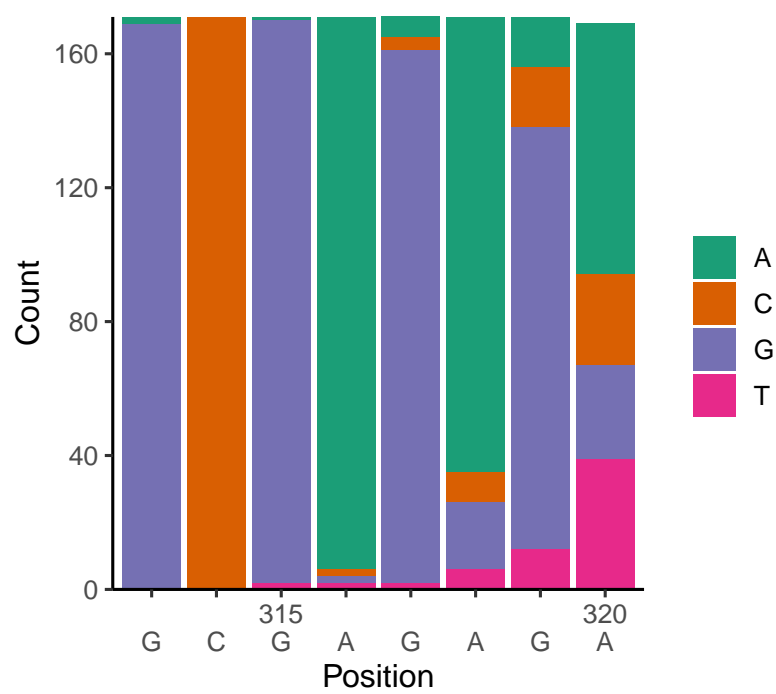
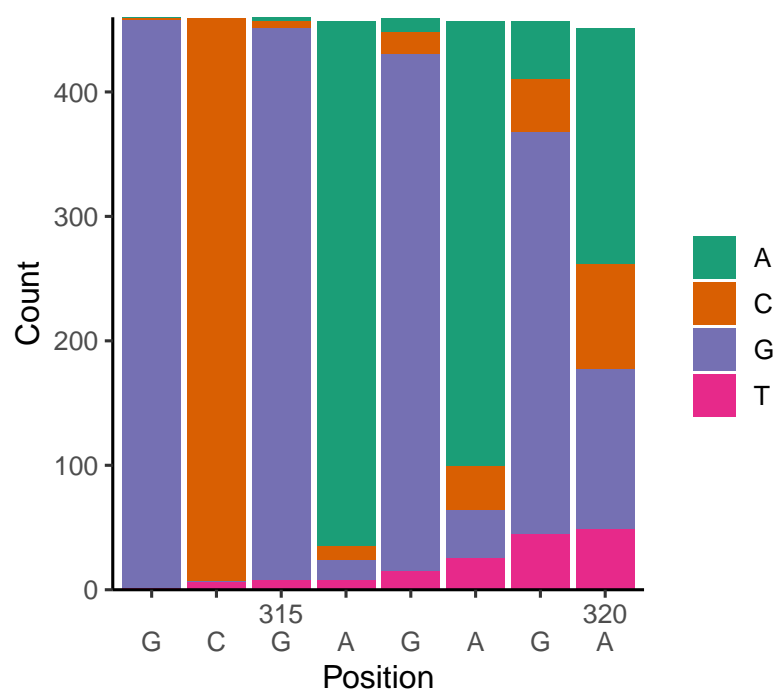


