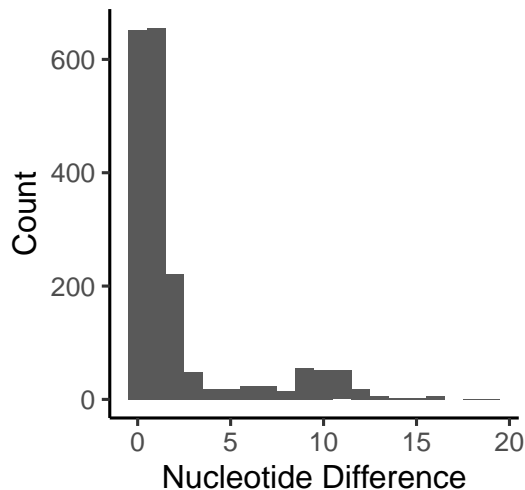


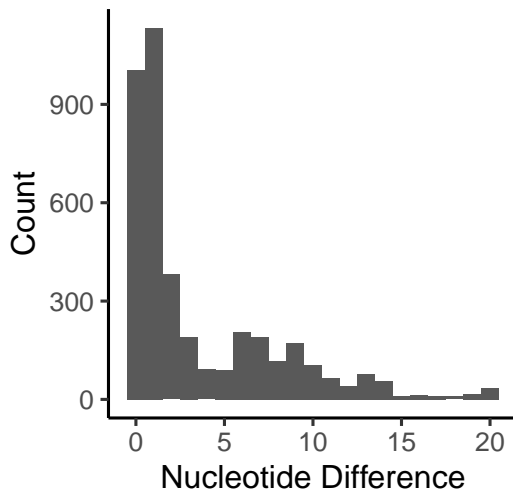
### IGHV1-2\*04

1874 sequences assigned  
652 (34.8%) exact matches, in which:  
579 unique CDR3  
6 unique J



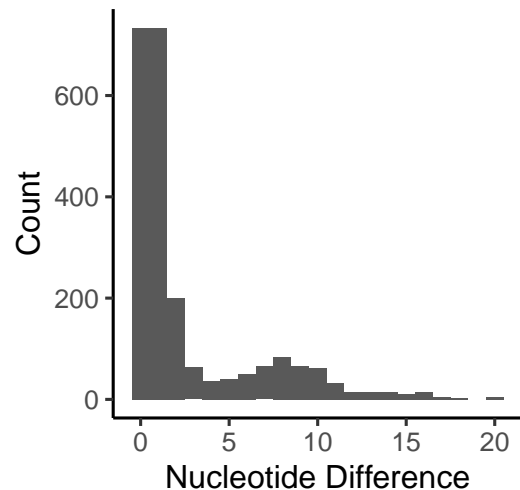
### IGHV1-18\*01

4148 sequences assigned  
1004 (24.2%) exact matches, in which:  
879 unique CDR3  
6 unique J



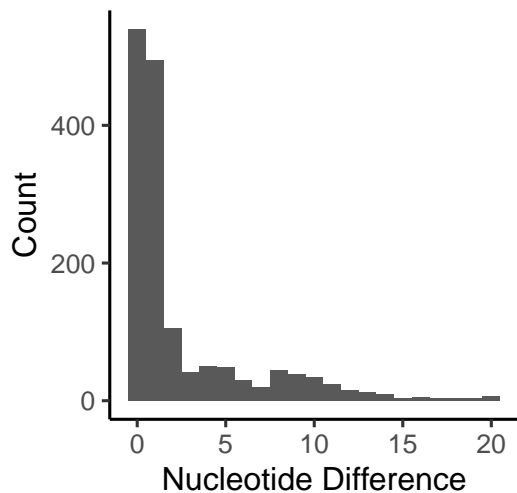
### IGHV1-46\*01

2268 sequences assigned  
733 (32.3%) exact matches, in which:  
652 unique CDR3  
6 unique J



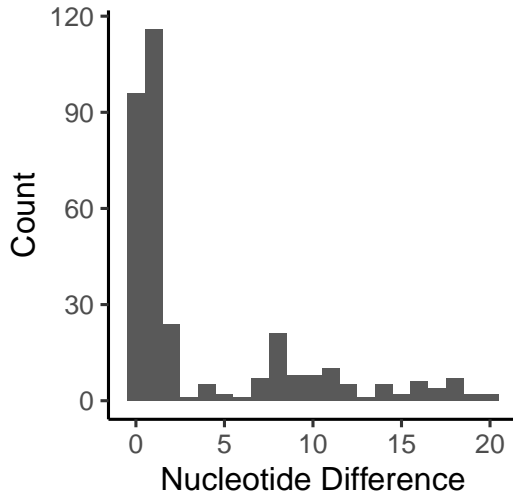
### IGHV1-3\*01\_05

1565 sequences assigned  
540 (34.5%) exact matches, in which:  
469 unique CDR3  
6 unique J



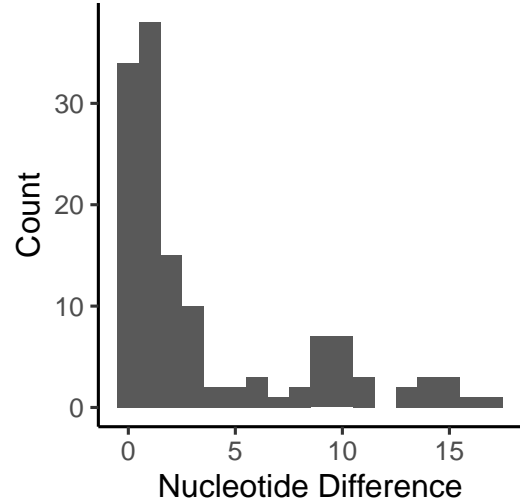
### IGHV1-24\*01

547 sequences assigned  
96 (17.6%) exact matches, in which:  
88 unique CDR3  
6 unique J



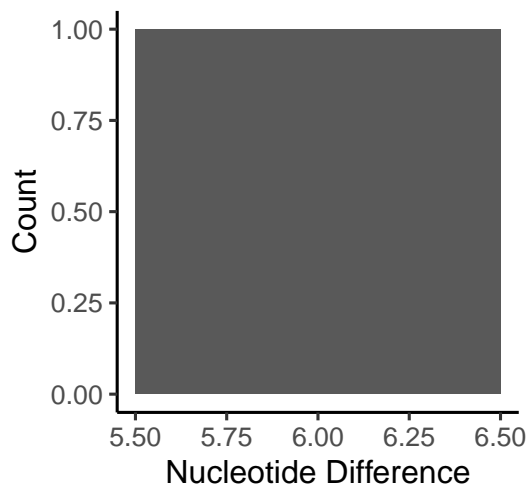
### IGHV1-58\*02

134 sequences assigned  
34 (25.4%) exact matches, in which:  
32 unique CDR3  
5 unique J



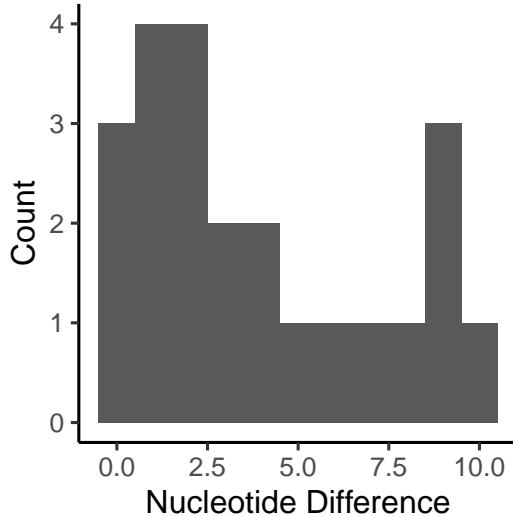
### IGHV1-8\*01

4 sequences assigned  
No exact matches.



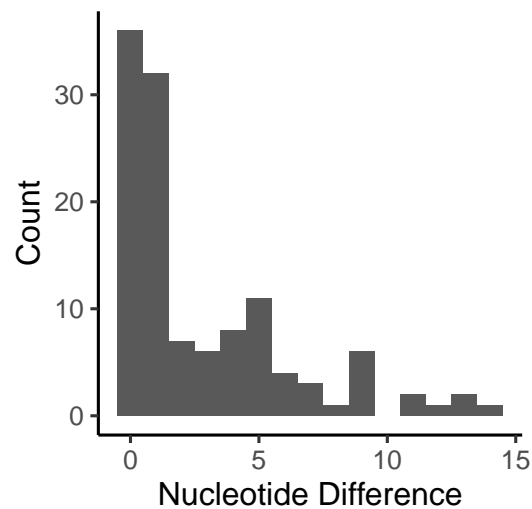
### IGHV1-45\*02

23 sequences assigned  
3 (13%) exact matches, in which:  
3 unique CDR3  
2 unique J



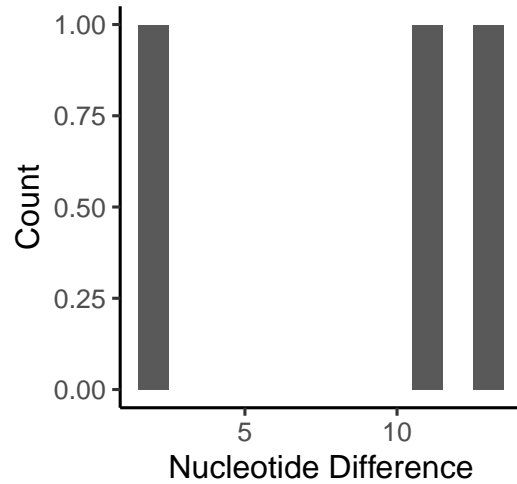
### IGHV1-58\*01\_03

122 sequences assigned  
36 (29.5%) exact matches, in which:  
33 unique CDR3  
4 unique J



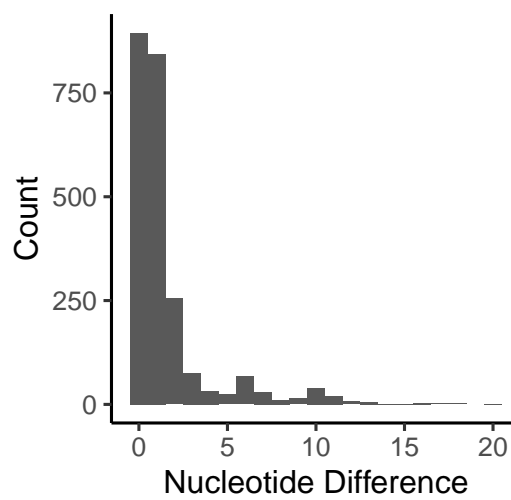
### IGHV1-68\*01

3 sequences assigned  
No exact matches.



