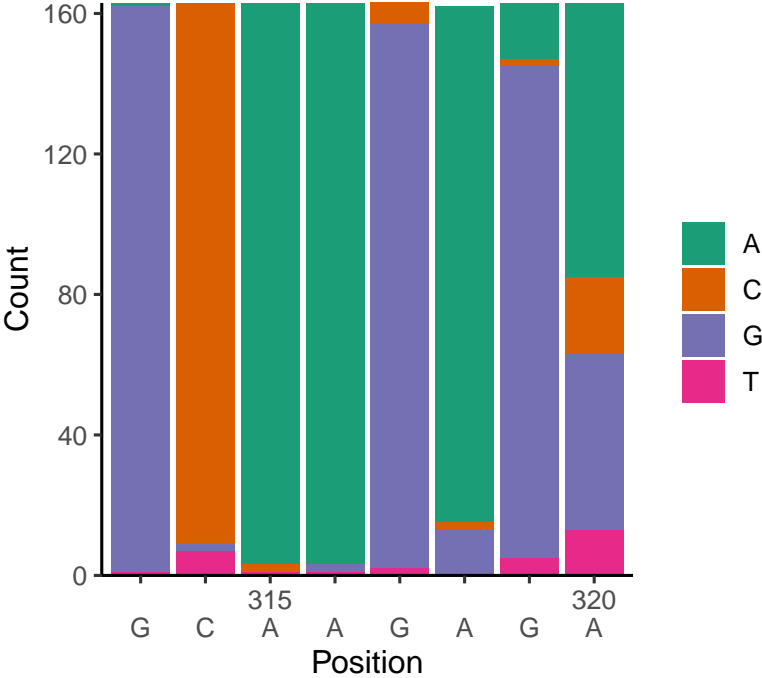
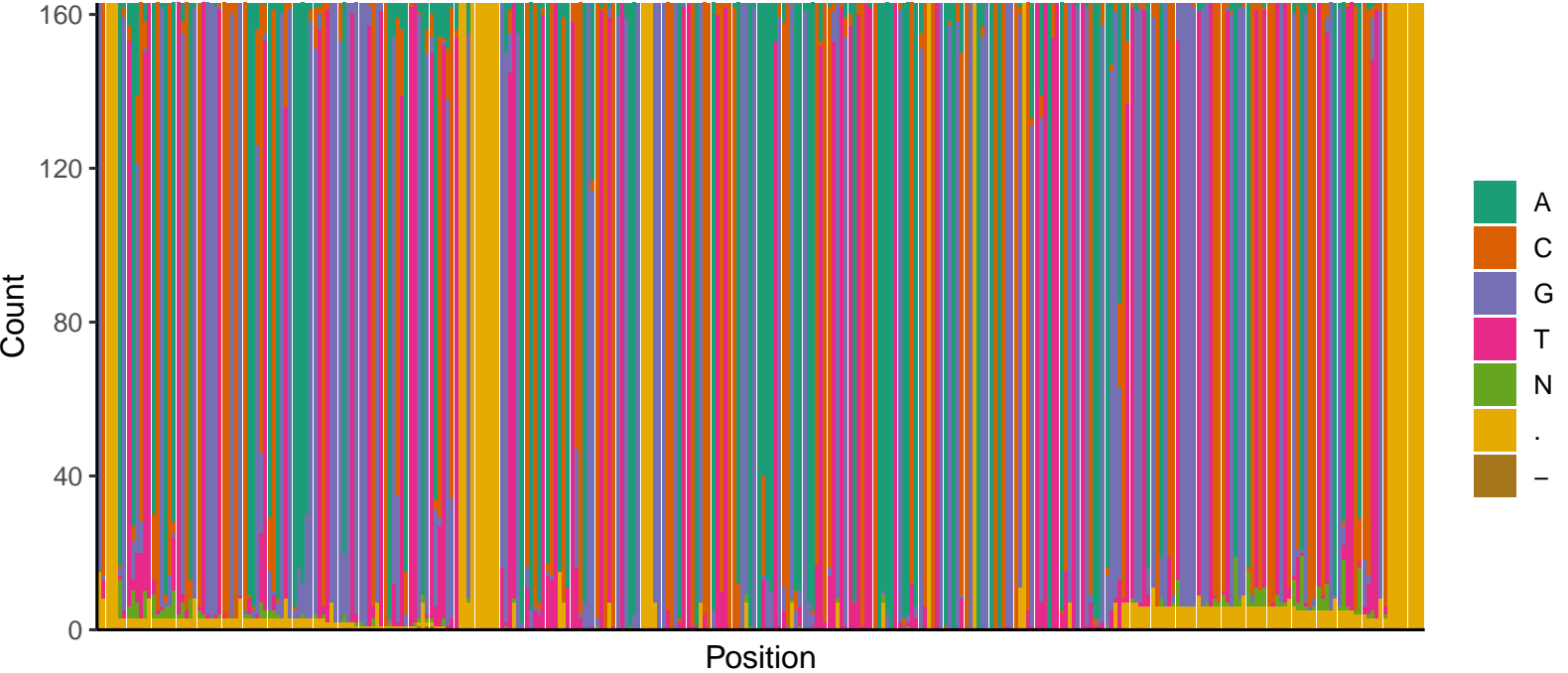


