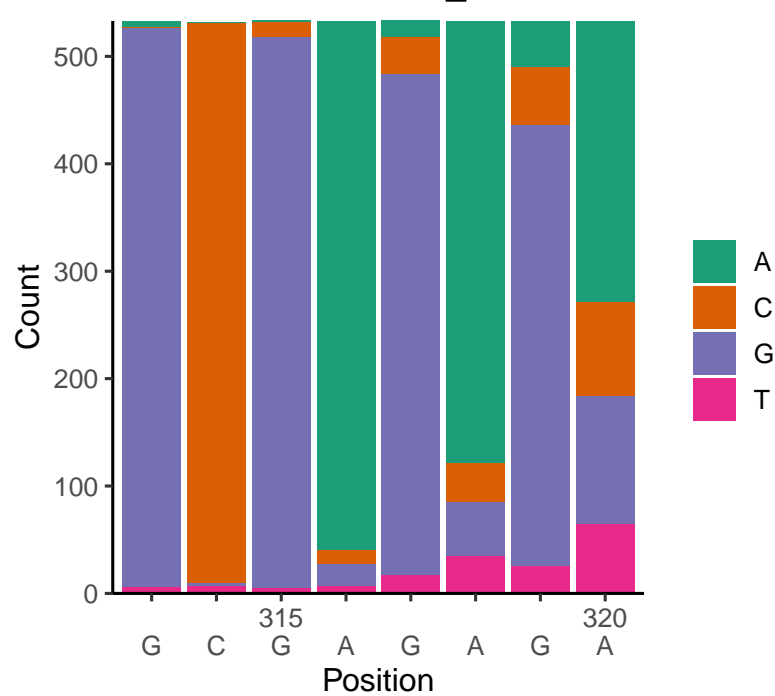
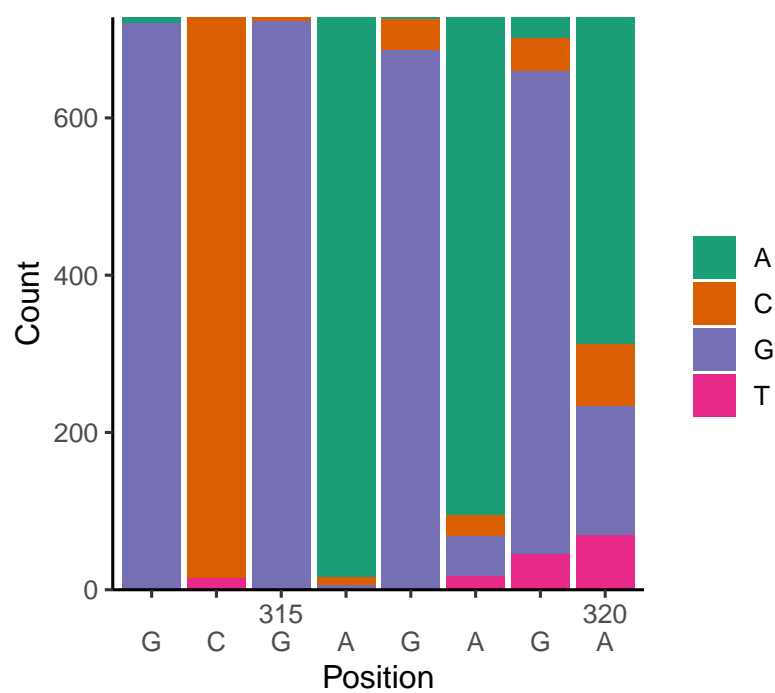


