BIOMEDICAL MUTATION ANALYSIS

ANALYSIS REPORT

Date of Analysis: 2016-04-11

Gene: HA1 Con-1(1b)

SUMMARY

Evaluated Positions: 70. 71. 72. 73. 74. 75. 124. 125. 137. 138. 139. 140. 141. 142. 153. 154. 155. 156. 157. 159. 160. 161. 162. 163. 164. 166. 167. 168. 169. 170. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 203. 204. 205. 221. 222. 235. 236. 237.

Patient File Name	Sequences	Nucleotide Changes	Amino Acid Changes
dataset H1N1_HA1_1.txt	A/Bayern/69	2	2
	A/Peru/2023	3	3
	A/Ukraine/3	5	4
	A/Switzerland/7546304	8	5
	A/Strasbourg/1866	6	4
	A/Slovenia/1940	5	3
	A/Sachsen/1	6	4
	A/Paris/1878	5	3
	A/Niedersachsen/1	6	4
	A/Belgium/G917	5	4
	A/Athens_GR/1	5	3
	A/England/658	4	3
	A/England/576	4	3
	A/Tunisia/159	5	4
	A/Norway/2620	6	5
	A/Norway/120	6	3
	A/Norway/2091	3	3
	A/Norway/2197	6	4
	A/Norway/2417	6	4
dataset H1N1_HA1_2.txt	A/Formosa/V2361	3	3
	A/Stockholm/35	5	4
	A/Kazakhstan/2081	2	2
	A/Astrakhan/1	4	3
	A/StPetersburg/27	3	3
	A/StPetersburg/124	5	4
	A/StPetersburg/100	4	3
	A/Czech_Republic/32	4	4
	A/Lviv/N6/2009	2	2

Patient File Name	Sequences	Nucleotide Changes	Amino Acid Changes
dataset H1N1_HA1_3.txt	A/Christchurch/16	4	4
	A/Hong_Kong/5659	4	4
	A/Hong_Kong/1720	6	5
	A/Hong Kong/1743	6	4
	A/Hong_Kong/3934	4	3
	A/Ghana/FS-1615	1	1
	A/Salamanca/83	5	3
	A/Acores_PT/139	7	4
	A/Belgium/G1041	7	5
	A/Pavia/28	4	4
	A/Bayern/69	2	2
	A/Peru/2023	3	3
	A/Ukraine/3	5	4
	A/Switzerland/7546304	8	5
	A/Strasbourg/1866	6	4
	A/Slovenia/1940	5	3
	A/Sachsen/1	6	4
	A/Paris/1878	5	3
	A/Niedersachsen/1	6	4
	A/Belgium/G917	5	4
	A/Athens_GR/1	5	3
	A/England/658	4	3
	A/England/576	4	3
	A/Tunisia/159	5	4
	A/Norway/2620	6	5
	A/Norway/120	6	3
	A/Norway/2091	3	3
	A/Norway/2197	6	4
	A/Norway/2417	6	4

DETAILED REPORT
PATIENT: dataset H1N1_HA1_1.txt

SEQUENCE: A/Bayern/69
Nucleotides
GGA => GAA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GAA (E) **Changed**
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => AGT (S)
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => TCA (S)
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Peru/2023
Nucleotides
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Ukraine/3

Nucleotides

CAT => CGT = 1
AGT => ACT = 1
TCA => ACA = 1
AGG => AGA = 1
GRT => GAT = 1

Amino Acid

70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CGT (R) **Changed**
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGA (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Switzerland/7546304

Nucleotides

```
CCC => CCA = 1
AAA => ATA = 1
GAT => GAC = 1
AGT => ACT = 1
TCA => ACA = 1
AGA => AAA = 1
GRT => GAT = 1
GGA => GGG = 1
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Amino Acid