Gene IGHV4-38-2\*02\_G246A



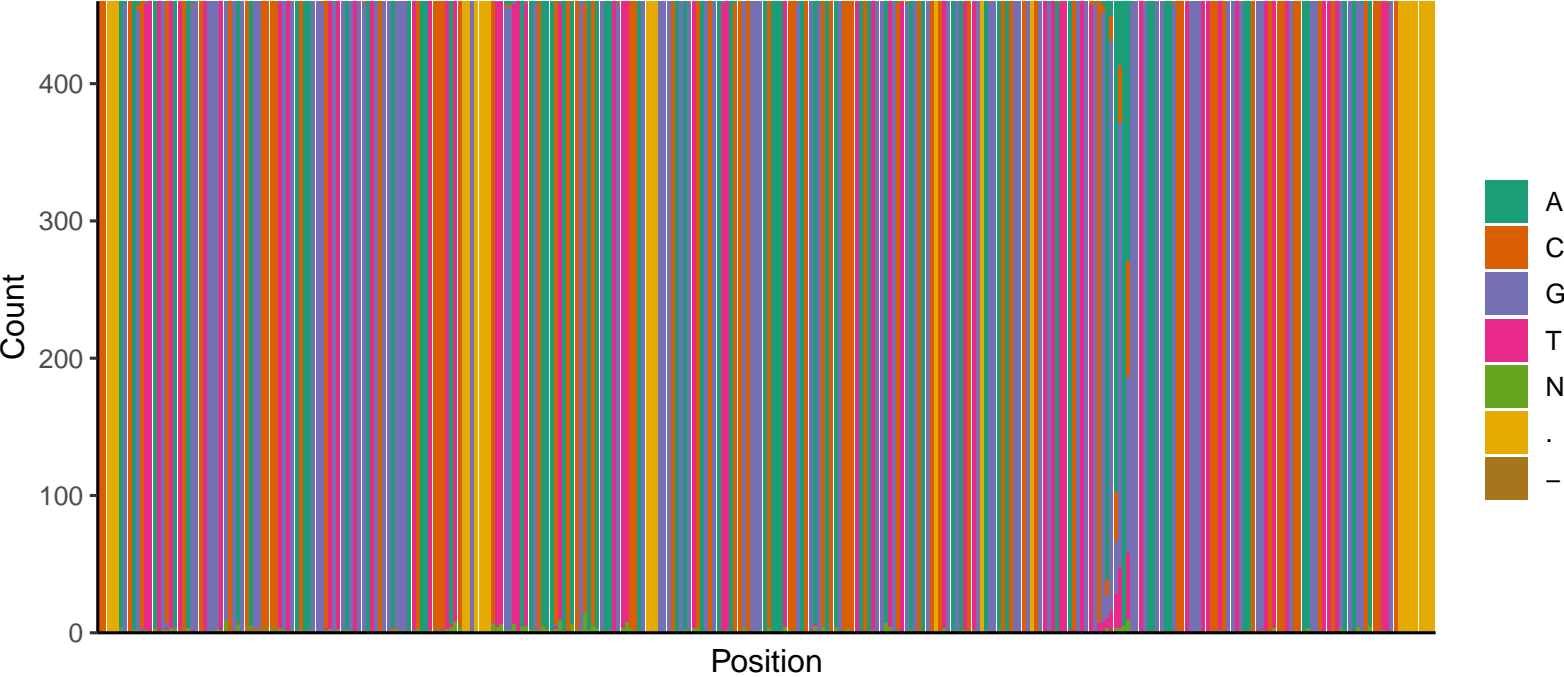
Gene IGHV1-69\*04\_A163G



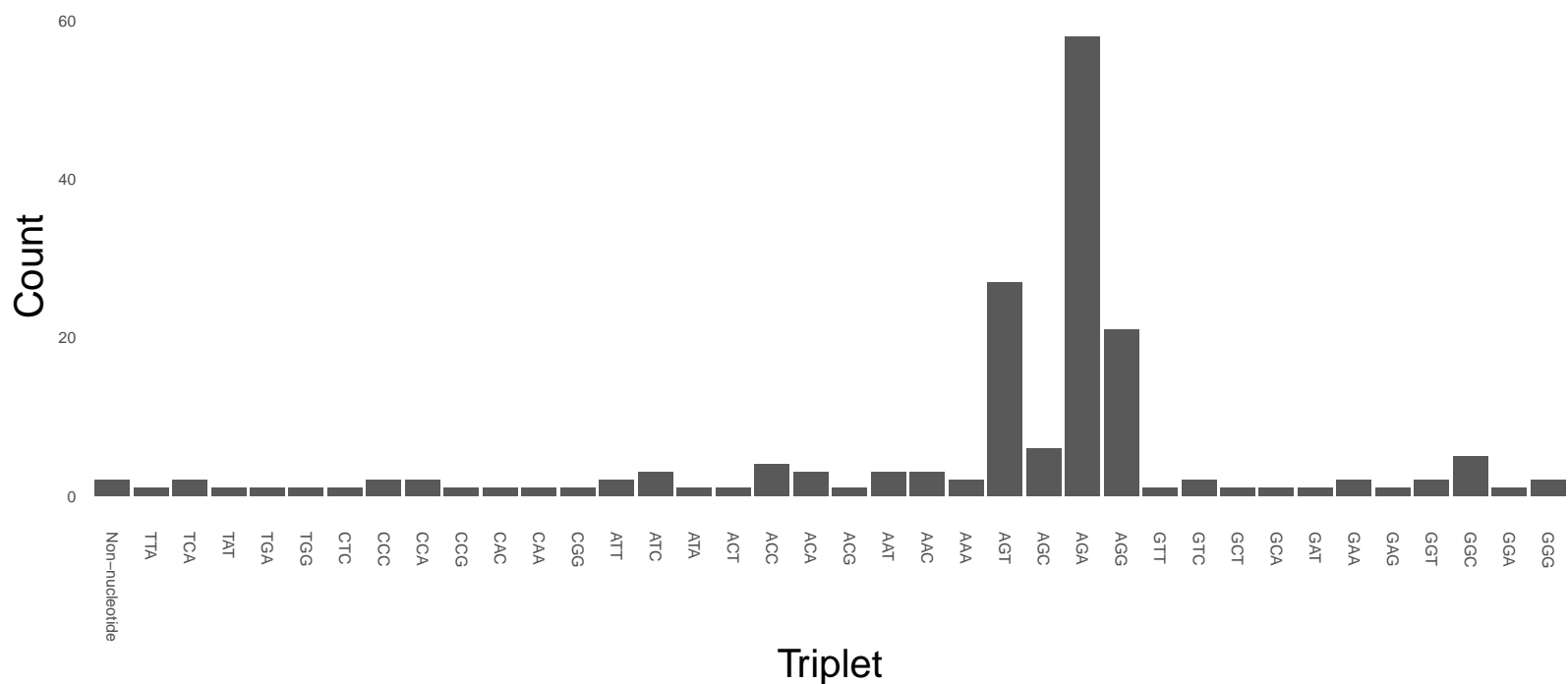
Gene IGHV4-38-2\*02\_G246A



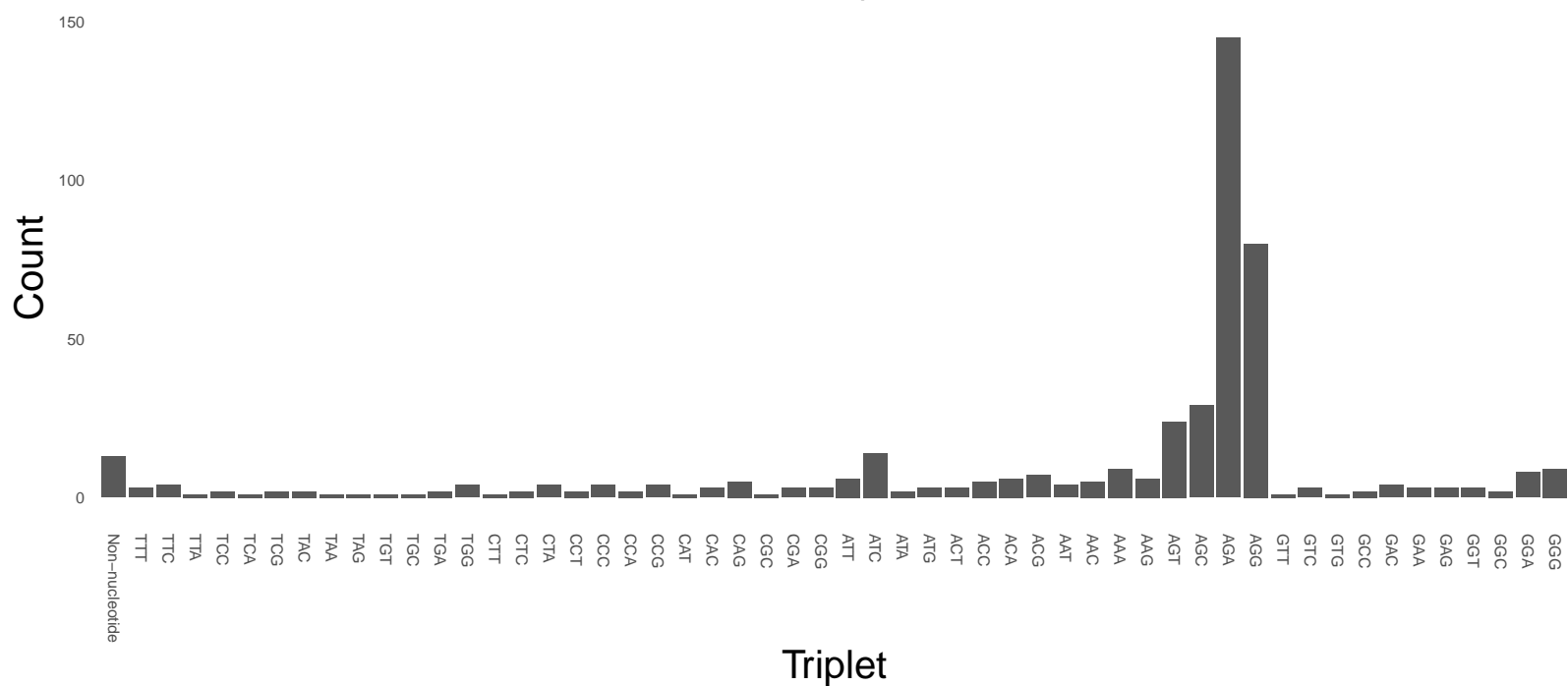
Gene IGHV1-69\*04\_A163G



IGHV4-38-2\*02\_G246A- Final 3 nucleotides as a triplet

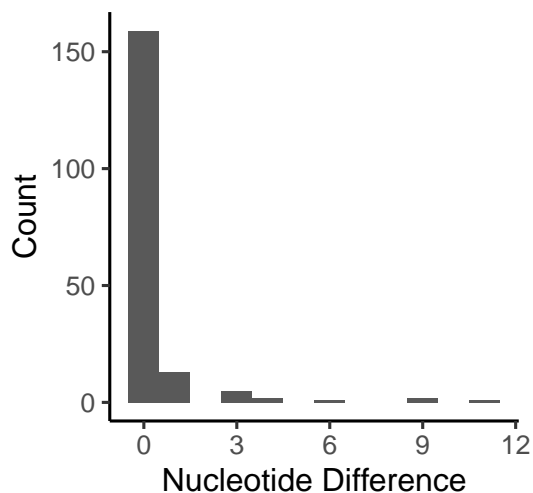


IGHV1-69\*04\_A163G- Final 3 nucleotides as a triplet



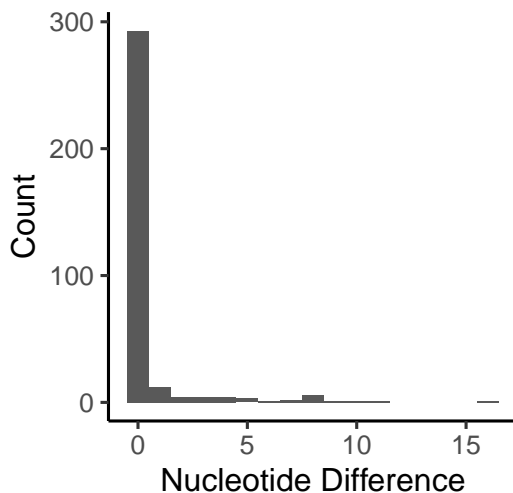
### IGHV1-2\*04

183 sequences assigned  
159 (86.9%) exact matches, in which:  
159 unique CDR3  
6 unique J



