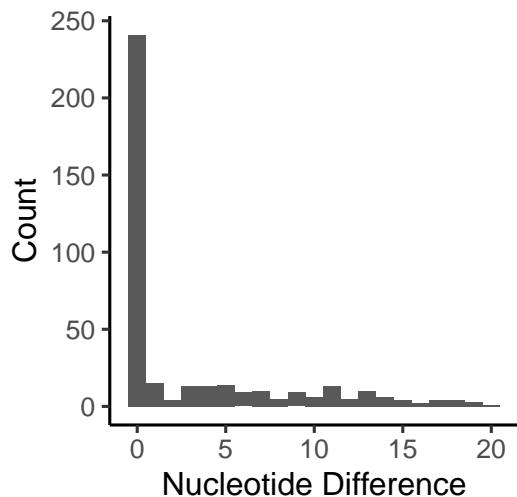


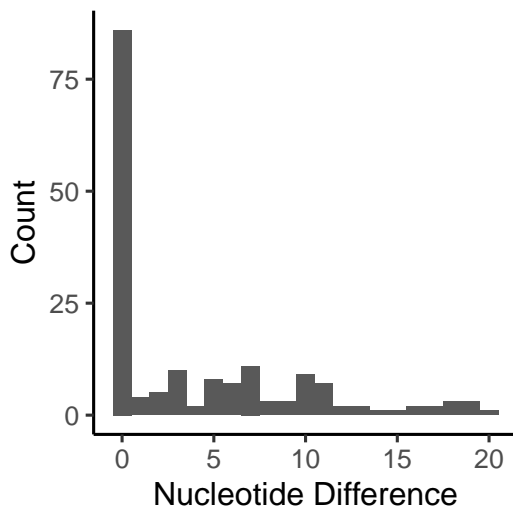
### IGHV1-2\*02

400 sequences assigned  
241 (60.2%) exact matches, in which:  
239 unique CDR3  
7 unique J



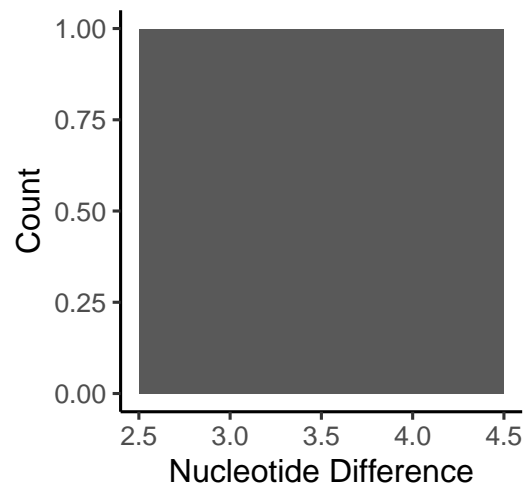
### IGHV1-8\*03

177 sequences assigned  
86 (48.6%) exact matches, in which:  
86 unique CDR3  
5 unique J



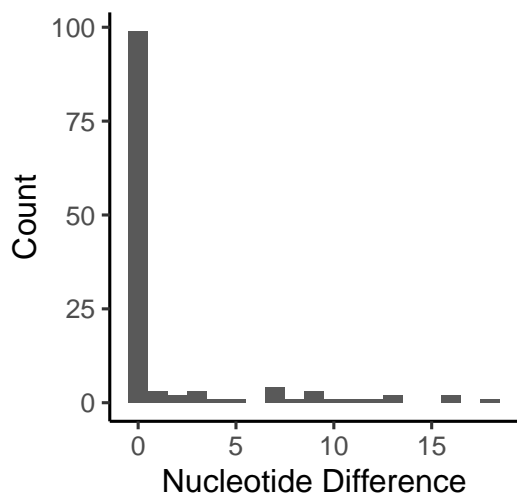
### IGHV1-38-4\*01

2 sequences assigned  
No exact matches.



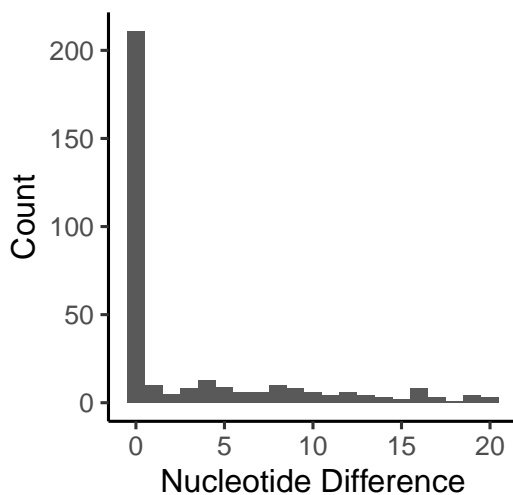
### IGHV1-2\*04

129 sequences assigned  
99 (76.7%) exact matches, in which:  
99 unique CDR3  
6 unique J



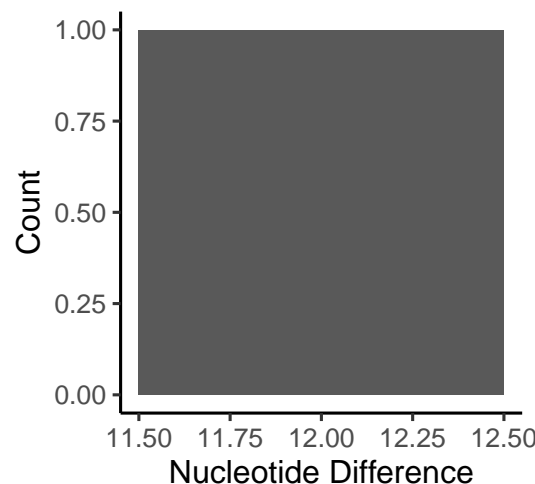
### IGHV1-18\*01

359 sequences assigned  
211 (58.8%) exact matches, in which:  
211 unique CDR3  
6 unique J



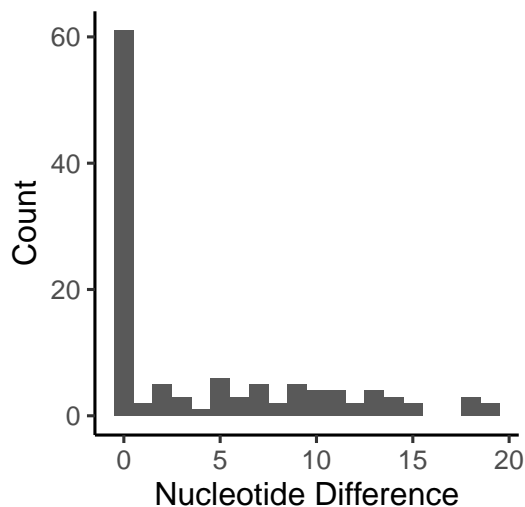
### IGHV1-45\*02

1 sequences assigned  
No exact matches.



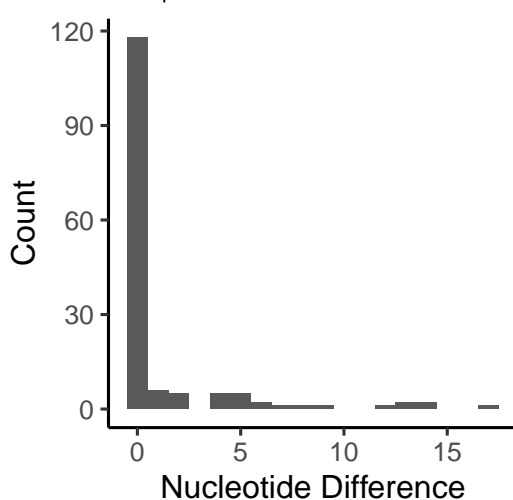
### IGHV1-3\*01\_05

127 sequences assigned  
61 (48%) exact matches, in which:  
61 unique CDR3  
5 unique J



