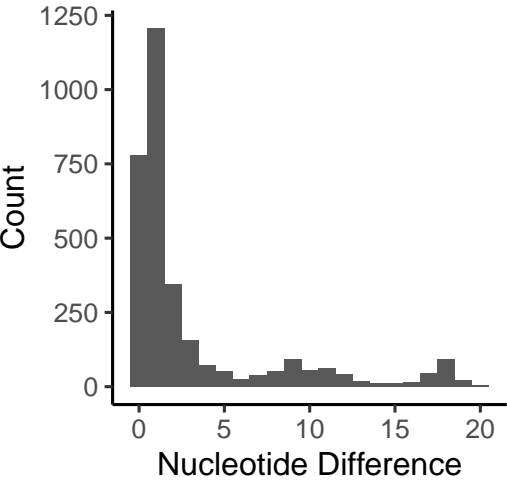


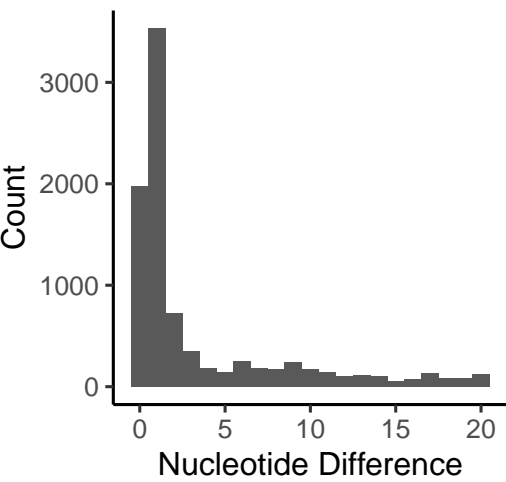
IGHV1-2\*04

3479 sequences assigned  
781 (22.4%) exact matches, in which:  
615 unique CDR3  
6 unique J



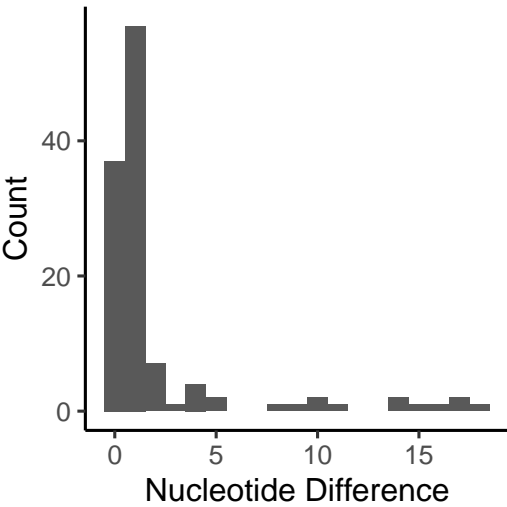
IGHV1-18\*01

10872 sequences assigned  
1974 (18.2%) exact matches, in which:  
1427 unique CDR3  
6 unique J



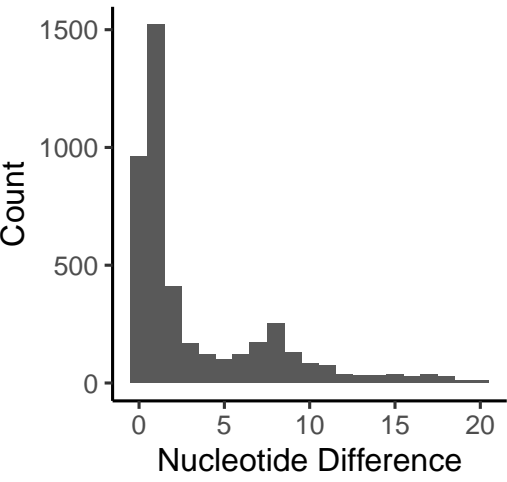
IGHV1-45\*02

120 sequences assigned  
37 (30.8%) exact matches, in which:  
23 unique CDR3  
4 unique J



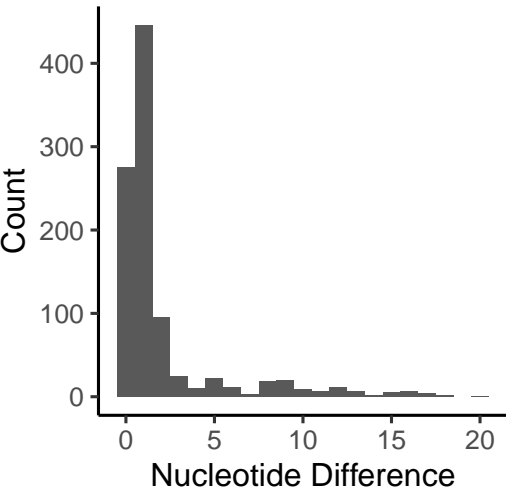
IGHV1-3\*01\_05

4515 sequences assigned  
960 (21.3%) exact matches, in which:  
707 unique CDR3  
6 unique J



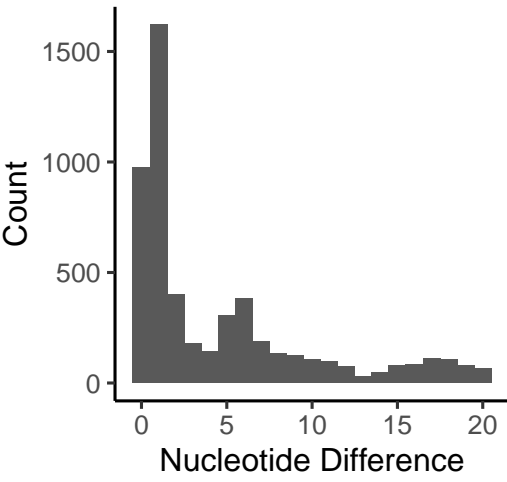
IGHV1-24\*01

1019 sequences assigned  
275 (27%) exact matches, in which:  
206 unique CDR3  
6 unique J



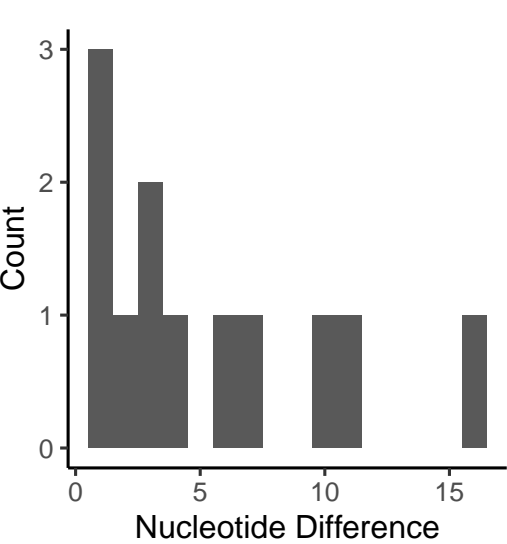
IGHV1-46\*01

5495 sequences assigned  
977 (17.8%) exact matches, in which:  
746 unique CDR3  
6 unique J



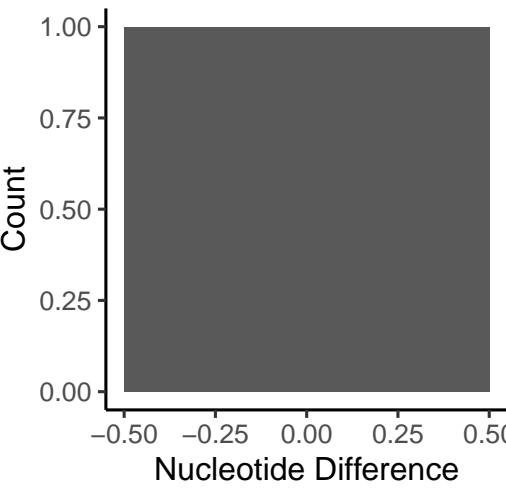
IGHV1-8\*01

12 sequences assigned  
No exact matches.



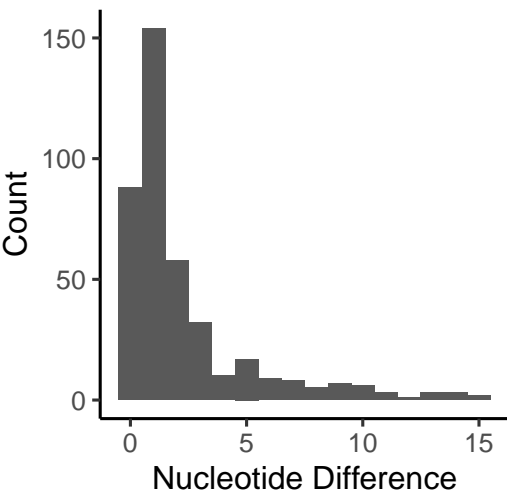
IGHV1-38-4\*01

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



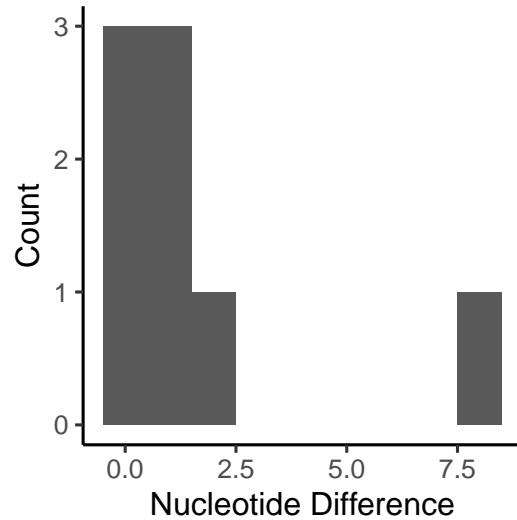
IGHV1-58\*02

1765 sequences assigned  
88 (5%) exact matches, in which:  
66 unique CDR3  
5 unique J



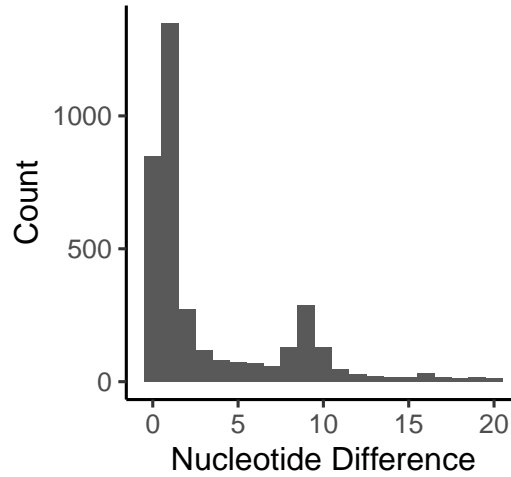
### IGHV1-69-2\*01

8 sequences assigned  
3 (37.5%) exact matches, in which:  
3 unique CDR3  
2 unique J



