (3645C>T), M121V (3678A>G) 3680G>A), H132Q (3713C>A), L151I (3768C>A) 3770C>T), V152I (3771G>A) 3773T>C), R166K (3814G>A), H169R (3823A>G) 3824C>G), V171I (3831G>A) 3833C>T), N177K (3848T>C), S179L (3853C>T) 3854A>G), V181I (3858G>A), N201E (3918A>G) 3920T>A), P202A (3921C>G) 3923G>A), D205E (3931G>A), M206I (3934T>A), G201T (3961G>A), S223G (3984A>G) 3986T>C), E224K (3987G>A), T225I (3991C>T), K243R (4045A>G), R406A(G>C), L250S (4065C>T) 4066T>A), M262I (4103G>T), N266E (4113A>G) 4115T>C), P273I (4134C>T) 4136C>T), G274D (4138G>A), H280R (4156A>G), R283H (4165G>A), V291H (4203G>A), K349N (4364G>A), R365K (4411G>A), N375D (4440A>G), M404I (4529G>A), V408E (4540T>A) 4541A>G), N427E (4556A>G) 4598C>A), D429N (4602G>A) 4604C>T), D431W (4614G>A) 4616T>C), V442I (4641A>G) 4643G>A), I444K (4647A>G), R445O (4651G>A) 4652A>G), I446V (4653A>G), V449I (4662G>A), K458R (4690A>G) 4691G>A), V460F (4695G>T) 4697A>T), L462M (4701C>A), A464V (4708C>T), T468A (4719A>G) 4721T>A), M471I (4730G>T), I473T (4735T>C), M477I (4748G>T), W480C (4757G>C), N484K (4769I>A) 4770G>C), A487T (4776G>A) 4777G>C), E487K (4777G>A) 4778G>C), P488S (4797C>T) 4781T>A), T489I (4783C>T), Q490K (4785C>A) 4787A>G), H491Q (4790C>A), N492G (4791A>G) 4792A>G), L493P (4795T>C) 4796C>T), R494E (4797A>G) 4798G>A), G495E (4801G>A), T496S (4803A>G), G497R (4806G>A) 4808G>A), E499K (4812G>A) 4814G>A), S506N (4834G>A), M509V (4842A>G), S511L (4860T>C) 4862A>G), S518N (4870G>A) 4871C>T), G523K (4884G>A) 4886A>G)								
Codon mutations:	GTT22ATC (3321G>A) 3323T>C), CTC6CCT (3335C>T), CTG7CTA (3338G>A), TTT8GTC (3339T>C) 3341T>G), GCA9GTC (3344A>G), CCC10CCT (3347C>T), CTT11CTC (3350T>C), CTG12GTT (3351C>G) 3353G>T), GTC13ATC (3354G>A) 3356T>C), TTT14TCC (3358T>C) 3359T>C), CCA15TCA (3360C>T), TTT18CTC (3369T>C) 3371T>C), CCT22CCC (3383T>C), ATT23ATC (3386T>C), CTT30CTC (3407T>C), GGT31GCC (3410T>C), CCC32CTC (3413C>T), AGC344AT (3417C>T), CCC35GCC (3422G>C), GAC37GAT (3428C>T), CAC40CAT (3437C>T), TCG43TGT (3446C>T), CCA44CCT (3449A>T), AAC45AAT (3452C>T), GTC44BGT (3461A>T), GAA52GAG (3473A>G), GGA53GGG (3476A>G), ACC55ACT (3482C>T), AAC56AGT (3484A>G) 3485C>T), TCC60TTT (3497C>T), TCC61TCT (3500C>T), CTT65CTG (3512T>G), AAA66AAG (3515A>G), GTT67GTA (3518T>A), TCA71TCT (3530A>T), AAC709AT (3531C>T), GTC80TGT (3535C>T), AAC81ACC (3560A>G), GGC82GTG (3636C>A), E224K (3639G>A) 3640G>C), AAC86GAA (3575G>A), GAG86GAA (3575G>A), GAA88GAG (3581A>G), TCA90TAT (3587C>T), ACT91ACC (3590T>C), TCC93TGT (3596C>T), AAC98AGC (3611A>G), AGC100ACA (3617G>A), AAC102AAC (3623A>G), AAC104AA (3629A>G), CAT105CAC (3632T>C), TTC106TTT (3635C>T), AAC109ATG (3643C>T) 3644A>G), CCA101TCA (3645C>T), GTC113TGC (3656T>C), GGC115GCT (3662C>T), GGC116GCT (3665G>A), ATG121GTA (3678A>G) 3680G>A), CCC125CTC (3692C>T), CTA131CTT (3710A>C), CAC132CAA (3713C>A), TAC135AT (3722C>T), GAC137GAT (3728C>T), CAC139CAT (3734C>T), CGA142GG (3743A>G), GAA145AAG (3752A>G), AGA148AAA (3761G>A), GTC150TCG (3767T>G), CTC151ATT (3768C>A) 3770C>T), GTC152ATC (3771G>A) 3773T>C), GCA159GCT (3794A>T), GAT160GAC (3797T>C), GTC161CTG (3797B>C), GAC162GAT (3803C>T), CCA163CCC (3806A>C), TAT164TAC (3809T>C), AGA166AAA (3814G>A), CAC168CTG (3821T>C), GAC169CGG (3823A>G) 3824C>G), CTC170TCA (3827G>C), AGG171AGA (3830G>A), GTC172ATT (3831G>A) 3833C>T), AGC176ATA (3841G>A), CAC178CTG (3842C>T), AAC177ATA (3847A>G), GTC179TGT (3853C>T) 3854A>G), GTC181ATA (3858A>G), AAC182ATC (3863C>T), AAC183CAT (3873C>T), AAC184ATC (3875C>T), AAC185TAT (3878C>T), AAC187CAT (3883C>T), AAC192CAT (3893C>T), AAC194TAT (3899C>T), ACC195ACT (3902C>T), ATT196ATC (3905C>T), CCC199CCA (3914C>A), AAC200GAA (3917G>A), AAC201AT (3918A>G) 3920T>A), CCG202CA (3921C>A) 3929G>A), CTC204CTC (3929A>C), GGG205GAG (3931G>A), ATG2060A (3934T>C) 3935G>A), AAC213AAC (3961G>A), AAC215AGT (3974G>A), TCC220CT (3977C>T), AAC221AG (3980A>G), GGG222GGA (3983G>A), AGT223GGC (3984A>G) 3986T>C), GAG224AG (3987G>A), ACT225ATT (3991C>T), GGC227GGA (3998C>A), TTT228TT (4001T>C), GTA229GTC (4004A>G), AGA232AG (4013A>G), GGC233GGA (4016C>G), CTC243TGT (4017C>T) 4019A>G), TTA238CTA (4029T>C), AAC239AAG (4034A>G), TGC242GTT (4040C>T), AAC243AGG (4045A>G) 4046A>G), TTA246TTG (4050A>G), TGT247TGT (4058C>T), CTC250TCT (4065C>T) 4066T>A), ATG262ATT (4013C>T), AAC263AGC (4106A>G), AAC264AGC (4109A>G), AAT266GAG (4113A>G) 4115T>C), AAC267GAG (4118A>G), GCA273CT (4134C>T) 4136C>T), GGT274GAT (4138G>A), AAC275CCA (4142G>A), TGT279GTA (4152T>C) 4154G>A), AAC280CAG (4156A>G), CGC283CAA (4165G>A), AAC285GAT (4172C>T), AAC286GAG (4175A>G), ATT287ATA (4181G>A), AAC289CAT (4184C>T), GTC291GTC (4190A>G), GTC292GTC (4193A>G), GAG300GAA (4217G>A), GAG301GAA (4220G>A), CGT303TTG (4224C>T), GAT304GAC (4229T-C), ATC306CTG (4235A>C), ATC309ATP (4242C>T), AAC313GAA (4256G>A), AGT321AGC (4280T>C), AAC322CAC (4283T>C), AAC335GCT (4322C>T), AAC339AA (4334G>A), ACC340ACT (4337C>T), TGT341TTA (4340G>A), GGC344GTC (4349C>T), AAC345AT (4358C>T), AAC347AT (4361C>T), AAC349AGC (4364G>A), AAC350AGC (4365A>G), AAC351AGC (4371A>G), AAC352GCA (4373A>G), AAC353GCA (4374A>G), AAC354GCA (4375A>G), AAC355GCA (4376A>G), AAC356GCA (4377A>G), AAC357GCA (4378A>G), AAC358GCA (4379A>G), AAC359GCA (4380A>G), AAC360GCA (4381A>G), AAC361GCA (4382A>G), AAC362GCA (4383A>G), AAC363GCA (4384A>G), AAC364GCA (4385A>G), AAC365GCA (4386A>G), AAC366GCA (4387A>G), AAC367GCA (4388A>G), AAC368GCA (4389A>G), AAC369GCA (4390A>G), AAC370GCA (4391A>G), AAC371GCA (4392A>G), AAC372GCA (4393A>G), 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(4441A>G), AAC399GCA (4442A>G), AAC399GCA (4443A>G), AAC399GCA (4444A>G), AAC399GCA (4445A>G), AAC399GCA (4446A>G), AAC399GCA (4447A>G), AAC399GCA (4448A>G), AAC399GCA (4449A>G), AAC399GCA (4450A>G), AAC399GCA (4451A>G), AAC399GCA (445								

	Begin	End	Coverage	Score	Concordance	Matches	Identities	I/D/M/F*	Stop Codons
NT	1	11926	99.9%	14615	61.4%	11918 (99.9%)	9629 (80.7%)	3/8	
Protein mutations:	L2I (5421C>A), E6D (5435G>T), L17S (5467T>C), A19T (5472G>A), P21T (5478C>A), T24N (5488C>A), V27I (5496G>A 5498C>T), P46S (5553C>T 5555T>A), R48K (5560G>A), Y61P (5598T>C 5599A>C 5600T>C), F73Y (5635T>A 5636C>T), R74K (5638G>A), Y79C (5653A>G 5654T>C), M93A (5694A>G 5695T>C 5696G>T), L103I (5724T>A), R115K (5761G>A 5762A>G), I117M (5768A>G), T118I (5770C>T 5771A>C), H122Q (5783T>G), L136C (5823C>T 5824T>G), E148N (5859G>A 5861G>T), N161G (5898A>G 5899A>G 5900T>G), T170I (5926C>T 5927G>A), K193R (5995A>G), K200R (6016A>G 6017A>G), V205T (6030G>A 6031T>C 6032G>A), I207V (6036A>G 6038C>T), L221S (6078C>T 6079T>C), L222M (6081C>A), S233R (6114A>C), N235G (6120A>G 6121A>G 6122T>C), V259I (6192G>A 6194C>T), Q285H (6272A>T), K331R (6409A>G), S335G (6420A>G), E339G (6433A>G 6434G>A), S343P (6444T>C 6446C>T), C344S (6447T>A), R346K (6454G>A), R350Q (6465A>C 6466G>A), A351T (6468G>A), I391L (6588A>C 6590T>C), F428L (6697T>C), A430S (6705G>T 6707C>G), R431K (6708C>A 6709G>A), T436I (6724C>T), I449V (6762A>G 6764T>A), L528I (6999C>A 7001C>T), R672W (7431C>T), Q675I (7441A>G), A681M (7458G>A 7459C>T), I717T (7567T>C), V724I (7587G>A), Q745R (7650C>A 7651A>G), F760L (7695T>C 7697T>C), V766I (7713G>A), V815I (7860G>A), E882D (8063G>C), S883N (8065G>A 8066C>T), H933N (8214C>A), I937I (8226A>G), R970M (8326G>A), T1018K (8470C>A), K1059R (8593A>C), K1063A (8605A>G), S1078N (8650G>A 8651T>C), G1089R (8682G>A 8684G>A), T1133A (8814A>G), A1136T (8823G>A), T1137A (8826A>G 8828A>C), G1138E (8830G>A), G1140E (8836G>A 8837C>G), V1144I (8847G>A 8849T>A), Q1154P (8878A>C), C1158S (8890G>C 8891C>G), T1159R (8893C>G 8894G>A), D1206N (9033G>A 9035T>C), V1218M (9069G>A), S1219A (9072T>C), Q1276H (9245A>T), K1279R (9253A>G 9254G>A), R1307K (9337G>A 9338A>G), Q1316R (9364A>G), R1319K (9373G>A), I1334V (9417A>G), E1336D (9425G>T), K1342R (9442A>G), Q1356R (9483C>A 9484A>G 9485G>A), R1357K (9487G>A 