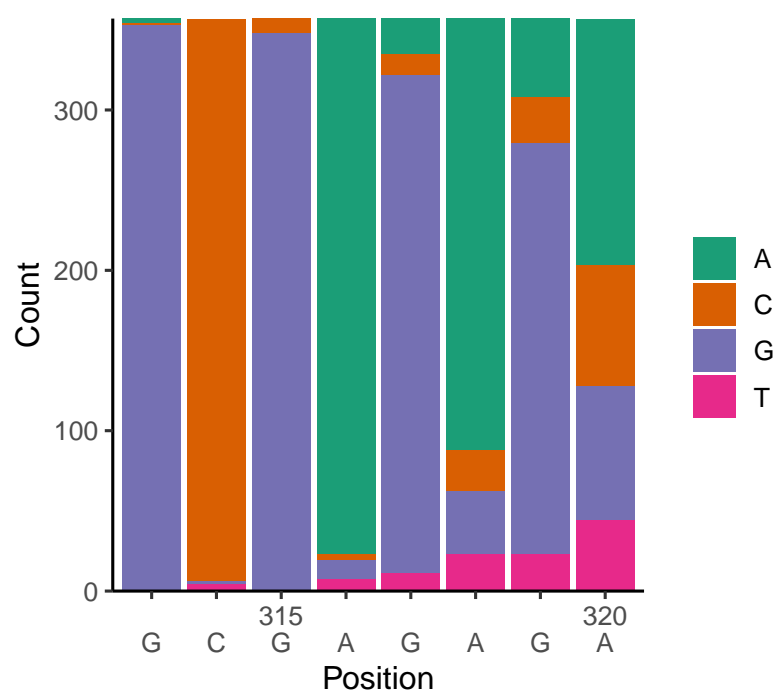
Gene IGHV1-69\*04\_C184T



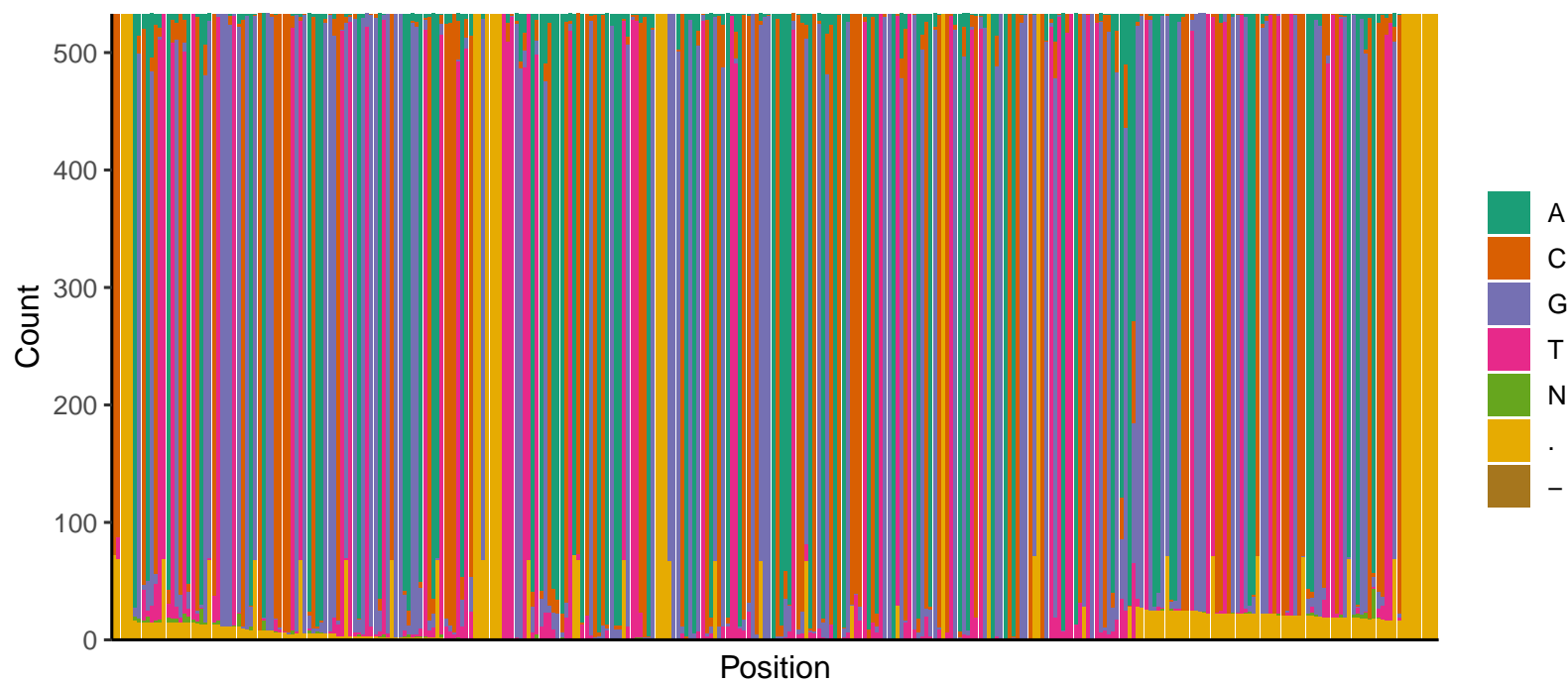
Gene IGHV3-21\*01\_G278C



Gene IGHV1-69\*08\_C191T



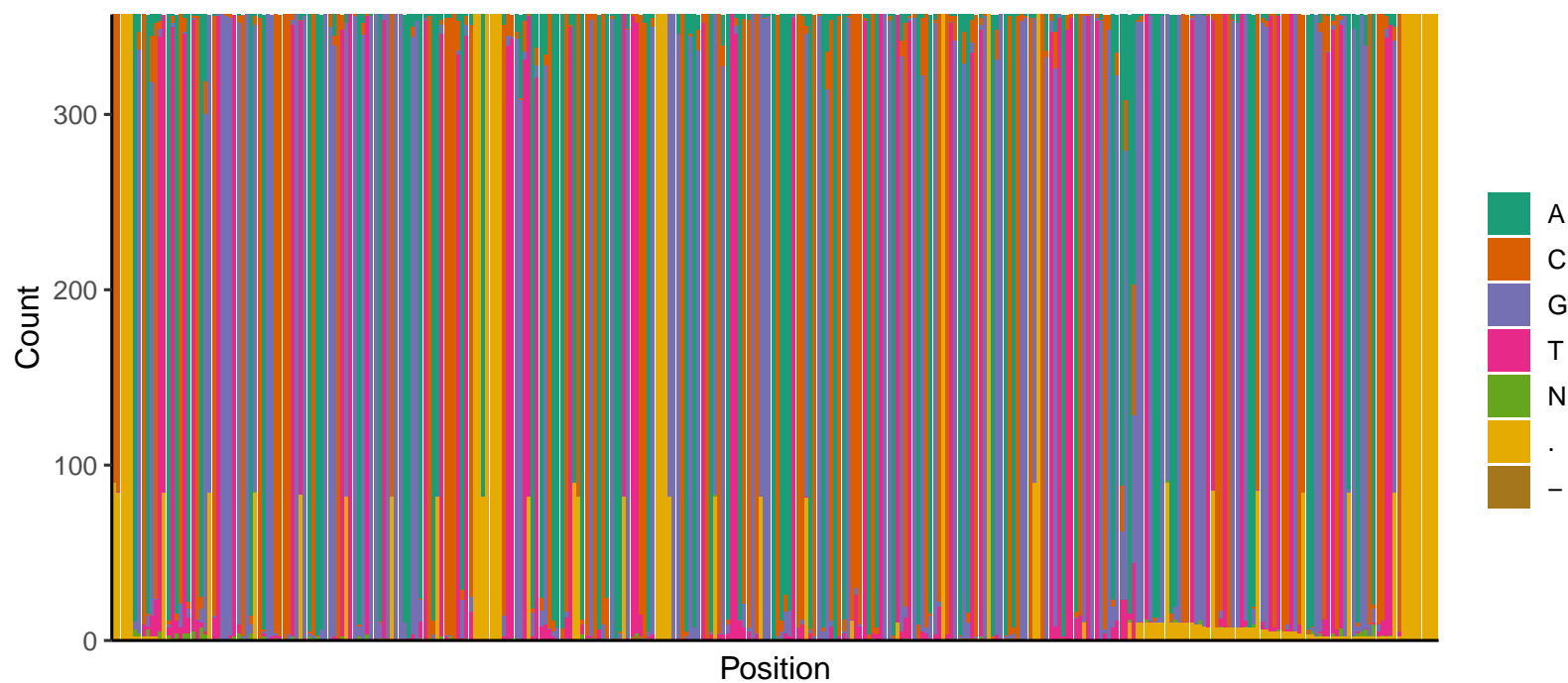
Gene IGHV1-69\*04\_C184T



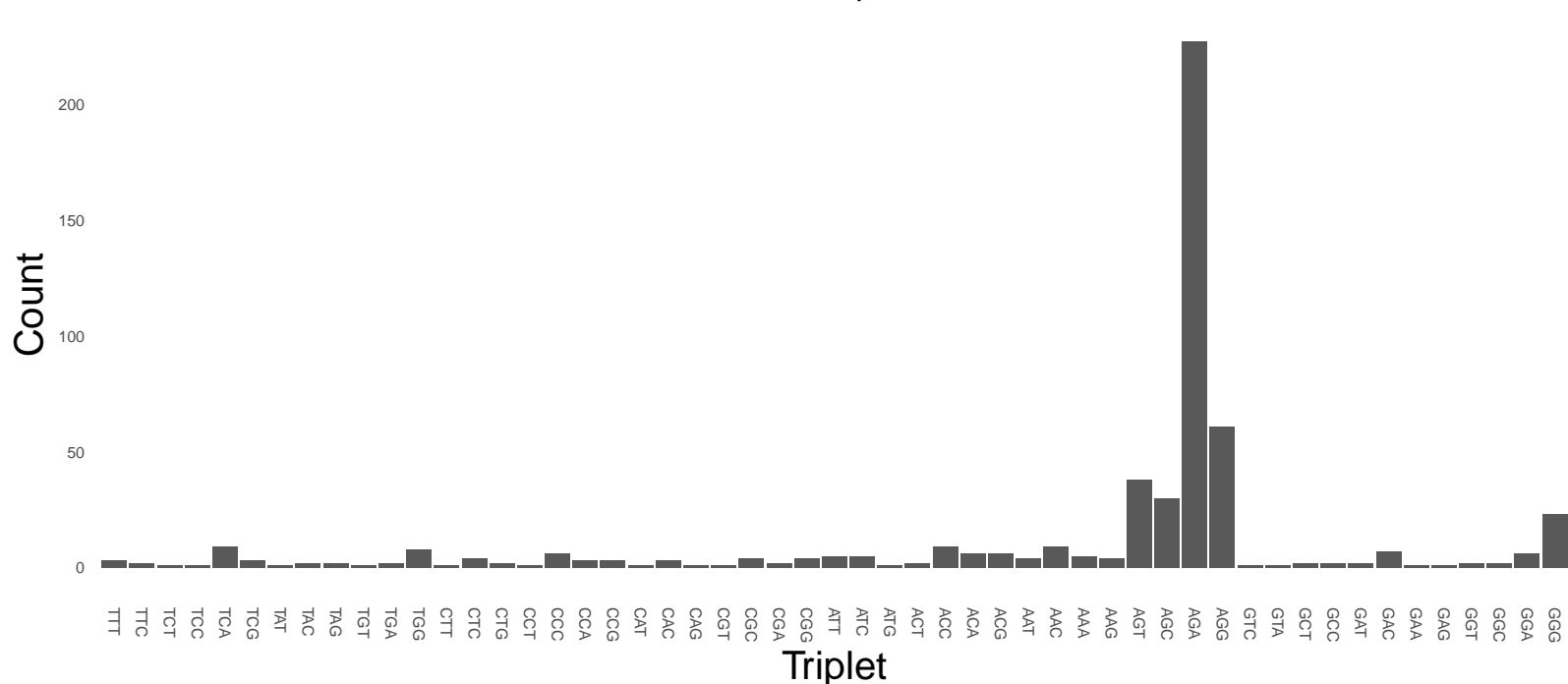
Gene IGHV3-21\*01\_G278C



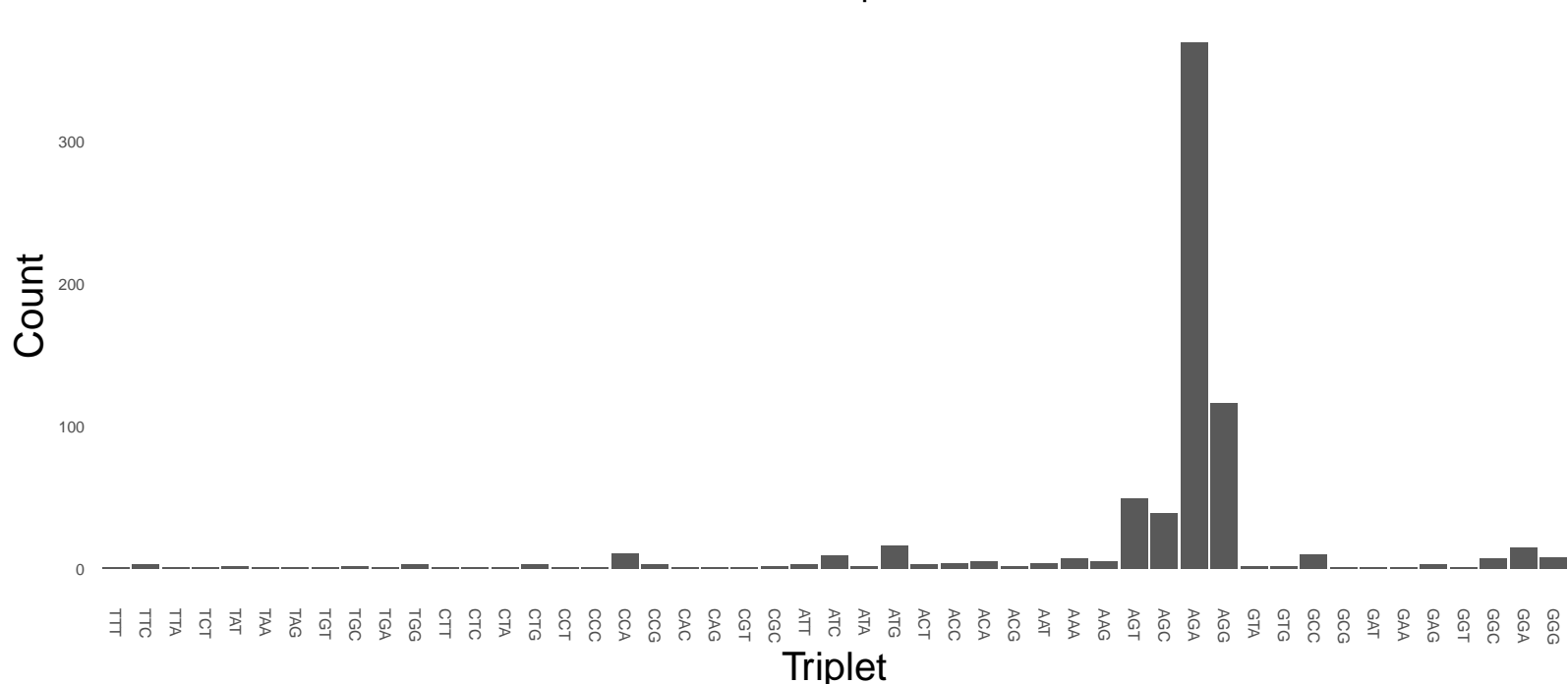
Gene IGHV1-69\*08\_C191T



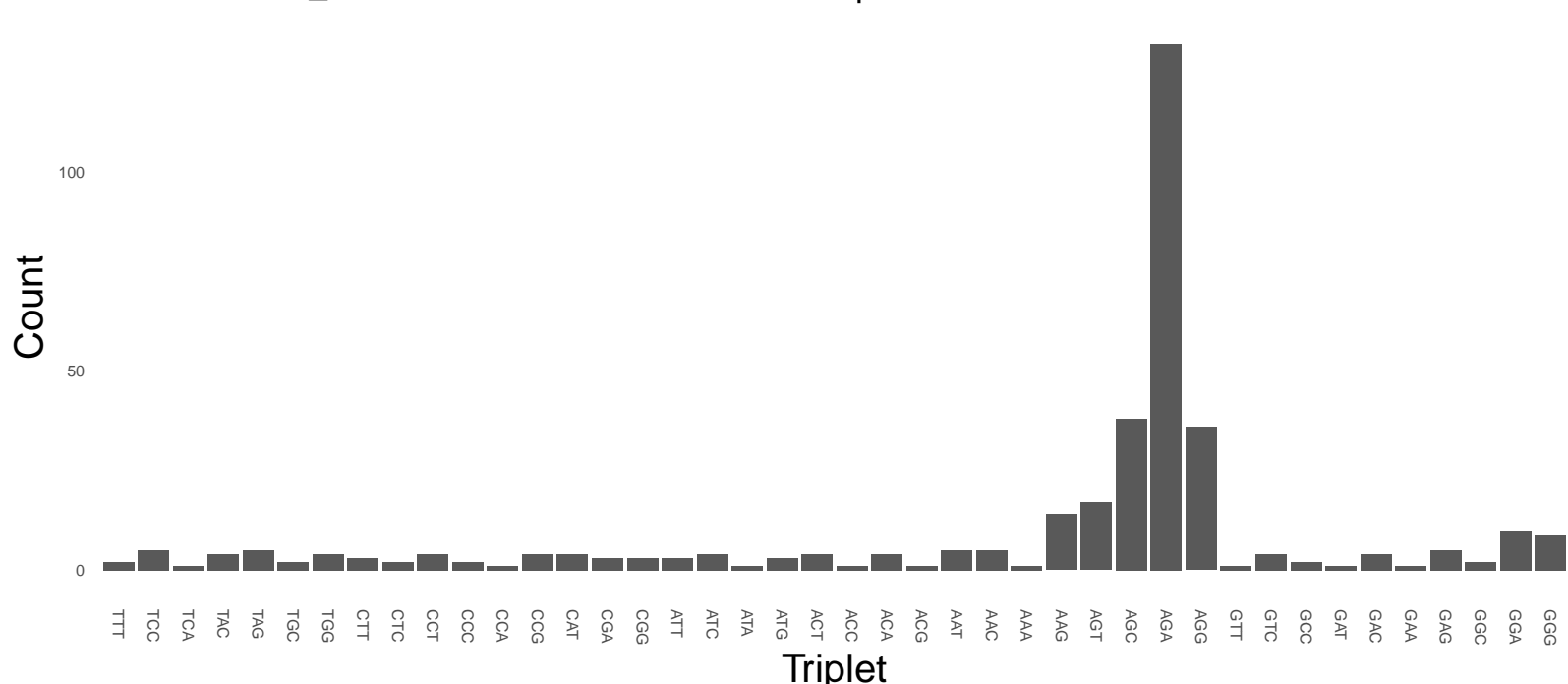
IGHV1-69\*04\_C184T- Final 3 nucleotides as a triplet



