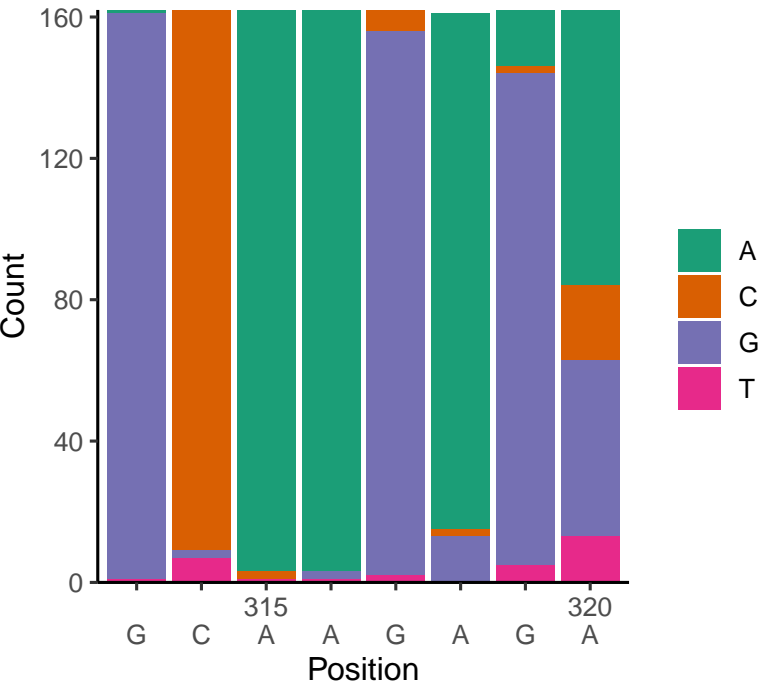
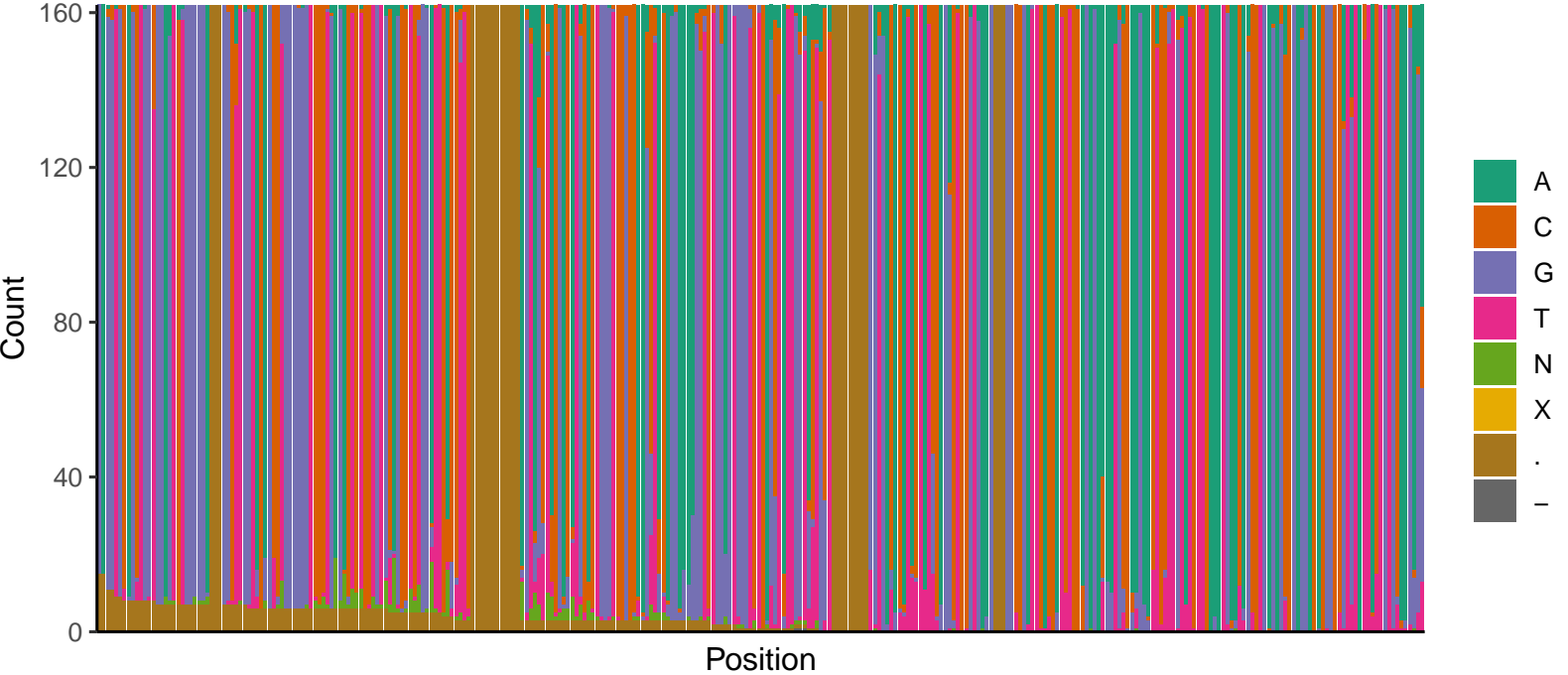