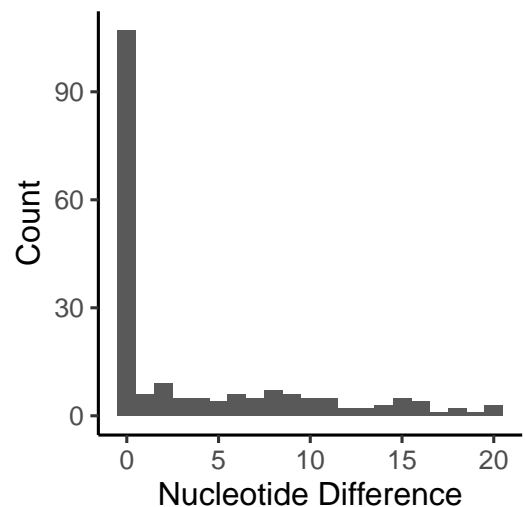
### IGHV1-24\*01

152 sequences assigned  
118 (77.6%) exact matches, in which:  
118 unique CDR3  
5 unique J



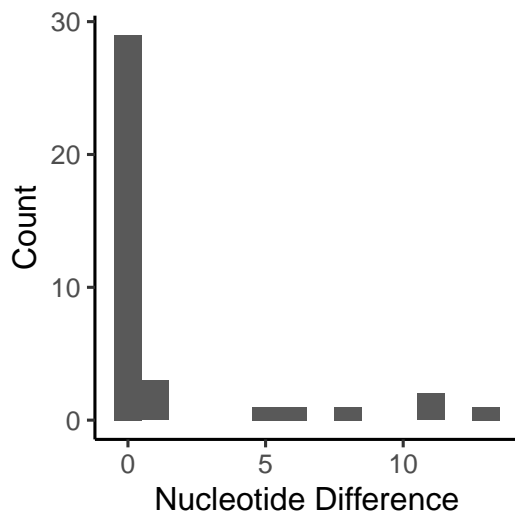
### IGHV1-46\*01

203 sequences assigned  
107 (52.7%) exact matches, in which:  
107 unique CDR3  
7 unique J



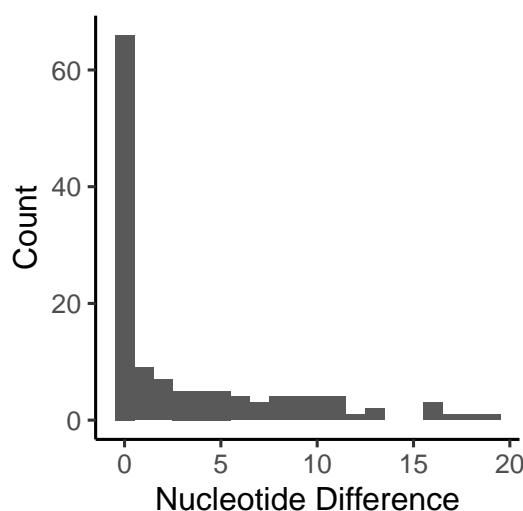
### IGHV1-58\*01\_03

38 sequences assigned  
29 (76.3%) exact matches, in which:  
29 unique CDR3  
6 unique J



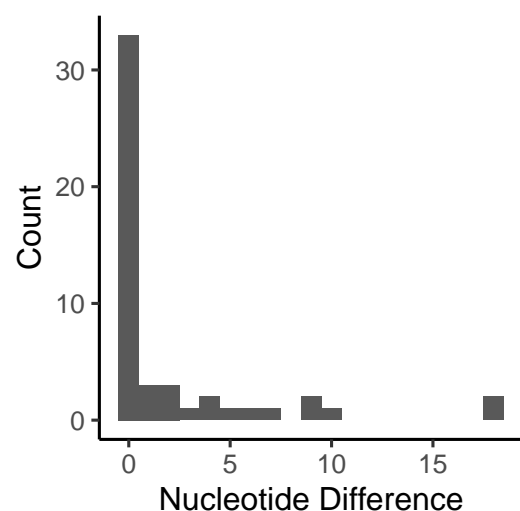
### IGHV2-5\*01

135 sequences assigned  
66 (48.9%) exact matches, in which:  
66 unique CDR3  
6 unique J



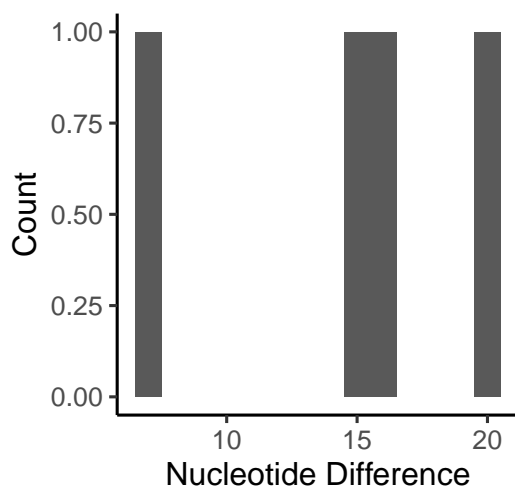
### IGHV2-70\*01

52 sequences assigned  
33 (63.5%) exact matches, in which:  
32 unique CDR3  
4 unique J



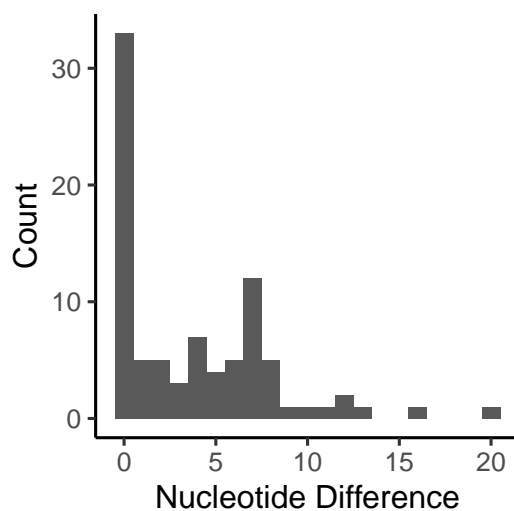
### IGHV1-69-2\*01

6 sequences assigned  
No exact matches.



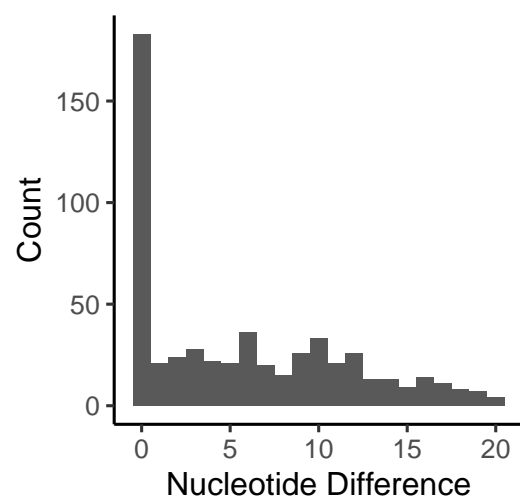
### IGHV2-5\*02

90 sequences assigned  
33 (36.7%) exact matches, in which:  
33 unique CDR3  
4 unique J



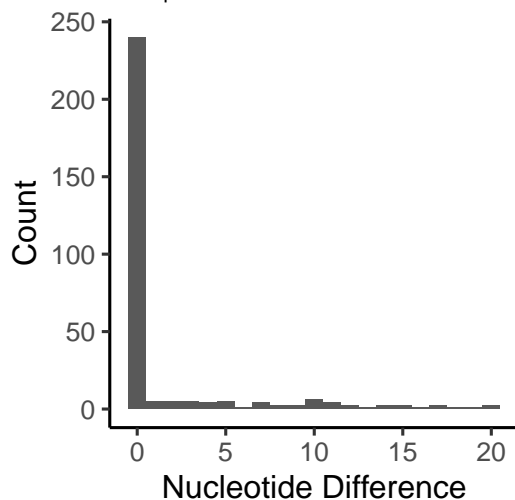
### IGHV3-7\*01

599 sequences assigned  
183 (30.6%) exact matches, in which:  
181 unique CDR3  
6 unique J



