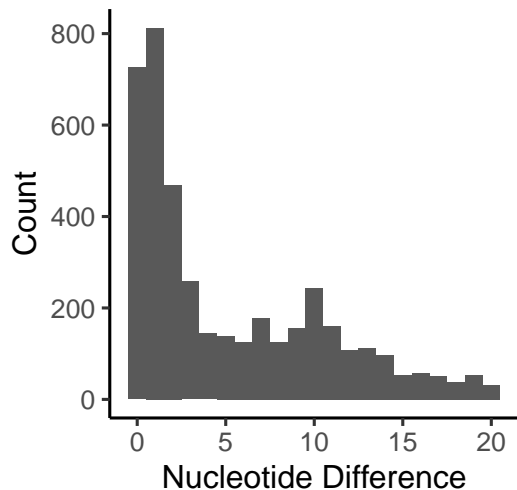


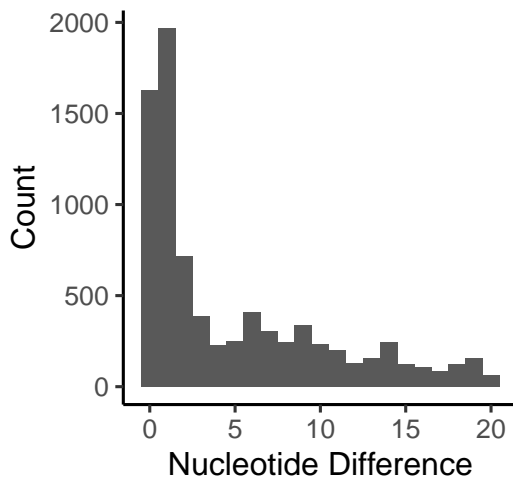
### IGHV1-2\*02

4390 sequences assigned  
726 (16.5%) exact matches, in which:  
596 unique CDR3  
6 unique J



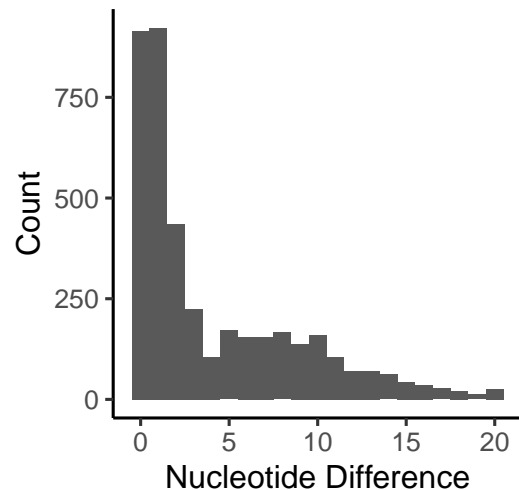
### IGHV1-18\*01

8708 sequences assigned  
1628 (18.7%) exact matches, in which:  
1304 unique CDR3  
6 unique J



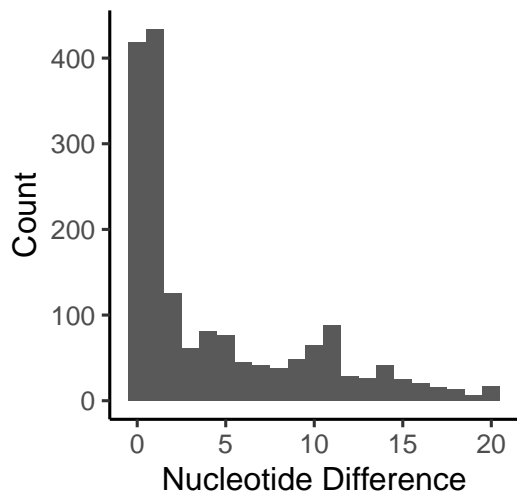
### IGHV1-46\*01

4478 sequences assigned  
915 (20.4%) exact matches, in which:  
771 unique CDR3  
6 unique J



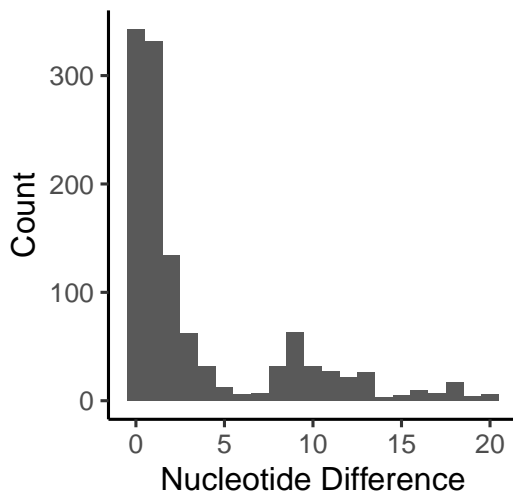
### IGHV1-3\*01\_05

1882 sequences assigned  
418 (22.2%) exact matches, in which:  
350 unique CDR3  
6 unique J



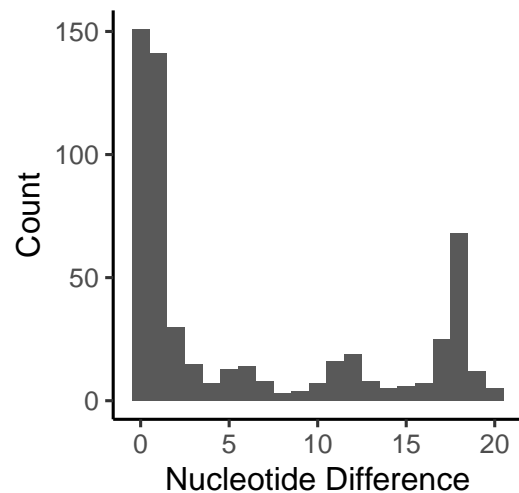
### IGHV1-24\*01

1211 sequences assigned  
343 (28.3%) exact matches, in which:  
299 unique CDR3  
6 unique J



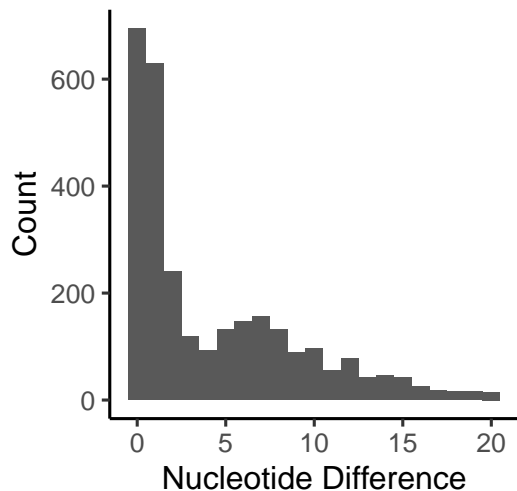
### IGHV1-58\*01\_03

731 sequences assigned  
151 (20.7%) exact matches, in which:  
128 unique CDR3  
5 unique J



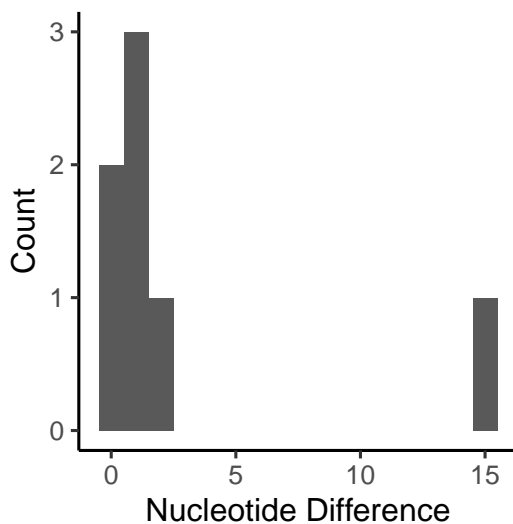
### IGHV1-8\*01

3012 sequences assigned  
695 (23.1%) exact matches, in which:  
611 unique CDR3  
6 unique J



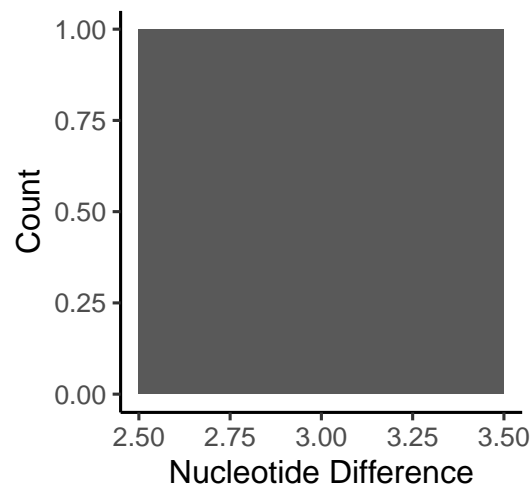
### IGHV1-45\*02

7 sequences assigned  
2 (28.6%) exact matches, in which:  
1 unique CDR3  
1 unique J



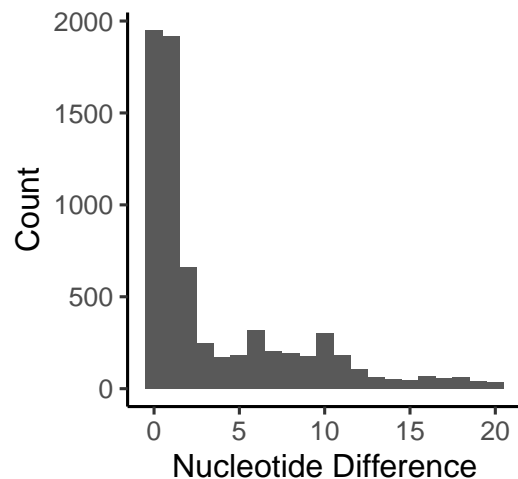
### IGHV1-68\*01

1 sequences assigned  
No exact matches.