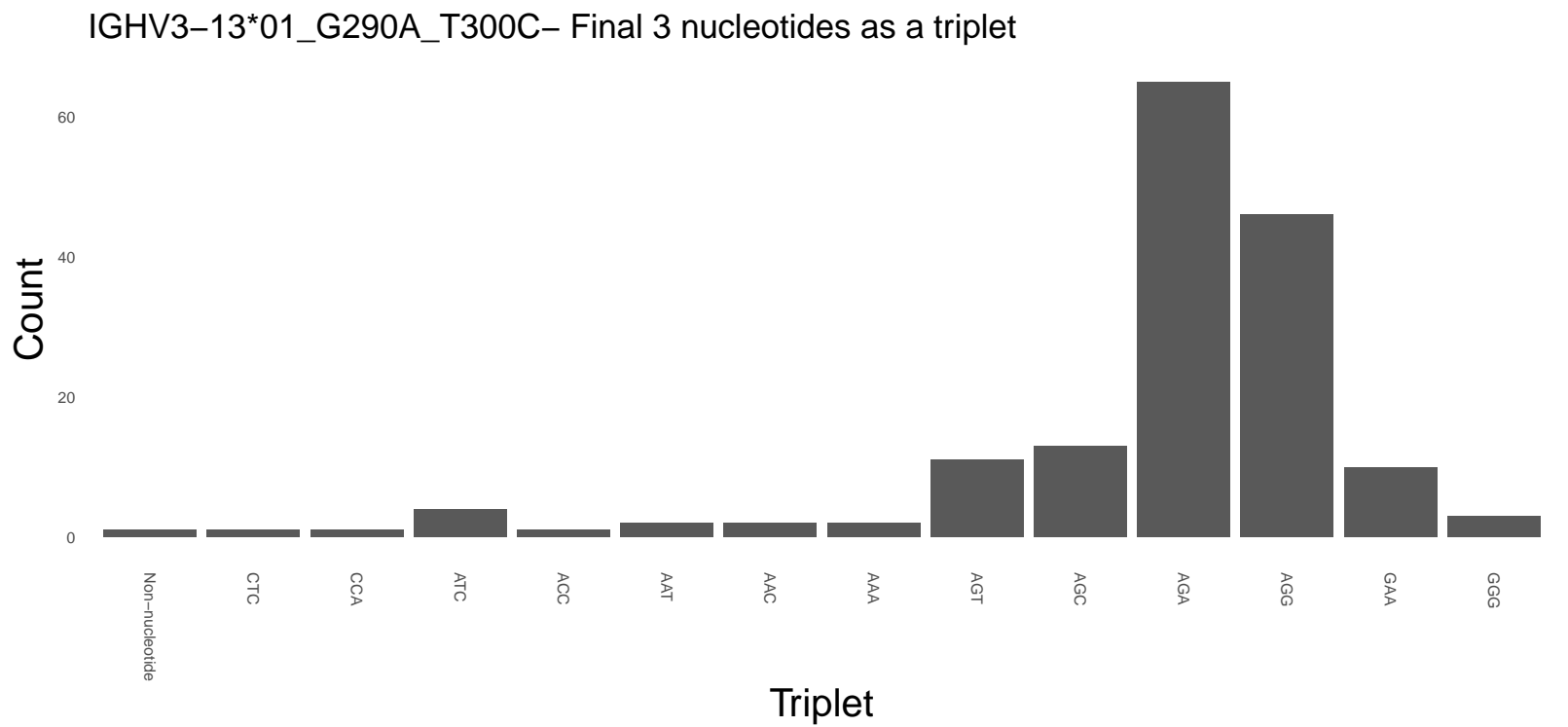
Gene IGHV3-13\*01\_G290A\_T300C



Gene IGHV3-13\*01\_G290A\_T300C

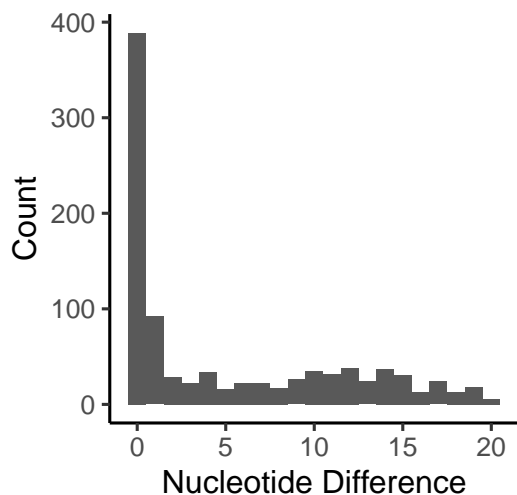


IGHV3-13\*01\_G290A\_T300C- Final 3 nucleotides as a triplet



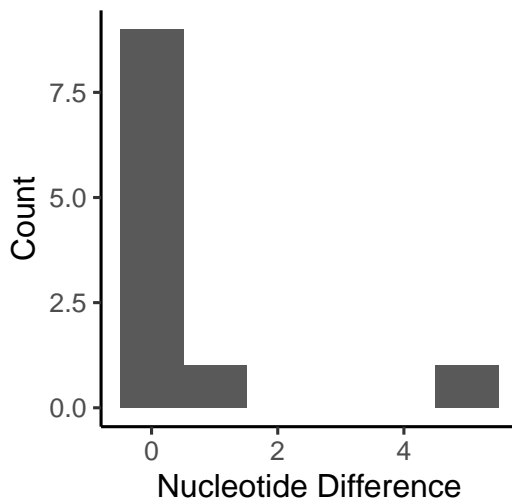
### IGHV1-2\*02

1064 sequences assigned  
389 (36.6%) exact matches, in which:  
380 unique CDR3  
6 unique J



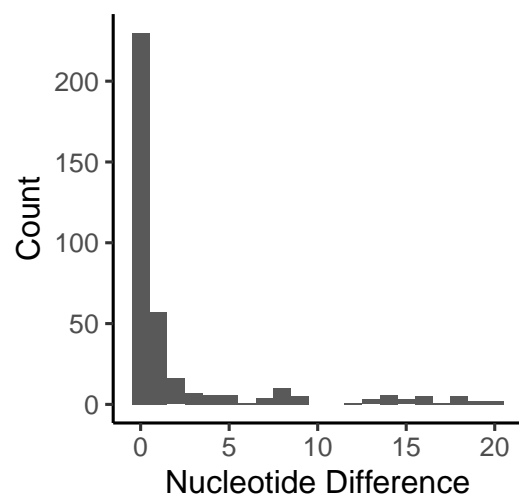
### IGHV1-8\*01

12 sequences assigned  
9 (75%) exact matches, in which:  
9 unique CDR3  
4 unique J



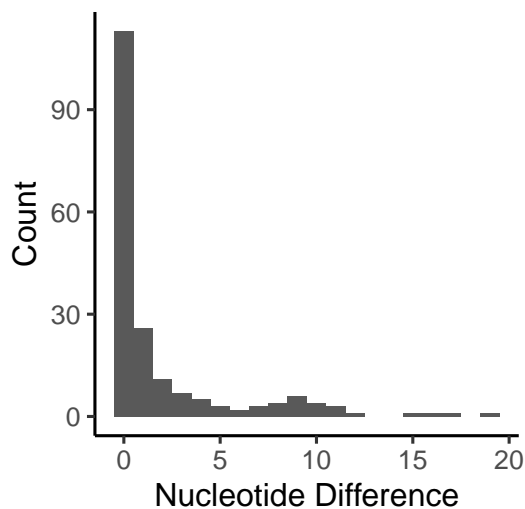
### IGHV1-24\*01

391 sequences assigned  
230 (58.8%) exact matches, in which:  
220 unique CDR3  
6 unique J



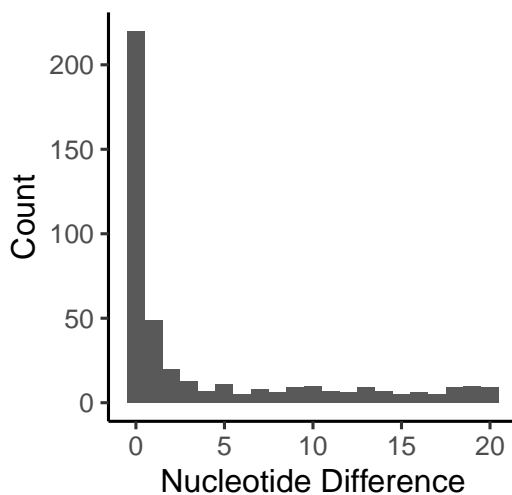
### IGHV1-2\*04

196 sequences assigned  
113 (57.7%) exact matches, in which:  
111 unique CDR3  
5 unique J



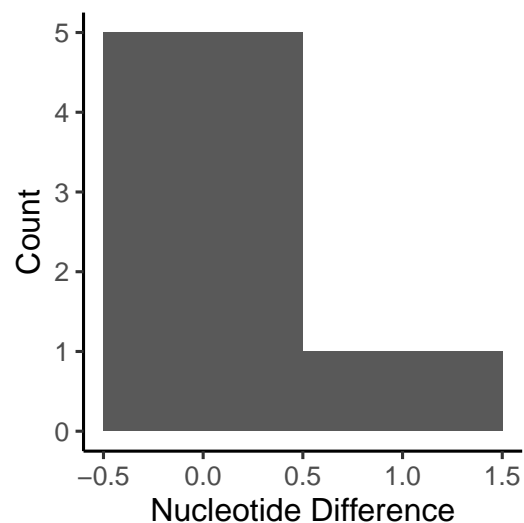
### IGHV1-18\*01

487 sequences assigned  
220 (45.2%) exact matches, in which:  
216 unique CDR3  
5 unique J



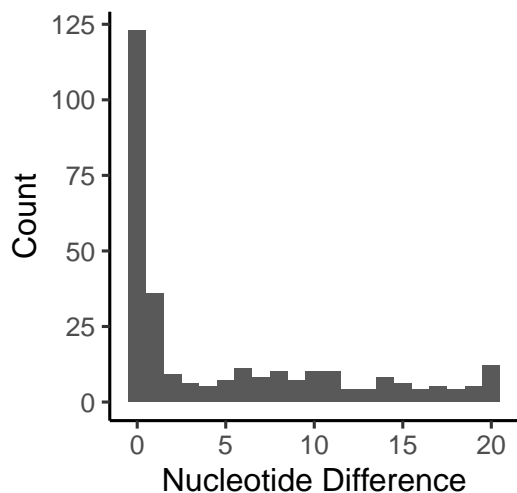
### IGHV1-45\*02

8 sequences assigned  
5 (62.5%) exact matches, in which:  
5 unique CDR3  
2 unique J



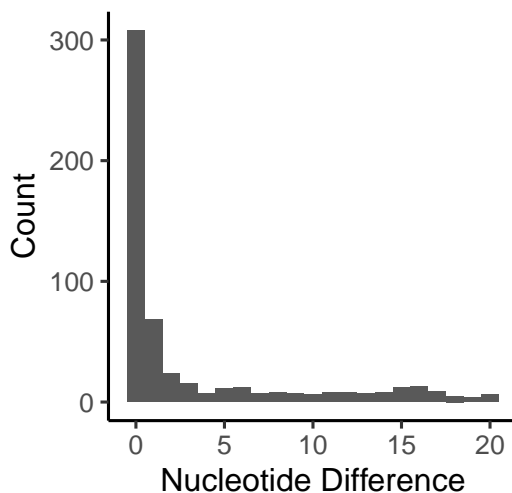
### IGHV1-3\*01

368 sequences assigned  
123 (33.4%) exact matches, in which:  
118 unique CDR3  
6 unique J



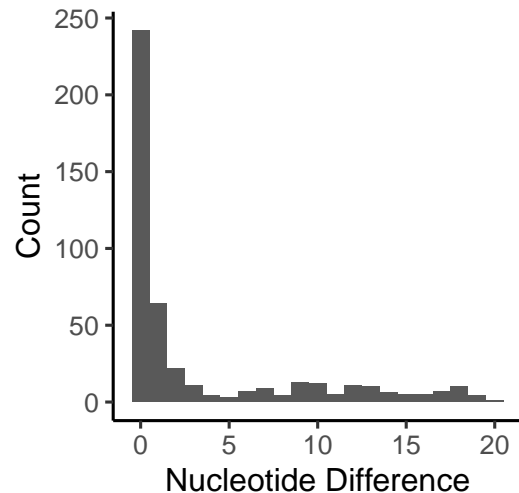
### IGHV1-18\*04

604 sequences assigned  
308 (51%) exact matches, in which:  
304 unique CDR3  
6 unique J



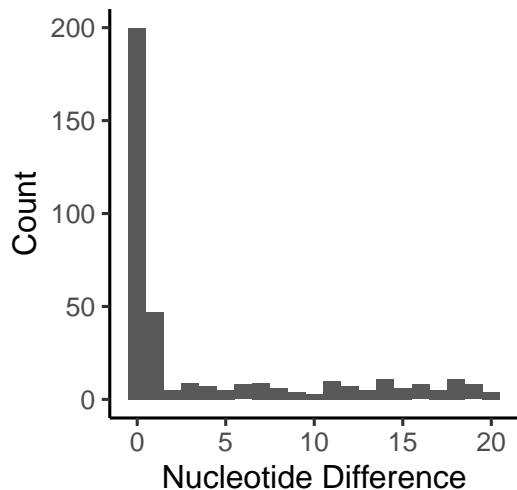
### IGHV1-46\*01

532 sequences assigned  
242 (45.5%) exact matches, in which:  
236 unique CDR3  
5 unique J



