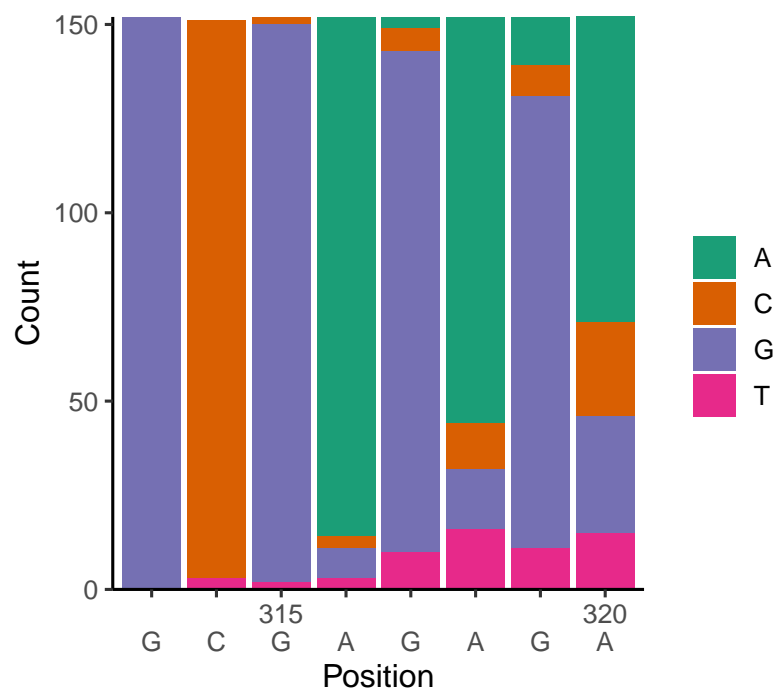
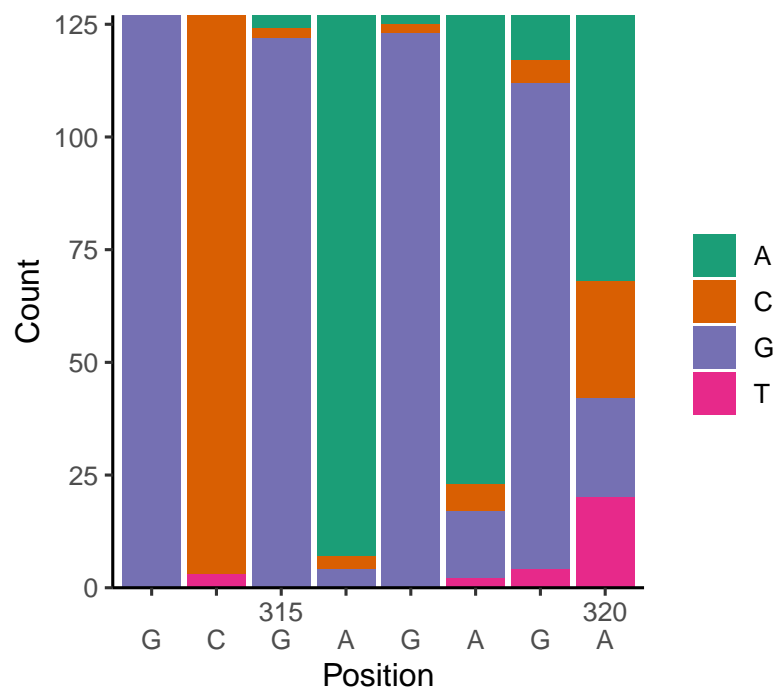


