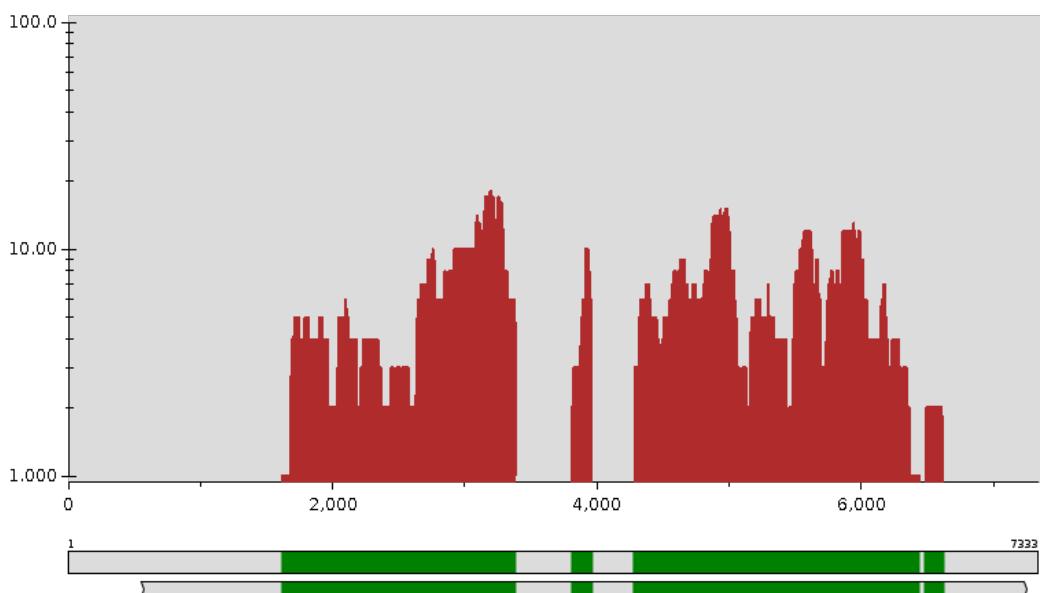


## NGS Details (MG-14-RNASeq021-ZymoSeq): hepatovirus H2

### Assembly

Coverage Length	4269 (4 contig(s))
Depth Of Coverage	5.8
Number Of Reads	195
Reads Per Million	0.93 rpm (after QC)
Ambiguities	0
Assembly Method	de novo + reference guided assembly
Consensus Caller	Bcf Tools

### Coverage Map



### Assignment

Type	hepatovirus H2 (Taxonomy ID: 2766976)
Reference Genome	NC_028366.1
NT Identity (%)	74.7069
AA Identity (%)	79.2832
Number Of Stop Codons	0
Number Of CDS	1

### Alignment

Alignment Score	3977.0 (NT) + 7985.0 (AA) = 11962.0
Concordance (%)	67.1758

## Genome Region

Sequence starts at position 1613 and ends at position 6630 relative to NC\_028366.1 reference sequence.