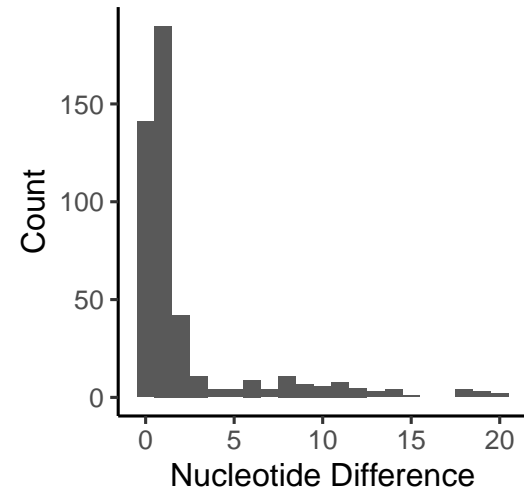
### IGHV1-69\*04\_09

4492 sequences assigned  
850 (18.9%) exact matches, in which:  
653 unique CDR3  
6 unique J



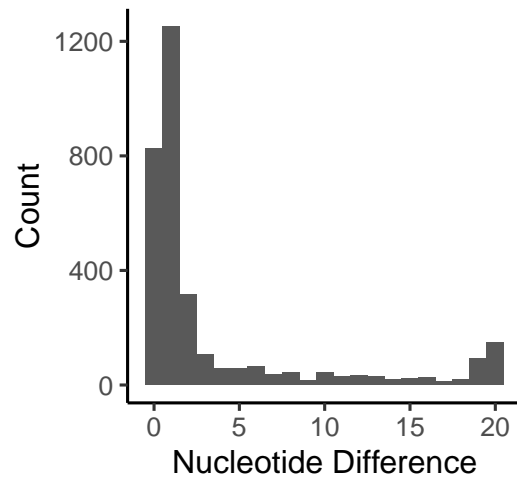
### IGHV2-26\*01

459 sequences assigned  
141 (30.7%) exact matches, in which:  
111 unique CDR3  
5 unique J



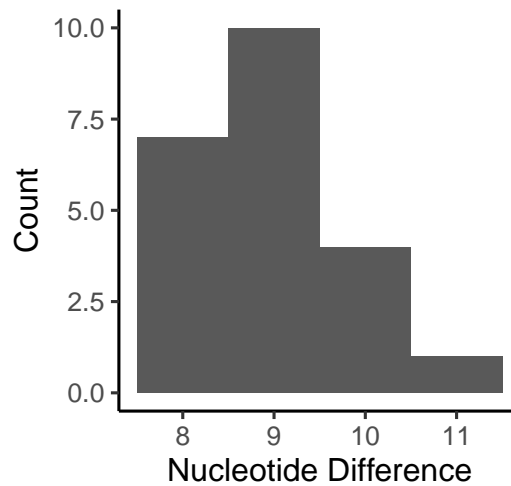
### IGHV1-69\*01\_12\_13

3463 sequences assigned  
825 (23.8%) exact matches, in which:  
642 unique CDR3  
6 unique J



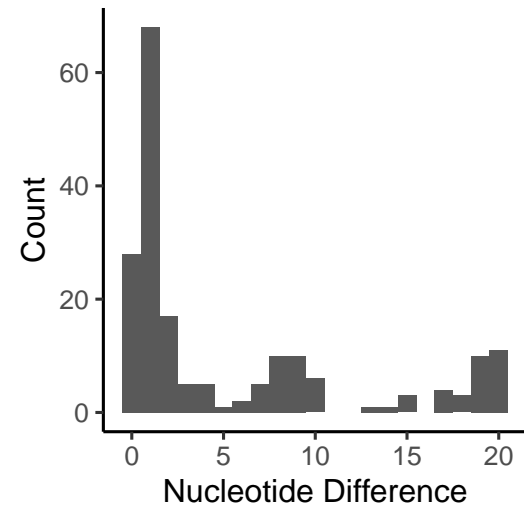
### IGHV1-NL1\*01

22 sequences assigned  
No exact matches.



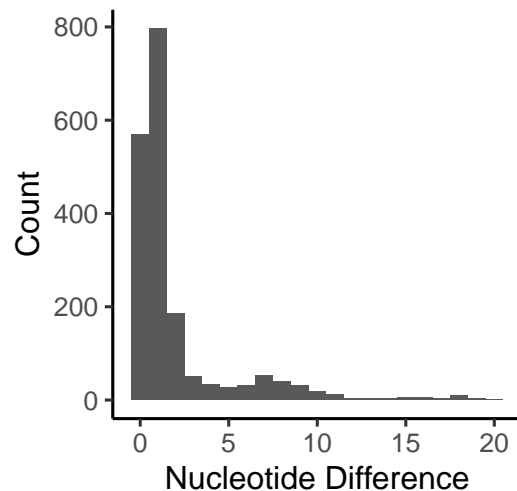
### IGHV2-70\*01

201 sequences assigned  
28 (13.9%) exact matches, in which:  
21 unique CDR3  
4 unique J



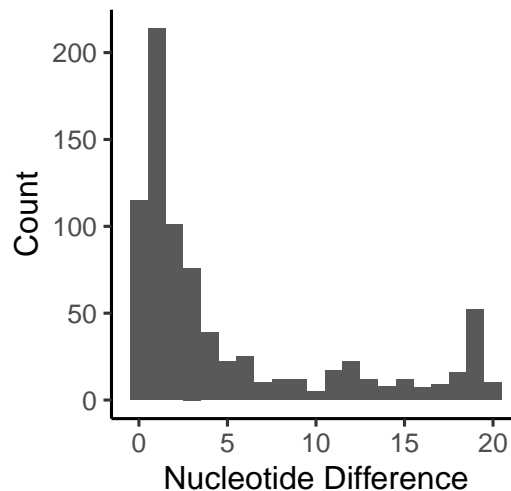
### IGHV1-69\*17

2037 sequences assigned  
570 (28%) exact matches, in which:  
474 unique CDR3  
6 unique J



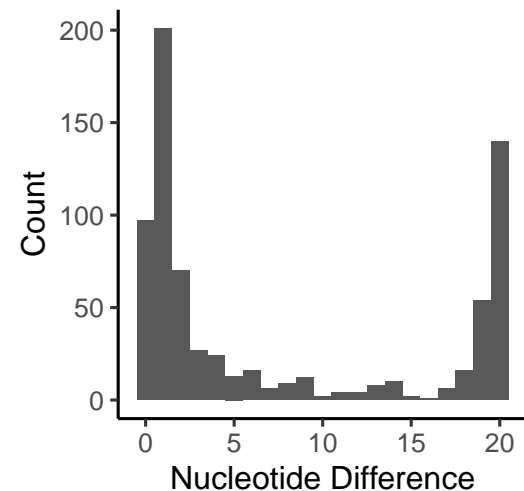
### IGHV2-5\*02

875 sequences assigned  
115 (13.1%) exact matches, in which:  
91 unique CDR3  
4 unique J



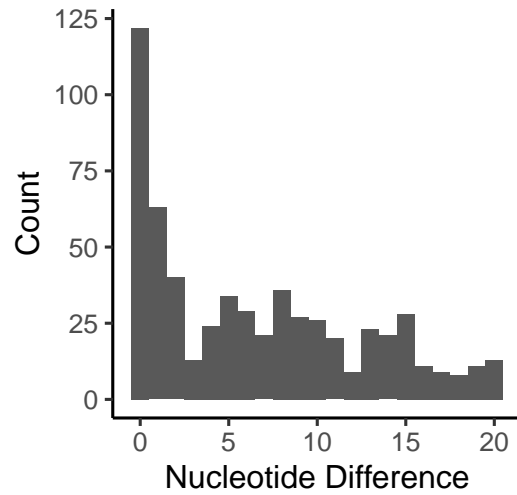
### IGHV2-70\*11\_15

861 sequences assigned  
97 (11.3%) exact matches, in which:  
64 unique CDR3  
5 unique J



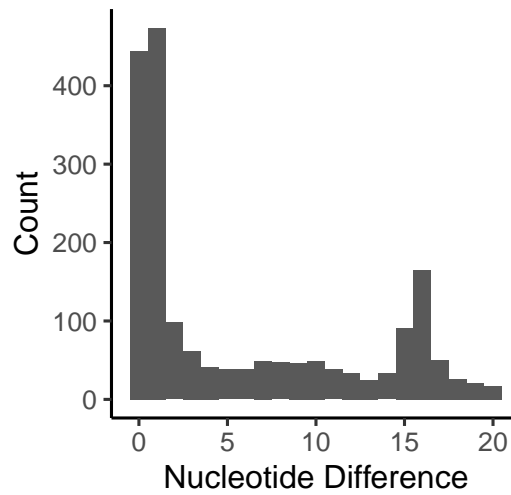
### IGHV3-7\*01

621 sequences assigned  
122 (19.6%) exact matches, in which:  
109 unique CDR3  
5 unique J



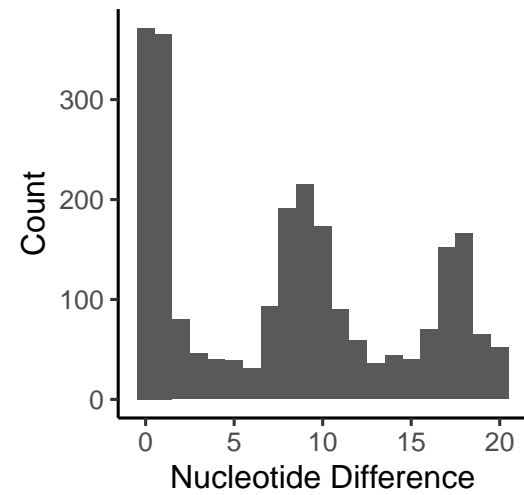
### IGHV3-11\*06

3116 sequences assigned  
444 (14.2%) exact matches, in which:  
279 unique CDR3  
6 unique J



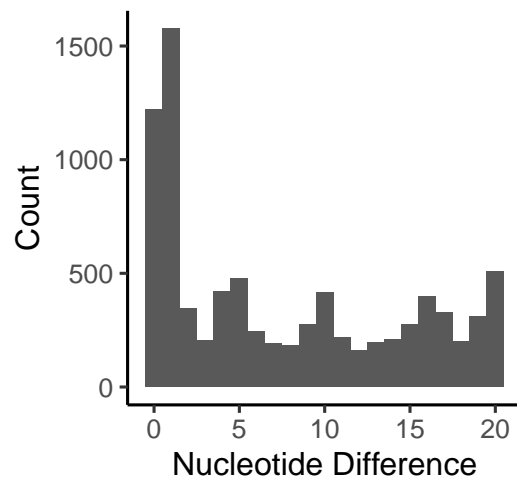
### IGHV3-15\*07

2808 sequences assigned  
372 (13.2%) exact matches, in which:  
212 unique CDR3  
6 unique J