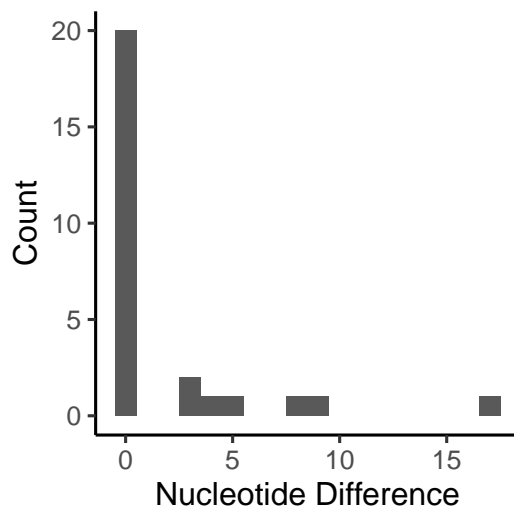
### IGHV1-69\*06\_14

309 sequences assigned  
240 (77.7%) exact matches, in which:  
240 unique CDR3  
6 unique J



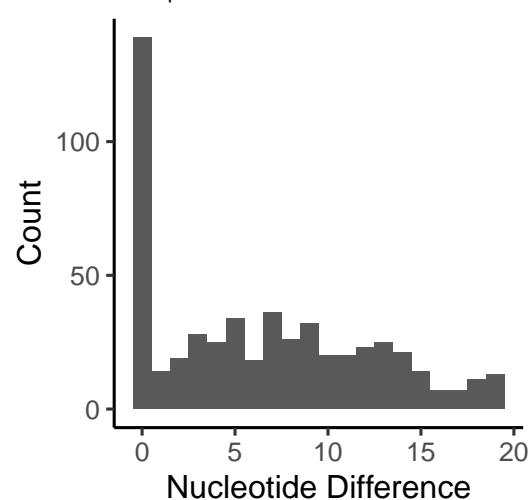
### IGHV2-26\*01

27 sequences assigned  
20 (74.1%) exact matches, in which:  
20 unique CDR3  
5 unique J



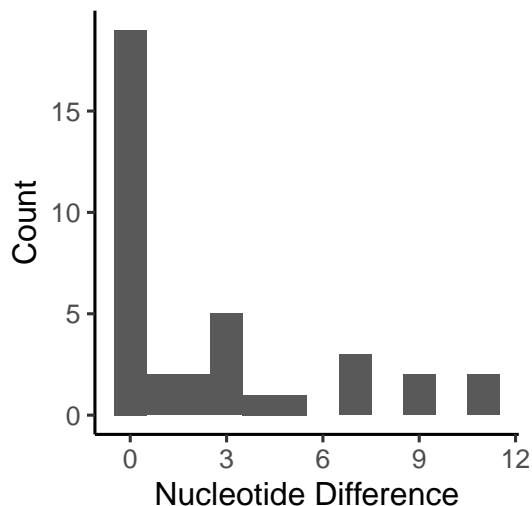
### IGHV3-7\*03

547 sequences assigned  
139 (25.4%) exact matches, in which:  
133 unique CDR3  
5 unique J



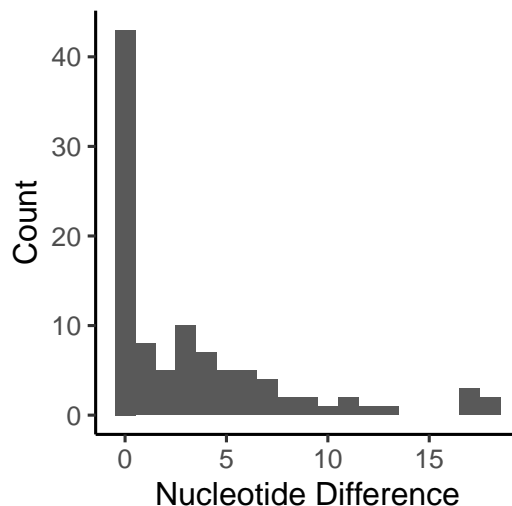
### IGHV3-9\*03

37 sequences assigned  
19 (51.4%) exact matches, in which:  
18 unique CDR3  
4 unique J



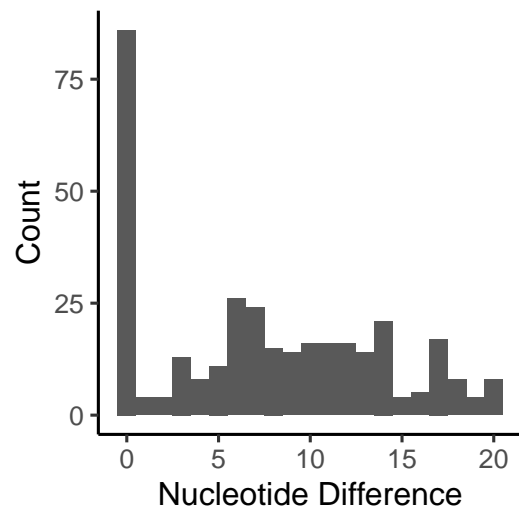
### IGHV3-20\*03\_04

102 sequences assigned  
43 (42.2%) exact matches, in which:  
42 unique CDR3  
5 unique J



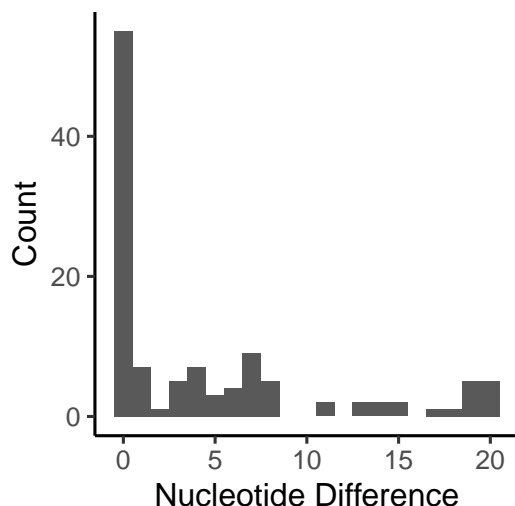
### IGHV3-33\*01

356 sequences assigned  
86 (24.2%) exact matches, in which:  
86 unique CDR3  
5 unique J



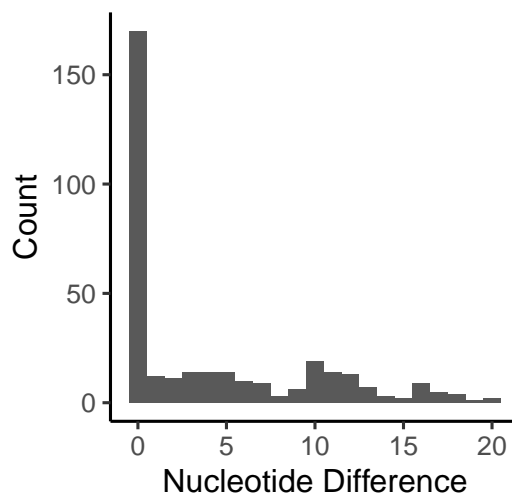
### IGHV3-11\*04

131 sequences assigned  
55 (42%) exact matches, in which:  
55 unique CDR3  
6 unique J



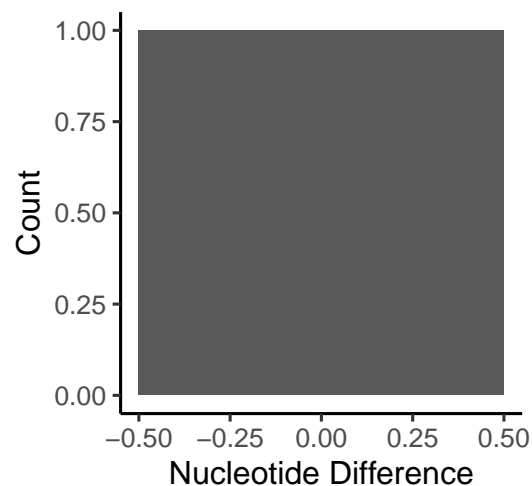
### IGHV3-21\*01\_02

362 sequences assigned  
170 (47%) exact matches, in which:  
163 unique CDR3  
7 unique J