## Alignment Detailed Statistics

	Begin	End	Coverage	Score	Concordance	Matches	Identities	I/D/M/F*	Stop Codons
NT	1613	6630	58.2%	3977	48.5%	4173 (97.6%)	3122 (73.0%)	6/96	
<b>1613A&gt;G, 1618A&gt;T, 1619C&gt;T, 1634A&gt;T, 1637T&gt;C, 1638C&gt;T, 1640T&gt;A, 1643C&gt;T, 1649T&gt;C, 1652C&gt;T, 1657T&gt;C, 1664C&gt;A, 1667A&gt;G, 1670A&gt;G, 1676C&gt;T, 1688G&gt;T, 1694C&gt;T, 1697T&gt;C, 1703T&gt;G, 1712C&gt;T, 1715G&gt;A, 1718C&gt;T, 1719A&gt;G, 1721G&gt;T, 1727A&gt;C, 1730A&gt;T, 1733G&gt;A, 1739A&gt;C, 1740C&gt;T, 1742T&gt;A, 1751C&gt;G, 1754C&gt;A, 1757A&gt;T, 1763A&gt;T, 1769A&gt;T, 1772A&gt;C, 1779A&gt;G, 1781A&gt;T, 1784T&gt;A, 1787A&gt;T, 1790G&gt;A, 1796T&gt;A, 1799A&gt;T, 1800C&gt;T, 1808C&gt;T, 1809C&gt;A, 1811T&gt;G, 1817A&gt;C, 1823A&gt;T, 1832A&gt;C, 1838T&gt;C, 1839A&gt;C, 1841A&gt;T, 1844G&gt;T, 1856T&gt;G, 1859A&gt;G, 1871A&gt;G, 1877T&gt;G, 1883C&gt;T, 1895G&gt;T, 1898A&gt;G, 1899A&gt;G, 1901A&gt;T, 1913A&gt;G, 1919C&gt;T, 1923T&gt;C, 1925A&gt;T, 1928T&gt;C, 1935A&gt;T, 1936A&gt;C, 1937T&gt;A, 1943G&gt;T, 1946T&gt;C, 1949T&gt;A, 1955A&gt;T, 1961C&gt;T, 1967T&gt;C, 1970T&gt;C, 1971C&gt;T, 1973T&gt;G, 1976T&gt;A, 1982G&gt;C, 1986T&gt;C, 1993A&gt;T, 1995A&gt;T, 1997T&gt;C, 2003A&gt;C, 2015C&gt;T, 2019A&gt;T, 2021T&gt;A, 2024T&gt;C, 2024T&gt;T, 2026C&gt;T, 2027A&gt;T, 2030T&gt;A, 2030T&gt;C, 2042_2043insCA, 2051C&gt;T, 2057T&gt;C, 2060A&gt;T, 2066T&gt;A, 2072G&gt;T, 2073G&gt;A, 2074T&gt;C, 2075G&gt;A, 2082C&gt;T, 2087C&gt;T, 2102A&gt;T, 2105T&gt;A, 2108A&gt;T, 2110G&gt;C, 2111T&gt;A, 2116A&gt;G, 2120C&gt;A, 2129A&gt;C, 2135A&gt;C, 2144T&gt;A, 2150A&gt;G, 2153C&gt;T, 2154T&gt;C, 2162T&gt;C, 2167A&gt;G, 2168A&gt;G, 2171G&gt;T, 2174C&gt;A, 2176A&gt;C, 2177G&gt;A, 2183A&gt;T, 2186T&gt;A, 2189T&gt;A, 2192G&gt;C, 2193C&gt;T, 2201C&gt;T, 2231C&gt;T, 2237A&gt;T, 2240A&gt;G, 2253A&gt;G, 2255T&gt;C, 2258A&gt;T, 2259A&gt;C, 2261A&gt;T, 2270A&gt;T, 2282T&gt;C, 2283A&gt;T, 2286T&gt;G, 2288C&gt;T, 2311A&gt;T, 2313C&gt;T, 2315T&gt;A, 2318A&gt;T, 2320A&gt;C, 2321T&gt;C, 2325C&gt;A, 2326A&gt;C, 2334T&gt;G, 2336A&gt;T, 2345G&gt;C, 2348G&gt;A, 2354C&gt;T, 2357T&gt;C, 2360A&gt;T, 2361A&gt;G, 2363A&gt;T, 2365G&gt;C, 2366T&gt;A, 2378A&gt;T, 2380A&gt;G, 2381T&gt;C, 2387T&gt;A, 2390C&gt;A, 2396A&gt;T, 2399A&gt;G, 2402C&gt;T, 2406G&gt;A, 2407T&gt;C, 2408C&gt;A, 2409C&gt;T, 2411T&gt;G, 2423C&gt;T, 2427T&gt;A, 2432C&gt;T, 2436T&gt;C, 2436G&gt;C, 2450C&gt;A, 2451C&gt;T, 2453T&gt;G, 2459A&gt;G, 2465T&gt;A, 2468T&gt;C, 2471C&gt;T, 2474T&gt;A, 2477T&gt;A, 2478T&gt;G, 2483T&gt;A, 2501A&gt;T, 2507T&gt;C, 2516T&gt;G, 2519A&gt;T, 2522G&gt;A, 2525A&gt;T, 2527C&gt;T, 2532A&gt;C, 2533A&gt;T, 2534A&gt;C, 2541A&gt;T, 2542C&gt;T, 2543A&gt;C, 2549G&gt;C, 2552A&gt;C, 2553A&gt;T, 2556G&gt;C, 2564C&gt;A, 2567A&gt;T, 2573C&gt;T, 2577A&gt;T, 2583C&gt;T, 2585G&gt;A, 2591T&gt;A, 2594G&gt;T, 2603C&gt;T, 2606A&gt;C, 2609A&gt;G, 2612G&gt;A, 2618A&gt;T, 2624A&gt;G, 2633G&gt;A, 2634C&gt;T, 2636A&gt;G, 2639T&gt;A, 2646T&gt;A, 2652C&gt;T, 2654A&gt;G, 2660A&gt;T, 2663T&gt;A, 2675G&gt;A, 2682A&gt;G, 2687T&gt;A, 2692C&gt;T, 2693A&gt;G, 2705T&gt;A, 2711A&gt;T, 2721G&gt;A, 2723A&gt;C, 2738C&gt;T, 2740C&gt;A, 2741T&gt;C, 2746G&gt;A, 2747T&gt;G, 2757T&gt;C, 2762C&gt;A, 2771G&gt;A, 2778T&gt;G, 2780A&gt;T, 2783T&gt;A, 2784T&gt;G, 2802T&gt;A, 2819A&gt;G, 2828C&gt;T, 2831T&gt;C, 2832G&gt;T, 2834T&gt;A, 2838A&gt;T, 2839C&gt;T, 2840T&gt;A, 2844A&gt;G, 2846A&gt;T, 2846_2847insGAC, 2851G&gt;A, 2852T&gt;G, 2853C&gt;T, 2854T&gt;C, 2855G&gt;T, 2858G&gt;C, 2861T&gt;A, 2862_2864delITTC, 2865T&gt;A, 2866G&gt;A, 2867T&gt;G, 2870T&gt;G, 2876G&gt;T, 2879G&gt;A, 2883C&gt;T, 2885T&gt;A, 2888A&gt;G, 2893G&gt;A, 2897C&gt;T, 2901T&gt;A, 2903T&gt;G, 2913A&gt;T, 2914A&gt;T, 2918A&gt;G, 2924A&gt;G, 2927A&gt;G, 2930T&gt;A, 2934G&gt;C, 2936C&gt;A, 2937A&gt;G, 2938A&gt;T, 2939T&gt;G, 2943G&gt;A, 2945T&gt;A, 2946C&gt;T, 2948T&gt;G, 2951T&gt;A, 2954G&gt;A, 2960A&gt;G, 2963T&gt;C, 2966A&gt;G, 2967A&gt;C, 2968G&gt;A, 2970T&gt;A, 2971A&gt;G, 2972C&gt;T, 2973G&gt;A, 2974A&gt;G, 2975C&gt;T, 2976G&gt;A, 2977T&gt;G, 2978A&gt;G, 2979A&gt;T, 2980A&gt;T, 2981A&gt;G, 2982C&gt;T, 2983A&gt;G, 2984T&gt;A, 2985T&gt;G, 2986A&gt;G, 2987T&gt;G, 2988A&gt;G, 2989A&gt;T, 2990A&gt;G, 2991A&gt;T, 2992A&gt;G, 2993G&gt;T, 2994A&gt;G, 2995T&gt;A, 2996A&gt;G, 29963T&gt;C, 29966A&gt;G, 2997A&gt;C, 2998G&gt;A, 2999T&gt;A, 3000A&gt;G, 3001G&gt;T, 3002A&gt;G, 3003A&gt;T, 3004A&gt;G, 3005A&gt;T, 3006G&gt;A, 3066G&gt;T, 3068T&gt;A, 3069A&gt;G, 3070A&gt;T, 3073C&gt;A, 3075_3077delGTG, 3078G&gt;C, 3079T&gt;G, 3086T&gt;G, 3090G&gt;T, 3092T&gt;G, 3093T&gt;A, 3094A&gt;T, 3095T&gt;G, 3101A&gt;G, 3102G&gt;A, 3103A&gt;G, 3104T&gt;A, 3108G&gt;A, 3110G&gt;C, 3113C&gt;T, 3114C&gt;A, 3116T&gt;A, 3117G&gt;A, 3119A&gt;T, 3125G&gt;A, 3128T&gt;G, 3132G&gt;T, 3133G&gt;A, 3134A&gt;C, 3135C&gt;T, 3137A&gt;T, 3138A&gt;T, 3139A&gt;G, 3147A&gt;G, 3149A&gt;G, 3150G&gt;A, 3151T&gt;A, 3152T&gt;A, 3155G&gt;A, 3158T&gt;C, 3162A&gt;T, 3164A&gt;G, 3170A&gt;C, 3182A&gt;G, 3186G&gt;A, 3189A&gt;T, 3190A&gt;C, 3191C&gt;T, 3192A&gt;G, 3194T&gt;A, 3197G&gt;A, 3198A&gt;T, 3199G&gt;C, 3205C&gt;A, 3210C&gt;A, 3211A&gt;C, 3214T&gt;C, 3215T&gt;A, 3218T&gt;A, 3219A&gt;G, 3220C&gt;A, 3221C&gt;T, 3222C&gt;G, 3223G&gt;T, 3225G&gt;T, 3226A&gt;T, 3227A&gt;T, 3229A&gt;G, 3230C&gt;A, 3234G&gt;C, 3235T&gt;A, 3236T&gt;G, 3237G&gt;A, 3238A&gt;T, 3239A&gt;T, 3243C&gt;G, 3245A&gt;T, 3246G&gt;A, 3247C&gt;G, 3248T&gt;A, 3252G&gt;A, 3253A&gt;T, 3254T&gt;G, 3256T&gt;A, 3262G&gt;T, 3263A&gt;G, 3264C&gt;G, 3265C&gt;A, 3267A&gt;T, 3269G&gt;A, 3270T&gt;C, 3272A&gt;T, 3273C&gt;A, 3274A&gt;G, 3275A&gt;G, 3281G&gt;A, 3286A&gt;G, 3287T&gt;A, 3293T&gt;G, 3294A&gt;C, 3302A&gt;G, 3304G&gt;A, 3306G&gt;A, 3307T&gt;A, 3308A&gt;G, 3309T&gt;A, 3317A&gt;C, 3320C&gt;A, 3321C&gt;T, 3322A&gt;G, 3323C&gt;A, 3324C&gt;T, 3325A&gt;G, 3326C&gt;T, 3327A&gt;G, 3328A&gt;G, 3329A&gt;C, 3330A&gt;G, 3331G&gt;A, 3333T&gt;A, 3335T&gt;G, 3338A&gt;G, 3342A&gt;T, 3343C&gt;G, 3344A&gt;T, 3345G&gt;C, 3348G&gt;C, 3350A&gt;G, 3354A&gt;T, 3360G&gt;A, 3362A&gt;T, 3366G&gt;C, 3367A&gt;G, 3368A&gt;C, 3371A&gt;T, 3374T&gt;A, 3375A&gt;T, 3376A&gt;C, 3380T&gt;A, 3383T&gt;G, 3380A&gt;T, 3381G&gt;T, 3381G&gt;A, 33818C&gt;T, 33821A&gt;G, 33825G&gt;A, 33827T&gt;C, 33830C&gt;T, 33836A&gt;T, 33839C&gt;T, 33840A&gt;T, 33842C&gt;T, 33843A&gt;G, 33845T&gt;C, 33845C&gt;T, 33848C&gt;T, 33848G&gt;C, 33849T&gt;G, 33850C&gt;T, 