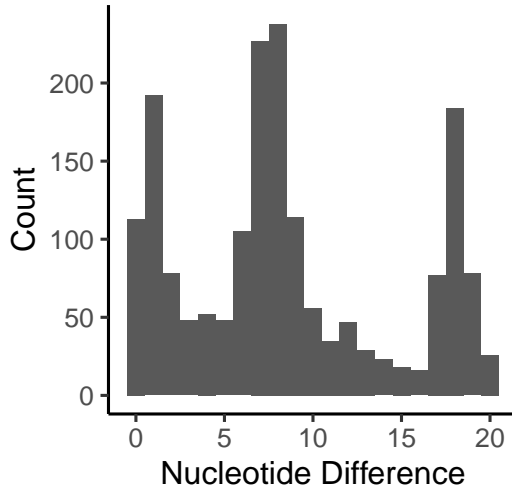
### IGHV1-69\*01\_12\_13

7789 sequences assigned  
1949 (25%) exact matches, in which:  
1673 unique CDR3  
6 unique J



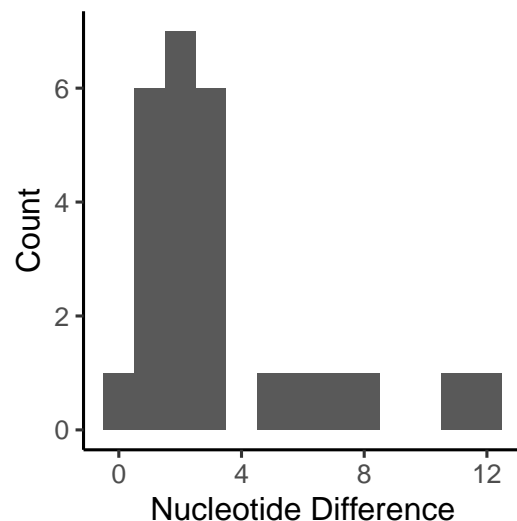
### IGHV2-5\*02

1871 sequences assigned  
113 (6%) exact matches, in which:  
92 unique CDR3  
5 unique J



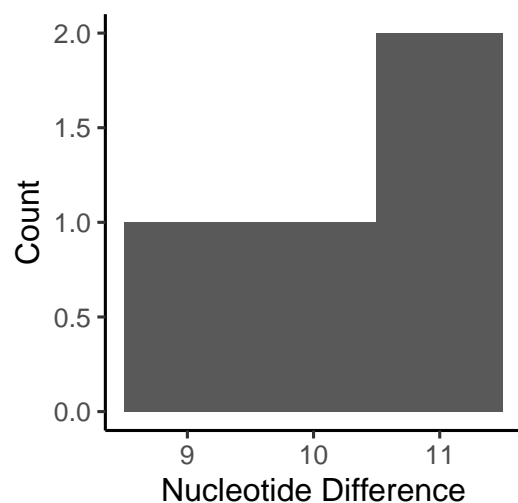
### IGHV2-70\*12

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



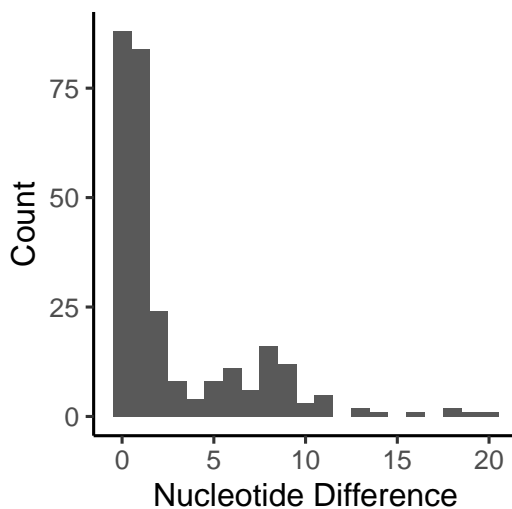
### IGHV1-NL1\*01

4 sequences assigned  
No exact matches.



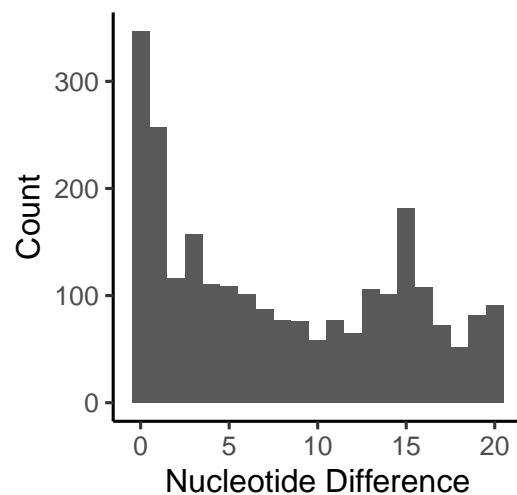
### IGHV2-26\*01

546 sequences assigned  
88 (16.1%) exact matches, in which:  
71 unique CDR3  
4 unique J



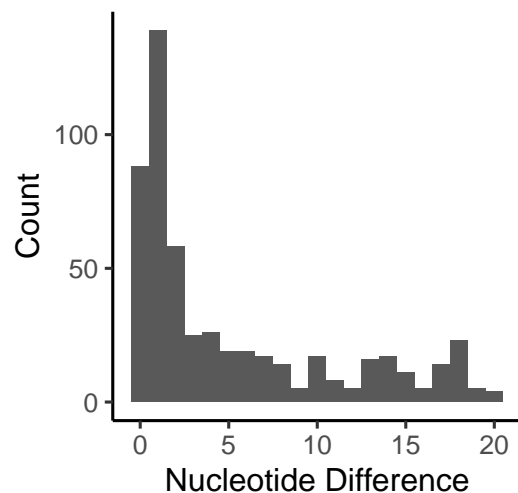
### IGHV3-7\*01

2978 sequences assigned  
347 (11.7%) exact matches, in which:  
241 unique CDR3  
6 unique J



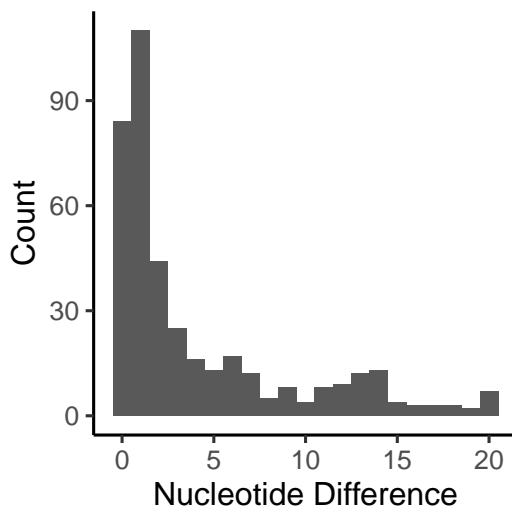
### IGHV2-5\*01

623 sequences assigned  
88 (14.1%) exact matches, in which:  
72 unique CDR3  
5 unique J



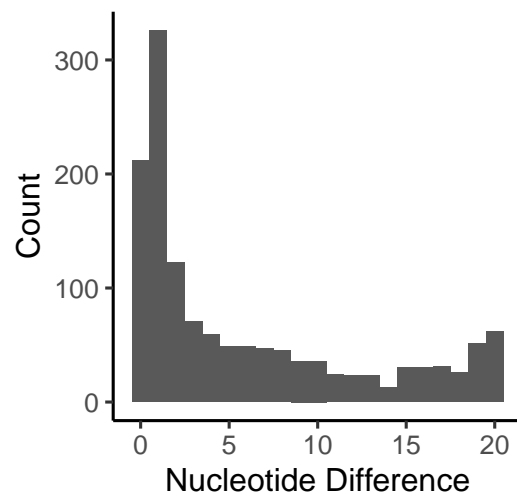
### IGHV2-70\*01

619 sequences assigned  
84 (13.6%) exact matches, in which:  
66 unique CDR3  
4 unique J



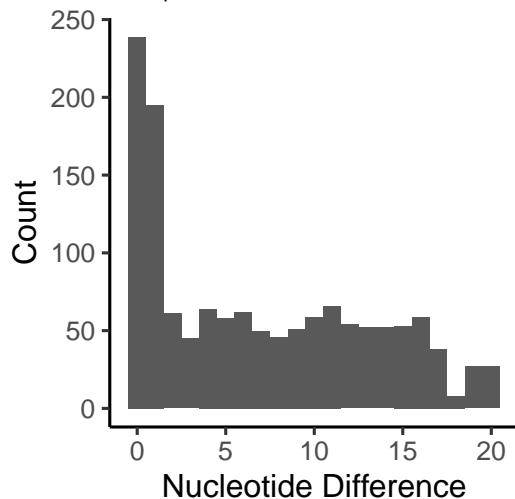
### IGHV3-7\*03

1744 sequences assigned  
212 (12.2%) exact matches, in which:  
142 unique CDR3  
6 unique J



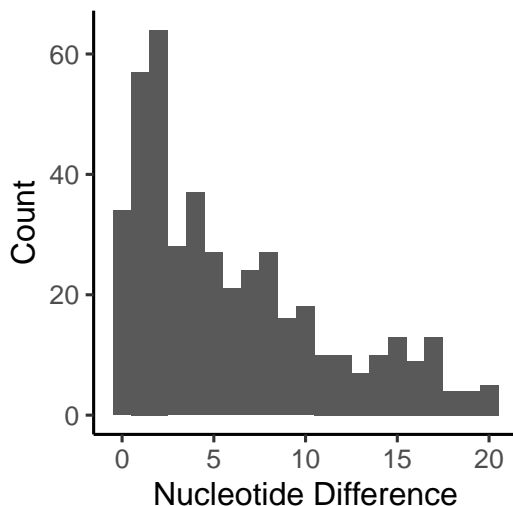
### IGHV3-7\*05

2245 sequences assigned  
239 (10.6%) exact matches, in which:  
174 unique CDR3  
6 unique J



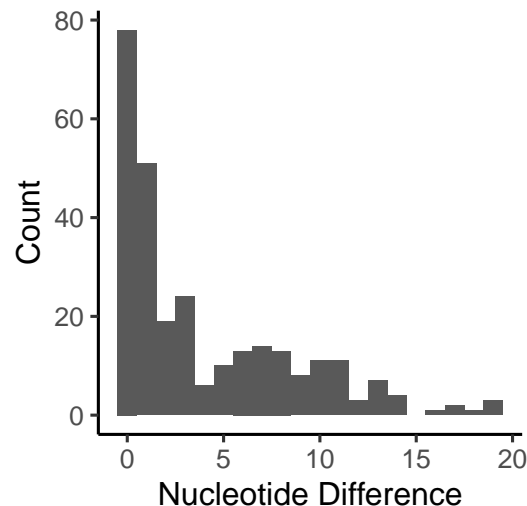
### IGHV3-11\*04

449 sequences assigned  
34 (7.6%) exact matches, in which:  
33 unique CDR3  
5 unique J