```
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCA (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => ATA (I) **Changed**
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAC (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AAA (K) **Changed**
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
```

237: GGA (G) => GGG (G)

SEQUENCE: A/Strasbourg/1866
Nucleotides
AGC => AGT = 1
CAT => CAC = 1
AAA => CAA = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAC (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => CAA (Q) **Changed**
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)

236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Slovenia/1940
Nucleotides
AGC => AGT = 1
GGG => GGA = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGA (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)

236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Sachsen/1
Nucleotides
AGC => AGT = 1
CAT => CAC = 1
AAA => ACA = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAC (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => ACA (T) **Changed**
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**

235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Paris/1878
Nucleotides
GCT => ACT = 1
GAC => GAT = 1
TCA => ACA = 1
GRT => GAT = 1
GAG => GAA = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => AGT (S)
186: GCT (A) => ACT (T) **Changed**
187: GAC (D) => GAT (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**

235: GAG (E) => GAA (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Niedersachsen/1
Nucleotides
AGC => AGT = 1
GCA => ACA = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
CCG => CCA = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => ACA (T) **Changed**
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)

222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCA (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Belgium/G917

Nucleotides

CCC => CCA = 1
AAA => ATA = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1

Amino Acid

70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCA (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => ATA (I) **Changed**
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)

222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Athens_GR/1
Nucleotides
AGC => AGT = 1
CCA => CCT = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCT (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)

222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/England/658

Nucleotides

AGC => AGT = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1

Amino Acid

70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**

235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/England/576
Nucleotides
AGC => AGT = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)

236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Tunisia/159
Nucleotides
AGC => AGT = 1
AGT => ACT = 1
GCT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => ACT (T) **Changed**
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)

236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Norway/2620
Nucleotides
ACA => GCA = 1
AGC => AGT = 1
AGT => ACT = 1
GCT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => GCA (A) **Changed**
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => ACT (T) **Changed**
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**

235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Norway/120
Nucleotides
AGT => AGC = 1
GCT => ACT = 1
TCA => ACA = 1
AGG => AGA = 1
GRT => GAT = 1
GAG => GAA = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => AGC (S)
186: GCT (A) => ACT (T) **Changed**
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGA (R)

222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAA (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Norway/2091
Nucleotides
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)

236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Norway/2197
Nucleotides
CCC => CCA = 1
AAA => ATA = 1
GAT => GAC = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCA (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => ATA (I) **Changed**
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAC (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**

235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Norway/2417
Nucleotides
AGC => AGT = 1
CAT => CAC = 1
AAA => CAA = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAC (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => CAA (Q) **Changed**
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)

```
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)
```

DETAILED REPORT
PATIENT: dataset H1N1_HA1_2.txt

SEQUENCE: A/Formosa/V2361

Nucleotides

AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1

Amino Acid

70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)

237: GGA (G) => GGA (G)

SEQUENCE: A/Stockholm/35

Nucleotides

CAT => CAA = 1
AAT => AAC = 1
TCA => ACA = 1
AGA => AAA = 1
GRT => GAT = 1

Amino Acid

70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAA (Q) **Changed**
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAC (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => AGT (S)
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AAA (K) **Changed**
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)

237: GGA (G) => GGA (G)

SEQUENCE: A/Kazakhstan/2081
Nucleotides
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => AGT (S)
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Astrakhan/1

Nucleotides

AAT => AAC = 1
TCA => ACA = 1
AGA => AAA = 1
GRT => GAT = 1

Amino Acid

70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAC (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => AGT (S)
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AAA (K) **Changed**
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/StPetersburg/27

Nucleotides