IGHV3-21\*01\_G278C- Final 3 nucleotides as a triplet

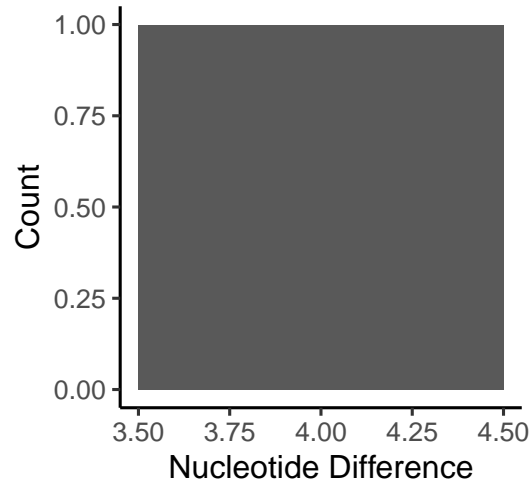


IGHV1-69\*08\_C191T- Final 3 nucleotides as a triplet



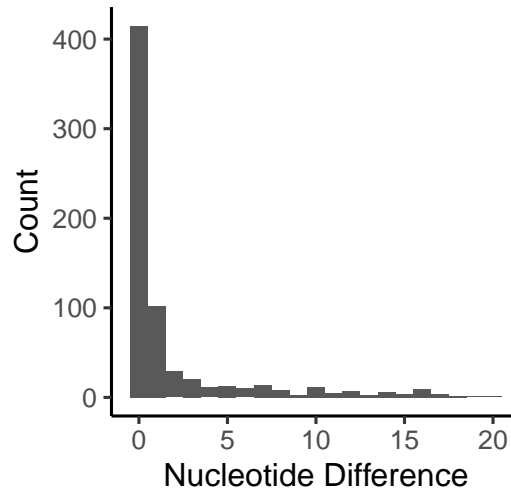
### IGHV1/OR21-1\*01

1 sequences assigned  
No exact matches.



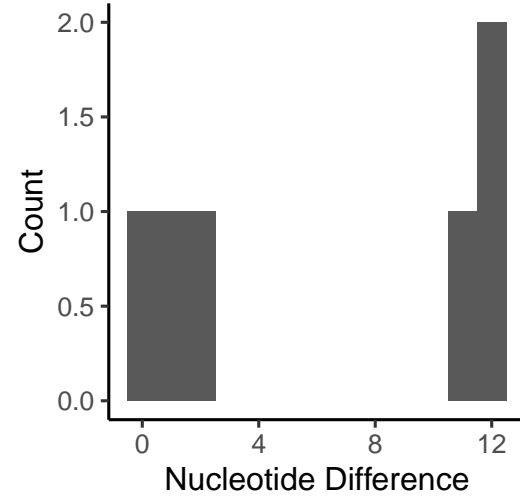
### IGHV1-8\*01

734 sequences assigned  
415 (56.5%) exact matches, in which:  
405 unique CDR3  
7 unique J



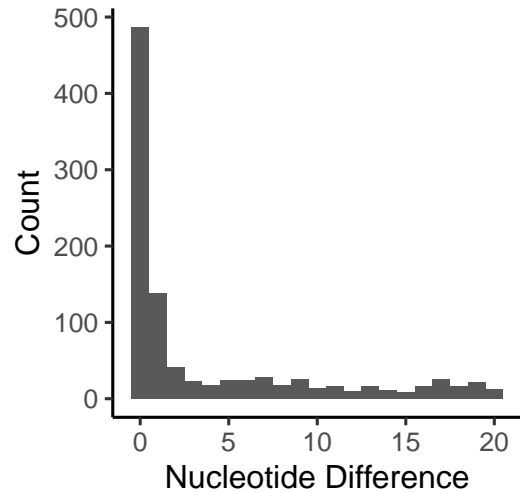
### IGHV1-45\*02

11 sequences assigned  
1 (9.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



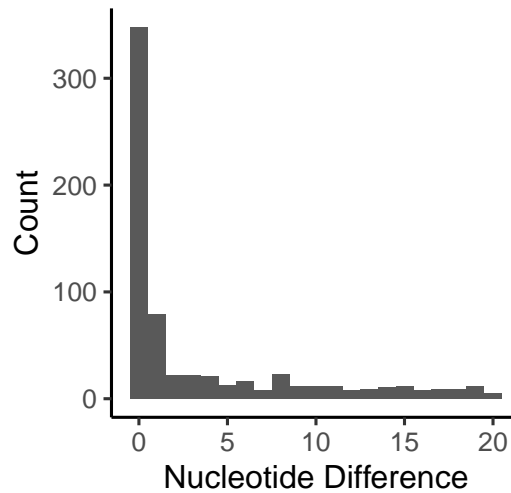
### IGHV1-2\*02

1159 sequences assigned  
487 (42%) exact matches, in which:  
480 unique CDR3  
7 unique J



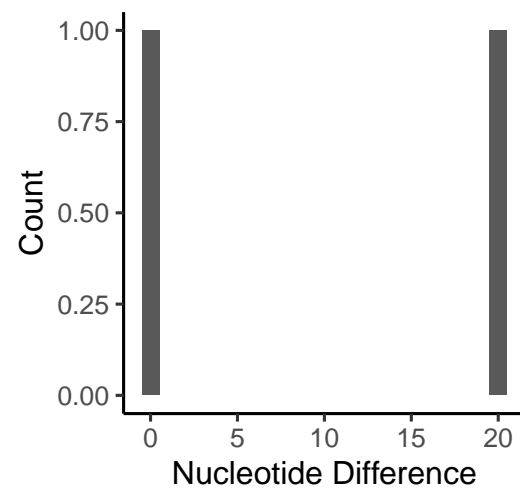
### IGHV1-18\*01

870 sequences assigned  
348 (40%) exact matches, in which:  
346 unique CDR3  
7 unique J



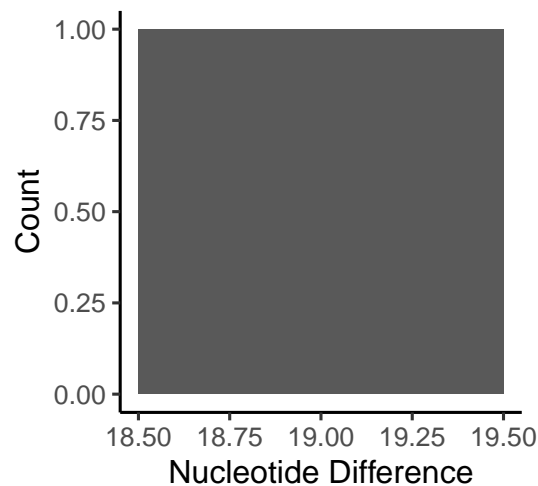
### IGHV1-45\*03

2 sequences assigned  
1 (50%) exact matches, in which:  
1 unique CDR3  
1 unique J



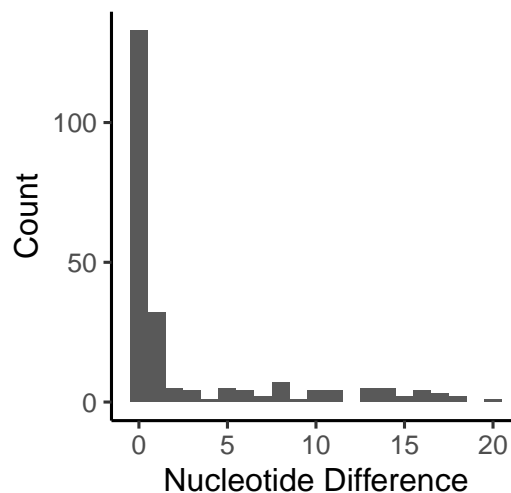
### IGHV1-3\*02

2 sequences assigned  
No exact matches.



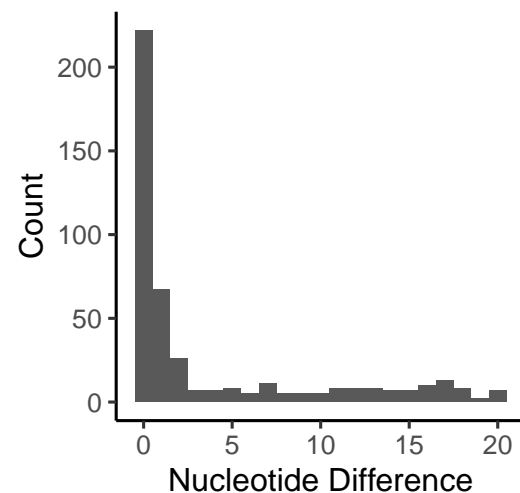
### IGHV1-24\*01

253 sequences assigned  
133 (52.6%) exact matches, in which:  
132 unique CDR3  
7 unique J



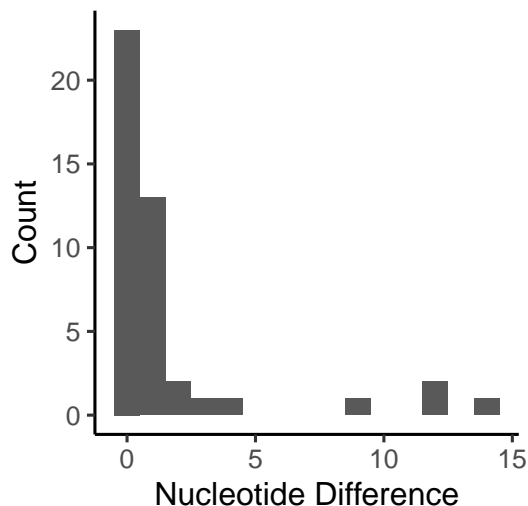
### IGHV1-46\*01

565 sequences assigned  
222 (39.3%) exact matches, in which:  
222 unique CDR3  
7 unique J



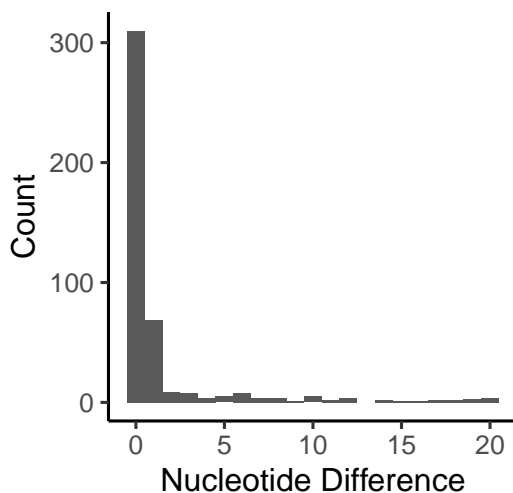
## IGHV1-58\*02

49 sequences assigned  
23 (46.9%) exact matches, in which:  
22 unique CDR3  
6 unique J



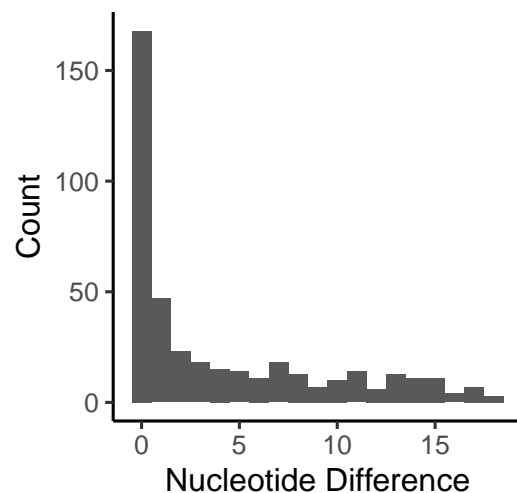
## IGHV1-69\*04\_C184T

533 sequences assigned  
310 (58.2%) exact matches, in which:  
305 unique CDR3  
6 unique J