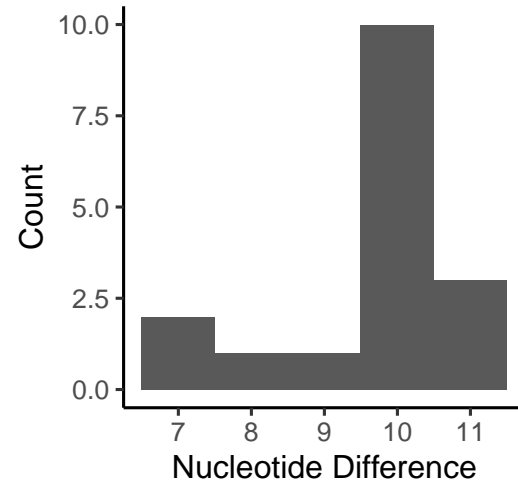
### IGHV1-69\*01\_12\_13

2354 sequences assigned  
895 (38%) exact matches, in which:  
800 unique CDR3  
6 unique J



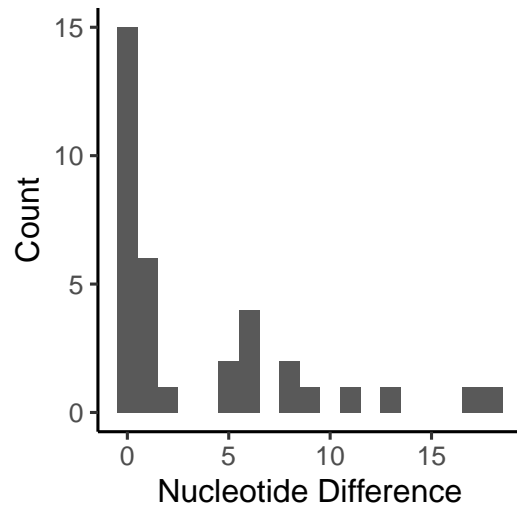
### IGHV1-NL1\*01

17 sequences assigned  
No exact matches.



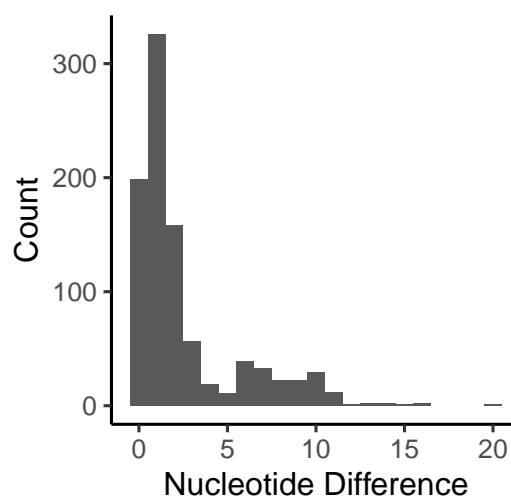
### IGHV1-69-2\*01

35 sequences assigned  
15 (42.9%) exact matches, in which:  
14 unique CDR3  
3 unique J



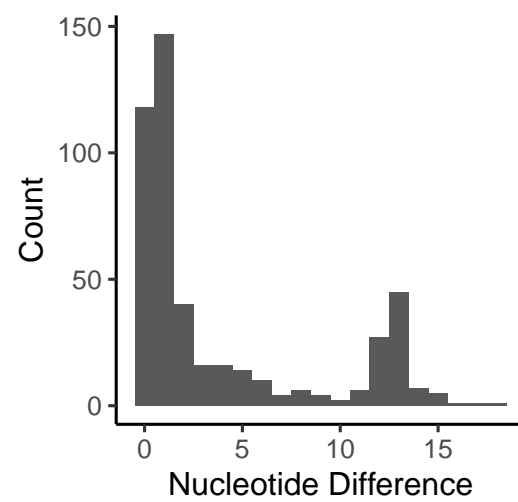
### IGHV1-69\*04\_09

946 sequences assigned  
199 (21%) exact matches, in which:  
177 unique CDR3  
5 unique J



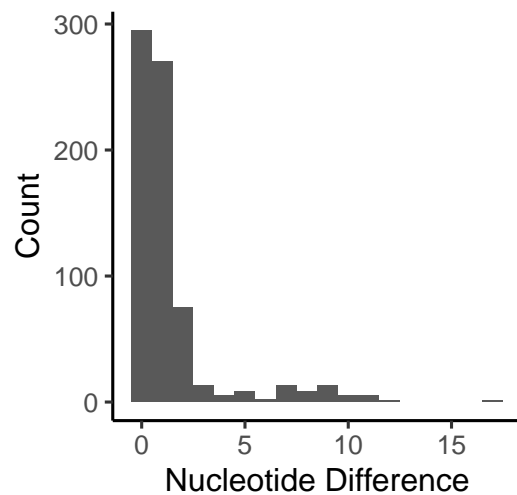
### IGHV2-5\*02

471 sequences assigned  
118 (25.1%) exact matches, in which:  
100 unique CDR3  
6 unique J



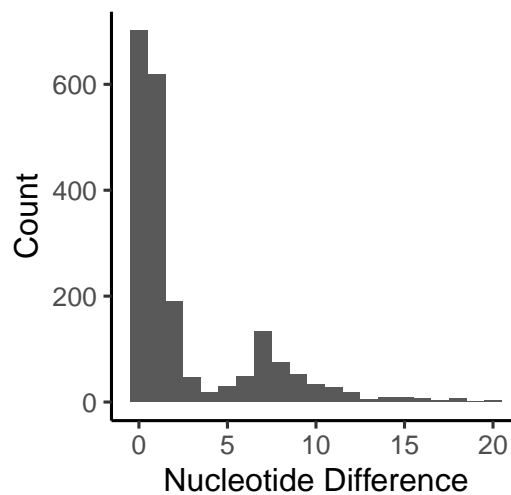
### IGHV1-69\*02

725 sequences assigned  
295 (40.7%) exact matches, in which:  
266 unique CDR3  
6 unique J



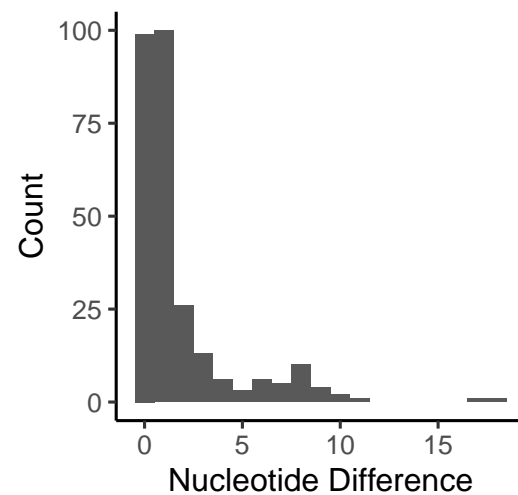
### IGHV1-69\*06\_14

2035 sequences assigned  
702 (34.5%) exact matches, in which:  
649 unique CDR3  
6 unique J



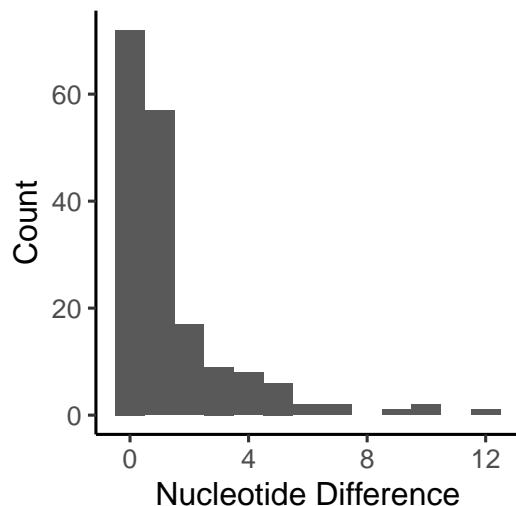
### IGHV2-26\*01

278 sequences assigned  
99 (35.6%) exact matches, in which:  
84 unique CDR3  
4 unique J



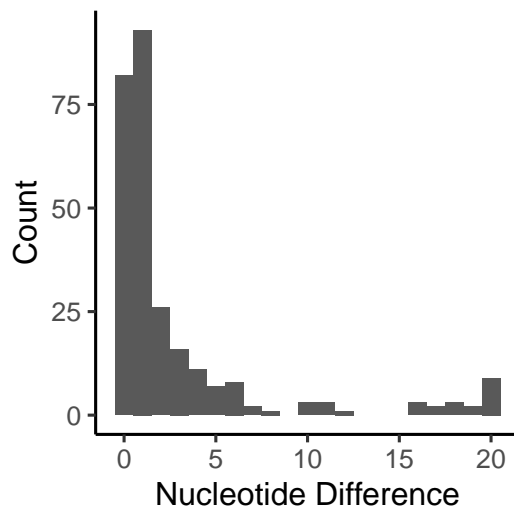
### IGHV2-70\*01

177 sequences assigned  
72 (40.7%) exact matches, in which:  
62 unique CDR3  
3 unique J



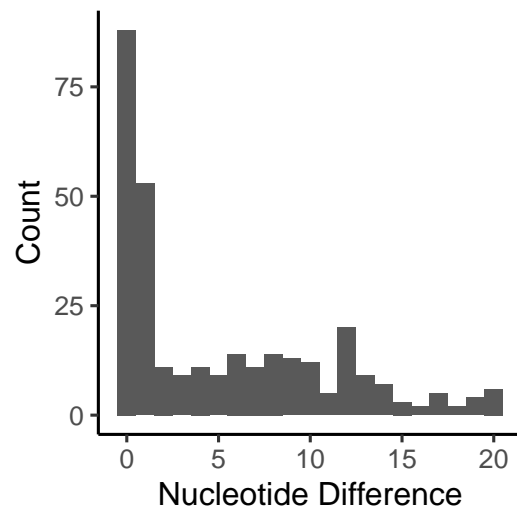
### IGHV2-70\*11\_15

311 sequences assigned  
82 (26.4%) exact matches, in which:  
64 unique CDR3  
3 unique J



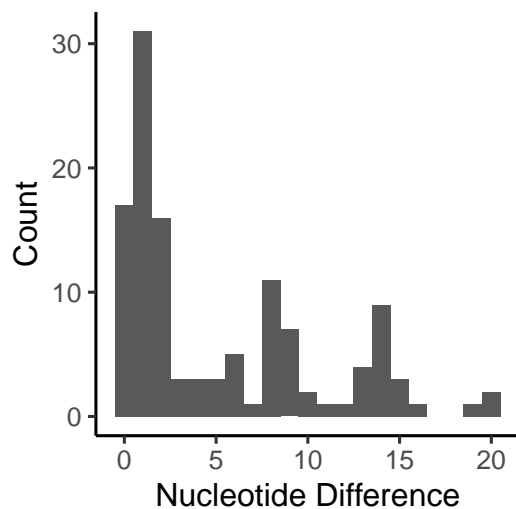
### IGHV3-7\*04

510 sequences assigned  
88 (17.3%) exact matches, in which:  
53 unique CDR3  
4 unique J