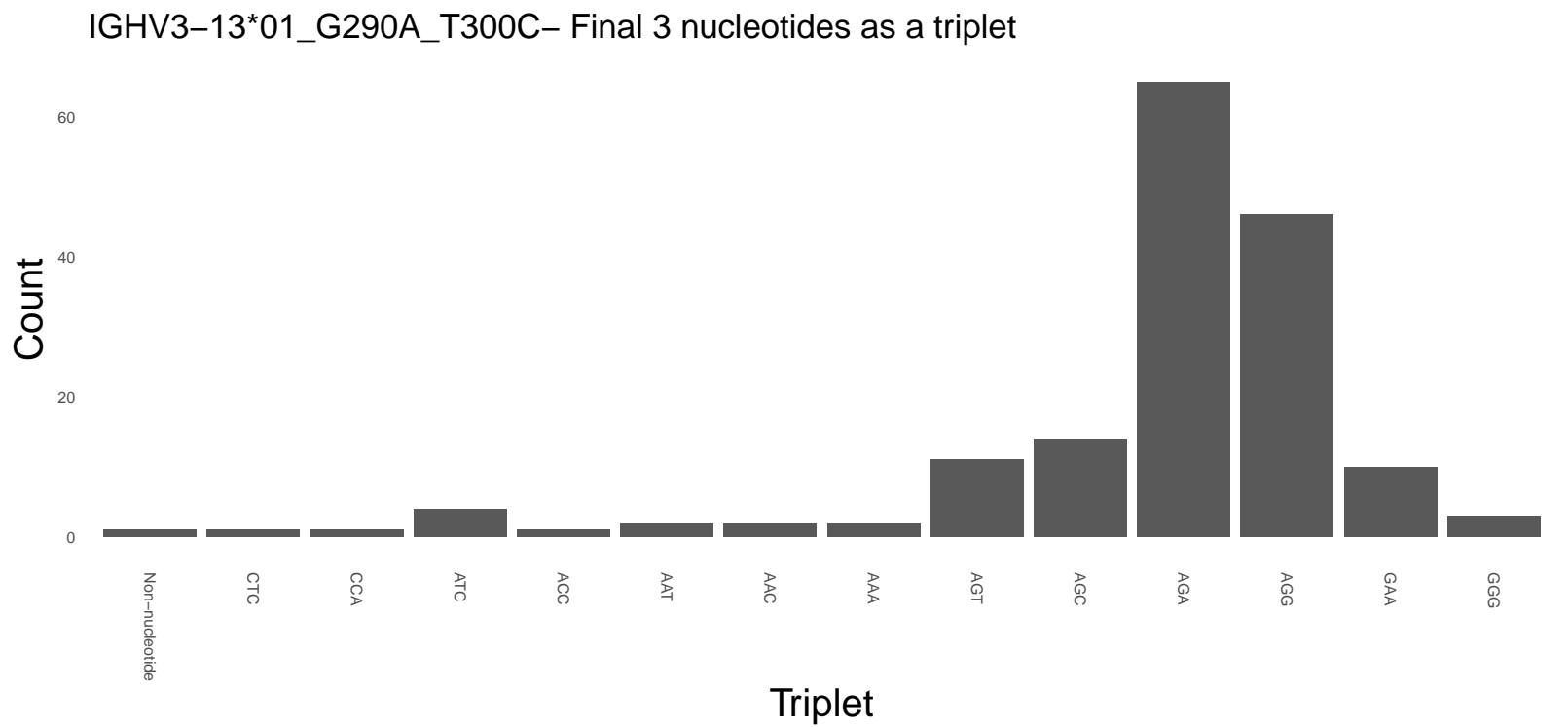
Gene IGHV3-13\*01\_G290A\_T300C



Gene IGHV3-13\*01\_G290A\_T300C

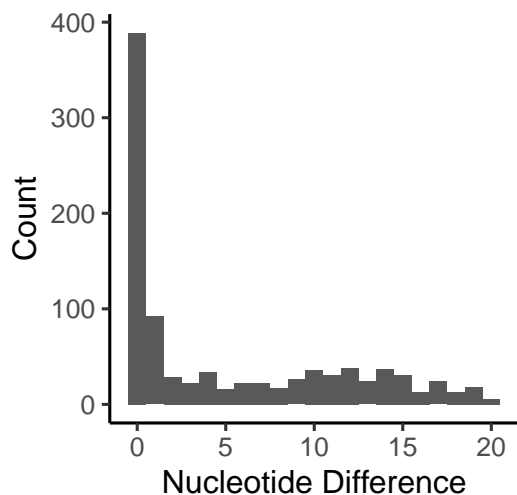


IGHV3-13\*01\_G290A\_T300C- Final 3 nucleotides as a triplet



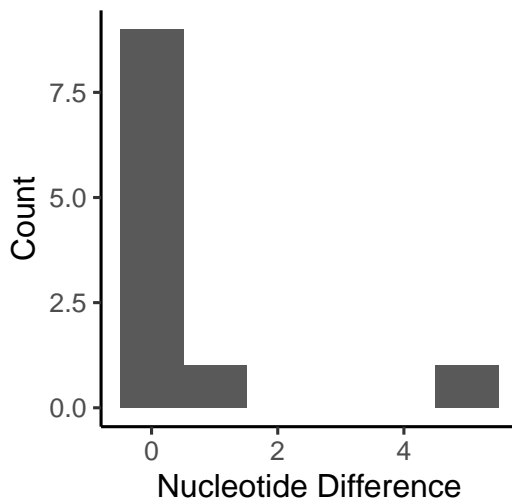
### IGHV1-2\*02

1066 sequences assigned  
389 (36.5%) exact matches, in which:  
380 unique CDR3  
6 unique J



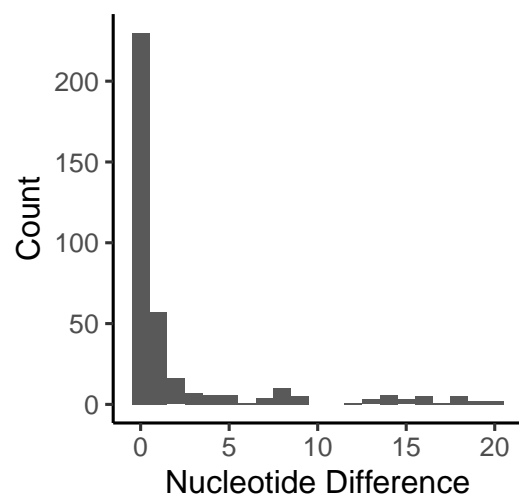
### IGHV1-8\*01

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



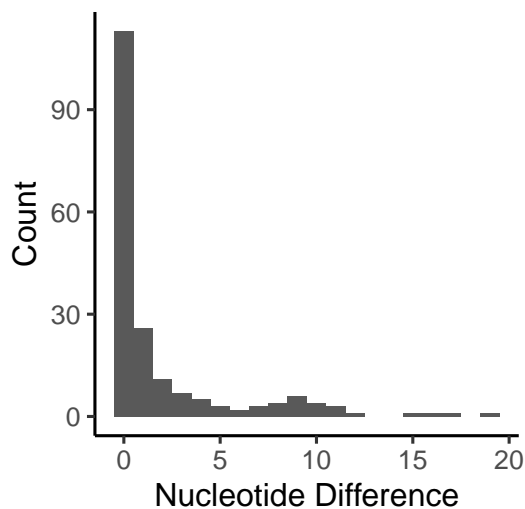
### IGHV1-24\*01

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



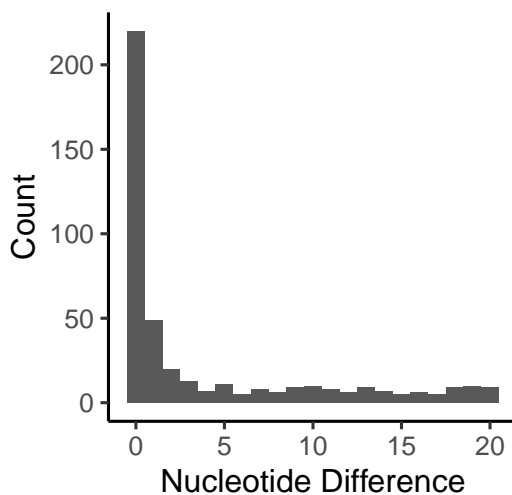
### IGHV1-2\*04

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



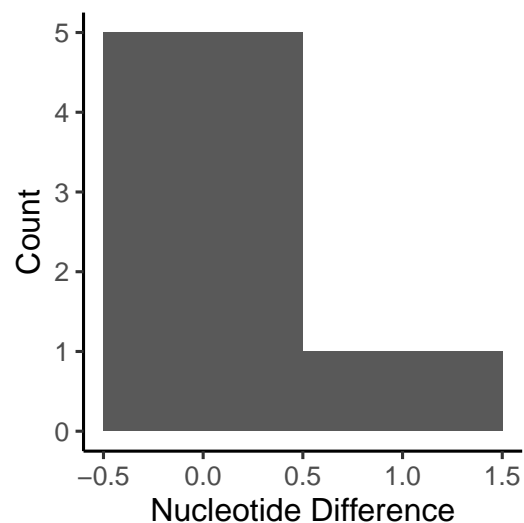
### IGHV1-18\*01

488 sequences assigned  
220 (45.1%) exact matches, in which:  
216 unique CDR3  
5 unique J



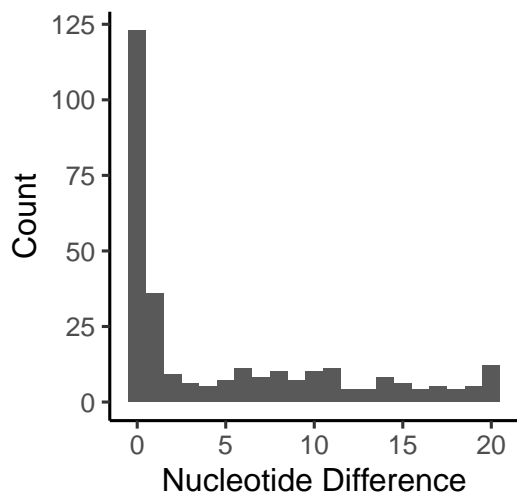
### IGHV1-45\*02

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



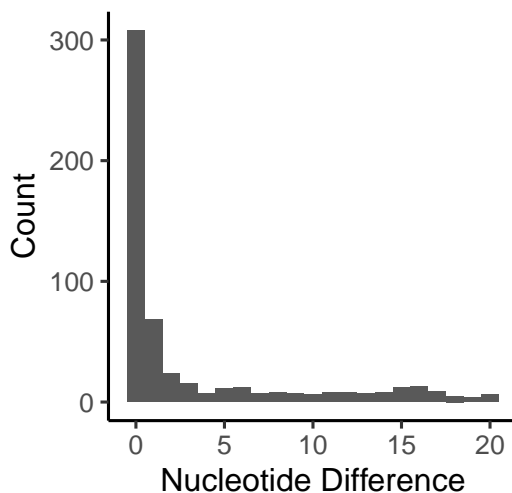
### IGHV1-3\*01

369 sequences assigned  
123 (33.3%) exact matches, in which:  
118 unique CDR3  
6 unique J