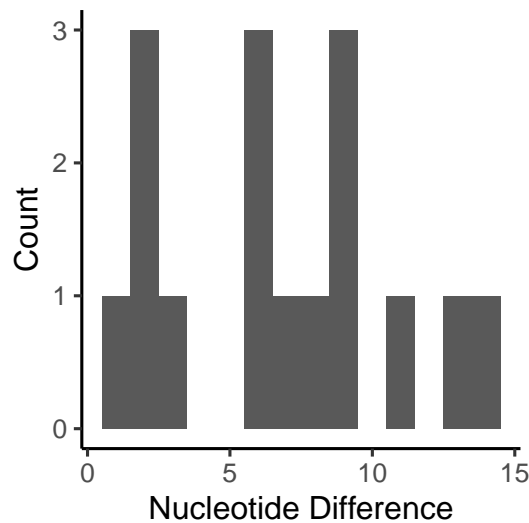
### IGHV3-7\*03

9731 sequences assigned  
1221 (12.5%) exact matches, in which:  
728 unique CDR3  
6 unique J



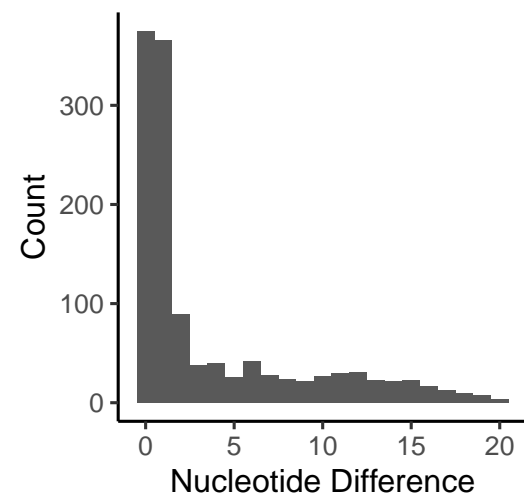
### IGHV3-13\*01

17 sequences assigned  
No exact matches.



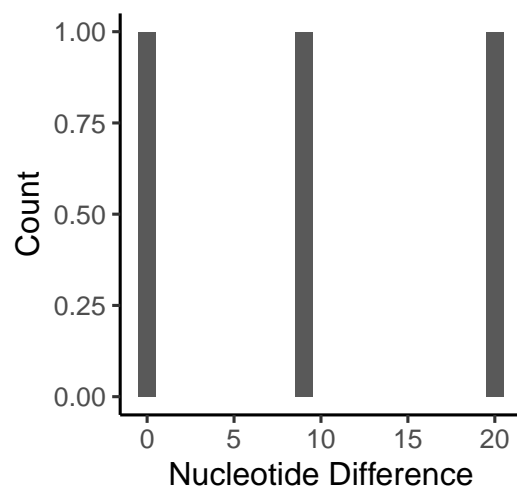
### IGHV3-15\*01\_02

1380 sequences assigned  
375 (27.2%) exact matches, in which:  
208 unique CDR3  
6 unique J



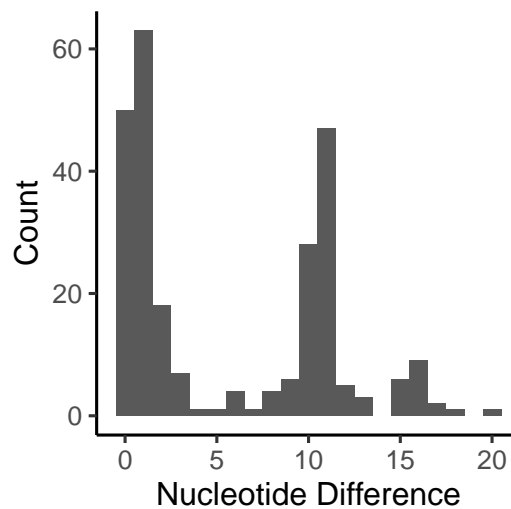
### IGHV3-9\*01

5 sequences assigned  
1 (20%) exact matches, in which:  
1 unique CDR3  
1 unique J



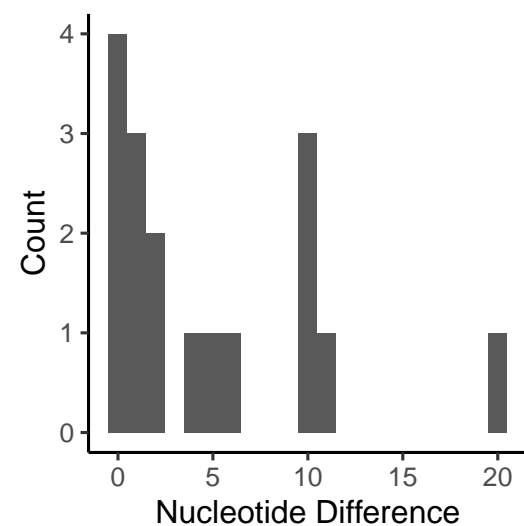
### IGHV3-13\*05

258 sequences assigned  
50 (19.4%) exact matches, in which:  
27 unique CDR3  
4 unique J



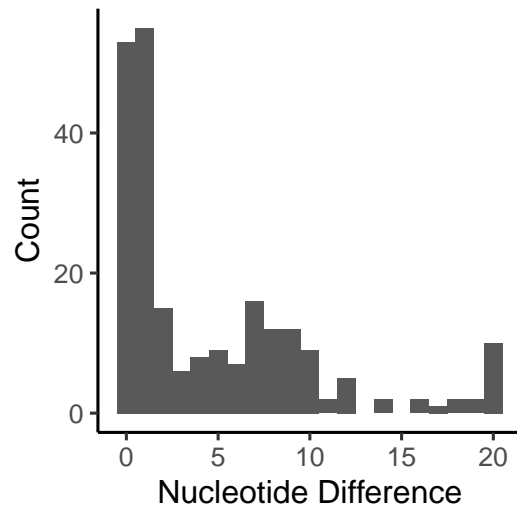
### IGHV3-19\*01

17 sequences assigned  
4 (23.5%) exact matches, in which:  
3 unique CDR3  
2 unique J



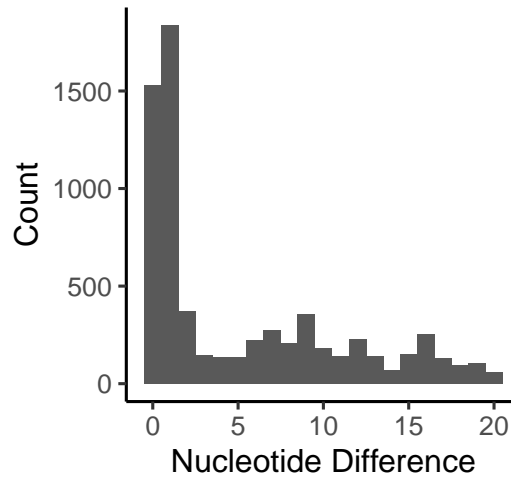
### IGHV3-20\*01\_02

406 sequences assigned  
53 (13.1%) exact matches, in which:  
30 unique CDR3  
5 unique J



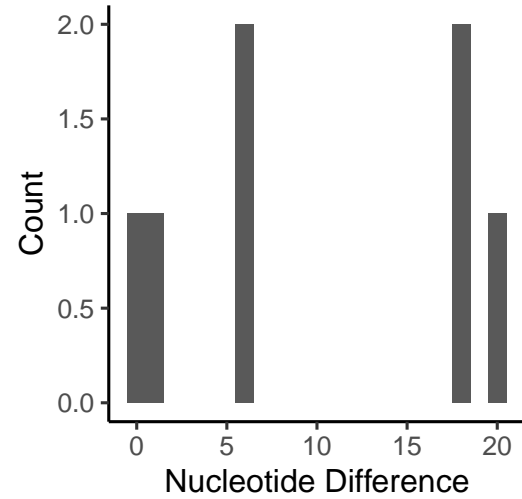
### IGHV3-21\*01\_02

8715 sequences assigned  
1530 (17.6%) exact matches, in which:  
882 unique CDR3  
6 unique J



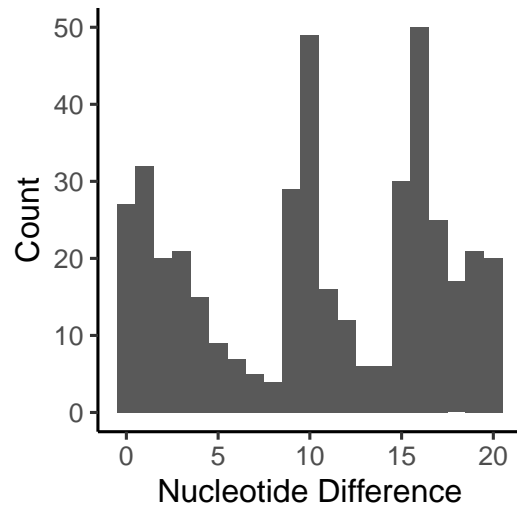
### IGHV3-30-3\*01

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



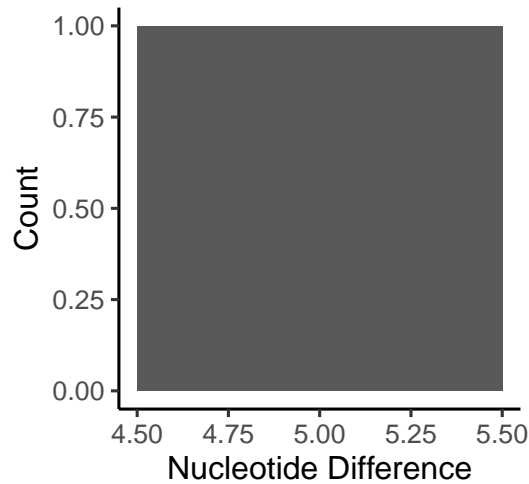
### IGHV3-20\*03\_04

468 sequences assigned  
27 (5.8%) exact matches, in which:  
19 unique CDR3  
4 unique J



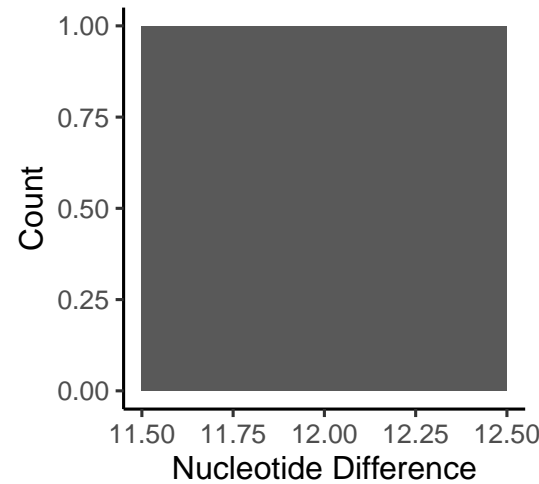
### IGHV3-22\*01\_02

1 sequences assigned  
No exact matches.