Gene IGHV1-69\*08\_C191T



Gene IGHV4-61\*02\_A234G



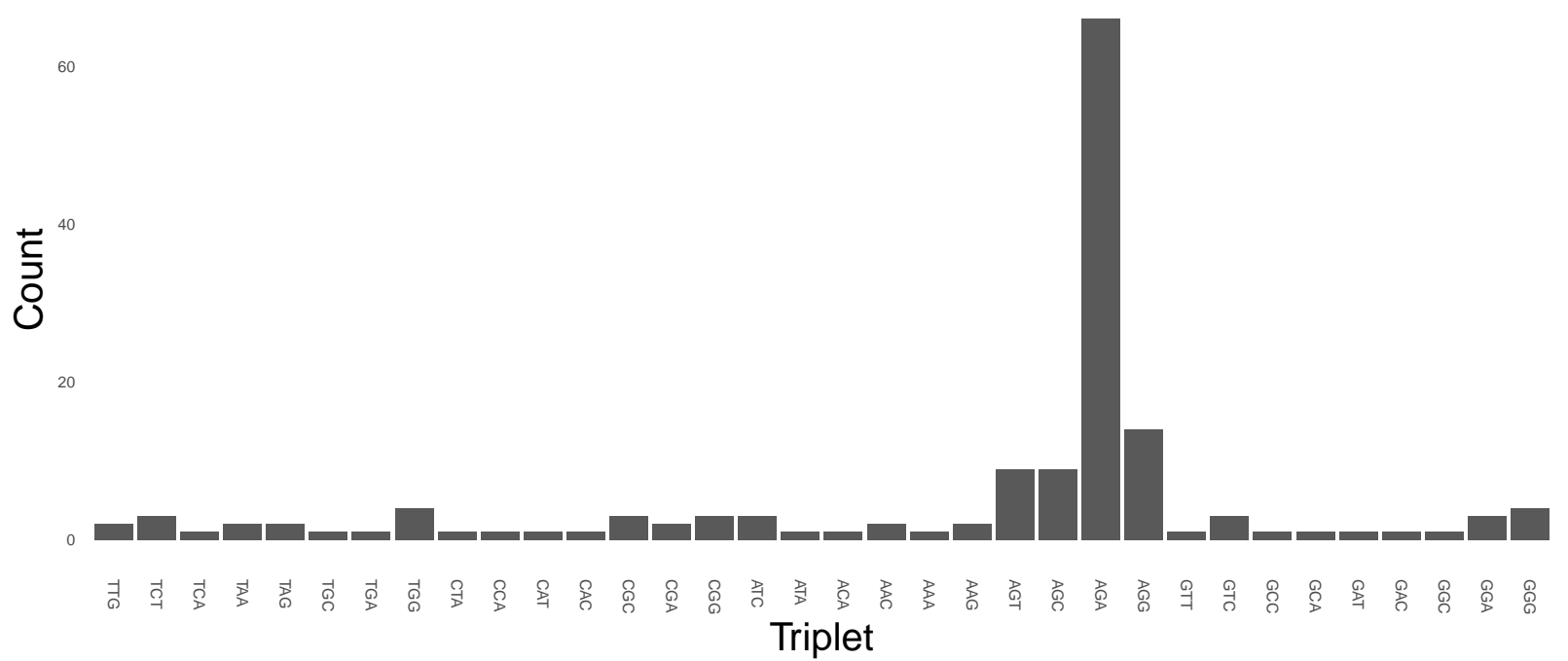
Gene IGHV1-69\*08\_C191T



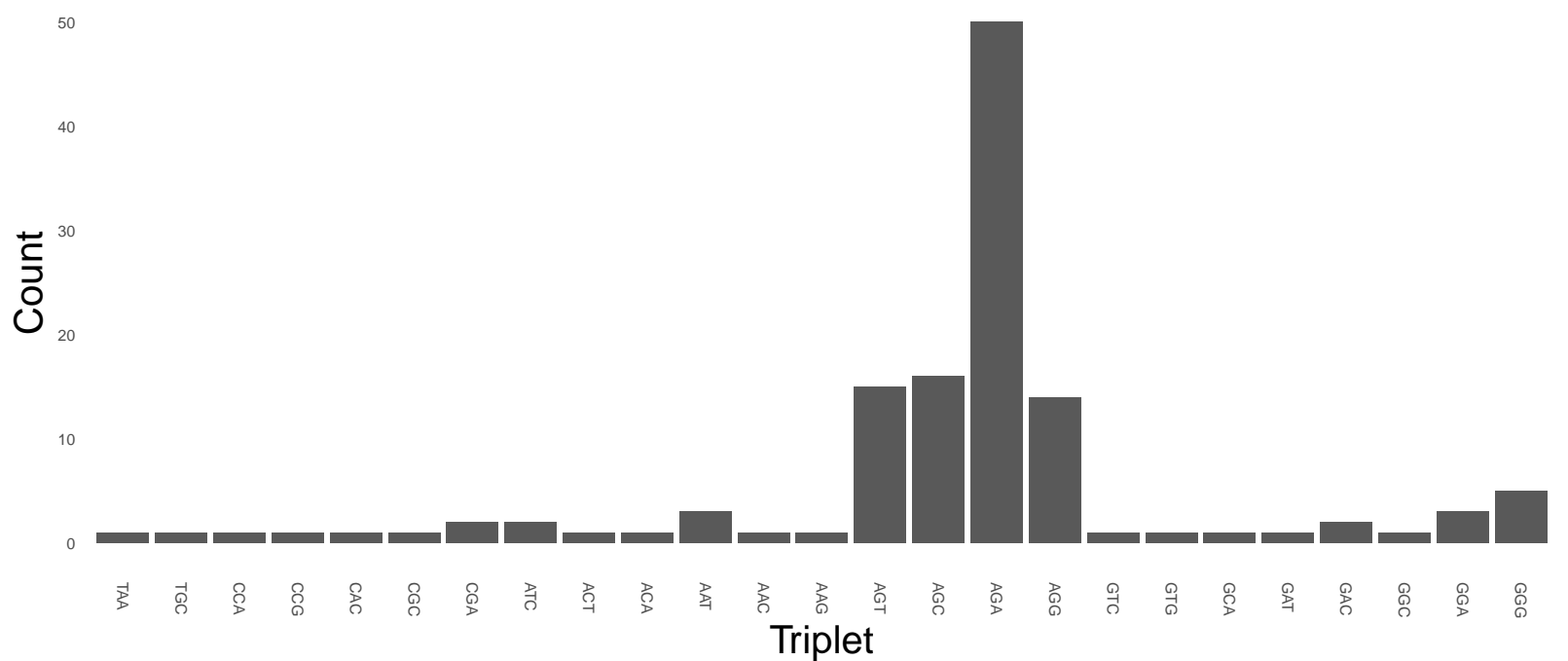
Gene IGHV4-61\*02\_A234G



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

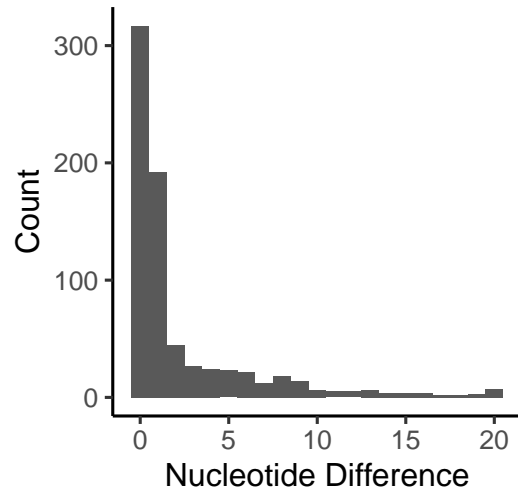


IGHV4-61\*02\_A234G- Final 3 nucleotides as a triplet



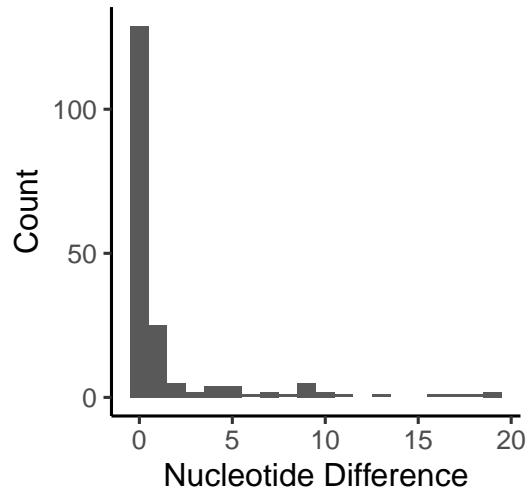
### IGHV1-2\*02

770 sequences assigned  
317 (41.2%) exact matches, in which:  
313 unique CDR3  
7 unique J



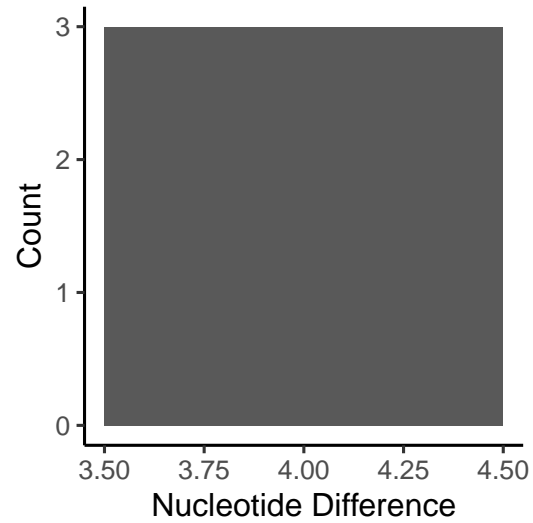
### IGHV1-8\*01

191 sequences assigned  
129 (67.5%) exact matches, in which:  
126 unique CDR3  
7 unique J



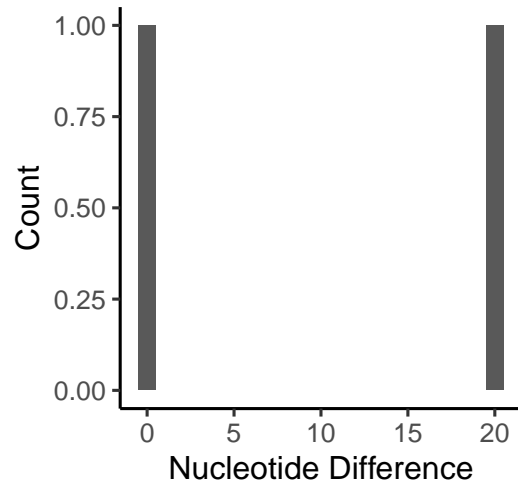
### IGHV1-45\*02

3 sequences assigned  
No exact matches.



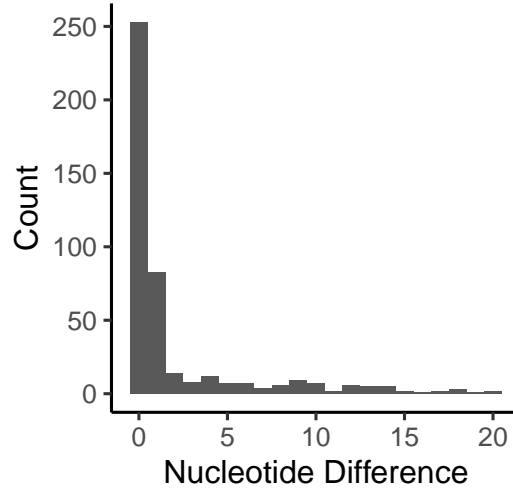
### IGHV1-3\*01

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



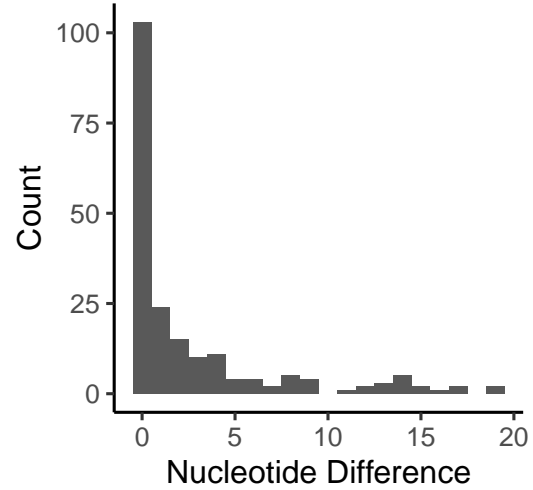
### IGHV1-18\*01

449 sequences assigned  
253 (56.3%) exact matches, in which:  
247 unique CDR3  
7 unique J