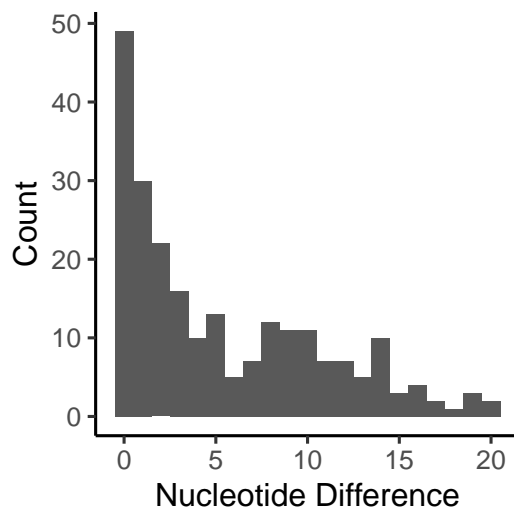
### IGHV2-70\*04

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



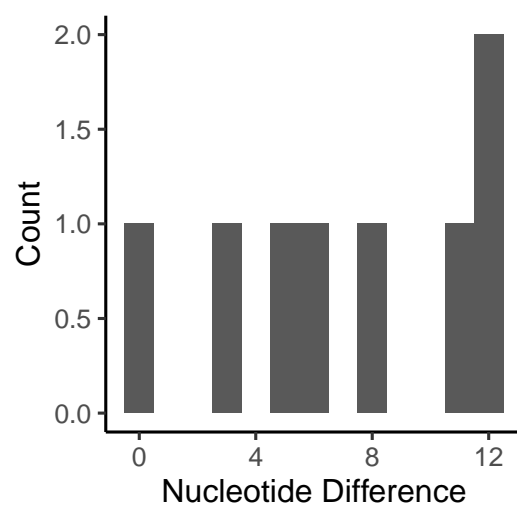
### IGHV3-7\*01

255 sequences assigned  
49 (19.2%) exact matches, in which:  
49 unique CDR3  
4 unique J



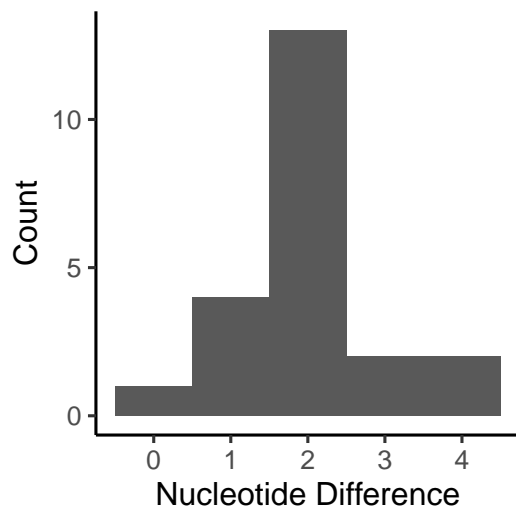
### IGHV3-9\*01

8 sequences assigned  
1 (12.5%) exact matches, in which:  
1 unique CDR3  
1 unique J



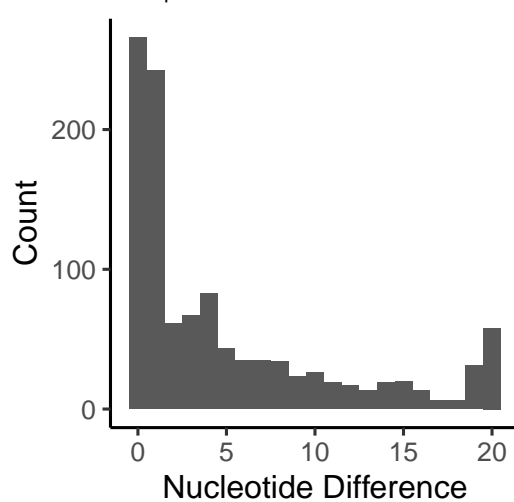
### IGHV2-70\*12

22 sequences assigned  
1 (4.5%) exact matches, in which:  
1 unique CDR3  
1 unique J



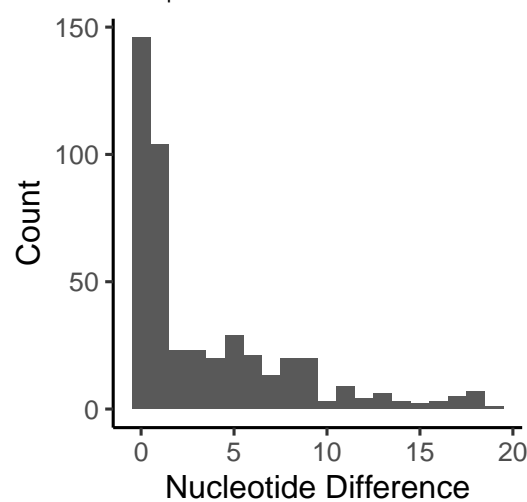
### IGHV3-7\*03

1378 sequences assigned  
266 (19.3%) exact matches, in which:  
188 unique CDR3  
5 unique J



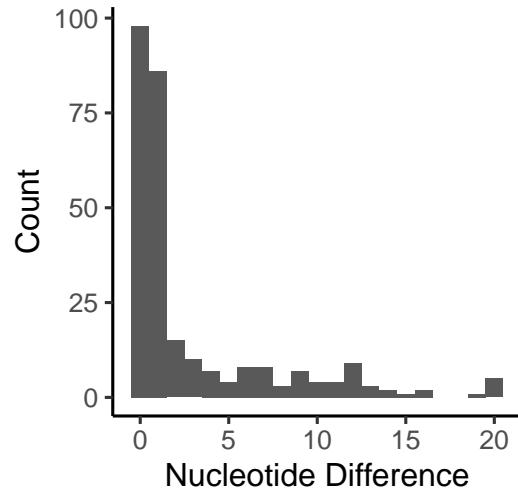
### IGHV3-11\*06

482 sequences assigned  
146 (30.3%) exact matches, in which:  
123 unique CDR3  
5 unique J



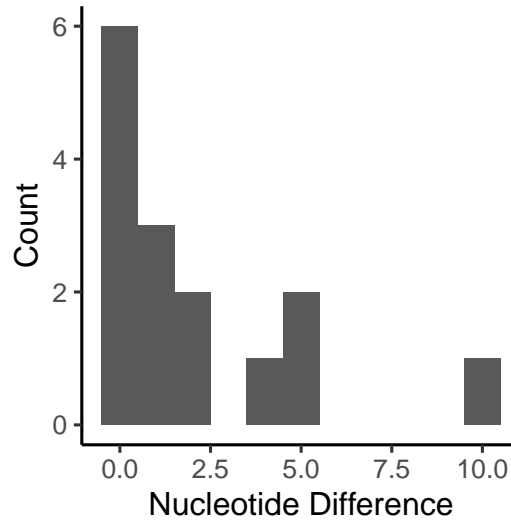
### IGHV3-13\*04

281 sequences assigned  
98 (34.9%) exact matches, in which:  
79 unique CDR3  
5 unique J



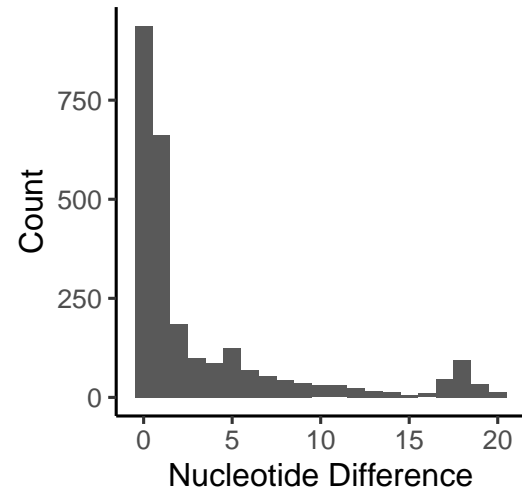
### IGHV3-19\*01

15 sequences assigned  
6 (40%) exact matches, in which:  
5 unique CDR3  
2 unique J



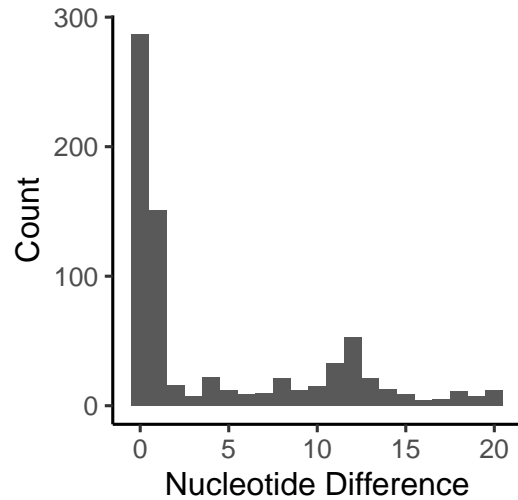
### IGHV3-21\*01\_02

2657 sequences assigned  
938 (35.3%) exact matches, in which:  
631 unique CDR3  
6 unique J



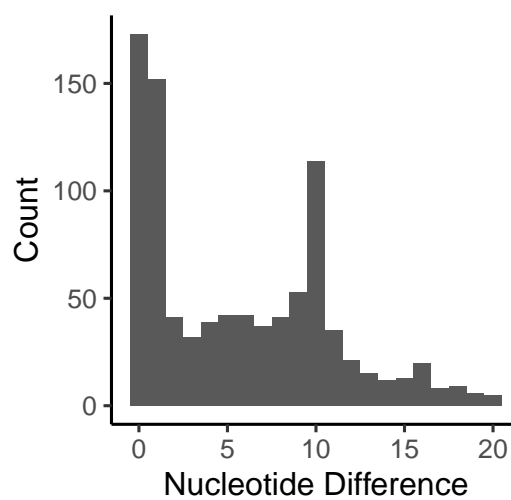
### IGHV3-15\*07

1139 sequences assigned  
287 (25.2%) exact matches, in which:  
193 unique CDR3  
6 unique J



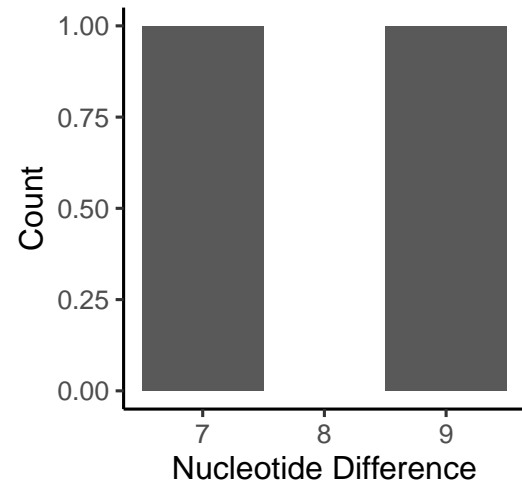
### IGHV3-20\*03\_04

956 sequences assigned  
173 (18.1%) exact matches, in which:  
104 unique CDR3  
4 unique J



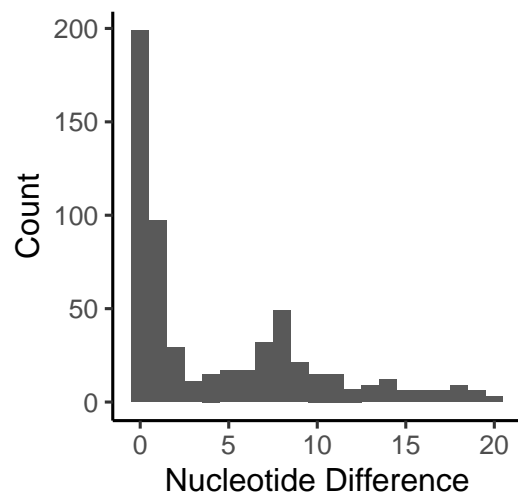
### IGHV3-22\*01\_02

2 sequences assigned  
No exact matches.