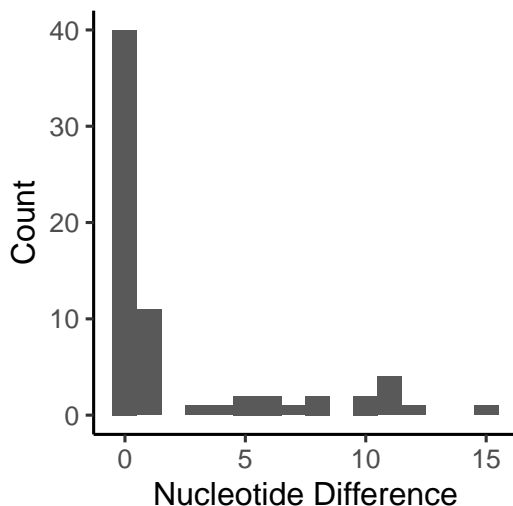
### IGHV1-46\*04

396 sequences assigned  
200 (50.5%) exact matches, in which:  
192 unique CDR3  
6 unique J



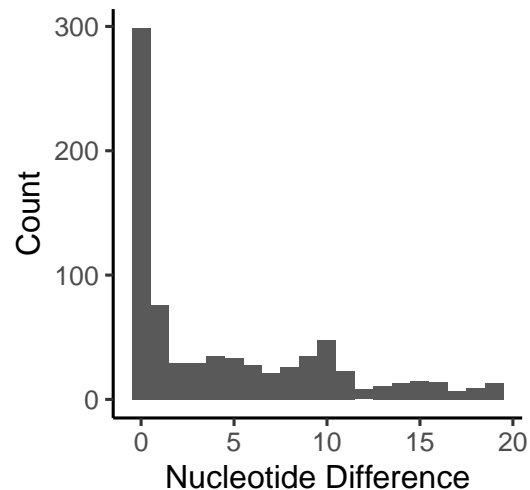
### IGHV1-69-2\*01

72 sequences assigned  
40 (55.6%) exact matches, in which:  
39 unique CDR3  
4 unique J



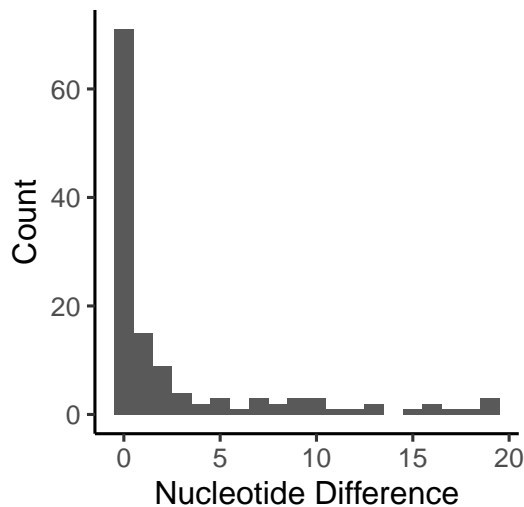
### IGHV2-5\*02

795 sequences assigned  
299 (37.6%) exact matches, in which:  
294 unique CDR3  
6 unique J



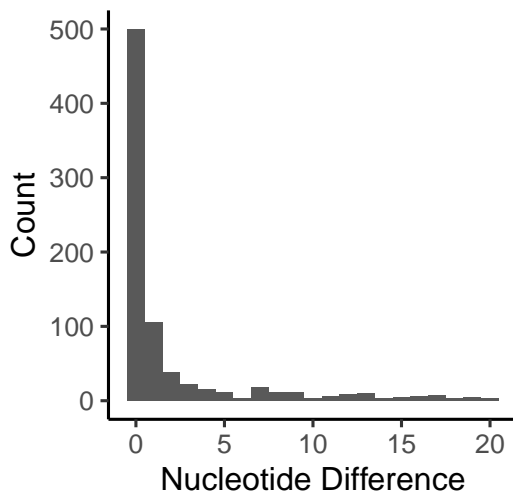
### IGHV1-58\*01

130 sequences assigned  
71 (54.6%) exact matches, in which:  
70 unique CDR3  
5 unique J



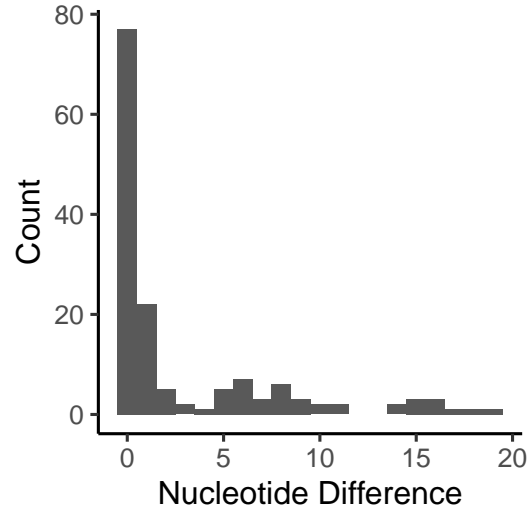
### IGHV1-69\*06

848 sequences assigned  
500 (59%) exact matches, in which:  
469 unique CDR3  
6 unique J



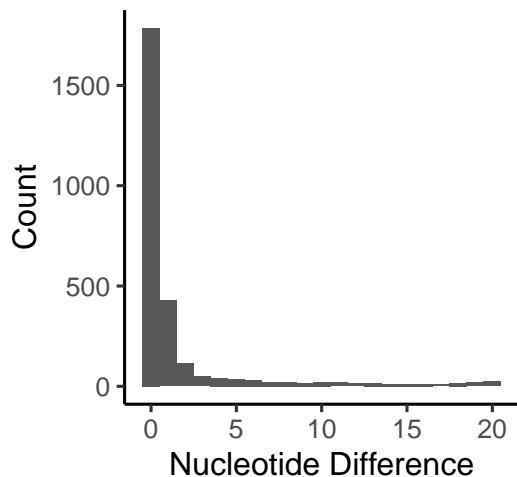
### IGHV2-26\*01

147 sequences assigned  
77 (52.4%) exact matches, in which:  
75 unique CDR3  
5 unique J



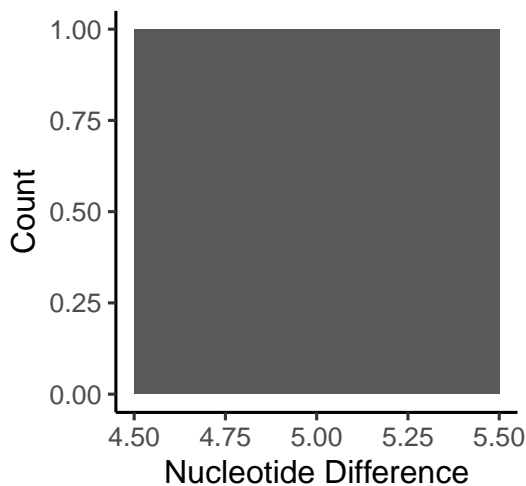
### IGHV1-69\*01

2921 sequences assigned  
1786 (61.1%) exact matches, in which:  
1696 unique CDR3  
6 unique J



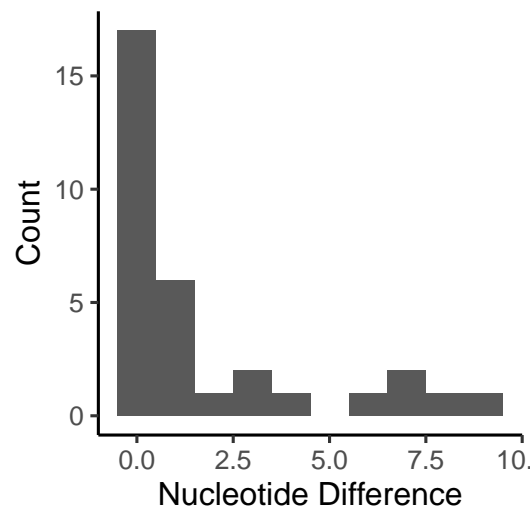
### IGHV1-NL1\*01

1 sequences assigned  
No exact matches.