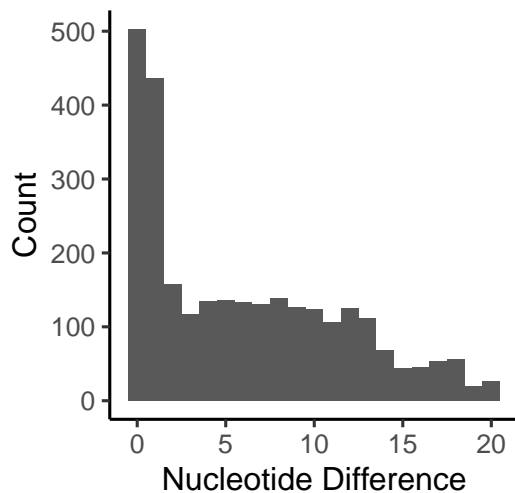
### IGHV3-13\*01

282 sequences assigned  
78 (27.7%) exact matches, in which:  
60 unique CDR3  
5 unique J



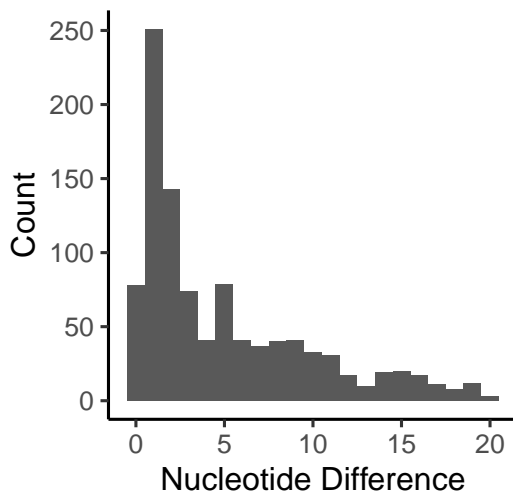
### IGHV3-9\*01

3026 sequences assigned  
503 (16.6%) exact matches, in which:  
285 unique CDR3  
6 unique J



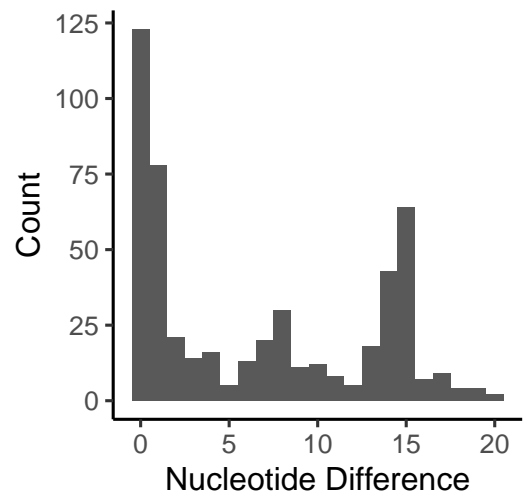
### IGHV3-11\*06

1088 sequences assigned  
78 (7.2%) exact matches, in which:  
72 unique CDR3  
6 unique J



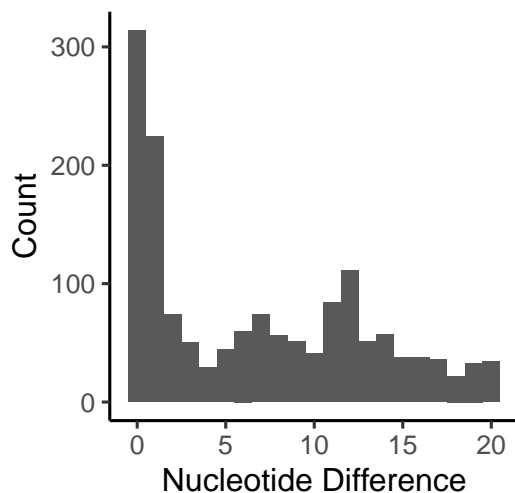
### IGHV3-13\*04

599 sequences assigned  
123 (20.5%) exact matches, in which:  
80 unique CDR3  
5 unique J



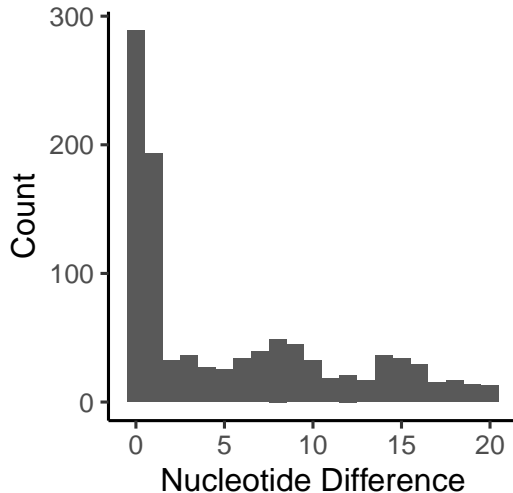
### IGHV3-11\*01

1708 sequences assigned  
314 (18.4%) exact matches, in which:  
208 unique CDR3  
6 unique J



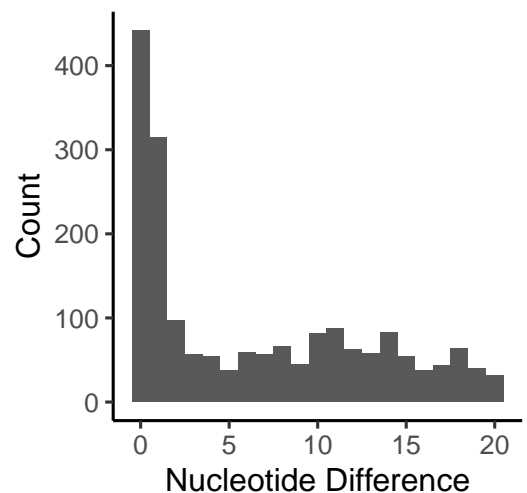
### IGHV3-11\*03\_05

1329 sequences assigned  
289 (21.7%) exact matches, in which:  
195 unique CDR3  
5 unique J



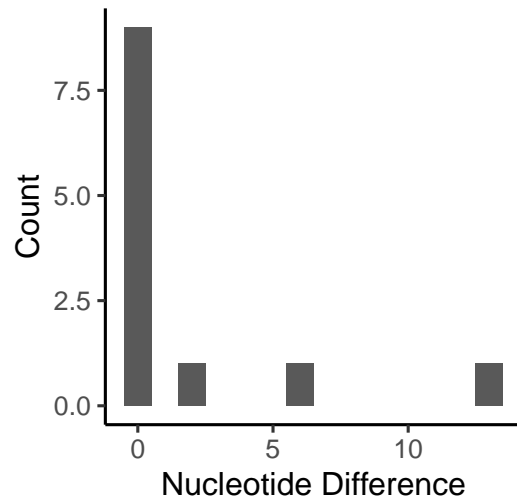
### IGHV3-15\*01\_02

3431 sequences assigned  
442 (12.9%) exact matches, in which:  
263 unique CDR3  
6 unique J



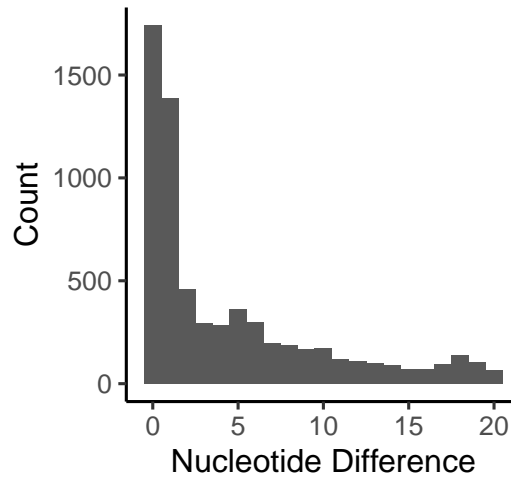
### IGHV3-19\*01

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



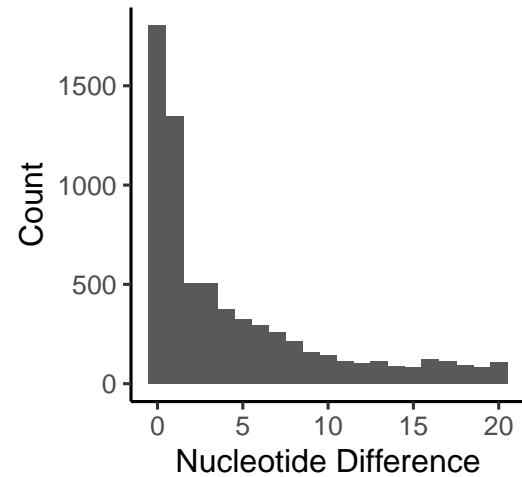
### IGHV3-21\*01\_02

9133 sequences assigned  
1741 (19.1%) exact matches, in which:  
1116 unique CDR3  
6 unique J



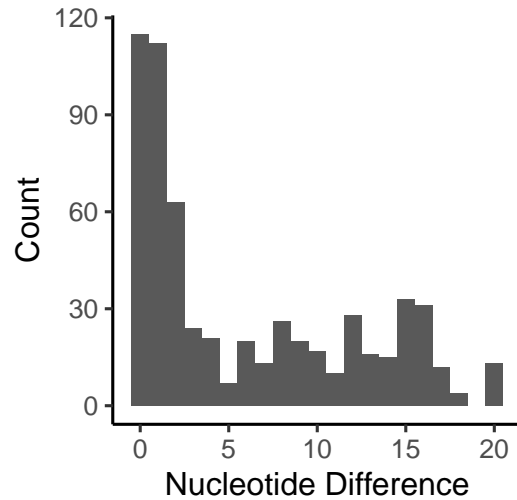
### IGHV3-30-3\*01

7890 sequences assigned  
1804 (22.9%) exact matches, in which:  
1183 unique CDR3  
6 unique J