```
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
```
Amino Acid
```
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)
```

SEQUENCE: A/StPetersburg/124
Nucleotides
```
AGC => AGT = 1
GCA => ACA = 1
```

AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1

Amino Acid

70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => ACA (T) **Changed**
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/StPetersburg/100

Nucleotides

AGT => ACT = 1
TCA => ACA = 1

GRT => GAT = 1
GAG => GAA = 1

Amino Acid

70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAA (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Czech_Republic/32

Nucleotides

AGC => AAC = 1
GCT => ACT = 1
TCA => ACA = 1

GRT => GAT = 1

Amino Acid

70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AAC (N) **Changed**
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => AGT (S)
186: GCT (A) => ACT (T) **Changed**
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Lviv/N6/2009

Nucleotides

TCA => ACA = 1
GRT => GGT = 1

Amino Acid

70: CTC (L) => CTC (L)

71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => AGT (S)
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GGT (G) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Christchurch/16
Nucleotides
AAT => GAT = 1
AAG => ACG = 1
TCA => ACA = 1
GRT => AAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)

72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => GAT (D) **Changed**
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => ACG (T) **Changed**
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => AGT (S)
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => AAT (N) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Hong_Kong/5659
Nucleotides
CAT => CGT = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)

73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CGT (R) **Changed**
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Hong_Kong/1720
Nucleotides
AGC => AGT = 1
AAA => AGA = 1
AGT => ACT = 1
GCT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)

72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AGA (R) **Changed**
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => ACT (T) **Changed**
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Hong Kong/1743
Nucleotides
AGC => AGT = 1
AAT => AGT = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
CCG => CCA = 1
Amino Acid
70: CTC (L) => CTC (L)

71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AGT (S) **Changed**
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCA (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Hong_Kong/3934
Nucleotides
GCA => TCA = 1
AAG => AAA = 1
TCA => ACA = 1
GRT => AAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)

72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => TCA (S) **Changed**
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAA (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => AGT (S)
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => AAT (N) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Ghana/FS-1615
Nucleotides
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)

124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => AGT (S)
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => TCA (S)
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Salamanca/83
Nucleotides
AGC => AGT = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
CCG => CCA = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)

124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCA (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Acores_PT/139
Nucleotides
AGC => AGT = 1
CCA => CCT = 1
CTC => CTT = 1
AGT => ACT = 1
GAC => TAC = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)

74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCT (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTT (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => TAC (Y) **Changed**
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Belgium/G1041
Nucleotides
AGC => AGT = 1
CAT => CAA = 1
GCA => ACA = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
CCG => CCA = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)

72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAA (Q) **Changed**
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => ACA (T) **Changed**
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCA (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Pavia/28
Nucleotides
CAT => CGT = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)

```
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CGT (R) **Changed**
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)
```

DETAILED REPORT
PATIENT: dataset H1N1_HA1_3.txt

SEQUENCE: A/Bayern/69

Nucleotides

GGA => GAA = 1
GRT => GAT = 1

Amino Acid

70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GAA (E) **Changed**
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => AGT (S)
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => TCA (S)
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Peru/2023
Nucleotides
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Ukraine/3

Nucleotides

CAT => CGT = 1
AGT => ACT = 1
TCA => ACA = 1
AGG => AGA = 1
GRT => GAT = 1

Amino Acid

70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CGT (R) **Changed**
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGA (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Switzerland/7546304

Nucleotides

```
CCC => CCA = 1
AAA => ATA = 1
GAT => GAC = 1
AGT => ACT = 1
TCA => ACA = 1
AGA => AAA = 1
GRT => GAT = 1
GGA => GGG = 1
```

Amino Acid