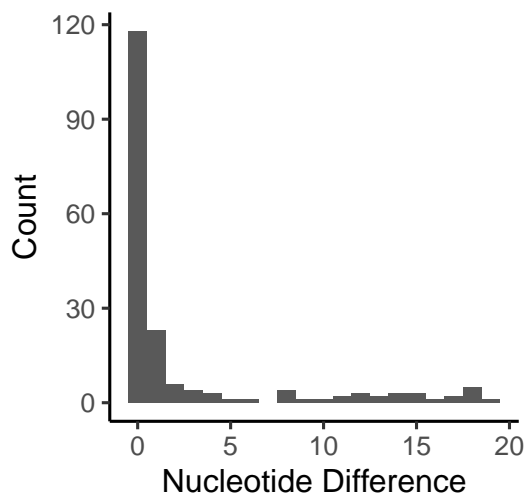
## IGHV2-5\*02

444 sequences assigned  
168 (37.8%) exact matches, in which:  
166 unique CDR3  
6 unique J



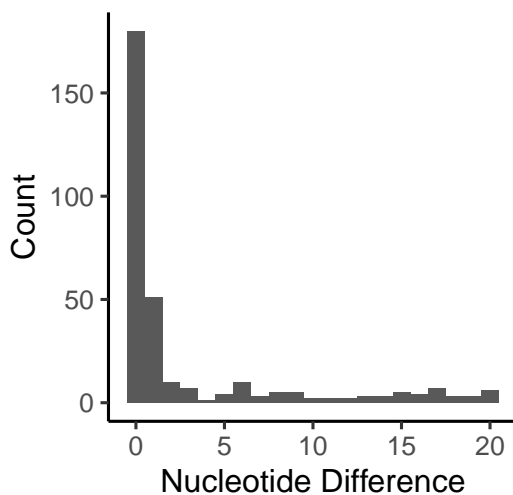
## IGHV1-69-2\*01

208 sequences assigned  
118 (56.7%) exact matches, in which:  
117 unique CDR3  
6 unique J



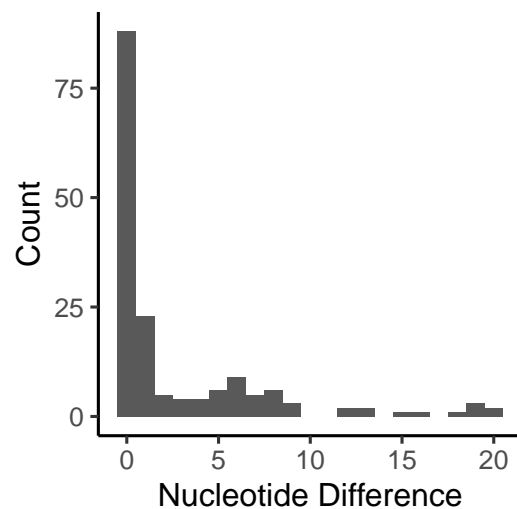
## IGHV1-69\*08\_C191T

357 sequences assigned  
180 (50.4%) exact matches, in which:  
179 unique CDR3  
6 unique J



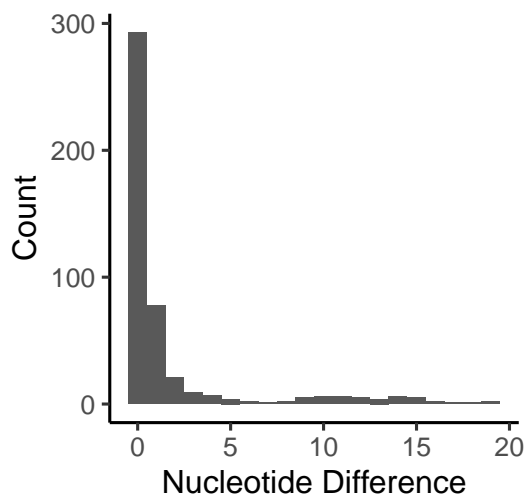
## IGHV2-26\*01

174 sequences assigned  
88 (50.6%) exact matches, in which:  
86 unique CDR3  
7 unique J



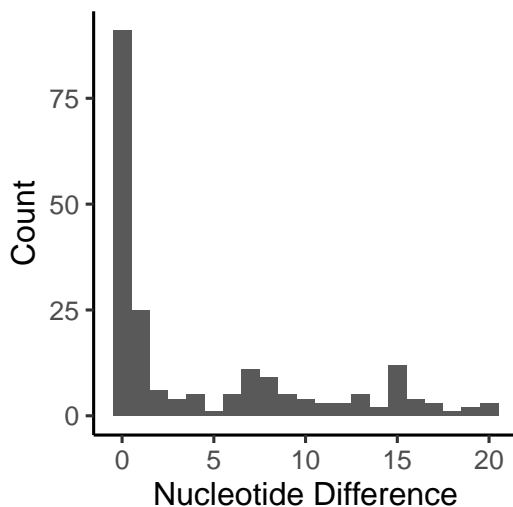
## IGHV1-69\*04

498 sequences assigned  
293 (58.8%) exact matches, in which:  
289 unique CDR3  
7 unique J



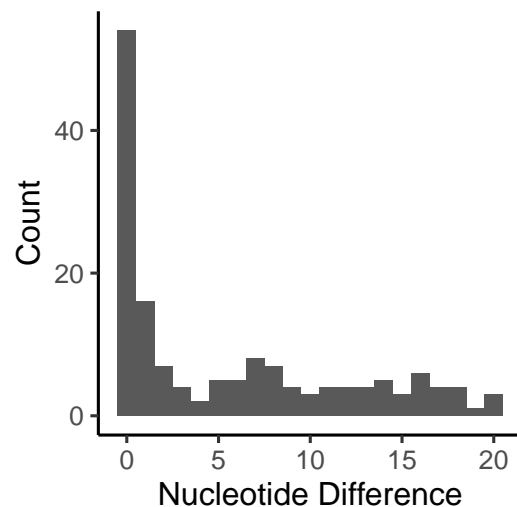
## IGHV2-5\*01

240 sequences assigned  
91 (37.9%) exact matches, in which:  
91 unique CDR3  
5 unique J



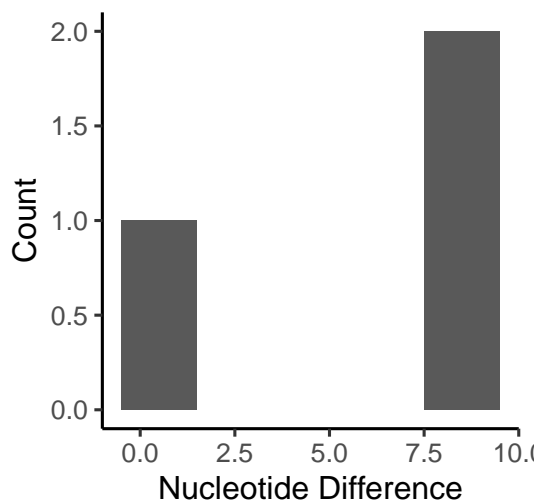
## IGHV2-70\*15

167 sequences assigned  
54 (32.3%) exact matches, in which:  
51 unique CDR3  
5 unique J



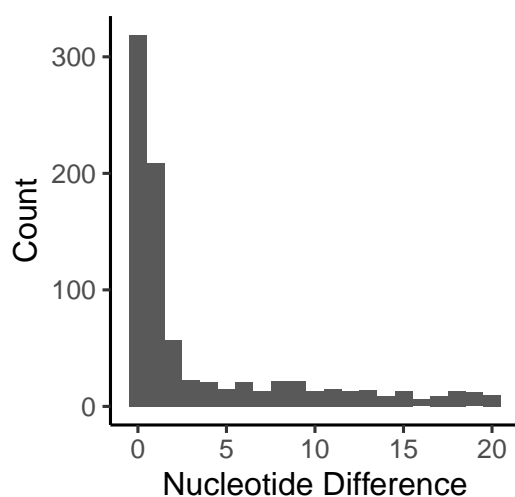
### IGHV2-70D\*04

6 sequences assigned  
1 (16.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



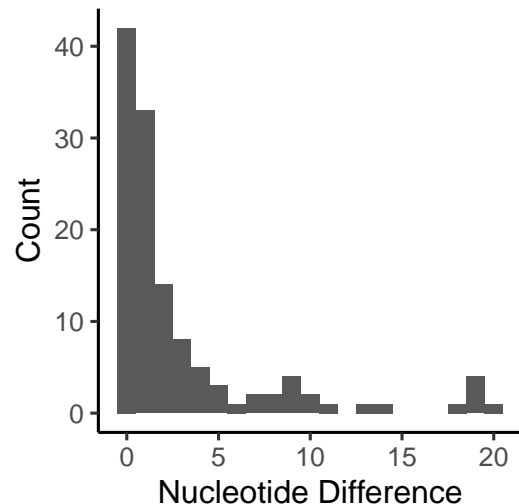
### IGHV3-11\*01

952 sequences assigned  
319 (33.5%) exact matches, in which:  
314 unique CDR3  
7 unique J



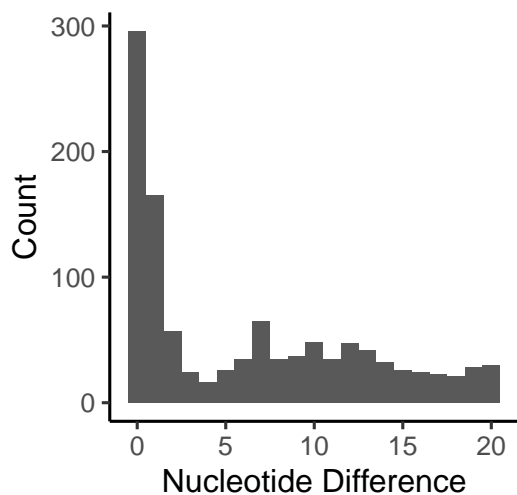
### IGHV3-20\*01

131 sequences assigned  
42 (32.1%) exact matches, in which:  
37 unique CDR3  
5 unique J



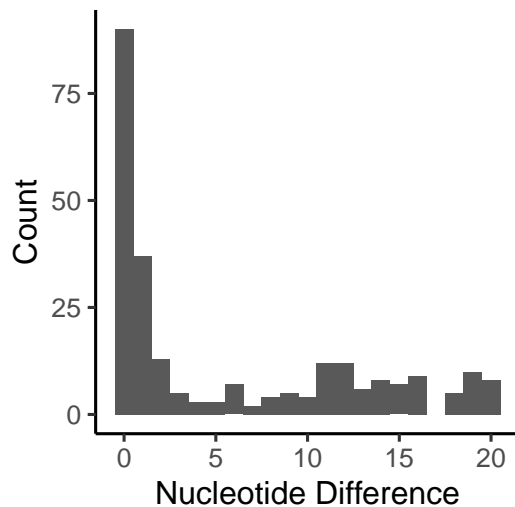
### IGHV3-7\*01

1326 sequences assigned  
296 (22.3%) exact matches, in which:  
287 unique CDR3  
7 unique J