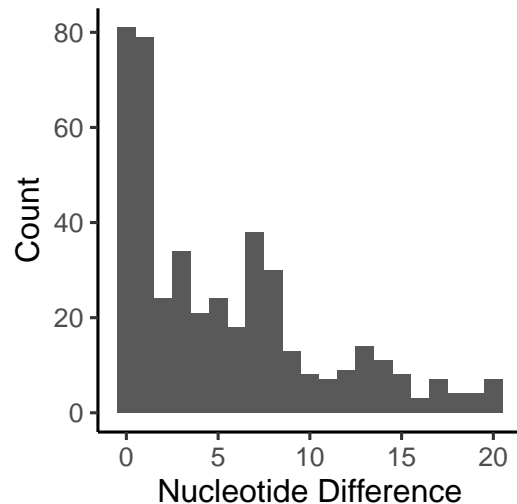
### IGHV3-30-3\*02

1 sequences assigned  
No exact matches.



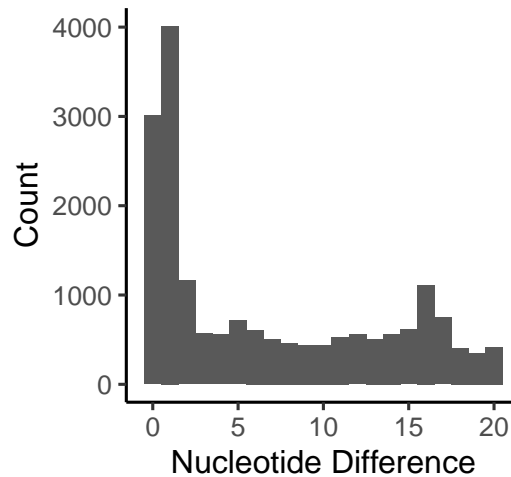
### IGHV3-21\*04

755 sequences assigned  
81 (10.7%) exact matches, in which:  
75 unique CDR3  
5 unique J



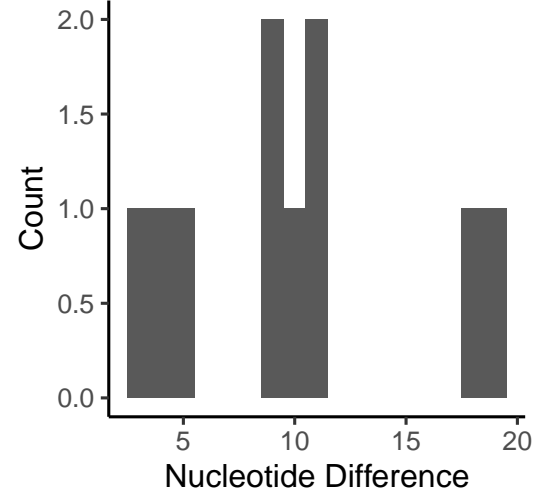
### IGHV3-23\*01\_04

22938 sequences assigned  
3009 (13.1%) exact matches, in which:  
1648 unique CDR3  
6 unique J



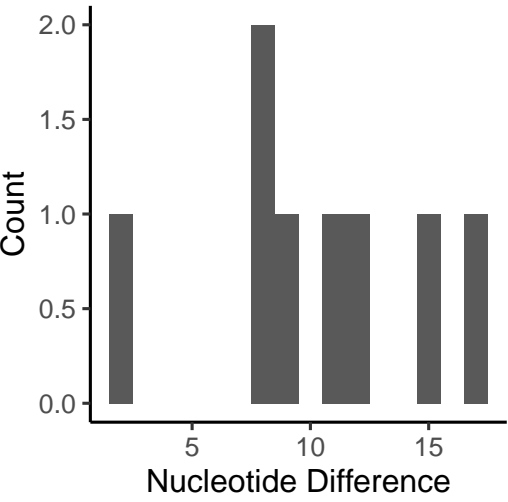
### IGHV3-33\*01

21 sequences assigned  
No exact matches.



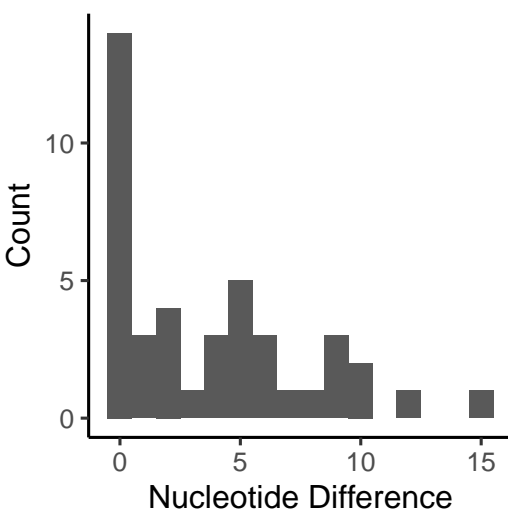
IGHV3-33\*06

8 sequences assigned  
No exact matches.



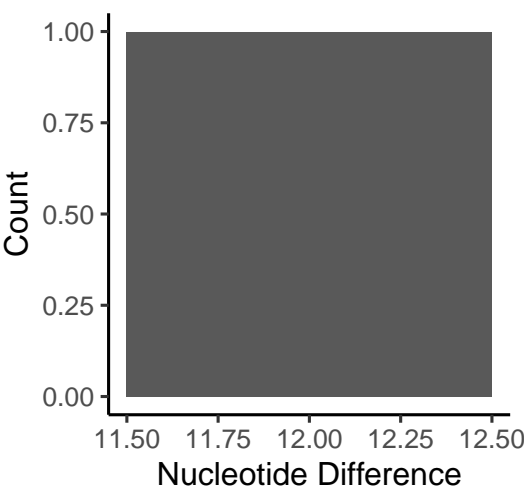
IGHV3-38-3\*01

42 sequences assigned  
14 (33.3%) exact matches, in which:  
12 unique CDR3  
3 unique J



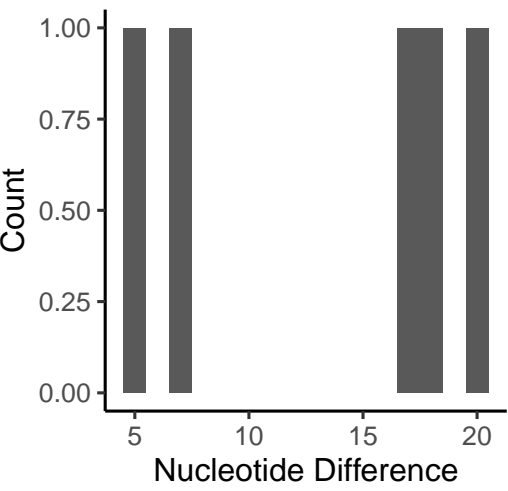
IGHV3-47\*02

1 sequences assigned  
No exact matches.



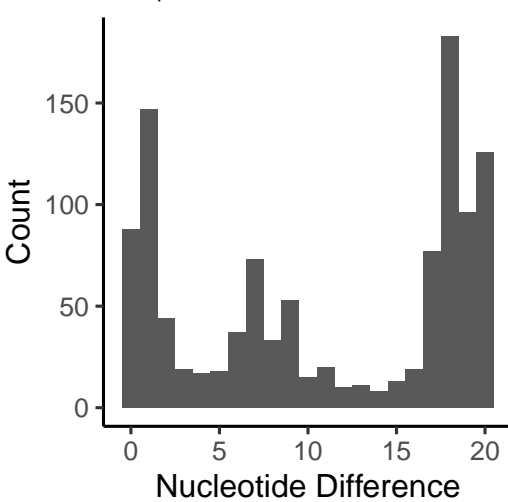
IGHV3-33\*08

6 sequences assigned  
No exact matches.



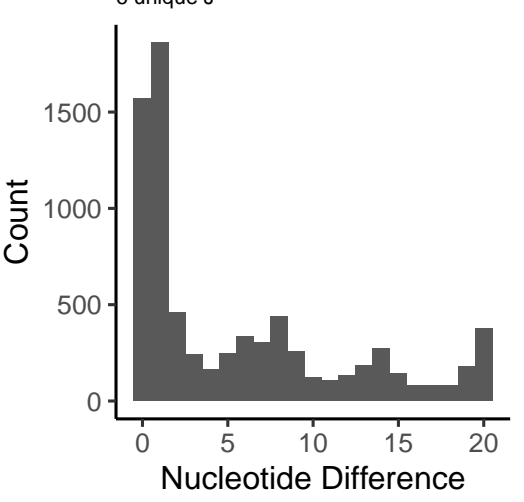
IGHV3-43\*01

1260 sequences assigned  
88 (7%) exact matches, in which:  
47 unique CDR3  
5 unique J



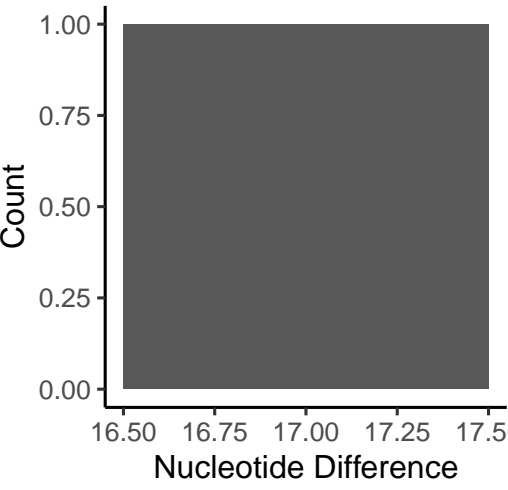
IGHV3-48\*04

9225 sequences assigned  
1569 (17%) exact matches, in which:  
856 unique CDR3  
6 unique J



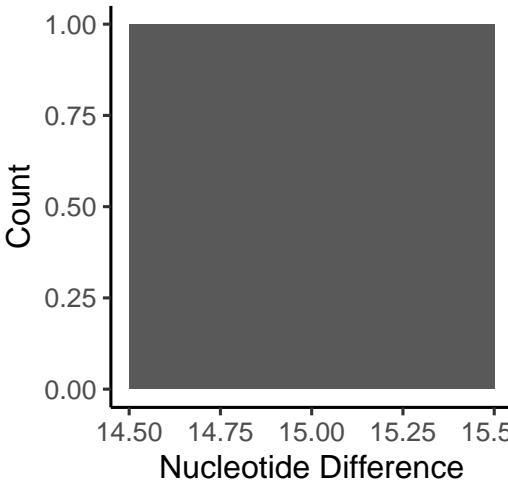
IGHV3-35\*01

1 sequences assigned  
No exact matches.



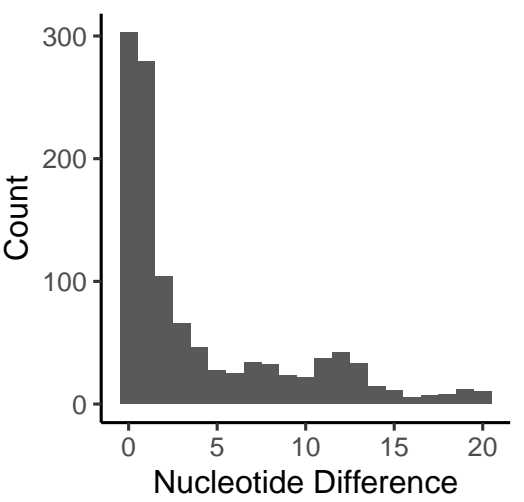
IGHV3-47\*01

1 sequences assigned  
No exact matches.



