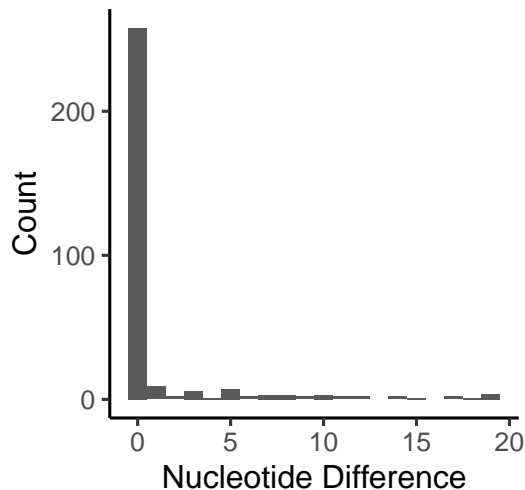


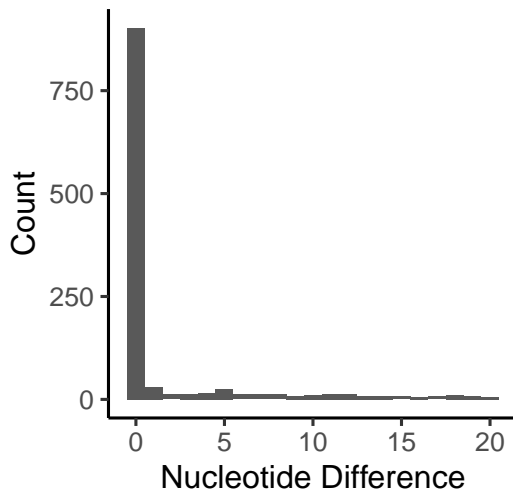
### IGHV1-2\*04

316 sequences assigned  
258 (81.6%) exact matches, in which:  
256 unique CDR3  
7 unique J



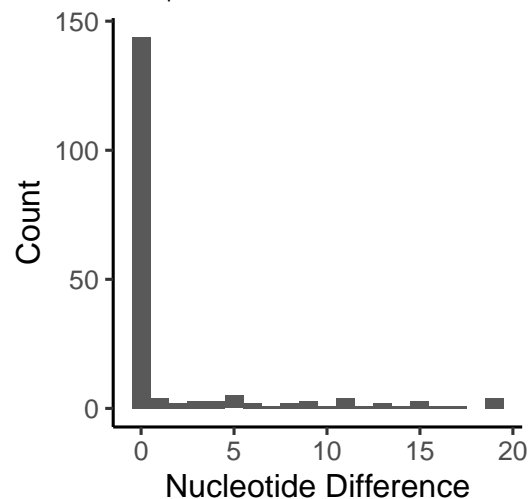
### IGHV1-18\*01

1167 sequences assigned  
903 (77.4%) exact matches, in which:  
900 unique CDR3  
7 unique J



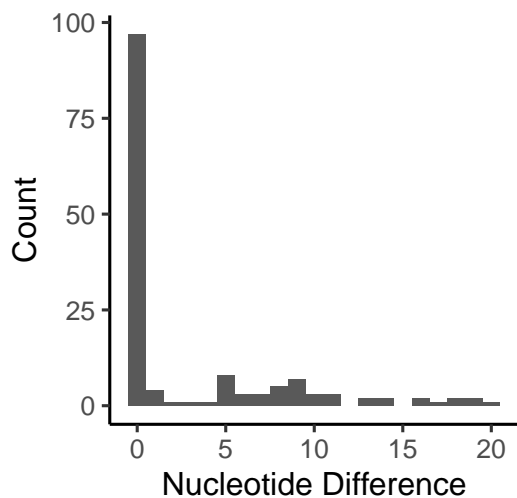
### IGHV1-46\*01

190 sequences assigned  
144 (75.8%) exact matches, in which:  
144 unique CDR3  
6 unique J



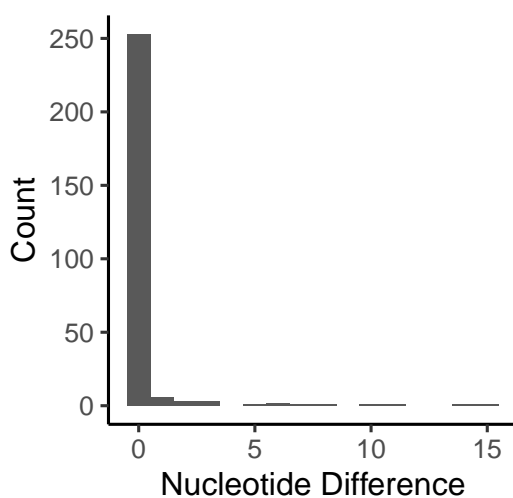
### IGHV1-3\*01\_05

149 sequences assigned  
97 (65.1%) exact matches, in which:  
97 unique CDR3  
4 unique J



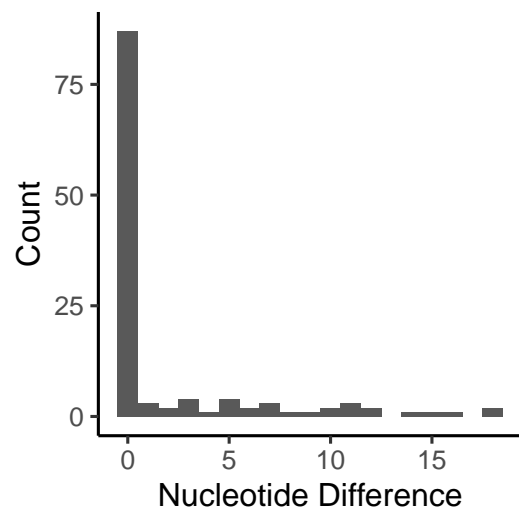
### IGHV1-24\*01

276 sequences assigned  
253 (91.7%) exact matches, in which:  
253 unique CDR3  
6 unique J



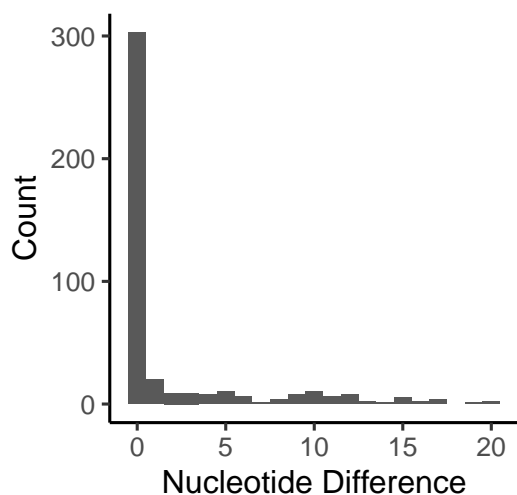
### IGHV1-46\*03

121 sequences assigned  
87 (71.9%) exact matches, in which:  
87 unique CDR3  
4 unique J