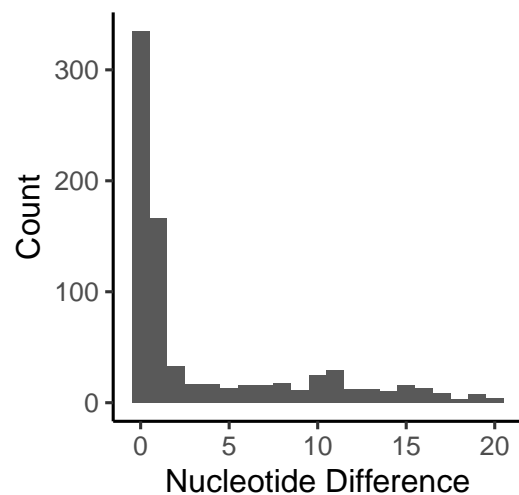
### IGHV3-13\*01

278 sequences assigned  
90 (32.4%) exact matches, in which:  
89 unique CDR3  
6 unique J



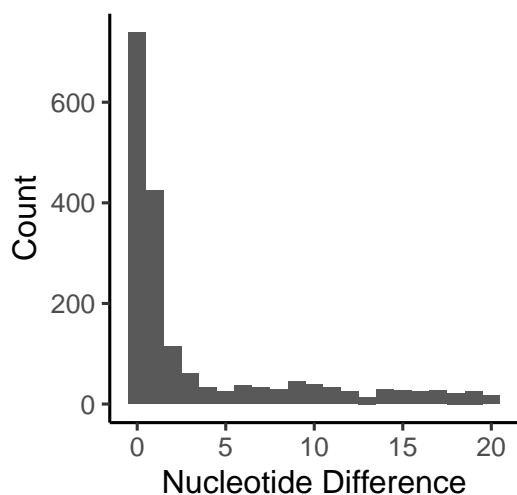
### IGHV3-21\*01

832 sequences assigned  
335 (40.3%) exact matches, in which:  
331 unique CDR3  
7 unique J



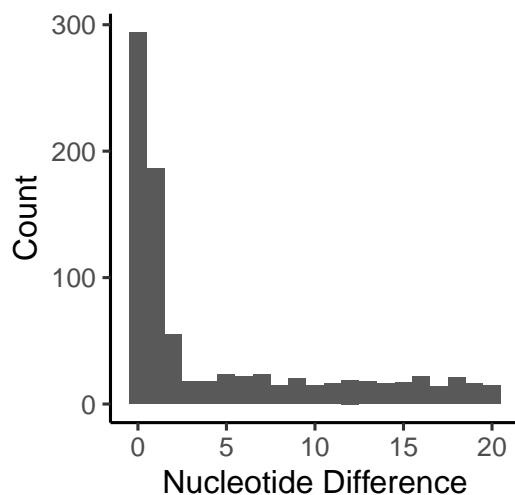
### IGHV3-9\*01

1962 sequences assigned  
739 (37.7%) exact matches, in which:  
719 unique CDR3  
7 unique J



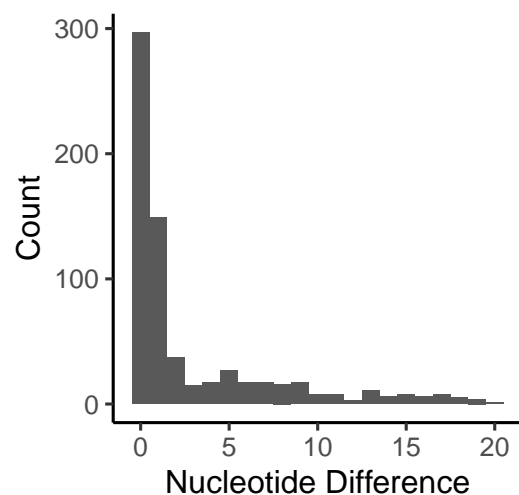
### IGHV3-15\*01

1032 sequences assigned  
294 (28.5%) exact matches, in which:  
285 unique CDR3  
6 unique J



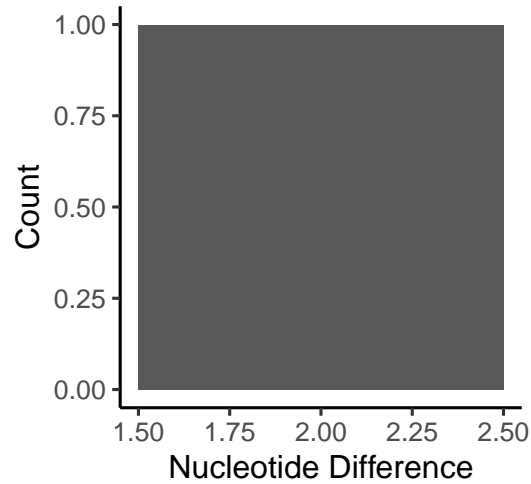
### IGHV3-21\*01\_G278C

728 sequences assigned  
297 (40.8%) exact matches, in which:  
287 unique CDR3  
7 unique J



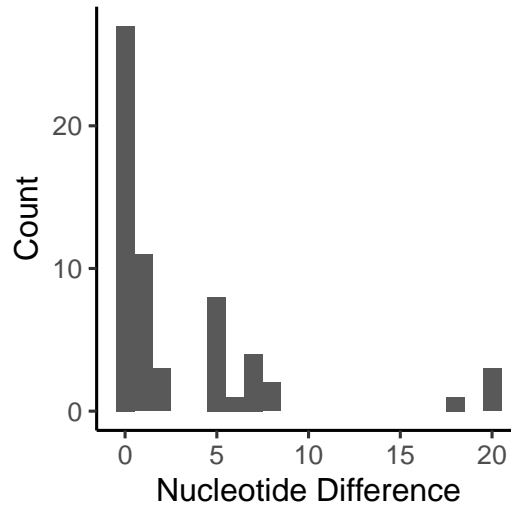
### IGHV3-30-3\*03

18 sequences assigned  
No exact matches.



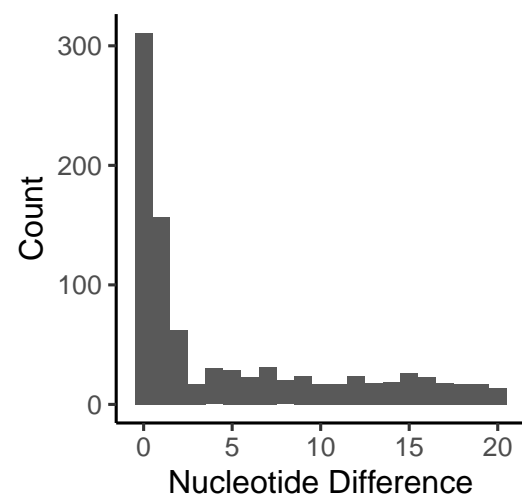
### IGHV3-43\*01

61 sequences assigned  
27 (44.3%) exact matches, in which:  
26 unique CDR3  
5 unique J



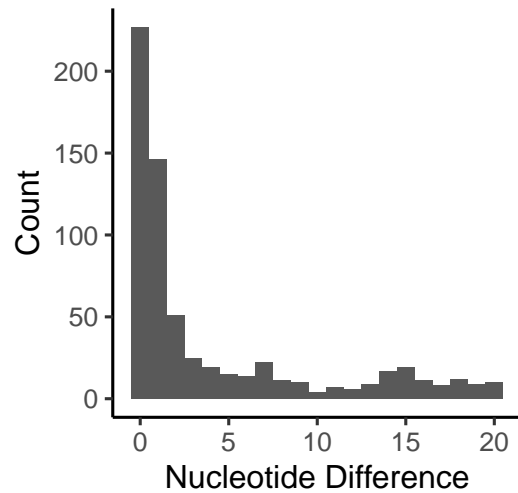
### IGHV3-48\*01

1073 sequences assigned  
311 (29%) exact matches, in which:  
305 unique CDR3  
7 unique J



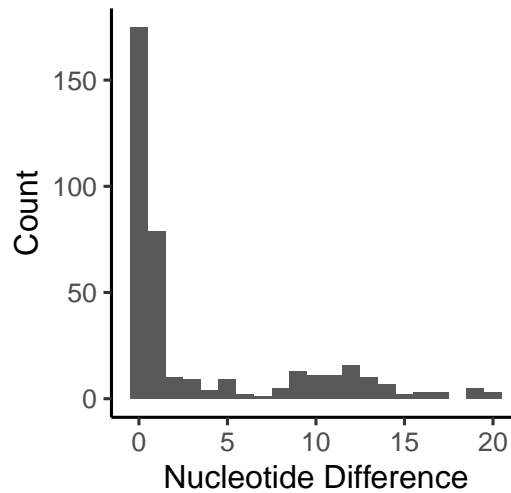
### IGHV3-33\*01

774 sequences assigned  
227 (29.3%) exact matches, in which:  
215 unique CDR3  
6 unique J



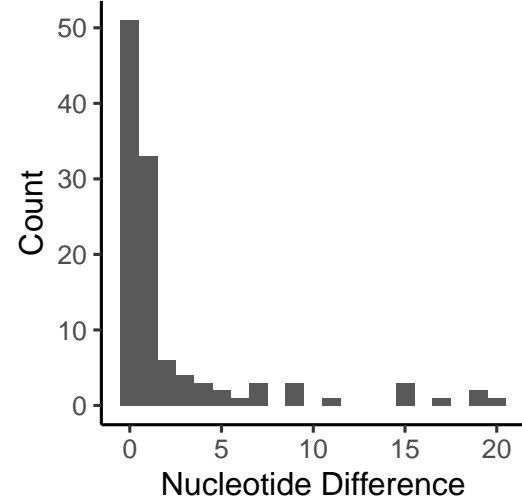
### IGHV3-43\*02

413 sequences assigned  
175 (42.4%) exact matches, in which:  
166 unique CDR3  
6 unique J



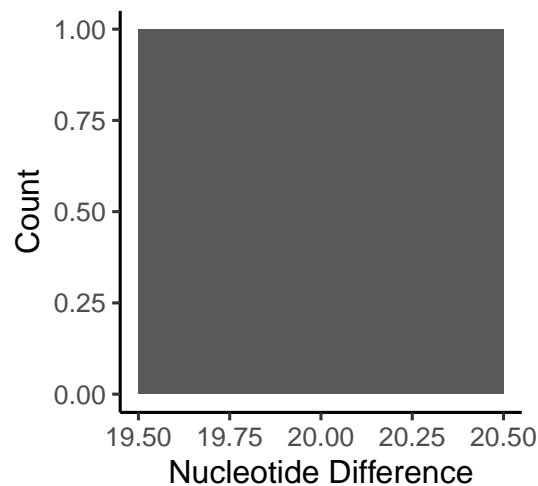
### IGHV3-49\*03

138 sequences assigned  
51 (37%) exact matches, in which:  
51 unique CDR3  
5 unique J



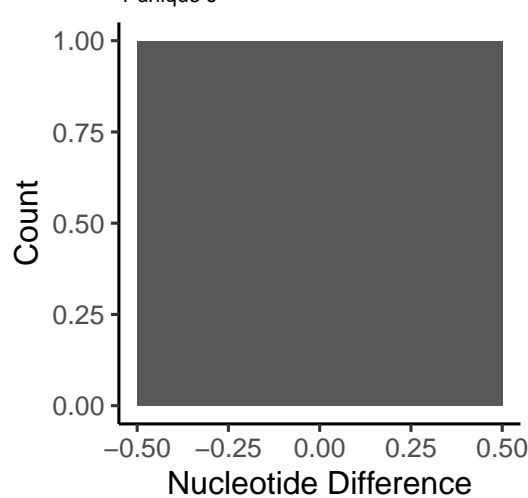
### IGHV3-38-3\*01

1 sequences assigned  
No exact matches.