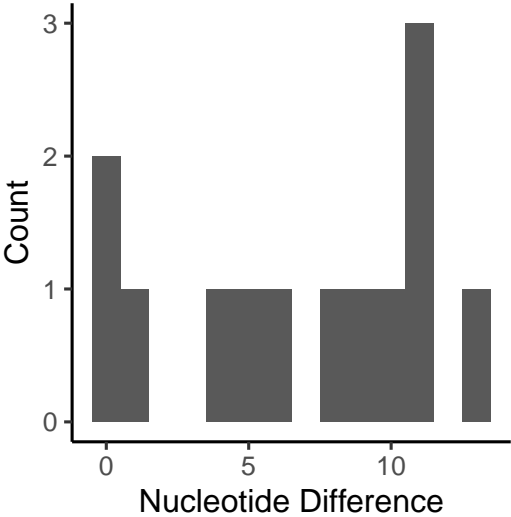
IGHV3-49\*03\_05

1327 sequences assigned  
303 (22.8%) exact matches, in which:  
175 unique CDR3  
6 unique J



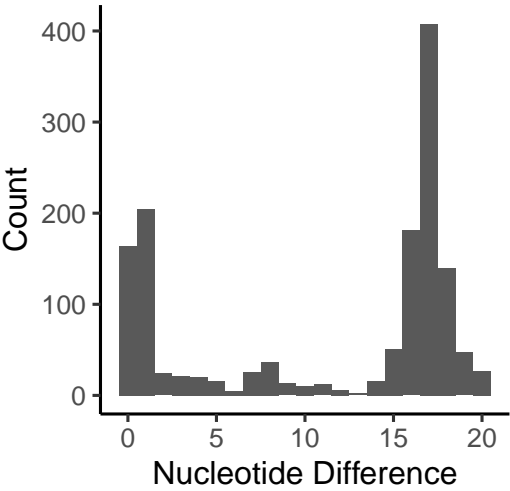
IGHV3-52\*01\_03

13 sequences assigned  
2 (15.4%) exact matches, in which:  
2 unique CDR3  
2 unique J



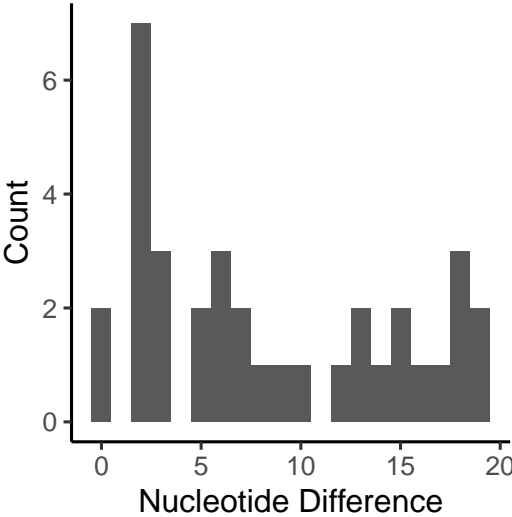
IGHV3-64\*01

1896 sequences assigned  
164 (8.6%) exact matches, in which:  
92 unique CDR3  
6 unique J



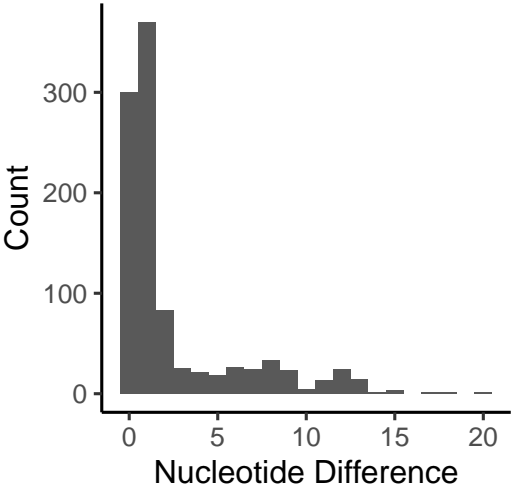
IGHV3-69-1\*01

42 sequences assigned  
2 (4.8%) exact matches, in which:  
2 unique CDR3  
2 unique J



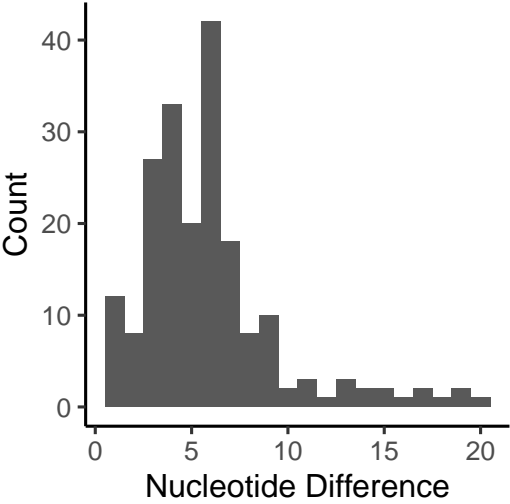
IGHV3-53\*04

1326 sequences assigned  
300 (22.6%) exact matches, in which:  
185 unique CDR3  
6 unique J



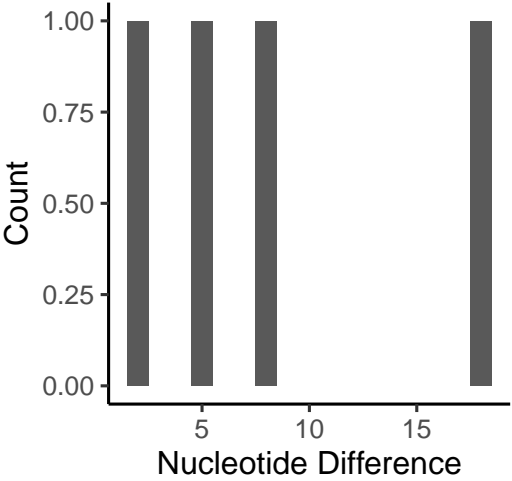
IGHV3-64\*04

239 sequences assigned  
No exact matches.



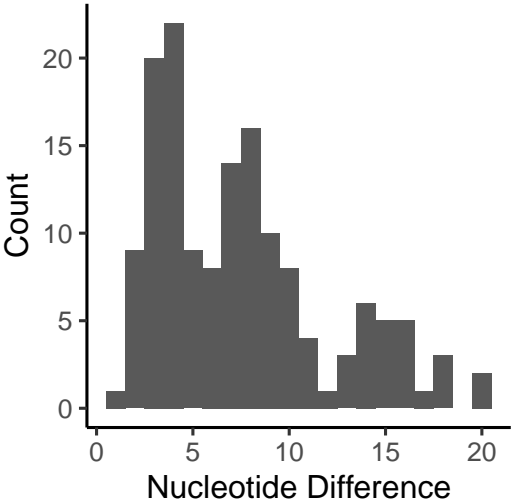
IGHV3-69-1\*02

9 sequences assigned  
No exact matches.



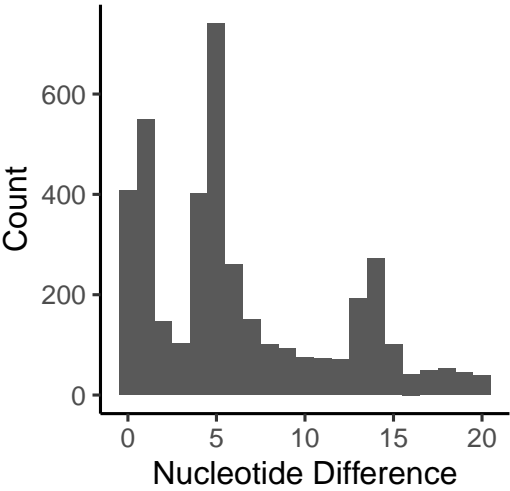
IGHV3-53\*01\_02

198 sequences assigned  
No exact matches.



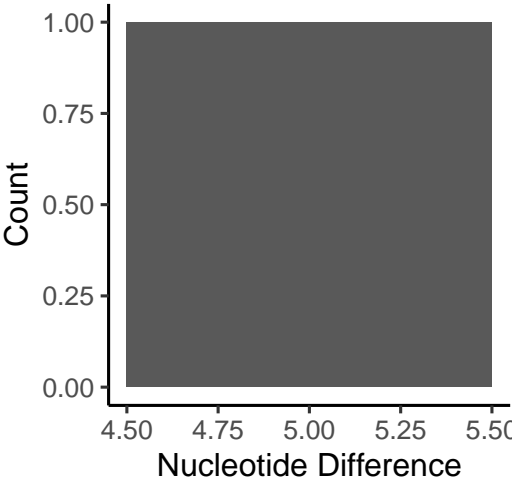
IGHV3-66\*01

5375 sequences assigned  
407 (7.6%) exact matches, in which:  
230 unique CDR3  
5 unique J



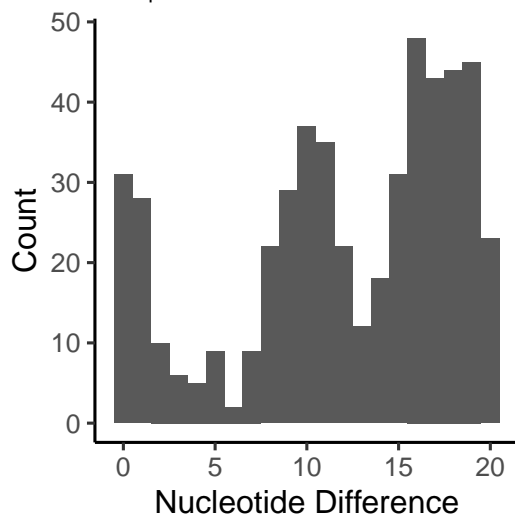
IGHV3-71\*03

1 sequences assigned  
No exact matches.