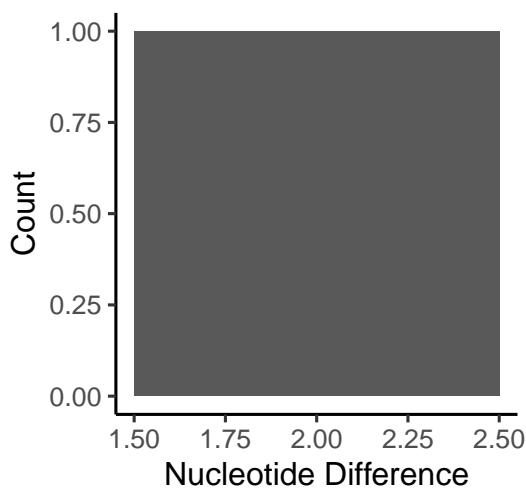
### IGHV1-8\*01

420 sequences assigned  
303 (72.1%) exact matches, in which:  
303 unique CDR3  
7 unique J



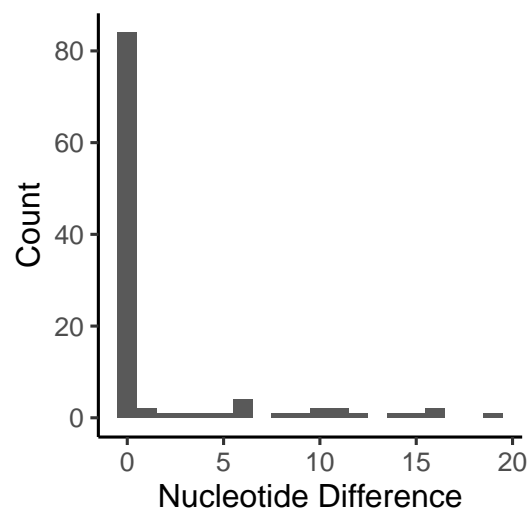
### IGHV1-45\*02

1 sequences assigned  
No exact matches.



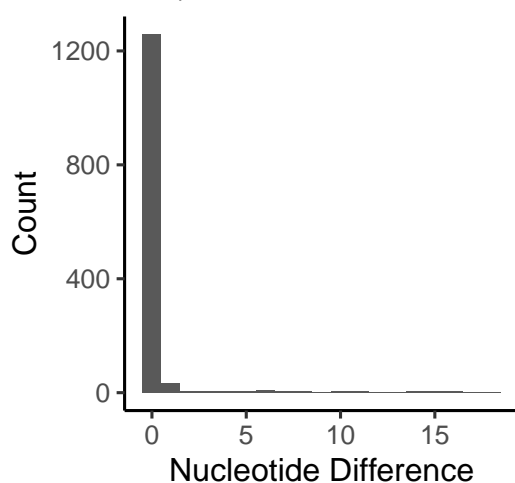
### IGHV1-58\*01\_03

110 sequences assigned  
84 (76.4%) exact matches, in which:  
84 unique CDR3  
6 unique J



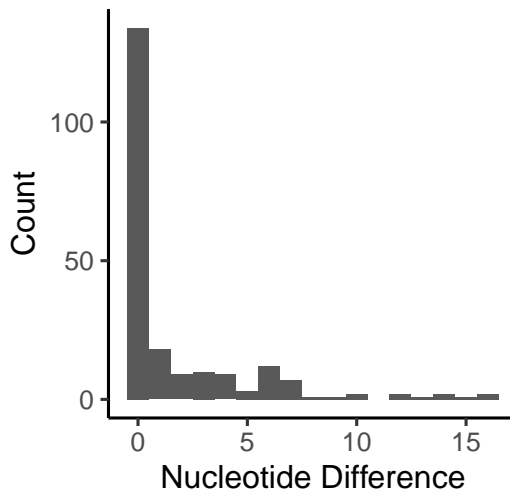
### IGHV1-69\*01\_12\_13

1379 sequences assigned  
1258 (91.2%) exact matches, in which:  
1256 unique CDR3  
7 unique J



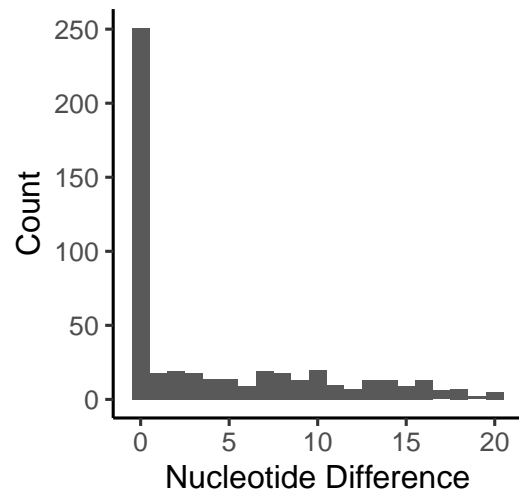
### IGHV2-5\*02

215 sequences assigned  
134 (62.3%) exact matches, in which:  
133 unique CDR3  
6 unique J



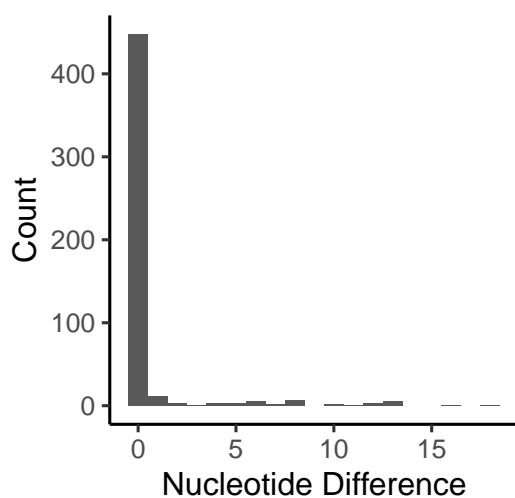
### IGHV3-7\*01

511 sequences assigned  
251 (49.1%) exact matches, in which:  
247 unique CDR3  
6 unique J



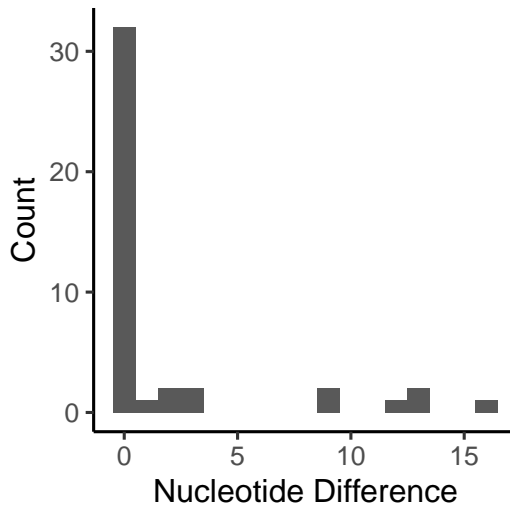
### IGHV1-69\*06\_14

503 sequences assigned  
448 (89.1%) exact matches, in which:  
448 unique CDR3  
6 unique J



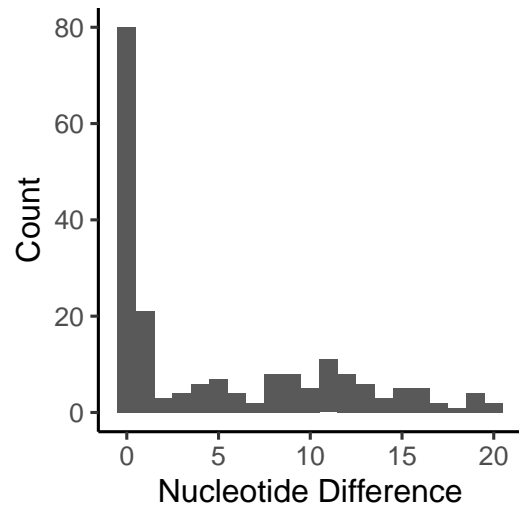
### IGHV2-26\*01

43 sequences assigned  
32 (74.4%) exact matches, in which:  
32 unique CDR3  
6 unique J