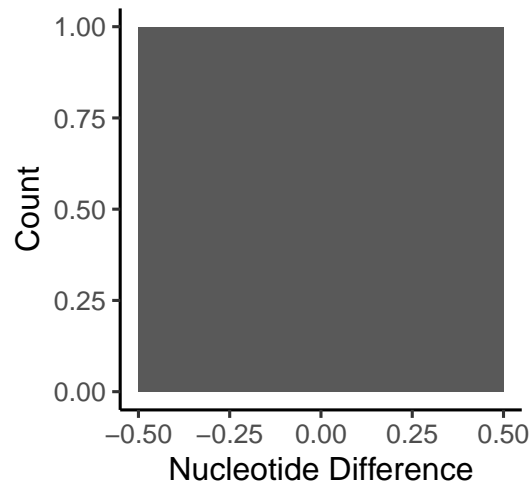
### IGHV1-46\*03

206 sequences assigned  
103 (50%) exact matches, in which:  
102 unique CDR3  
7 unique J



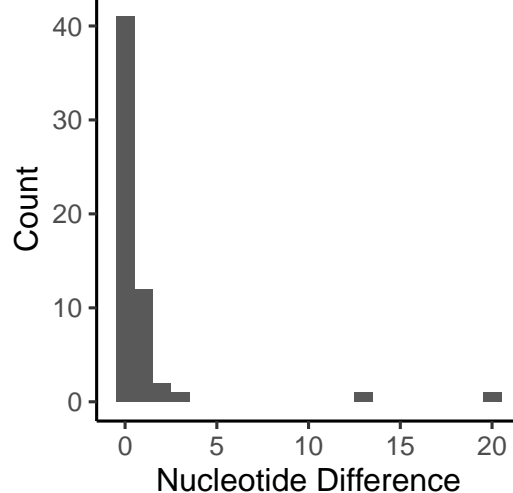
### IGHV1-3\*02

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



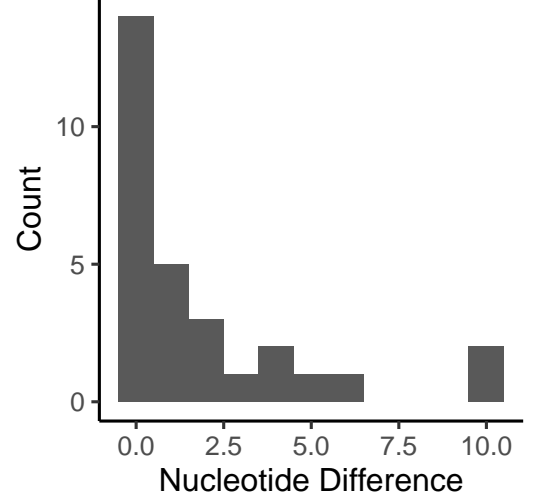
### IGHV1-24\*01

62 sequences assigned  
41 (66.1%) exact matches, in which:  
40 unique CDR3  
7 unique J



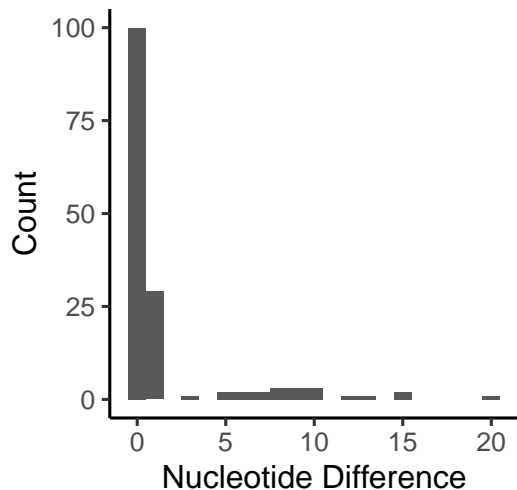
### IGHV1-58\*02

33 sequences assigned  
14 (42.4%) exact matches, in which:  
13 unique CDR3  
5 unique J



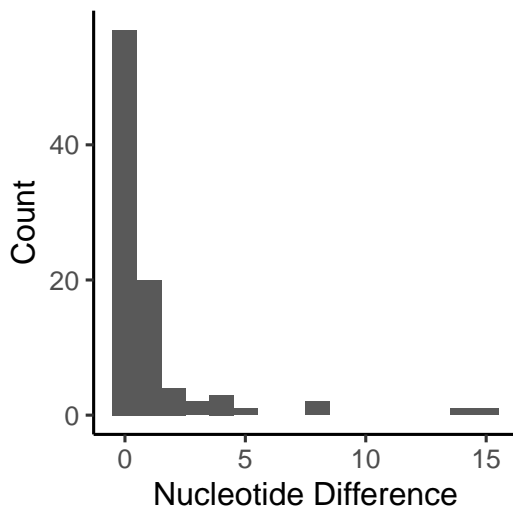
### IGHV1-69\*08\_C191T

152 sequences assigned  
100 (65.8%) exact matches, in which:  
94 unique CDR3  
5 unique J



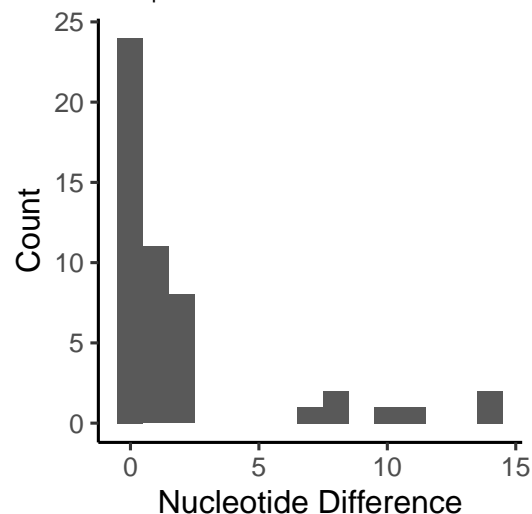
### IGHV2-26\*01

92 sequences assigned  
57 (62%) exact matches, in which:  
57 unique CDR3  
6 unique J



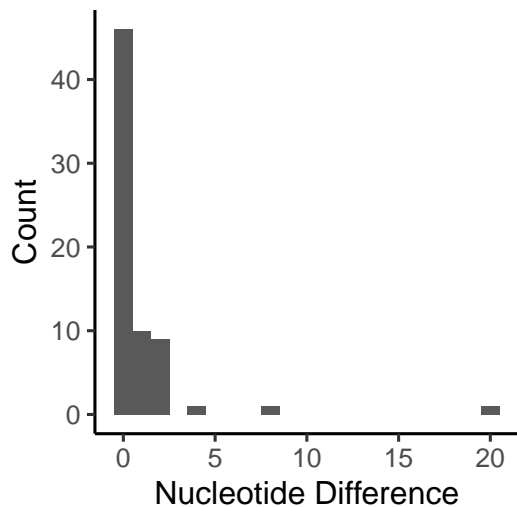
### IGHV3-7\*04

50 sequences assigned  
24 (48%) exact matches, in which:  
24 unique CDR3  
6 unique J



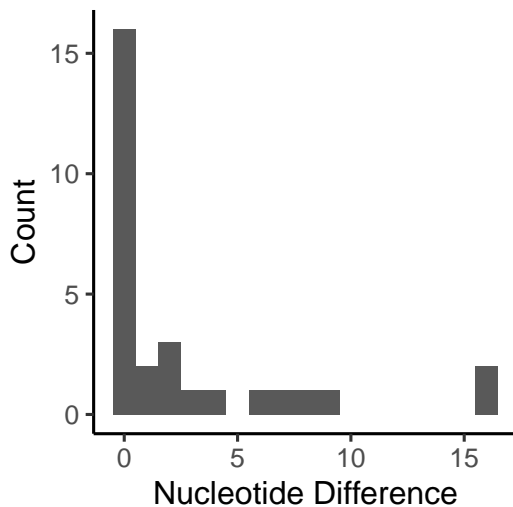
### IGHV2-5\*01

68 sequences assigned  
46 (67.6%) exact matches, in which:  
46 unique CDR3  
5 unique J



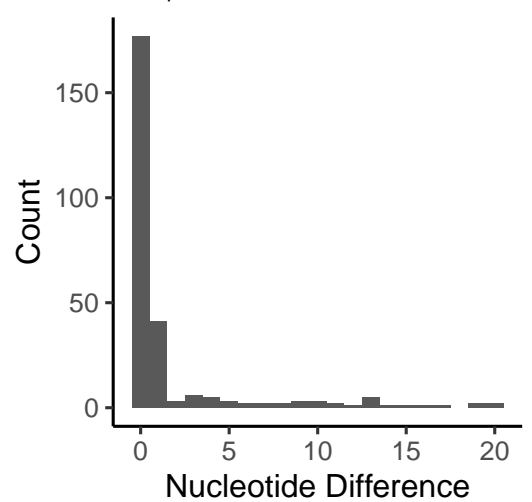
### IGHV2-70\*01

29 sequences assigned  
16 (55.2%) exact matches, in which:  
16 unique CDR3  
4 unique J