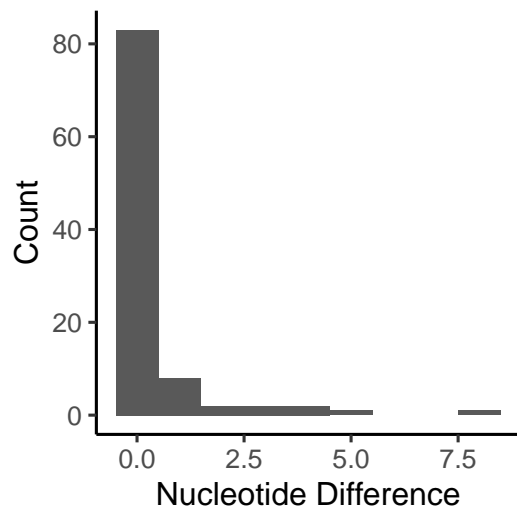
### IGHV1-18\*04

335 sequences assigned  
293 (87.5%) exact matches, in which:  
293 unique CDR3  
6 unique J



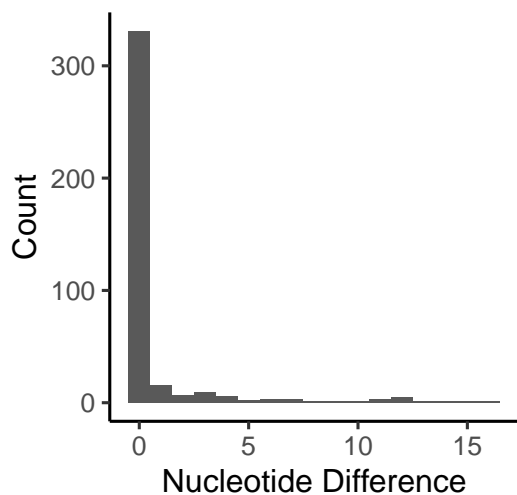
### IGHV1-46\*01

100 sequences assigned  
83 (83%) exact matches, in which:  
83 unique CDR3  
6 unique J



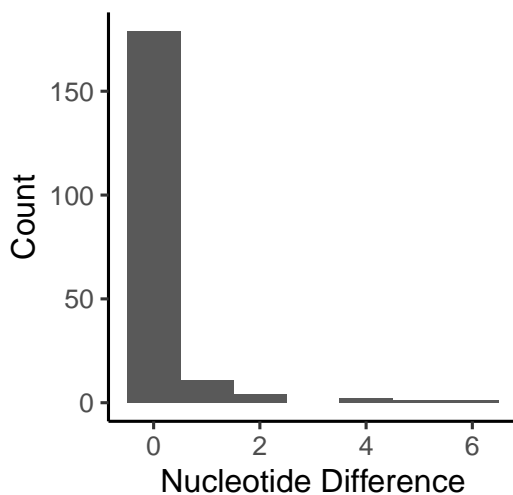
### IGHV1-3\*01

392 sequences assigned  
331 (84.4%) exact matches, in which:  
330 unique CDR3  
6 unique J



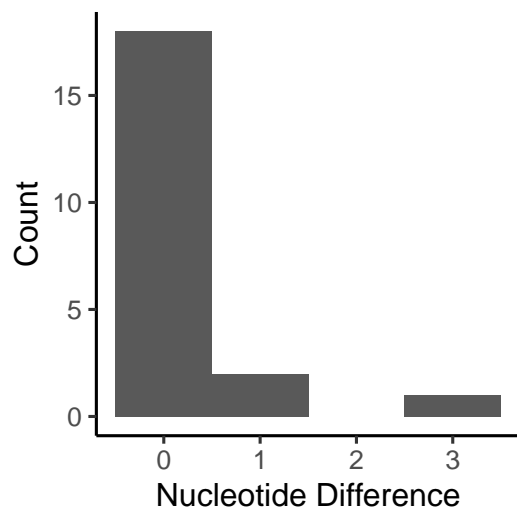
### IGHV1-24\*01

198 sequences assigned  
179 (90.4%) exact matches, in which:  
179 unique CDR3  
6 unique J



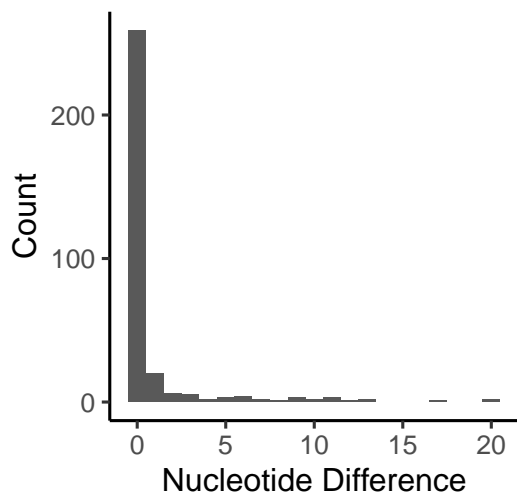
### IGHV1-58\*02

21 sequences assigned  
18 (85.7%) exact matches, in which:  
18 unique CDR3  
4 unique J



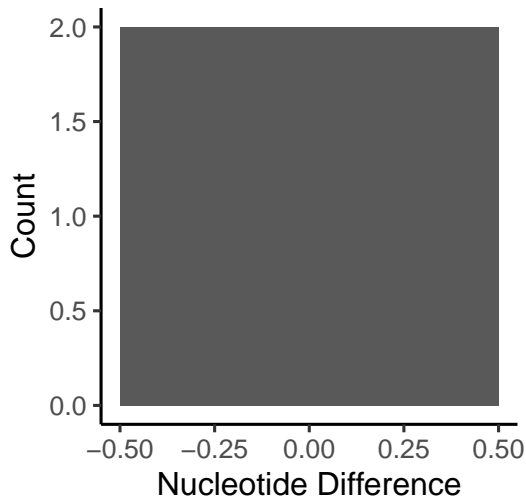
### IGHV1-18\*01

317 sequences assigned  
259 (81.7%) exact matches, in which:  
259 unique CDR3  
4 unique J



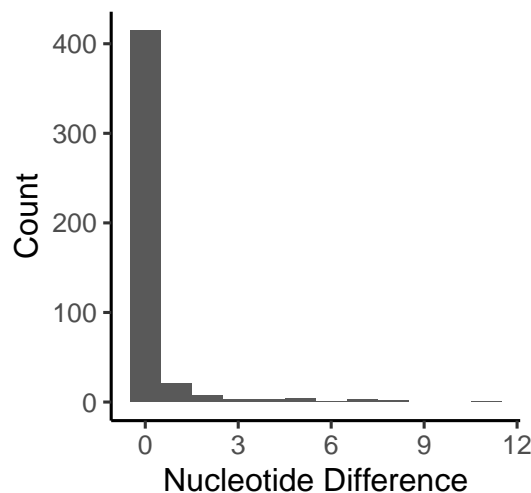
### IGHV1-45\*02

2 sequences assigned  
2 (100%) exact matches, in which:  
2 unique CDR3  
2 unique J



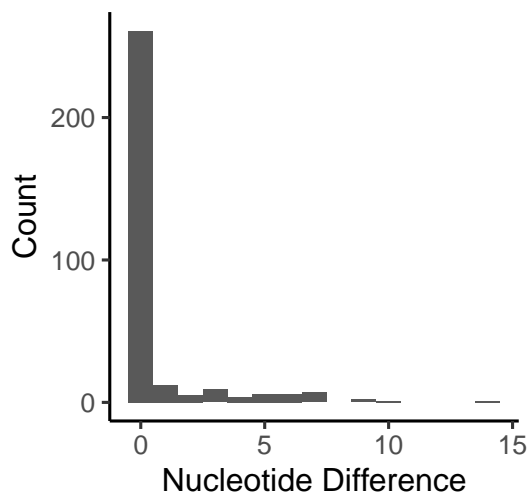
### IGHV1-69\*04\_A163G

460 sequences assigned  
415 (90.2%) exact matches, in which:  
414 unique CDR3  
5 unique J