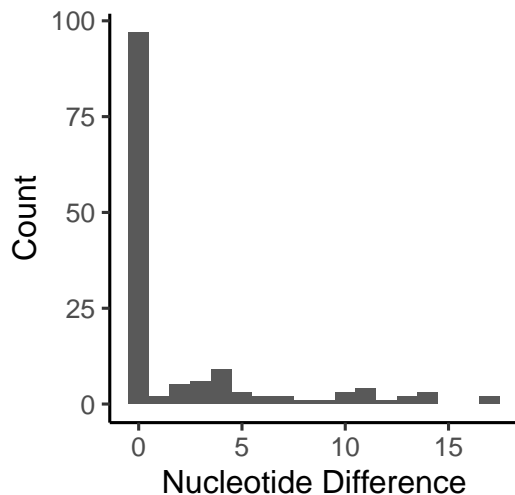
### IGHV3-7\*04

203 sequences assigned  
80 (39.4%) exact matches, in which:  
78 unique CDR3  
6 unique J



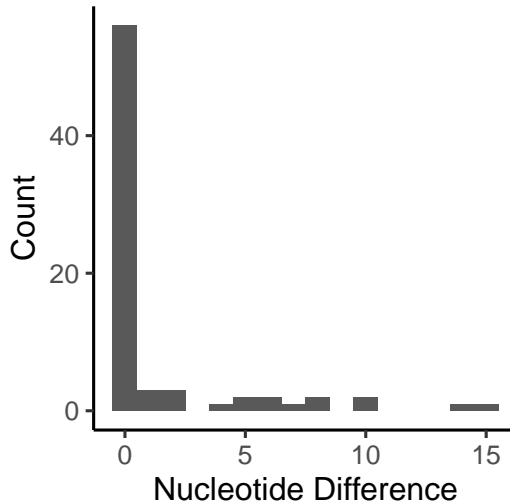
### IGHV2-5\*01

147 sequences assigned  
97 (66%) exact matches, in which:  
97 unique CDR3  
6 unique J



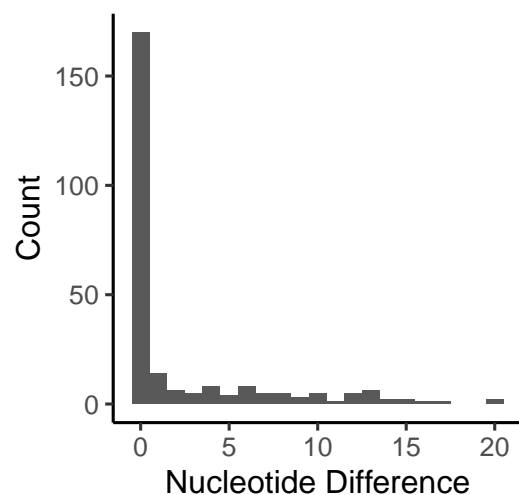
### IGHV2-70\*01

74 sequences assigned  
56 (75.7%) exact matches, in which:  
55 unique CDR3  
6 unique J



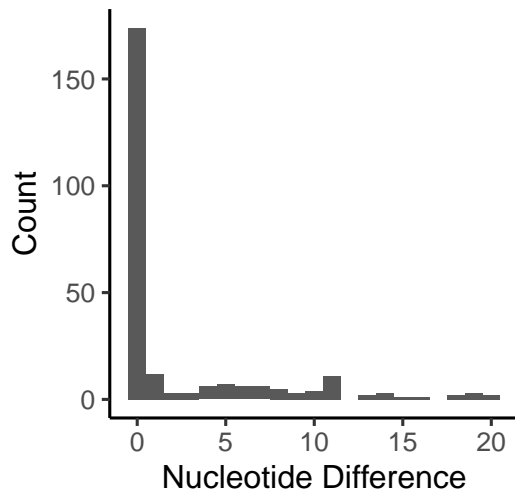
### IGHV3-9\*01

259 sequences assigned  
170 (65.6%) exact matches, in which:  
169 unique CDR3  
6 unique J



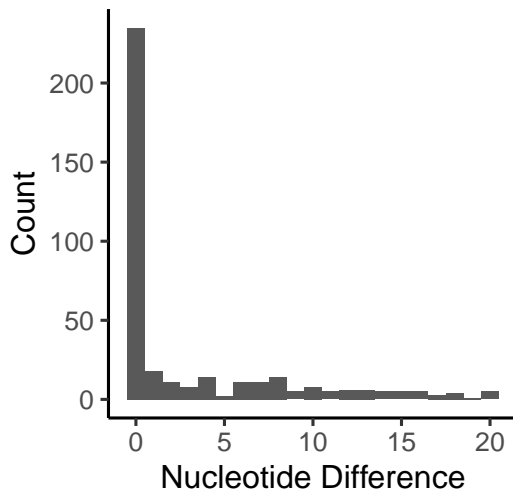
### IGHV3-11\*01

254 sequences assigned  
174 (68.5%) exact matches, in which:  
169 unique CDR3  
6 unique J



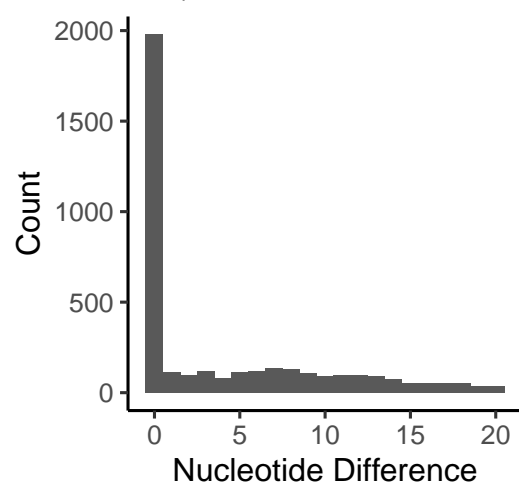
### IGHV3-15\*01\_02

406 sequences assigned  
235 (57.9%) exact matches, in which:  
231 unique CDR3  
7 unique J



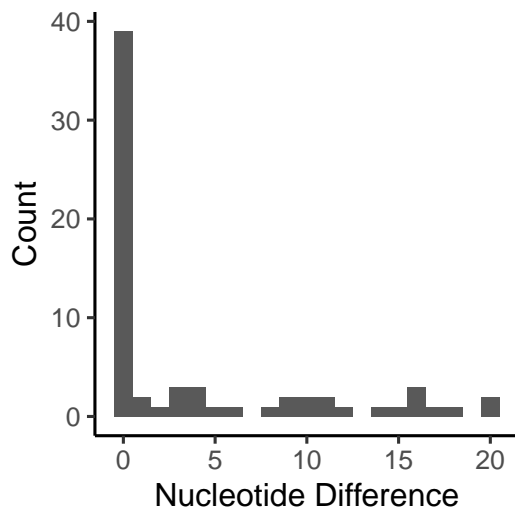
### IGHV3-23\*01\_04

3912 sequences assigned  
1979 (50.6%) exact matches, in which:  
1922 unique CDR3  
7 unique J