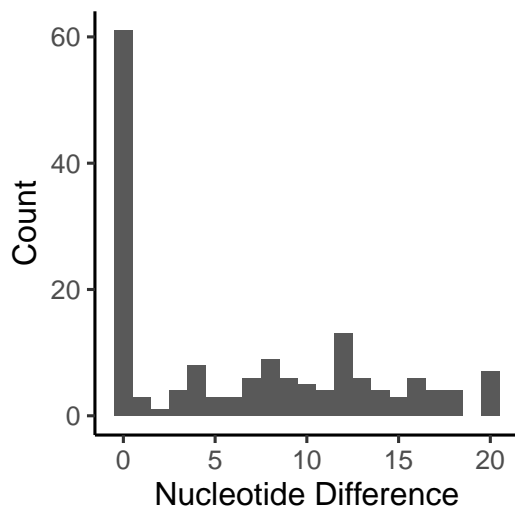
### IGHV3-38-3\*01

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



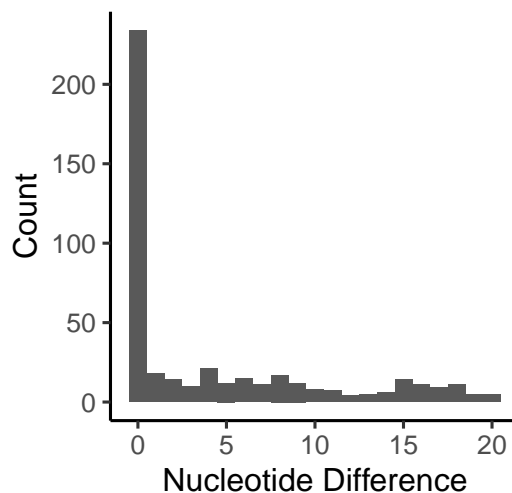
### IGHV3-15\*01\_02

172 sequences assigned  
61 (35.5%) exact matches, in which:  
58 unique CDR3  
6 unique J



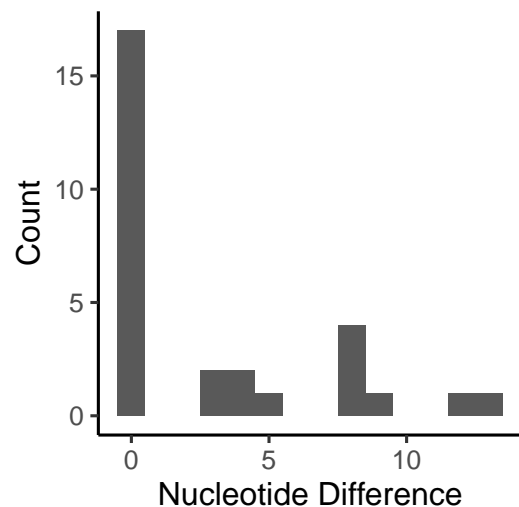
### IGHV3-30-3\*01

489 sequences assigned  
234 (47.9%) exact matches, in which:  
231 unique CDR3  
7 unique J



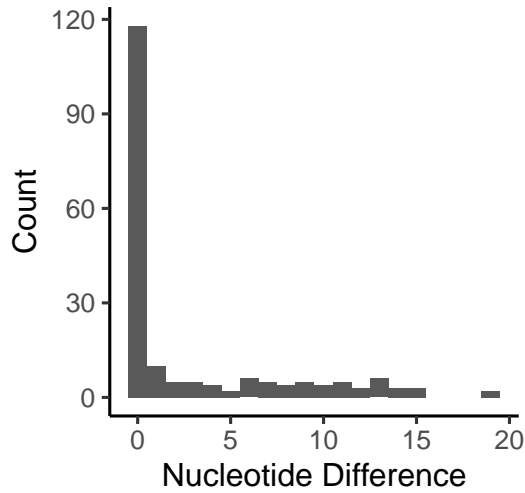
### IGHV3-43\*01

31 sequences assigned  
17 (54.8%) exact matches, in which:  
16 unique CDR3  
4 unique J



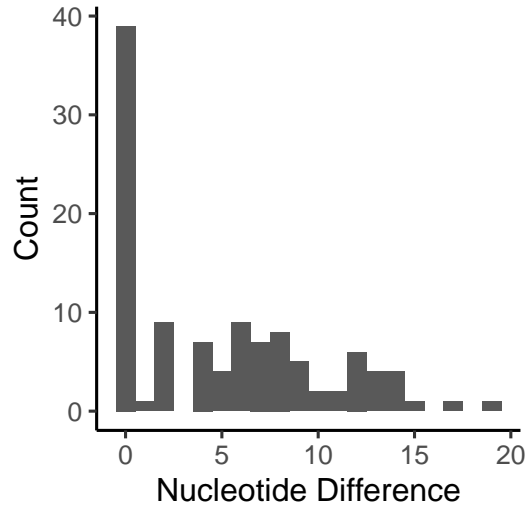
### IGHV3-43\*02

190 sequences assigned  
118 (62.1%) exact matches, in which:  
115 unique CDR3  
6 unique J



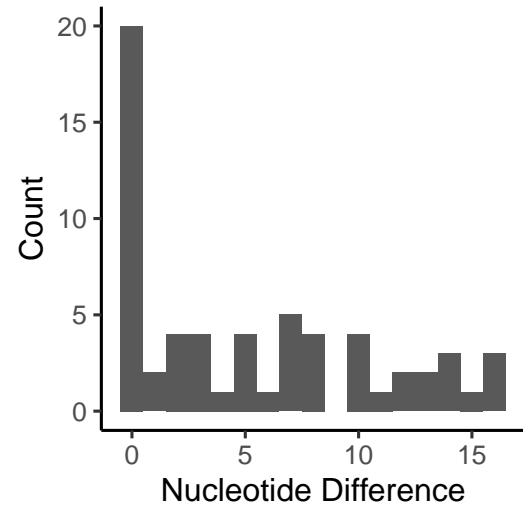
### IGHV3-49\*04

117 sequences assigned  
39 (33.3%) exact matches, in which:  
39 unique CDR3  
6 unique J



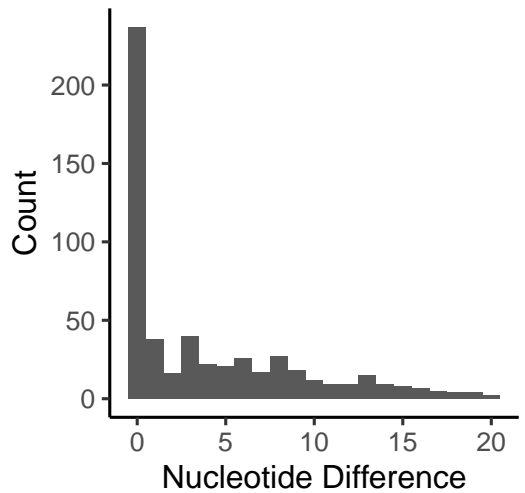
### IGHV3-64\*01

61 sequences assigned  
20 (32.8%) exact matches, in which:  
18 unique CDR3  
4 unique J



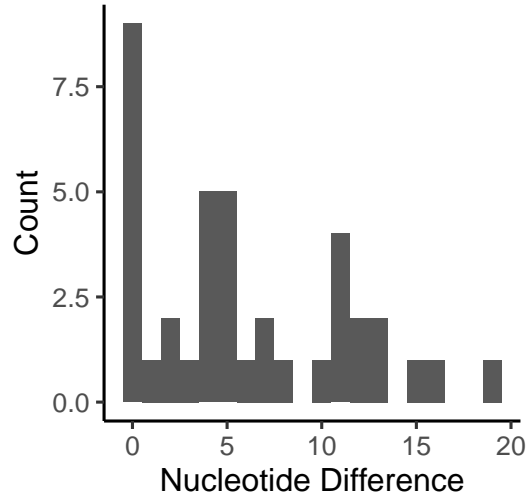
### IGHV3-48\*03

561 sequences assigned  
237 (42.2%) exact matches, in which:  
229 unique CDR3  
6 unique J