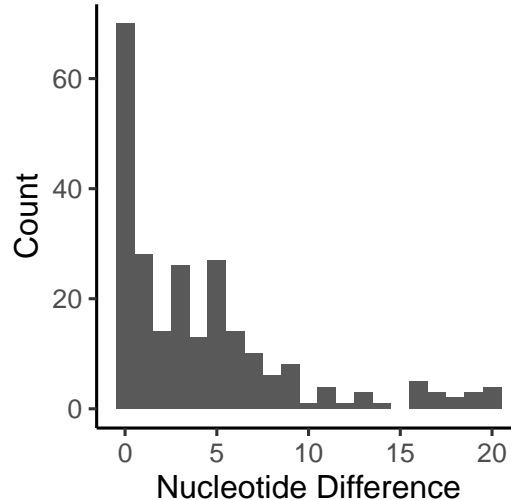
### IGHV3-15\*01\_02

639 sequences assigned  
199 (31.1%) exact matches, in which:  
135 unique CDR3  
5 unique J



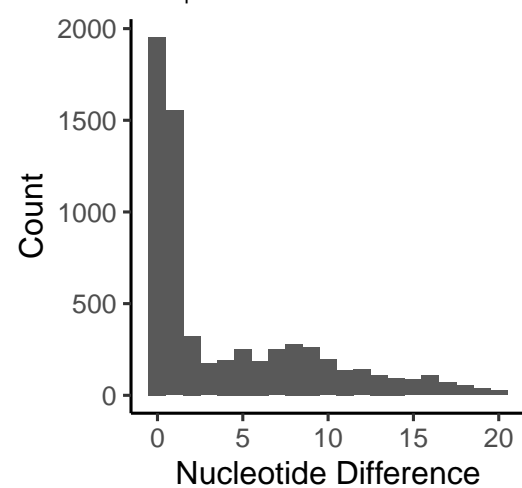
### IGHV3-21\*04

244 sequences assigned  
70 (28.7%) exact matches, in which:  
64 unique CDR3  
4 unique J



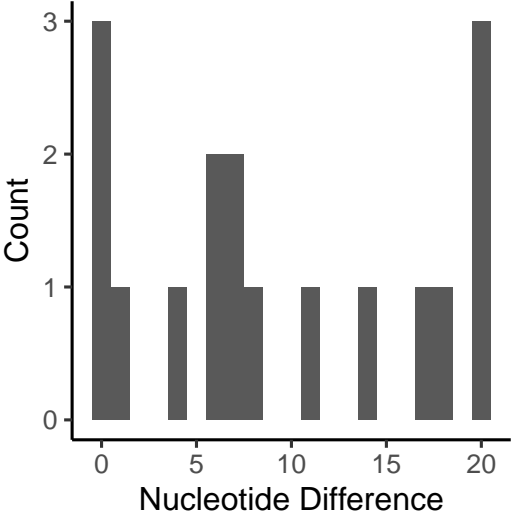
### IGHV3-23\*01\_04

6812 sequences assigned  
1954 (28.7%) exact matches, in which:  
1143 unique CDR3  
6 unique J



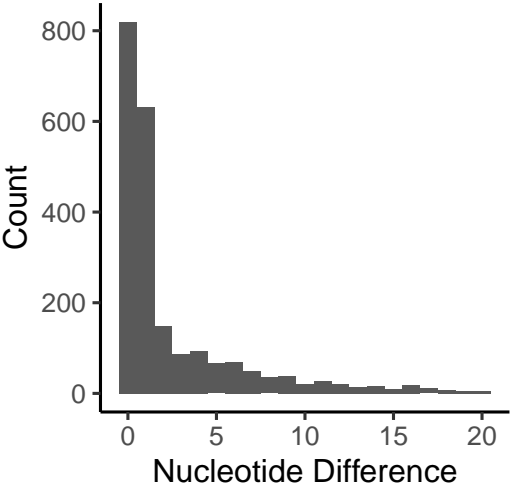
IGHV3-30-3\*01

23 sequences assigned  
3 (13%) exact matches, in which:  
3 unique CDR3  
1 unique J



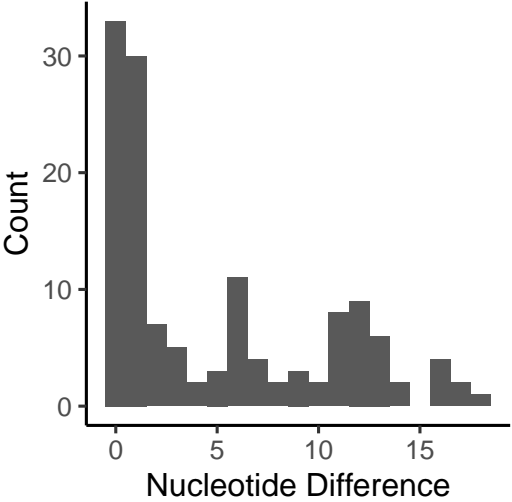
IGHV3-33\*01

2247 sequences assigned  
820 (36.5%) exact matches, in which:  
551 unique CDR3  
6 unique J



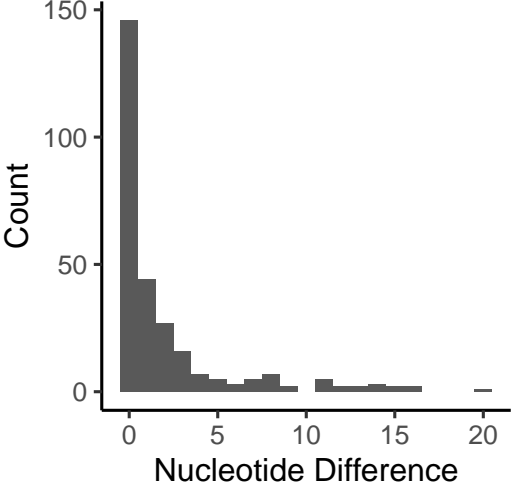
IGHV3-43\*01

137 sequences assigned  
33 (24.1%) exact matches, in which:  
22 unique CDR3  
5 unique J



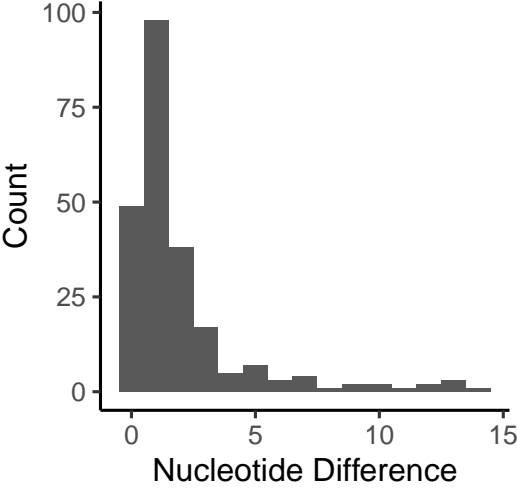
IGHV3-30\*03

296 sequences assigned  
146 (49.3%) exact matches, in which:  
138 unique CDR3  
5 unique J



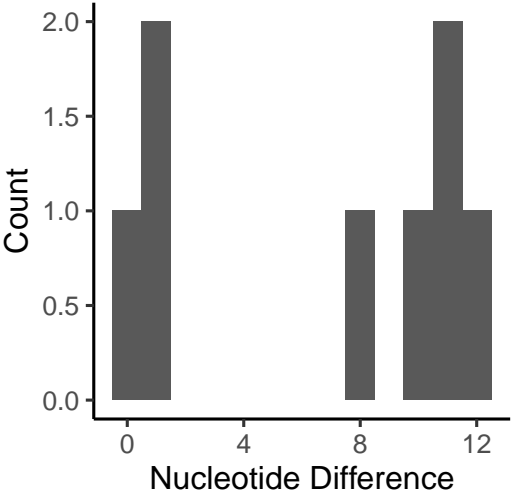
IGHV3-33\*06

234 sequences assigned  
49 (20.9%) exact matches, in which:  
48 unique CDR3  
6 unique J



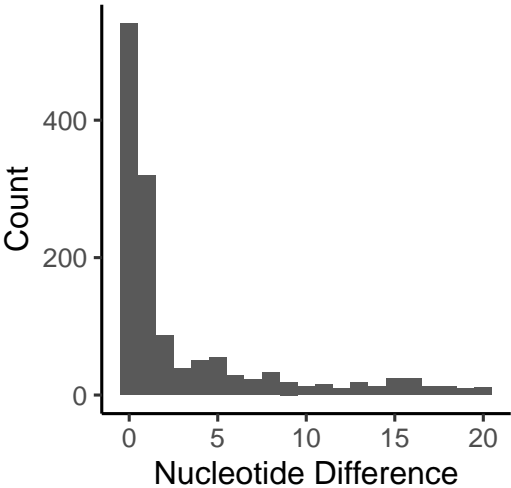
IGHV3-47\*02

8 sequences assigned  
1 (12.5%) exact matches, in which:  
1 unique CDR3  
1 unique J



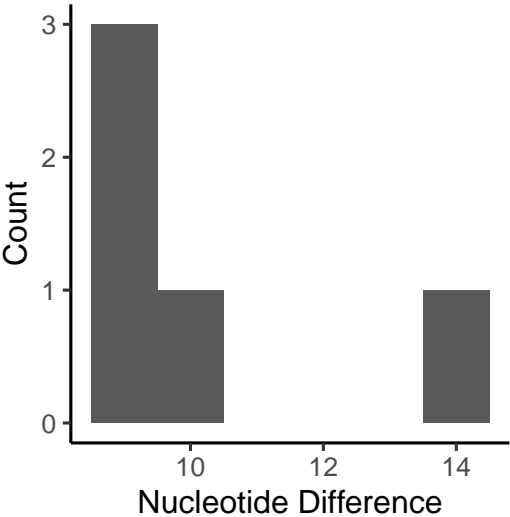
IGHV3-30\*18

1410 sequences assigned  
541 (38.4%) exact matches, in which:  
349 unique CDR3  
6 unique J



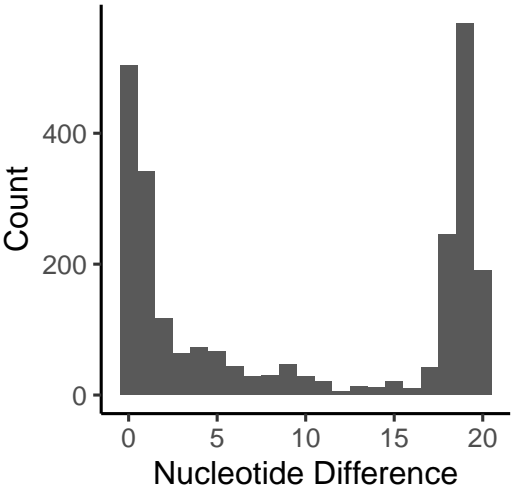
IGHV3-35\*01

5 sequences assigned  
No exact matches.