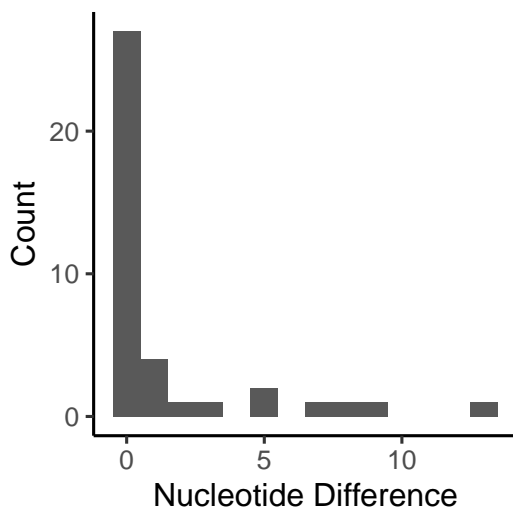
### IGHV3-11\*06

70 sequences assigned  
39 (55.7%) exact matches, in which:  
39 unique CDR3  
5 unique J



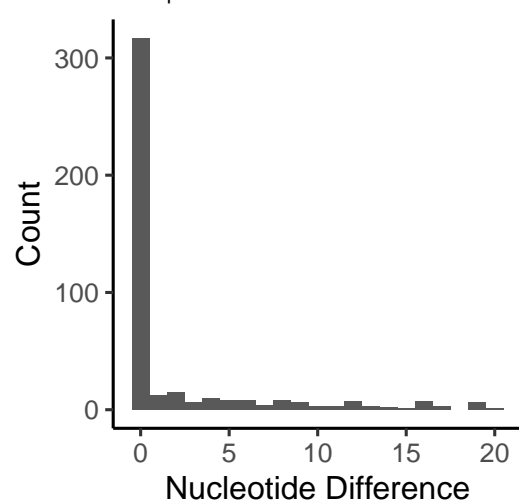
### IGHV3-20\*01\_02

39 sequences assigned  
27 (69.2%) exact matches, in which:  
25 unique CDR3  
5 unique J



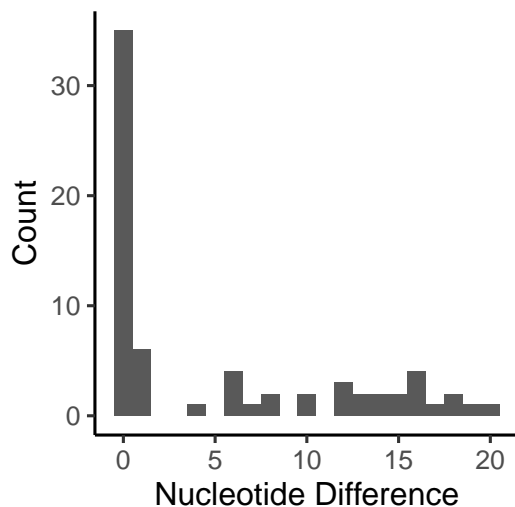
### IGHV3-30\*03

446 sequences assigned  
317 (71.1%) exact matches, in which:  
313 unique CDR3  
7 unique J



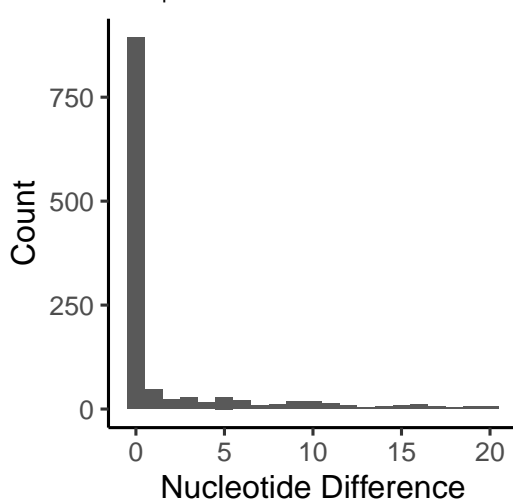
### IGHV3-13\*01

71 sequences assigned  
35 (49.3%) exact matches, in which:  
33 unique CDR3  
4 unique J



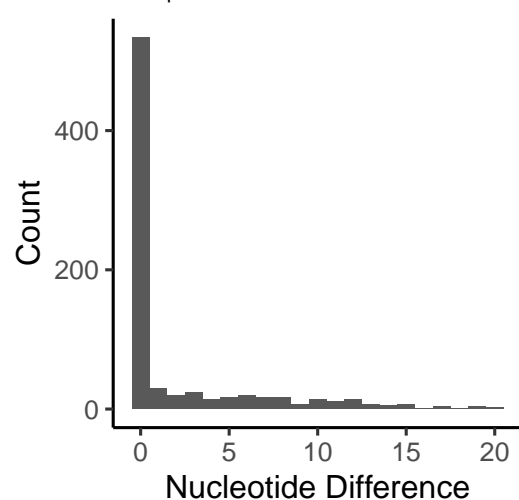
### IGHV3-21\*01\_02

1190 sequences assigned  
894 (75.1%) exact matches, in which:  
867 unique CDR3  
7 unique J



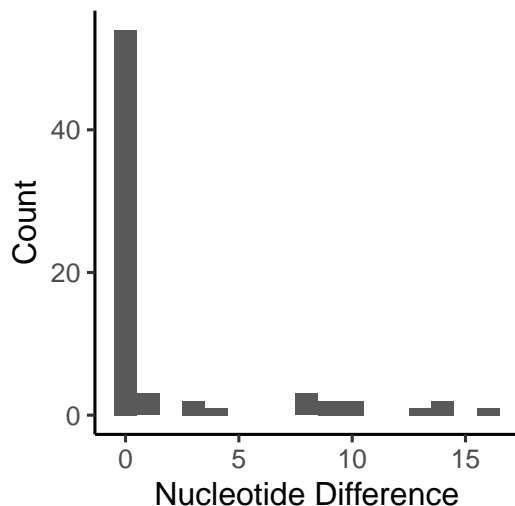
### IGHV3-33\*01

781 sequences assigned  
534 (68.4%) exact matches, in which:  
524 unique CDR3  
7 unique J



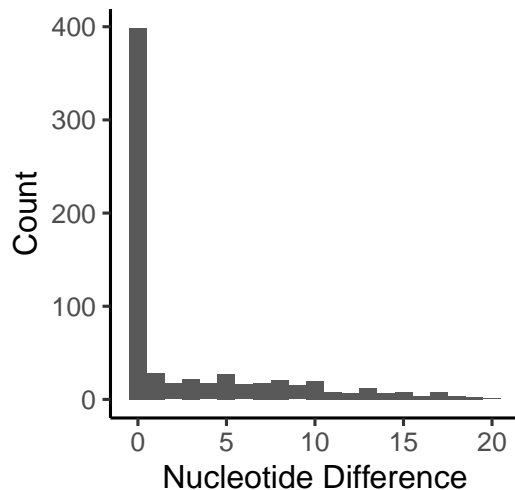
### IGHV3-43\*01

73 sequences assigned  
54 (74%) exact matches, in which:  
52 unique CDR3  
6 unique J