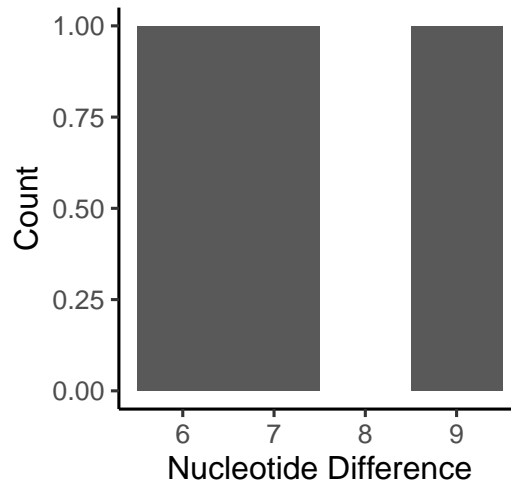
### IGHV3-20\*03\_04

793 sequences assigned  
115 (14.5%) exact matches, in which:  
70 unique CDR3  
5 unique J



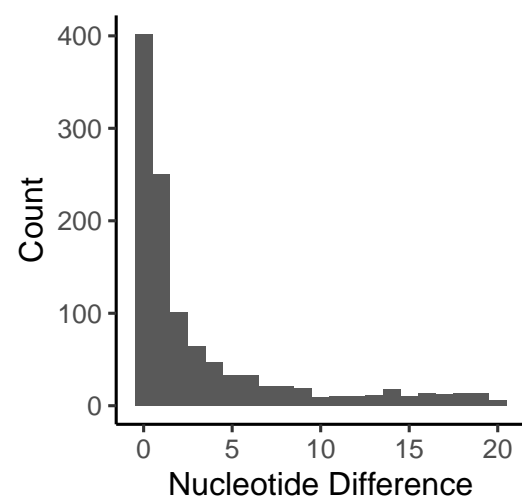
### IGHV3-22\*01\_02

4 sequences assigned  
No exact matches.



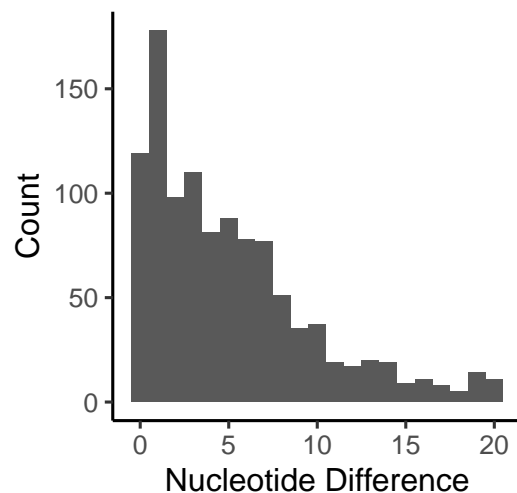
### IGHV3-30\*03

1897 sequences assigned  
402 (21.2%) exact matches, in which:  
347 unique CDR3  
6 unique J



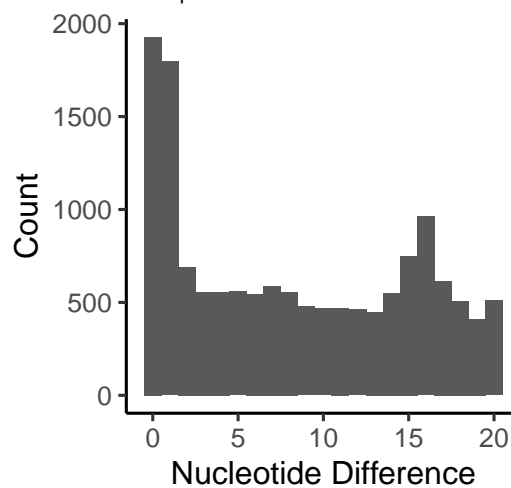
### IGHV3-21\*04

1230 sequences assigned  
119 (9.7%) exact matches, in which:  
104 unique CDR3  
5 unique J



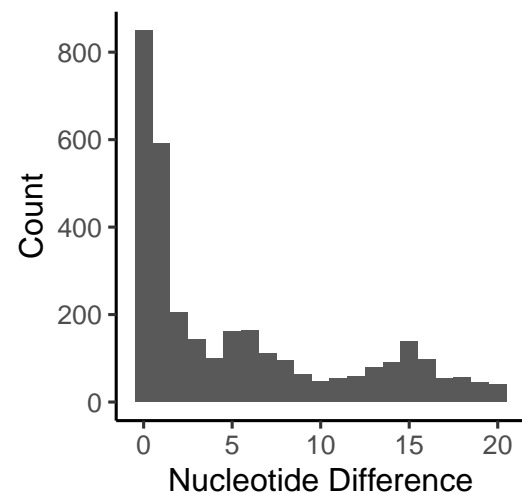
### IGHV3-23\*01\_04

19746 sequences assigned  
1928 (9.8%) exact matches, in which:  
1156 unique CDR3  
6 unique J



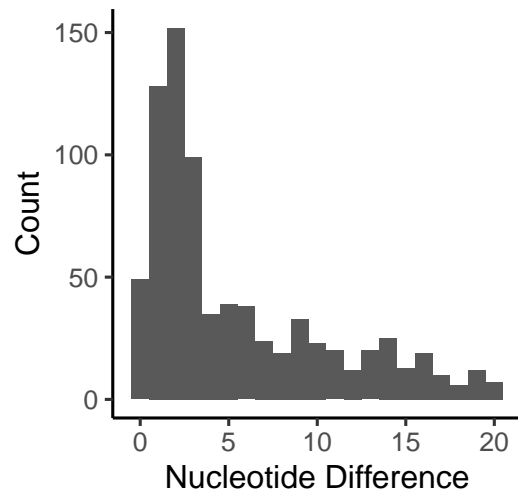
### IGHV3-33\*01

3518 sequences assigned  
850 (24.2%) exact matches, in which:  
555 unique CDR3  
6 unique J



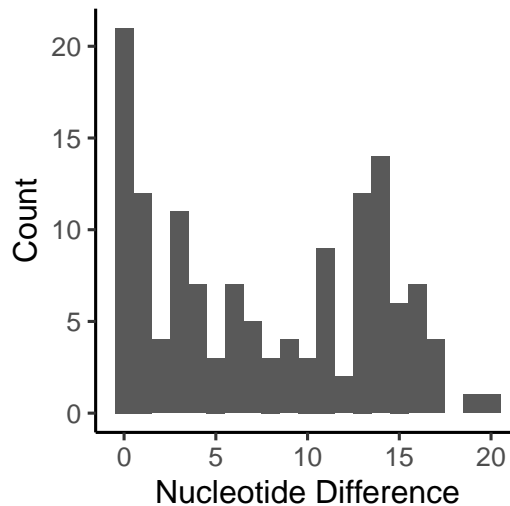
### IGHV3-33\*06

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



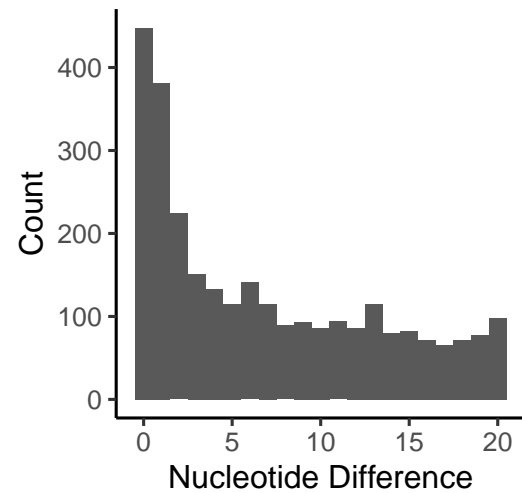
### IGHV3-43\*01

445 sequences assigned  
21 (4.7%) exact matches, in which:  
13 unique CDR3  
2 unique J



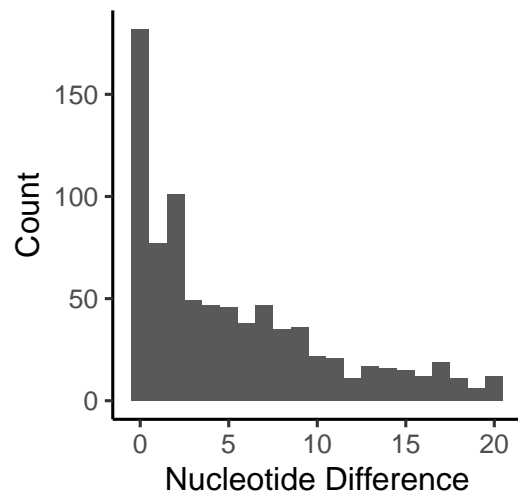
### IGHV3-48\*03

3643 sequences assigned  
448 (12.3%) exact matches, in which:  
275 unique CDR3  
6 unique J



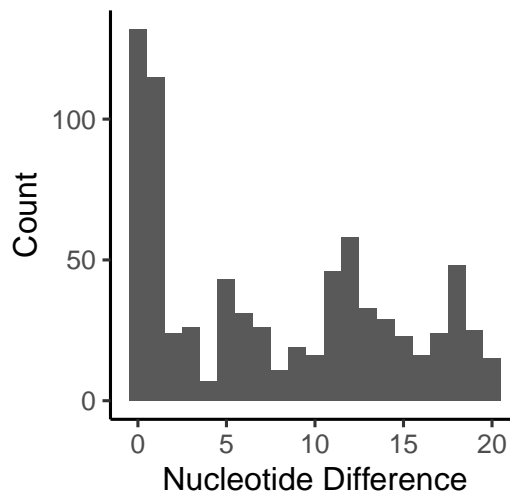
### IGHV3-33\*08

871 sequences assigned  
182 (20.9%) exact matches, in which:  
148 unique CDR3  
6 unique J