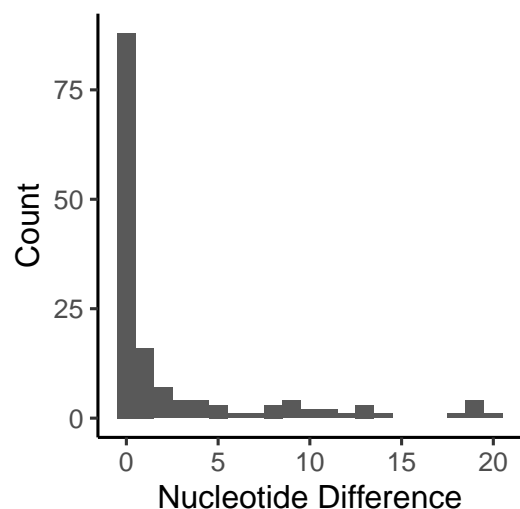
### IGHV2-26\*04

32 sequences assigned  
17 (53.1%) exact matches, in which:  
17 unique CDR3  
4 unique J



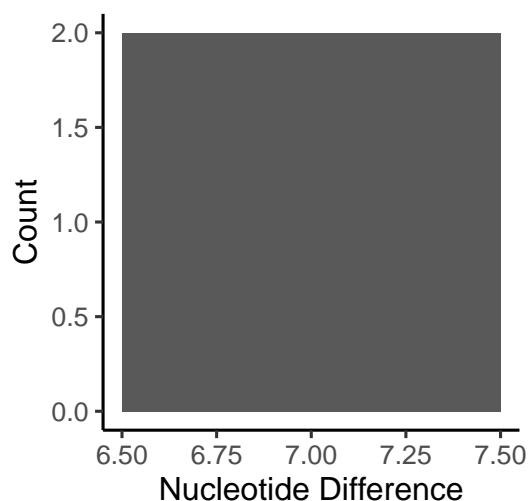
### IGHV2-70\*01

153 sequences assigned  
88 (57.5%) exact matches, in which:  
87 unique CDR3  
5 unique J



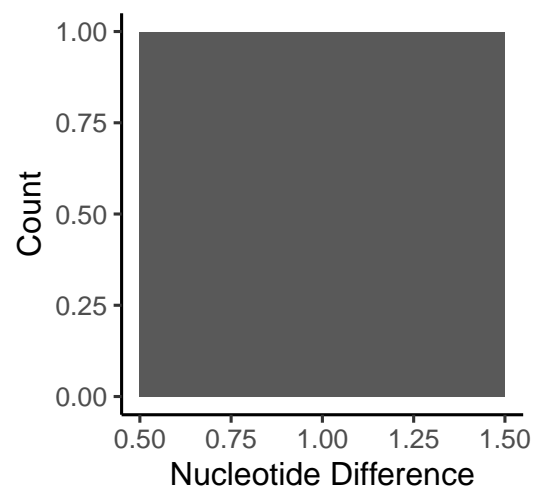
### IGHV2-70D\*14

2 sequences assigned  
No exact matches.



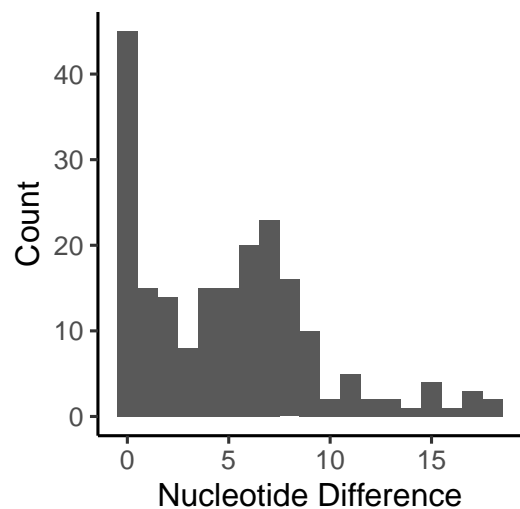
### IGHV3-9\*01

1 sequences assigned  
No exact matches.



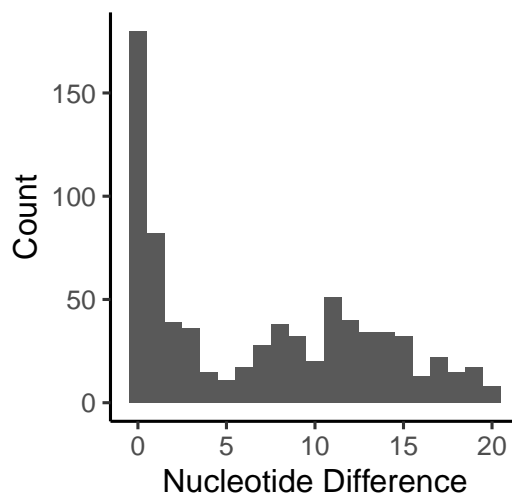
### IGHV2-70\*04

217 sequences assigned  
45 (20.7%) exact matches, in which:  
44 unique CDR3  
4 unique J



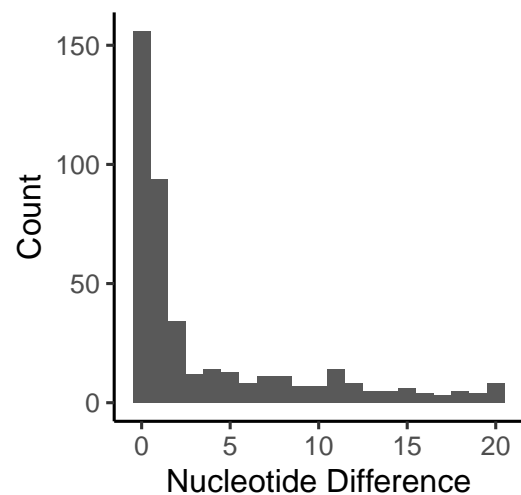
### IGHV3-7\*03

844 sequences assigned  
180 (21.3%) exact matches, in which:  
157 unique CDR3  
6 unique J



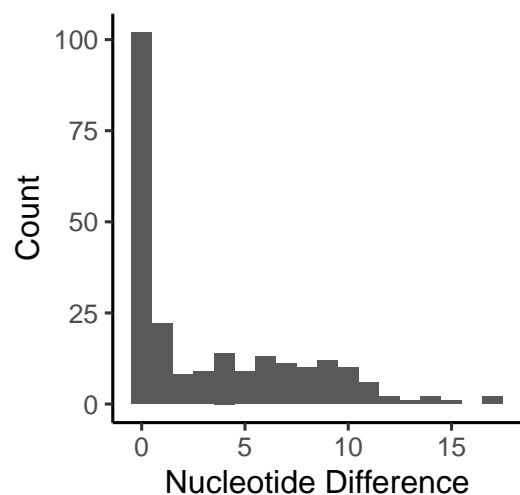
### IGHV3-11\*06

534 sequences assigned  
156 (29.2%) exact matches, in which:  
146 unique CDR3  
6 unique J



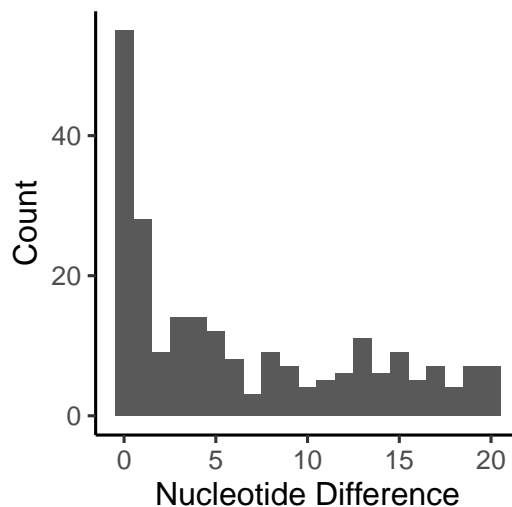
### IGHV2-70\*15

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



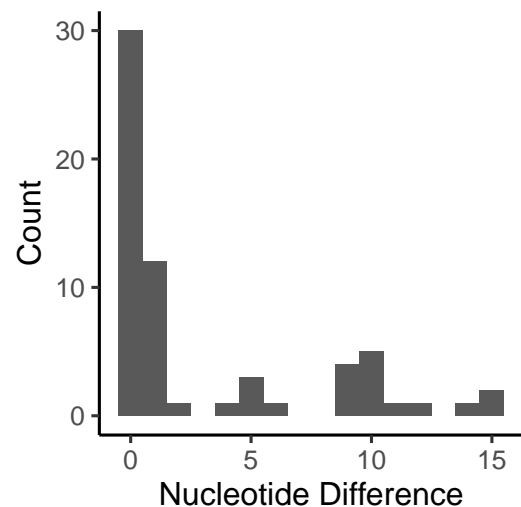
### IGHV3-7\*04

261 sequences assigned  
55 (21.1%) exact matches, in which:  
55 unique CDR3  
4 unique J



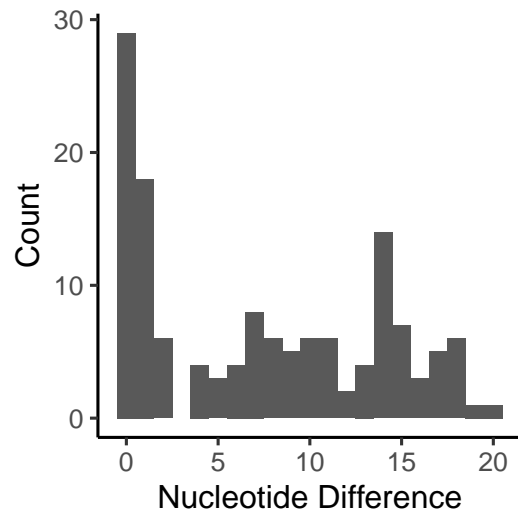
### IGHV3-13\*05

64 sequences assigned  
30 (46.9%) exact matches, in which:  
27 unique CDR3  
4 unique J



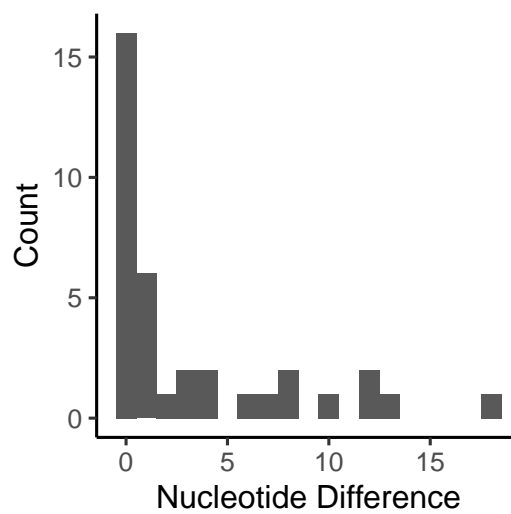
### IGHV3-13\*01\_G290A\_T3I

162 sequences assigned  
29 (17.9%) exact matches, in which:  
28 unique CDR3  
5 unique J