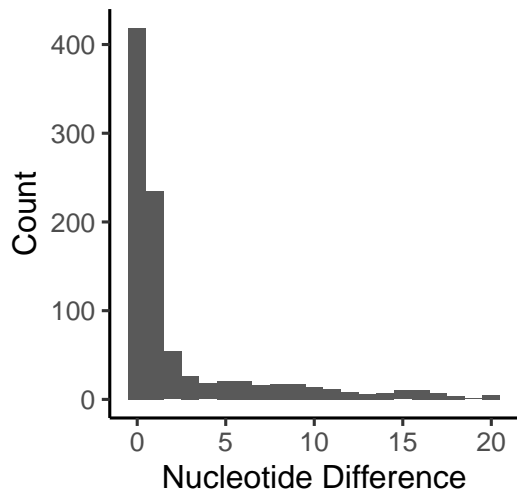
IGHV3-48\*01

2704 sequences assigned  
504 (18.6%) exact matches, in which:  
354 unique CDR3  
6 unique J



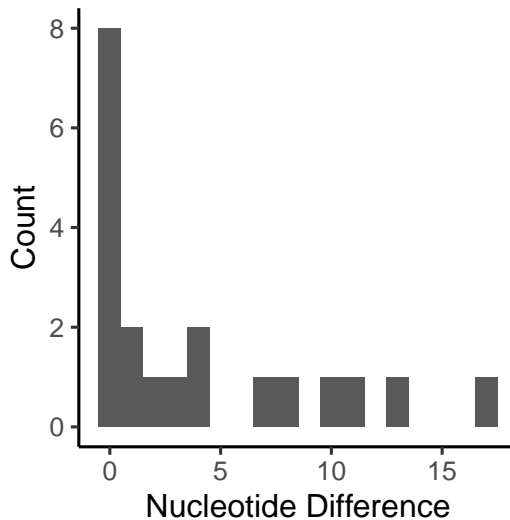
### IGHV3-48\*02

1322 sequences assigned  
419 (31.7%) exact matches, in which:  
283 unique CDR3  
6 unique J



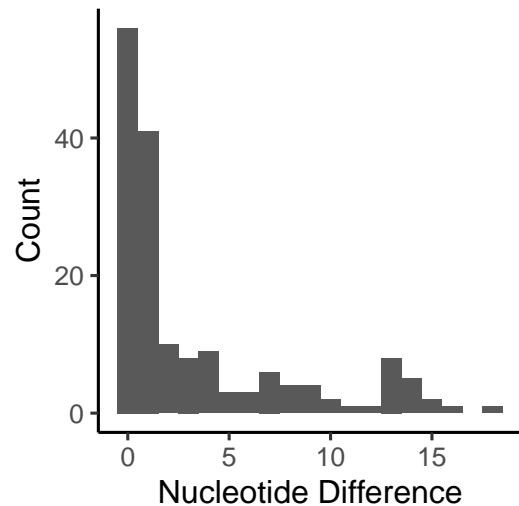
### IGHV3-52\*01\_03

20 sequences assigned  
8 (40%) exact matches, in which:  
7 unique CDR3  
3 unique J



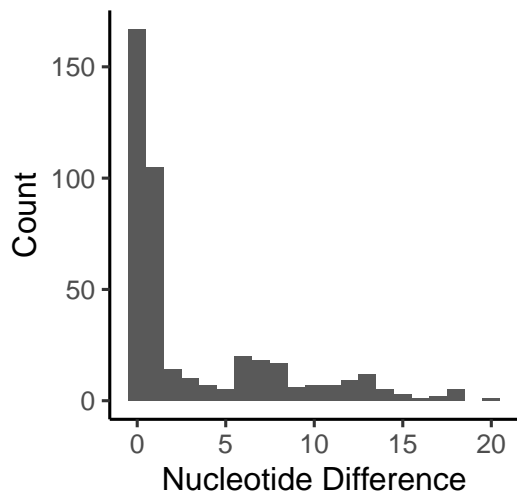
### IGHV3-64\*01

167 sequences assigned  
56 (33.5%) exact matches, in which:  
39 unique CDR3  
5 unique J



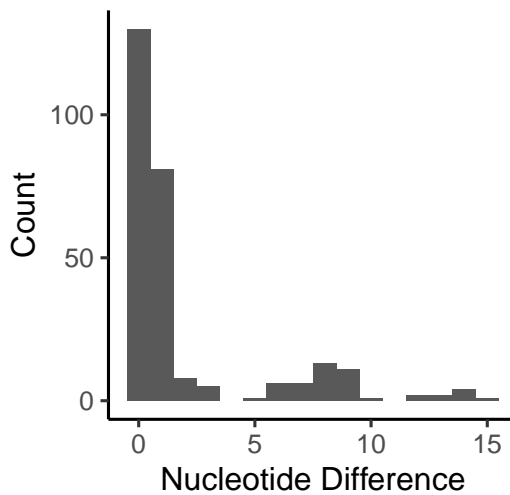
### IGHV3-49\*03\_05

422 sequences assigned  
167 (39.6%) exact matches, in which:  
110 unique CDR3  
5 unique J



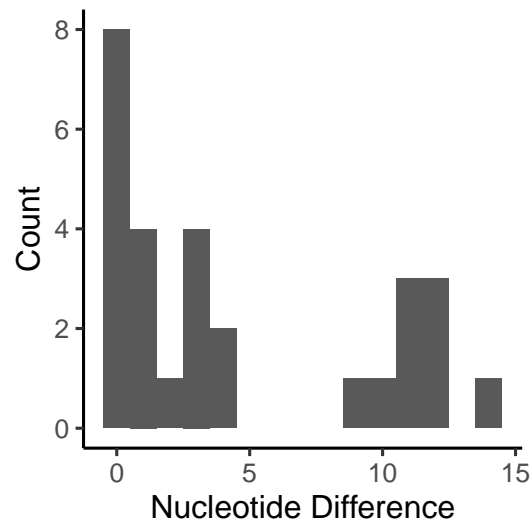
### IGHV3-53\*04

271 sequences assigned  
130 (48%) exact matches, in which:  
97 unique CDR3  
5 unique J



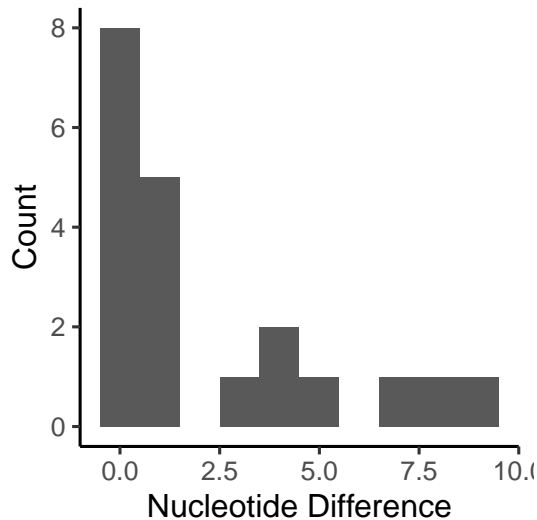
### IGHV3-64\*02\_07

28 sequences assigned  
8 (28.6%) exact matches, in which:  
7 unique CDR3  
4 unique J



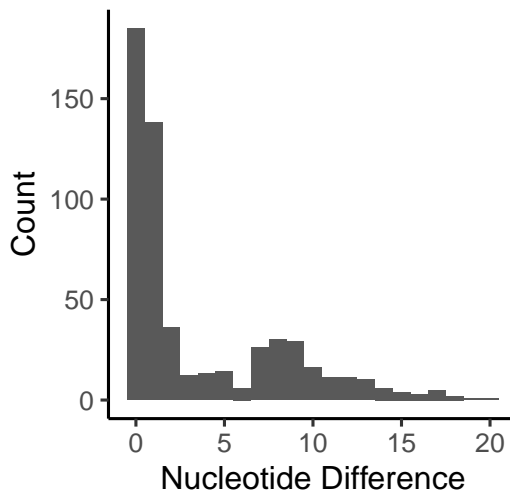
### IGHV3-52\*02

20 sequences assigned  
8 (40%) exact matches, in which:  
6 unique CDR3  
2 unique J



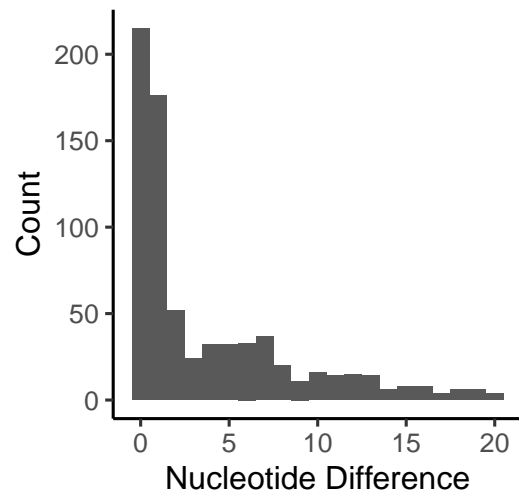
### IGHV3-53\*01\_02

576 sequences assigned  
185 (32.1%) exact matches, in which:  
130 unique CDR3  
5 unique J



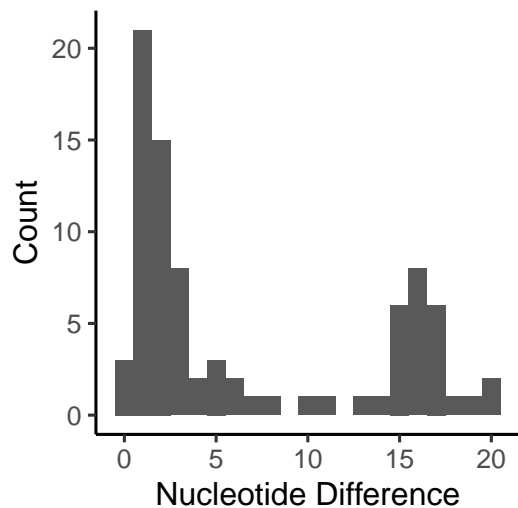
### IGHV3-66\*01

748 sequences assigned  
215 (28.7%) exact matches, in which:  
161 unique CDR3  
6 unique J