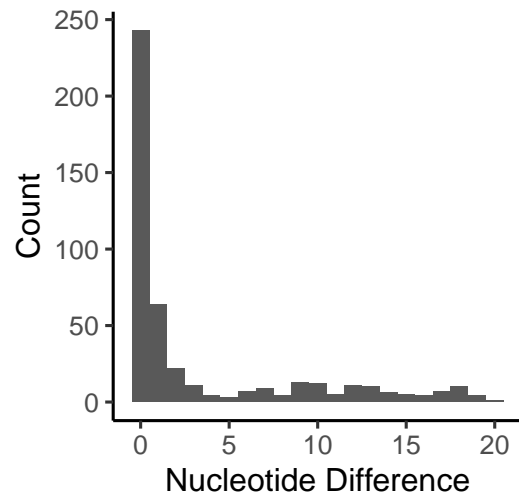
### IGHV1-18\*04

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



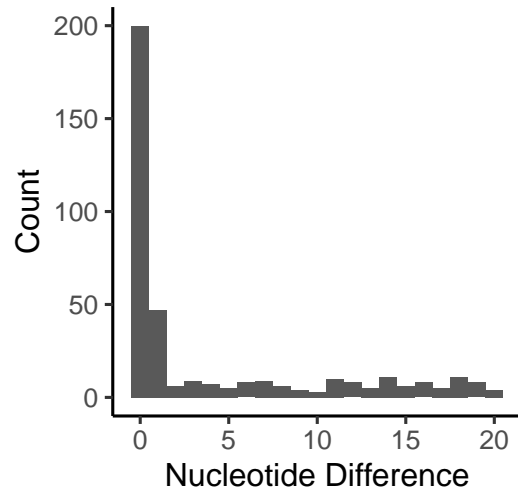
### IGHV1-46\*01

532 sequences assigned  
243 (45.7%) exact matches, in which:  
237 unique CDR3  
5 unique J



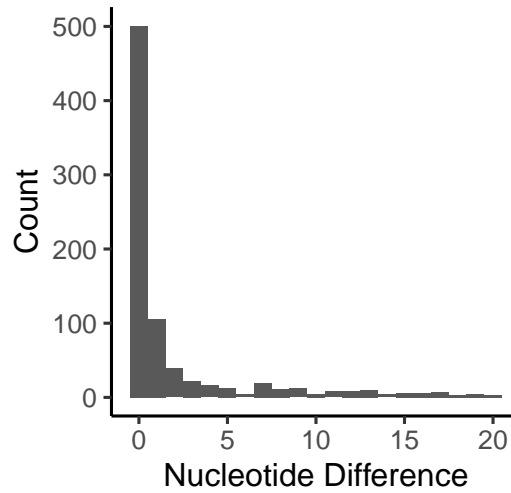
### IGHV1-46\*04

398 sequences assigned  
200 (50.3%) exact matches, in which:  
192 unique CDR3  
6 unique J



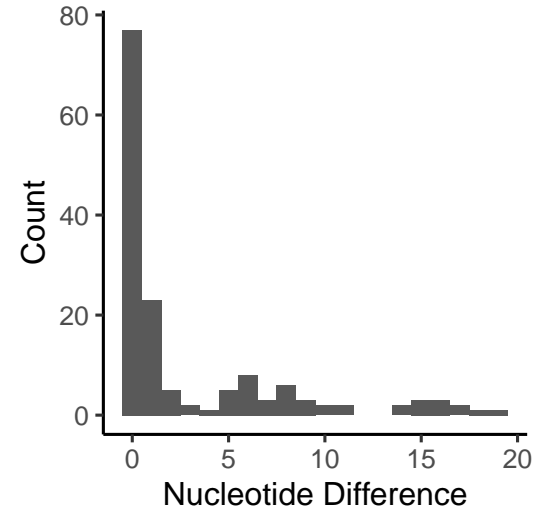
### IGHV1-69\*06

859 sequences assigned  
501 (58.3%) exact matches, in which:  
470 unique CDR3  
6 unique J



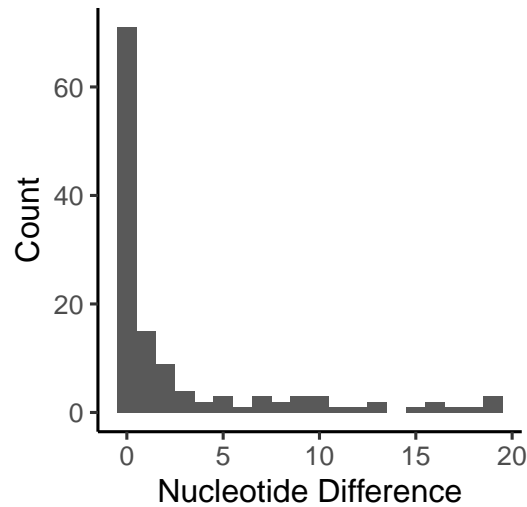
### IGHV2-26\*01

150 sequences assigned  
77 (51.3%) exact matches, in which:  
75 unique CDR3  
5 unique J



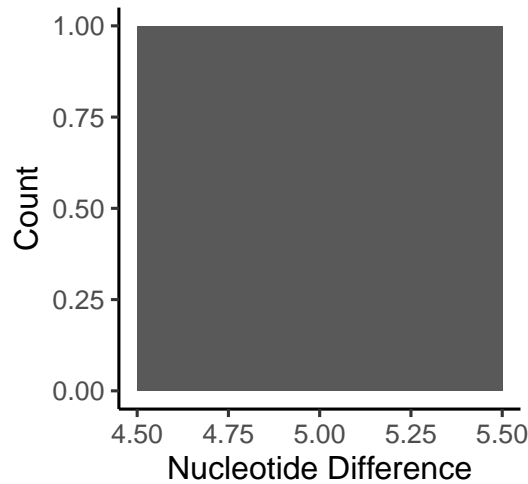
### IGHV1-58\*01

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



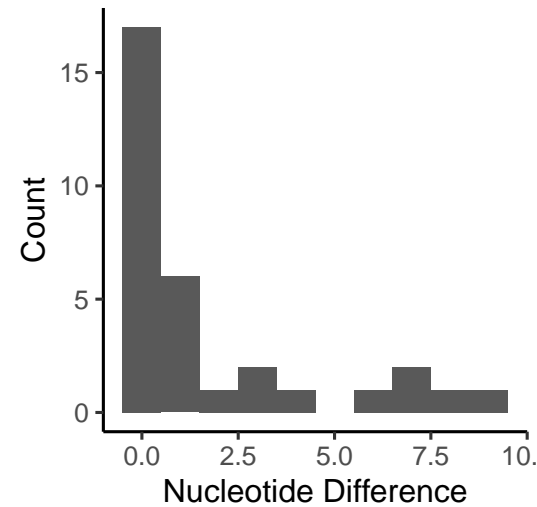
### IGHV1-NL1\*01

1 sequences assigned  
No exact matches.



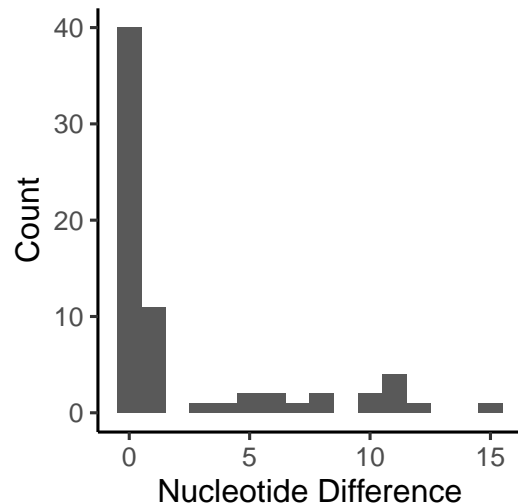
### IGHV2-26\*04

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



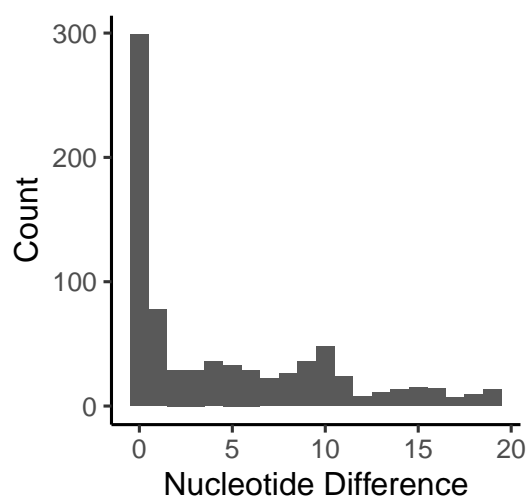
### IGHV1-69-2\*01

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



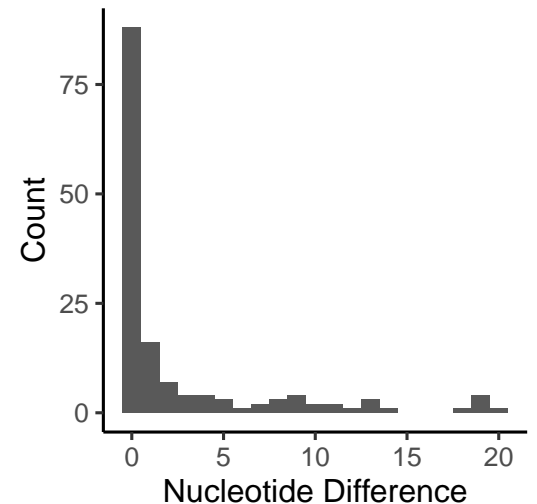
### IGHV2-5\*02

802 sequences assigned  
299 (37.3%) exact matches, in which:  
294 unique CDR3  
6 unique J