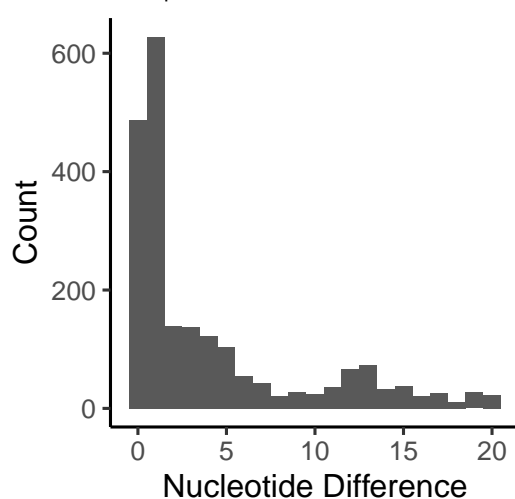
### IGHV3-72\*01

566 sequences assigned  
31 (5.5%) exact matches, in which:  
22 unique CDR3  
4 unique J



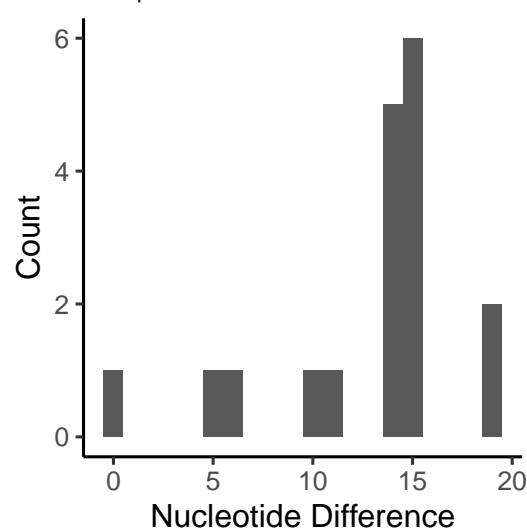
### IGHV3-74\*01\_02

2628 sequences assigned  
487 (18.5%) exact matches, in which:  
294 unique CDR3  
5 unique J



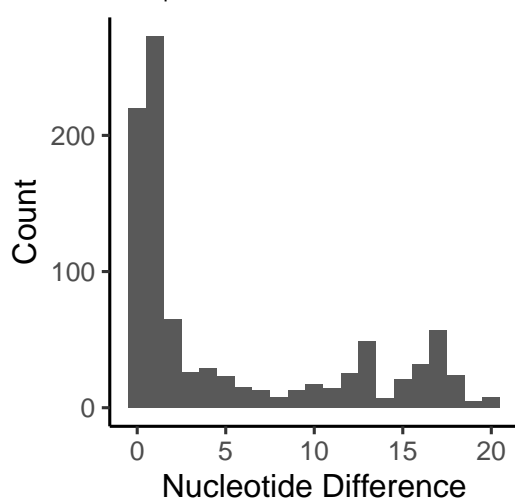
### IGHV3-NL1\*01

24 sequences assigned  
1 (4.2%) exact matches, in which:  
1 unique CDR3  
1 unique J



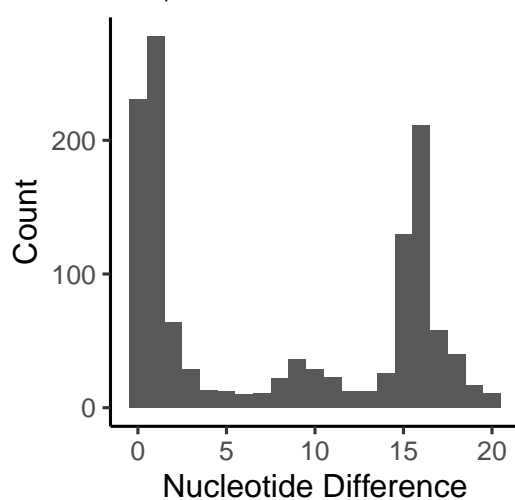
### IGHV3-73\*01\_02

1510 sequences assigned  
220 (14.6%) exact matches, in which:  
121 unique CDR3  
6 unique J



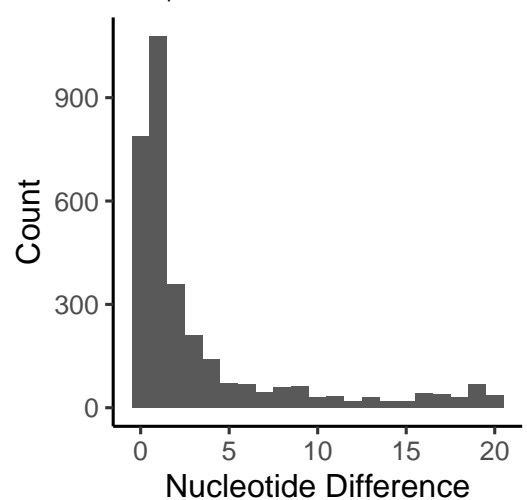
### IGHV3-43D\*03

1651 sequences assigned  
231 (14%) exact matches, in which:  
131 unique CDR3  
6 unique J



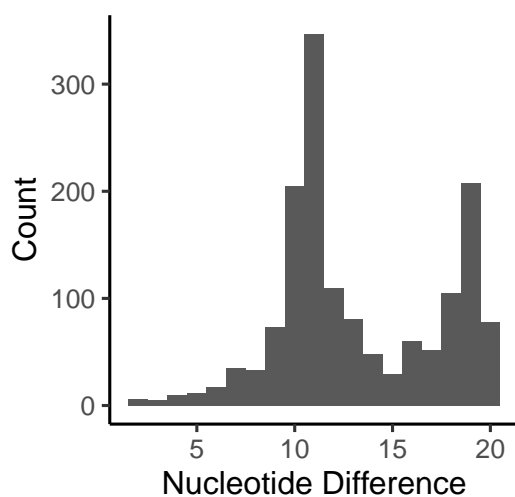
### IGHV4-4\*02\_03

3609 sequences assigned  
787 (21.8%) exact matches, in which:  
563 unique CDR3  
6 unique J



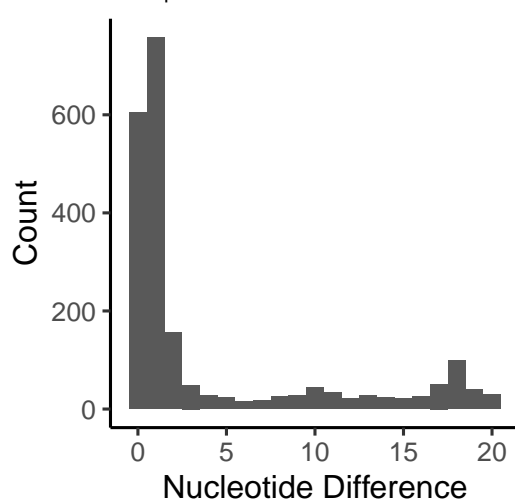
### IGHV3-74\*03

1627 sequences assigned  
No exact matches.



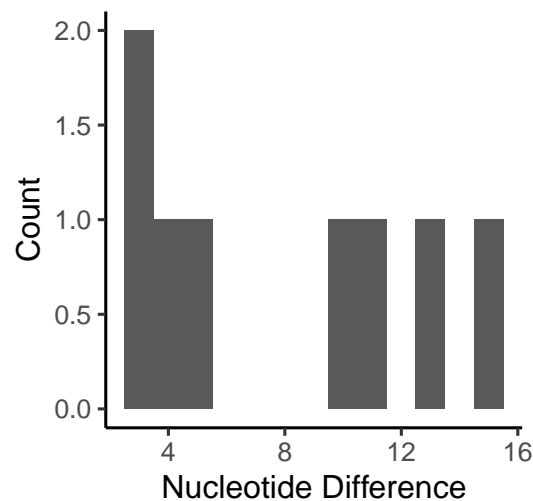
### IGHV3-64D\*06

3127 sequences assigned  
604 (19.3%) exact matches, in which:  
333 unique CDR3  
6 unique J



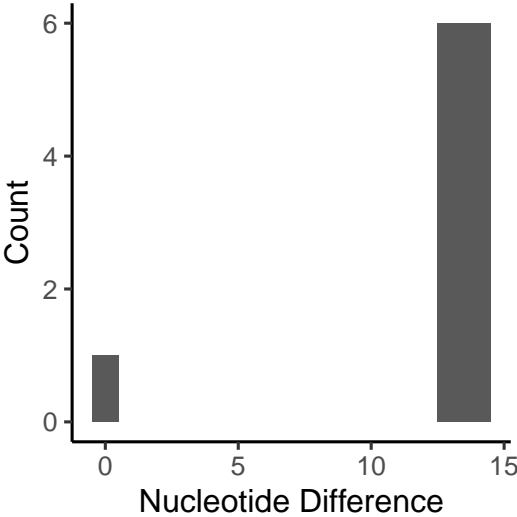
### IGHV4-28\*03

8 sequences assigned  
No exact matches.



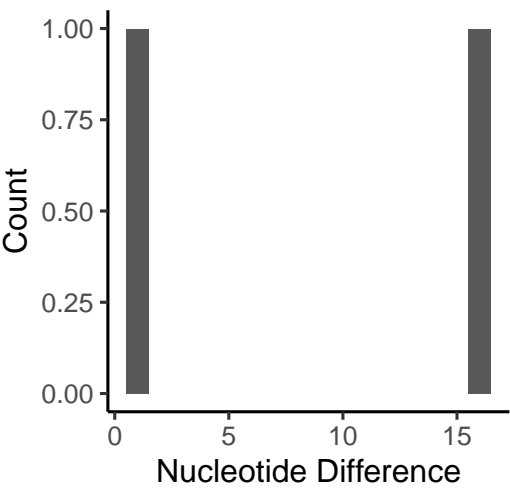
IGHV4-28\*01\_07

13 sequences assigned  
1 (7.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



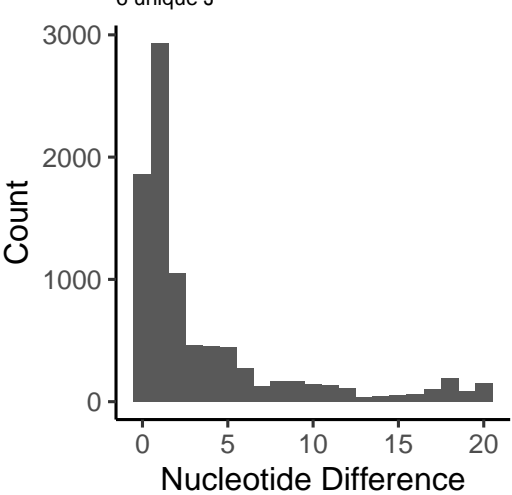
IGHV4-30-2\*04

2 sequences assigned  
No exact matches.