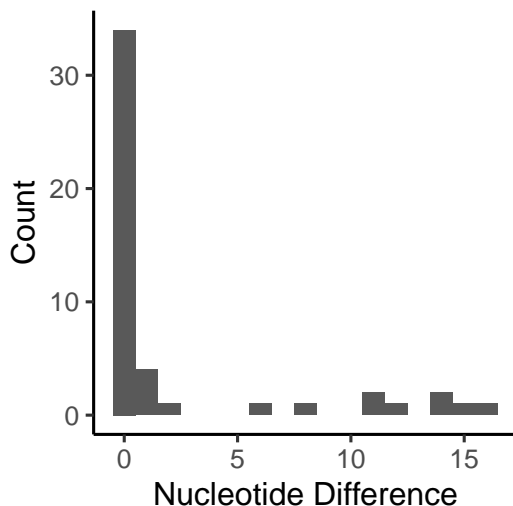
### IGHV2-5\*02

315 sequences assigned  
261 (82.9%) exact matches, in which:  
261 unique CDR3  
6 unique J



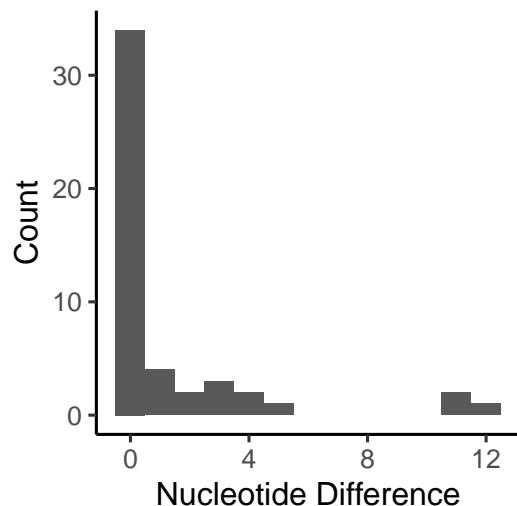
### IGHV3-7\*04

48 sequences assigned  
34 (70.8%) exact matches, in which:  
34 unique CDR3  
5 unique J



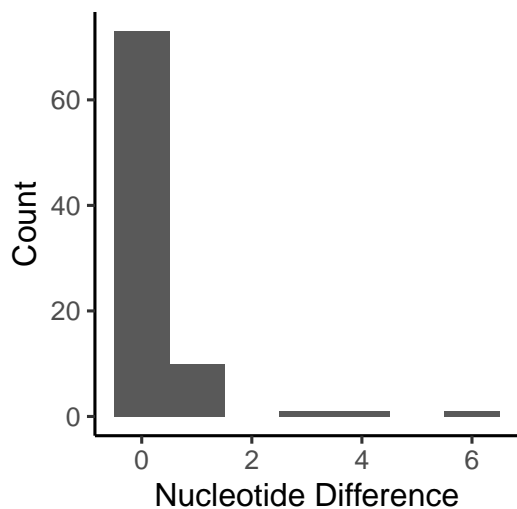
### IGHV3-13\*04

49 sequences assigned  
34 (69.4%) exact matches, in which:  
34 unique CDR3  
5 unique J



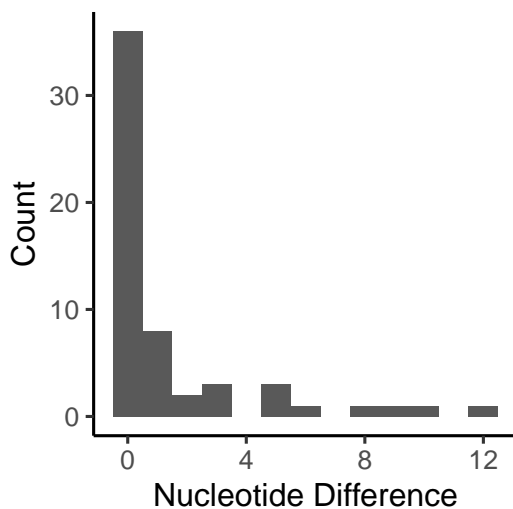
### IGHV2-26\*01

86 sequences assigned  
73 (84.9%) exact matches, in which:  
73 unique CDR3  
5 unique J



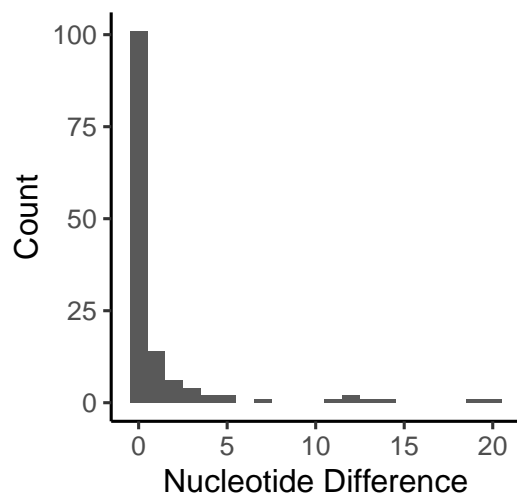
### IGHV3-7\*05

57 sequences assigned  
36 (63.2%) exact matches, in which:  
36 unique CDR3  
6 unique J



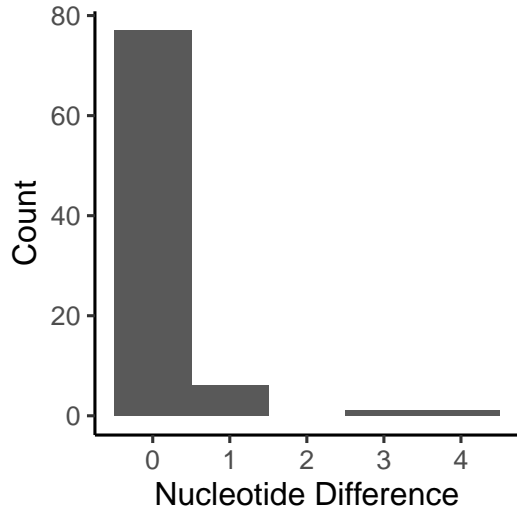
### IGHV3-15\*01

137 sequences assigned  
101 (73.7%) exact matches, in which:  
100 unique CDR3  
6 unique J



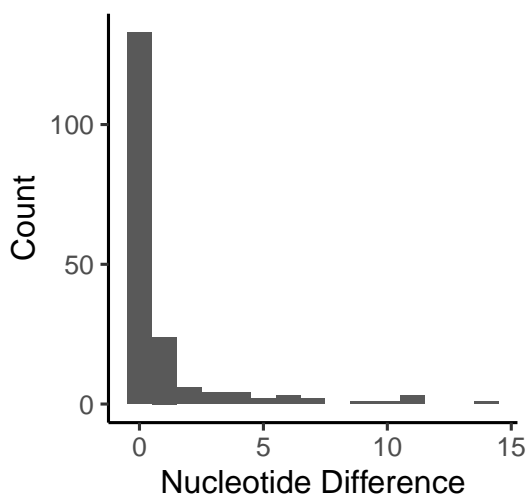
### IGHV2-70\*15

85 sequences assigned  
77 (90.6%) exact matches, in which:  
77 unique CDR3  
5 unique J



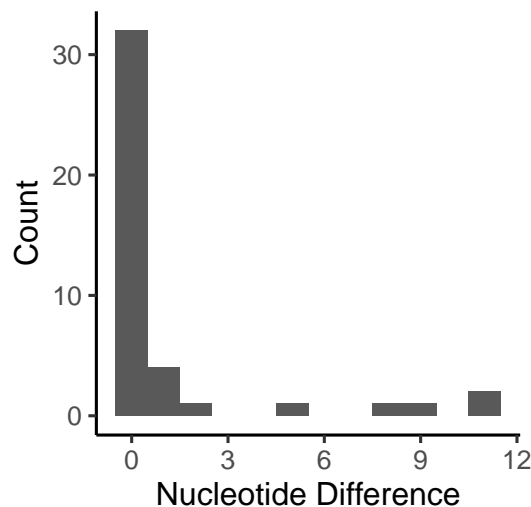
### IGHV3-11\*05

184 sequences assigned  
133 (72.3%) exact matches, in which:  
133 unique CDR3  
6 unique J