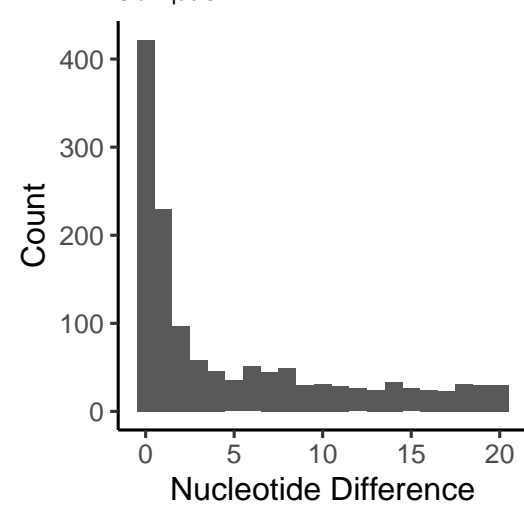
### IGHV3-20\*04

36 sequences assigned  
16 (44.4%) exact matches, in which:  
15 unique CDR3  
3 unique J



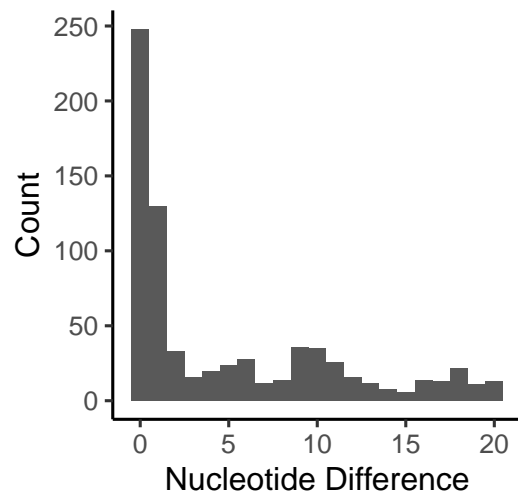
### IGHV3-30-3\*01

1758 sequences assigned  
422 (24%) exact matches, in which:  
394 unique CDR3  
6 unique J



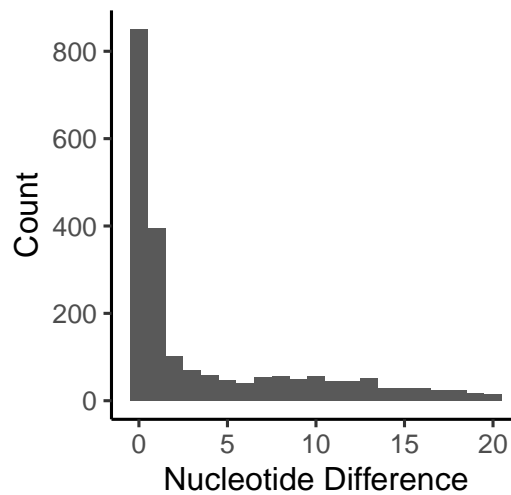
### IGHV3-15\*01

802 sequences assigned  
248 (30.9%) exact matches, in which:  
235 unique CDR3  
6 unique J



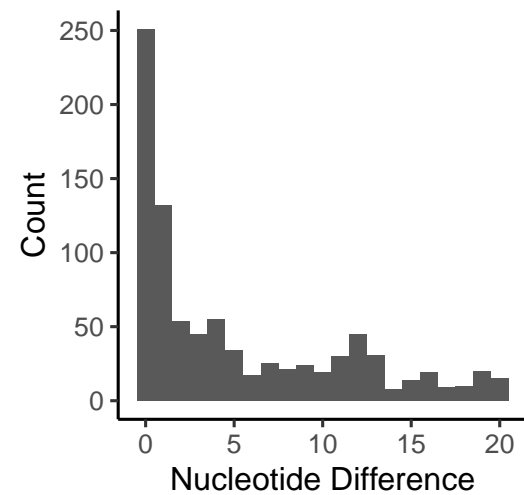
### IGHV3-21\*01

2176 sequences assigned  
851 (39.1%) exact matches, in which:  
808 unique CDR3  
6 unique J



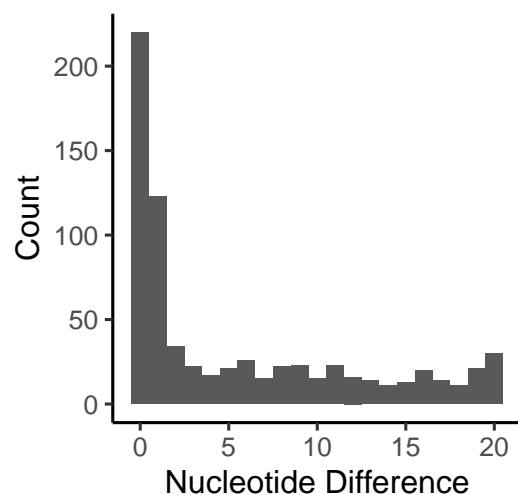
### IGHV3-30\*18

1010 sequences assigned  
251 (24.9%) exact matches, in which:  
238 unique CDR3  
6 unique J



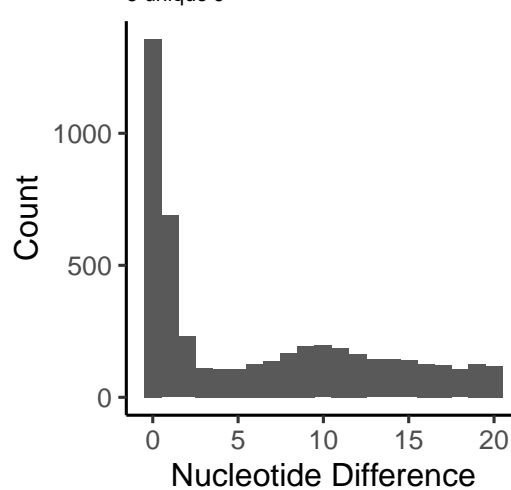
### IGHV3-15\*07

817 sequences assigned  
220 (26.9%) exact matches, in which:  
211 unique CDR3  
6 unique J



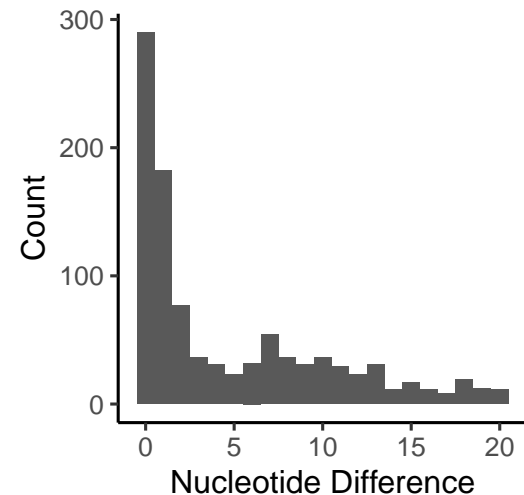
### IGHV3-23\*01

5657 sequences assigned  
1357 (24%) exact matches, in which:  
1251 unique CDR3  
6 unique J



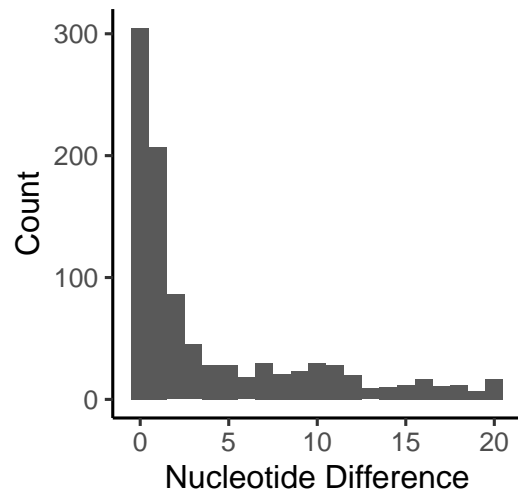
### IGHV3-33\*01

1150 sequences assigned  
290 (25.2%) exact matches, in which:  
278 unique CDR3  
6 unique J



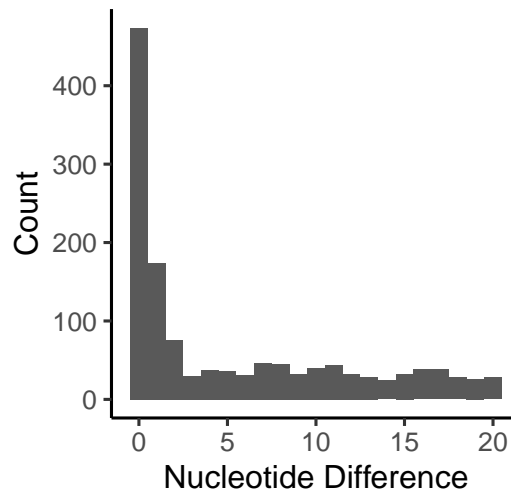
### IGHV3–33\*08

1098 sequences assigned  
305 (27.8%) exact matches, in which:  
287 unique CDR3  
6 unique J