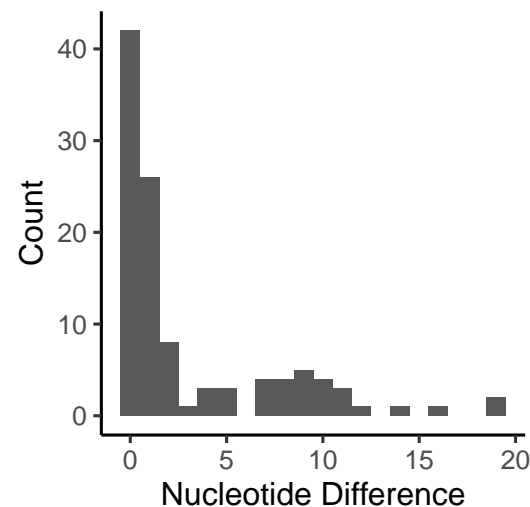
### IGHV3-47\*02

2 sequences assigned  
1 (50%) exact matches, in which:  
1 unique CDR3  
1 unique J



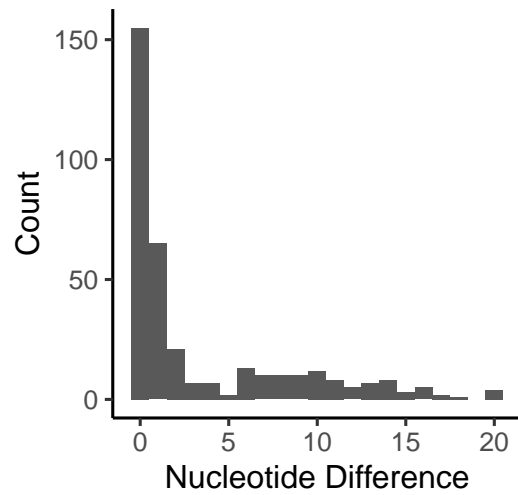
### IGHV3-49\*05

110 sequences assigned  
42 (38.2%) exact matches, in which:  
40 unique CDR3  
5 unique J



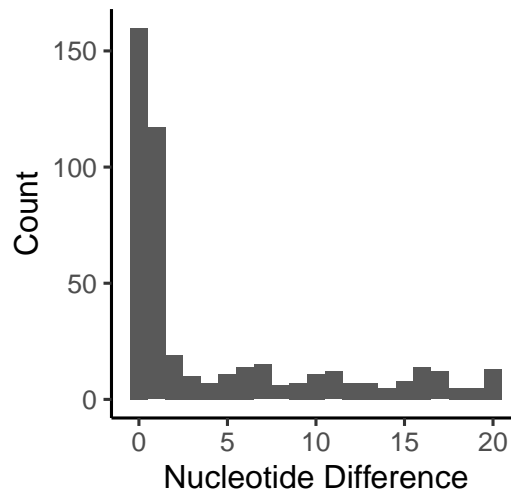
### IGHV3-53\*01

390 sequences assigned  
155 (39.7%) exact matches, in which:  
147 unique CDR3  
6 unique J



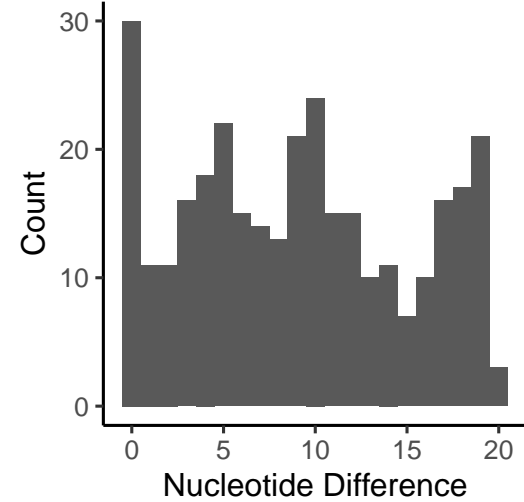
### IGHV3-66\*01

516 sequences assigned  
160 (31%) exact matches, in which:  
154 unique CDR3  
7 unique J



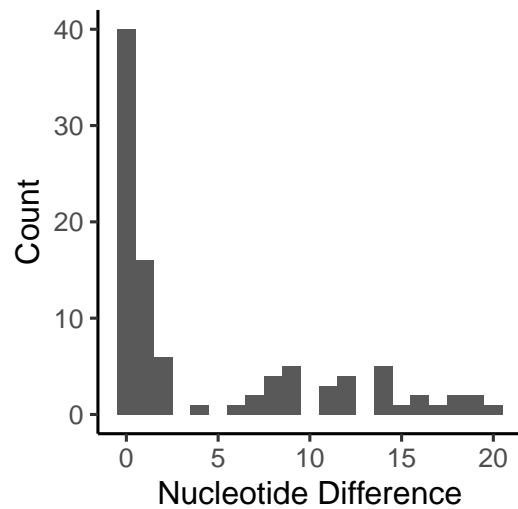
### IGHV3-72\*01

425 sequences assigned  
30 (7.1%) exact matches, in which:  
29 unique CDR3  
5 unique J



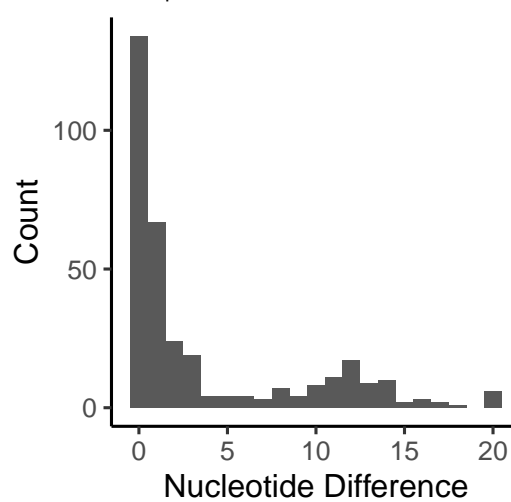
### IGHV3-53\*02

107 sequences assigned  
40 (37.4%) exact matches, in which:  
40 unique CDR3  
7 unique J



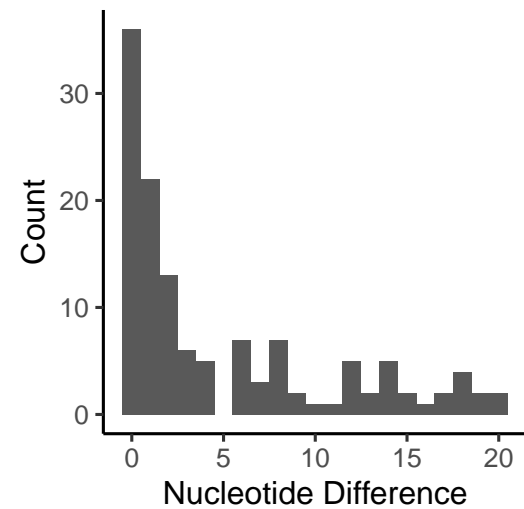
### IGHV3-66\*02

391 sequences assigned  
134 (34.3%) exact matches, in which:  
129 unique CDR3  
5 unique J



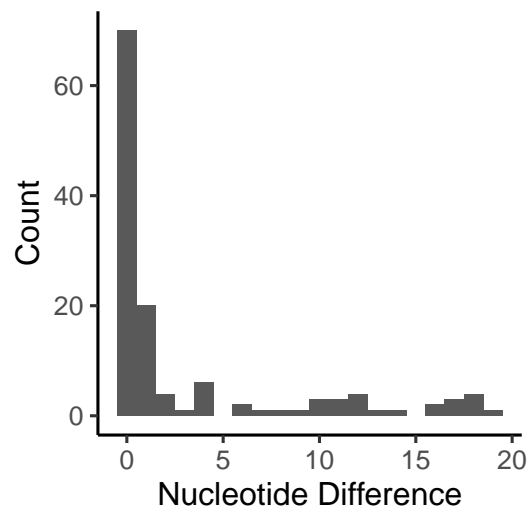
### IGHV3-73\*01

158 sequences assigned  
36 (22.8%) exact matches, in which:  
36 unique CDR3  
6 unique J



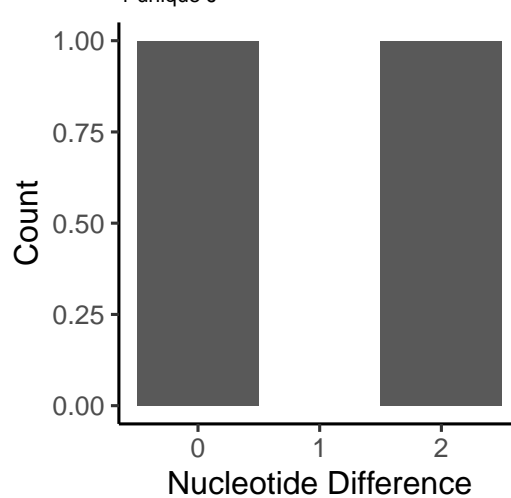
### IGHV3-64\*01

145 sequences assigned  
70 (48.3%) exact matches, in which:  
69 unique CDR3  
6 unique J



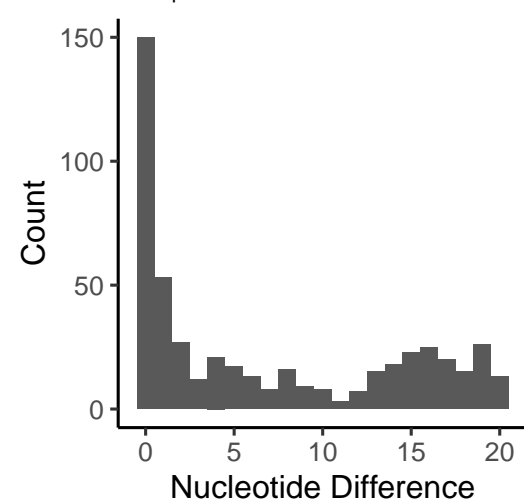
### IGHV3-69-1\*02

6 sequences assigned  
1 (16.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



### IGHV3-74\*01

614 sequences assigned  
150 (24.4%) exact matches, in which:  
141 unique CDR3  
7 unique J





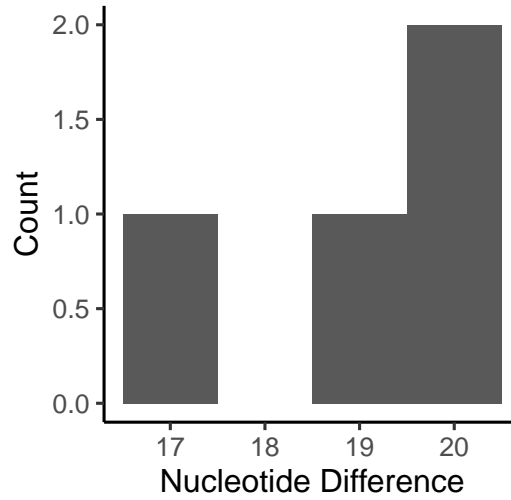
### IGHV3-64D\*06

1 sequences assigned  
1 (100%) exact matches, in which:  
1 unique CDR3  
1 unique J



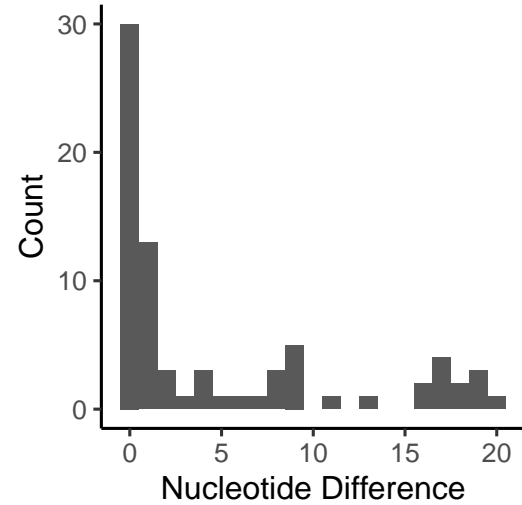
### IGHV4-28\*03

6 sequences assigned  
No exact matches.