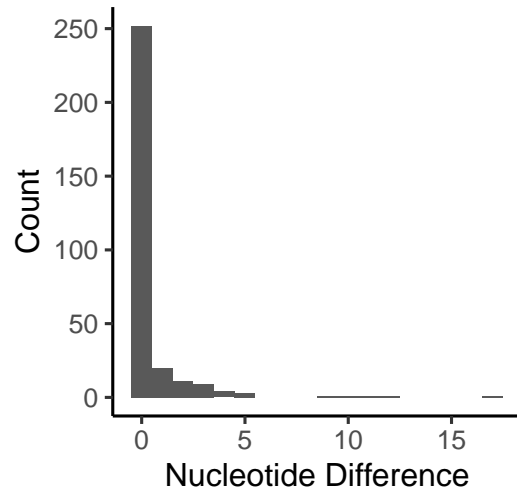
### IGHV3-20\*04

42 sequences assigned  
32 (76.2%) exact matches, in which:  
32 unique CDR3  
4 unique J



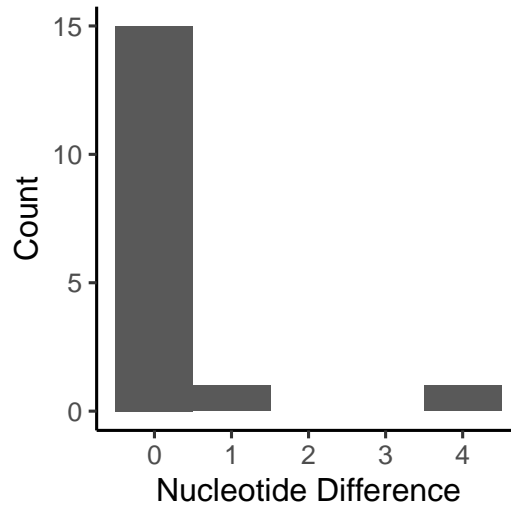
### IGHV3-21\*01

304 sequences assigned  
252 (82.9%) exact matches, in which:  
252 unique CDR3  
6 unique J



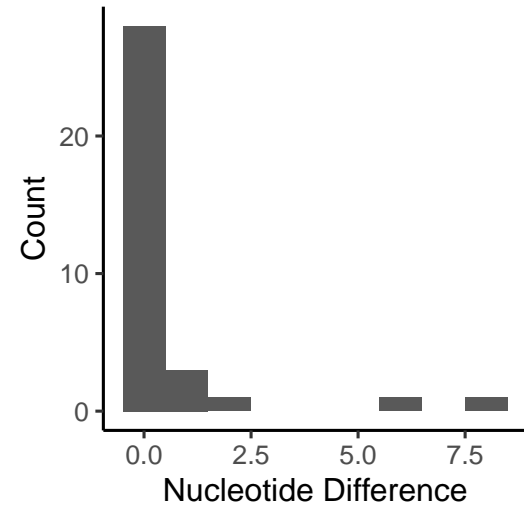
### IGHV3-43\*01

17 sequences assigned  
15 (88.2%) exact matches, in which:  
15 unique CDR3  
5 unique J



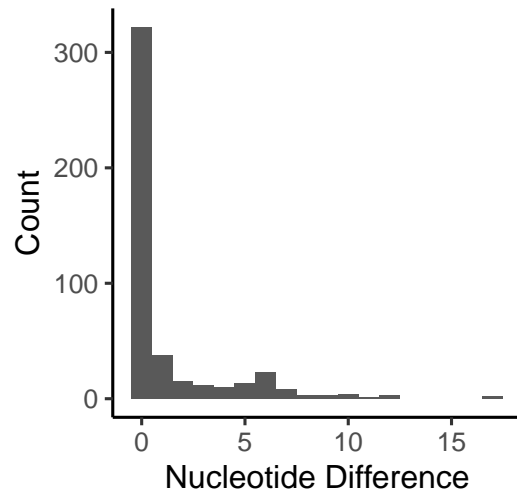
### IGHV3-53\*04

34 sequences assigned  
28 (82.4%) exact matches, in which:  
28 unique CDR3  
6 unique J



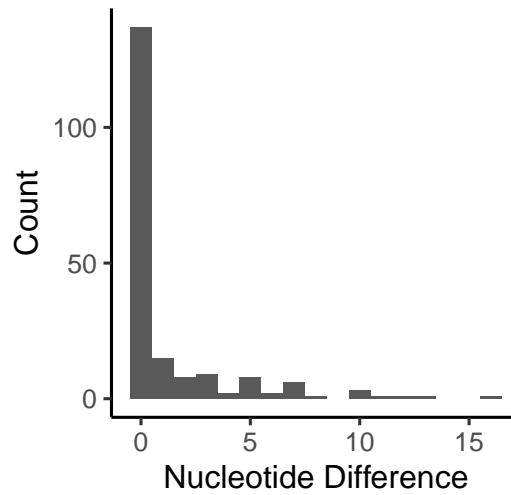
### IGHV3-30-3\*01

459 sequences assigned  
322 (70.2%) exact matches, in which:  
322 unique CDR3  
6 unique J



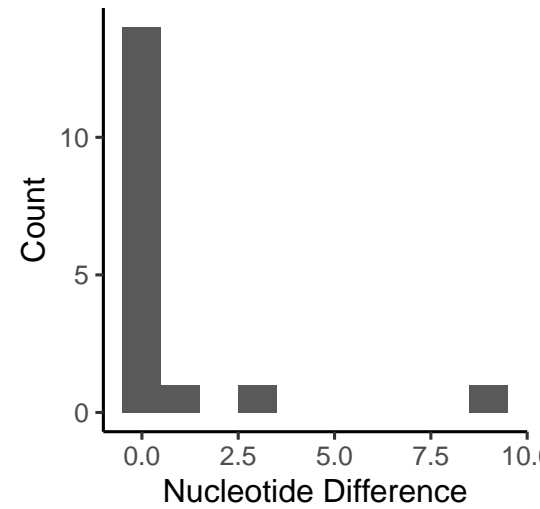
### IGHV3-48\*04

198 sequences assigned  
137 (69.2%) exact matches, in which:  
137 unique CDR3  
6 unique J



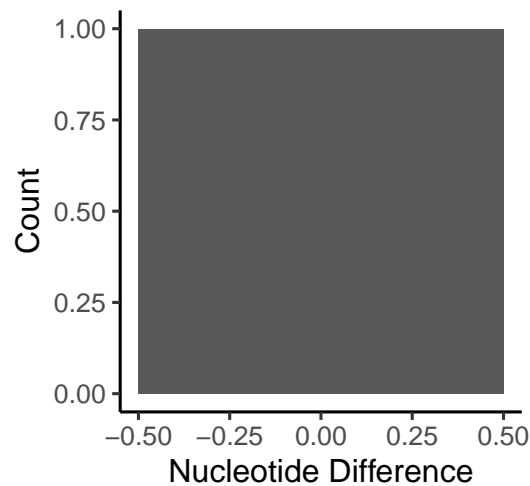
### IGHV3-64\*01

17 sequences assigned  
14 (82.4%) exact matches, in which:  
14 unique CDR3  
4 unique J