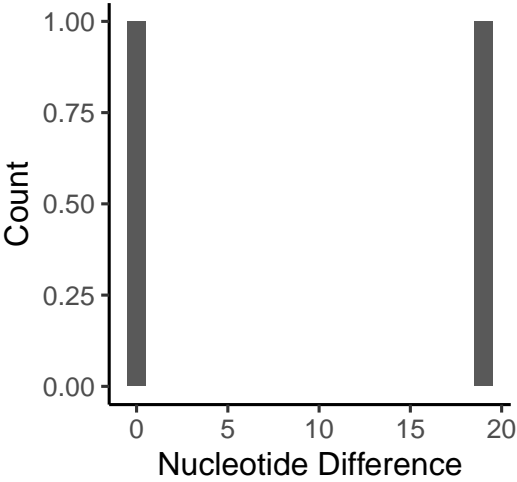
IGHV4-34\*01\_02

9646 sequences assigned  
1864 (19.3%) exact matches, in which:  
1260 unique CDR3  
6 unique J



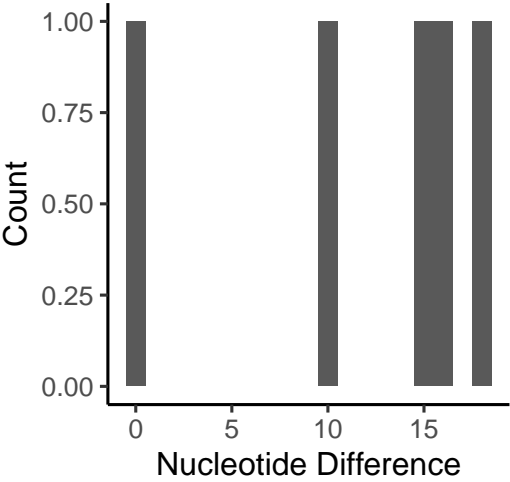
IGHV4-30-2\*01

3 sequences assigned  
1 (33.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



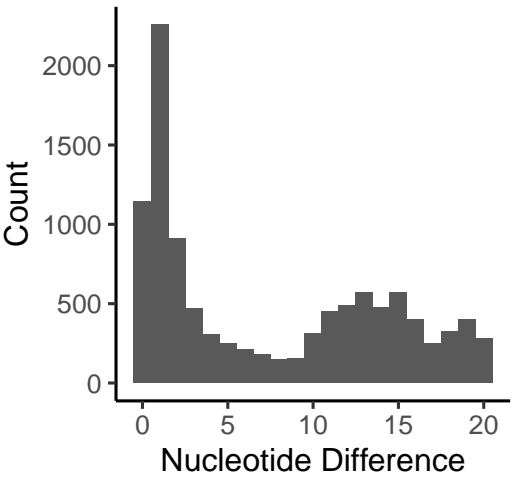
IGHV4-31\*02

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



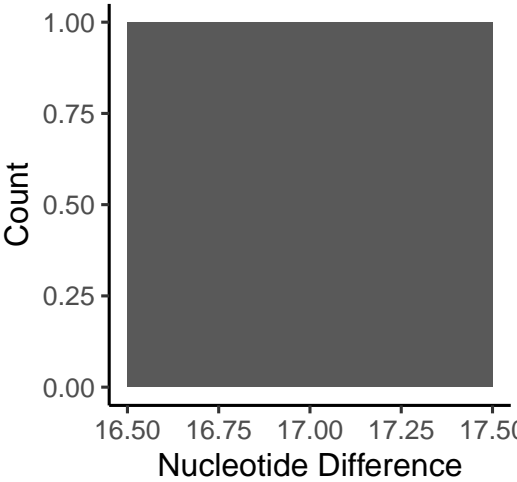
IGHV4-38-2\*02

12328 sequences assigned  
1145 (9.3%) exact matches, in which:  
835 unique CDR3  
6 unique J



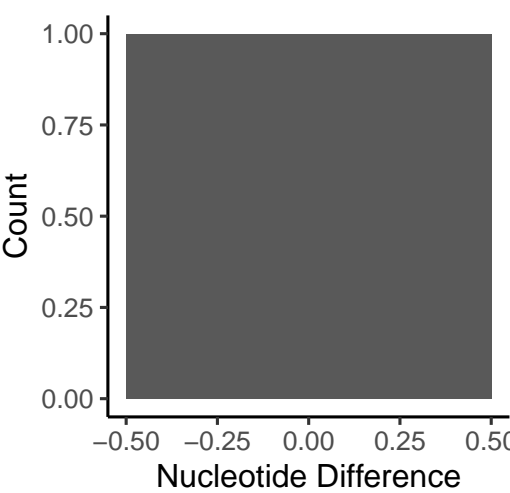
IGHV4-30-4\*01

1 sequences assigned  
No exact matches.



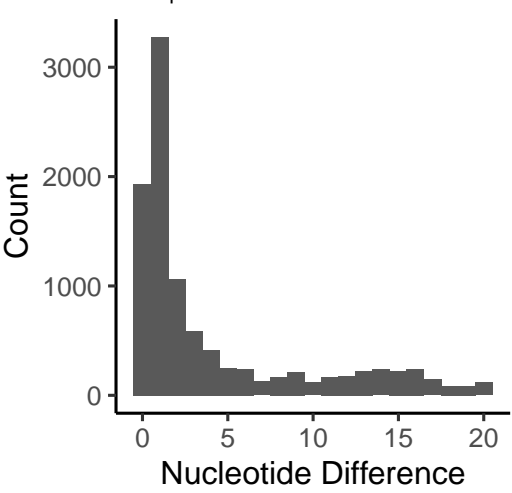
IGHV4-31\*03\_04

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



IGHV4-39\*07

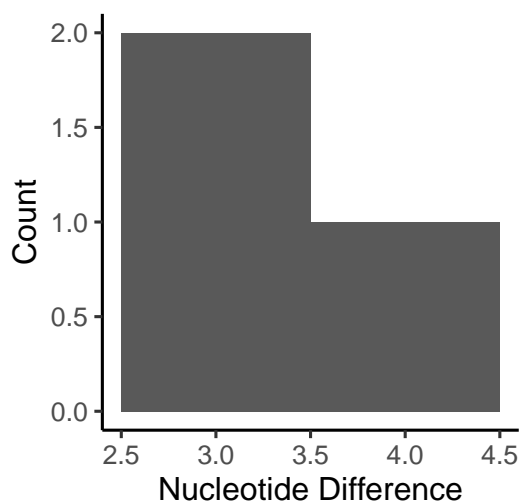
12615 sequences assigned  
1935 (15.3%) exact matches, in which:  
1434 unique CDR3  
6 unique J





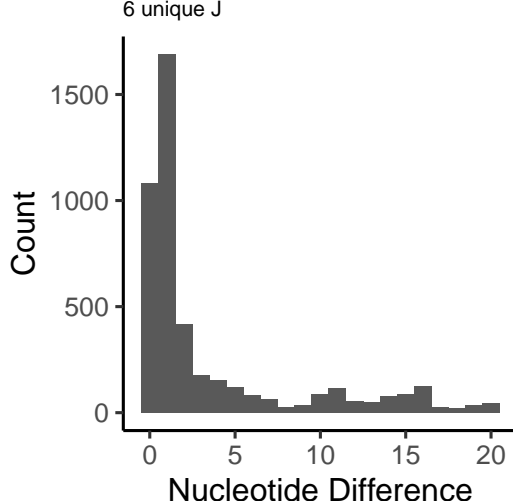
### IGHV4-55\*09

3 sequences assigned  
No exact matches.



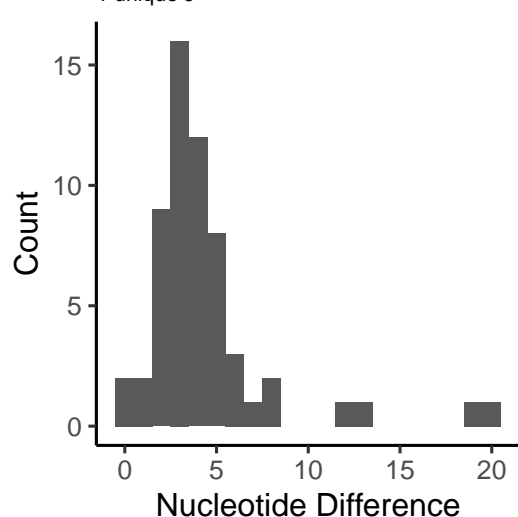
### IGHV4-59\*01\_07

5113 sequences assigned  
1082 (21.2%) exact matches, in which:  
751 unique CDR3  
6 unique J



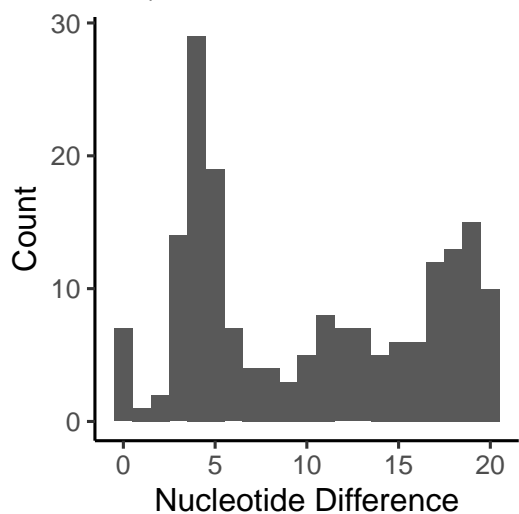
### IGHV4-61\*05

62 sequences assigned  
2 (3.2%) exact matches, in which:  
2 unique CDR3  
1 unique J



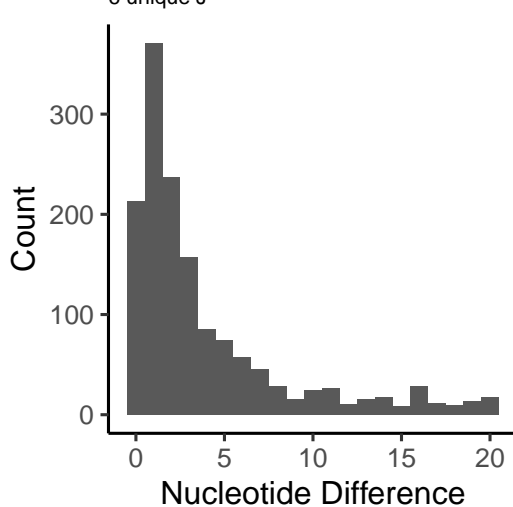
### IGHV4-59\*02

538 sequences assigned  
7 (1.3%) exact matches, in which:  
7 unique CDR3  
4 unique J



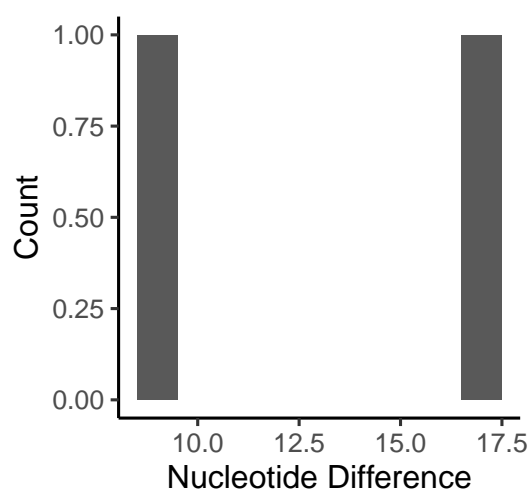
### IGHV4-59\*12

2040 sequences assigned  
213 (10.4%) exact matches, in which:  
211 unique CDR3  
6 unique J



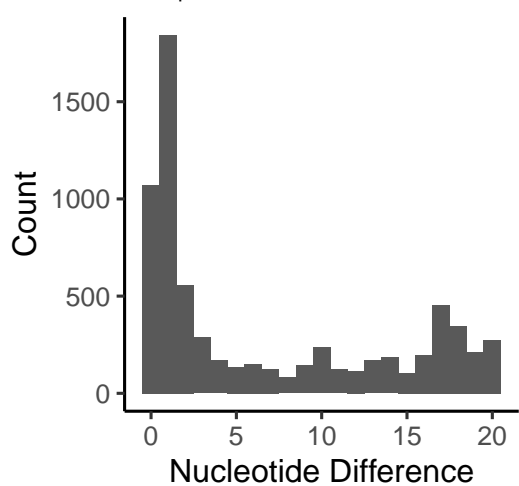
### IGHV1/OR15-3\*02

2 sequences assigned  
No exact matches.