33851G&gt;A, 33852G&gt;C, 33853C&gt;T, 33854A&gt;G, 33855G&gt;A, 33856C&gt;T, 33857G&gt;A, 33858G&gt;C, 33859G&gt;T, 33860G&gt;A, 33861G&gt;T, 33862G&gt;A, 33863G&gt;T, 33864G&gt;A, 33865G&gt;T, 33866G&gt;A, 33867G&gt;T, 33868G&gt;A, 33869G&gt;T, 33870G&gt;A, 33871G&gt;A, 33872G&gt;A, 33873G&gt;C, 33874G&gt;T, 33875G&gt;A, 33876G&gt;T, 33877G&gt;A, 33878G&gt;T, 33879G&gt;A, 33880G&gt;T, 33881G&gt;A, 33882G&gt;T, 33883G&gt;A, 33884G&gt;T, 33885G&gt;A, 33886G&gt;T, 33887G&gt;A, 33888G&gt;T, 33889G&gt;A, 33890G&gt;A, 33891G&gt;A, 33892G&gt;A, 33893G&gt;T, 33941A&gt;G, 33944T&gt;A, 33946G&gt;A, 33957A&gt;G, 33958G&gt;A, 33959T&gt;A, 33962A&gt;G, 33965T&gt;A, 34274A&gt;T, 4277G&gt;A, 4283T&gt;C, 4316T&gt;A, 4317G&gt;C, 4319T&gt;C, 4331T&gt;A, 4332T&gt;G, 4334T&gt;C, 4335T&gt;G, 4337T&gt;A, 4340A&gt;T, 4342A&gt;T, 4342T&gt;G, 4345C&gt;T, 4355C&gt;T, 4356C&gt;A, 4357C&gt;G, 4547T&gt;A, 4548T&gt;C, 4549T&gt;C, 4550T&gt;A, 4551T&gt;G, 4552T&gt;A, 4553T&gt;C, 4554T&gt;G, 4555T&gt;A, 4556T&gt;A, 4557T&gt;G, 4558G&gt;A, 4562G&gt;C, 4563G&gt;T, 4564T&gt;A, 4565T&gt;G, 4566G&gt;A, 4567T&gt;C, 4568G&gt;T, 4569A&gt;C, 4570T&gt;G, 4571A&gt;T, 4572C&gt;A, 4573G&gt;T, 4574C&gt;A, 4575G&gt;T, 4576C&gt;A, 4577G&gt;T, 4578C&gt;A, 4579G&gt;T, 4580C&gt;A, 4581G&gt;T, 4582C&gt;A, 4583G&gt;T, 4584T&gt;A, 4585G&gt;C, 4586T&gt;A, 4587G&gt;A, 4588G&gt;T, 4589G&gt;A, 4590G&gt;T, 4591G&gt;A, 4592G&gt;T, 4593G&gt;A, 4594G&gt;T, 4595G&gt;A, 4596G&gt;T, 4597G&gt;A, 4598G&gt;T, 4599G&gt;A, 4600G&gt;T, 4601G&gt;A, 4602G&gt;T, 4603G&gt;A, 4604G&gt;T, 4605G&gt;A, 4606G&gt;T, 4607G&gt;A, 4608G&gt;T, 4609G&gt;A, 4610G&gt;T, 4611G&gt;A, 4612G&gt;T, 4613G&gt;A, 4614G&gt;T, 4615G&gt;A, 4616G&gt;T, 4617G&gt;A, 4618G&gt;T, 4619G&gt;A, 4620G&gt;T, 4621G&gt;A, 4622G&gt;T, 4623G&gt;A, 4624G&gt;T, 4625G&gt;A, 4626G&gt;T, 4627G&gt;A, 4628G&gt;T, 4629G&gt;A, 4630G&gt;T, 4631G&gt;A, 4632G&gt;T, 4633G&gt;A, 4634G&gt;T, 4635G&gt;A, 4636G&gt;T, 4637G&gt;A, 4638G&gt;T, 4639G&gt;A, 4640G&gt;T, 4641G&gt;A, 4642G&gt;T, 4643G&gt;A, 4644G&gt;T, 4645G&gt;A, 4646G&gt;T, 4647G&gt;A, 4648G&gt;T, 4649G&gt;A, 4650G&gt;T, 4651G&gt;A, 4652G&gt;T, 4653G&gt;A, 4654G&gt;T, 4655G&gt;A, 4656G&gt;T, 4657G&gt;A, 4658G&gt;T, 4659G&gt;A, 4660G&gt;T, 4661G&gt;A, 4662G&gt;T, 4663G&gt;A, 4664G&gt;T, 4665G&gt;A, 4666G&gt;T, 4667G&gt;A, 4668G&gt;T, 4669G&gt;A, 4670G&gt;T, 4671G&gt;A, 4672G&gt;T, 4673G&gt;A, 4674G&gt;T, 4675G&gt;A, 4676G&gt;T, 4677G&gt;A, 4678G&gt;T, 4679G&gt;A, 4680G&gt;T, 4681G&gt;A, 4682G&gt;T, 4683G&gt;A, 4684G&gt;T, 4685G&gt;A, 4686G&gt;T, 4687G&gt;A, 4688G&gt;A, 4689G&gt;T, 4690G&gt;A, 4691G&gt;A, 4692G&gt;T, 4693G&gt;A, 4694G&gt;T, 4695G&gt;A, 4696G&gt;T, 4697G&gt;A, 4698G&gt;T, 4699G&gt;A, 4700G&gt;T, 4701G&gt;A, 4712G&gt;T, 4714A&gt;C, 4715T&gt;A, 4716A&gt;T, 4718G&gt;A, 4722A&gt;T, 4723C&gt;T, 4724T&gt;A, 4727T&gt;A, 4730G&gt;T, 4734G&gt;C, 4736T&gt;A, 4741A&gt;G, 4745T&gt;A, 4747A&gt;C, 4748A&gt;T, 4749C&gt;A, 4750G&gt;T, 4751A&gt;G, 4752G&gt;T, 4753A&gt;C, 4754G&gt;T, 4755G&gt;A, 4756G&gt;T, 4757G&gt;A, 4758G&gt;T, 4759G&gt;A, 4760G&gt;T, 4761A&gt;G, 4762G&gt;T, 4763G&gt;A, 4764G&gt;T, 4765G&gt;A, 4766G&gt;T, 4767G&gt;A, 4768G&gt;T, 4769G&gt;A, 4770G&gt;T, 4771A&gt;G, 4772G&gt;T, 4773G&gt;A, 4774G&gt;T, 4775G&gt;A, 4776G&gt;T, 4777G&gt;A, 4778G&gt;T, 4779G&gt;A, 4780G&gt;T, 4781T&gt;A, 4782G&gt;A, 4783G&gt;T, 4784G&gt;A, 4785G&gt;T, 4786G&gt;A, 4787G&gt;A, 4788G&gt;T, 4789G&gt;A, 4790G&gt;T, 4791G&gt;A, 4792G&gt;T, 4793G&gt;A, 4794G&gt;T, 4795G&gt;A, 4796G&gt;T, 4797G&gt;A, 4798G&gt;T, 4799G&gt;A, 4800G&gt;T, 4801G&gt;A, 4802G&gt;T, 4803G&gt;A, 4804G&gt;T, 4805G&gt;A, 4806G&gt;T, 4807G&gt;A, 4808G&gt;T, 4809G&gt;A, 4810G&gt;T, 4811G&gt;A, 4812G&gt;T, 4813G&gt;A, 4814G&gt;T, 4815G&gt;A, 4816G&gt;T, 4817G&gt;A, 4818G&gt;T, 4819G&gt;A, 4820G&gt;T, 4821G&gt;A, 4822G&gt;T, 4823G&gt;A, 4824G&gt;T, 4825G&gt;A, 4826G&gt;T, 4827G&gt;A, 4828G&gt;T, 4829G&gt;A, 4830G&gt;T, 4831G&gt;A, 4832G&gt;T, 4833G&gt;A, 4834G&gt;T, 4835G&gt;A, 4836G&gt;T, 4837G&gt;A, 4838G&gt;T, 4839G&gt;A, 4840G&gt;T, 4841G&gt;A, 4842G&gt;T, 4843G&gt;A, 4844G&gt;T, 4845G&gt;A, 4846G&gt;T, 4847G&gt;A, 4848G&gt;T, 4849G&gt;A, 4850G&gt;T, 4851G&gt;A, 4852G&gt;T, 4853G&gt;A, 4854G&gt;T, 4855G&gt;A, 4856G&gt;T, 4857G&gt;A, 4858G&gt;T, 4859G&gt;A, 4860G&gt;T, 4861G&gt;A, 4862G&gt;T, 4863G&gt;A, 4864G&gt;T, 4865G&gt;A, 4866G&gt;T, 4867G&gt;A, 4868G&gt;T, 4869G&gt;A, 4870G&gt;T, 4871G&gt;A, 4872G&gt;T, 4873G&gt;A, 4874G&gt;T, 4875G&gt;A, 4876G&gt;T, 4877G&gt;A, 4878G&gt;A, 4879G&gt;A, 4880G&gt;T, 4881G&gt;A, 4882G&gt;T, 4883G&gt;A, 4884G&gt;T, 4885G&gt;A, 4886G&gt;T, 4887G&gt;A, 4888G&gt;T, 4889G&gt;A, 4890G&gt;T, 4891G&gt;A, 4892G&gt;T, 4893G&gt;A, 4894G&gt;T, 4895G&gt;A, 4896G&gt;T, 4897G&gt;A, 4898G&gt;T, 4899G&gt;A, 4900G&gt;T, 4901G&gt;A, 4902G&gt;T, 4903G&gt;A, 4904G&gt;T, 4905G&gt;A, 4906G&gt;T, 4907G&gt;A, 4908G&gt;T, 4909G&gt;A, 4910G&gt;T, 4911G&gt;A, 4912G&gt;T, 4913G&gt;A, 4914G&gt;T, 4915G&gt;A, 4916G&gt;T, 4917G&gt;A, 4918G&gt;T, 4919G&gt;A, 4920G&gt;T, 4921G&gt;A, 4922G&gt;T, 4923G&gt;A, 4924G&gt;T, 4925G&gt;A, 4926G&gt;T, 4927G&gt;A, 4928G&gt;T, 4929G&gt;A, 4930G&gt;T, 4931G&gt;A, 4932G&gt;T, 4933G&gt;A, 4934G&gt;T, 4935G&gt;A, 4936G&gt;T, 4937G&gt;A, 4938G&gt;T, 4939G&gt;A, 4940G&gt;T, 4941G&gt;A, 4942G&gt;T, 4943G&gt;A, 4944G&gt;T, 4945G&gt;A, 4946G&gt;T, 4947G&gt;A, 4948G&gt;T, 4949G&gt;A, 4950G&gt;T, 4951G&gt;A, 4952G&gt;T, 4953G&gt;A, 4954G&gt;T, 4955G&gt;A, 4956G&gt;T, 4957G&gt;A, 4958G&gt;T, 4959G&gt;A, 4960G&gt;T, 4961G&gt;A, 4962G&gt;T, 4963G&gt;A, 4964G&gt;T, 4965G&gt;A, 4966G&gt;T, 4967G&gt;A, 4968G&gt;T, 4969G&gt;A, 4970G&gt;T, 4971G&gt;A, 4972G&gt;T, 4973G&gt;A, 4974G&gt;T, 4975G&gt;A, 4976G&gt;T, 4977G&gt;A, 4978G&gt;T, 4979G&gt;A, 4980G&gt;T, 4981G&gt;A, 4982G&gt;T, 4983G&gt;A, 4984G&gt;T, 4985G&gt;A, 4986G&gt;T, 4987G&gt;A, 4988G&gt;T, 4989G&gt;A, 4990G&gt;T, 4991G&gt;A, 4992G&gt;T, 4993G&gt;A, 4994G&gt;T, 4995G&gt;A, 4996G&gt;T, 4997G&gt;A, 4998G&gt;T, 4999G&gt;A, 5000G&gt;T, 5001G&gt;A, 5002G&gt;T, 5003G&gt;A, 5004G&gt;A, 5005G&gt;A, 5006G&gt;A, 5007G&gt;A, 5008G&gt;A, 5009G&gt;A, 5010G&gt;A, 5011G&gt;A, 5012G&gt;A, 5013G&gt;A, 5014G&gt;A, 5015G&gt;A, 5016G&gt;A, 5017G&gt;A, 5018G&gt;A, 5019G&gt;A, 5020G&gt;A, 5021G&gt;A, 5022G&gt;A, 5023G&gt;A, 5024G&gt;A, 5025G&gt;A, 5026G&gt;A, 5027G&gt;A, 5028G&gt;A, 5029G&gt;A, 5030G&gt;A, 5031G&gt;A, 5032G&gt;A, 5033G&gt;</b>									