```
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCA (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => ATA (I) **Changed**
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAC (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AAA (K) **Changed**
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
```

237: GGA (G) => GGG (G)

SEQUENCE: A/Strasbourg/1866
Nucleotides
AGC => AGT = 1
CAT => CAC = 1
AAA => CAA = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAC (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => CAA (Q) **Changed**
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)

236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Slovenia/1940
Nucleotides
AGC => AGT = 1
GGG => GGA = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGA (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)

236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Sachsen/1
Nucleotides
AGC => AGT = 1
CAT => CAC = 1
AAA => ACA = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAC (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => ACA (T) **Changed**
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**

235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Paris/1878
Nucleotides
GCT => ACT = 1
GAC => GAT = 1
TCA => ACA = 1
GRT => GAT = 1
GAG => GAA = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => AGT (S)
186: GCT (A) => ACT (T) **Changed**
187: GAC (D) => GAT (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**

235: GAG (E) => GAA (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Niedersachsen/1
Nucleotides
AGC => AGT = 1
GCA => ACA = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
CCG => CCA = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => ACA (T) **Changed**
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)

222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCA (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Belgium/G917

Nucleotides

CCC => CCA = 1
AAA => ATA = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1

Amino Acid

70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCA (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => ATA (I) **Changed**
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)

222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Athens_GR/1
Nucleotides
AGC => AGT = 1
CCA => CCT = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCT (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)

222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/England/658

Nucleotides

AGC => AGT = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1

Amino Acid

70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**

235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/England/576
Nucleotides
AGC => AGT = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)

236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Tunisia/159
Nucleotides
AGC => AGT = 1
AGT => ACT = 1
GCT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => ACT (T) **Changed**
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)

236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Norway/2620
Nucleotides
ACA => GCA = 1
AGC => AGT = 1
AGT => ACT = 1
GCT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => GCA (A) **Changed**
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => ACT (T) **Changed**
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**

235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Norway/120

Nucleotides

AGT => AGC = 1
GCT => ACT = 1
TCA => ACA = 1
AGG => AGA = 1
GRT => GAT = 1
GAG => GAA = 1

Amino Acid

70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => AGC (S)
186: GCT (A) => ACT (T) **Changed**
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGA (R)

222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAA (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Norway/2091
Nucleotides
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => AAA (K)
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)

236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Norway/2197
Nucleotides
CCC => CCA = 1
AAA => ATA = 1
GAT => GAC = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGC (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCA (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAT (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => ATA (I) **Changed**
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAC (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)
222: GRT () => GAT (D) **Changed**

235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)

SEQUENCE: A/Norway/2417
Nucleotides
AGC => AGT = 1
CAT => CAC = 1
AAA => CAA = 1
AGT => ACT = 1
TCA => ACA = 1
GRT => GAT = 1
Amino Acid
70: CTC (L) => CTC (L)
71: TCC (S) => TCC (S)
72: ACA (T) => ACA (T)
73: GCA (A) => GCA (A)
74: AGC (S) => AGT (S)
75: TCA (S) => TCA (S)
124: CCC (P) => CCC (P)
125: AAT (N) => AAT (N)
137: CCT (P) => CCT (P)
138: CAT (H) => CAC (H)
139: GCT (A) => GCT (A)
140: GGA (G) => GGA (G)
141: GCA (A) => GCA (A)
142: AAA (K) => AAA (K)
153: AAA (K) => AAA (K)
154: AAA (K) => AAA (K)
155: GGA (G) => GGA (G)
156: AAT (N) => AAT (N)
157: TCA (S) => TCA (S)
159: CCA (P) => CCA (P)
160: AAG (K) => AAG (K)
161: CTC (L) => CTC (L)
162: AGC (S) => AGC (S)
163: AAA (K) => CAA (Q) **Changed**
164: TCC (S) => TCC (S)
166: ATT (I) => ATT (I)
167: AAT (N) => AAT (N)
168: GAT (D) => GAT (D)
169: AAA (K) => AAA (K)
170: GGG (G) => GGG (G)
184: ACT (T) => ACT (T)
185: AGT (S) => ACT (T) **Changed**
186: GCT (A) => GCT (A)
187: GAC (D) => GAC (D)
188: CAA (Q) => CAA (Q)
189: CAA (Q) => CAA (Q)
190: AGT (S) => AGT (S)
191: CTC (L) => CTC (L)
192: TAT (Y) => TAT (Y)
193: CAG (Q) => CAG (Q)
194: AAT (N) => AAT (N)
195: GCA (A) => GCA (A)
203: TCA (S) => ACA (T) **Changed**
204: TCA (S) => TCA (S)
205: AGA (R) => AGA (R)
221: AGG (R) => AGG (R)

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222: GRT () => GAT (D) **Changed**
235: GAG (E) => GAG (E)
236: CCG (P) => CCG (P)
237: GGA (G) => GGA (G)
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