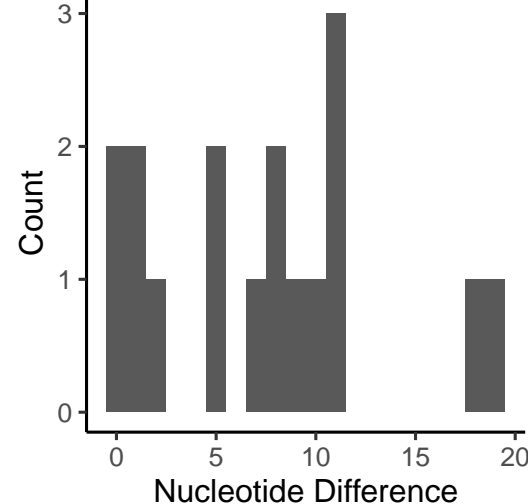
### IGHV3-49\*03\_05

43 sequences assigned  
9 (20.9%) exact matches, in which:  
9 unique CDR3  
4 unique J



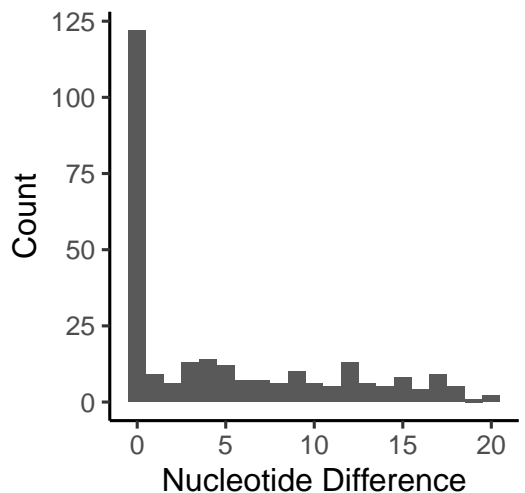
### IGHV3-64\*02\_07

18 sequences assigned  
2 (11.1%) exact matches, in which:  
2 unique CDR3  
2 unique J



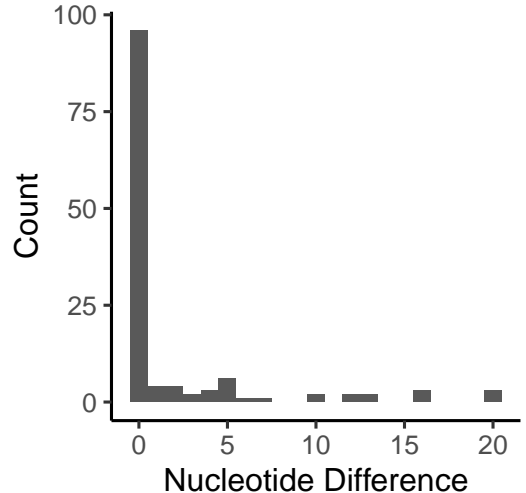
### IGHV3-48\*04

300 sequences assigned  
122 (40.7%) exact matches, in which:  
119 unique CDR3  
6 unique J



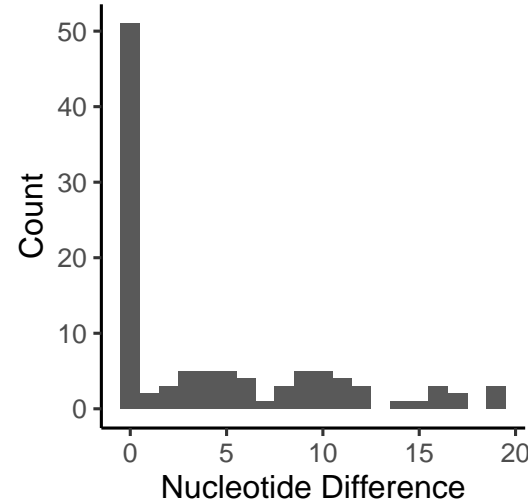
### IGHV3-53\*04

146 sequences assigned  
96 (65.8%) exact matches, in which:  
96 unique CDR3  
6 unique J



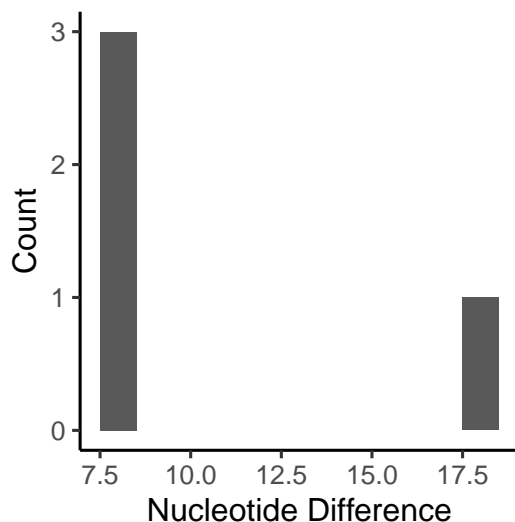
### IGHV3-66\*02

110 sequences assigned  
51 (46.4%) exact matches, in which:  
47 unique CDR3  
5 unique J



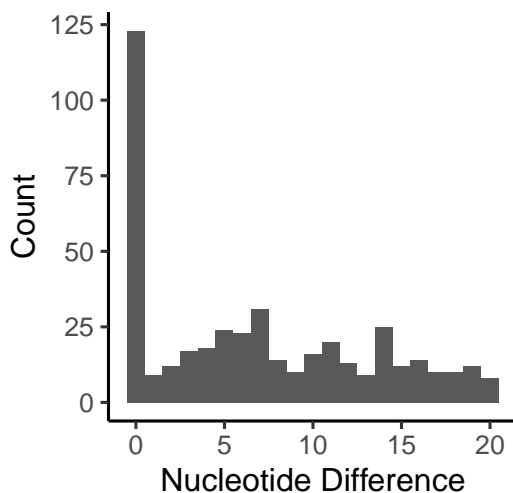
### IGHV3-69-1\*01

5 sequences assigned  
No exact matches.



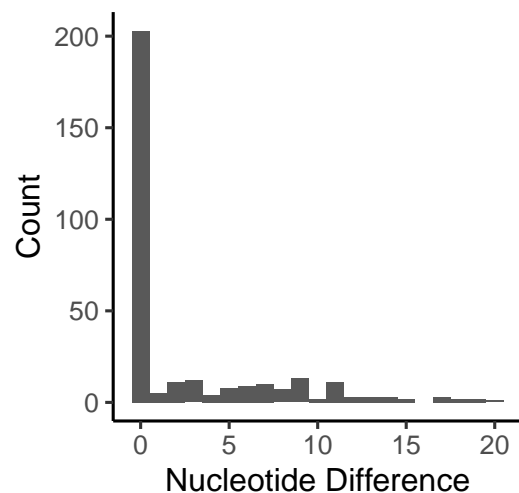
### IGHV3-74\*01\_02

464 sequences assigned  
123 (26.5%) exact matches, in which:  
116 unique CDR3  
7 unique J



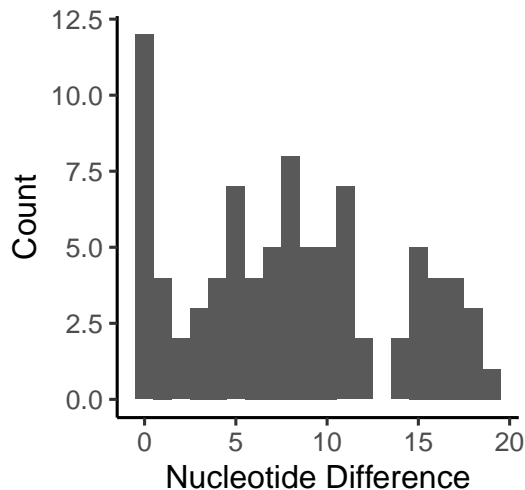
### IGHV4-4\*07

322 sequences assigned  
203 (63%) exact matches, in which:  
196 unique CDR3  
7 unique J