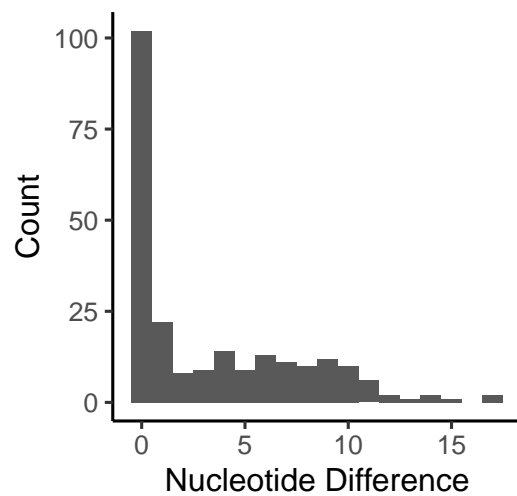
### IGHV2-70\*01

154 sequences assigned  
88 (57.1%) exact matches, in which:  
87 unique CDR3  
5 unique J



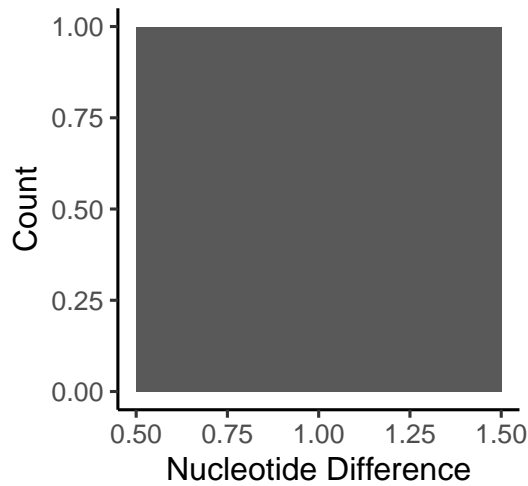
### IGHV2-70\*15

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



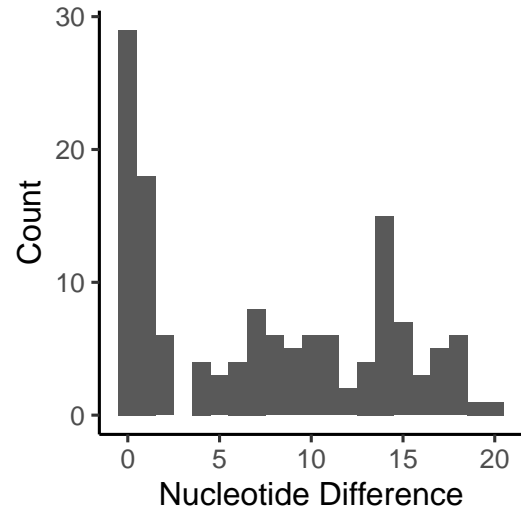
### IGHV3-9\*01

1 sequences assigned  
No exact matches.



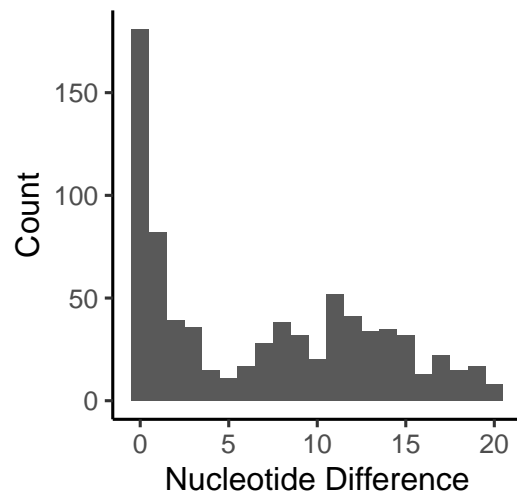
### IGHV3-13\*01\_G290A\_T33

163 sequences assigned  
29 (17.8%) exact matches, in which:  
28 unique CDR3  
5 unique J



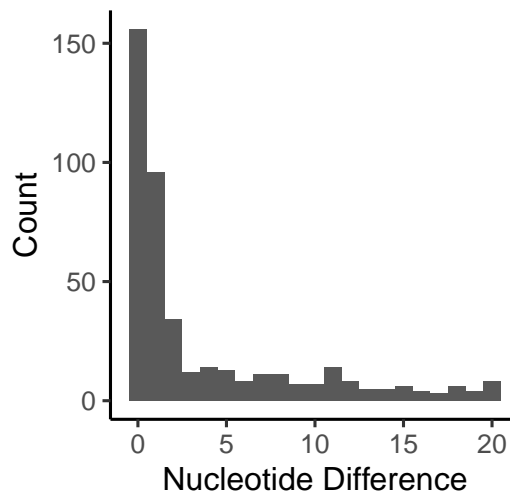
### IGHV3-7\*03

849 sequences assigned  
181 (21.3%) exact matches, in which:  
158 unique CDR3  
6 unique J



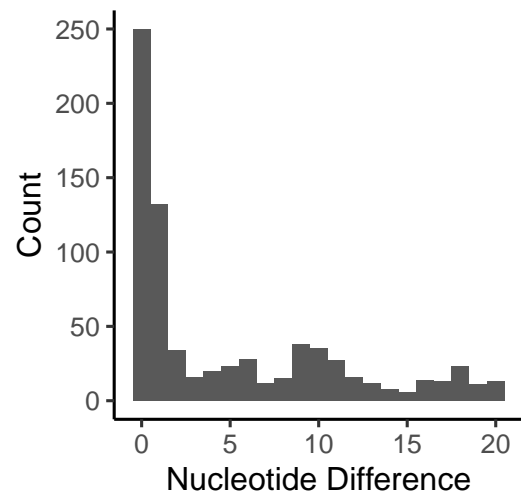
### IGHV3-11\*06

537 sequences assigned  
156 (29.1%) exact matches, in which:  
146 unique CDR3  
6 unique J



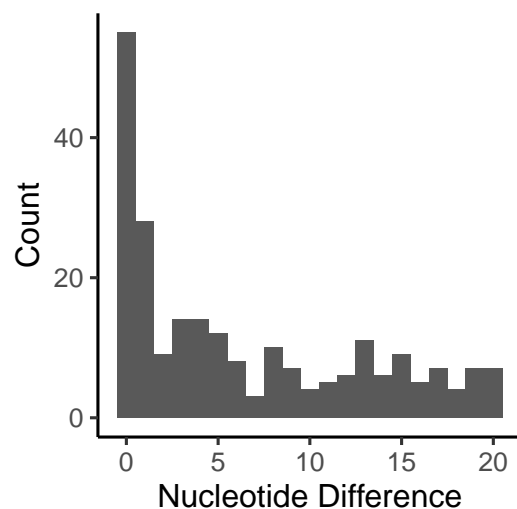
### IGHV3-15\*01

811 sequences assigned  
250 (30.8%) exact matches, in which:  
237 unique CDR3  
6 unique J



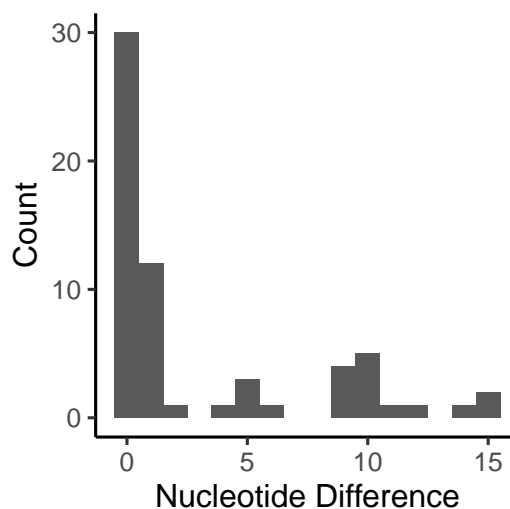
### IGHV3-7\*04

262 sequences assigned  
55 (21%) exact matches, in which:  
55 unique CDR3  
4 unique J