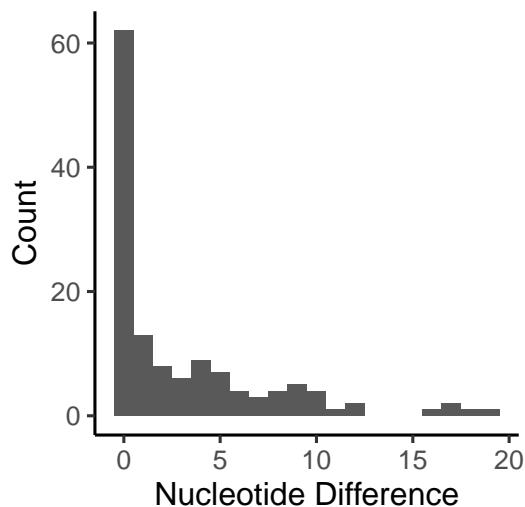
### IGHV3-9\*01

278 sequences assigned  
177 (63.7%) exact matches, in which:  
171 unique CDR3  
7 unique J



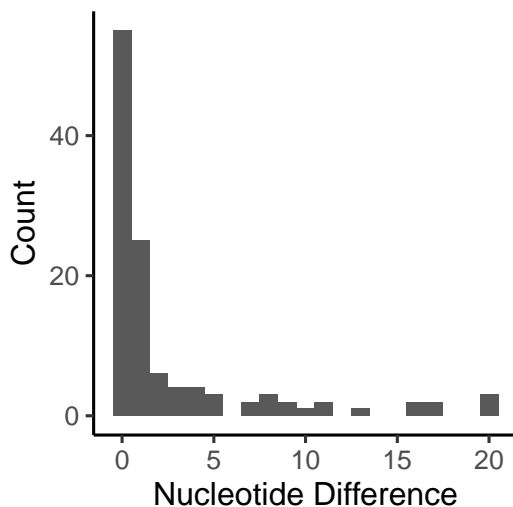
### IGHV2-5\*02

136 sequences assigned  
62 (45.6%) exact matches, in which:  
62 unique CDR3  
5 unique J



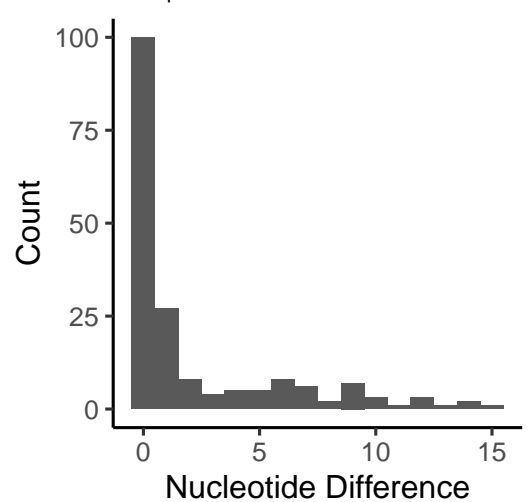
### IGHV3-7\*01

164 sequences assigned  
55 (33.5%) exact matches, in which:  
53 unique CDR3  
4 unique J



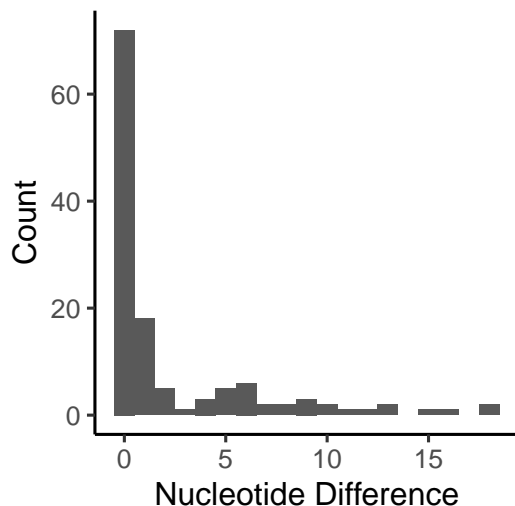
### IGHV3-11\*01

200 sequences assigned  
100 (50%) exact matches, in which:  
96 unique CDR3  
6 unique J



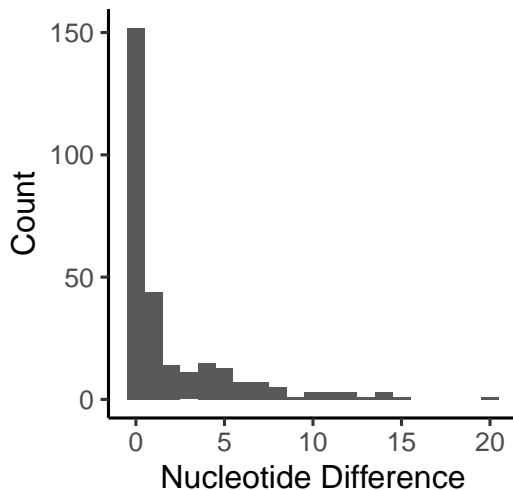
### IGHV3-11\*06

127 sequences assigned  
72 (56.7%) exact matches, in which:  
71 unique CDR3  
5 unique J



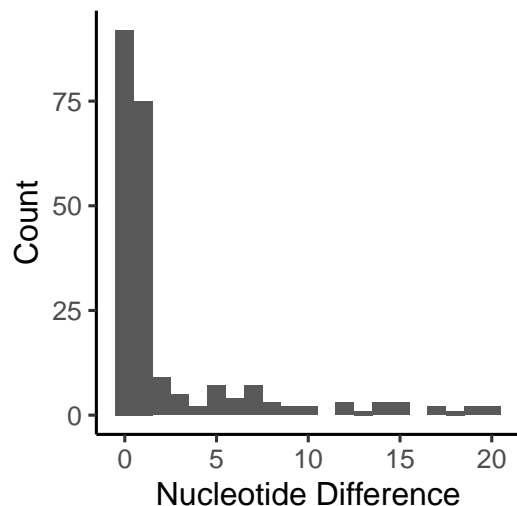
### IGHV3-15\*01

297 sequences assigned  
152 (51.2%) exact matches, in which:  
148 unique CDR3  
6 unique J



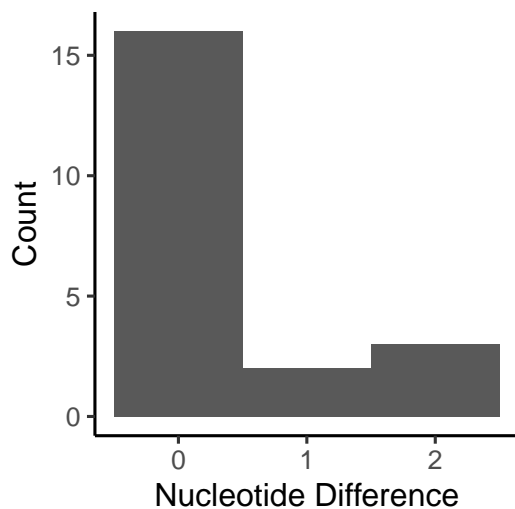
### IGHV3-30-3\*01

239 sequences assigned  
92 (38.5%) exact matches, in which:  
92 unique CDR3  
5 unique J



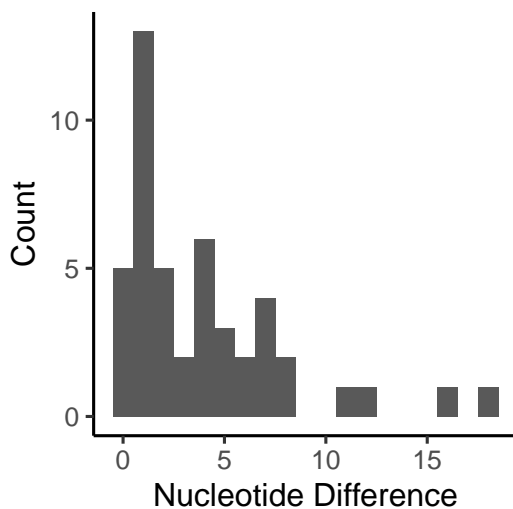
### IGHV3-13\*01

21 sequences assigned  
16 (76.2%) exact matches, in which:  
16 unique CDR3  
4 unique J