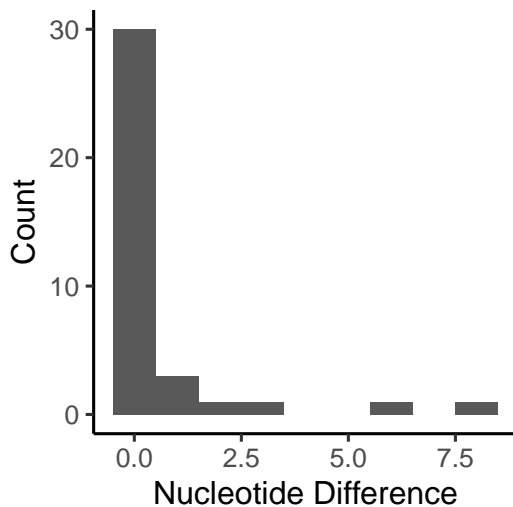
### IGHV3-72\*01

98 sequences assigned  
12 (12.2%) exact matches, in which:  
12 unique CDR3  
3 unique J



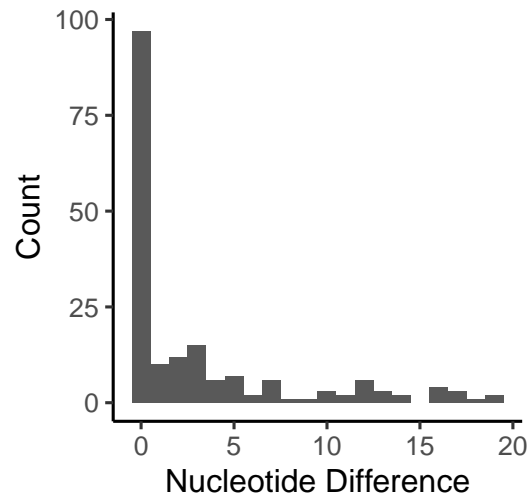
### IGHV3-43D\*03

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



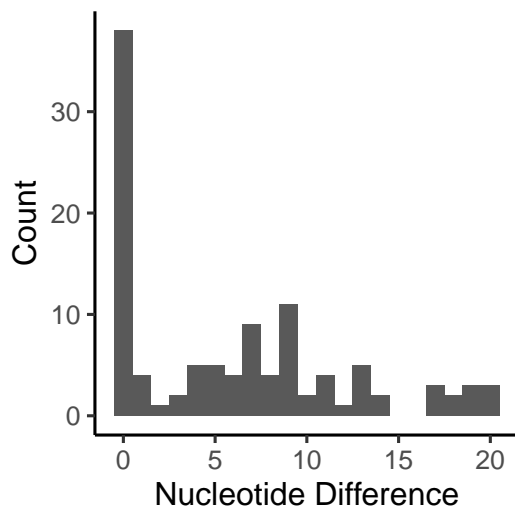
### IGHV4-30-4\*01

201 sequences assigned  
97 (48.3%) exact matches, in which:  
96 unique CDR3  
6 unique J



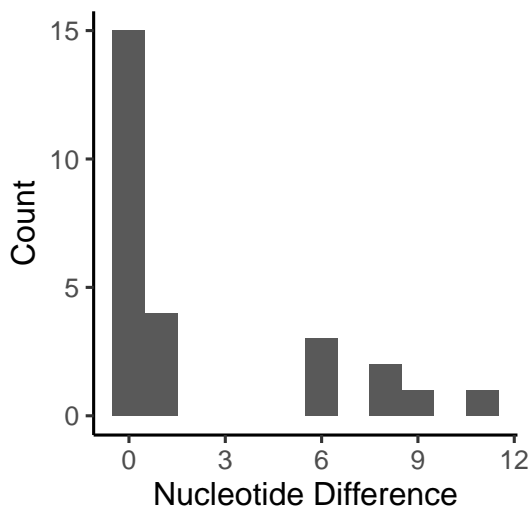
### IGHV3-73\*01\_02

111 sequences assigned  
38 (34.2%) exact matches, in which:  
38 unique CDR3  
5 unique J



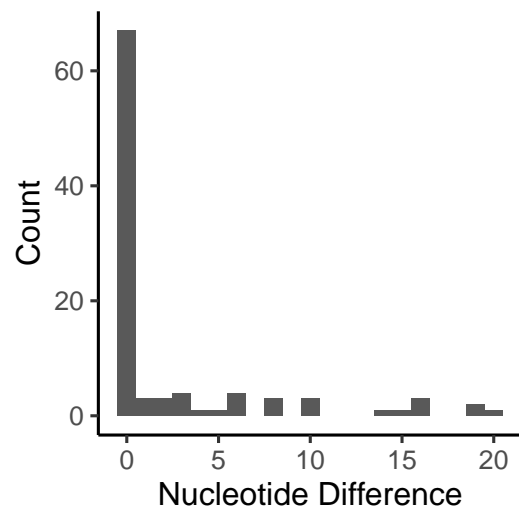
### IGHV3-43D\*04

26 sequences assigned  
15 (57.7%) exact matches, in which:  
15 unique CDR3  
3 unique J



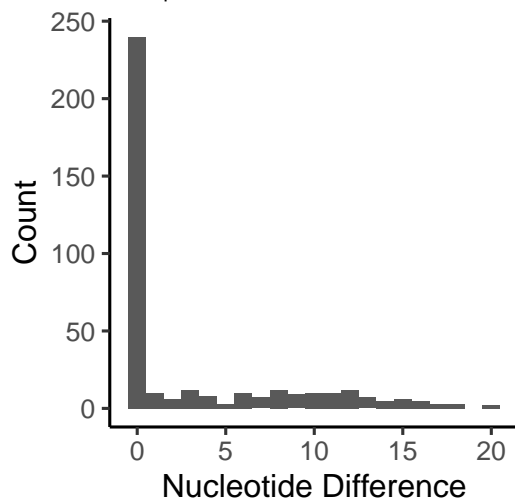
### IGHV4-30-2\*01

106 sequences assigned  
67 (63.2%) exact matches, in which:  
64 unique CDR3  
5 unique J



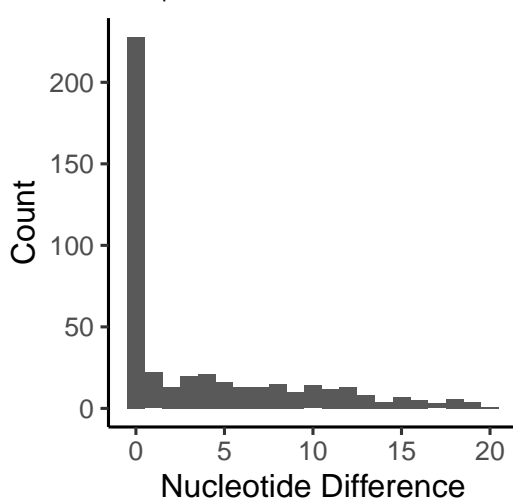
### IGHV4-30-4\*08

394 sequences assigned  
240 (60.9%) exact matches, in which:  
238 unique CDR3  
6 unique J



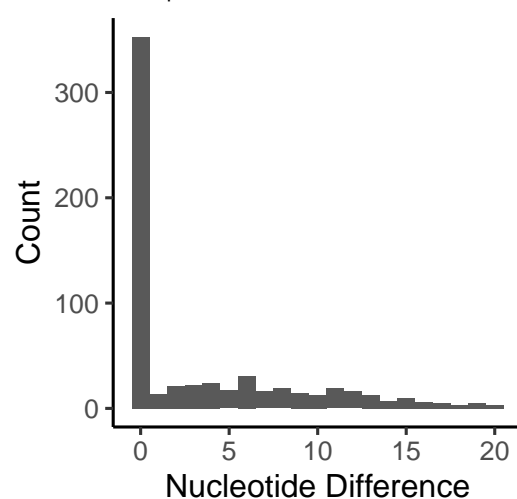
### IGHV4-38-2\*01

461 sequences assigned  
228 (49.5%) exact matches, in which:  
228 unique CDR3  
6 unique J