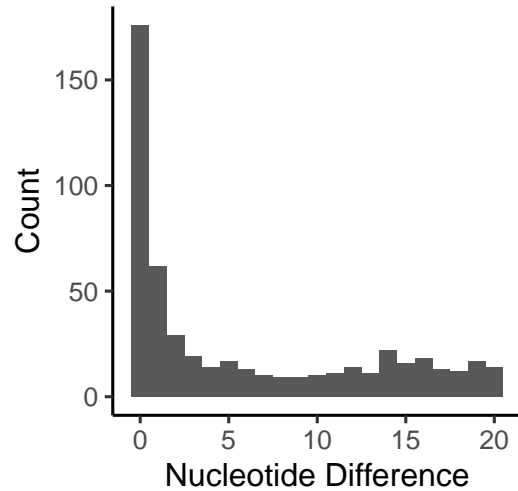
### IGHV4-30-2\*01

83 sequences assigned  
30 (36.1%) exact matches, in which:  
30 unique CDR3  
5 unique J



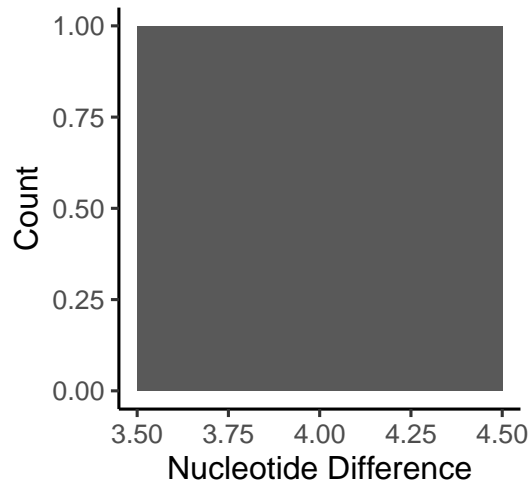
### IGHV4-4\*07

627 sequences assigned  
176 (28.1%) exact matches, in which:  
173 unique CDR3  
7 unique J



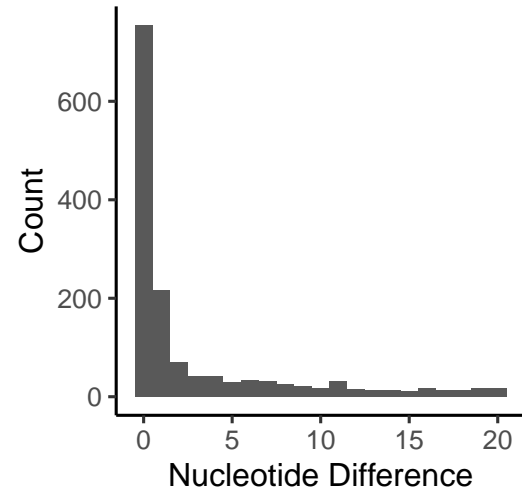
### IGHV4-28\*04

1 sequences assigned  
No exact matches.



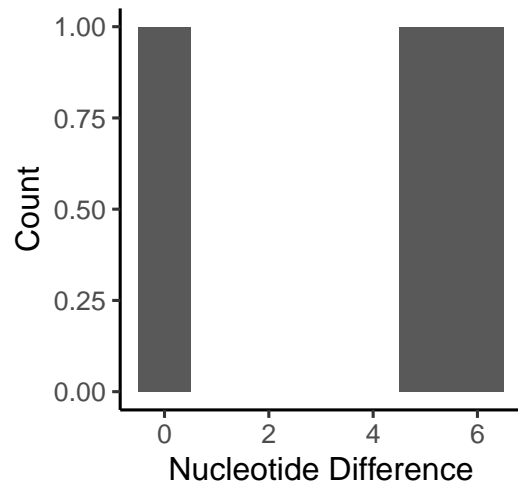
### IGHV4-34\*01

1649 sequences assigned  
755 (45.8%) exact matches, in which:  
731 unique CDR3  
7 unique J



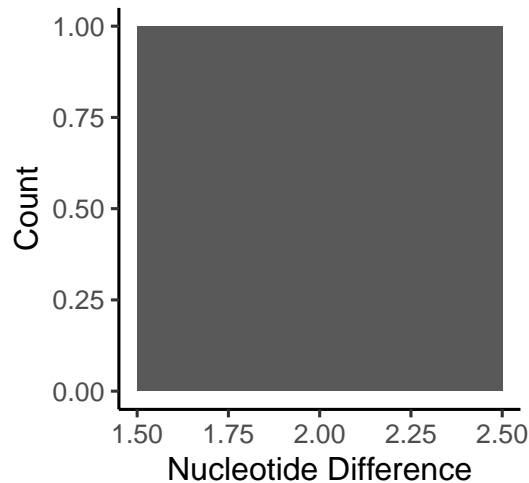
### IGHV4-28\*01

3 sequences assigned  
1 (33.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



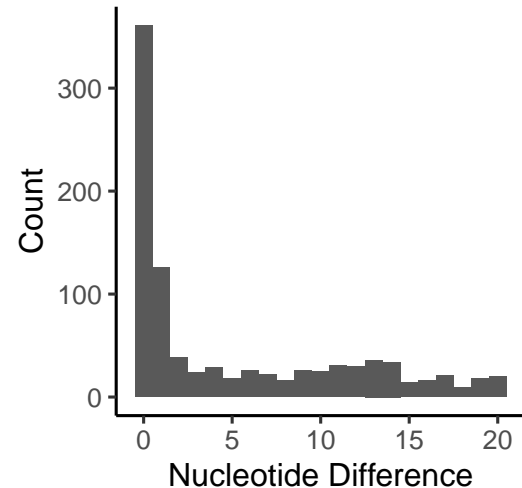
### IGHV4-28\*06

1 sequences assigned  
No exact matches.



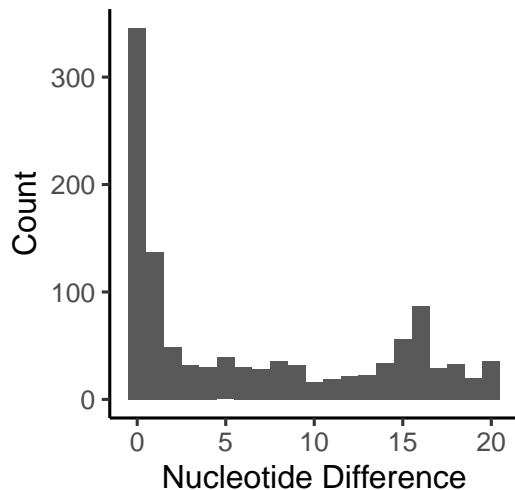
### IGHV4-39\*01

1144 sequences assigned  
361 (31.6%) exact matches, in which:  
351 unique CDR3  
7 unique J



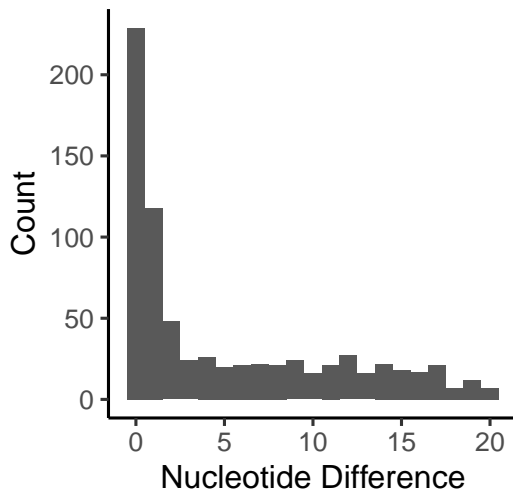
### IGHV4–39\*07

1437 sequences assigned  
346 (24.1%) exact matches, in which:  
337 unique CDR3  
7 unique J



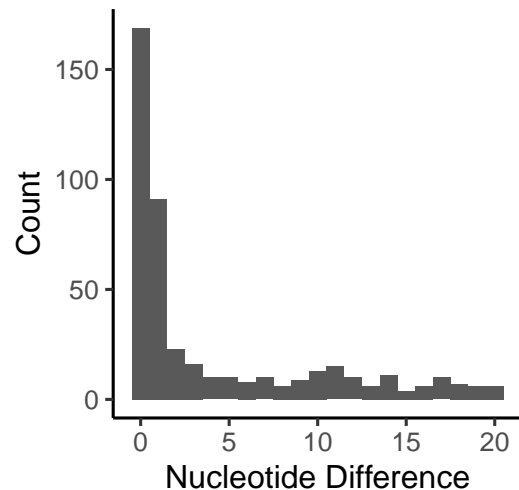
### IGHV4–61\*02

805 sequences assigned  
229 (28.4%) exact matches, in which:  
226 unique CDR3  
7 unique J



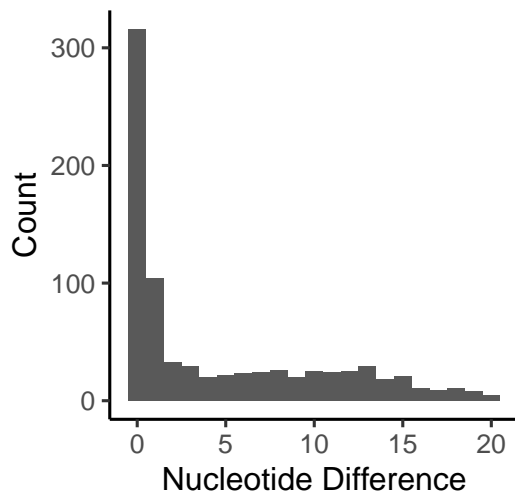
### IGHV5–51\*01

509 sequences assigned  
169 (33.2%) exact matches, in which:  
165 unique CDR3  
6 unique J



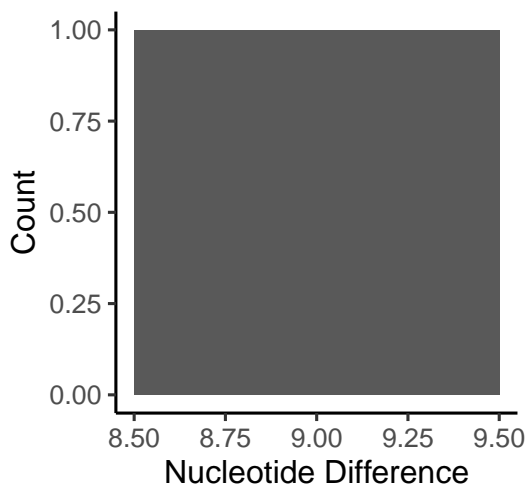
### IGHV4–59\*01

906 sequences assigned  
316 (34.9%) exact matches, in which:  
305 unique CDR3  
7 unique J



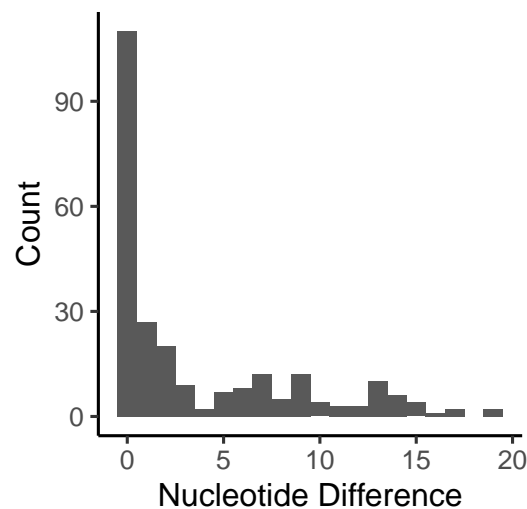
### IGHV1/OR15–1\*04

1 sequences assigned  
No exact matches.