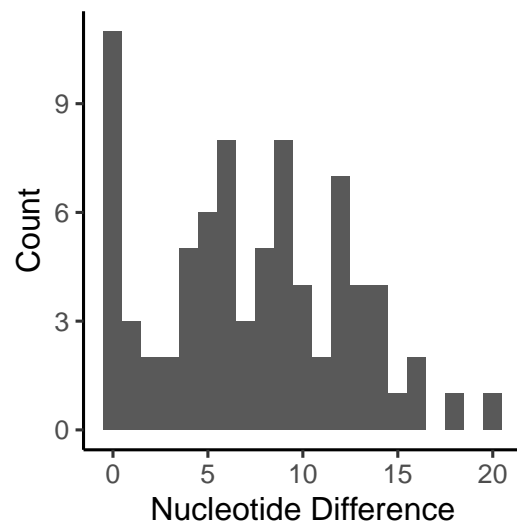
### IGHV3-53\*01\_02

674 sequences assigned  
399 (59.2%) exact matches, in which:  
391 unique CDR3  
7 unique J



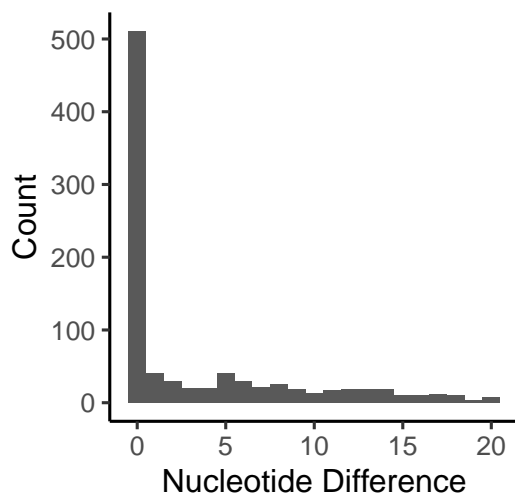
### IGHV3-72\*01

84 sequences assigned  
11 (13.1%) exact matches, in which:  
11 unique CDR3  
3 unique J



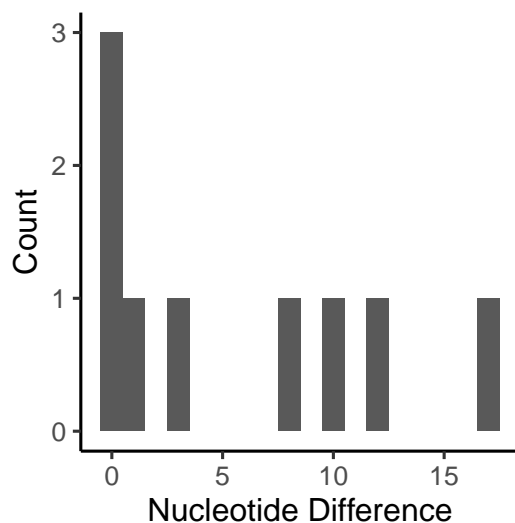
### IGHV3-48\*02

928 sequences assigned  
511 (55.1%) exact matches, in which:  
501 unique CDR3  
7 unique J



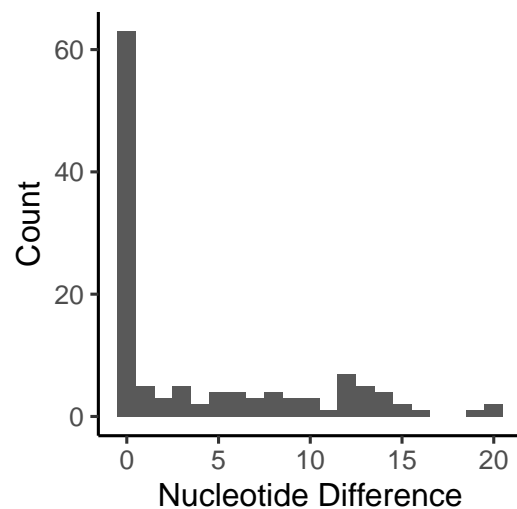
### IGHV3-64\*02\_07

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



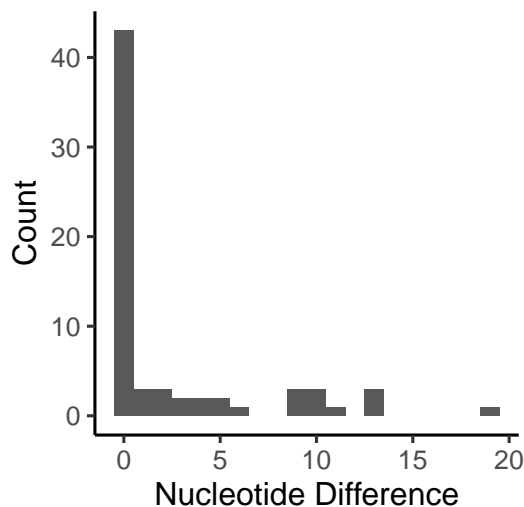
### IGHV3-73\*01\_02

132 sequences assigned  
63 (47.7%) exact matches, in which:  
62 unique CDR3  
6 unique J



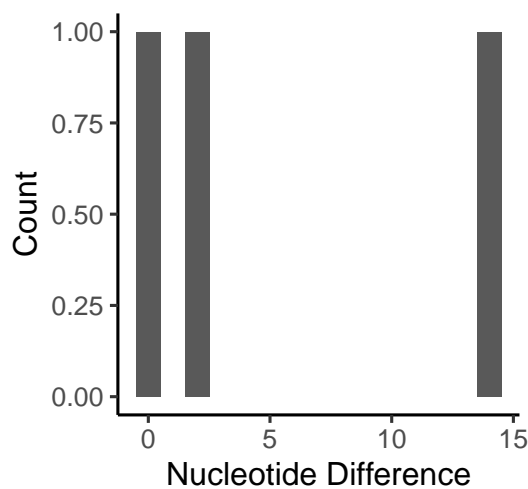
### IGHV3-49\*03\_05

69 sequences assigned  
43 (62.3%) exact matches, in which:  
43 unique CDR3  
6 unique J



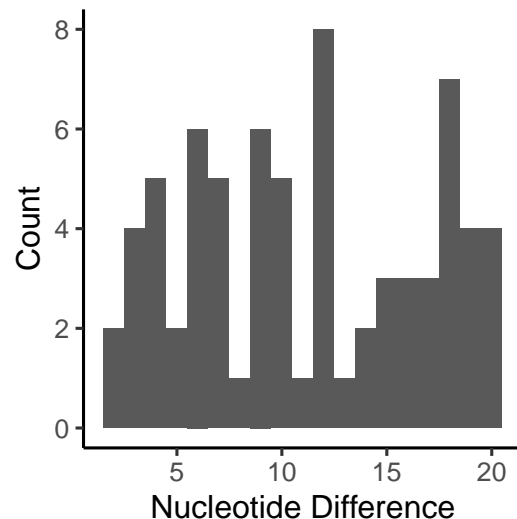
### IGHV3-69-1\*01

4 sequences assigned  
1 (25%) exact matches, in which:  
1 unique CDR3  
1 unique J



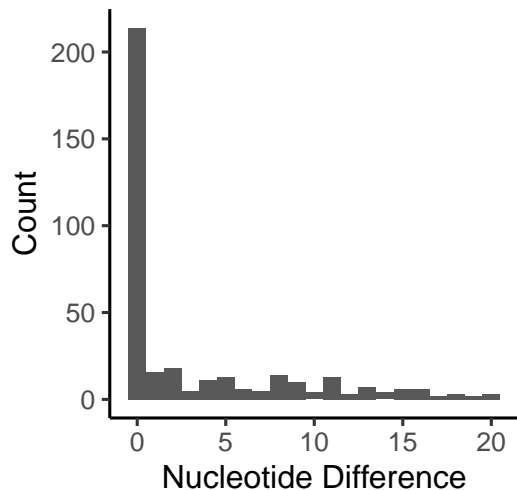
### IGHV3-74\*03

80 sequences assigned  
No exact matches.