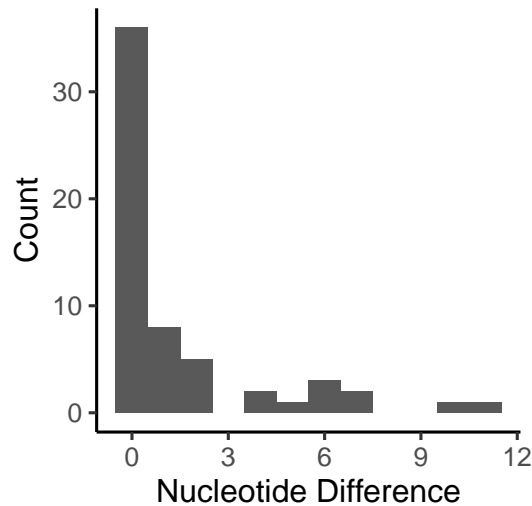
### IGHV3-38-3\*01

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



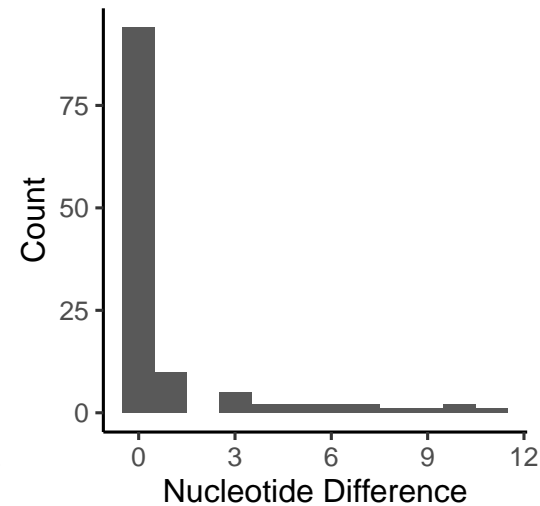
### IGHV3-49\*03

59 sequences assigned  
36 (61%) exact matches, in which:  
36 unique CDR3  
5 unique J



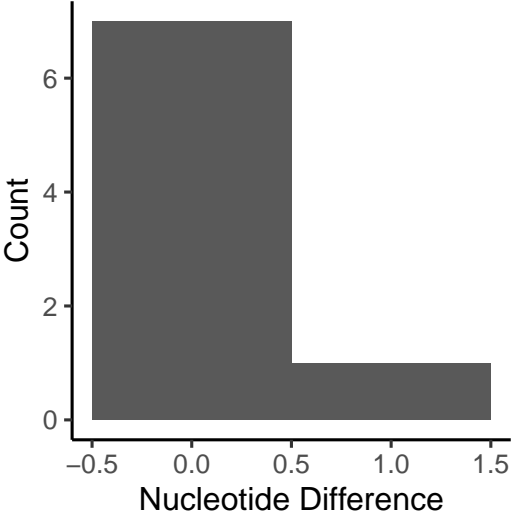
### IGHV3-66\*01

123 sequences assigned  
94 (76.4%) exact matches, in which:  
94 unique CDR3  
6 unique J



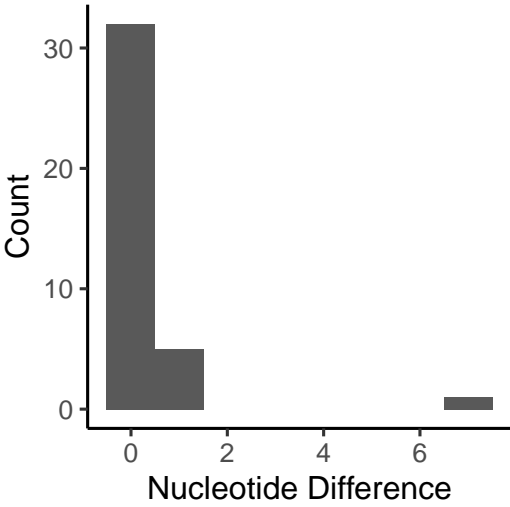
IGHV3-72\*01

8 sequences assigned  
7 (87.5%) exact matches, in which:  
7 unique CDR3  
2 unique J



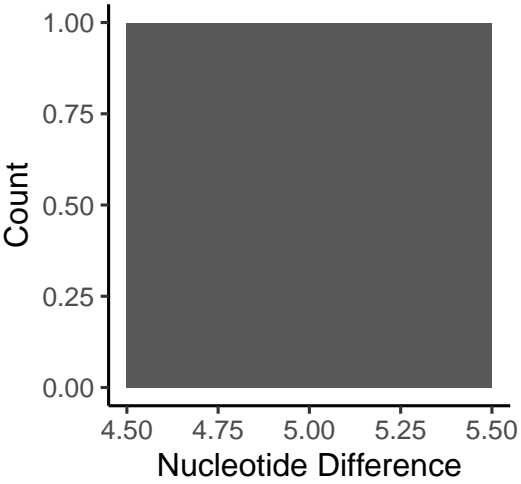
IGHV3-43D\*03

38 sequences assigned  
32 (84.2%) exact matches, in which:  
32 unique CDR3  
5 unique J



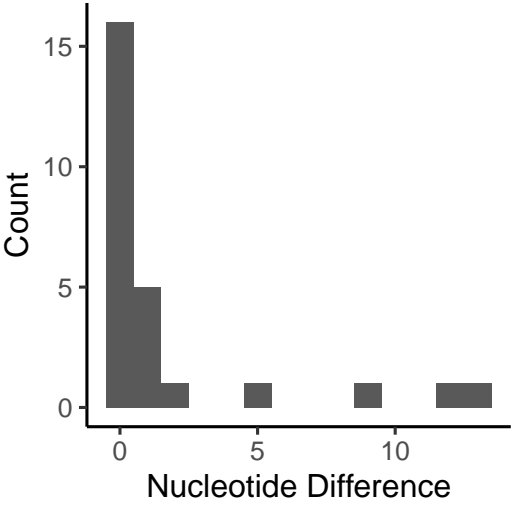
IGHV3-NL1\*01

1 sequences assigned  
No exact matches.



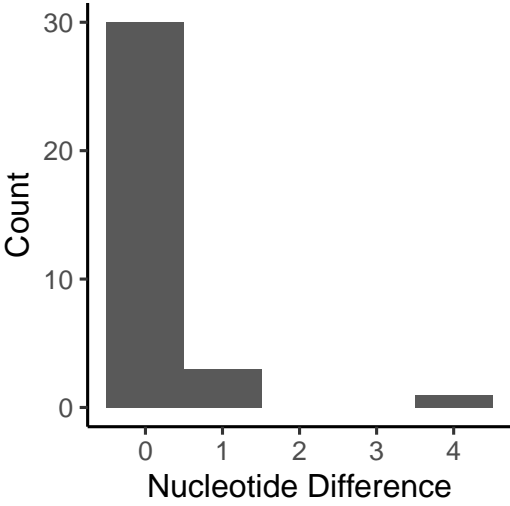
IGHV3-73\*01

26 sequences assigned  
16 (61.5%) exact matches, in which:  
16 unique CDR3  
3 unique J



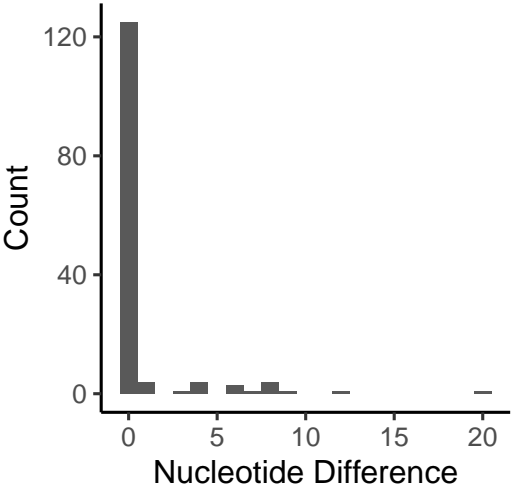
IGHV3-64D\*06

34 sequences assigned  
30 (88.2%) exact matches, in which:  
30 unique CDR3  
5 unique J



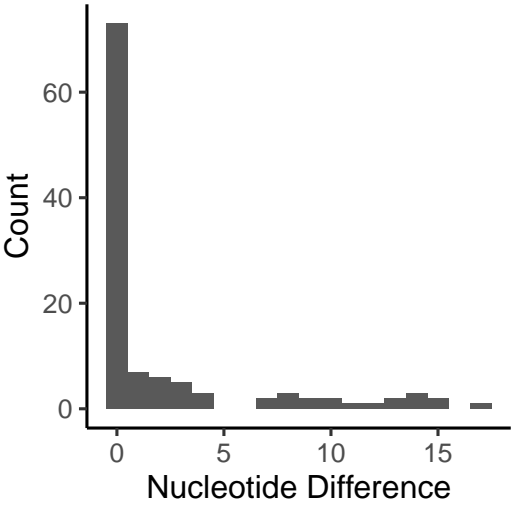
IGHV4-4\*02

145 sequences assigned  
125 (86.2%) exact matches, in which:  
125 unique CDR3  
6 unique J