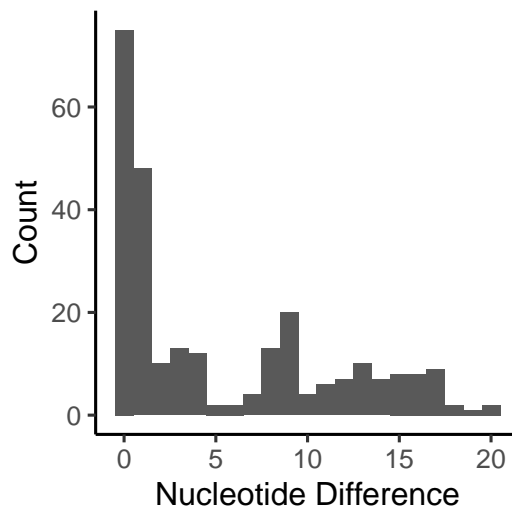
### IGHV3-69-1\*01

84 sequences assigned  
3 (3.6%) exact matches, in which:  
3 unique CDR3  
1 unique J



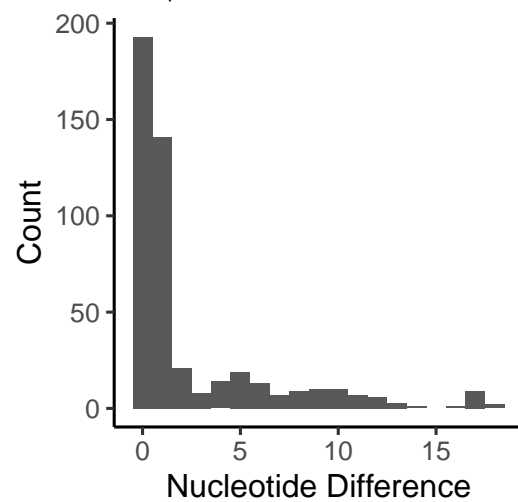
### IGHV3-73\*01\_02

269 sequences assigned  
75 (27.9%) exact matches, in which:  
50 unique CDR3  
4 unique J



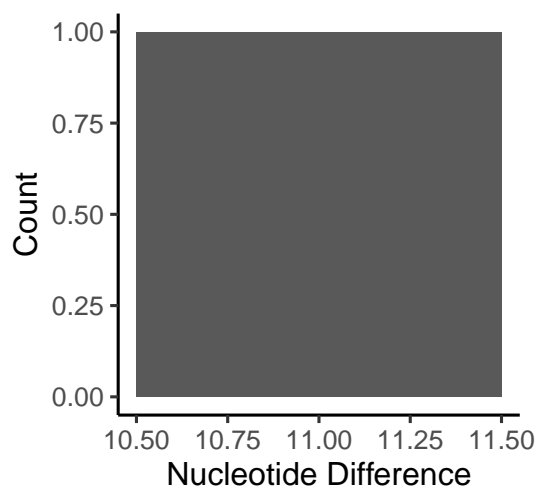
### IGHV3-64D\*06

482 sequences assigned  
193 (40%) exact matches, in which:  
112 unique CDR3  
5 unique J



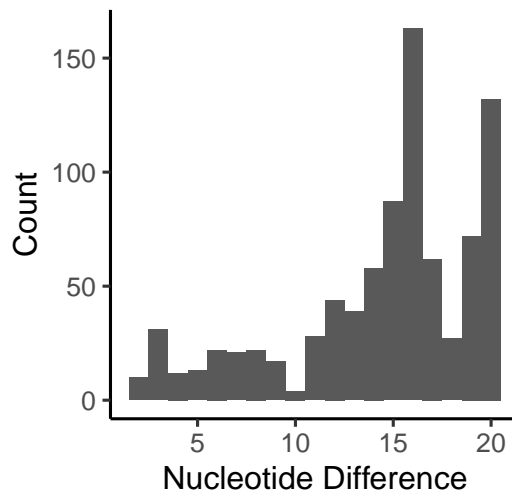
### IGHV3-71\*03

2 sequences assigned  
No exact matches.



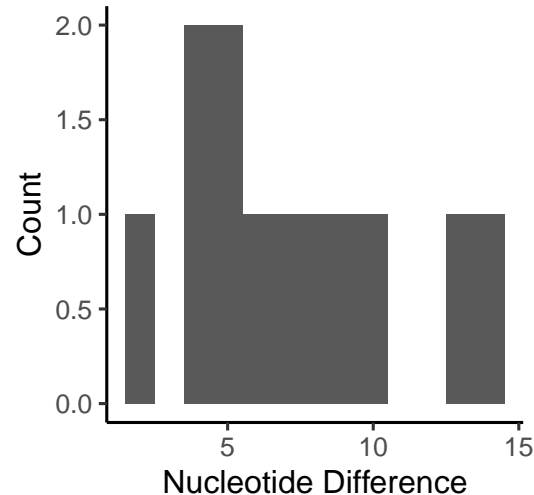
### IGHV3-74\*03

1000 sequences assigned  
No exact matches.



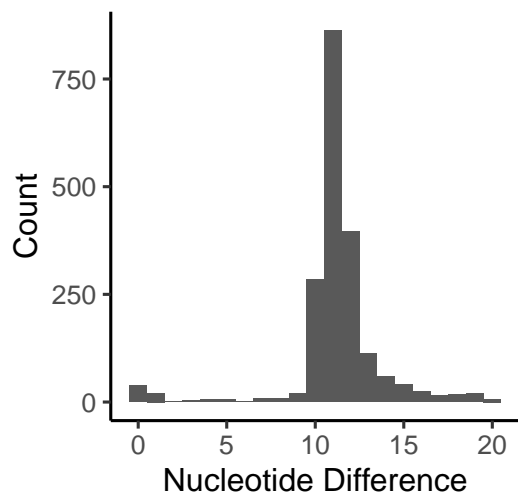
### IGHV3-NL1\*01

12 sequences assigned  
No exact matches.



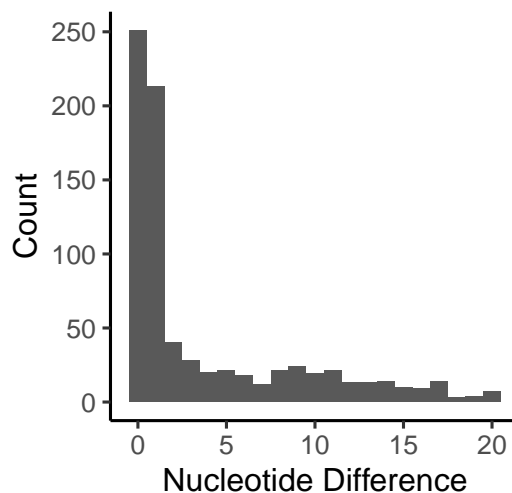
### IGHV3-72\*01

1975 sequences assigned  
38 (1.9%) exact matches, in which:  
26 unique CDR3  
4 unique J



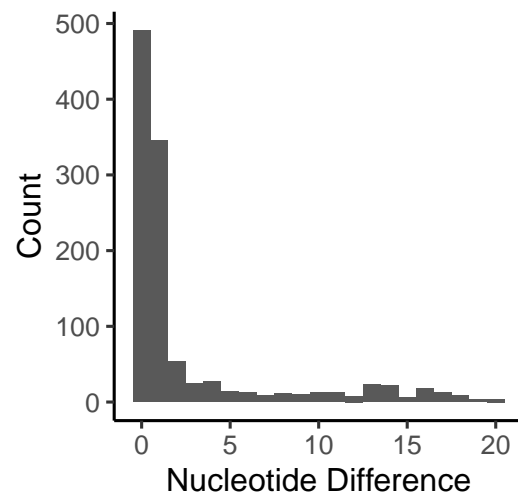
### IGHV3-74\*01\_02

790 sequences assigned  
251 (31.8%) exact matches, in which:  
149 unique CDR3  
5 unique J



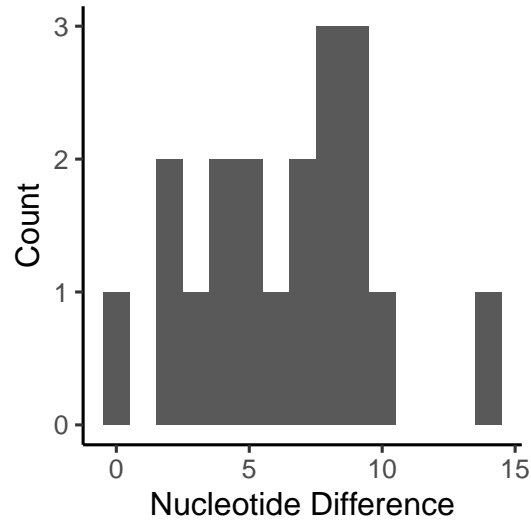
### IGHV4-4\*02\_03

1145 sequences assigned  
491 (42.9%) exact matches, in which:  
398 unique CDR3  
6 unique J



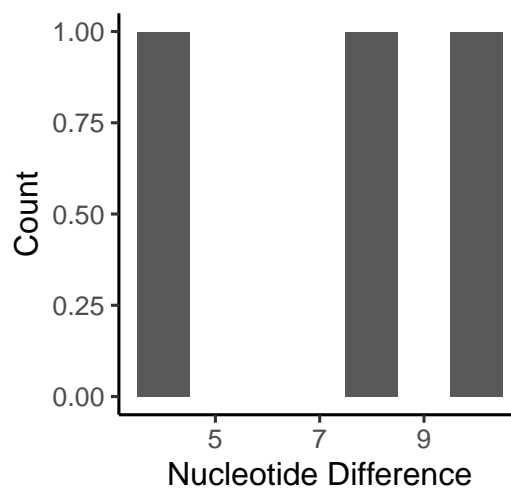
### IGHV4-28\*03

19 sequences assigned  
1 (5.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



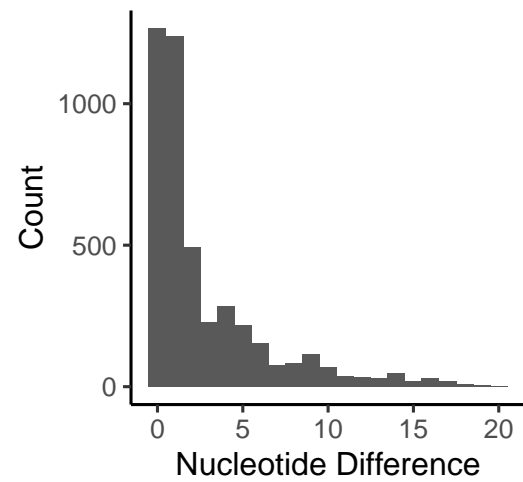
### IGHV4-30-2\*04

3 sequences assigned  
No exact matches.