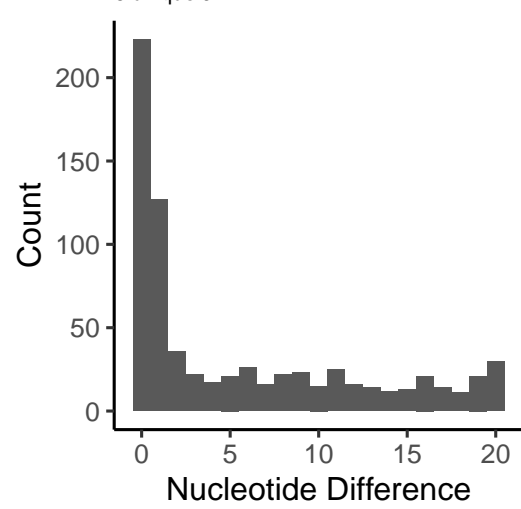
### IGHV3-13\*05

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



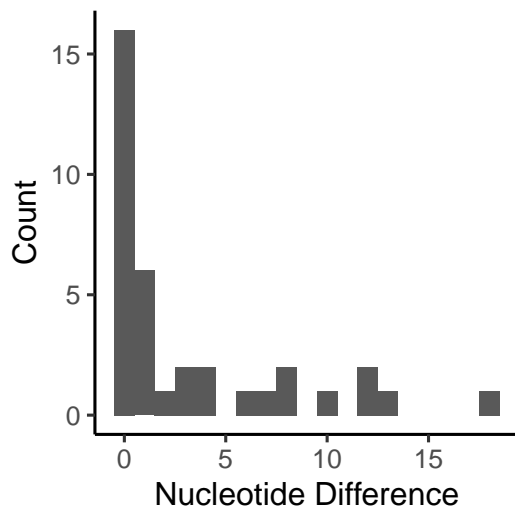
### IGHV3-15\*07

831 sequences assigned  
223 (26.8%) exact matches, in which:  
214 unique CDR3  
6 unique J



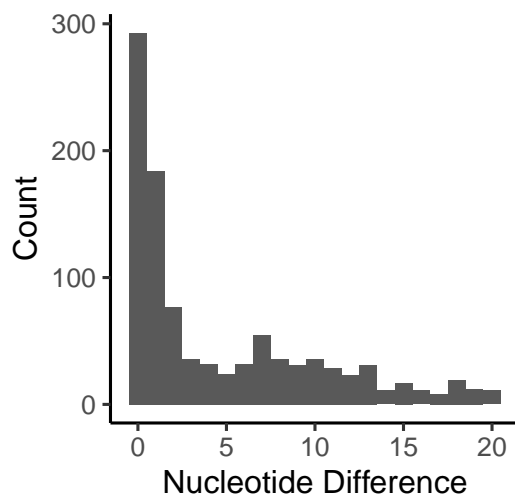
### IGHV3-20\*04

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



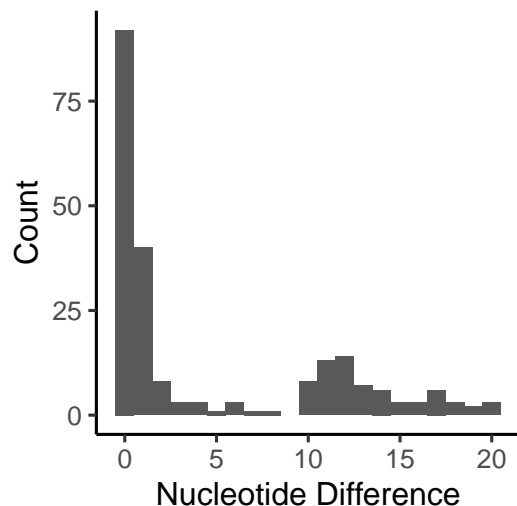
### IGHV3-33\*01

1159 sequences assigned  
293 (25.3%) exact matches, in which:  
280 unique CDR3  
6 unique J



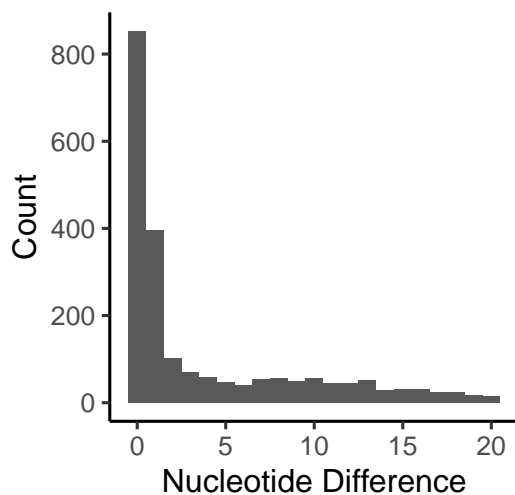
### IGHV3-43\*01

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



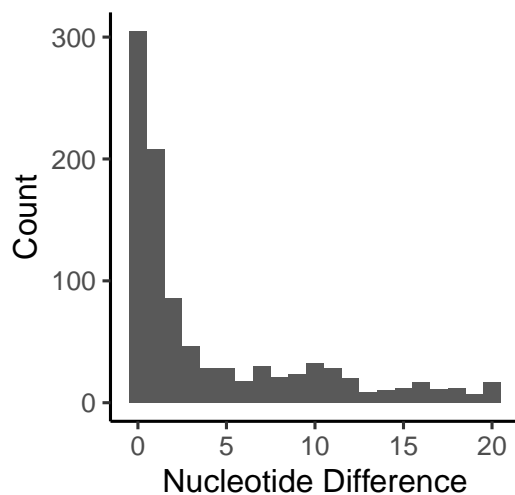
### IGHV3-21\*01

2184 sequences assigned  
853 (39.1%) exact matches, in which:  
810 unique CDR3  
6 unique J



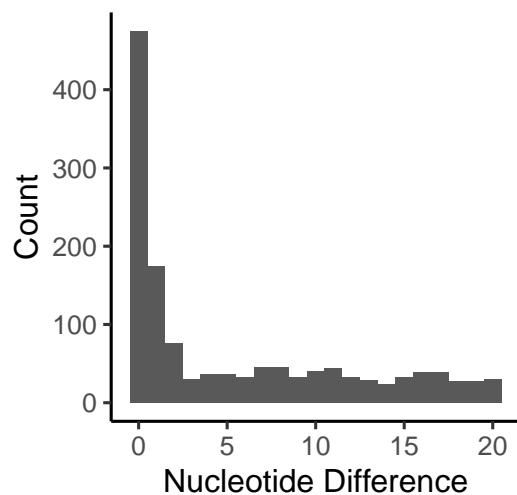
### IGHV3-33\*08

1102 sequences assigned  
305 (27.7%) exact matches, in which:  
287 unique CDR3  
6 unique J



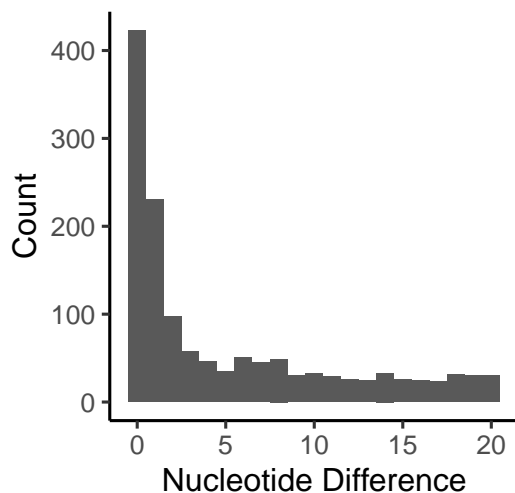
### IGHV3-48\*01

1609 sequences assigned  
475 (29.5%) exact matches, in which:  
455 unique CDR3  
6 unique J



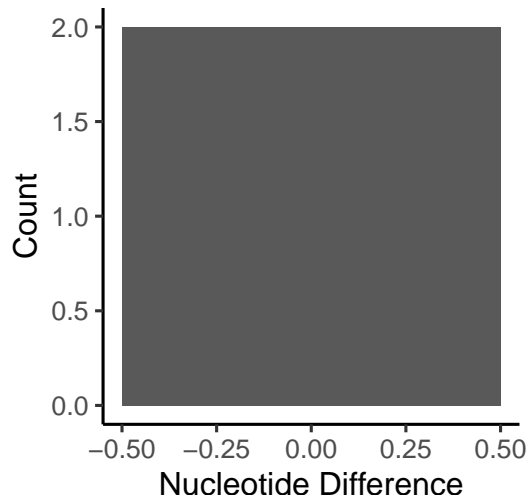
### IGHV3-30-3\*01

1760 sequences assigned  
423 (24%) exact matches, in which:  
395 unique CDR3  
6 unique J