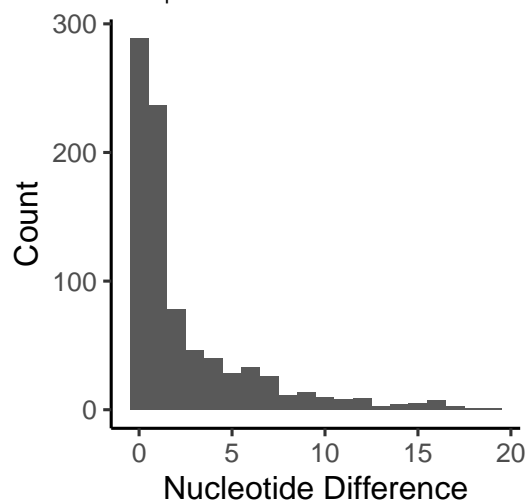
### IGHV3-20\*01

46 sequences assigned  
5 (10.9%) exact matches, in which:  
4 unique CDR3  
4 unique J



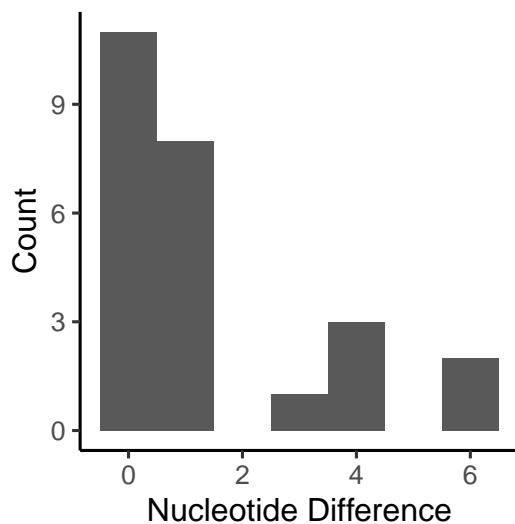
### IGHV3-33\*01

870 sequences assigned  
289 (33.2%) exact matches, in which:  
281 unique CDR3  
6 unique J



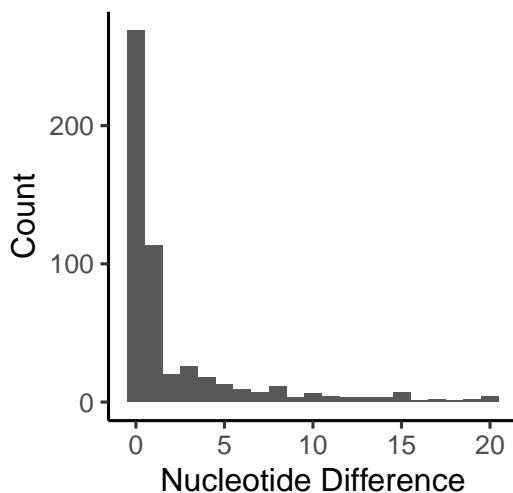
### IGHV3-13\*05

25 sequences assigned  
11 (44%) exact matches, in which:  
11 unique CDR3  
4 unique J



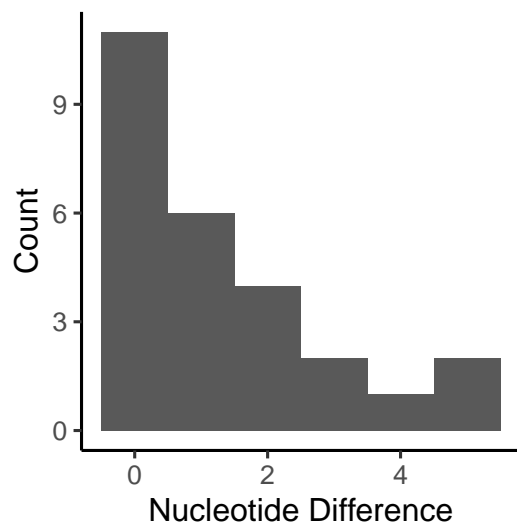
### IGHV3-21\*01

538 sequences assigned  
269 (50%) exact matches, in which:  
266 unique CDR3  
7 unique J



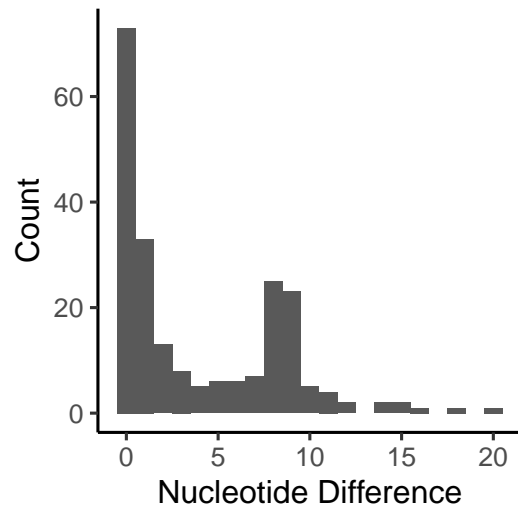
### IGHV3-43\*01

27 sequences assigned  
11 (40.7%) exact matches, in which:  
10 unique CDR3  
3 unique J



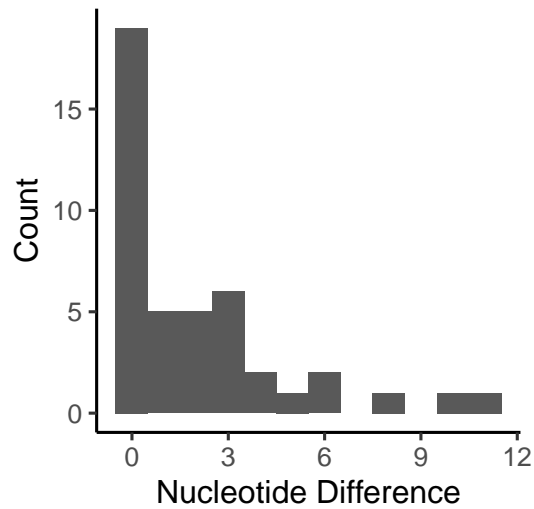
### IGHV3-48\*01

222 sequences assigned  
73 (32.9%) exact matches, in which:  
72 unique CDR3  
7 unique J



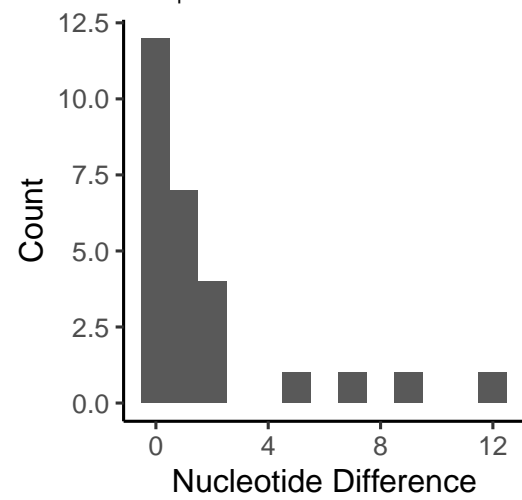
### IGHV3-64\*01

43 sequences assigned  
19 (44.2%) exact matches, in which:  
18 unique CDR3  
3 unique J



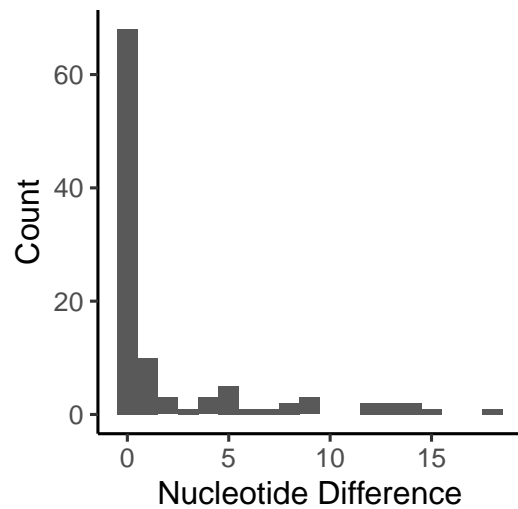
### IGHV3-73\*01

28 sequences assigned  
12 (42.9%) exact matches, in which:  
12 unique CDR3  
4 unique J