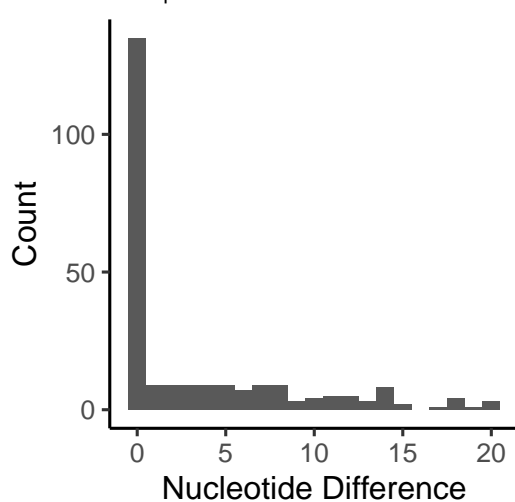
### IGHV4-39\*01\_05

670 sequences assigned  
353 (52.7%) exact matches, in which:  
341 unique CDR3  
6 unique J



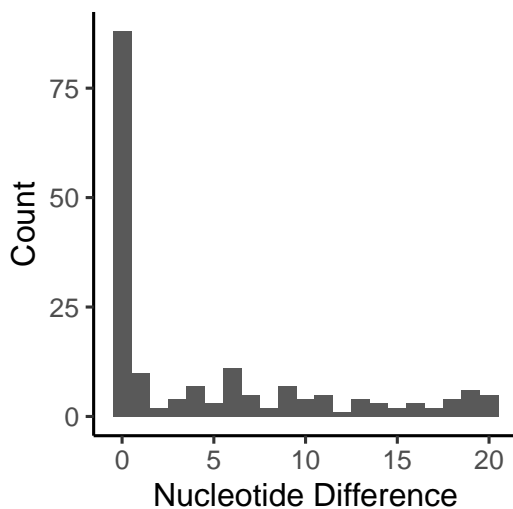
### IGHV4-31\*03\_04

263 sequences assigned  
135 (51.3%) exact matches, in which:  
132 unique CDR3  
6 unique J



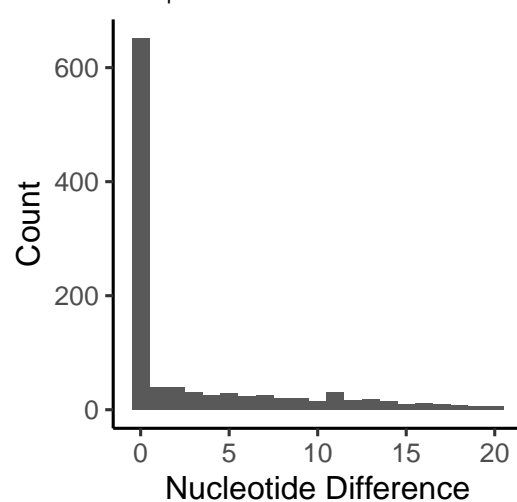
### IGHV4-38-2\*02

191 sequences assigned  
88 (46.1%) exact matches, in which:  
85 unique CDR3  
5 unique J



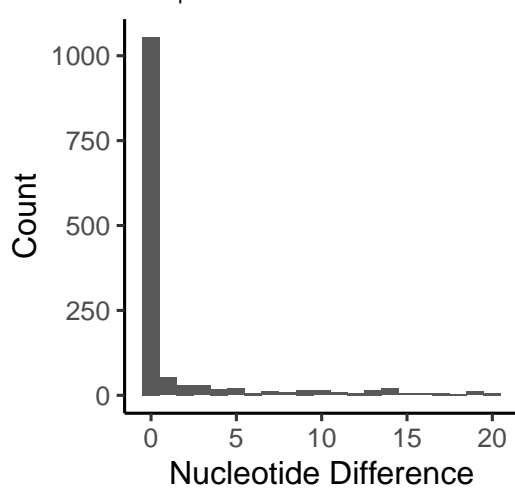
### IGHV4-59\*01\_07

1098 sequences assigned  
652 (59.4%) exact matches, in which:  
637 unique CDR3  
7 unique J



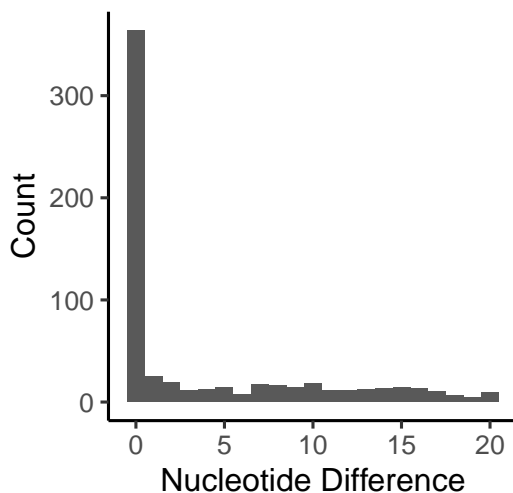
### IGHV4-34\*01\_02

1382 sequences assigned  
1055 (76.3%) exact matches, in which:  
1017 unique CDR3  
7 unique J



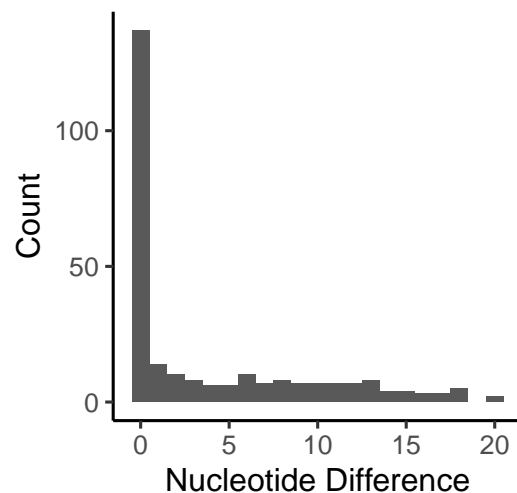
### IGHV4-39\*07

646 sequences assigned  
364 (56.3%) exact matches, in which:  
353 unique CDR3  
6 unique J



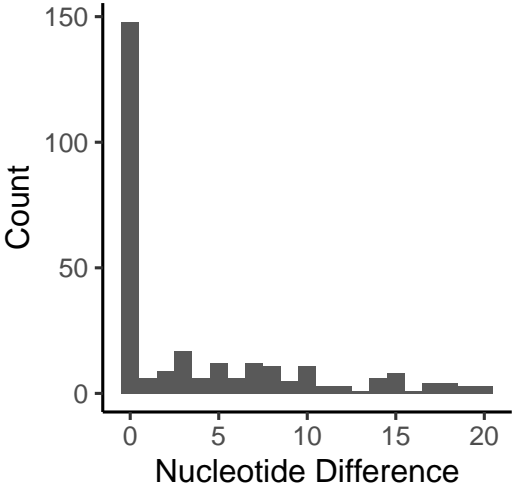
### IGHV4-61\*01

277 sequences assigned  
137 (49.5%) exact matches, in which:  
137 unique CDR3  
5 unique J



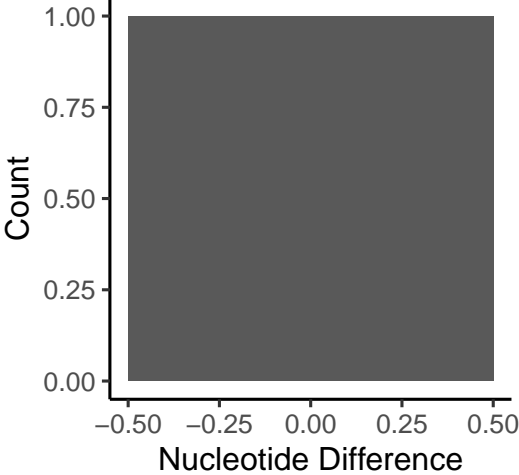
IGHV4-61\*02

302 sequences assigned  
148 (49%) exact matches, in which:  
145 unique CDR3  
6 unique J