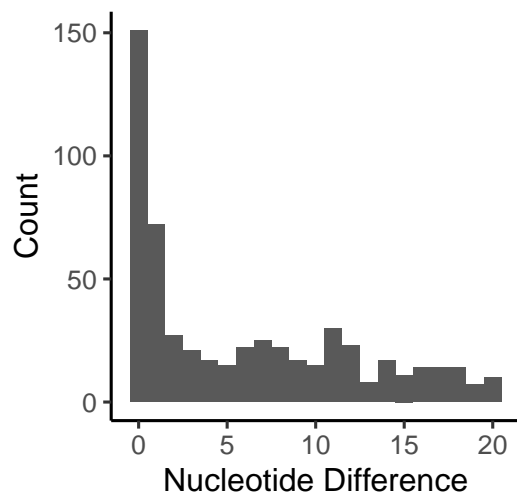
### IGHV3-35\*01

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



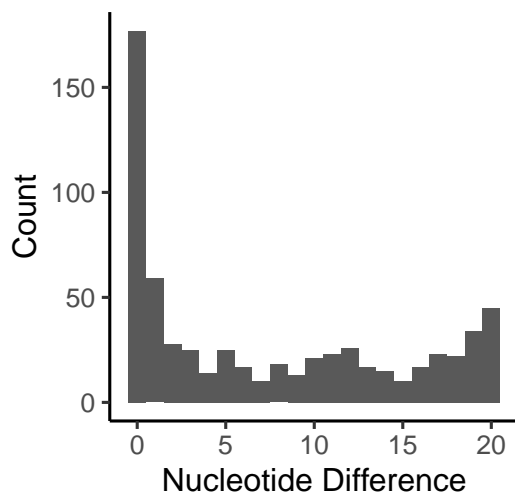
### IGHV3-49\*03

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



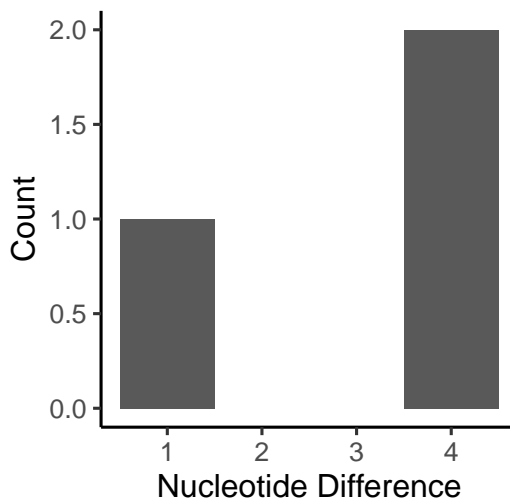
### IGHV3-53\*01

704 sequences assigned  
177 (25.1%) exact matches, in which:  
168 unique CDR3  
6 unique J



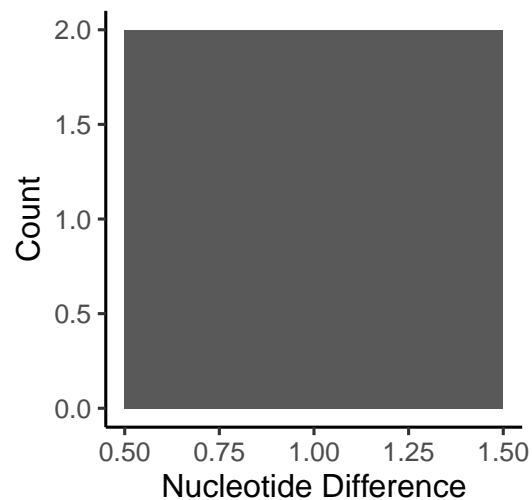
### IGHV3-66\*01

3 sequences assigned  
No exact matches.



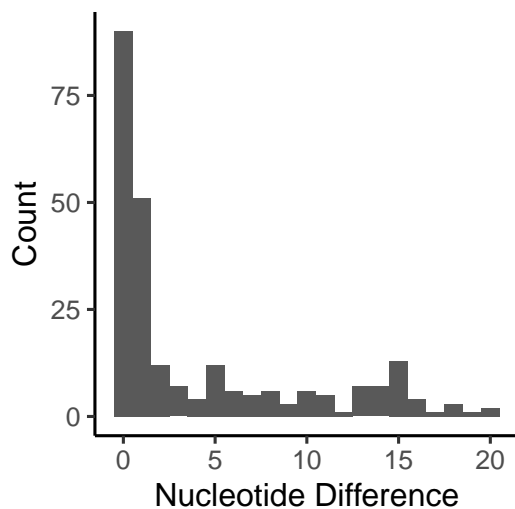
### IGHV3-69-1\*02

2 sequences assigned  
No exact matches.



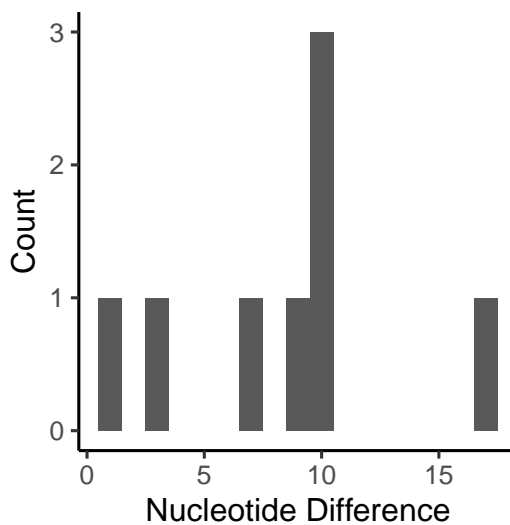
### IGHV3-53\*02

258 sequences assigned  
90 (34.9%) exact matches, in which:  
85 unique CDR3  
5 unique J



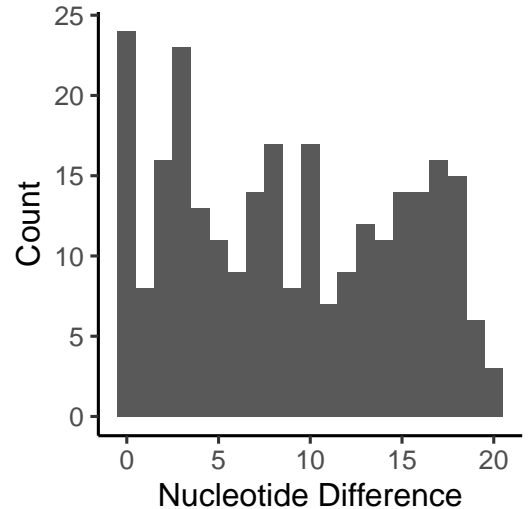
### IGHV3-66\*03

8 sequences assigned  
No exact matches.



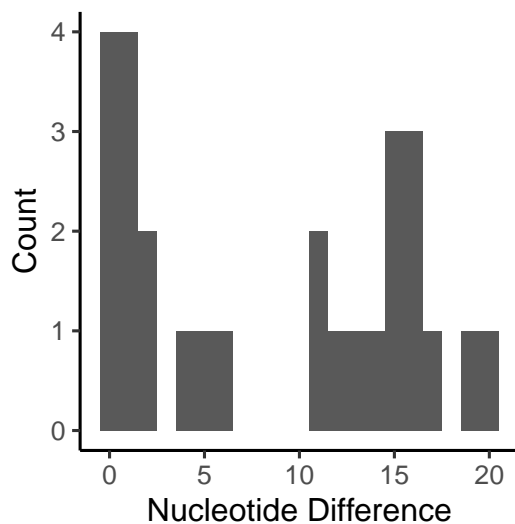
### IGHV3-72\*01

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



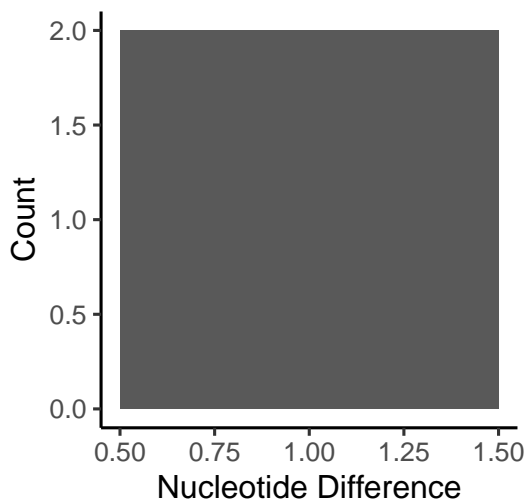
### IGHV3-64\*02

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



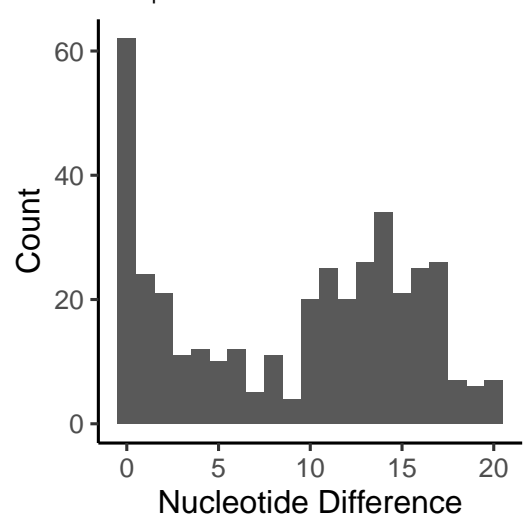
### IGHV3-69-1\*01

3 sequences assigned  
No exact matches.