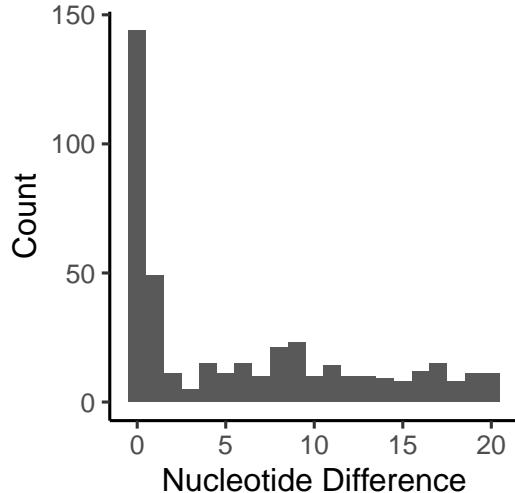
### IGHV5–51\*03

274 sequences assigned  
110 (40.1%) exact matches, in which:  
108 unique CDR3  
5 unique J



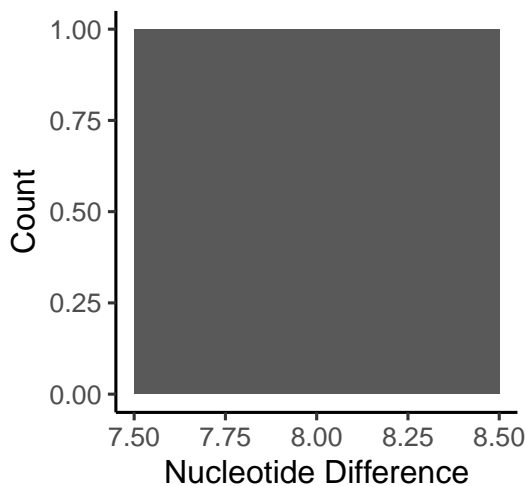
### IGHV4–59\*08

500 sequences assigned  
144 (28.8%) exact matches, in which:  
144 unique CDR3  
6 unique J



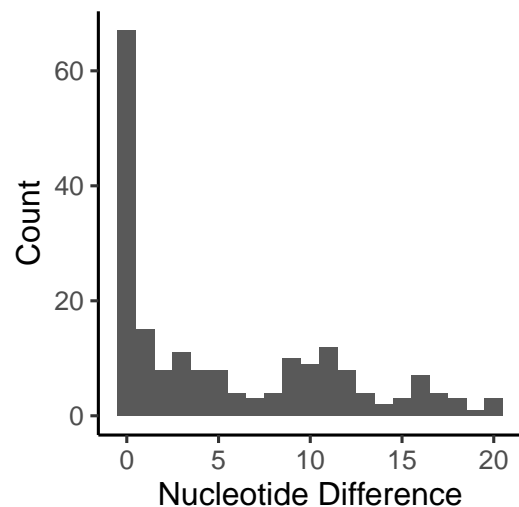
### IGHV1/OR15–2\*01

1 sequences assigned  
No exact matches.



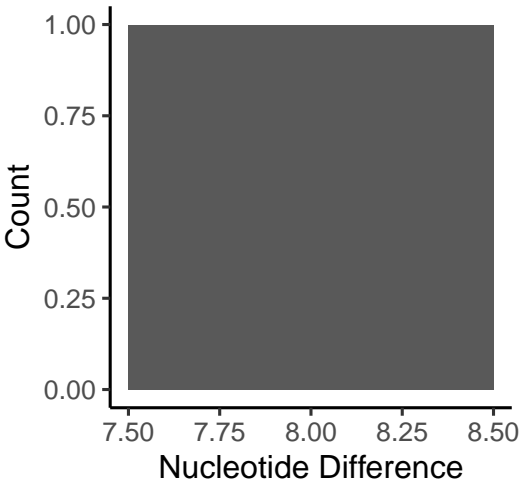
### IGHV6–1\*01

218 sequences assigned  
67 (30.7%) exact matches, in which:  
65 unique CDR3  
7 unique J



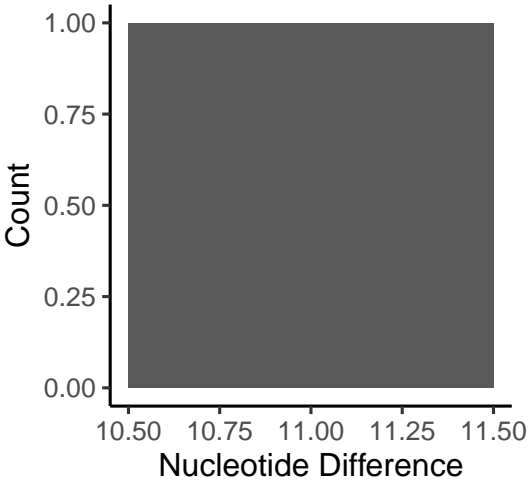
# IGHV3/OR16-8\*01

1 sequences assigned  
No exact matches.

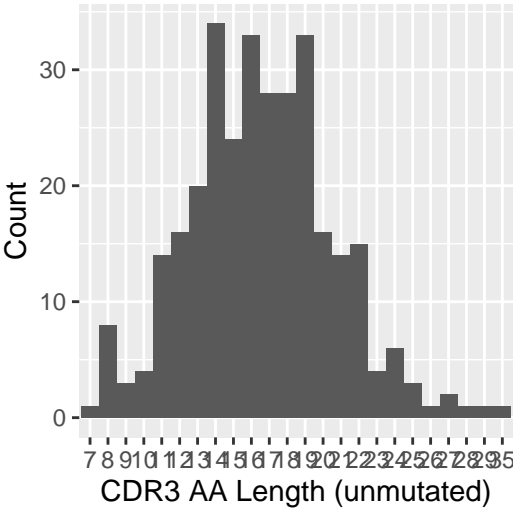


# IGHV3/OR16-9\*01

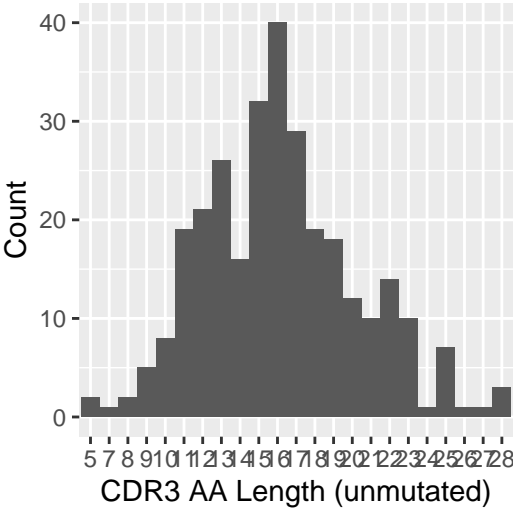
1 sequences assigned  
No exact matches.



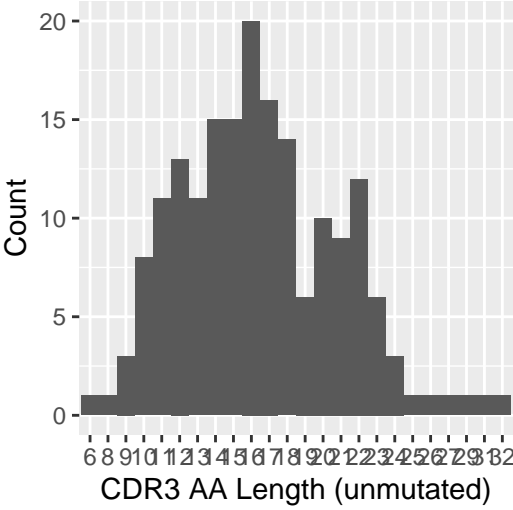
IGHV1-69\*04\_C184T



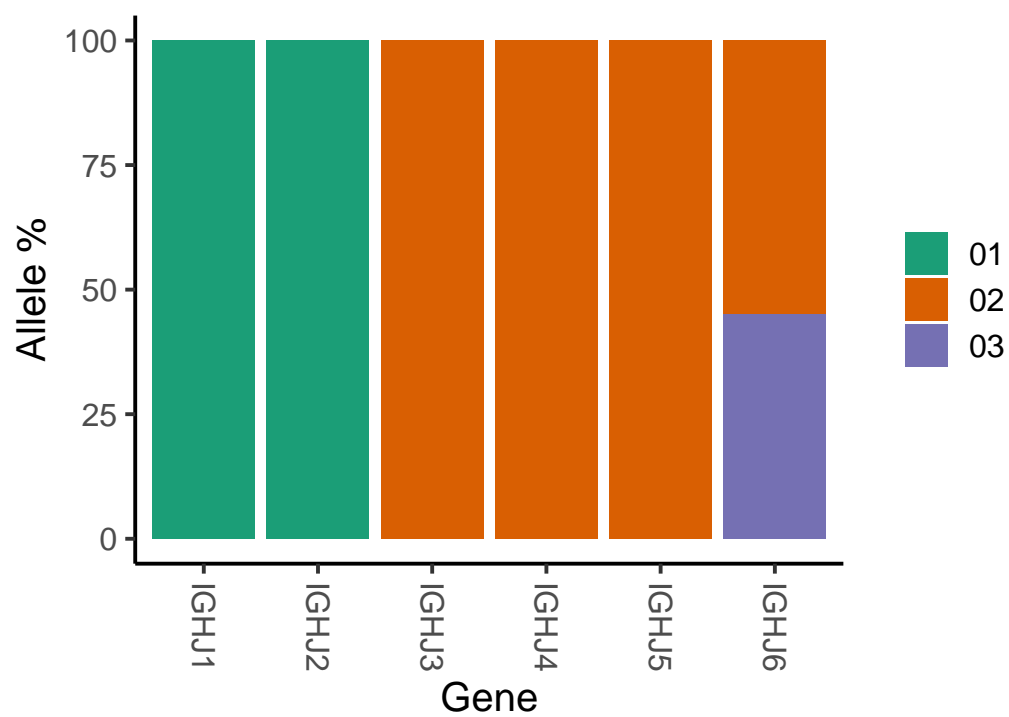
IGHV3-21\*01\_G278C



IGHV1-69\*08\_C191T



Allele Usage



## Sequence Count byIGHJ6 allele usage