	Begin	End	Coverage	Score	Concordance	Matches	Identities	I/D/M/F*	Stop Codons
NT	1613	6630	58.2%	3977	48.5%	4173 (97.6%)	3122 (73.0%)	6/96	
Y353F (1618A>T 1619C>T), V366A (1657T>C), V376L (1686G>T 1688T>A), M387V (1719A>G 1721G>T), I407V (1779A>G 1781A>T), I447V (1899A>G 1901A>T), N459S (1935A>T 1936A>C 1937T>A), N487Q (2019A>C 2021T>A), T489I (2026C>T 2027A>T), E494_D495insQ (2042_2043insCAA), V505K (2073G>A 2074T>A 2075G>A), L508V (2082C>G), K519R (2116A>G), D520E (2120C>A), K536R (2167A>G 2168A>G), K539T (2176A>C 2177G>T), I565V (2253A>G 2255T>C), I575L (2283A>T 2285T>G), Y584F (2311A>T), N587T (2320A>C 2321T>C), Q589T (2325C>A 2326A>C), S592V (2334T>G 2335C>T 2336A>T), M595T (2344T>C 2345G>C), I601V (2361A>G 2363A>T), S602T (2365G>C 2366T>A), N607S (2380A>G 2381T>C), L613M (2397T>A 2399A>A), V616T (2406G>A 2407T>C 2408C>A), T6385 (2472A>T 2474T>A), S640A (2478T>G), V656A (2527T>C), D585L (2532A>C 2533C>T 2534A>C), L661V (2541A>G 2542C>T 2543A>T), T665S (2553A>T), V669I (2565G>A 2567A>T), T673S (2577A>T), S696T (2646T>A), T708A (2682A>G), T711M (2692C>T 2693A>G), V721I (2721G>A), T727N (2740C>A 2741T>C), S729K (2746G>A 2747T>G), S740A (2778T>G 2780A>T), S742T (2784T>A), A758S (2832G>T 2834A>T), T760L (2838A>T 2839C>T 2840T>A), T762A (2844A>G 2846A>T), S762_P763insD (2846_2847insGAC), S764K (2851G>A 2852T>G), L765S (2853C>T 2854T>C 2855G>T), L766F (2858G>T), D767Q (2859G>C 2861T>A), F768del (2862_2864delITCC), S769K (2865T>A 2866C>A 2867T>G), D770E (2867T>G), P775S (2883C>T 2885T>A), D778G (2893A>G), S781T (2901T>A 2903T>C), K785L (2913A>T 2914A>T), D790E (2930T>A), A792S (2934G>T 2936C>A), N793L (2937A>C 2938A>T 2939T>G), V795I (2943G>A 2945T>A), R803O (2967A>C 2968G>A), N804_K829del (2970G>A 2971T>C), Y805P (2974G>A 2975T>C), Y816P (2978G>A 2979T>C), Y827P (2982G>A 2983T>C), Y838P (2986G>A 2987T>C), Y849P (2990G>A 2991T>C), Y860P (2994G>A 2995T>C), Y871P (2998G>A 3000T>C), Y882P (3002G>A 3003T>C), Y893P (3006G>A 3007T>C), Y904P (3010G>A 3011T>C), Y915P (3014G>A 3015T>C), Y926P (3018G>A 3019T>C), Y937P (3022G>A 3023T>C), Y948P (3026G>A 3027T>C), Y959P (3030G>A 3031T>C), Y970P (3034G>A 3035T>C), Y981P (3038G>A 3039T>C), Y992P (3042G>A 3043T>C), Y1003P (3046G>A 3047T>C), Y1014P (3050G>A 3051T>C), Y1025P (3054G>A 3055T>C), Y1036P (3058G>A 3059T>C), Y1047P (3062G>A 3063T>C), Y1058P (3066G>A 3067T>C), Y1069P (3070G>A 3071T>C), Y1080P (3074G>A 3075T>C), Y1091P (3078G>A 3079T>C), Y1102P (3082G>A 3083T>C), Y1113P (3086G>A 3087T>C), Y1124P (3090G>A 3091T>C), Y1135P (3094G>A 3095T>C), Y1146P (3098G>A 3099T>C), Y1157P (3102G>A 3103A>C 3104T>A), Y1168P (3106G>A 3107A>C), Y1179P (3110G>A 3111A>C), Y1190P (3114G>A 3115T>A), Y1201P (3118G>A 3119T>C), Y1212P (3122G>A 3123T>C), Y1223P (3126G>A 3127T>C), Y1234P (3130G>A 3131T>C), Y1245P (3134G>A 3135T>C), Y1256P (3138G>A 3139T>C), Y1267P (3142G>A 3143T>C), Y1278P (3146G>A 3147T>C), Y1289P (3150G>T 3151T>A 3152T>C), Y1290P (3154G>T 3155T>A 3156T>C), Y1291P (3158G>T 3159T>A 3160T>C), Y1292P (3162A>T 3163C>A 3164T>C), Y1293P (3167G>A 3168T>C), Y1294P (3171G>A 3172T>C), Y1295P (3175G>A 3176T>C), Y1296P (3179G>A 3180T>C), Y1297P (3183G>A 3184T>C), Y1298P (3187G>A 3188T>C), Y1299P (3191G>A 3192T>C), Y1300P (3195G>A 3196T>C), Y1301P (3199G>A 3200T>C), Y1302P (3203G>A 3204T>C), Y1303P (3207G>A 3208T>C), Y1304P (3211G>A 3212T>C), Y1305P (3215G>A 3216T>C), Y1306P (3219G>A 3220T>C), Y1307P (3223G>A 3224T>C), Y1308P (3225G>A 3226A>T), D890C (3229G>A 3230C>A), Y892Q (3234G>C 3235T>A 3236T>G), E893I (3237G>A 3238A>T 3239A>T), Q895D (3243C>A 3245A>T), A896R (3246G>A 3247C>G 3248T>A), A898E (3253C>A 3254T>G), V899G (3256T>G), L900V (3258T>G 3260G>A), R901V (3261A>G 3262G>T 3263A>T), P902E (3264C>G 3265C>A), I903L (3267A>T 3269C>A), Q905R (3273C>A 3274A>G 3275A>G), Y909S (3286A>C 3287T>A), D911G (3293A>C), N912H (3294A>C), N913M (3304A>G), A916M (3306G>A 3307C>T 3308A>G), N921S (3321A>T 3322A>C), N922S (3324A>T 3325A>C), N923V (3327A>G), S924N (3331G>A), F925M (3333T>A 3335T>C), E927D (3341A>C), V929L (3345G>C), E930Q (3348G>C 3350A>G), I932P (3354A>T), A934T (3360G>C 3362A>T), E936P (3366G>C 3367A>C), S938A (3374T>A), K939S (3375A>T 3376A>C), N940P (3380T>A), F941L (3383G>C), G1084S (3810G>T 3811G>C 3812G>A), V1089L (3825G>C 3827T>C), T1094S (3840A>T 3842C>T), I1095V (3843A>G 3845T>C), T1103M (3868C>A 3869T>G), V1107I (3879G>A 3881G>T), D1108E (3884T>A), I1110L (3888A>C 3890C>A), Q1112G (3894C>A 3896G>A), Y1117I (3909T>A 3910A>T 3911C>T), K1120L (3919A>T), E1126D (4340A>T), P1233S (4527C>T), Y1132C (4537C>G), R1132K (3946G>A), S1133E (3957A>G 3958G>A 3959T>A), Q1152G (3943C>A 4334T>C), E1160G (4605A>G 4607T>C), S1353A (4617T>C), M1357L (4629A>C), R1365S (4655A>T), T1368A (4662A>G 4664C>T), E1380A (4699A>C 4700G>T), L1383K (4701G>C 4702T>A), V1384I (4710G>A 4712G>T), N1385T (4714A>T 4715T>A), M1386L (4716A>T 4718G>A), T1388P (4722A>T 4723C>T 4724T>C), A1392S (4734G>T 4736T>C), D1395E (4745T>A), Q1396T (4746C>A 4747A>C 4748A>C), A1399D (4756C>A 4757A>T), Q1402R (4764C>A 4765A>G), M1408L (4782A>C 4784G>A), I1409D (4787A>C), Q1413E (4797C>G), G1414S (4800G>A 4802G>T), F1415L (4803T>C 4805T>G), E1417D (4811A>T 4812A>G), R1419K (4816G>A), T1421V (4821A>G 4822C>T 4823C>T), N1424E (4830A>G 4832T>A), E1427K (4840G>A 4841A>G), E1428N (4842G>A 4844A>T), S1431K (4852G>A 4853T>A), D1433E (4859T>A), K1434T (4861A>C 4862A>T), M1435F (4863A>T 4865G>T), L1437N (4869C>A 4870T>A 4871T>C), S1438T (4872T>A 4874A>T), T1439S (4875A>T 4877A>C), Q1440K (4878C>A), N1441Q (4881A>C 4883T>A), T1444H (4890A>C 4891C>A 4892C>T), Q1445L (4893C>T 4894A>T), L1446F (4896C>T 4898C>T), T1449N (4906C>A), A1452D (4912G>A 4915T>A), L1455T (4923T>A 4924T>C 4925G>C), L1458F (4932C>T), V1466L (4956G>C), T1467A (4959A>G), F1477Y (5009T>A), E1482Y (5005T>A), D1483C (5007T>A 5009delGGG), E1485N (5013G>A 5015A>T), E1486P (5017A>T 5018A>G), E1489D (5027G>T), K1490_E1492del (5028_5036delAAAGAACAG), N1494D (5040A>G), T1496V (5046A>G 5047C>T 5048A>T), Y1502H (5064T>C), I1504V (5070A>G 5072A>C), M1509H (5085A>C), S1515A (5103T>G 5105A>T), E1517P (5109G>C 5110A>C), I1530V (5148A>G), V1549L (5205G>C 5207T>G), I1568M (5264G>C), E1571H (5271G>C 5273A>T), E1572D (5276A>T), S1575A (5283T>G 5285T>C), S1622Q (5424T>C 5425C>A 5426A>G), A1626S (5436G>C 5438A>T), V1630I (5448G>A 5450T>A), Q1632G (5454C>G 5455G>C 5456G>C), E1634S (5460G>T 5461A>C 5462G>A), F1658Y (5533T>A), T1665S (5553A>T), K1667R (5560A>G 5561G>A), D1668T (5562G>A 5563A>C), K1669E (5565A>G 5567A>G), D1670E (5570T>A), S1672E (5574T>G 5575C>A), D1675E (5585C>A), A1680S (5598G>T 5600A>T), A1687E (5620C>A 5621T>A), I1697V (5649A>G 5651A>G), Q1702K (5664C>A), S1722A (5724T>G 5726A>C), A1735L (5763G>T 5764C>T 5765T>A), A1740S (5778G>T 5780C>A), C1751S (5811T>A 5813C>T), N1754S (5821A>G 5822T>C), I1761L (5841A>T), N1762O (5844A>C 5846C>A), K1763O (5847A>C), P1771E (5871C>A 5872C>A 5873A>G), Q1772K (5874C>A 5876G>A), E1773D (5879G>T), F1777Y (5890T>A 5891T>C), K1786R (5917A>G), P1805Y (5973C>T 5974C>A), Q1806E (5976C>G), V1808I (5983T>A), N1809E (5985A>G 5987T>A), E1811D (5993G>T), Q1812K (5994C>A), A1814V (6001C>T 6002T>C), D1815E (6005T>G), A1816V (6007C>T 6008A>G), Y1826H (6036T>C), M1849L (6105A>G 6107G>T), H1860Y (6138C>T), F1866L (6158T>G), Y1869F (6166A>T 6167T>C), L1870F (6168C>T), D1872A (6175A>C 6176T>A), D1873E (6179T>A), G1874D (6181G>A 6182A>T), T1875N (6184C>A), L1876Y (6187T>A 6188A>T), I1877V (6189A>G 6191T>A), L1882F (6206G>T), L1889M (6225C>A 6227T>G), M1891L (6231A>T 6233G>A), C1892M (6234T>A 6235G>T 6236C>G), L1894M (6240T>A 6242A>G), D1920C (6318G>T 6319A>G), T1934S (6360A>T), G1942A (6385G>C 6386A>C), G1944A (6391G>C 6392C>A), F1954V (6420T>G 6422C>T), V1960G (6439T>G), M1962I (6446G>T), I1976I (6486A>C 6488A>G), Y1981F (6502A>T), Y2000W (6559A>G 6560T>G), S2001Y (6561A>T 6562G>A 6563C>T), A2002G (6565C>A 6566C>T), A2004E (6571C>A 6572T>A), I2005V (6573A>G), L2009I (6585C>A), T2015M (6604C>T 6605A>G), N2017S (6610A>G 6611T>C), Q2018R (6612C>A), F2021Y (6622T>A), K2022N (6626A>T), A2023S (6627G>T)									
Protein mutations:									