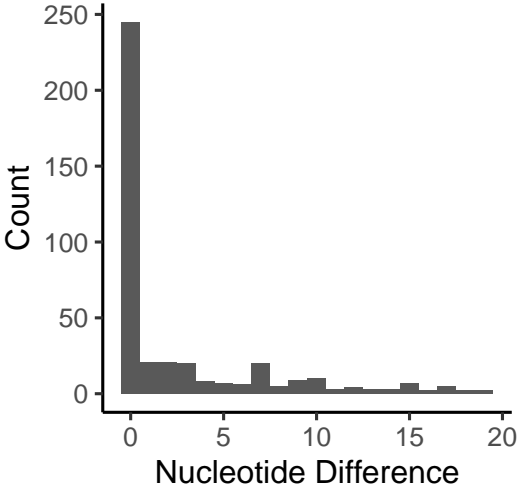
IGHV7-4-1\*01

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



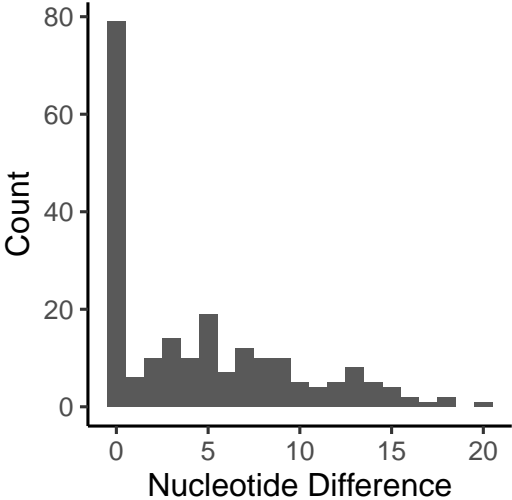
IGHV5-51\*01\_03

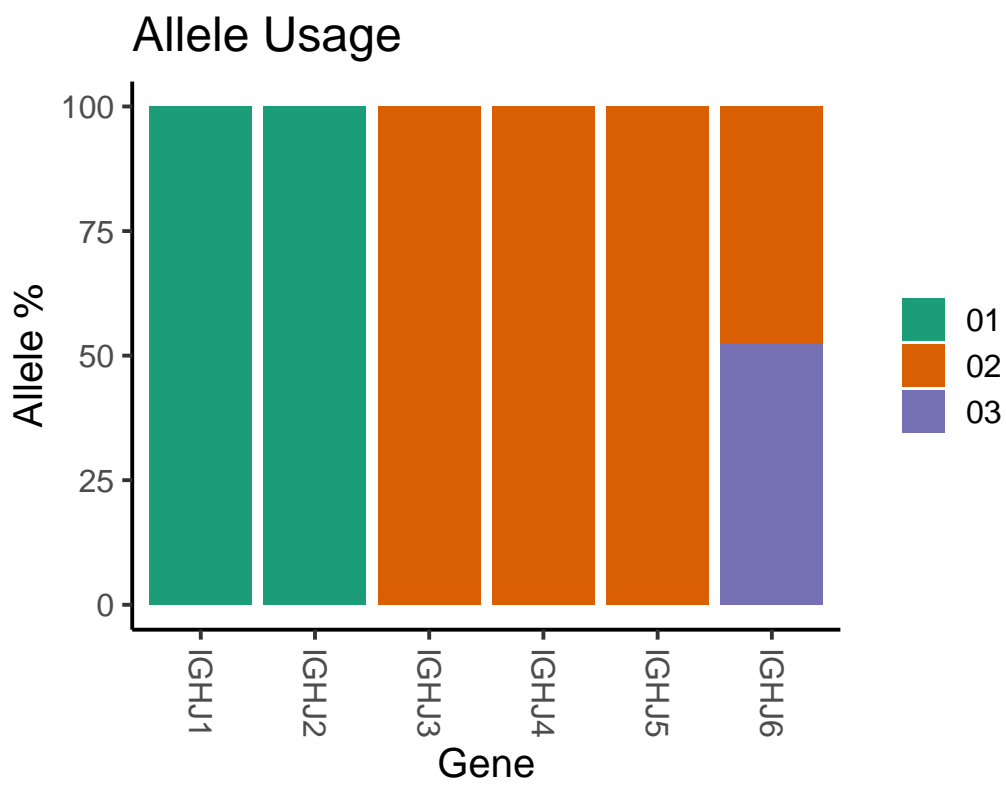
408 sequences assigned  
245 (60%) exact matches, in which:  
245 unique CDR3  
7 unique J



IGHV6-1\*01\_02

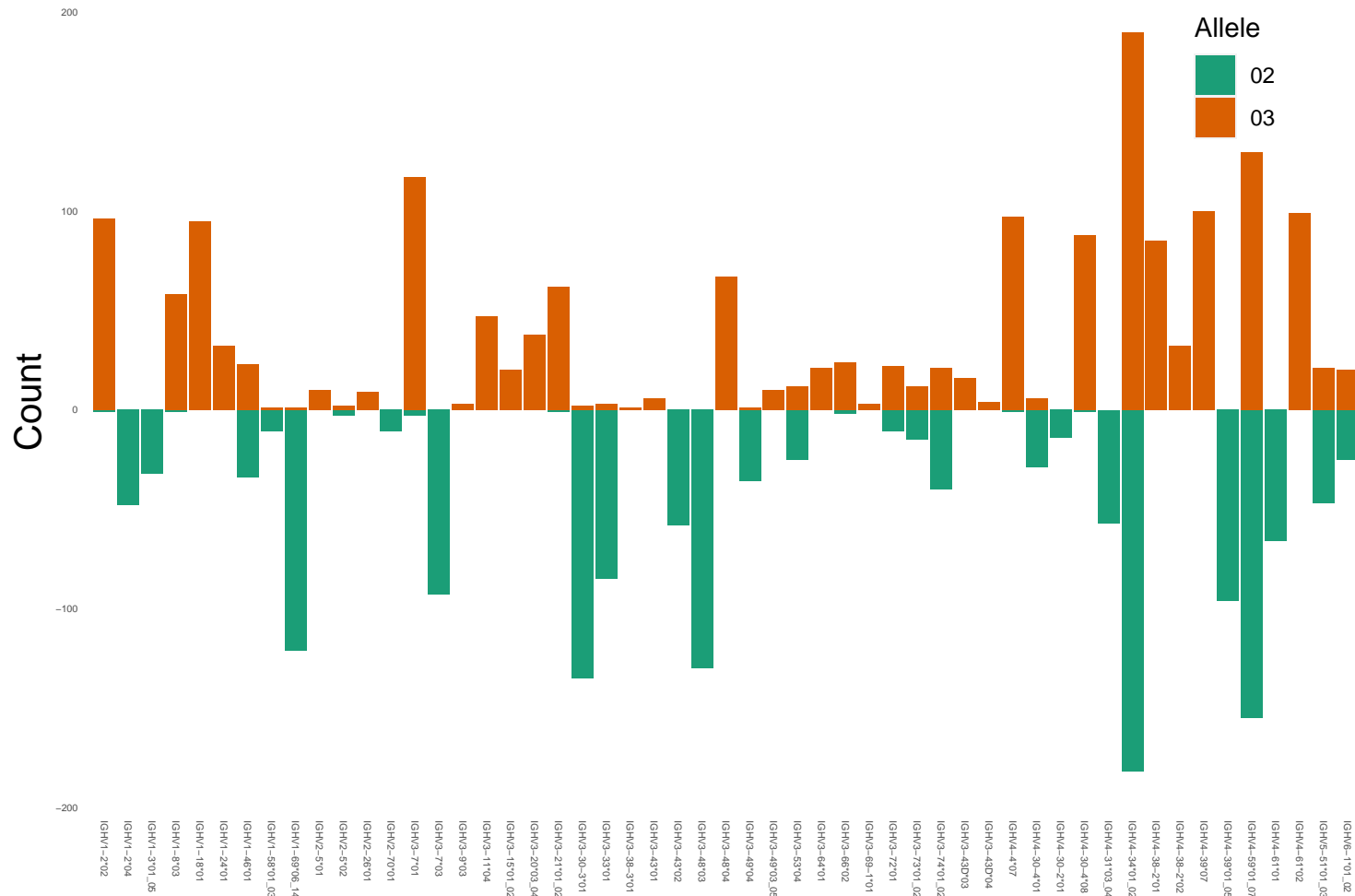
216 sequences assigned  
79 (36.6%) exact matches, in which:  
79 unique CDR3  
7 unique J







### Sequence Count by IGHJ6 allele usage



Never sequence(s) for IVT. GC\_Z=GC for IVT. If GC\_A1200 are not listed in the genotype and will be ignored.