### IGHV3-73\*02

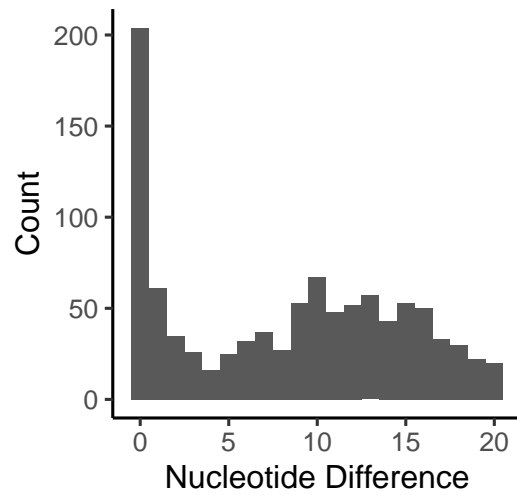
412 sequences assigned  
62 (15%) exact matches, in which:  
59 unique CDR3  
5 unique J





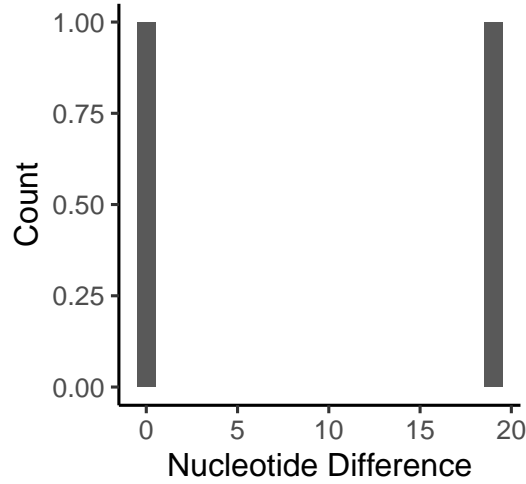
### IGHV3-74\*01

1196 sequences assigned  
204 (17.1%) exact matches, in which:  
191 unique CDR3  
6 unique J



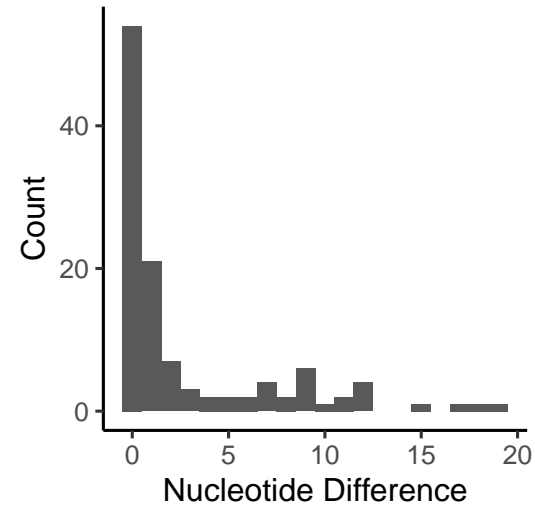
### IGHV4-28\*01

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



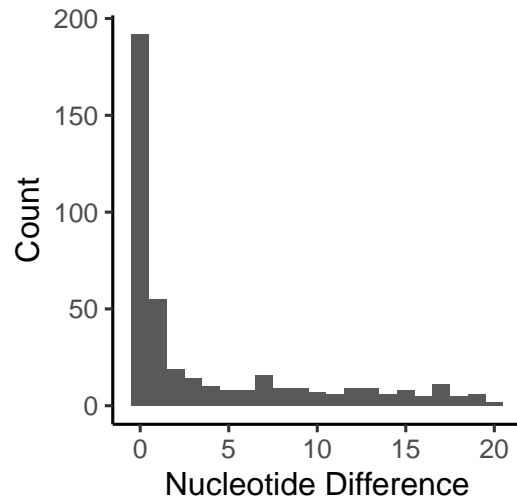
### IGHV4-30-2\*01

121 sequences assigned  
54 (44.6%) exact matches, in which:  
54 unique CDR3  
5 unique J



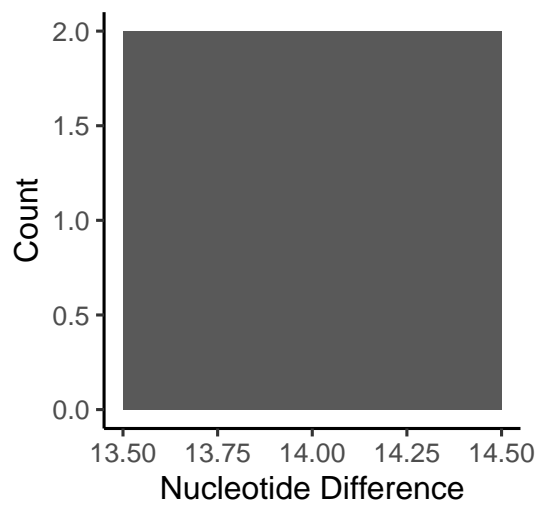
### IGHV3-64D\*06

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



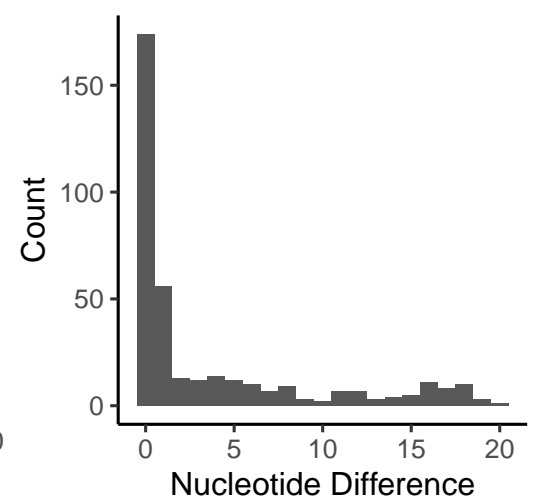
### IGHV4-28\*07

6 sequences assigned  
No exact matches.



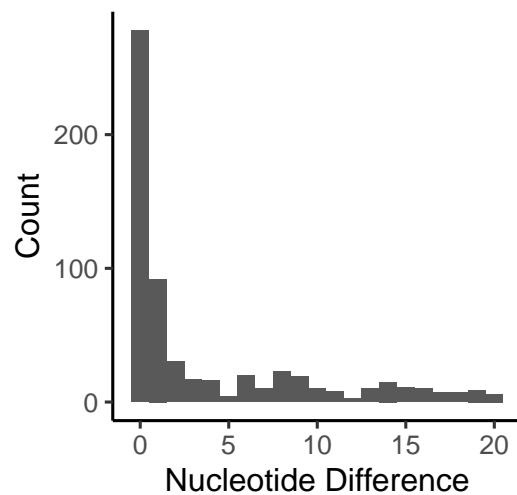
### IGHV4-31\*03

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



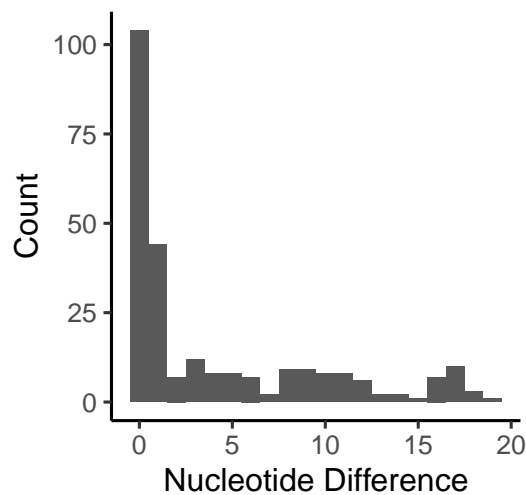
### IGHV4-4\*02

726 sequences assigned  
278 (38.3%) exact matches, in which:  
269 unique CDR3  
6 unique J