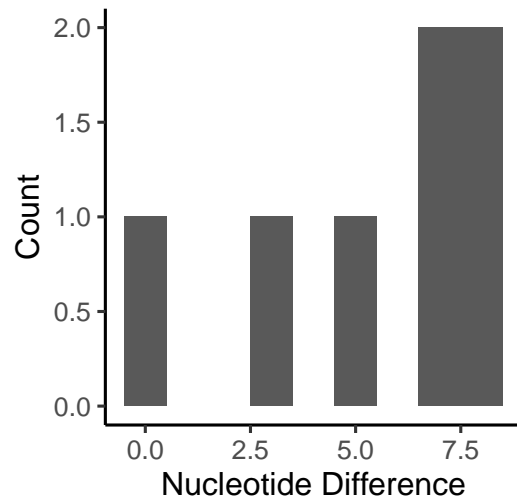
### IGHV4-34\*01\_02

4512 sequences assigned  
1266 (28.1%) exact matches, in which:  
927 unique CDR3  
6 unique J



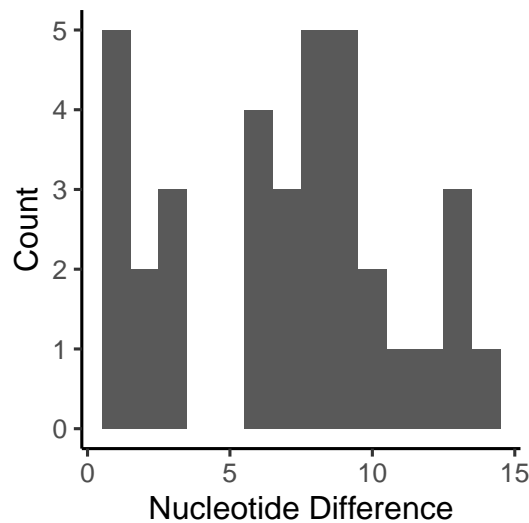
### IGHV4-28\*01\_07

7 sequences assigned  
1 (14.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



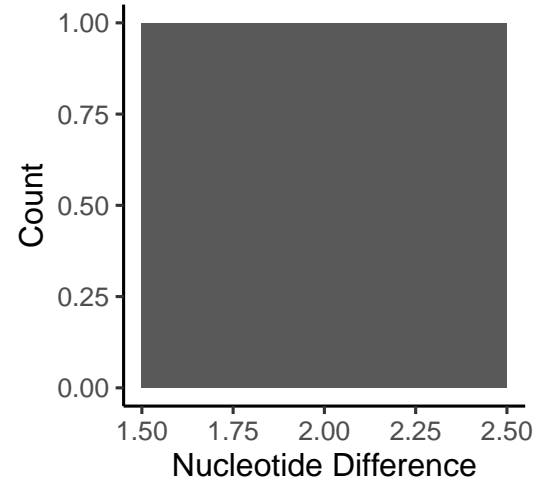
### IGHV4-30-4\*08

35 sequences assigned  
No exact matches.



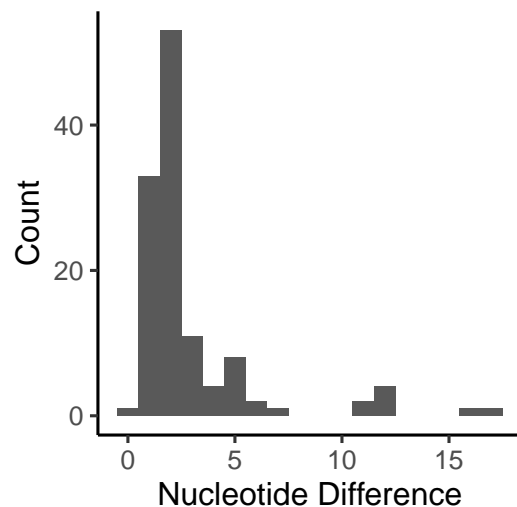
### IGHV4-38-2\*02

1 sequences assigned  
No exact matches.



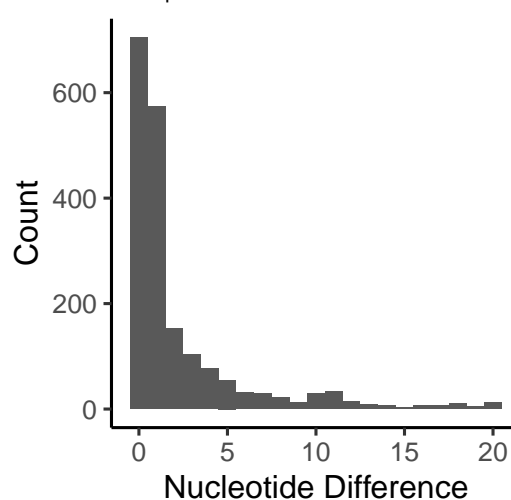
### IGHV4-30-2\*03

125 sequences assigned  
1 (0.8%) exact matches, in which:  
1 unique CDR3  
1 unique J



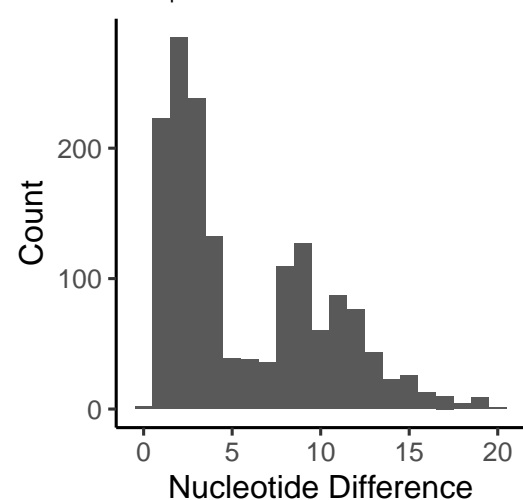
### IGHV4-31\*02

2020 sequences assigned  
705 (34.9%) exact matches, in which:  
604 unique CDR3  
6 unique J



### IGHV4-39\*07

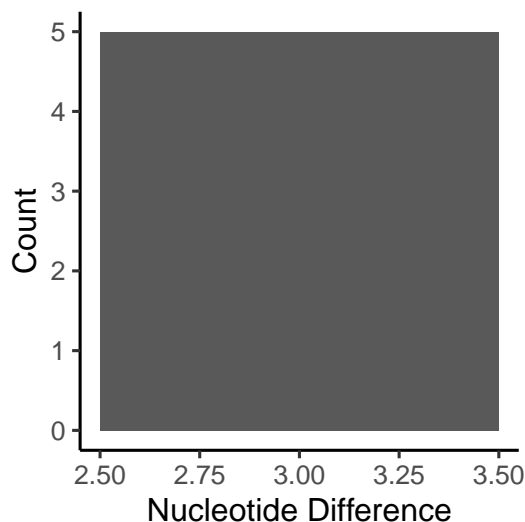
1620 sequences assigned  
2 (0.1%) exact matches, in which:  
2 unique CDR3  
2 unique J





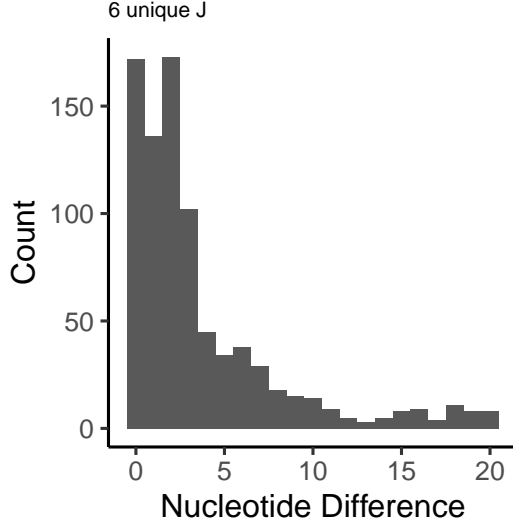
### IGHV4-55\*09

5 sequences assigned  
No exact matches.



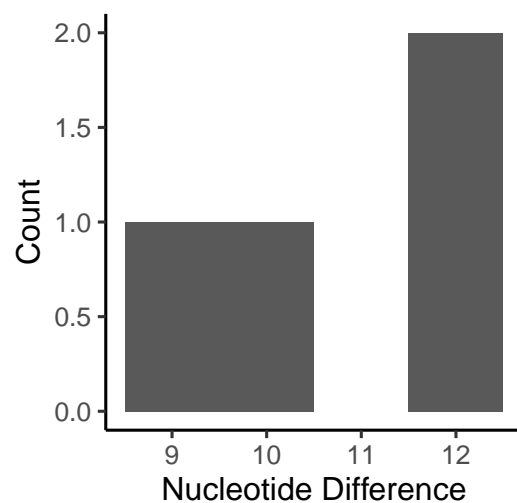
### IGHV4-61\*01

858 sequences assigned  
172 (20%) exact matches, in which:  
156 unique CDR3  
6 unique J



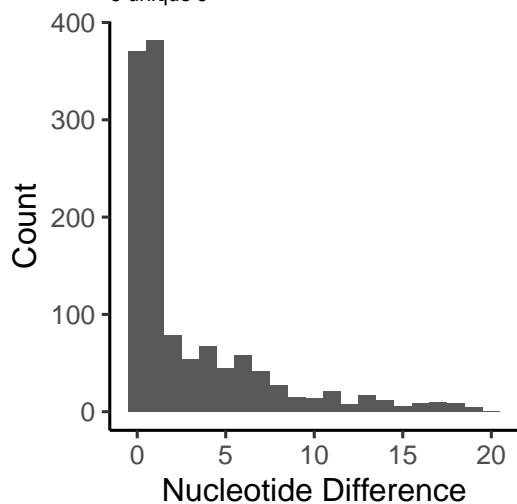
### IGHV1/OR15-2\*02\_03

4 sequences assigned  
No exact matches.