NT	Begin	End	Coverage	Score	Concordance	Matches	Identities	I/D/M/F*	Stop Codons
CAA351..G (1613A>G), TAC353TTT (1618A>T 1619C>T), GGA358GGT (1634A>T), GAT359GAC (1637T>C), CTT360TTA (1638C>T 1640T>A), GTC361GTT (1643C>T), GAT363GAC (1649T>C), TTC364TTT (1652C>T), GTT366GCT (1657T>C), CCC368CCA (1664C>A), ACA369AGC (1667A>G), AAA370AAG (1670A>G), CAC372CAT (1676C>T), GTT376TTA (1686G>T 1687T>A), TTC378TTT (1694C>T), TGT379TGC (1697T>C), GTT381GTC (1703T>G), AAC384AAT (1712C>T), GAG385GAA (1715G>A), AAC386AAT (1718C>T), ATG387GTT (1719A>G 1721G>T), GTA389GTC (1727A>C), TCA390TCT (1730A>T), AAAG391AAA (1733G>A), ACA393ACC (1739A>C), CTT394TA (1740C>T 1742T>A), GCC397GCG (1751C>G), ACC398ACA (1753A>C), ACA399ACT (1757A>T), CCA401CTT (1763A>T), GCA403GCT (1769A>T), ATA404GTC (1772A>C), ATA407GTT (1779A>T 1781A>T), ACT408ACA (1784A>T), CGA409GCT (1787A>T), CTC412TCA (1790A>T), TGT412TCA (1796T>A), ATA413ACT (1799A>T), CTG414TTG (1800C>T), TTC416TTT (1808C>T), CGT417AGG (1809C>A 1811T>G), CGA419CCC (1817A>C), ATA421ATT (1823A>T), ACA424ACC (1832A>C), TAT426TA (1838T>C), AGA427CGT (1839A>C 1841A>T), GTG428GTT (1846G>T), ACT432GTC (1856T>G), AAA436AAC (1859A>G), GTA437GTC (1871A>G), GGT438GGG (1877T>G), TAC441TTAT (1883C>T), GG445GGT (1895G>T), AAA446AAC (1898A>G), ATA447GTT (1899A>G 1901A>T), GTA451GTC (1913A>G), AAC453AAT (1919C>T), TT455CTT (1923T>C 1925A>T), ATG456GAC (1928T>C), AAT459TCA (1935A>T 1936A>C 1937T>A), GTG461GTT (1943G>T), GCT462GCC (1946T>C), TCT463TCA (1949T>A), ATA465GTT (1955A>T), TTC467TTT (1961C>T), GTT469GTC (1967T>C), TAT470TAC (1970T>C), TGT471TTG (1971C>T 1973T>G), TCT472TCA (1976T>A), GTG474GTC (1982G>C), TTA476CTA (1986T>C), CC481ACC (2003A>C), GTC485GTT (2015C>T), AAT487CAA (2019A>C 2021T>A), GCT488GCA (2024T>A), ACA489ATT (2026C>T 2027A>T), ACT490ACC (2030T>C), GAA494TA (2049A>C), GAT495insCAA (2050C>A), TCC497TCA (2051C>A), AGT499GAG (2057C>T), CCT500CT (2060A>T), CCT502CCA (2066T>A), GTG504GTT (2072G>T), GTG505MAA (2073G>A 2074T>A 2075G>A), CCT508GTT (2082G>C), CCC509CCT (2087C>T), GGA514GTT (2102A>T), ATT515ATA (2105T>A), ACA516ACT (2108A>T), ATG517CA (2109A>T 2110G>A 2111T>A), AAAG519GA (2116A>G), GAC520GAA (2120C>A), GG523GCC (2129A>C), GG525GGG (2135A>C), GTG537GTT (2171G>T), CCC538CCA (2174C>A), AAG539ACT (2176A>T 2177C>A), GTG542GTA (2186T>A), ACT543ACA (2189T>A), GTG544GTC (2192G>C), CTG545TTA (2193C>T), GAC547GAT (2201C>T), ACC557ACT (2231C>T), CCA558CT (2237A>T), GAA560GAG (2240A>G), ATT565GTC (2253A>C 2255T>C), TCA566TCT (2258A>T), AGA567CGT (2259A>C 2261A>T), TCA570TCT (2270A>T), GAT574GAC (2282T>C), TAC576TAT (2288C>T), TAT584TT (2311A>T), C115851..T (2313C>T 2315T>G), AA1587ACCA (2320A>C 2321T>C), CA589A (2325C>A 2326A>C), TCA592G1T (2334T>G 2335C>A), ATG595ACC (2344T>C 2345G>C), CAS596CAA (2348G>A), ACC598ACT (2354C>T), TTT599TTC (2357T>C), CCA600CCT (2360A>T), ATA601GTT (2361A>G 2363A>T), AGT602ACA (2365G>C 2366T>A), ACA606ACT (2378A>T), AAT607AGC (2380A>G 2381T>C), CCT609CCA (2387T>A), CCE610CCA (2390C>A), GG612GGT (2396A>T), TTA613ATG (2397T>A 2399A>G), CCC614CT (2402C>T), TCT615TCA (2405T>A), GTC616ACA (2406G>A 2407T>C 2408C>A), CTT617TTG (2409C>T 2411T>A), TTC621TTT (2423C>T), TTG623CTG (2427C>T), TTC624TTT (2432C>T), CAT625CAC (2435T>C), TCA626GTT (2436T>A), CCT630CCA (2450C>A), CTT631TTG (2451C>T 2453T>G), TTA633TTG (2459A>G), ATT635ATA (2465T>A), GTT636GTA (2468T>A), GTC637GTT (2471C>T), ACT638TCA (2472A>T 2474T>A), GGT639GGA (2477T>A), TCT640GCT (2478T>G), ACT641ACA (2483T>A), ATA647ATT (2501A>T), TTT649TT (2507T>G), TTT652GTT (2516T>G), GGA653GGT (2519A>T), TTT654TTA (2522G>A), GCA655GCT (2525A>C), GTT656GCT (2527C>A), AGA658CTC (2532A>C 2533C>A), ACA661GTT (2541A>C 2542C>T 2543A>T), GCG663GCC (2549G>C), GC666GCC (2552A>C), AC665TCA (2553A>C), TCC668TCA (2564C>A), ATA669ATT (2565G>A 2567A>T), TAC671TAT (2573C>T), AC683TCA (2577A>T), CTT675TTA (2583C>T 2585T>A), GGG676GGA (2588G>A), GCT677GCA (2591T>A), GTG678GTT (2594G>T), AAC681AA (2603C>T), ACA682ACA (2606A>C), AGA683GGA (2609A>G), AGG684AGA (2612G>A), GG686GGT (2618A>C), AG688TCA (2624A>C), AGG691AGA (2633G>A), CTA692TGT (2634C>T 2636A>C), CCT693CCA (2639T>A), TCA696ACA (2646T>A), CT698TTG (2652C>T 2654A>G), GCA700GCT (2660A>T), ATT701ATA (2663T>A), TTG705TT (2675G>A), ACT708GCT (2682A>G), GGT709GGA (2687T>A), ACA711ATG (2692C>T 2693A>G), ACT715ACA (2705T>A), GGT717GTT (2711A>T), GTC721TCA (2712G>A), TCT726TAT (2732A>C), ACT726TAT (2738C>T), ACT727AAC (2740C>T 2741T>C), AGT729AG (2746G>A 2747T>G), TTG733TCA (2757T>G 2759G>C), CCT734TCA (2762C>A), TTG737TTA (2771G>A), TCA740GCT (2778T>G 2780A>T), TTG741GTA (2783T>A), TCA742ACA (2784T>A), CAA744CAG (2792A>G), CAA746CAG (2798A>G), CCT748TAA (2802C>T 2804T>A), CCA750CCG (2810A>G), CCA753CCT (2819A>T), ACC756AAT (2828C>T), AAT757AAC (2831T>C), GCA758TCT (2832G>T 2834A>T), CTCT759TCA (2837C>T), ACT760TTA (2838A>G 2839C>T 2840T>A), ACA762GTC (2844A>G 2846A>T), ACA762..CCA763insGAC (2848>T 2849insGAC), AGT764GAG (2851G>A 2852T>G), CTG765TCT (2853C>T 2854T>G), TTG766TTT (2858G>T), GAT767CAA (2859G>C 2861T>A), TTC768el (2862_2864delTT), TCT769AG (2865T>A 2866C>A 2867T>G), GAT770GAG (2870T>G), GTG772GTT (2876G>A), GAG773GAA (2879G>A), CCT775TCA (2883C>T 2885T>A), GTA776GTT (2888A>T), GAT778GTT (2893A>G), TCT779TTT (2897C>T), TCT781ACG (2901T>A 2903T>G), AAG785TTG (2913A>T 2914A>T), AAA786AAG (2918A>G), GAA788GAG (2924A>G), GAA789GAG (2927A>G), GAT790GGA (2930A>G), GGC792TCA (2934G>T 2936C>A), AAT793CTG (2937A>C 2938A>T 2939T>G), TTG795ATA (2943G>A 2945T>A), CCT796TGT (2946C>T 2948T>G), CCT797CCA (2951T>A), TTA798TGT (2954G>A), AAB800AAG (2960A>G), ATT801ATC (2963T>C), CC802CCCT (2968A>T), AG803CAA (2967A>C 2968G>A), AAT804AGA829del (2970_3047delAAATACATCCATAAACAGAGCTTGAAGAATGAGCTTGAAGAACATAGCAGATTTGAGAAGAAATTACAGAGAAG, CTT832CTC (3056T>C), TAT833TTT (3058A>T), ACT834ACA (3062T>A), CAG835CAA (3065G>A), GCT836GTC (3066G>A 3068T>A), AGT837GGA (3069A>T 3071A>A), ACA838GAA (3072A>G 3073C>A), GTG839del (3075_3077delTG), GTT840CGT (3078G>C 3079T>G), TTT842TTC (3086T>G), GTT844GTT (3090G>T 3092T>G), TAT845ATG (3093T>A 3094A>T 3095T>G), AAA847AAC (3101A>G), GAT848AAC (3102G>A 3103A>G 3104T>A), GGG850AGC (3108G>A 3110G>C), AAC851AAT (3113C>A), CT852AAA (3114C>A 3116T>A), GTA853ATT (3117G>A 3119A>T), AGG855AGA (3125G>A), GTG855GGG (3128T>G), CCT856GTC (3129G>A 3130G>C), AAC857GTT (3130C>T 3131G>A), ATT859TTT (3135C>T 3137A>T), ATT860TGT (3138G>T 3139A>G), AT863GTC (3147A>G 3149A>G), GTT864TAC (3150G>T 3151T>A 3152T>C), AGG865AGA (3155G>A), TTT866TTC (3158T>G), TCA867TCC (3161A>C), ACA868TCC (3162A>T 3164A>C), TCA870TCA (3170A>C), AGA874AG (3182A>G), GT876ATA (3186G>A), AAC877CTT (3189A>T 3190A>C), ATT878GTA (3192A>G 3194T>A), AAC879AGA (3196A>C 3197G>A), TCT879GTT (3197A>T 3198A>C), TCA880GTC (3201A>C 3202G>A), CCT881GTC (3203A>C 3204G>A), AAC882AG (3205A>C 3206G>A), AAC883GTC (3207A>C 3208G>A), AAC884GTC (3208A>C 3209G>A), AAC885GTC (3209A>C 3210G>A), AAC886GTC (3210A>C 3211G>A), AAC887GAT (3212A>C 3213G>A), AAC888GTC (3214A>C 3215T>A), GAT886GAA (3218T>A), ACC887GAT (3219A>G 3220C>A 3221C>T), CGG888GTC (3222C>G 3223G>T), GAA889TTT (3225G>T 3226A>T 3227A>T), GAC890GGA (3229A>C 3230C>A), GTT892CAG (3234G>C 3235T>A), AAC893GTC (3235A>C 3236T>A), AAC894GTC (3236A>C 3237T>A), AAC895GAT (3237A>C 3238A>T), AAC896GAT (3238A>T 3239A>C), AAC897GAT (3239A>T 3240A>C), AAC898GAT (3241A>C 3242T>A), AAC899GAT (3242A>C 3243T>A), AAC900GAT (3243A>C 3244T>A), AAC901GAT (3244A>C 3245T>A), AAC902GAT (3245A>C 3246T>A), AAC903GAT (3246A>C 3247T>A), AAC904GAT (3247A>C 3248T>A), AAC905GAT (3248A>C 3249T>A), AAC906GAT (3249A>C 3250T>A), AAC907GAT (3250A>C 3251T>A), AAC908GAT (3251A>C 3252T>A), AAC909GAT (3252A>C 3253T>A), AAC910GAT (3253A>C 3254T>A), AAC911GAT (3254A>C 3255T>A), AAC912GAT (3255A>C 3256T>A), AAC913GAT (3256A>C 3257T>A), AAC914GAT (3257A>C 3258T>A), AAC915GAT (3258A>C 3259T>A), AAC916GAT (3259A>C 3260T>A), AAC917GAT (3260A>C 3261T>A), AAC918GAT (3261A>C 3262T>A), AAC919GAT (3262A>C 3263T>A), AAC920GAT (3263A>C 3264T>A), AAC921GAT (3264A>C 3265T>A), AAC922GAT (3265A>C 3266T>A), AAC923GAT (3266A>C 3267T>A), AAC924GAT (3267A>C 3268T>A), AAC925GAT (3268A>C 3269T>A), AAC926GAT (3269A>C 3270T>A), AAC927GAT (3270A>C 3271T>A), AAC928GAT (3271A>C 3272T>A), AAC929GAT (3272A>C 3273T>A), AAC930GAT (3273A>C 3274T>A), AAC931GAT (3274A>C 3275T>A), AAC932GAT (3275A>C 3276T>A), AAC933GAT (3276A>C 3277T>A), AAC934GAT (3277A>C 3278T>A), AAC935GAT (3278A>C 3279T>A), AAC936GAT (3279A>C 3280T>A), AAC937GAT (3280A>C 3281T>A), AAC938GAT (3281A>C 3282T>A), AAC939GAT (3282A>C 3283T>A), AAC940GAT (3283A>C 3284T>A), AAC941GAT (3284A>C 3285T>A), AAC942GAT (3285A>C 3286T>A), AAC943GAT (3286A>C 3287T>A), AAC944GAT (3287A>C 3288T>A), AAC945GAT (3288A>C 3289T>A), AAC946GAT (3289A>C 3290T>A), AAC947GAT (3291A>C 3292T>A), AAC948GAT (3292A>C 3293T>A), AAC949GAT (3293A>C 3294T>A), AAC950GAT (3294A>C 3295T>A), AAC951GAT (3295A>C 3296T>A), AAC952GAT (3296A>C 3297T>A), AAC953GAT (3297A>C 3298T>A), AAC954GAT (3298A>C 3299T>A), AAC955GAT (3299A>C 3300T>A), AAC956GAT (3300A>C 3301T>A), AAC957GAT (3301A>C 3302T>A), AAC958GAT (3302A>C 3303T>A), AAC959GAT (3303A>C 3304T>A), AAC960GAT (3304A>C 3305T>A), AAC961GAT (3305A>C 3306T>A), AAC962GAT (3306A>C 3307T>A), AAC963GAT (3307A>C 3308T>A), AAC964GAT (3308A>C 3309T>A), AAC965GAT (3309A>C 3310T>A), AAC966GAT (3310A>C 3311T>A), AAC967GAT (3311A>C 3312T>A), AAC968GAT (3312A>C 3313T>A), AAC969GAT (3313A>C 3314T>A), AAC970GAT (3314A>C 3315T>A), AAC971GAT (3315A>C 3316T>A), AAC972GAT (3316A>C 3317T>A), AAC973GAT (3317A>C 3318T>A), AAC974GAT (3318A>C 3319T>A), AAC975GAT (3319A>C 3320T>A), AAC976GAT (3320A>C 3321T>A), AAC977GAT (3321A>C 3322T>A), AAC978GAT (3322A>C 3323T>A), AAC979GAT (3323A>C 3324T>A), AAC980GAT (3324A>C 3325T>A), AAC981GAT (3325A>C 3326T>A), AAC982GAT (3326A>C 3327T>A), AAC983GAT (3327A>C 3328T>A), AAC984GAT (3328A>C 3329T>A), AAC985GAT (3329A>C 3330T>A), AAC986GAT (3330A>C 3331T>A), AAC987GAT (3331A>C 3332T>A), AAC988GAT (3332A>C 3333T>A), AAC989GAT (3333A>C 3334T>A), AAC990GAT (3334A>C 3335T>A), AAC991GAT (3335A>C 3336T>A), AAC992GAT (3336A>C 3337T>A), AAC993GAT (3337A>C 3338T>A), AAC994GAT (3338A>C 3339T>A), AAC995GAT (3339A>C 3340T>A), AAC996GAT (3340A>C 3341T>A), AAC997GAT (3341A>C 3342T>A), AAC998GAT (3342A>C 3343T>A), AAC999GAT (3343A>C 3344T>A), AAC999GAT (3344A>C 3345T>A), AAC999GAT (3345A>C 3346T>A), AAC999GAT (3346A>C 3347T>A), AAC999GAT (3347A>C 3348T>A), AAC999GAT (3348A>C 3349T>A), AAC999GAT (3349A>C 3350T>A), AAC999GAT (3350A>C 3351T>A), AAC999GAT (3351A>C 3352T>A), AAC999GAT (3352A>C 3353T>A), AAC999GAT (3353A>C 3354T>A), AAC999GAT (3354A>C 3355T>A), AAC999GAT (3355A>C 3356T>A), AAC999GAT (3356A>C 3357T>A), AAC999GAT (3357A>C 3358T>A), AAC999GAT (3358A>C 3359T>A), AAC999GAT (3359A>C 3360T>A), AAC999GAT (3360A>C 3361T>A), AAC999GAT (3361A>C 3362T>A), AAC999GAT (3362A>C 3363T>A), AAC999GAT (3363A>C 3364T>A), AAC999GAT (3364A>C 3365T>A), AAC999GAT (3365A>C 3366T>A), AAC999GAT (3366A>C 3367T>A), AAC999GAT (3367A>C 3368T>A), AAC999GAT (3368A>C 3369T>A), AAC999GAT (3369A>C 3370T>A), AAC999GAT (3370A>C 3371T>A), AAC999GAT (3371A>C 3372T>A), AAC999GAT (3372A>C 3373T>A), AAC999GAT (3373A>C 3374T>A), AAC999GAT (3374A>C 3375T>A), AAC999GAT (3375A>C 3376T>A), AAC999GAT (3376A>C 3377T>A), AAC999GAT (3377A>C 3378T>A), AAC999GAT (3378A>C 3379T>A), AAC999GAT (3379A>C 3380T>A), AAC999GAT (3380A>C 3381T>A), AAC999GAT (3381A>C 3382T>A), AAC999GAT (3382A>C 3383T>A), AAC999GAT (3383A>C 3384T>A), AAC999GAT (3384A>C 3385T>A), AAC999GAT (3385A>C 3386T>A), AAC999GAT (3386A>C 3387T>A), AAC999GAT (3387A>C 3388T>A), AAC999GAT (3388A>C 3389T>A), AAC999GAT (3389A>C 3390T>A), AAC999GAT (3390A>C 3391T>A), AAC999GAT (3391A>C 3392T>A), AAC999GAT (3392A>C 3393T>A), AAC999GAT (3393A>C 3394T>A), AAC999GAT (3394A>C 3395T>A), AAC999GAT (3395A>C 3396T>A), AAC999GAT (3396A>C 3397T>A), AAC999GAT (3397A>C 3398T>A), AAC999GAT (3398A>C 3399T>A), AAC999GAT (3399A>C 3380T>A), AAC999GAT (3380A>C 3381T>A), AAC999GAT (3381A>C 3382T>A), AAC999GAT (3382A>C 3383T>A), AAC999GAT (3383A>C 3384T>A), AAC999GAT (3384A>C 3385T>A), AAC999GAT (3385A>C 3386T>A), AAC999GAT (3386A>C 3387T>A), AAC999GAT (3387A>C 3388T>A), AAC999GAT (3388A>C 3389T>A), AAC999GAT (3389A>C 3390T>A), AAC999GAT (3390A>C 3391T>A), AAC999GAT (3391A>C 3392T>A), AAC999GAT (3392A>C 3393T>A), AAC999GAT (3393A>C 3394T>A), AAC999GAT (3394A>C 3395T>A), AAC999GAT (3395A>C 3396T>A), AAC999GAT (3396A>C 3397T>A), AAC999GAT (3397A>C 3398T>A), AAC999GAT (3398A>C 3399T>A), AAC999GAT (3399A>C 3380T>A), AAC999GAT (3380A>C 3381T>A), AAC999GAT (3381A>C 3382T>A), AAC999GAT (3382A>C 3383T>A), AAC999GAT (3383A>C 3384T>A), AAC999GAT (3384A>C 3385T>A), AAC999GAT (3385A>C 3386T>A), AAC999GAT (3386A>C 3387T>A), AAC999GAT (3387A>C 3388T>A), AAC999GAT (3388A>C 3389T>A), AAC999GAT (3389A>C 3390T>A), AAC999GAT (3390A>C 3391T>A), AAC999GAT (3391A>C 3392T>A), AAC999GAT (3392A>C 3393T>A), AAC999GAT (3393A>C 3394T>A), AAC999GAT (3394A>C 3395T>A), AAC999GAT (3395A>C 3396									