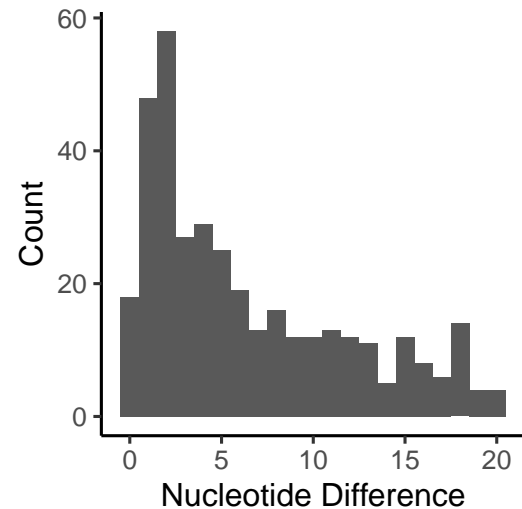
### IGHV3-43\*02

1053 sequences assigned  
132 (12.5%) exact matches, in which:  
76 unique CDR3  
5 unique J



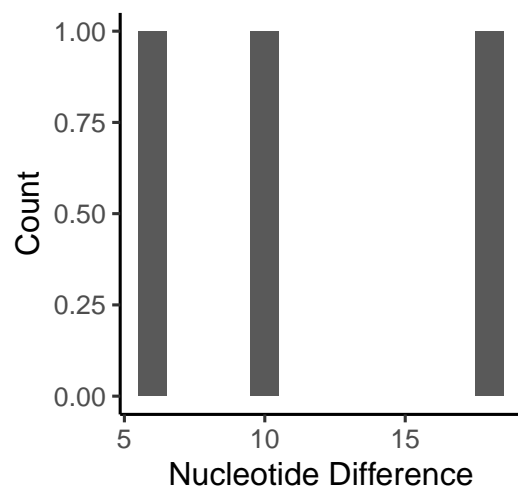
### IGHV3-48\*04

396 sequences assigned  
18 (4.5%) exact matches, in which:  
18 unique CDR3  
5 unique J



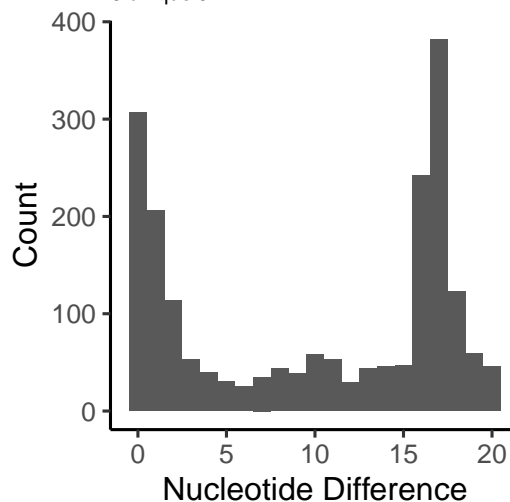
### IGHV3-35\*01

3 sequences assigned  
No exact matches.



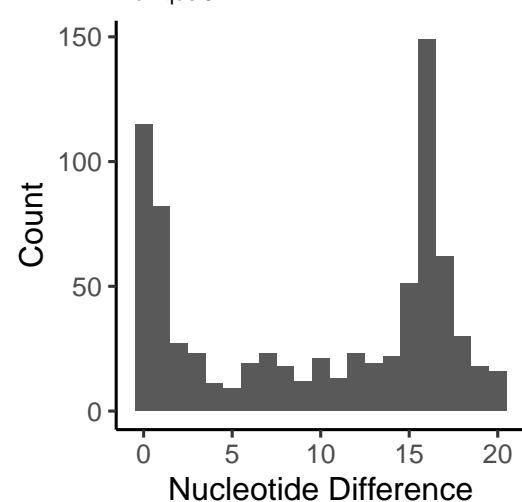
### IGHV3-48\*02

3069 sequences assigned  
307 (10%) exact matches, in which:  
185 unique CDR3  
6 unique J



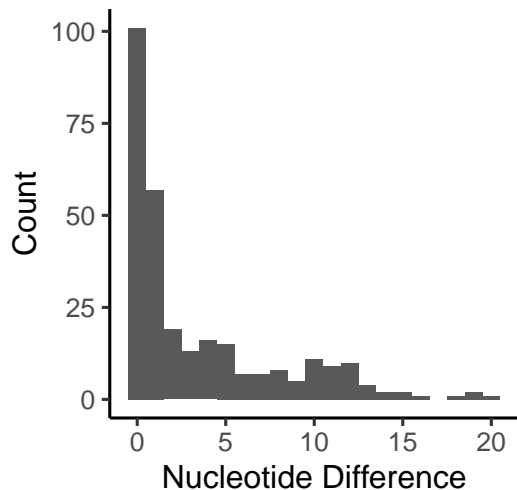
### IGHV3-49\*04

957 sequences assigned  
115 (12%) exact matches, in which:  
74 unique CDR3  
4 unique J



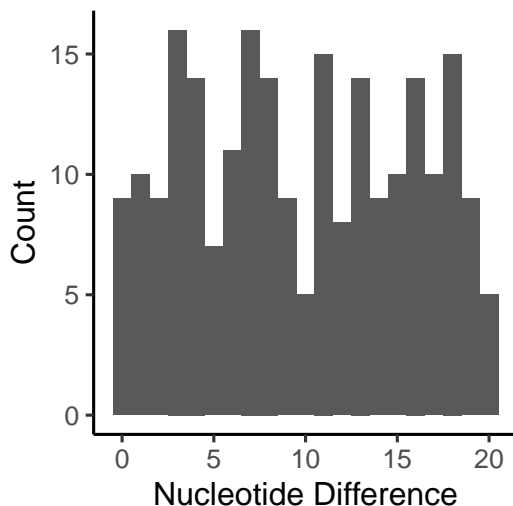
### IGHV3-49\*03\_05

297 sequences assigned  
101 (34%) exact matches, in which:  
57 unique CDR3  
5 unique J



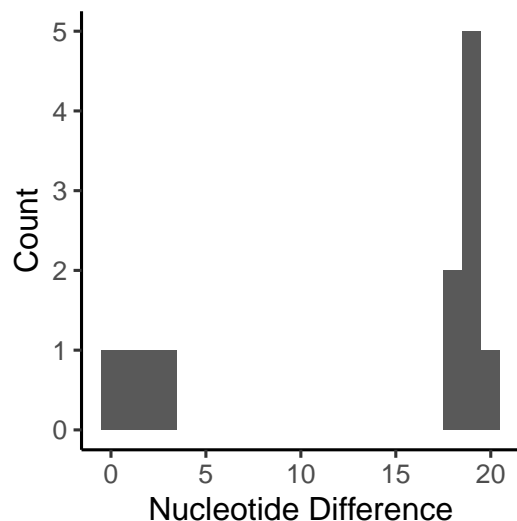
### IGHV3-64\*04

280 sequences assigned  
9 (3.2%) exact matches, in which:  
9 unique CDR3  
3 unique J



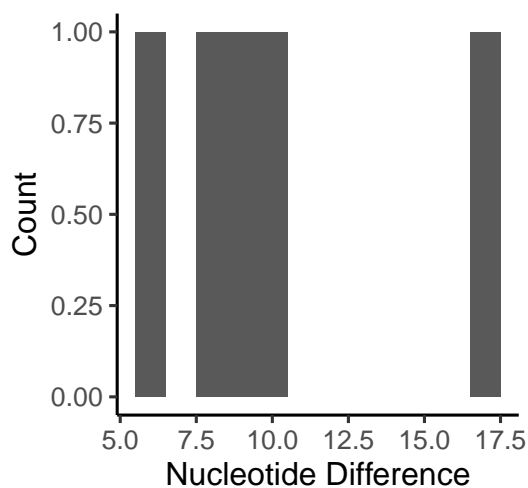
### IGHV3-66\*03

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



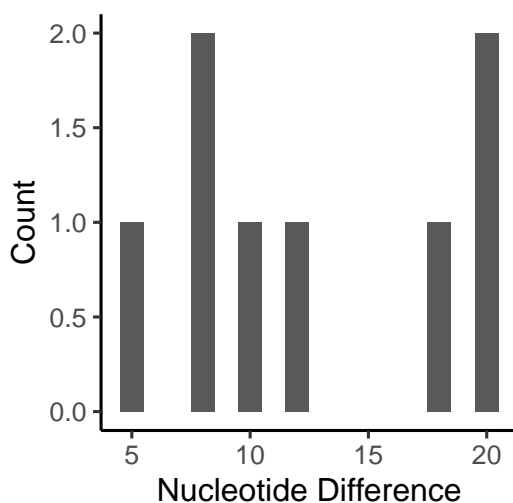
### IGHV3-52\*01\_03

5 sequences assigned  
No exact matches.



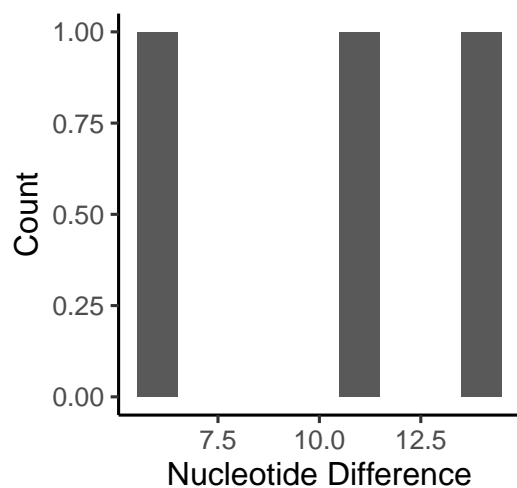
### IGHV3-66\*01

9 sequences assigned  
No exact matches.



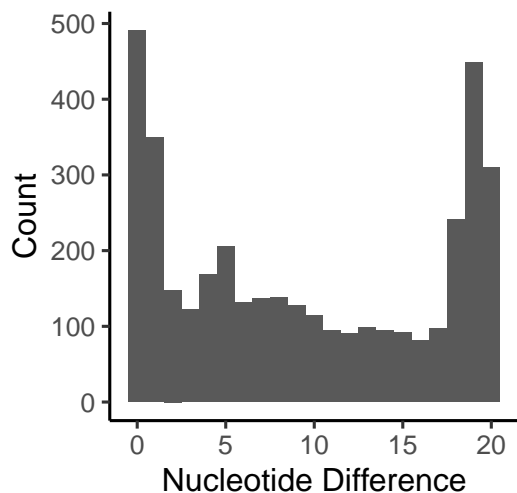
### IGHV3-66\*04

5 sequences assigned  
No exact matches.