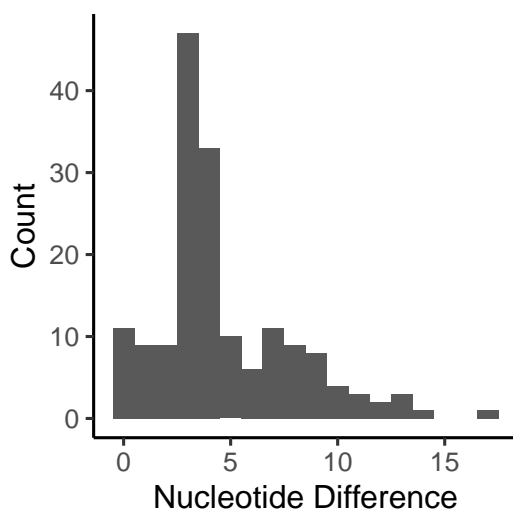
### IGHV4-59\*08

1282 sequences assigned  
370 (28.9%) exact matches, in which:  
314 unique CDR3  
6 unique J



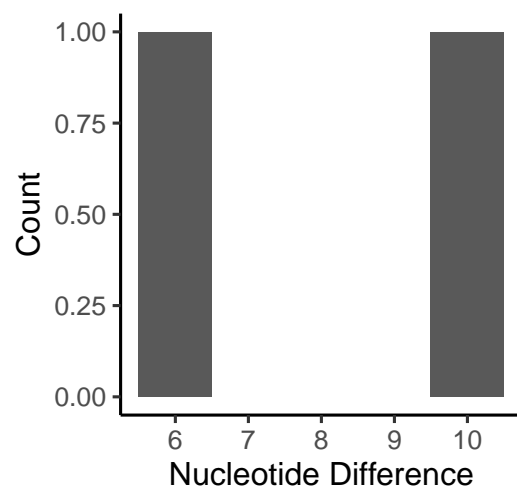
### IGHV4-61\*05

168 sequences assigned  
11 (6.5%) exact matches, in which:  
11 unique CDR3  
3 unique J



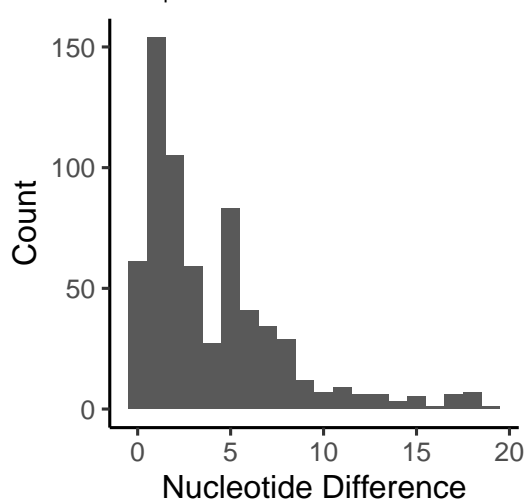
### IGHV1/OR15-3\*02

2 sequences assigned  
No exact matches.



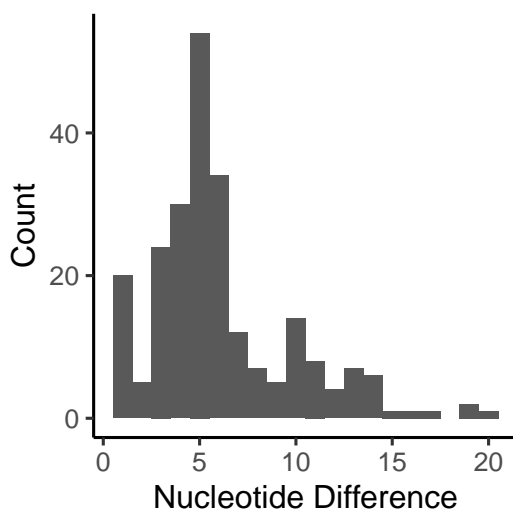
### IGHV4-59\*12

677 sequences assigned  
61 (9%) exact matches, in which:  
59 unique CDR3  
6 unique J



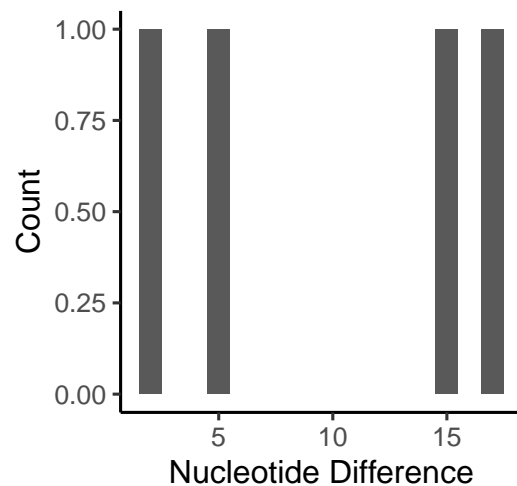
### IGHV4-61\*08

239 sequences assigned  
No exact matches.



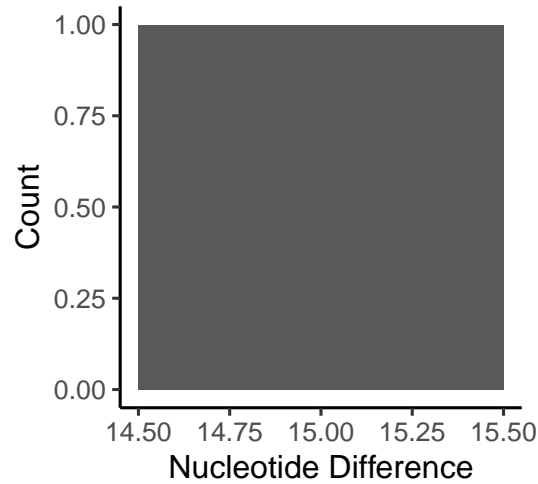
### IGHV4/OR15-8\*01

4 sequences assigned  
No exact matches.



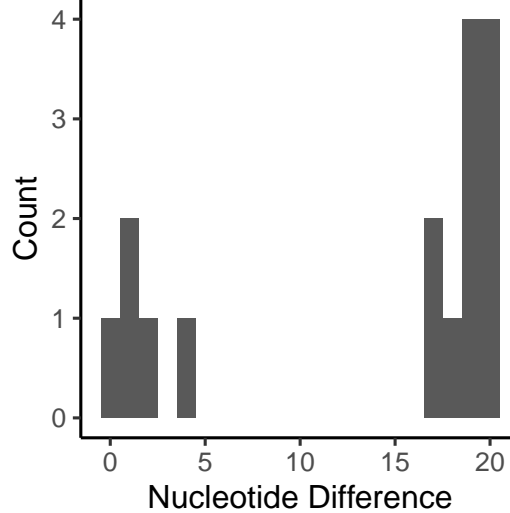
### IGHV4/OR15-8\*02

3 sequences assigned  
No exact matches.



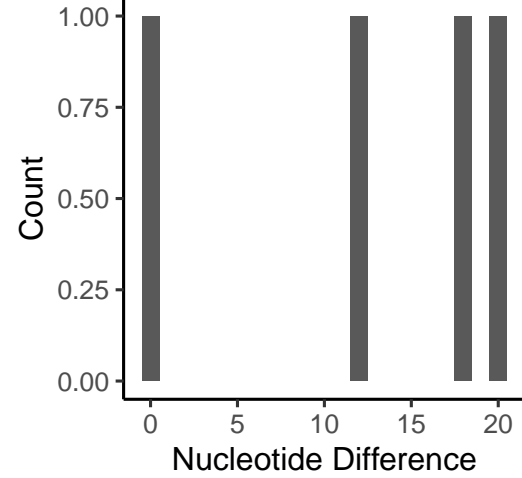
### IGHV5-51\*07

17 sequences assigned  
1 (5.9%) exact matches, in which:  
1 unique CDR3  
1 unique J



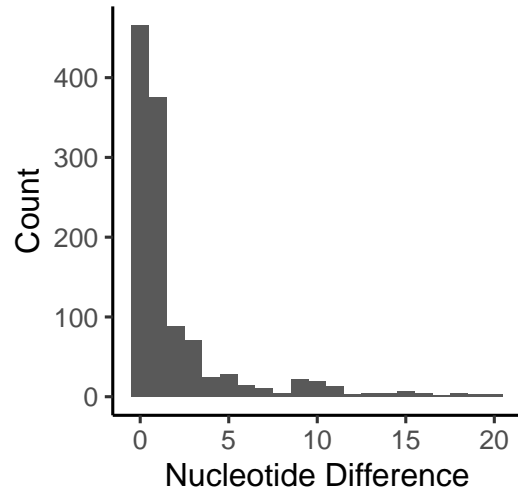
### IGHV7-4-1\*02

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



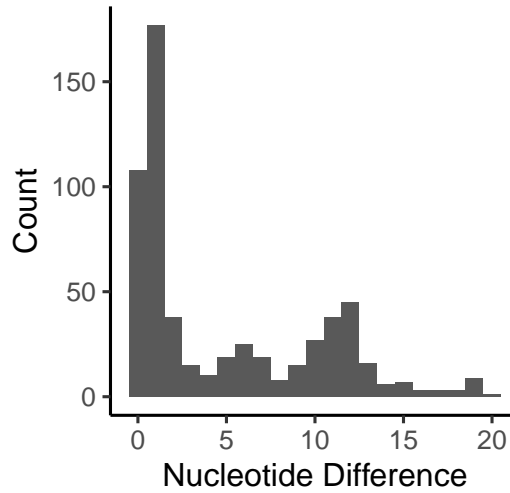
### IGHV5-10-1\*01\_03

1184 sequences assigned  
466 (39.4%) exact matches, in which:  
324 unique CDR3  
6 unique J



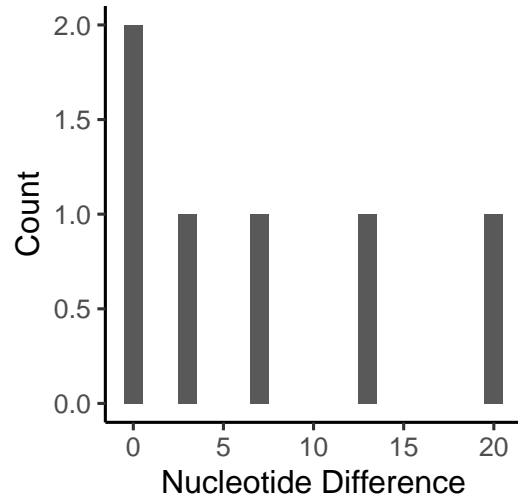
### IGHV6-1\*01\_02

600 sequences assigned  
108 (18%) exact matches, in which:  
101 unique CDR3  
5 unique J



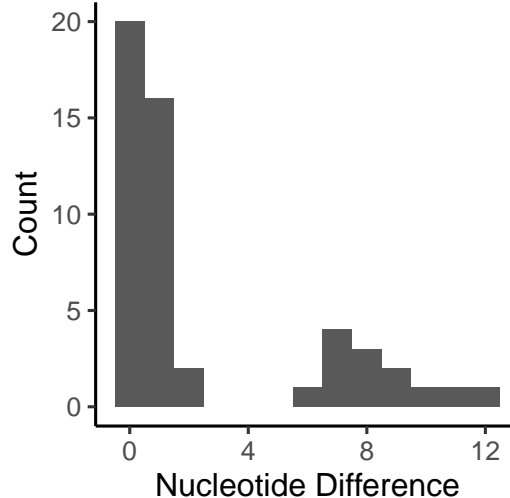
### IGHV5-51\*04

6 sequences assigned  
2 (33.3%) exact matches, in which:  
2 unique CDR3  
2 unique J



### IGHV7-4-1\*01

51 sequences assigned  
20 (39.2%) exact matches, in which:  
19 unique CDR3  
3 unique J





Warning – no inferred sequences found.