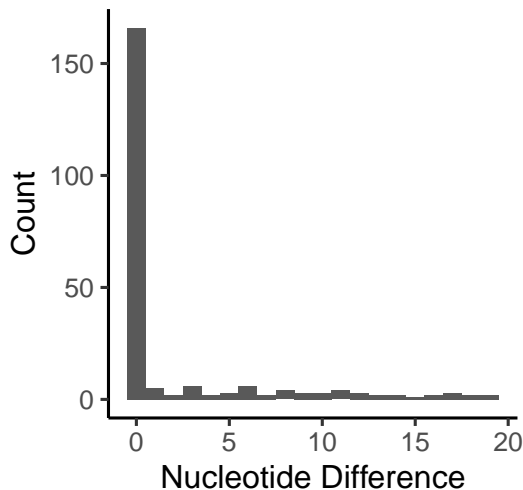
### IGHV3-74\*01\_02

371 sequences assigned  
214 (57.7%) exact matches, in which:  
204 unique CDR3  
7 unique J



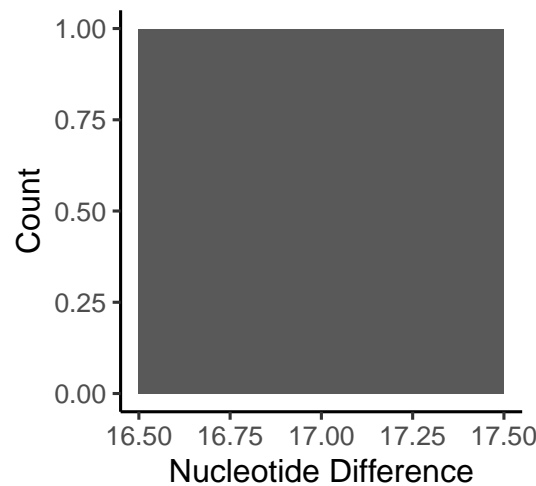
### IGHV4-4\*02\_03

230 sequences assigned  
166 (72.2%) exact matches, in which:  
162 unique CDR3  
6 unique J



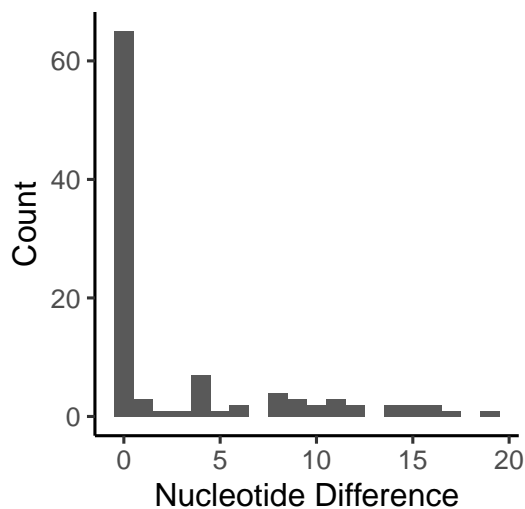
### IGHV4-30-4\*01

2 sequences assigned  
No exact matches.



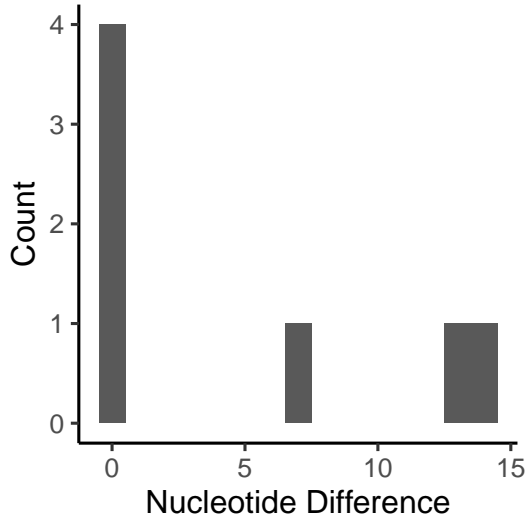
### IGHV3-64D\*06

107 sequences assigned  
65 (60.7%) exact matches, in which:  
63 unique CDR3  
5 unique J



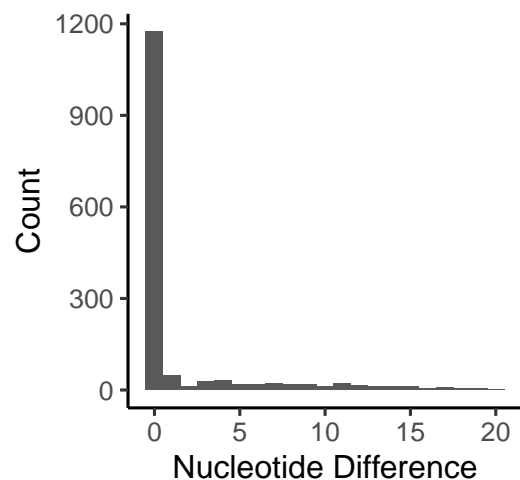
### IGHV4-28\*01\_07

7 sequences assigned  
4 (57.1%) exact matches, in which:  
4 unique CDR3  
3 unique J



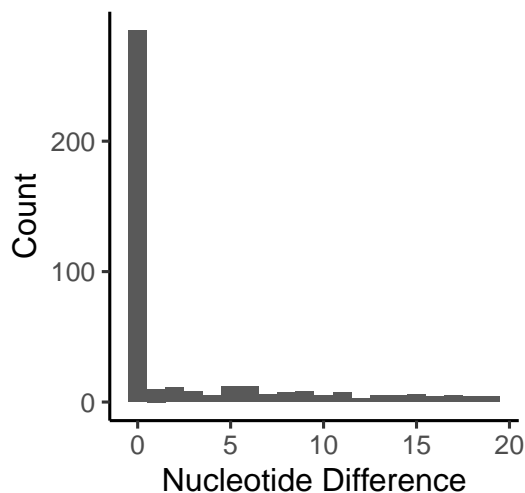
### IGHV4-31\*02

1511 sequences assigned  
1174 (77.7%) exact matches, in which:  
1158 unique CDR3  
7 unique J



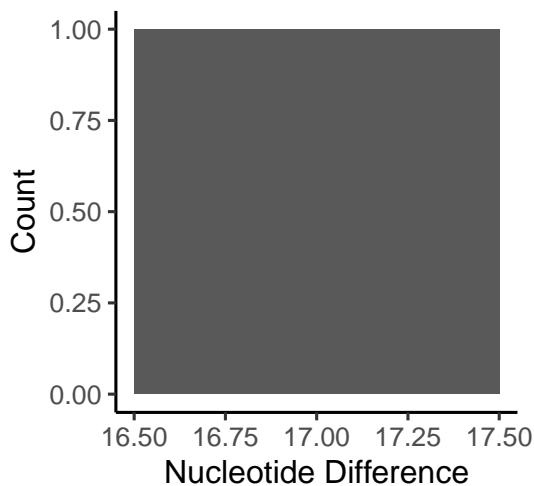
### IGHV4-4\*07

416 sequences assigned  
285 (68.5%) exact matches, in which:  
282 unique CDR3  
5 unique J