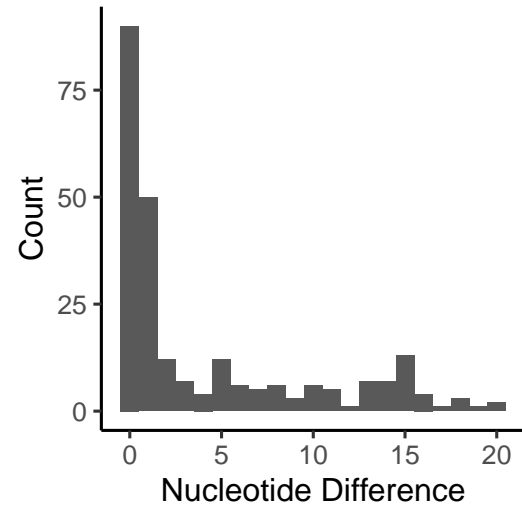
### IGHV3–48\*01

1598 sequences assigned  
474 (29.7%) exact matches, in which:  
454 unique CDR3  
6 unique J



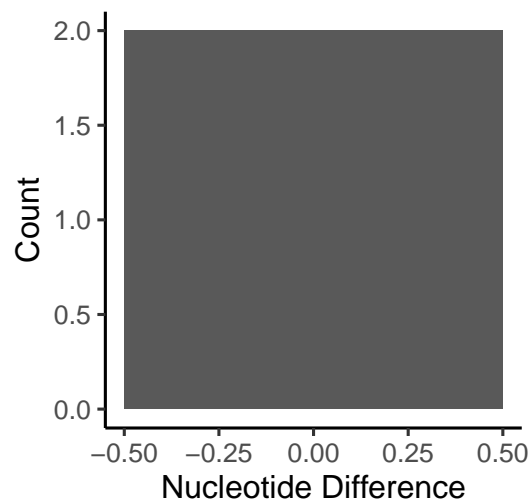
### IGHV3–53\*02

257 sequences assigned  
90 (35%) exact matches, in which:  
85 unique CDR3  
5 unique J



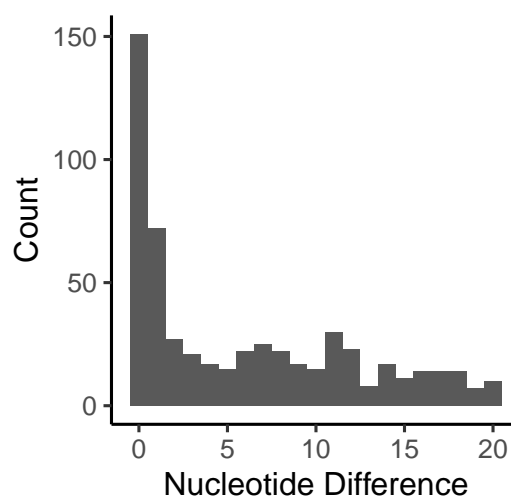
### IGHV3–35\*01

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



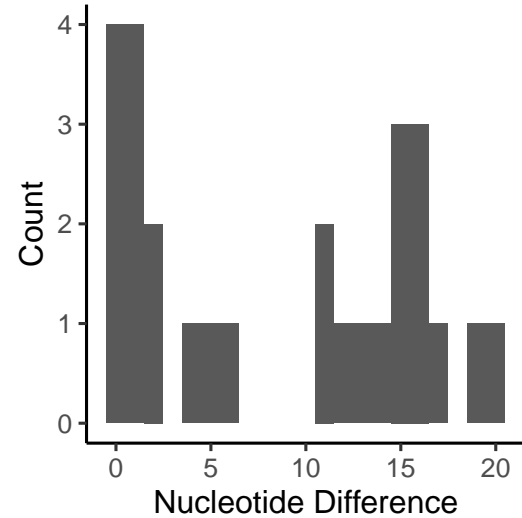
### IGHV3–49\*03

613 sequences assigned  
151 (24.6%) exact matches, in which:  
144 unique CDR3  
6 unique J



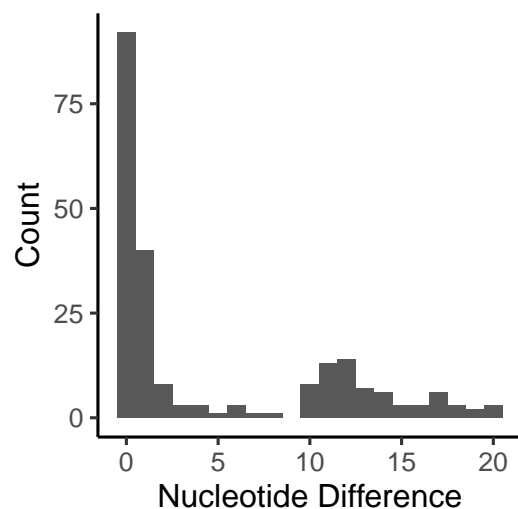
### IGHV3–64\*02

28 sequences assigned  
4 (14.3%) exact matches, in which:  
4 unique CDR3  
3 unique J



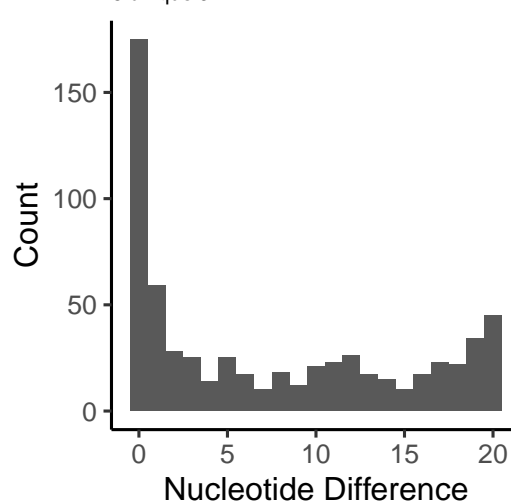
### IGHV3–43\*01

236 sequences assigned  
92 (39%) exact matches, in which:  
85 unique CDR3  
5 unique J



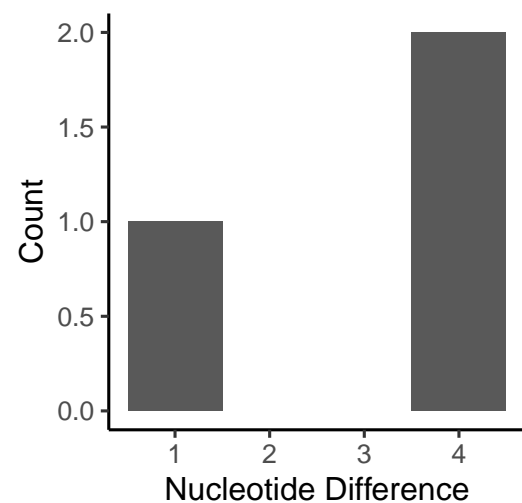
### IGHV3–53\*01

700 sequences assigned  
175 (25%) exact matches, in which:  
167 unique CDR3  
6 unique J



### IGHV3–66\*01

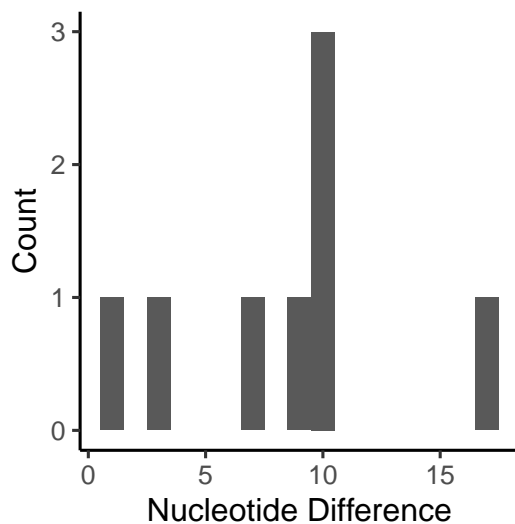
3 sequences assigned  
No exact matches.





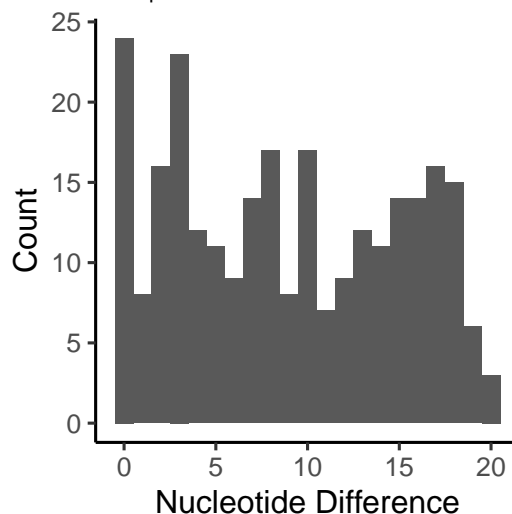
### IGHV3-66\*03

8 sequences assigned  
No exact matches.