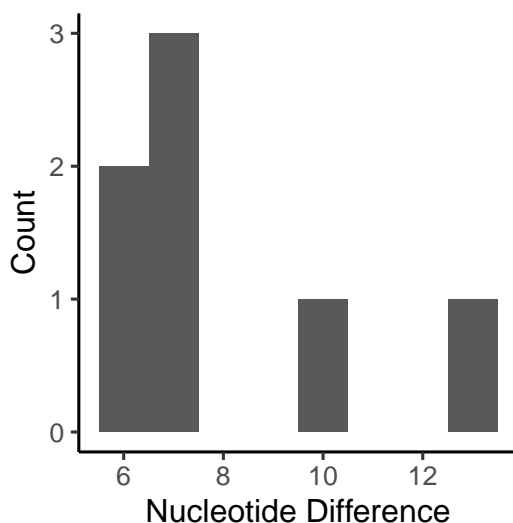
### IGHV3-53\*01\_02

4774 sequences assigned  
491 (10.3%) exact matches, in which:  
327 unique CDR3  
6 unique J



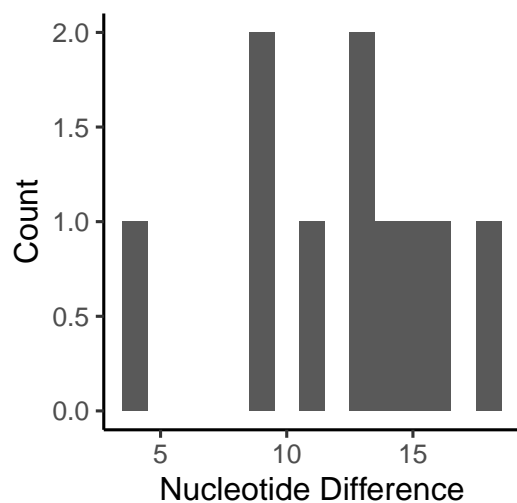
### IGHV3-66\*02

7 sequences assigned  
No exact matches.



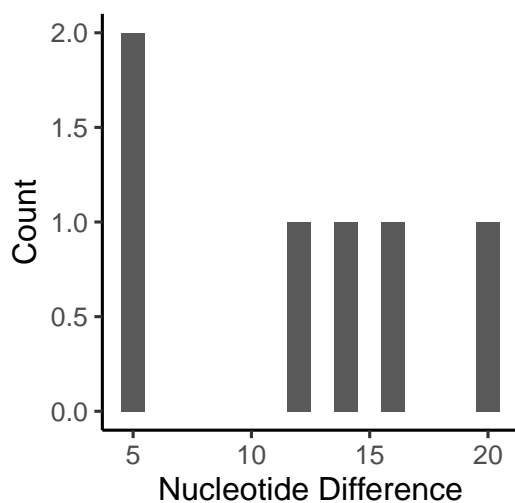
### IGHV3-69-1\*01

14 sequences assigned  
No exact matches.



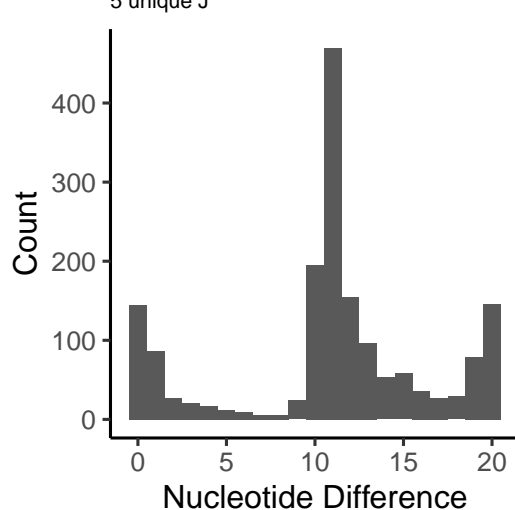
### IGHV3-69-1\*02

11 sequences assigned  
No exact matches.



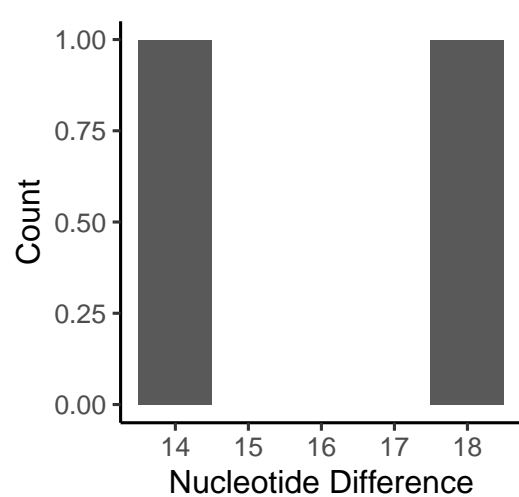
### IGHV3-73\*01\_02

1866 sequences assigned  
145 (7.8%) exact matches, in which:  
88 unique CDR3  
5 unique J



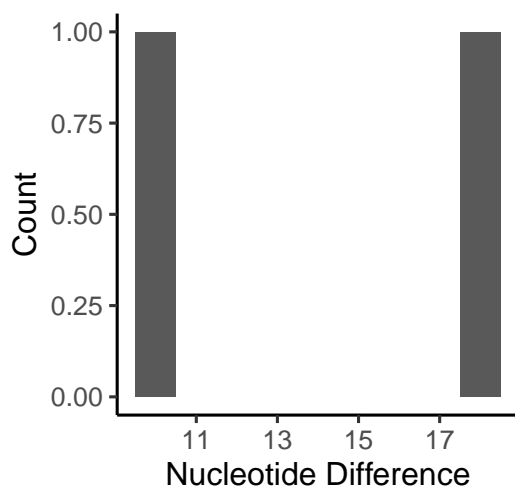
### IGHV3-43D\*04

2 sequences assigned  
No exact matches.



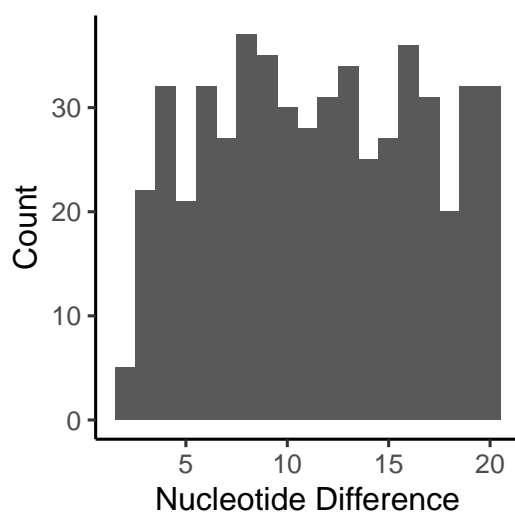
### IGHV3-71\*01\_04

2 sequences assigned  
No exact matches.



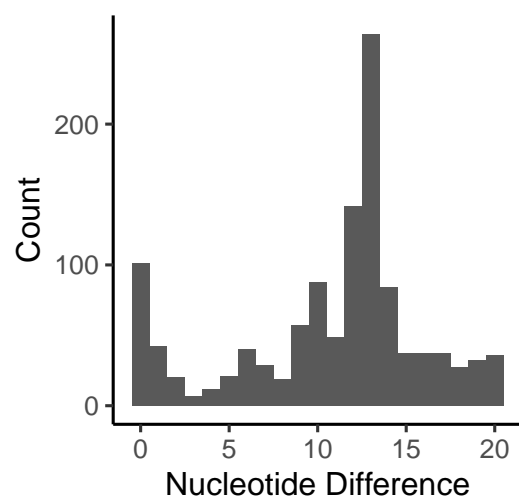
### IGHV3-74\*03

986 sequences assigned  
No exact matches.



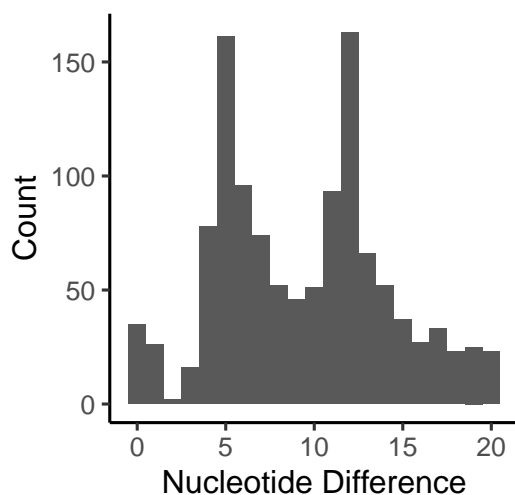
### IGHV3-64D\*09

1382 sequences assigned  
101 (7.3%) exact matches, in which:  
60 unique CDR3  
4 unique J



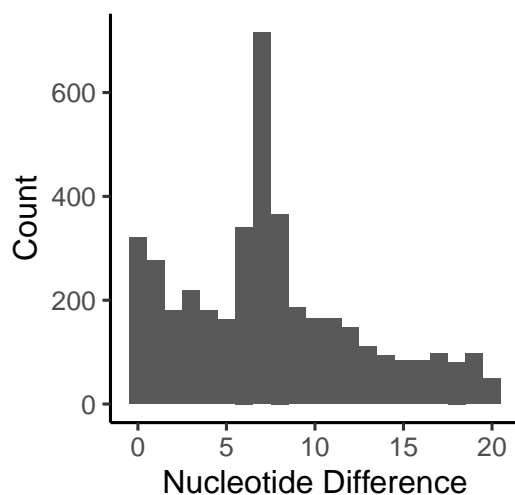
### IGHV3-72\*01

1544 sequences assigned  
35 (2.3%) exact matches, in which:  
22 unique CDR3  
4 unique J