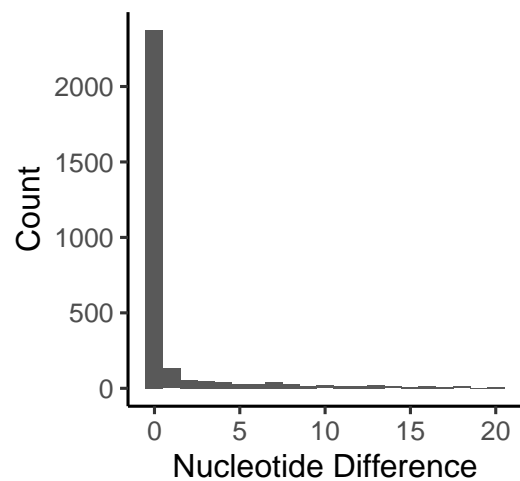
### IGHV4-30-2\*01

1 sequences assigned  
No exact matches.



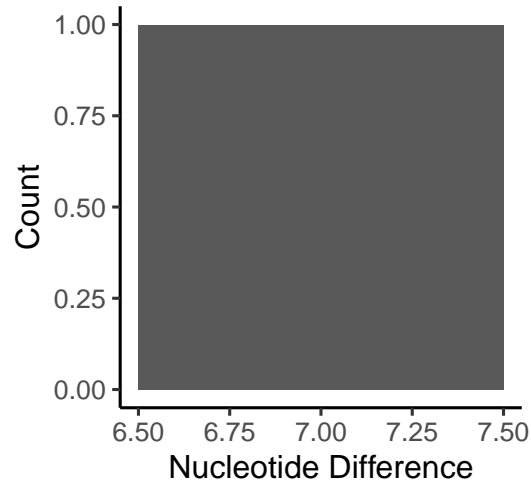
### IGHV4-34\*01\_02

2954 sequences assigned  
2374 (80.4%) exact matches, in which:  
2298 unique CDR3  
7 unique J



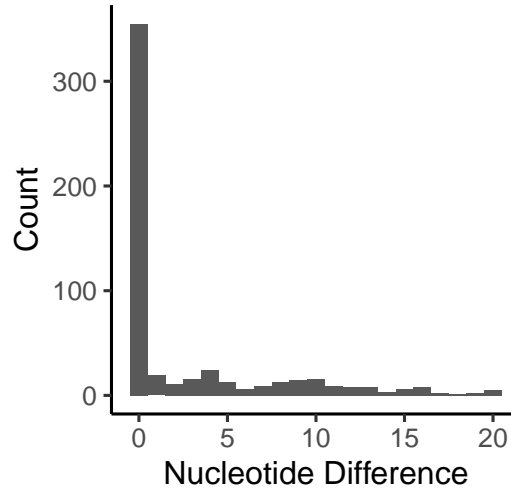
### IGHV4-38-2\*02

1 sequences assigned  
No exact matches.



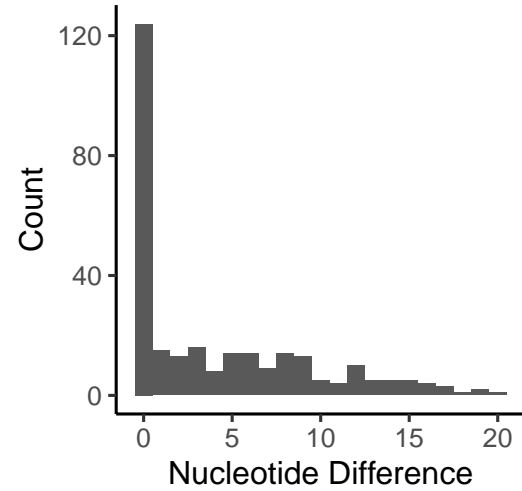
### IGHV4-61\*01

565 sequences assigned  
355 (62.8%) exact matches, in which:  
349 unique CDR3  
7 unique J



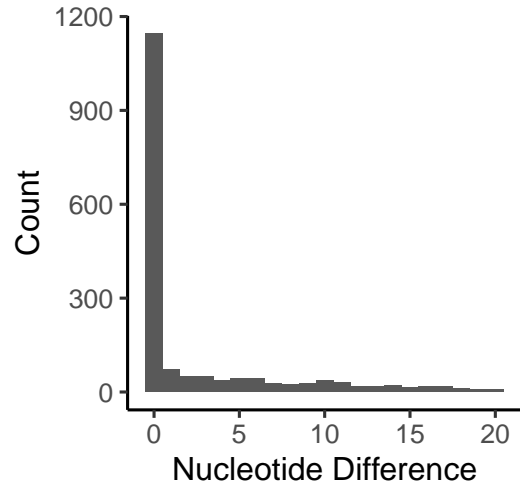
### IGHV6-1\*01\_02

287 sequences assigned  
124 (43.2%) exact matches, in which:  
124 unique CDR3  
7 unique J



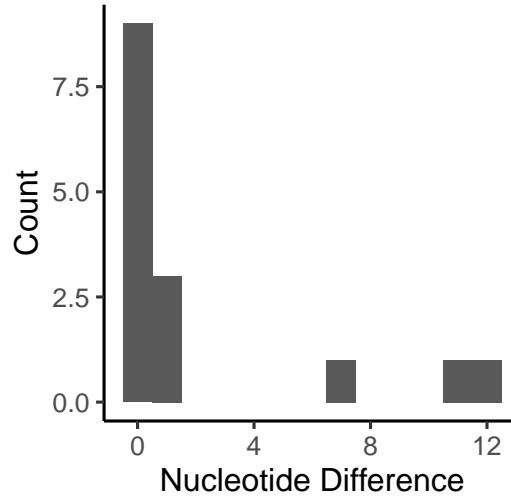
### IGHV4-39\*02\_C258G

1750 sequences assigned  
1145 (65.4%) exact matches, in which:  
1126 unique CDR3  
7 unique J



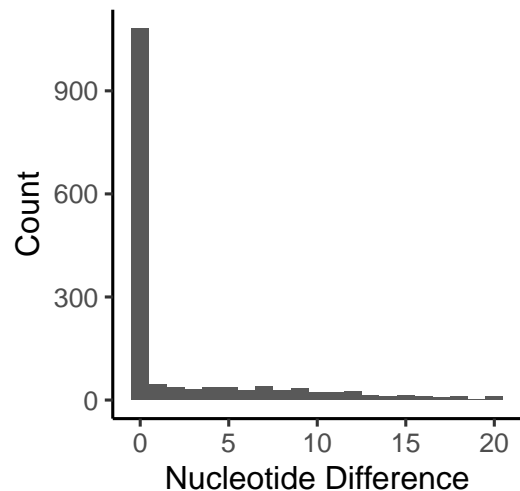
### IGHV5-10-1\*01\_03

16 sequences assigned  
9 (56.2%) exact matches, in which:  
9 unique CDR3  
4 unique J