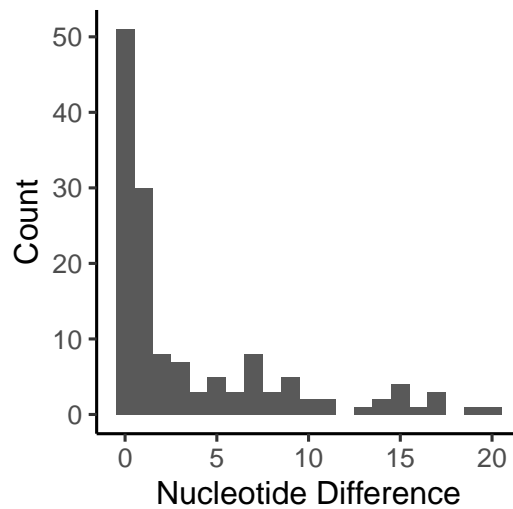
### IGHV3-49\*03

106 sequences assigned  
68 (64.2%) exact matches, in which:  
67 unique CDR3  
6 unique J



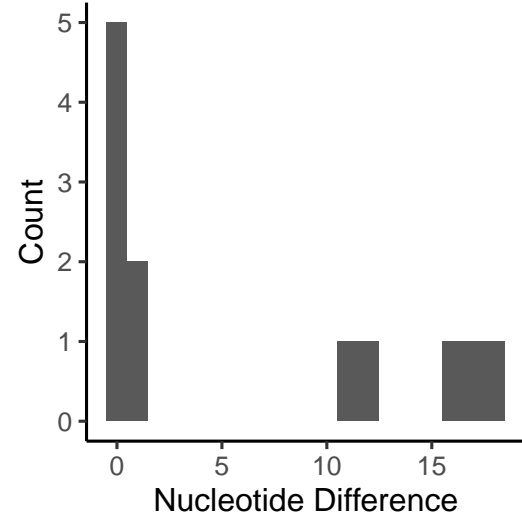
### IGHV3-66\*02

141 sequences assigned  
51 (36.2%) exact matches, in which:  
50 unique CDR3  
5 unique J



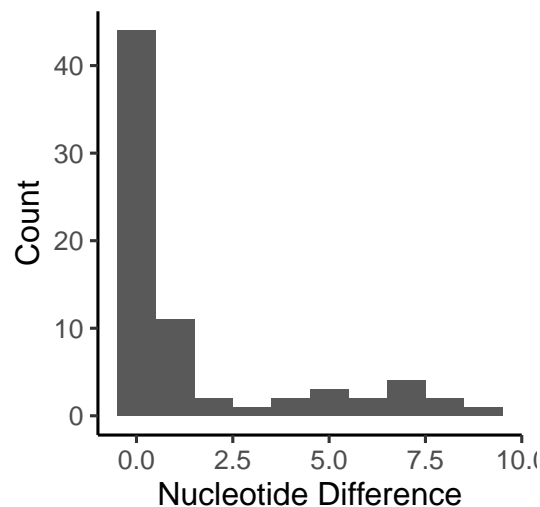
### IGHV3-73\*02

15 sequences assigned  
5 (33.3%) exact matches, in which:  
5 unique CDR3  
2 unique J



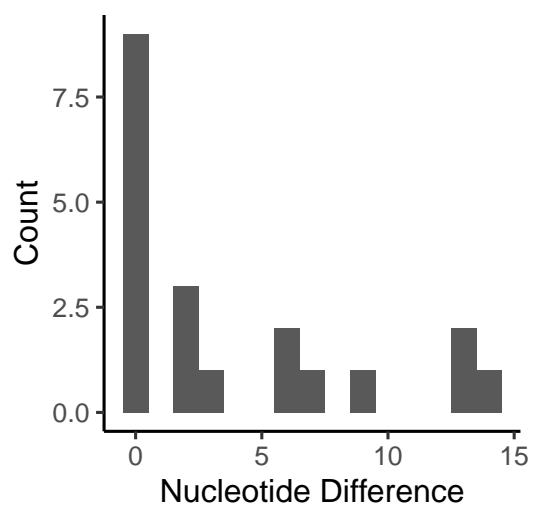
### IGHV3-53\*02

75 sequences assigned  
44 (58.7%) exact matches, in which:  
42 unique CDR3  
6 unique J



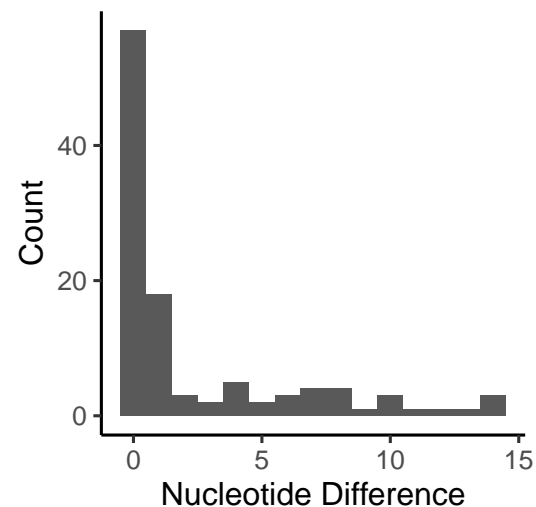
### IGHV3-72\*01

22 sequences assigned  
9 (40.9%) exact matches, in which:  
7 unique CDR3  
2 unique J



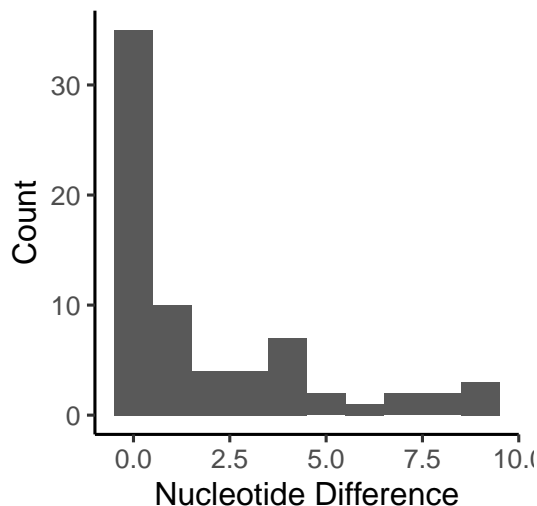
### IGHV3-74\*01

114 sequences assigned  
57 (50%) exact matches, in which:  
57 unique CDR3  
6 unique J



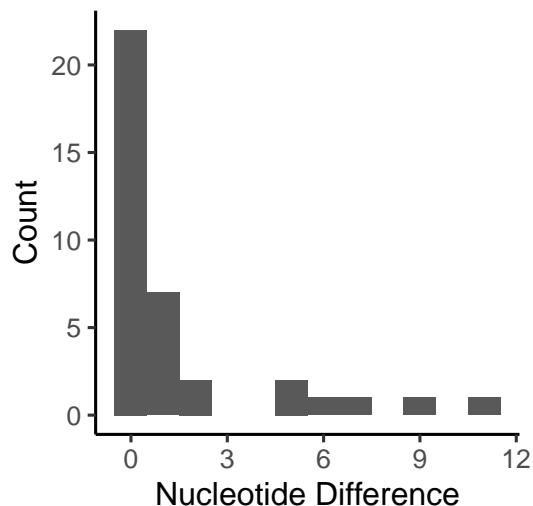
### IGHV3-64D\*06

70 sequences assigned  
35 (50%) exact matches, in which:  
34 unique CDR3  
4 unique J



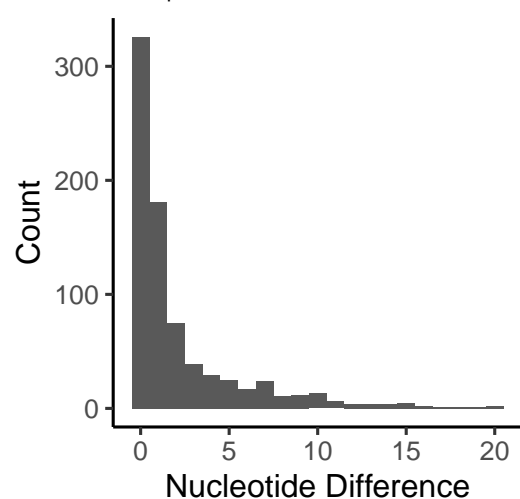
### IGHV4-30-4\*01

38 sequences assigned  
22 (57.9%) exact matches, in which:  
21 unique CDR3  
6 unique J