9488G>A), I1361V (9498A>G 9500C>T), R1374K (9538G>A), H1378R (9550A>G), G1411S (9648G>A), F1476L (9843T>C 9845T>G), E1478G (9850A>G), I1487V (9876A>G), V1516A (9964T>C), A1535S (10020G>T 10022C>T), V1554I (10077G>A 10079T>A), R1556K (10084G>A 10085A>G), D1564A (10108A>C 10109T>C), L1569M (10122T>A), D1583E (10166T>A), E1586A (10175G>T), D1589A (10184C>A), N1590R (10185A>G), R1603A (10225G>A 10226A>G), D1619A (10273A>G), N1623S (10285A>G 10286C>T), V1626M (10293G>A), V1630A (10306T>C), V1653A (10375T>C), K1663R (10405A>G 10406G>A), R1664A (10408G>A), F1665L (10410T>C 10412C>T), R1749S (10664G>C), N1752D (10671A>G), V1755I (10680G>A), I1759V (10692A>G 10694A>T), R1772K (10732G>A), A1775T (10740G>A 10742T>C), K1778R (10750A>G 10751A>G), K1785E (10770A>G 10772G>A), Q1786R (10774A>G 10775G>T), A1817V (10867C>T 10868A>G), L1818M (10869T>A), N1839D (10932A>G), K1841R (10939A>G 10940G>A), V1860T (10985G>A 10996T>C 10997A>G), E1924D (11189A>T), A1966S (11131G>T), T1987I (11372C>T), P2021S (11478C>T 11480T>C), V2042I (11541G>A), L2044Q (11548T>A 11549A>G), N2046S (11554A>G 11555C>I), N2055D (11580A>G 11582C>T), S2091N (11689G>A), K2093E (11694A>G 11696G>A), G2097R (11706G>A 11708A>G), R2101K (11719G>A 11720A>G), H2104R (11728A>G 11729T>A), R2105G (11730A>G), E2113D (11756G>T), N2114D (11757A>G 11759T>C), C2128* (11800G>A 11801C>A), I2129T (11803T>C 11804C>T), G2130E (11806G>A 11807A>G), Y2131H (11808T>C), W2133R (11814T>C 11816G>A), K2134R (11818A>G), P2135N (11820C>A 11821C>A), A2136V (11824C>T 11825C>G), H2137K (11826C>A 11828T>G), A2138T (11829G>A), V2142G (11842T>C 11843G>A), *2143R (11844T>C)								

	Begin	End	Coverage	Score	Concordance	Matches	Identities	I/D/M/F*	Stop Codons
NT	1	11926	99.9%	14615	61.4%	11918 (99.9%)	9629 (80.7%)	3/8	
CTC2ATC (5421C>A), CCT4CCA (5429T>A), GAG6GAT (5435G>T), GTC7GTT (5438C>T), CCT11CCC (5450T>C), GAC13GAT (5456C>T), CCA14CCT (5459A>T), ATC15ATT (5462C>T), TTA17TCA (5467T>C), GCT19ACT (5472G>A), GAA20GAG (5477A>G), CCC21ACG (5478C>A), GGA23GGG (5486A>G), ACC24AAC (5488C>A), CCC25CCT (5492C>T), ACT26AAC (5495T>C), GTC27ATT (5496G>A, 5498C>T), TTG31TTA (5510G>A), AGG32AGA (5513G>C), TCT40TCC (5537T>C), TTG42CTA (5541T>C, 5543G>A), GAA44GAG (5549A>G), CCT46TCA (5553C>T, 5555T>A), GCT47GCC (5558T>C), AGA48AAA (5560G>A), TTA51TTG (5570A>G), TTA54TTG (5579A>G), GGG57GGA (5588G>A), AGA59AGG (5594A>G), TAT615CC (5598T>C, 5599A>C, 5600T>C), CTG65CTG (5612A>G), TCC70TCC (5627G>T), TCT72TCC (5633T>C), TCT73STAT (5635T>A, 5636C>T), AGA74AAA (5638G>A), CCT75GTC (5642T>C), TAT79TGC (5653A>G, 5654T>C), AGA82AGA (5656G>A), TTA103ATA (5657A>G), TTA104TC (5671G>A, 5762A>G), ATTA117A (5768A>G), ACA118ATC (5760C>T, 5771A>C), GAC119GAT (5774C>T), GCC121GCT (5780C>T), CAT122CAC (5783T>C), TCG127TCT 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(10400C>T), AAG1663AGA (10405A>G 10406G>A), AGG1664AAG (10408G>A), TTC1665CTT (10410T>C 10412C>T), CAG1666CAA (10415G>A), CCT1668CCG (10421T>G), TCG1671CTT (10430G>T), TTG1673CTG (10434T>C), GCA1679GCG (10454A>G), ACC1680ACA (10457C>A), GGT1681GGG (10460T>G), GCT1682GCC (10463T>C), CTC1686GCTC (10475T>C), AAG1687AAA (10478G>A), CTA1690CTG (10487A>G), GAT1692GAC (10493T>C), GTT1695GTA (10502T>A), TTC1696TTT (10505C>T), CCA1697CCG (10508A>G), TCT1698TCC (10511T>C), CTC1699TTG (10512C>T 10514C>G), TGC1700TGT (10517C>T), GAT1702GTG (10523A>G), GGG1706GGG (10535G>A), AGG1712AGA (10559C>A), GTC1714CTG (10559C>A), CTC1715TTA (10560C>T 10562C>A), CCA1719CCG (10574A>G), CTT1723CTA (10586T>A), AAC1726AAT (10595C>T), CTT1728TTA (10599C>T 10601T>A), ATA1729TTG (10604A>G), AAT1732AAC (10613T>C), CTG1734TTA (10617C>A), GTC1736GCA (10625T>A), TCC1737TCA (10628C>A), CTG1742TTG (10641C>T), CCT1743CCC (10646T>C), CCT1744CCC (10649T>C), AGG1749AGC (10664G>C), GGA1750GGG (10667A>G), ATT1752GAT (10671A>G), 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10955G>A), TCA1847TCC (10958A>C), TTC1850TTT (10967C>T), CCC1851CCT (10970C>T), TCG1852TCA (10973G>A), ACA1854ACT (10979A>T), GGG1855GGA (10982G>A), TTT1856TTC (10985T>C), ATC1857ATA (10988C>A), ACC1858ACT (10991C>T), CAA1859CAG (10994A>G), CTA1860ACG (10995G>A 10996T>C), ACT1861AAC (11000T>C), TTT1864TTC (11009T>C), TCT1866TCC (11015T>C), CCTC1868CTA (11021C>A), CCTT1870CTC (11022T>C), CGA1871AGA (11028C>A), CGA1875CGG (11042A>G), TTT1878TTC (11051T>C), AGA1880CGA (11055A>C), GCT1882GCA (11063T>A), GAG1883GAA (11066G>A), TAC1884TAT (11081C>T), ACC1889ACT (11084C>T), CCTT1890CTC (11087T>C), AGC1894AGT (11099C>T), GTG1896GTA (11105G>A), TTA1897TTG (11108A>G), ATT1899AAC (11114T>C), AAC1899AAC (11114T>C), AAC1904AAA (11129G>A), AGT1917GAC (11165G>A), GAT1917GTC (11132T>C), GCT1910GCC (11147T>C), CGT1911CGC (11150T>C), TTG1913TTA (11156G>A), AAC1914AAT (11159C>T), CAG1916CAA (11165G>A), AAC1918GAC (11171T>C), GTG1919GTA (11174G>A), AGA1920AGG (11177A>G), CCT1923CCC (11186T>A), GAA1924GAT (11189A>T), GAA1925GAC (11192A>G), TCA1928TCT (11201A>T), ATT1932AAC (11213T>C), GAG1933GAA (11216G>A), ACT1937ACC (11228T>C), CTG1938TTG (11229C>T), GAA1944GAG (11249A>G), TCT1945TCC (11252T>C), TTT1946TTC (11255T>C), CTA1947CTG (11258A>G), GTC1948CTG (11261C>G), AAG1950AAA (11267G>A), GTG1952GTA (11273G>A), CCT1955CTA (11282T>A), TTA1957CTG (11286T>C) 11288A>G), AGG1959CGA (11292A>C 11294G>A), CTG1962TTC (11301C>T), GTG1965GTT (11312G>T), GCT1966CT (11313G>T), GTT1974GTC (11339T>C), GTC1979GTC (11354C>G), TCT1980TTT (11357C>T), AAC1981ATT (11360C>T), GTT1982GTC (11363T>C), TCC1983TCG (11366G>G), CCC1985CCG (11372C>G), CTA1986TTG (11373C>T) 11375A>G), ACT1987ATT (11377C>T), CCTC1989CTC (11384C>T), TTG1990TTA (11387G>A), CCTC1991TTT (11390C>T), AAC1993CCG (11396A>G), CCTC1994CCT (11399G>T), CTG2000TTG (11415C>T), AGG2001AGA (11420G>A), TTC2003TTT (11426C>T), AAC2004AAT (11429C>T), GCT2006TGC (11435T>C), TG2007TGT (11438C>T), AGT2008AGC (11441T>C), ACT2009ACC (11444T>C), TAT2012TAC (11453T>C), CTA2013TTA (11454C>T), CCT2016GCA (11465T>A), GGT2018GGA (11471T>A), GAC2019GAT (11474C>T), GTC2020GTC (11477C>G), CCT2021TCC (11478C>T 11480T>C), TCC2023TTT (11486C>T), GCA2024CGC (11489A>G), CAC2027CAT (11498C>T), CCT2033CCC (11516T>C), TAC2037TAT (11528C>T), AGA2039AGG (11534A>G), AAC2040AAA (11537G>A), CAA2041CAC (11540A>G), GTC2042ATC (11541G>A), CTA2044CAG (11548T>A 11549A>G), AAC2046AGT (11554A>T 11555C>T), CCT2047GTC (11558T>C), TCT2050TCC (11567T>C), AAC2055GAT (11580A>T 11582C>T), TCC2060TTT (11597C>T), AAA2061AAC (11600A>G), GCC2064GCT (11609C>T), TGT2065TGC (11612T>C), AAT2066AAC (11615T>C), CTG2071CTC (11630G>C), TTG2078CTA (11649T>C 11651G>A), ATT2079ATC (11654T>C), ATA2082ATC (11663A>C), GTG2083GTA (11666G>A), ACT2085ACC (11672T>C), CTC2088CTT (11681C>T), GTT2089GTC (11684T>C), GGC2090GGA (11687C>A), AGC2091AAC (11689G>A), ATC2092ATA (11693C>A), AAG2093GAA (11694A>G 11696G>A), CTG2095CTG (11702A>G), GGA2097AGG (11706G>A 11708A>G), GAA2098GAG (11711A>G), GTG2099GTA (11714G>A), GAA2100GAG (11717A>G), AGA2101AAG (11719G>A 11720A>G), CAT2104CGA (11728A>G 11729T>A), AGG2105GGG (11730A>G), AGG2108AGA (11741G>A), CTA2112CTC (11753A>C), GAG2113GAT (11756G>T), AAT2114GAC (11757A>G 11759T>C), ATC2115ATT (11762C>T), TCT2117TCC (11768T>C), TCC2120TCT (11777C>T), CTG2121CTT (11780A>T), CTA2122TTA (11781C>T), GAC2123GAT (11786C>T), TAC2124TAT (11789C>T), AGT2125AGC (11792T>C), CTG2127TTA (11796C>T 11798G>A), TCG2128TTA (11800G>A 11801C>A), ATC2129ACT (11803T>C 11804C>T), GGA2130GAG (11806G>A 11807A>G), TAC2131CAC (11808T>C), TCC2132TCT (11813C>T), TGG2133CGA (11814T>C 11816G>A), AAG2134AGG (11818A>G), CCT2135ATT (11820C>A 11821C>A), GCC2136GTG (11824C>T 11825C>G), CAT2137AAG (11826C>A 11828T>G), GCT2138ACT (11829G>A), CTT2141CTC (11840T>C), GTG2142GGA (11842T>G 11843G>A), TGA2143CGA (11844T>C)

*: Inserts / Deletes / Misaligned / Frameshifts

Analysis details

This analysis was performed with Pan-viral (2.14.6)