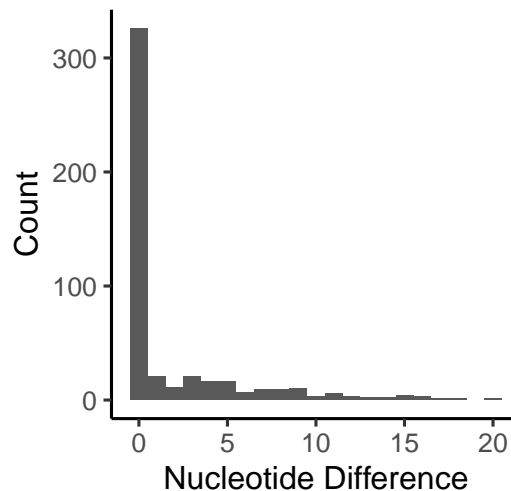
### IGHV4-59\*02\_G88A

1572 sequences assigned  
1082 (68.8%) exact matches, in which:  
1050 unique CDR3  
7 unique J

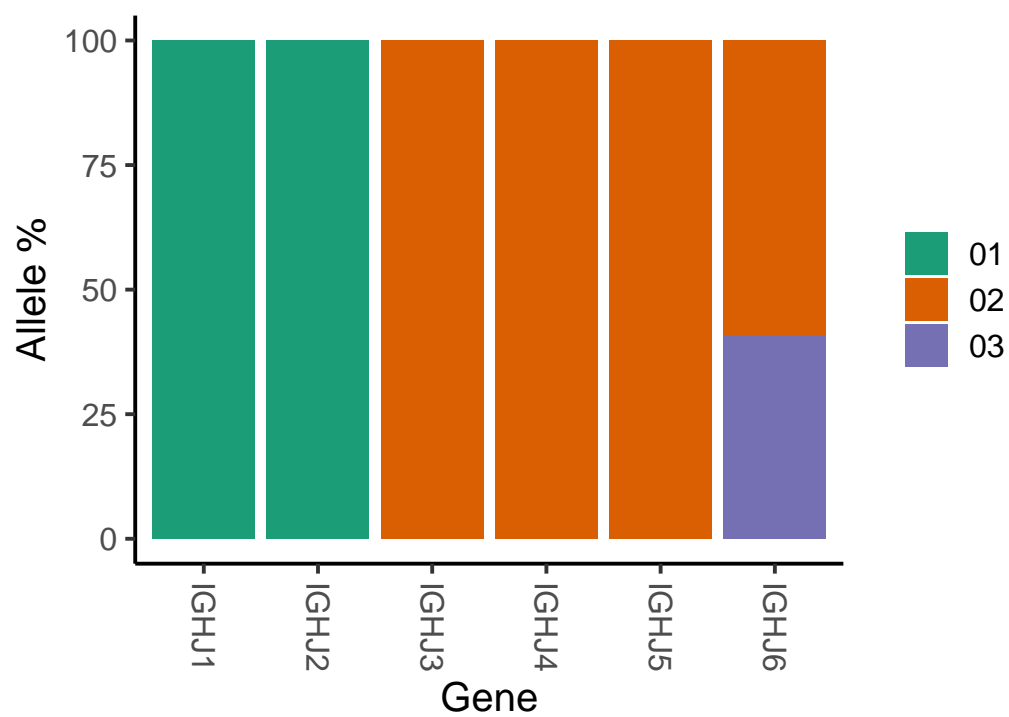


### IGHV5-51\*07\_A128G

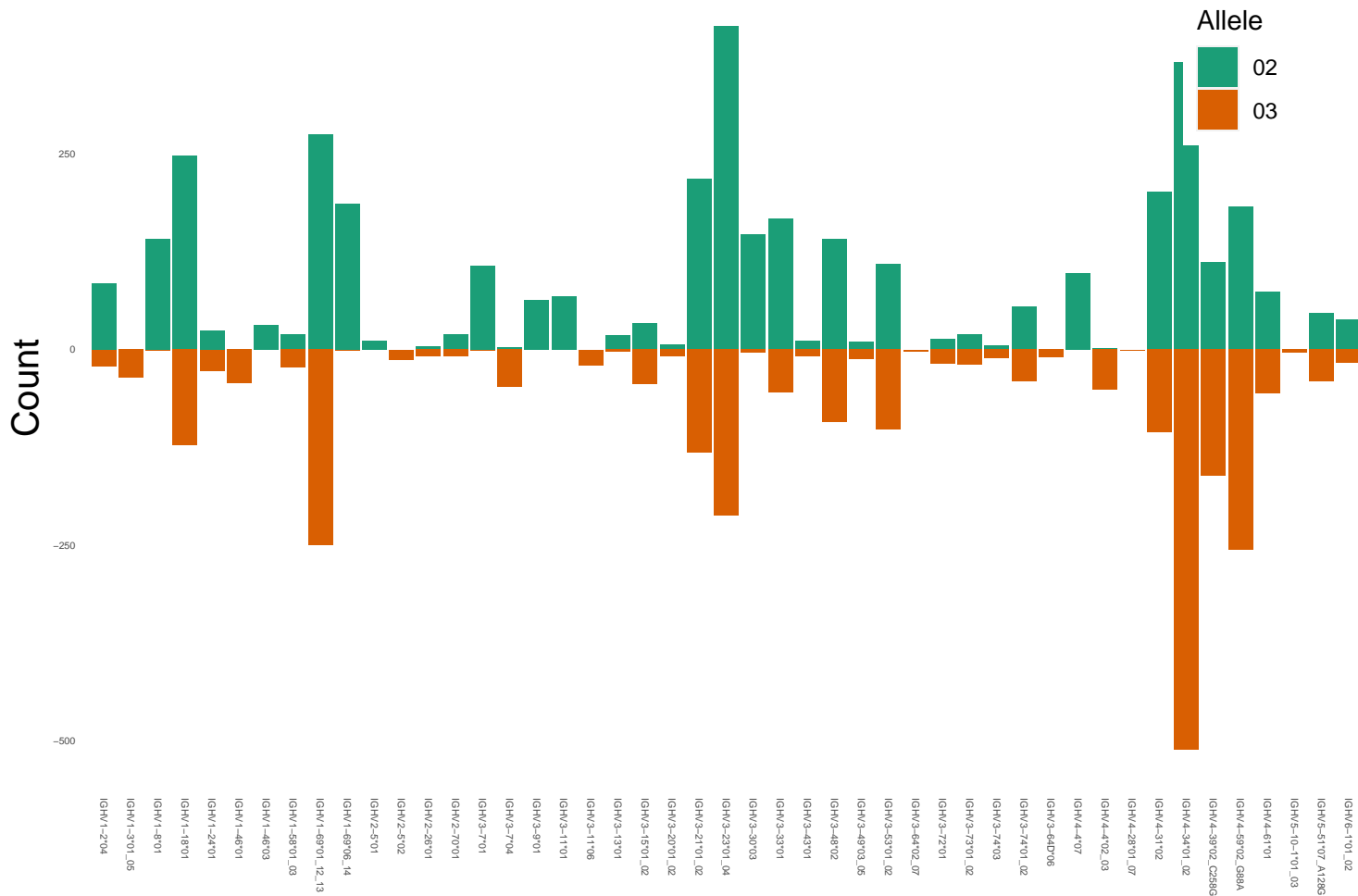
473 sequences assigned  
326 (68.9%) exact matches, in which:  
326 unique CDR3  
7 unique J



Allele Usage



Sequence Count by IGHJ6 allele usage





Warning – no inferred sequences found.