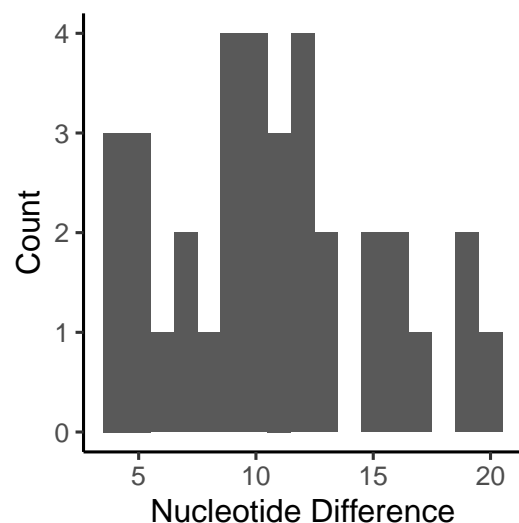
### IGHV3-74\*01\_02

4548 sequences assigned  
321 (7.1%) exact matches, in which:  
218 unique CDR3  
6 unique J



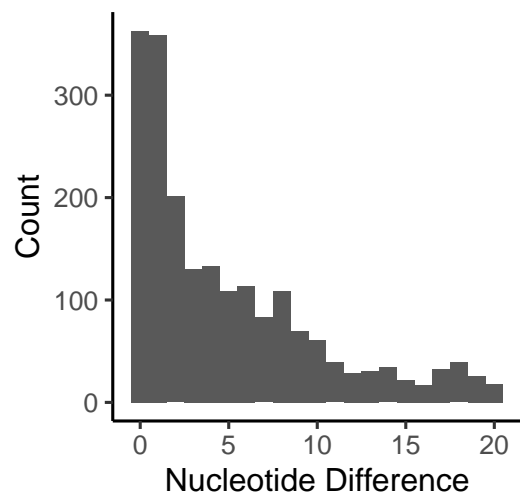
### IGHV3-NL1\*01

42 sequences assigned  
No exact matches.



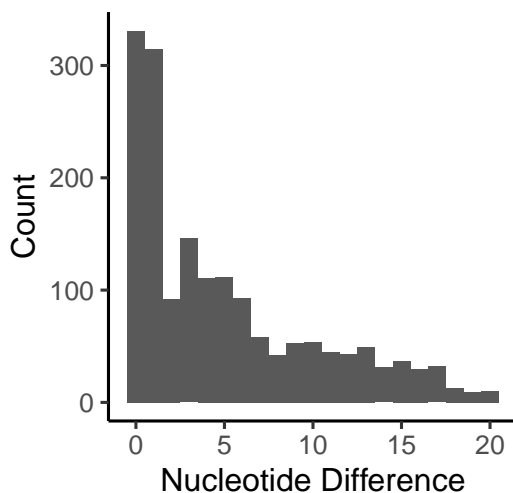
### IGHV4-4\*07

2609 sequences assigned  
363 (13.9%) exact matches, in which:  
316 unique CDR3  
6 unique J



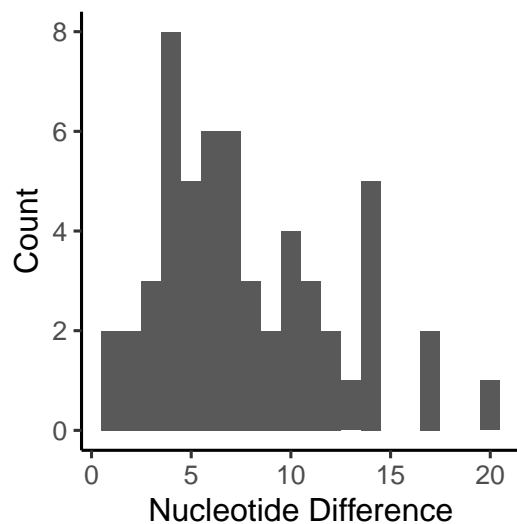
### IGHV4-30-4\*01

1896 sequences assigned  
331 (17.5%) exact matches, in which:  
265 unique CDR3  
6 unique J



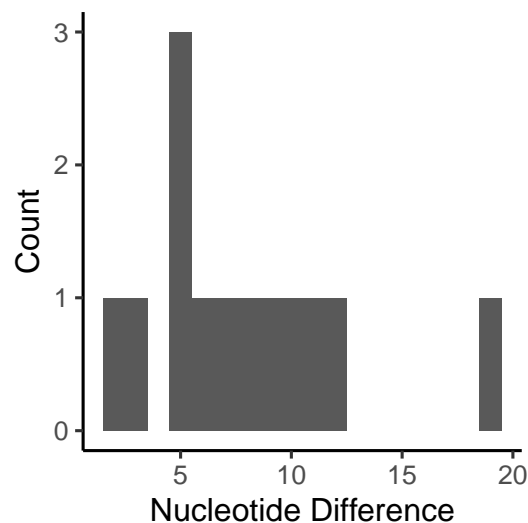
### IGHV4-30-2\*03

535 sequences assigned  
No exact matches.



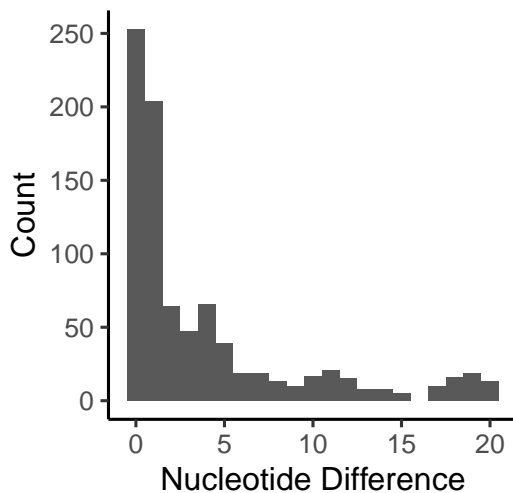
### IGHV4-28\*03

13 sequences assigned  
No exact matches.



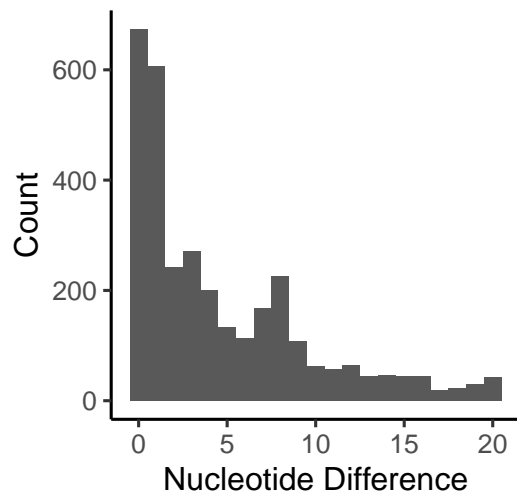
### IGHV4-30-2\*01

917 sequences assigned  
253 (27.6%) exact matches, in which:  
189 unique CDR3  
6 unique J



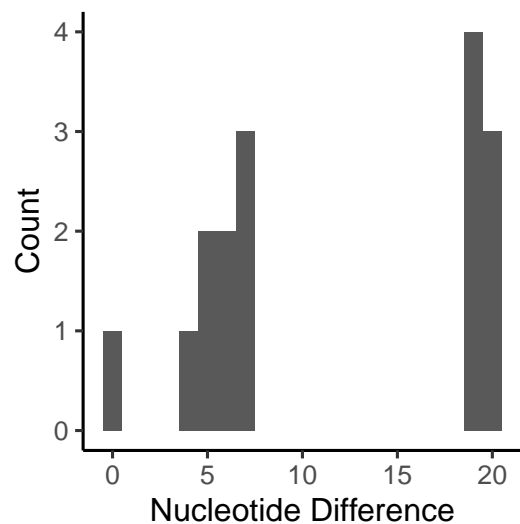
### IGHV4-31\*02

3954 sequences assigned  
674 (17%) exact matches, in which:  
577 unique CDR3  
6 unique J



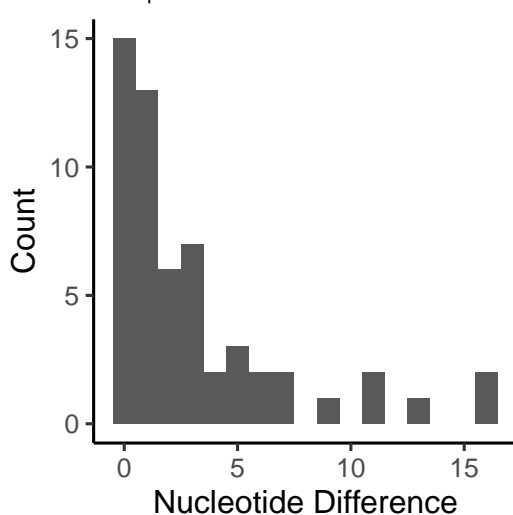
### IGHV4-28\*01\_07

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



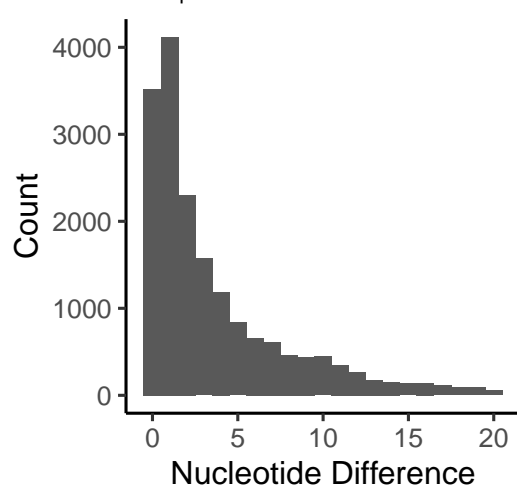
### IGHV4-30-2\*02

56 sequences assigned  
15 (26.8%) exact matches, in which:  
14 unique CDR3  
4 unique J



### IGHV4-34\*01\_02

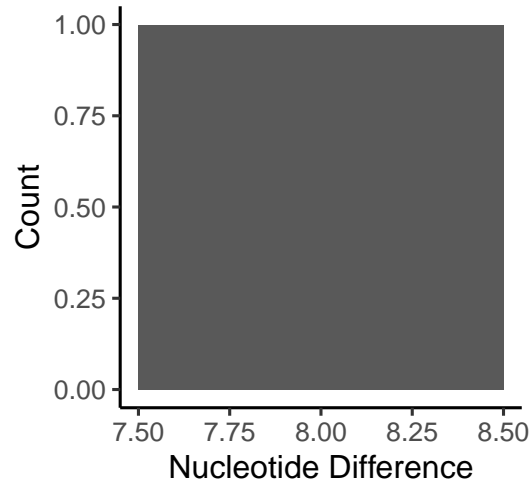
19011 sequences assigned  
3518 (18.5%) exact matches, in which:  
2546 unique CDR3  
6 unique J





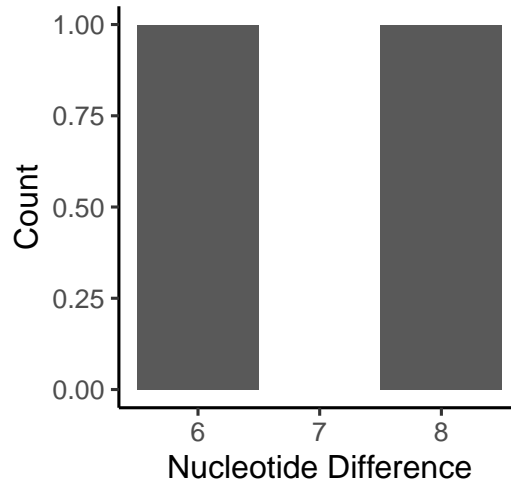
### IGHV4-38-2\*01

2 sequences assigned  
No exact matches.