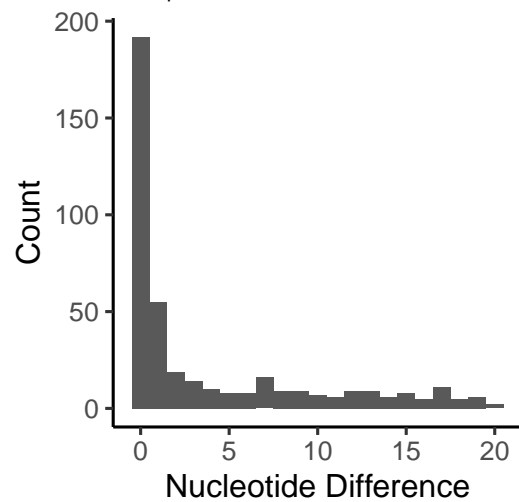
### IGHV3-72\*01

330 sequences assigned  
24 (7.3%) exact matches, in which:  
23 unique CDR3  
5 unique J



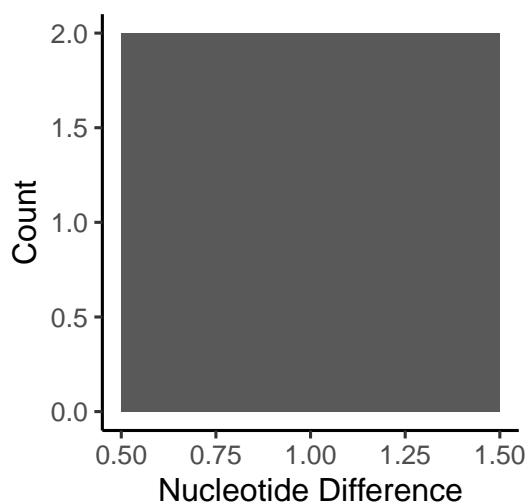
### IGHV3-64D\*06

483 sequences assigned  
192 (39.8%) exact matches, in which:  
178 unique CDR3  
6 unique J



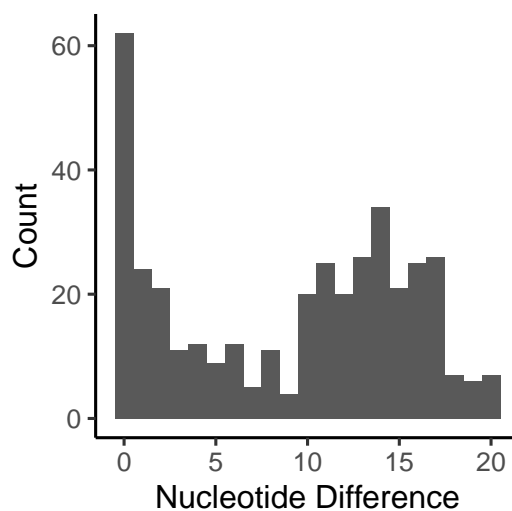
### IGHV3-69-1\*01

3 sequences assigned  
No exact matches.



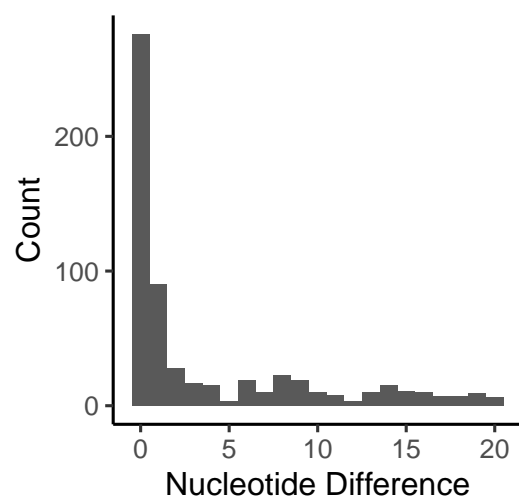
### IGHV3-73\*02

411 sequences assigned  
62 (15.1%) exact matches, in which:  
59 unique CDR3  
5 unique J



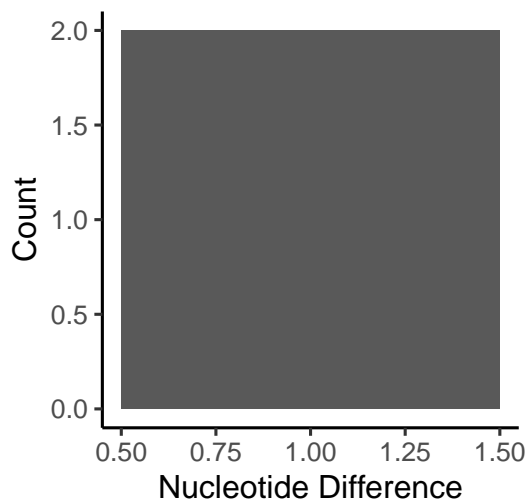
### IGHV4-4\*02

715 sequences assigned  
276 (38.6%) exact matches, in which:  
267 unique CDR3  
6 unique J



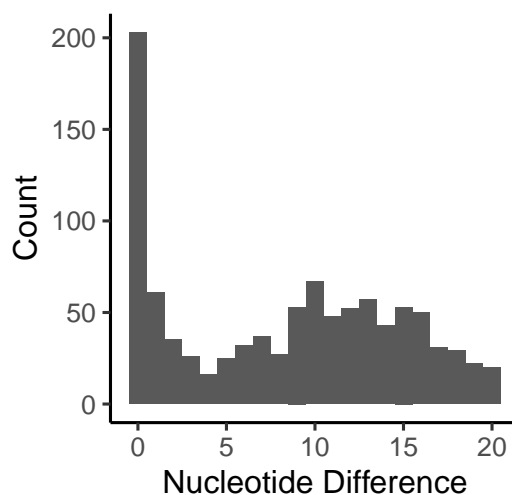
### IGHV3-69-1\*02

2 sequences assigned  
No exact matches.



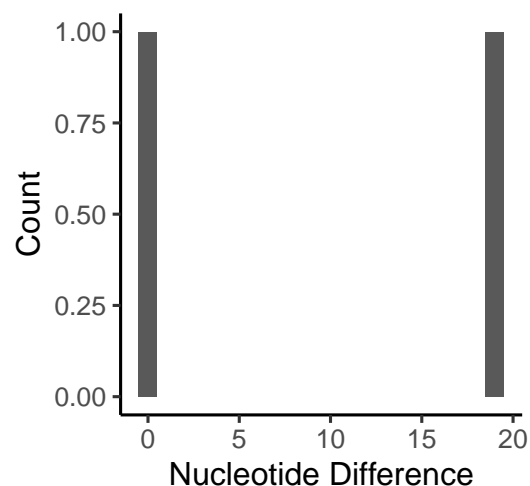
### IGHV3-74\*01

1190 sequences assigned  
203 (17.1%) exact matches, in which:  
190 unique CDR3  
6 unique J



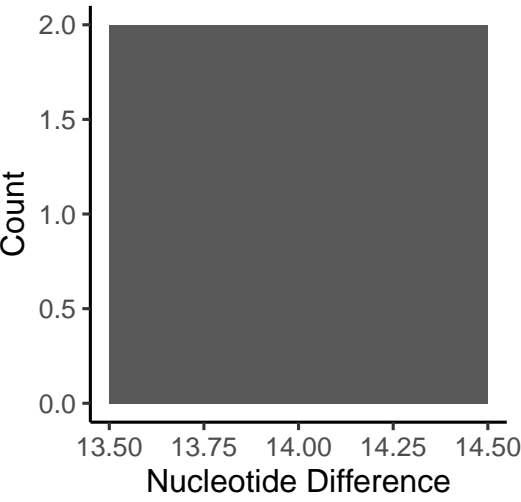
### IGHV4-28\*01

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



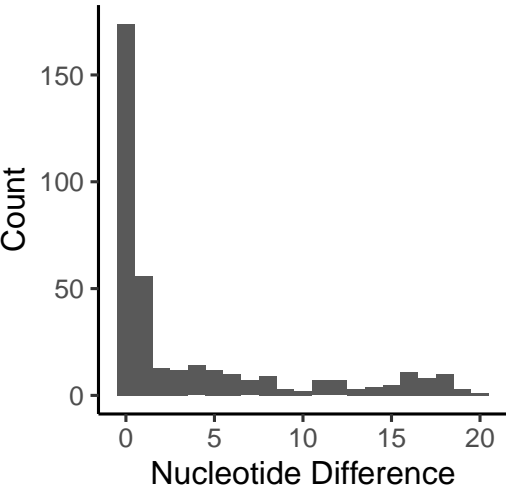
### IGHV4-28\*07

6 sequences assigned  
No exact matches.



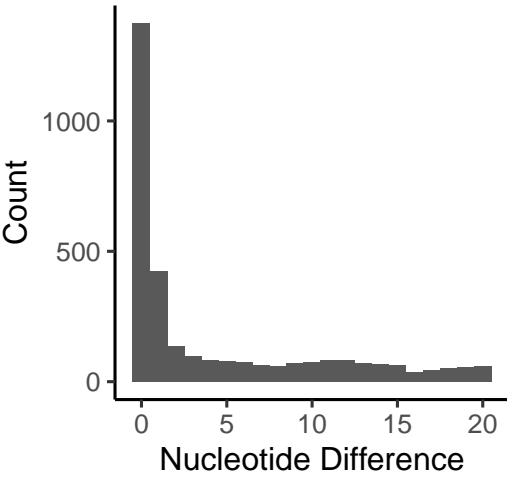
### IGHV4-31\*03

385 sequences assigned  
174 (45.2%) exact matches, in which:  
169 unique CDR3  
6 unique J



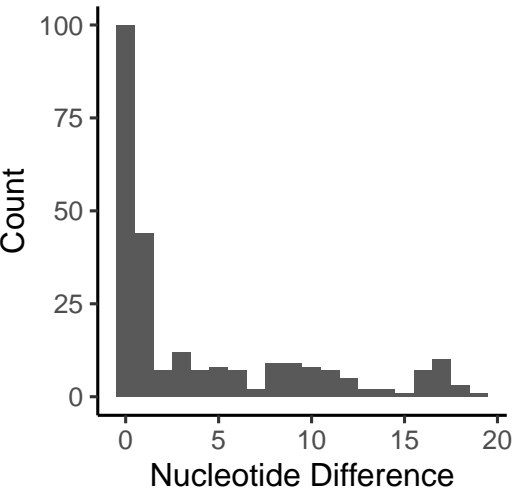
### IGHV4-39\*01

3636 sequences assigned  
1374 (37.8%) exact matches, in which:  
1322 unique CDR3  
6 unique J