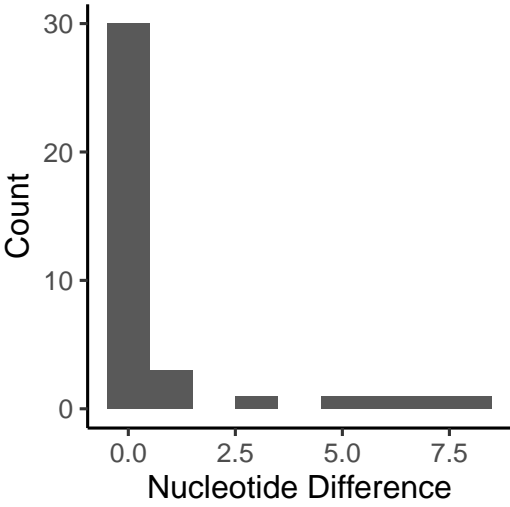
IGHV3-74\*01

114 sequences assigned  
73 (64%) exact matches, in which:  
73 unique CDR3  
5 unique J



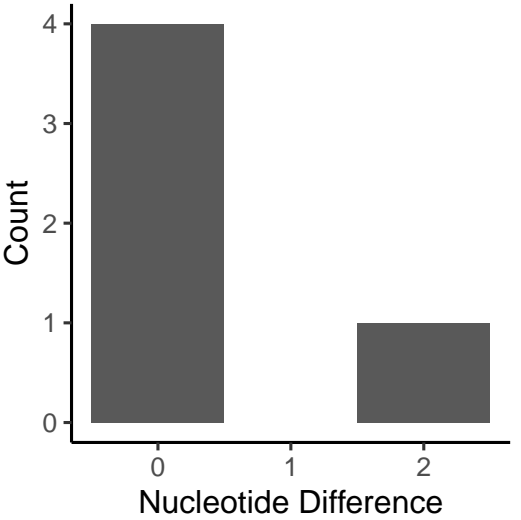
IGHV3-64D\*09

38 sequences assigned  
30 (78.9%) exact matches, in which:  
30 unique CDR3  
5 unique J



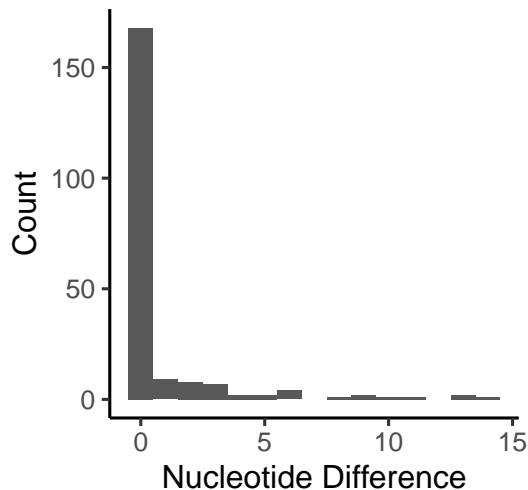
IGHV4-28\*01

5 sequences assigned  
4 (80%) exact matches, in which:  
4 unique CDR3  
3 unique J



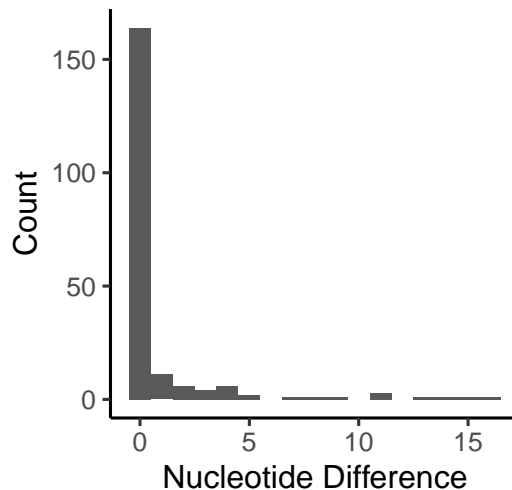
### IGHV4-30-4\*01

209 sequences assigned  
168 (80.4%) exact matches, in which:  
168 unique CDR3  
6 unique J



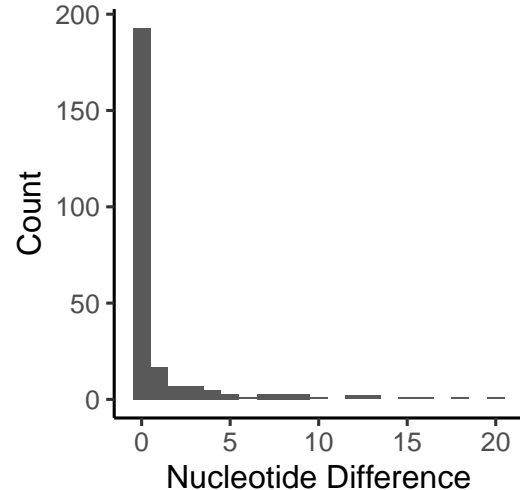
### IGHV4-38-2\*02

203 sequences assigned  
164 (80.8%) exact matches, in which:  
164 unique CDR3  
6 unique J



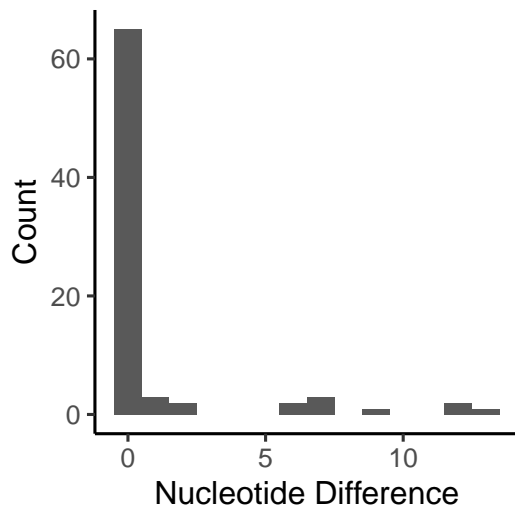
### IGHV4-59\*01

257 sequences assigned  
193 (75.1%) exact matches, in which:  
193 unique CDR3  
5 unique J



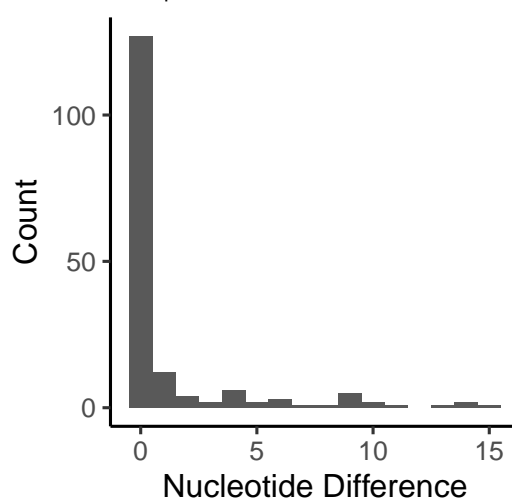
### IGHV4-30-2\*01

79 sequences assigned  
65 (82.3%) exact matches, in which:  
64 unique CDR3  
5 unique J



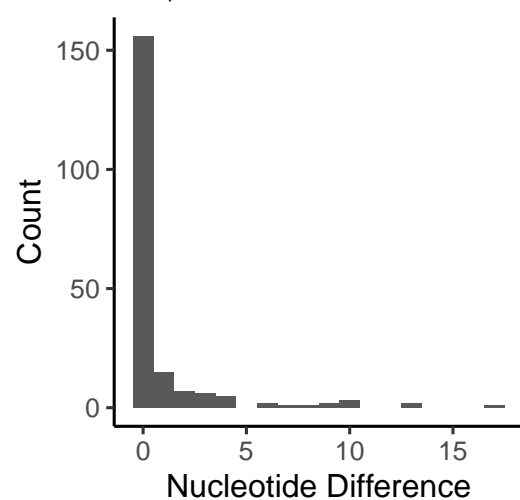
### IGHV4-38-2\*02\_G246A

171 sequences assigned  
127 (74.3%) exact matches, in which:  
127 unique CDR3  
6 unique J