TTT1777TAC (5890T>A 5891T>C), AAA1786AGA (5917A>G), GAA1788GAG (5924A>G), CCC1791CCT (5933C>T), GTC1792GTG (5936C>G), GTT1794GTA (5942T>A), CTA1796CTG (5948A>T), GAG1797TCT (5951T>C), CCT1805TAT (5973C>T 5974C>A), CAA1806GAA (5976C>G), GTT1808GAT (5983T>A), AAT1809GAA (5985A>G 5987T>A), TAC1810TAT (5990C>T), GAG1811GAT (5993G>T), CAA1812AAC (5997G>A), GCT1813GTC (6001C>T 6002G>T), GAT1815GAG (6005G>T), CAC1816GTC (6007C>T 6008A>G), TTG1818CTG (6012T>C), GAC1819GAT (6017C>T), AAA1820AAG (6020A>G), GGA1823GCG (6029A>G), CTT1824TGT (6030C>T 6032T>G), TAT1826CAT (6036T>C), ATA1827ATA (6041A>T), GAG1836GAA (6068A>G), GCT1837GCA (6071T>A), ATT1838ATA (6074T>A), GAG1839GAA (6076G>A), CCA1842CT (6086A>T), GGG1843GCT (6089G>T), ATT1847ATA (6101T>A), ATG1849CTT (6105A>C 6107G>T), AAA1850AGA (6110A>G), ACA1851ACT (6113A>T), TCT1852TCA (6116T>A), GGT1854GCA (6122T>C), CTAA1855TA (6123C>T), CCT1856CCA (6128T>A), ACC1858ACA (6134C>A), CTAA1859TTG (6135C>T 6137A>G), CAT1860TAT (6138C>T), AGT1864AAA (6152G>A), GAA1865GAG (6155A>G), TTT1866TTG (6158T>G), ATT1867TTG (6166A>T 6167T>C), CTT1870TTT (6168C>T), GAT1872GCA (6175A>T 6176T>A), GAT1873GAA (6179T>A), GGA1874TAG (6181G>A 6182A>T), ACT1875ATA (6184C>A), ATA1876TAT (6187T>A 6188A>T), ATT1877GTA (6189A>T 6191T>A), GGT1878BGG (6194T>C), TTG1882TNT (6206G>C), CTAA1883TTA (6207C>T), AGG1886AGA (6218G>A), CCT1887TTG (6219C>T 6221T>G), CCTT1889ATG (6225C>A 6227T>G), AAT1890AAC (6230T>C), ATG1891TTA (6231A>T 6233G>C), TCG1892ATA (6234T>A 6235G>C 6236C>G), TTG1893TGC (6239T>C), TTG1894ATG (6240T>A 6242A>G), GAT1895GAC (6245T>C), GGA1897GTC (6251A>T), GTA1902GTC (6266A>C), TAC1904TAT (6272C>T), AGA1913AGG (6299A>G), CCA1914CCG (6302A>C), TTG1915CTT (6303T>C 6305G>T), GAA1916GAG (6308A>G), AAA1917AAC (6311A>G), GAT1920TGT (6318G>T 6319A>G), ACT1923AAC (6329T>C), CCTT1930CC (6350T>C), CCTT1931HTT (6351C>T 6353T>G), TTG1933TTT (6359C>T), ACA1934TCA (6360A>T), ATA1935ATC (6365A>C), TTG1937TGC (6371T>C), GGA1942GCC (6385G>C 6386A>G), GGC1944GCA (6391G>C 6392C>A), ATA1945ATT (6395A>T), TCA1946TCT (6398A>T), TTAA1950TC (6407C>T 6410A>G), CCTT1952CCA (6416T>A), GGA1953GCT (6419A>T), TTC1954GTT (6420T>G 6422C>T), CAC1955CAT (6425C>T), GTT1958TGT (6434T>G), GTT1960GGT (6439T>G), ATG1962ATT (6446G>T), ATA1967CTC (6486A>C 6488A>G), GAG1977GAA (6491G>A), GAC1980GAT (6500C>T), TAT1981TTT (6502A>T), CGG1982GTC (6506G>T), GAT1984GAG (6512T>C), TTG1985CTC (6513C>T 6515G>T), CCTT1987TTT (6521C>T), TCC1988CTT (6524C>T), GCC1989GCA (6527C>T), ACT1992GCA (6536T>A), GTT1994GTC (6542T>G), CCC1996CCT (6548C>T), ATA1999ATC (6557A>C), TAT2000TGG (6559A>C 6560T>G), AGC2001TAT (6561A>T 6562G>A 6563C>T), GCC2002GTT (6565C>G 6566C>T), TCG2003TGT (6569C>T), CGT2004AGA (6571C>A 6572T>A), ATA2005GTA (6573A>G), TTA2006TTG (6578A>G), TCA2007TCT (6581A>T), AGT2008TCA (6582A>T 6583G>C 6584T>A), CTT2009ATT (6585C>A), CTT2012TTG (6594C>T 6596I>G), TCA2013TC (6599A>T), GAG2014AGA (6602A>G), ACA2015ATG (6604C>T 6605A>G), AA1201AGC (6610A>G 6611I>C), CAA2018AGA (6612C>G 6613A>G), TTT2021TAT (6627D>A), AAA2022ATA (6626A>T), GCA2023TCA (6627G>T)