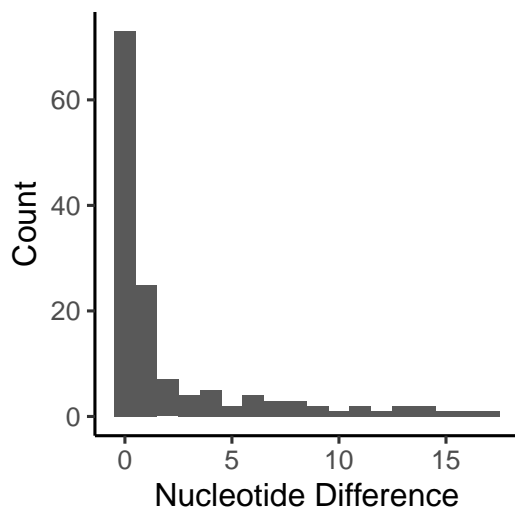
### IGHV4-34\*01

792 sequences assigned  
326 (41.2%) exact matches, in which:  
311 unique CDR3  
7 unique J



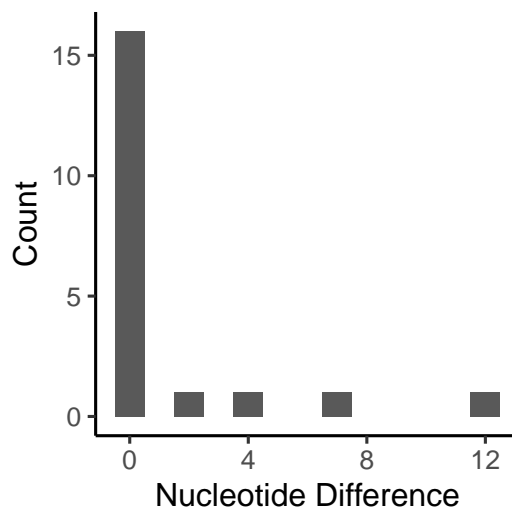
### IGHV4-4\*07

145 sequences assigned  
73 (50.3%) exact matches, in which:  
73 unique CDR3  
5 unique J



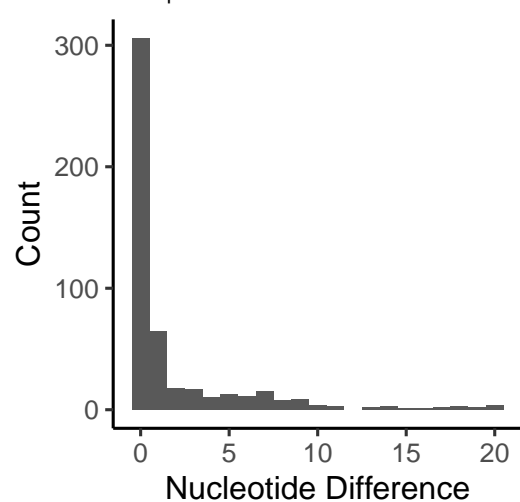
### IGHV4-30-2\*01

20 sequences assigned  
16 (80%) exact matches, in which:  
16 unique CDR3  
5 unique J



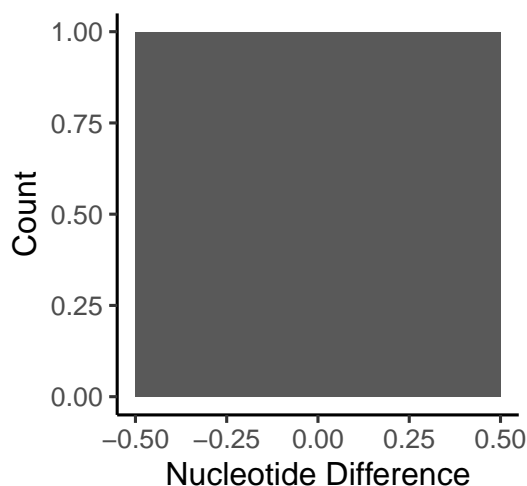
### IGHV4-39\*01

507 sequences assigned  
306 (60.4%) exact matches, in which:  
299 unique CDR3  
6 unique J



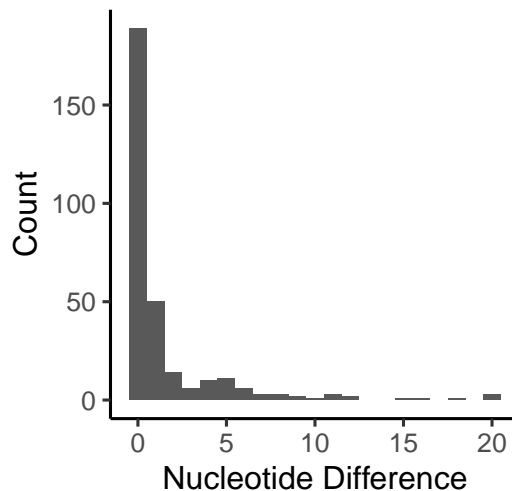
### IGHV4-28\*01

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



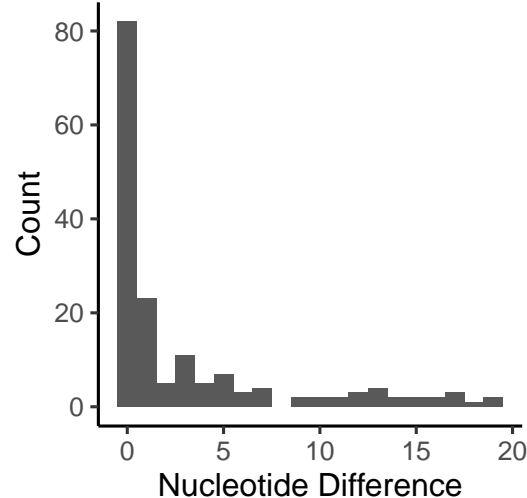
### IGHV4-31\*03

317 sequences assigned  
189 (59.6%) exact matches, in which:  
187 unique CDR3  
7 unique J



### IGHV4-59\*01

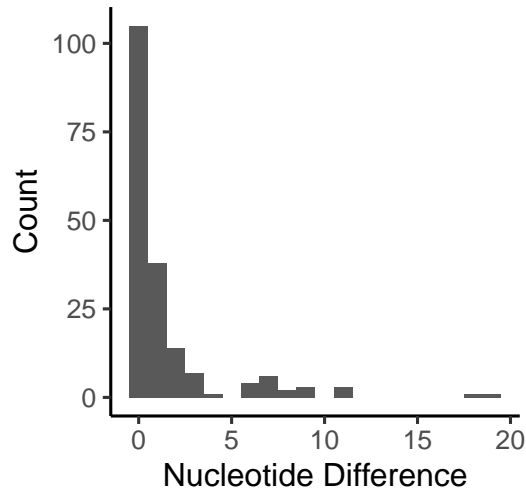
187 sequences assigned  
82 (43.9%) exact matches, in which:  
81 unique CDR3  
6 unique J





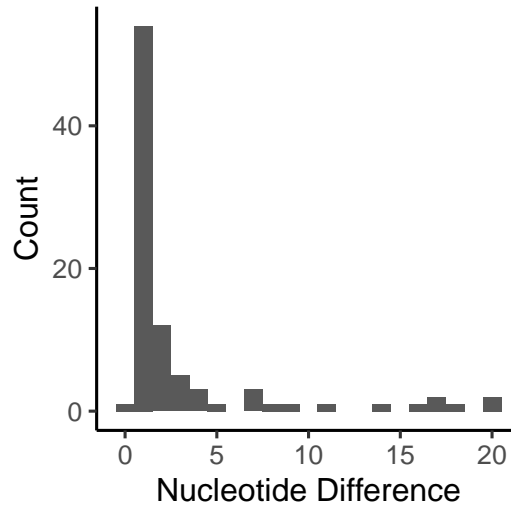
## IGHV4-61\*02

187 sequences assigned  
105 (56.1%) exact matches, in which:  
104 unique CDR3  
5 unique J