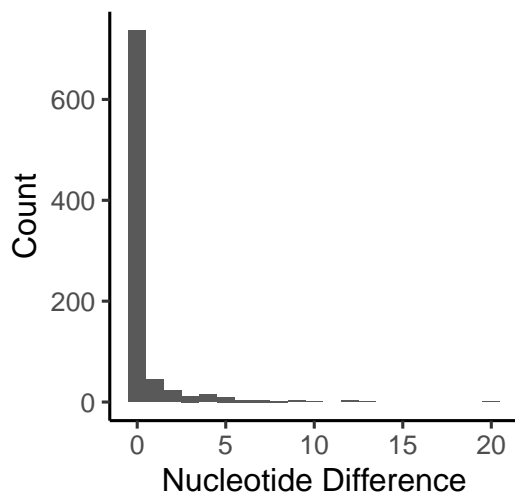
### IGHV4-59\*08

201 sequences assigned  
156 (77.6%) exact matches, in which:  
156 unique CDR3  
6 unique J



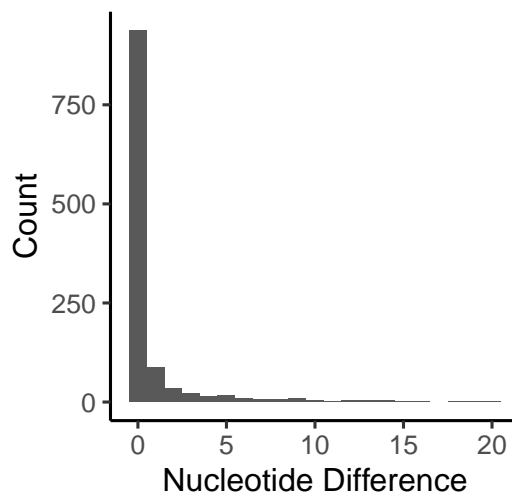
### IGHV4-34\*01

864 sequences assigned  
737 (85.3%) exact matches, in which:  
737 unique CDR3  
6 unique J



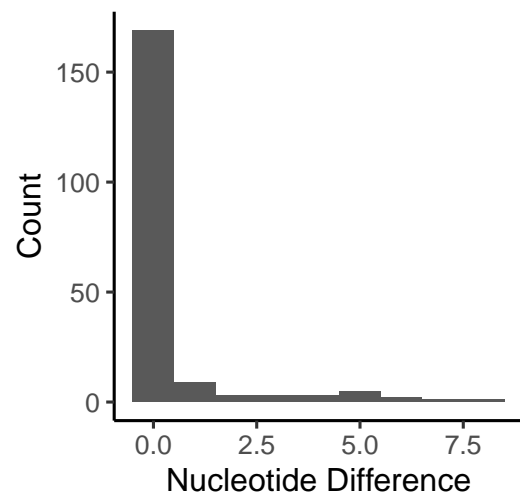
### IGHV4-39\*07

1170 sequences assigned  
938 (80.2%) exact matches, in which:  
937 unique CDR3  
6 unique J



### IGHV5-10-1\*01

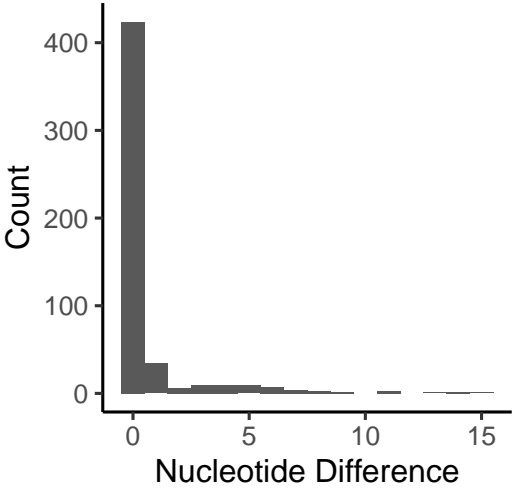
196 sequences assigned  
169 (86.2%) exact matches, in which:  
169 unique CDR3  
6 unique J





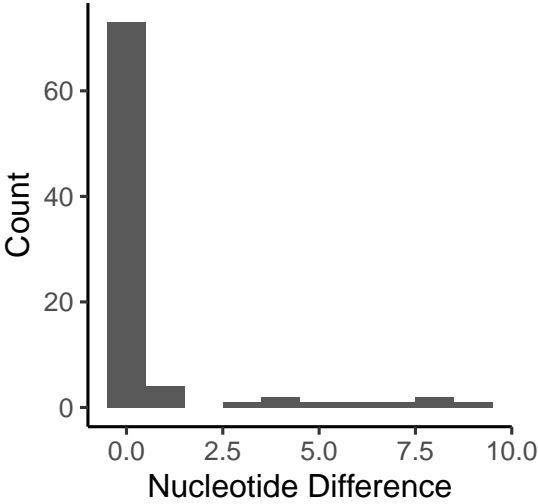
# IGHV5-51\*01

516 sequences assigned  
424 (82.2%) exact matches, in which:  
424 unique CDR3  
6 unique J



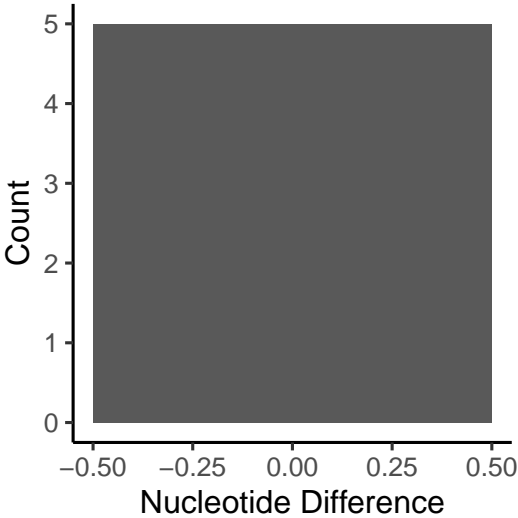
# IGHV6-1\*01

86 sequences assigned  
73 (84.9%) exact matches, in which:  
73 unique CDR3  
6 unique J

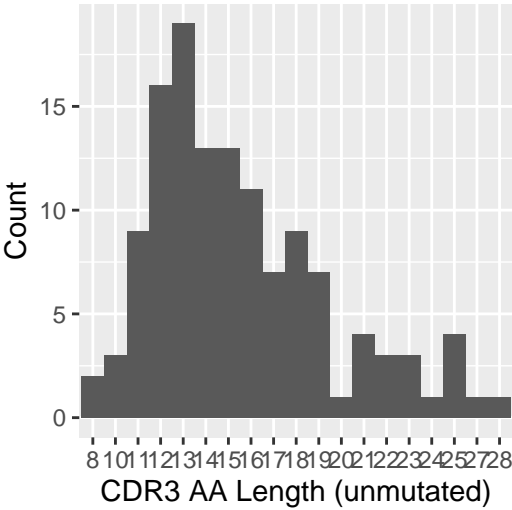


# IGHV7-4-1\*01

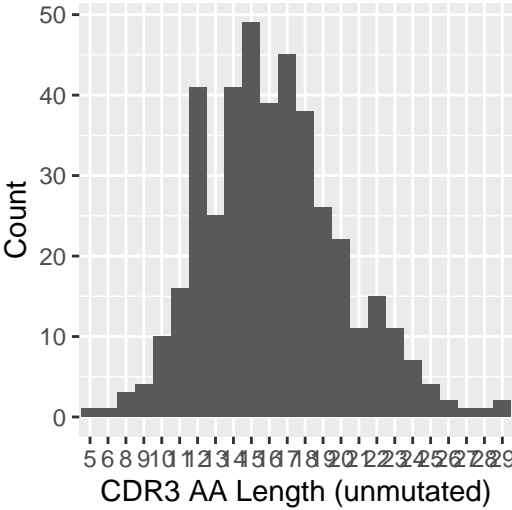
5 sequences assigned  
5 (100%) exact matches, in which:  
5 unique CDR3  
3 unique J



IGHV4-38-2\*02\_G246A



IGHV1-69\*04\_A163G





[illegible]