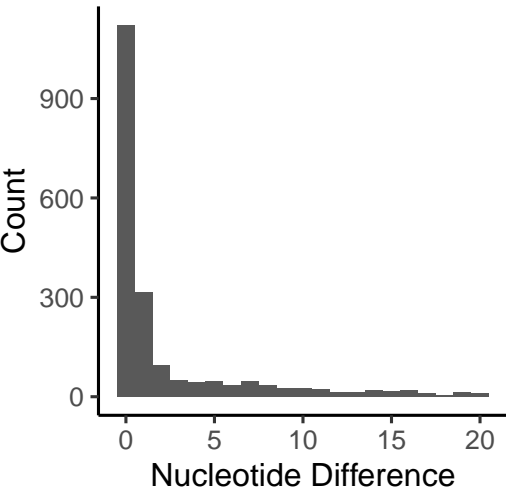
### IGHV4-30-4\*01

282 sequences assigned  
100 (35.5%) exact matches, in which:  
96 unique CDR3  
6 unique J



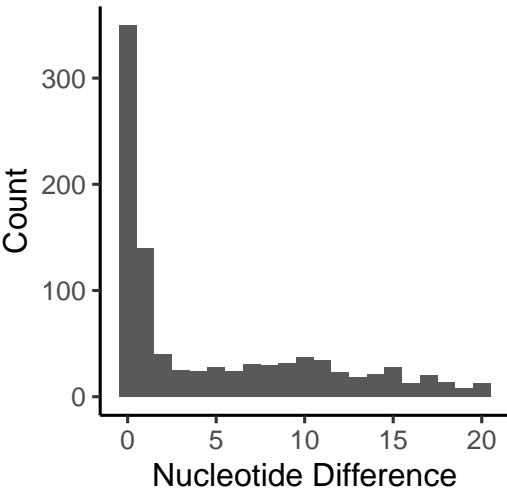
### IGHV4-34\*01

2146 sequences assigned  
1122 (52.3%) exact matches, in which:  
1084 unique CDR3  
6 unique J



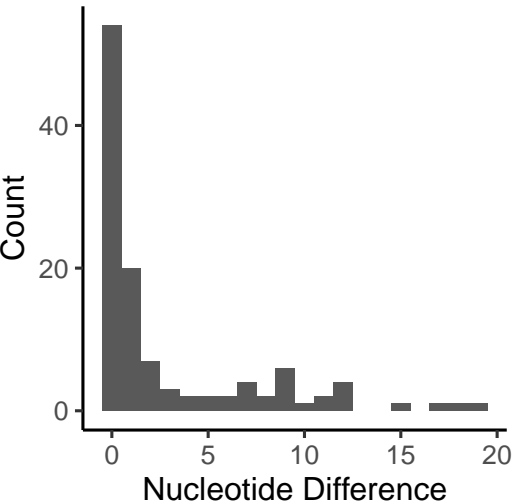
### IGHV4-59\*01

1130 sequences assigned  
350 (31%) exact matches, in which:  
345 unique CDR3  
6 unique J



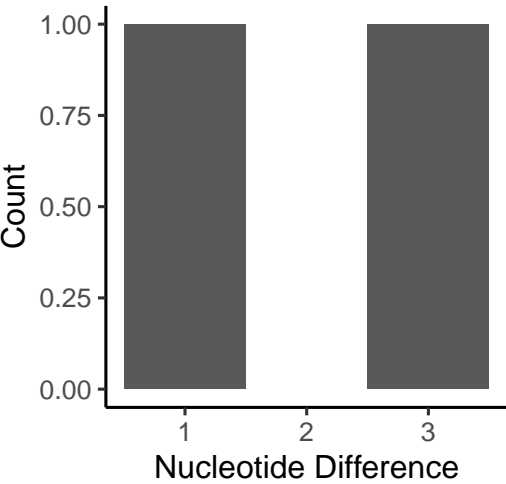
### IGHV4-30-2\*01

120 sequences assigned  
54 (45%) exact matches, in which:  
54 unique CDR3  
5 unique J



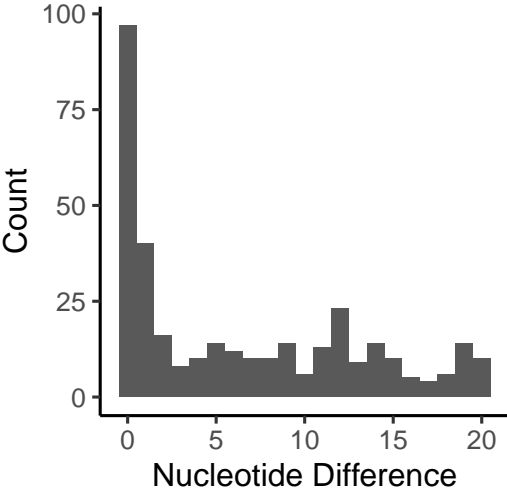
### IGHV4-38-2\*02

2 sequences assigned  
No exact matches.



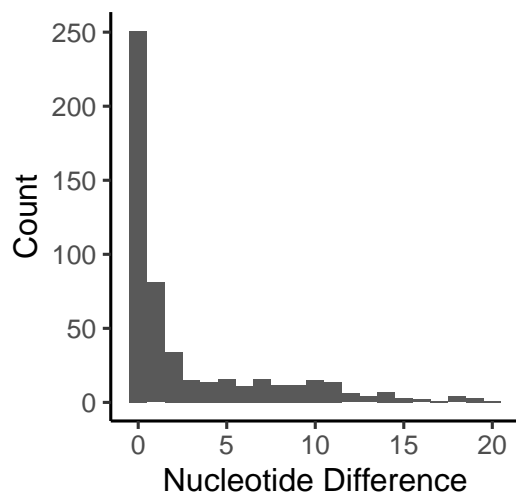
### IGHV4-61\*01

473 sequences assigned  
97 (20.5%) exact matches, in which:  
97 unique CDR3  
6 unique J



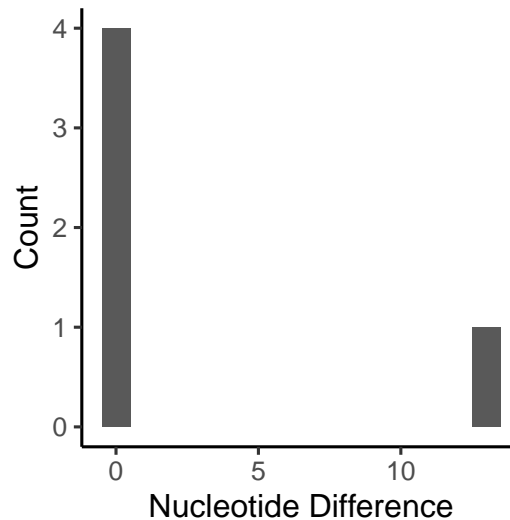
### IGHV5-10-1\*03

538 sequences assigned  
251 (46.7%) exact matches, in which:  
242 unique CDR3  
5 unique J



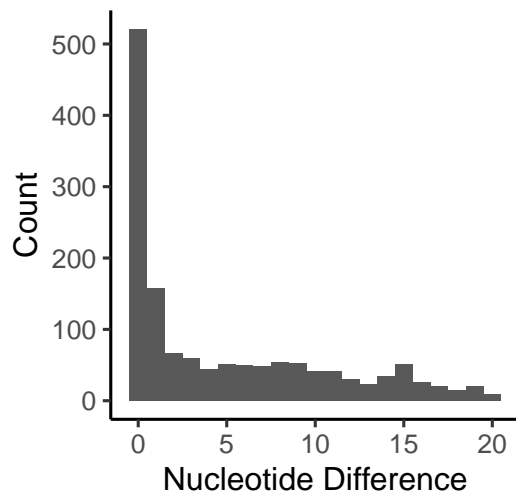
### IGHV7-4-1\*01

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



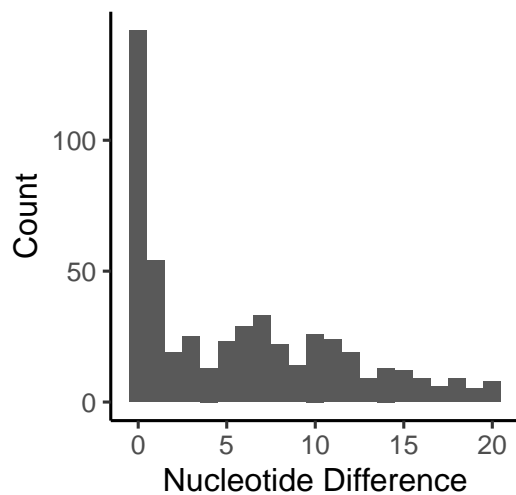
### IGHV5-51\*01

1517 sequences assigned  
521 (34.3%) exact matches, in which:  
507 unique CDR3  
6 unique J



### IGHV6-1\*01

554 sequences assigned  
142 (25.6%) exact matches, in which:  
137 unique CDR3  
5 unique J



IGHV3-13\*01\_G290A\_T300C