## Proteins

	Begin	End	Coverage	Score	Concordance	Matches	Identities	I/D/M/F*	Stop Codons
NT	1613	6630	58.2%	3977	48.5%	4173 (97.6%)	3122 (73.0%)	6/96	
CAAA351..G (1613A>G), TAC353TTT (1618A>T 1619C>T), GGA358GGT (1634A>T), GAT359GAC (1637T>C), CTT360TTA (1638C>T 1640T>A), GTC361GTT (1643C>T), GAT363GAC (1649T>C), TTC364TTT (1652C>T), GTT366GCT (1657T>C), CCC368CCA (1664C>A), ACA369AGC (1667A>G), AAA370AAG (1670A>G), CAC372CAT (1676C>T), GTT376TTA (1686G>T 1687T>A), TTC378TTT (1694C>T), TGT379TGC (1697T>C), GTT381GTC (1703T>G), AAC384AAT (1712C>T), GAG385GAA (1715G>A), AAC386AAT (1718C>T), ATG387GTT (1719A>G 1721G>T), GTA389GTC (1727A>C), TCA390TCT (1730A>T), AAAG391AAA (1733G>A), ACA393ACC (1739A>C), CTT394TTA (1740C>T 1742T>A), GCC397GCG (1751C>A), ACC398ACA (1753A>C), ACA399ACT (1757A>T), CCAC401CTT (1763A>T), GCA403GCT (1769A>T), ATA404GTC (1772A>C), ATA407GTT (1779A>T 1781A>T), ACT408ACA (1784A>T), CGA409GCT (1787A>T), CTG412TCA (1790A>T), TCA412TCA (1796T>A), ATA413ACT (1799A>T), CTG414TTG (1800C>T), TTC416TT (1808C>T), CGT417AGG (1809C>A 1811T>G), CGA419CCC (1817A>C), ATA421ATT (1823A>T), ACA424ACC (1832A>C), TAT426TA (1838T>C), AGA427CGT (1839A>C 1841A>T), GTG428GTT (1840G>T), ACT432GTC (1856T>G), AAA446AAG (1889A>G), ATA447GTT (1899A>G 1901A>T), GTA451GTC (1913A>G), AAC453AAT (1919C>T), TT445CTT (1923T>C 1925A>T), ATG456AC (1928T>C), AAT459TCA (1935A>T 1936A>C 1937T>A), GTG461GTT (1943G>T), GCT462GCC (1946T>C), TCT463TCA (1949T>A), ATA465GTT (1955A>T), TTC467TTT (1961C>T), GTT469GTC (1967T>C), TAT470TAC (1970T>C), ATG471TTG (1971C>T 1973T>G), TCT472TCA (1976T>A), GTG474GTC (1982G>C), TTA476CTA (1986T>C), CCAC481CC (2003A>C), GTC485GTT (2015C>T), AAT487CAA (2019A>C 2021T>A), GCT488GCA (2024T>A), ACA489ATT (2026C>T 2027A>T), ACT490ACC (2030T>C), GAA494TA (2049A>C), GAT495insCAA (2051C>A), TCA497TCA (2051C>A), AGT499GAG (2057C>T), CCT500TCT (2060A>T), CCT502CCA (2066T>A), GTG504GTT (2072G>T), GTG505MAA (2073G>A 2074T>A 2075G>A), CCT508GTT (2082B>G), CCC509CCT (2087C>T), GGA514GNG (2102A>T), ATT515ATA (2105T>A), ACA516ACT (2108A>T), ATG517CA (2109A>T 2110G>A 2111T>A), AAAG519GA (2116A>G), GAC520GAA (2120C>A), GG523GCC (2129A>C), GG525GGA (2135A>C), GTG537GTT (2171G>T), CCC538CCA (2174C>A), AAG539ACT (2176A>T), GAT542GTT (2183A>T), GCT542GTC (2186T>A), AAC543ACA (2189T>A), GTG544GTC (2192G>C), ATA545TTA (2193C>T), GAC547GAT (2201C>T), ACC557ACT (2231C>T), CAA558CTT (2237A>T), GAA560GAG (2240A>G), ATT565GTC (2253A>C 2255T>C), TCA566TCT (2258A>T), AGA567CGT (2259A>C 2261A>T), TCA570TCT (2270A>T), GAT574GAC (2282T>C), ATT575TTG (2283A>T 2285T>G), TAC576TAT (2288C>T), TAT584TT (2311A>T), CT15851..T (2313C>T 2315T>G), AA1587ACCA (2320A>C 2321T>C), CA589A (2325C>A 2326A>C), TCA592G1T (2334T>G 2335C>A 2336A>T), ATG595AAC (2344T>C 2345G>C), CAS596CAA (2348G>A), ACC598ACT (2354C>T), TTT599TTC (2357T>C), CCA600CCT (2360A>T), ATA601GTT (2361A>G 2363A>T), AGT602ACA (2365G>C 2366T>A), ACA606ACT (2378A>T), AAT607AGC (2380A>G 2381T>C), CCT609CCA (2387T>A), CCA610CCA (2390C>A), GG612GTT (2396A>T), TTA613ATG (2397T>A 2399A>G), CCC614CT (2402C>T), TCT615TCA (2405T>A), GTC616ACA (2406G>A 2407T>C 2408C>A), CTT617TTG (2409C>T 2411T>G), TTC621TTT (2423C>T), TTG623CTG (2427C>T), TTC624TTT (2432C>T), CAT625CAC (2435T>C), TCA626GTT (2436T>C), CCT630CCA (2450C>A), CTT631TTG (2451C>T 2453T>G), TTA633TTG (2459A>G), ATT635ATA (2465T>A), GTT636GTA (2468T>A), GTC637GTT (2471C>T), ACT638TCA (2472A>T 2474T>A), GGT639GGA (2477T>A), TCT640GCT (2478T>G), ACT641ACA (2483T>A), ATA647ATT (2501A>T), TTT649TT (2507T>G), TTT652GTT (2516T>G), GGA653GTT (2519A>T), TTT654TTA (2522G>A), GCA655GCT (2525A>C), GTT656GCT (2527C>A), AGA658CTC (2532A>C 2533C>A), ACA661GTT (2541A>C 2542C>T 2543A>T), GCG663GCC (2549G>C), GCA664GCC (2552A>C), AC665TCA (2553A>C), TCC668TCA (2564C>A), ATA669ATT (2565G>A 2567A>T), TAC671TAT (2573C>T), AC683TCA (2577A>T), CTT675TTA (2583C>T 2585T>A), GGG676GGA (2588G>A), GCT677GCA (2591T>A), GTG678GTT (2594G>T), AAC681AA (2603C>T), ACA682ACA (2606A>C), AGA683AGG (2609A>G), AGG684AGA (2612G>A), GG686GGT (2618A>C), AG688TAC (2624A>C), AGG691AGA (2633G>A), CTA692TGT (2634C>T 2636A>C), CCT693CCA (2639T>A), TCA696AAC (2646T>A), CT698TTG (2652C>T 2654A>G), GCA700GCT (2660A>T), ATT701ATA (2663T>A), TTG705TT (2675G>A), ACT708GCT (2682A>G), GGT709GGA (2687T>A), ACA711ATG (2692C>T 2693A>G), ACT715ACA (2705T>A), GGT717GTT (2711A>T), GTC721TCA (2712G>A), TCT726TAT (2732A>C), ACT727TAC (2738C>T), ACT727AAC (2740C>T 2741T>C), AGT729AG (2746G>A 2747T>G), TTG733TC (2757T>C 2759G>C), TCC734TCA (2762C>A), TTG737TTA (2771G>A), TCA740GCT (2778T>G 2780A>T), TTG741GTA (2783T>A), TCA742ACA (2784T>A), CAA744CAG (2789A>G), CGA746CCG (2798A>G), CTT748TAT (2802C>T 2804T>A), CCA750CCG (2810A>G), CCA753CCT (2819A>T), ACC756AAT (2828C>T), AAT757AAC (2831T>C), GCA758TCT (2832G>T 2834A>T), CTCT759TAT (2837C>T), ACT760TTA (2838A>G 2839C>T 2840T>A), ACA762GTC (2844A>G 2846A>T), ACA762..CCA763insGAC (2848>T 2849insGAC), AGT764GAG (2851G>A 2852T>G), CTG765TCT (2853C>T 2854T>C 2855G>T), TTG766TTT (2858G>T), GAT767CAA (2859G>C 2861T>A), TTC768el (2862_2864deITTC), TCT769AG (2865T>A 2866C>A 2867T>G), GAT770GAG (2870T>G), GTG772GTT (2876G>C), GAT773GAA (2879G>A), CCT775TCA (2883C>T 2885T>A), GTA776GTT (2888A>T), GAT778GTT (2893A>G), TCT779TTT (2897C>T), TCT781ACG (2901T>A 2903T>G), AAG785TTG (2913A>T 2914A>T), AAA786AAC (2918A>G), GAA788GAG (2924A>G), GAA789GAG (2927A>G), GAT790GGA (2930A>G), GGC792TCA (2934G>T 2936C>A), AAT793CTG (2937A>C 2938A>T 2939T>G), GTT795ATA (2943G>A 2945T>A), CTT796TTG (2946C>T 2948T>G), CCT797CCA (2951T>A), TTA798TTG (2954A>G), AAB800AAG (2960A>G), ATT801ATC (2963T>C), CCA802CCT (2968A>T), AG803CAA (2968A>G), AG804AAG829del (2970_3047delAAATAACATCCATCACAAAGCGCTTGAAGAATGAGCTTAAAGATGTCAGAGAAGAAATTACAGAGAAG, CTT832CTC (3056T>C), TAT833TTT (3058A>T), ACT834ACA (3062T>A), CAG835CAA (3065G>A), GCT836GTC (3066G>A 3068T>A), AGT837GGA (3069A>G 3071T>A), ACA838GAA (3072A>G 3073C>A), GTG839del (3075_3077delGTG), GTT840CGT (3078G>C 3079T>G), TTT842TTC (3080T>G), GTT844GTT (3090G>T 3092T>G), TAT845ATT (3093A>T 3095T>G), AAA847AAC (3101A>G), GAT848AGA (3102G>A 3103A>G 3104T>A), GGG850AGC (3108G>A 3110G>C), AAC851AAT (3113C>A), CT852AAA (3114C>A 3116T>A), GTA853ATT (3117G>A 3119A>T), AGG855AGA (3125G>A), GTG855GGG (3128T>G), GGA858TCA (3243C>G 3245A>T), GAT860GAA (3246G>A 3248T>A), GCT861GAA (3248G>A 3250T>A), ATT861GTT (3248A>G 3252T>A), GAT862GTC (3249A>G 3251T>A), GAT863GTC (3250A>G 3252T>A), GAT864GTC (3251A>G 3253T>A), GAT865GAA (3255G>A), ATT866TTT (3258T>G), TCA867TCC (3161A>C), ACA868TCC (3162A>T 3164A>C), TCA870TCA (3170A>C), AGA874AG (3182A>G), GT876ATA (3186G>A), AAC877CTT (3189A>T 3190A>C), ATT878GTA (3192A>G 3194T>A), AAC879AAC (3197A>G), TCA870GTT (3197A>C), GAT880GAA (3201A>G 3202C>A), TCA881GAA (3203A>G 3204C>A), ATT882GTT (3205A>G 3206C>A), GAT883GAA (3207A>G 3208C>A), ATT884GTT (3209A>G 3210C>A), GAT885GAA (3211A>G 3212C>A), GAT886GAA (3212A>G 3213C>A), GAT887GAA (3213A>G 3214C>A), GAT888GTT (3215A>G 3216C>A), GAT889GTT (3225G>T 3226A>T 3227A>T), GAC890GGA (3229A>C 3230C>A), GTT892CAG (3234G>C 3236C>A), ATT893GAA (3236A>G 3237A>C), GAT894GAA (3237A>G 3238T>A), GAT895GAT (3238A>G 3239T>A), ATT895TTT (3239C>T 3240T>A), GAT896GAA (3242G>A 3243T>A), CCT897GAA (3246A>G 3247T>A), GAT898GAG (3253G>C 3254T>A), ATT899GTT (3256T>G), TGT899GTT (3260G>A), AGA901GTT (3261A>G 3262G>A 3263A>C), TCA902GAA (3264C>G 3265C>A), ATC903TAA (3267A>T 3269C>A), TTA904GCTT (3273A>T), ATT904GCTT (3273C>T), ATT905GTC (3840A>T 3842C>T), ATT905GTC (3840A>T 3842C>T), ATT905GTC (3843A>T 3845T>C), TCC1098TCT (3854C>T), ACT1103ATG (3863T>A 3867T>G), CTT1106TTG (3867T>C 3878T>G), GAT1108GAA (3884T>A), ATT1110GAA (3884T>A 3890C>A), AAC1111AAC (3893A>G), CAG1112AAC (3894A>G 3896A>G), CAG1113CAA (3899A>G), AAC1115GAC (3905T>C), GAT1117ATT (3909T>A 3910A>T 3911C>T), GCG1119GTT (3917C>T), AAC1120ATA (3919A>T), ACT1121ACC (3923T>C), GCG1122TCC (3924G>T 3926G>C), CTC1125TCT (3935C>T), TTA1127TTG (3939A>G), AAC1128GAC (3941A>G), ATT1128ATA (3944T>A), GAA1129GAC (3946G>A), AGT1133GAA (3957A>G 3958G>A 3959T>A), GAA1134GAG (3962A>G), ATT1135ATA (3965T>A), AAC1139TCA (3975A>G 3976C>A), AAC1140AAC (3983A>G 3984A>G), AAC1141GAT (3985A>G 3986A>G), AAC1142GTC (3987A>G 3988A>G), AAC1143AAC (3989A>G 3990A>G), AAC1144AAC (3991A>G 3992A>G), AAC1145AAC (3993A>G 3994A>G), AAC1146AAC (3995A>G 3996A>G), AAC1147AAC (3997A>G 3998A>G), AAC1148AAC (3999A>G 4000A>G), AAC1149AAC (4001A>G 4002A>G), AAC1150AAC (4003A>G 4004A>G), AAC1151AAC (4005A>G 4006A>G), AAC1152AAC (4008A>G 4009A>G), AAC1153AAC (4010A>G 4011A>G), AAC1154AAC (4012A>G 4013A>G), AAC1155AAC (4014A>G 4015A>G), AAC1156AAC (4016A>G 4017A>G), AAC1157AAC (4018A>G 4019A>G), AAC1158AAC (4020A>G 4021A>G), AAC1159AAC (4022A>G 4023A>G), AAC1160AAC (4024A>G 4025A>G), AAC1161AAC (4026A>G 4027A>G), AAC1162AAC (4028A>G 4029A>G), AAC1163AAC (4030A>G 4031A>G), AAC1164AAC (4032A>G 4033A>G), AAC1165AAC (4034A>G 4035A>G), AAC1166AAC (4036A>G 4037A>G), AAC1167AAC (4038A>G 4039A>G), AAC1168AAC (4040A>G 4041A>G), AAC1169AAC (4042A>G 4043A>G), AAC1170AAC (4044A>G 4045A>G), AAC1171AAC (4046A>G 4047A>G), AAC1172AAC (4048A>G 4049A>G), AAC1173AAC (4050A>G 4051A>G), AAC1174AAC (4052A>G 4053A>G), AAC1175AAC (4054A>G 4055A>G), AAC1176AAC (4056A>G 4057A>G), AAC1177AAC (4058A>G 4059A>G), AAC1178AAC (4060A>G 4061A>G), AAC1179AAC (4062A>G 4063A>G), AAC1180AAC (4064A>G 4065A>G), AAC1181AAC (4066A>G 4067A>G), AAC1182AAC (4068A>G 4069A>G), AAC1183AAC (4070A>G 4071A>G), AAC1184AAC (4072A>G 4073A>G), AAC1185AAC (4074A>G 4075A>G), AAC1186AAC (4076A>G 4077A>G), AAC1187AAC (4078A>G 4079A>G), AAC1188AAC (4080A>G 4081A>G), AAC1189AAC (4082A>G 4083A>G), AAC1190AAC (4084A>G 4085A>G), AAC1191AAC (4086A>G 4087A>G), AAC1192AAC (4088A>G 4089A>G), AAC1193AAC (4090A>G 4091A>G), AAC1194AAC (4092A>G 4093A>G), AAC1195AAC (4094A>G 4095A>G), AAC1196AAC (4096A>G 4097A>G), AAC1197AAC (4098A>G 4099A>G), AAC1198AAC (4100A>G 4099G>G), AAC1199AAC (4101A>G 4102A>G), AAC1200AAC (4103A>G 4104A>G), AAC1201AAC (4105A>G 4106A>G), AAC1202AAC (4107A>G 4108A>G), AAC1203AAC (4109A>G 4110A>G), AAC1204AAC (4111A>G 4112A>G), AAC1205AAC (4113A>G 4114A>G), AAC1206AAC (4115A>G 4116A>G), AAC1207AAC (4117A>G 4118A>G), AAC1208AAC (4119A>G 4120A>G), AAC1209AAC (4121A>G 4122A>G), AAC1210AAC (4123A>G 4124A>G), AAC1211AAC (4125A>G 4126A>G), AAC1212AAC (4127A>G 4128A>G), AAC1213AAC (4129A>G 4130A>G), AAC1214AAC (4131A>G 4132A>G), AAC1215AAC (4133A>G 4134A>G), AAC1216AAC (4135A>G 4136A>G), AAC1217AAC (4137A>G 4138A>G), AAC1218AAC (4139A>G 4140A>G), AAC1219AAC (4141A>G 4142A>G), AAC1220AAC (4143A>G 4144A>G), AAC1221AAC (4145A>G 4146A>G), AAC1222AAC (4147A>G 4148A>G), AAC1223AAC (4149A>G 4150A>G), AAC1224AAC (4151A>G 4152A>G), AAC1225AAC (4153A>G 4154A>G), AAC1226AAC (4155A>G 4156A>G), AAC1227AAC (4157A>G 4158A>G), AAC1228AAC (4159A>G 4160A>G), AAC1229AAC (4161A>G 4162A>G), AAC1230AAC (4163A>G 4164A>G), AAC1231AAC (4165A>G 4166A>G), AAC1232AAC (4167A>G 4168A>G), AAC1233AAC (4169A>G 4170A>G), AAC1234AAC (4171A>G 4172A>G), AAC1235AAC (4173A>G 4174A>G), AAC1236AAC (4175A>G 4176A>G), AAC1237AAC (4177A>G 4178A>G), AAC1238AAC (4179A>G 4180A>G), AAC1239AAC (4181A>G 4182A>G), AAC1240AAC (4183A>G 4184A>G), AAC1241AAC (4185A>G 4186A>G), AAC1242AAC (4187A>G 4188A>G), AAC1243AAC (4189A>G 4190A>G), AAC1244AAC (4191A>G 4192A>G), AAC1245AAC (4193A>G 4194A>G), AAC1246AAC (4195A>G 4196A>G), AAC1247AAC (4197A>G 4198A>G), AAC1248AAC (4199A>G 4200A>G), AAC1249AAC (4201A>G 4202A>G), AAC1250AAC (4203A>G 4204A>G), AAC1251AAC (4205A>G 4206A>G), AAC1252AAC (4207A>G 4208A>G), AAC1253AAC (4209A>G 4210A>G), AAC1254AAC (4211A>G 4212A>G), AAC1255AAC (4213A>G 4214A>G), AAC1256AAC (4215A>G 4216A>G), AAC1257AAC (4217A>G 4218A>G), AAC1258AAC (4219A>G 4220A>G), AAC1259AAC (4221A>G 4222A>G), AAC1260AAC (4223A>G 4224A>G), AAC1261AAC (4225A>G 4226A>G), AAC1262AAC (4227A>G 4228A>G), AAC1263AAC (4229A>G 4230A>G), AAC1264AAC (4231A>G 4232A>G), AAC1265AAC (4233A>G 4234A>G), AAC1266AAC (4235A>G 4236A>G), AAC1267AAC (4237A>G 4238A>G), AAC1268AAC (4239A>G 4240A>G), AAC1269AAC (4241A>G 4242A>G), AAC1270AAC (4243A>G 4244A>G), AAC1271AAC (4245A>G 4246A>G), AAC1272AAC (4247A>G 4248A>G), AAC1273AAC (4249A>G 4250A>G), AAC1274AAC (4251A>G 4252A>G), AAC1275AAC (4253A>G 4254A>G), AAC1276AAC (4255A>G 4256A>G), AAC1277AAC (4257A>G 4258A>G), AAC1278AAC (4259A>G 4260A>G), AAC1279AAC (4261A>G 4262A>G), AAC1280AAC (4263A>G 4264A>G), AAC1281AAC (4265A>G 4266A>G), AAC1282AAC (4267A>G 4268A>G), AAC1283AAC (4269A>G 4270A>G), AAC1284AAC (4271A>G 4272A>G), AAC1285AAC (4273A>G 4274A>G), AAC1286AAC (4275A>G 4276A>G), AAC1287AAC (4277A>G 4278A>G), AAC1288AAC (4279A>G 4280A>G), AAC1289AAC (4281A>G 4282A>G), AAC1290AAC (4283A>G 4284A>G), AAC1291AAC (4285A>G 4286A>G), AAC1292AAC (4287A>G 4288A>G), AAC1293AAC (4289A>G 4290A>G), AAC1294AAC (4291A>G 4292A>G), AAC1295AAC (4293A>									