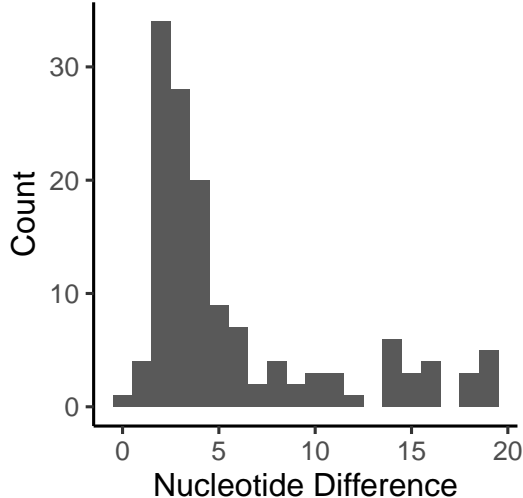
### IGHV4-59\*08

14731 sequences assigned  
1073 (7.3%) exact matches, in which:  
779 unique CDR3  
6 unique J



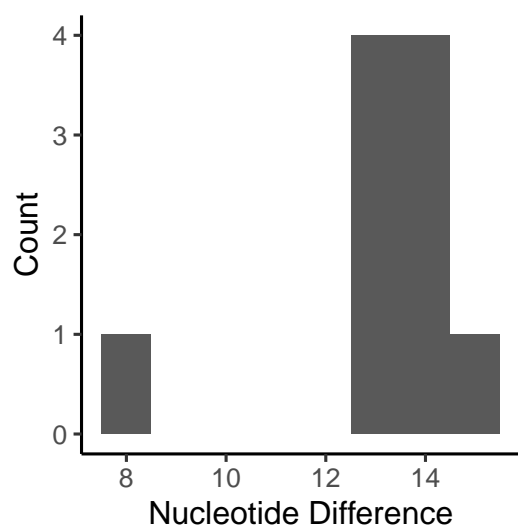
### IGHV4-61\*01

151 sequences assigned  
1 (0.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



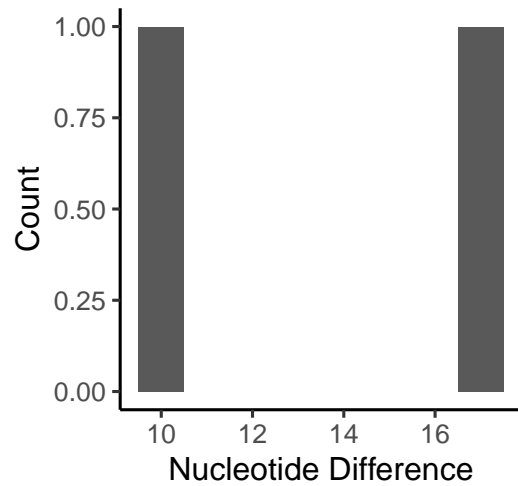
### IGHV4/OR15-8\*01

10 sequences assigned  
No exact matches.



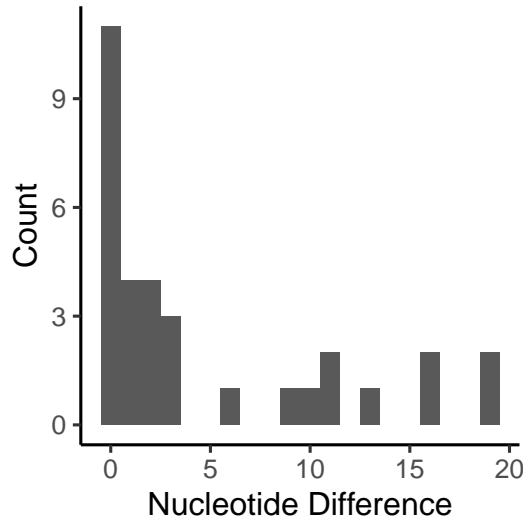
### IGHV4/OR15–8\*02

3 sequences assigned  
No exact matches.



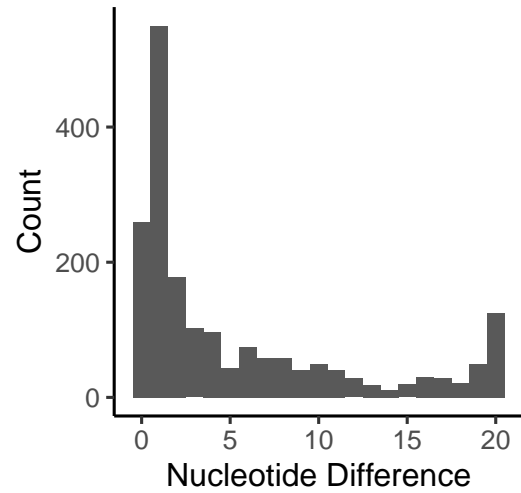
### IGHV5–51\*04

35 sequences assigned  
11 (31.4%) exact matches, in which:  
11 unique CDR3  
4 unique J



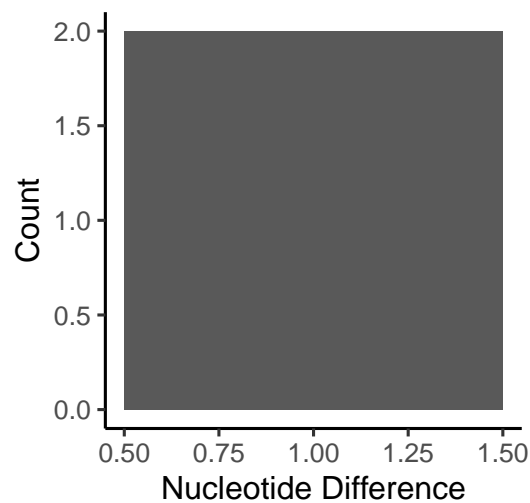
### IGHV6–1\*01\_02

3343 sequences assigned  
259 (7.7%) exact matches, in which:  
186 unique CDR3  
5 unique J



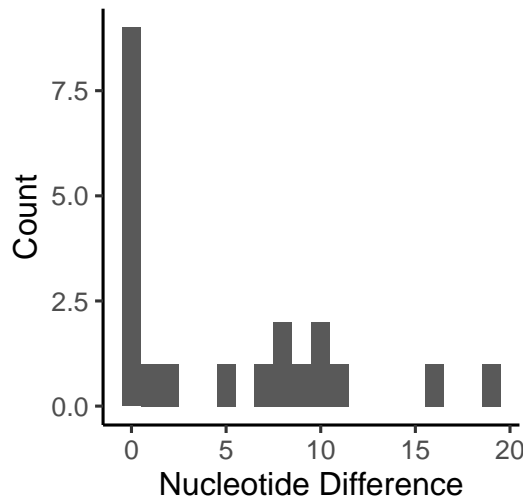
### IGHV4/OR15–8\*03

2 sequences assigned  
No exact matches.



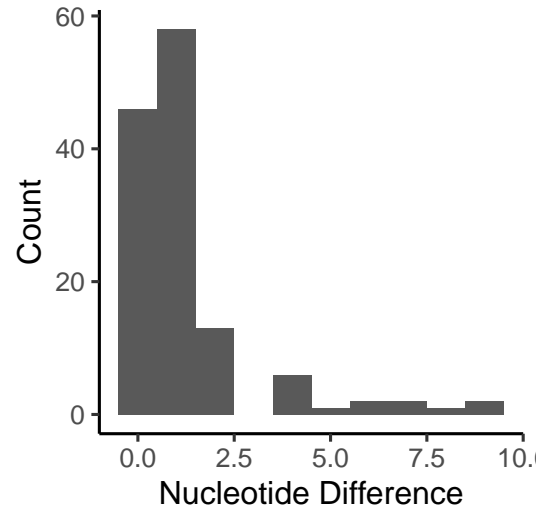
### IGHV5–51\*06

21 sequences assigned  
9 (42.9%) exact matches, in which:  
9 unique CDR3  
3 unique J



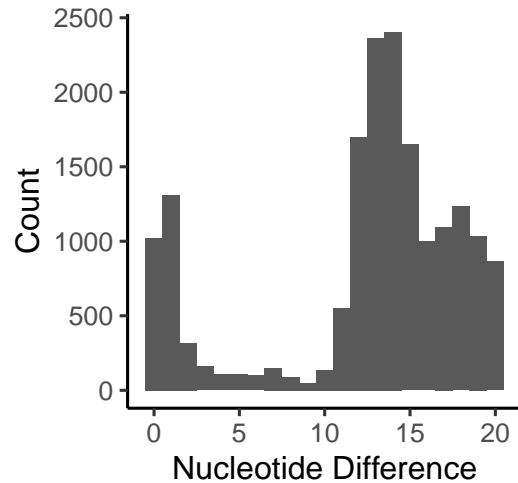
### IGHV7–4–1\*01

131 sequences assigned  
46 (35.1%) exact matches, in which:  
35 unique CDR3  
5 unique J



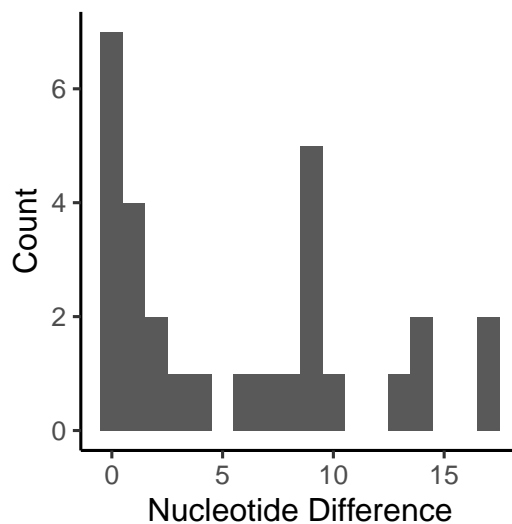
### IGHV5–10–1\*01\_03

18700 sequences assigned  
1020 (5.5%) exact matches, in which:  
598 unique CDR3  
6 unique J



### IGHV5–51\*07

29 sequences assigned  
7 (24.1%) exact matches, in which:  
7 unique CDR3  
3 unique J





Warning – no inferred sequences found.