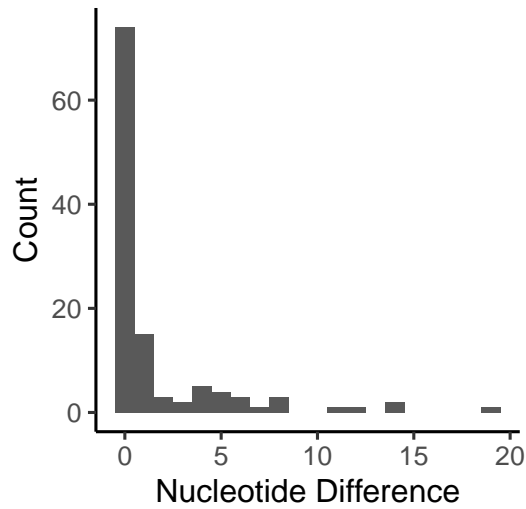
## IGHV5-51\*01

90 sequences assigned  
1 (1.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



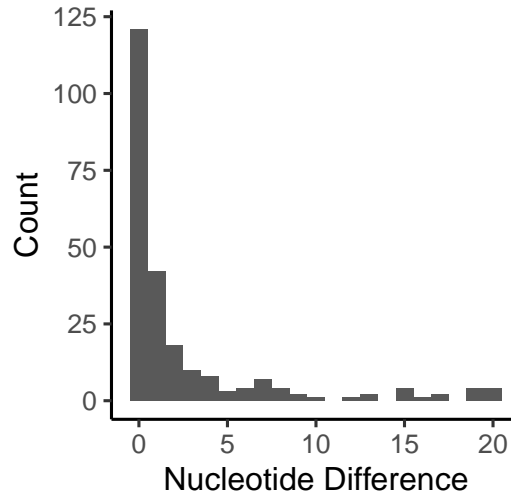
## IGHV4-61\*02\_A234G

127 sequences assigned  
74 (58.3%) exact matches, in which:  
74 unique CDR3  
5 unique J



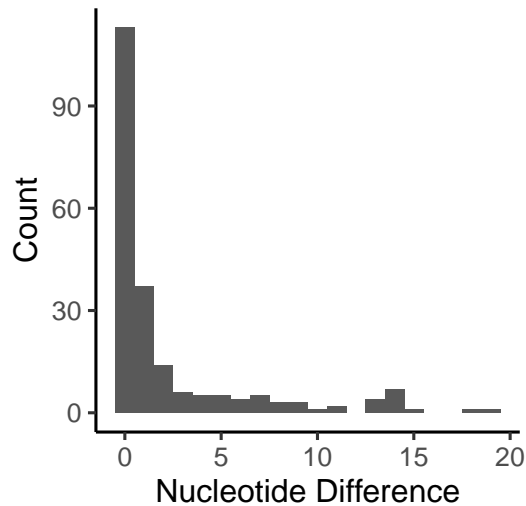
## IGHV5-51\*03

243 sequences assigned  
121 (49.8%) exact matches, in which:  
118 unique CDR3  
7 unique J



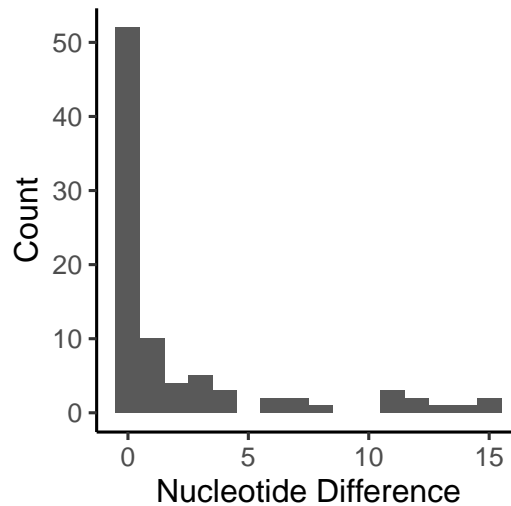
## IGHV5-10-1\*03

213 sequences assigned  
113 (53.1%) exact matches, in which:  
112 unique CDR3  
6 unique J

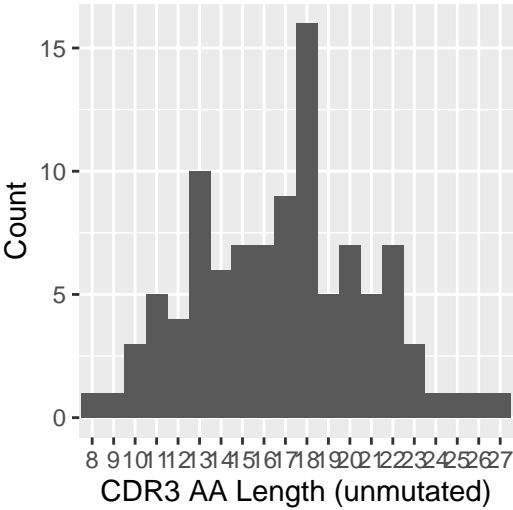


## IGHV6-1\*01

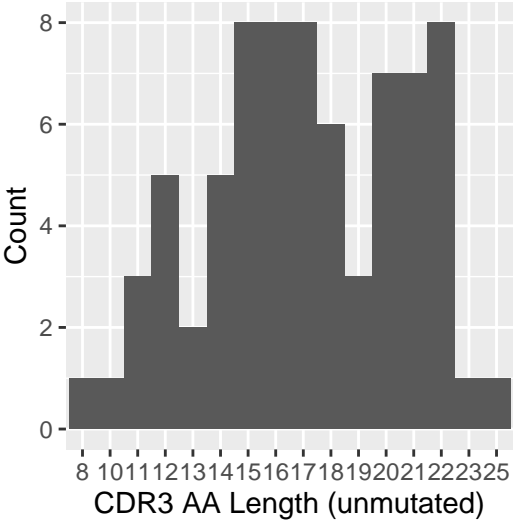
93 sequences assigned  
52 (55.9%) exact matches, in which:  
49 unique CDR3  
6 unique J



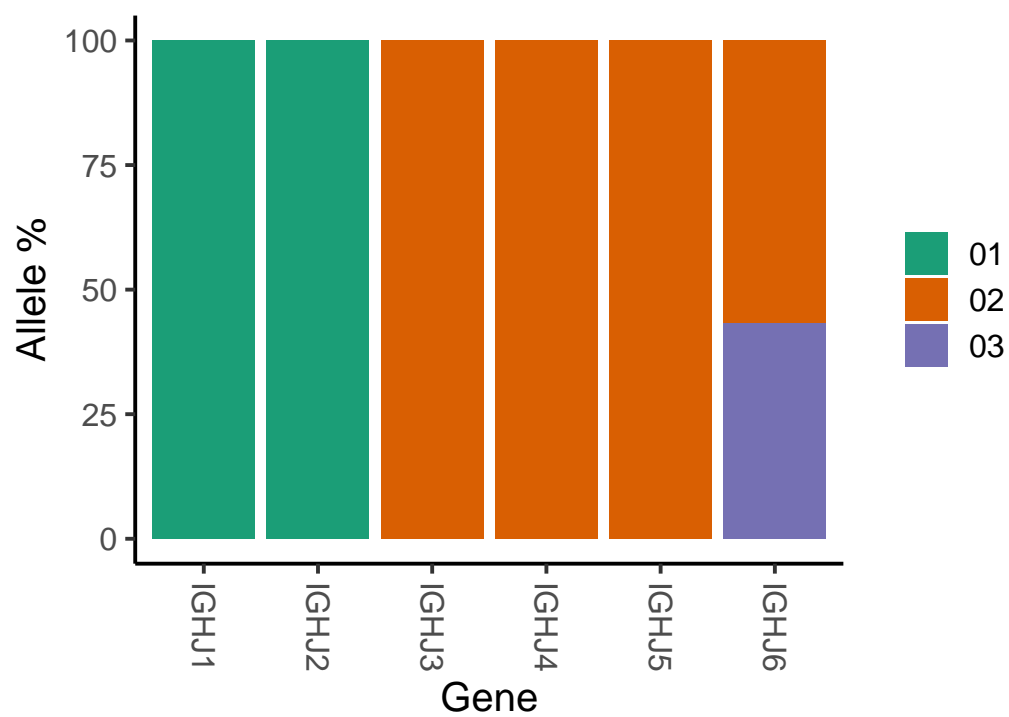
IGHV1-69\*08\_C191T



IGHV4-61\*02\_A234G



Allele Usage



Sequence Count by IGHJ6 allele usage