TTT177TAC (5890T>A 5891T>C), AAA1786AGA (5917A>G), GAA1788GAG (5924A>G), CCC1791CCT (5933C>T), GTC1792GTG (5936C>G), GTT1794GTA (5942T>A), CTA1796CTG (5948A>G), TCA1797TCT (5951A>T), CCT1805TAT (5973C>T 5974C>A), CAA1806GAA (5976C>G), GTT1808GAT (5983T>A), AAT1809GAA (5985A>G 5987T>A), TAC1810TAT (5990C>T), GAG1811GAT (5993G>T), CAA1812AAA (5994C>A), GCT1813GCA (5999T>A), GCT1814GTG (6001C>T 6002T>G), GAT1815GAG (6005T>G) GCA1816GTG (6007C>T 6008A>G), TTG1818CTG (6012T>C), GAC1819GAT (6017C>T), AAA1820AAG (6020A>G), GGA1823GGG (6029A>G), CTT1824TTG (6030C>T 6032T>G), TAT1826CAT (6036T>C), ATA1827ATT (6041A>T), GAG1836GAA (6068G>A), GCT1837GCA (6071T>A), ATT1838ATA (6074T>A), GAG1839GAA (6077G>A), CCA1842CCT (6086A>T), GGG1843GGT (6089G>T), ATT1847ATA (6101T>A), ATG1849CTT (6105A>T 6107G>T), AAA1850AAG (6110A>G), ACA1851ACT (6113A>T), TCT1852TCA (6116T>A), GGT1854GGG (6122T>C), CTA1855TTA (6123C>T), CCT1856CCA (6128T>A), ACC1858ACA (6134C>A), CTA1859TTG (6135C>T 6137A>G), CAT1860TAT (6138C>T), AAG1864AAA (6152G>A), GAA1865GAG (6155A>G), TTT1866TTG (6158T>G), TAT1869TTG (6166A>T 6167T>C), CTT1870TTT (6168C>T), GAT1872GCA (6175A>C 6176T>A), GAT1873CAA (6179T>A), GGA1874GAT (6181G>A 6182A>T), ACT1875AAT (6184C>A), TTA1876TAT (6187T>A 6188A>T), ATT1877GTA (6189A>G 6191T>A), GGT1878GGG (6194T>G), TTG1882TTT (6206G>T), CTA1883TTA (6207C>T), AGG1886AGA (6218G>A), CTT1887TTG (6219C>T 6221T>G), CTT1889ATG (6225C>A 6227T>G), AAT1890AAC (6230T>C), ATG1891TTA (6231A>T 6233G>A), TGC1892ATG (6234T>A 6235G>A 6236C>G), TGT1893TGC (6239T>C), TTA1894ATG (6240T>A 6242A>G), GAT1895GAC (6245T>C), GGA1897GGT (6251A>T), GTA1902GTC (6266A>C), TAC1904TAT (6272C>T), AGA1913AGG (6299A>G), CCA1914CCC (6302A>C), TTG1915CTT (6303T>C 6305G>T), GAA1916GAA (6311A>G), ACT1923AAC (6329T>C), CCT1930CCC (6350T>C), CTT1931TTG (6351C>T 6353T>G), TTC1933TTT (6359C>T), ACA1934TCA (6360A>T), ATA1935ATC (6365A>C), TGT1937TGC (6371T>C), GGA1942GCC (6385G>C 6386A>C), GGC1944GCA (6391G>C 6392C>A), ATA1945ATT (6395A>T), TCA1946TCT (6398A>T), TTA1950CTG (6408T>C 6410A>G), CCT1952CCA (6416T>A), GGA1953GGT (6419A>T), TTC1954GTT (6420T>G 6422C>T), CAC1955CAT (6425C>T), TTG1958GTG (6434T>G), GTT1960GGT (6439T>G), ATG1962ATT (6446G>T), ATA1976CTG (6486A>C 6488A>G), GAG1977GAA (6491G>A), GAC1980GAT (6500C>T), TAT1981TTT (6502A>T), GCC1982GGT (6506C>T), GAT1984GAC (6512T>C), TTG1985CTT (6513T>C 6515G>T), TTC1987TTT (6521C>T), TCC1988TCT (6524C>T), GCC1989GCA (6527C>A), GCT1992GCA (6536T>A), GTC1994GTG (6542T>G), CCC1996CCT (6548C>T), ATA1999ATC (6557A>C), TAT2000TGG (6559A>T 6560T>G), AGC2001TAT (6561A>T 6562G>A 6563C>T), GCC2002GGT (6565C>T 6566C>T), TGC2003TGT (6569C>T), GCT2004GAA (6571C>A 6572T>A), ATA2005GTA (6573A>G), TTA2006TTG (6578A>G), TCA2007TCT (6581A>T), AGT2008TCA (6582A>T 6583G>C 6584T>A), CTT2009ATT (6585C>A), CTT2012TTG (6594C>T 6596T>G), TCA2013TCT (6599A>T), GAG2014GAA (6602G>A), ACA2015ATG (6604C>T 6605A>G), AAT2017AGC (6610A>G 6611T>C), CAA2018AGA (6612C>A 6613A>G), TTT2021TAT (6622T>A), AAA2022AAT (6626A>T), GCA2023TCA (6627G>T)

\*: Inserts / Deletes / Misaligned / Frameshifts

## Analysis details

This analysis was performed with Pan-viral (2.14.6)