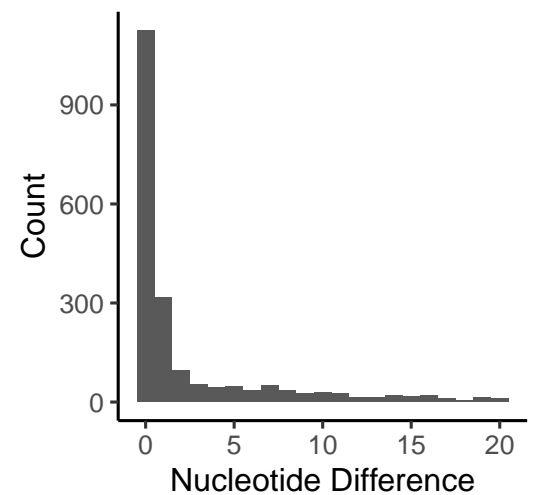
### IGHV4-30-4\*01

291 sequences assigned  
104 (35.7%) exact matches, in which:  
99 unique CDR3  
6 unique J



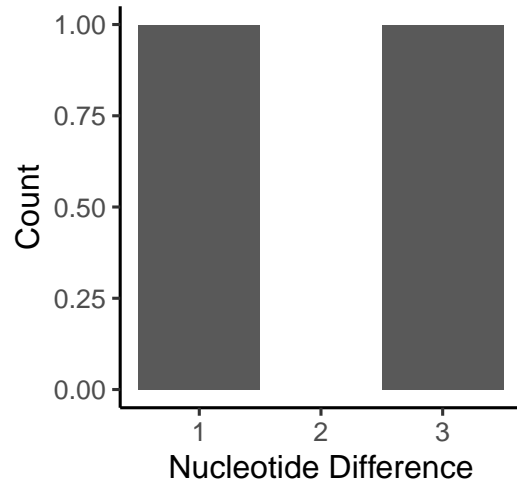
### IGHV4-34\*01

2165 sequences assigned  
1126 (52%) exact matches, in which:  
1088 unique CDR3  
6 unique J



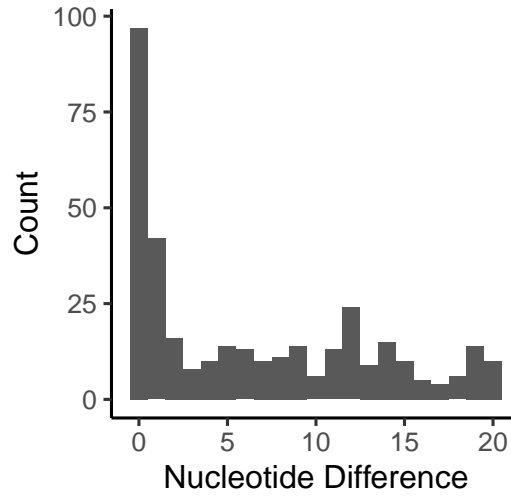
### IGHV4-38-2\*02

2 sequences assigned  
No exact matches.



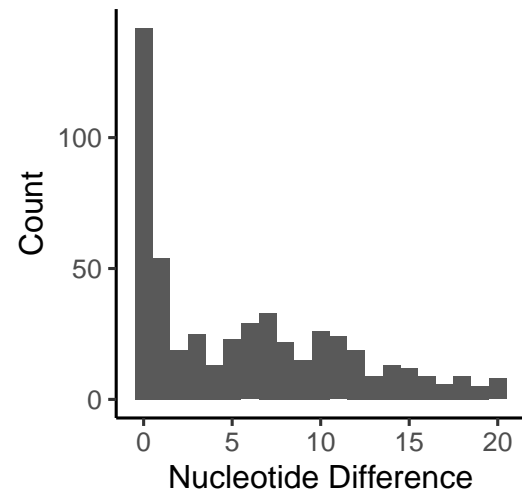
### IGHV4-61\*01

482 sequences assigned  
97 (20.1%) exact matches, in which:  
97 unique CDR3  
6 unique J



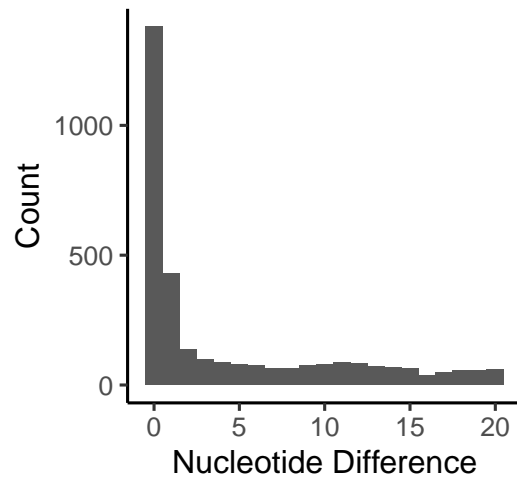
### IGHV6-1\*01

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



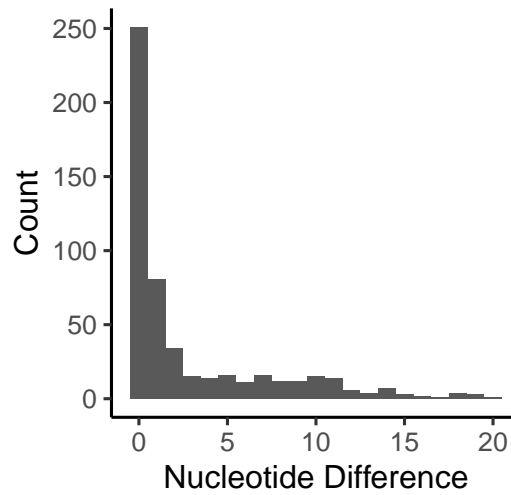
### IGHV4-39\*01

3681 sequences assigned  
1380 (37.5%) exact matches, in which:  
1328 unique CDR3  
6 unique J



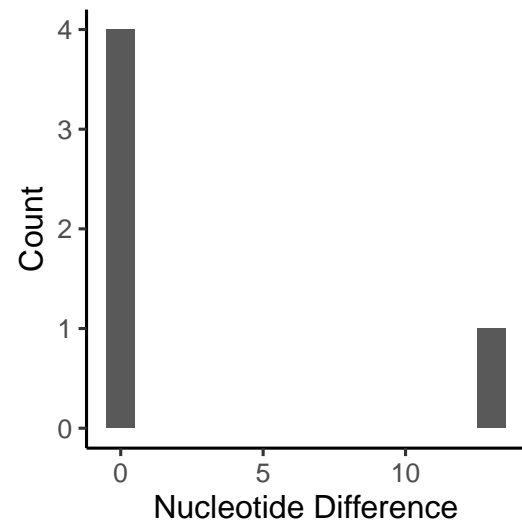
### IGHV5-10-1\*03

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



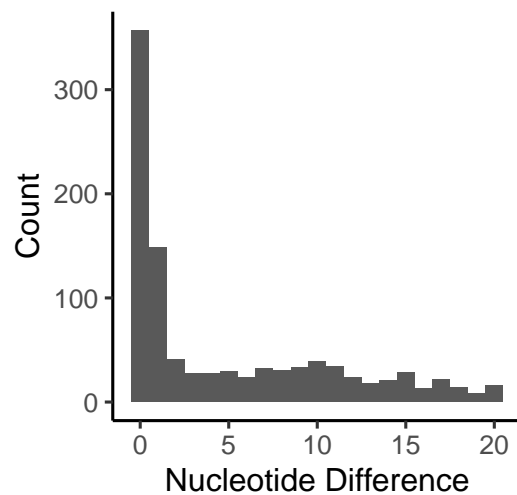
### IGHV7-4-1\*01

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



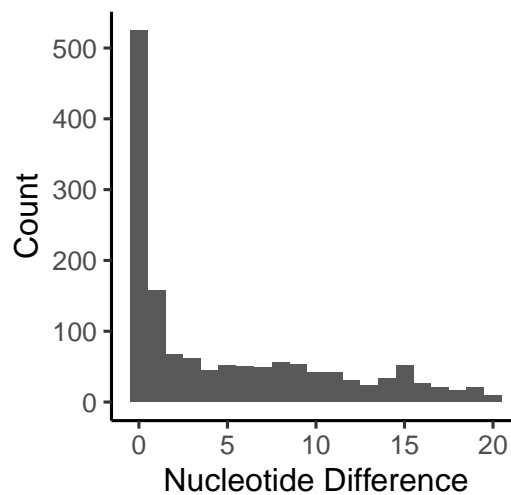
### IGHV4-59\*01

1163 sequences assigned  
357 (30.7%) exact matches, in which:  
352 unique CDR3  
6 unique J



### IGHV5-51\*01

1531 sequences assigned  
525 (34.3%) exact matches, in which:  
511 unique CDR3  
6 unique J



IGHV3-13\*01\_G290A\_T300C