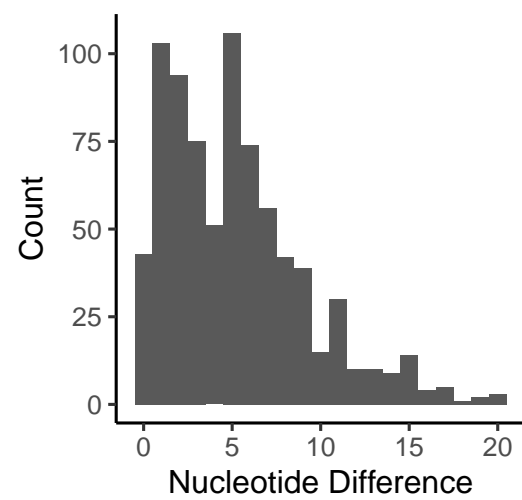
### IGHV4-55\*09

2 sequences assigned  
No exact matches.



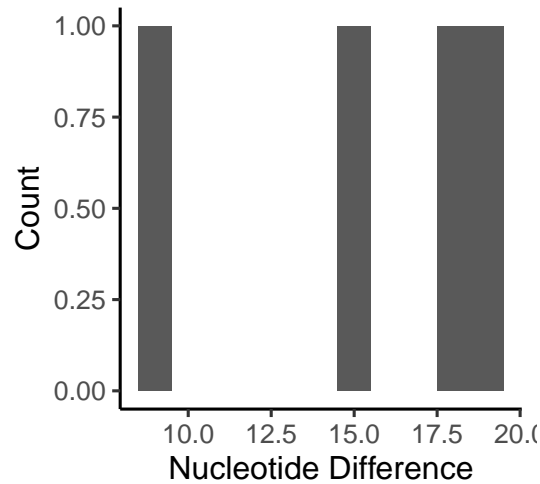
### IGHV4-59\*12

810 sequences assigned  
43 (5.3%) exact matches, in which:  
43 unique CDR3  
5 unique J



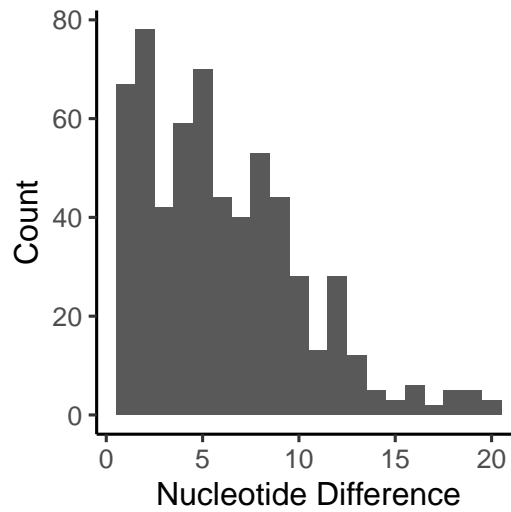
### IGHV4-38-2\*02

14 sequences assigned  
No exact matches.



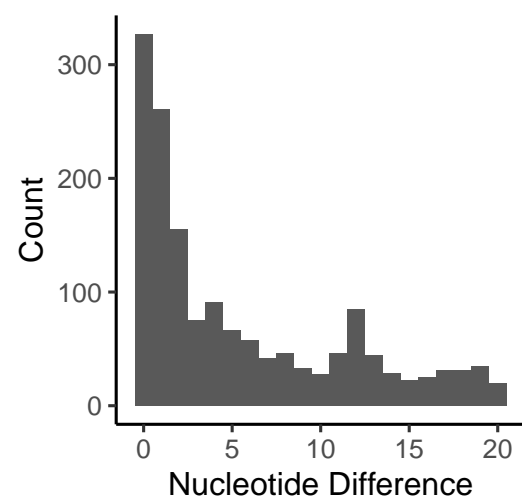
### IGHV4-59\*08

644 sequences assigned  
No exact matches.



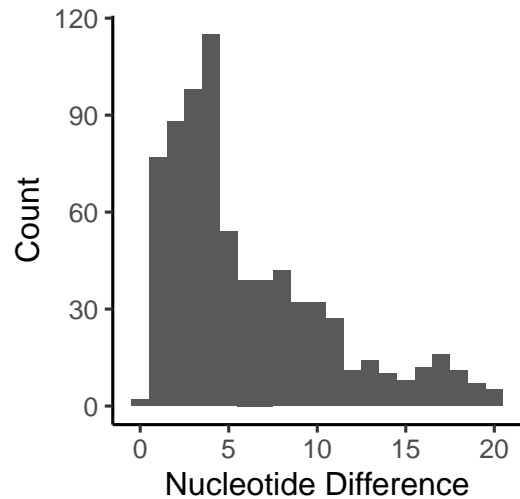
### IGHV4-61\*01

1877 sequences assigned  
327 (17.4%) exact matches, in which:  
296 unique CDR3  
6 unique J



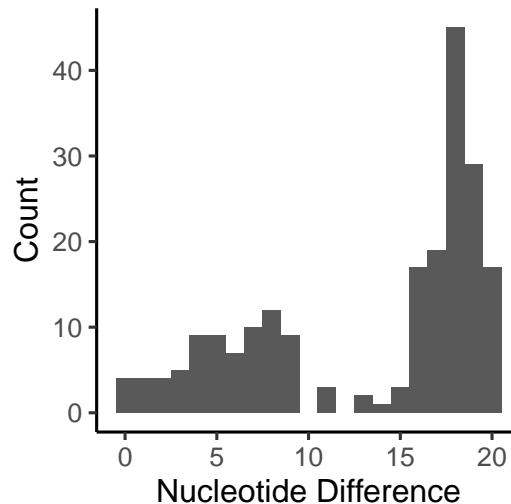
### IGHV4-39\*07

1129 sequences assigned  
2 (0.2%) exact matches, in which:  
2 unique CDR3  
2 unique J



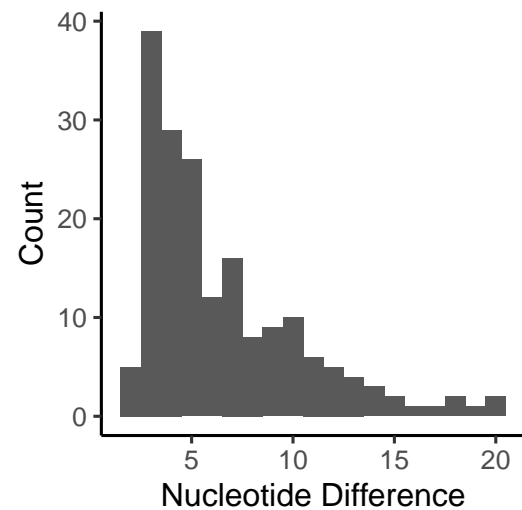
### IGHV4-59\*11

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



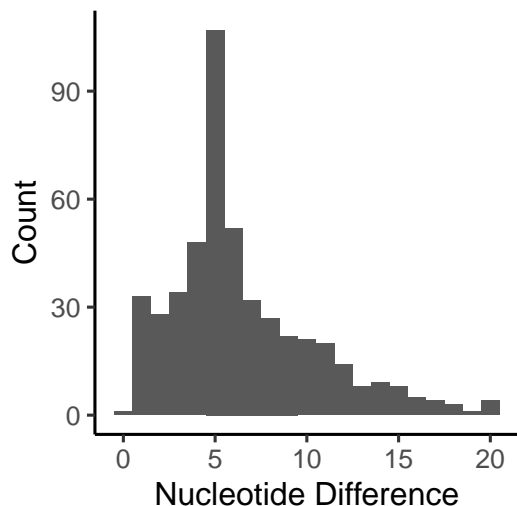
### IGHV4-61\*02

289 sequences assigned  
No exact matches.



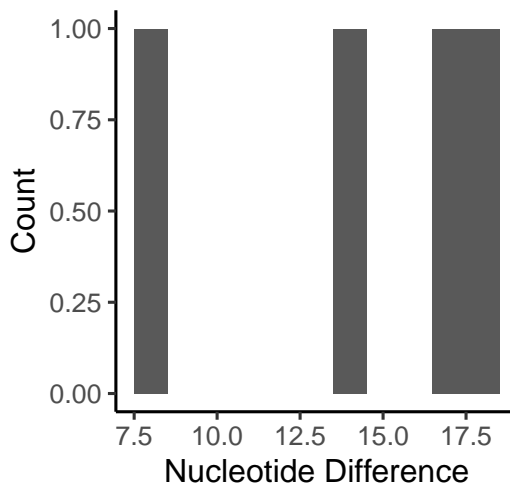
### IGHV4-61\*08

578 sequences assigned  
1 (0.2%) exact matches, in which:  
1 unique CDR3  
1 unique J



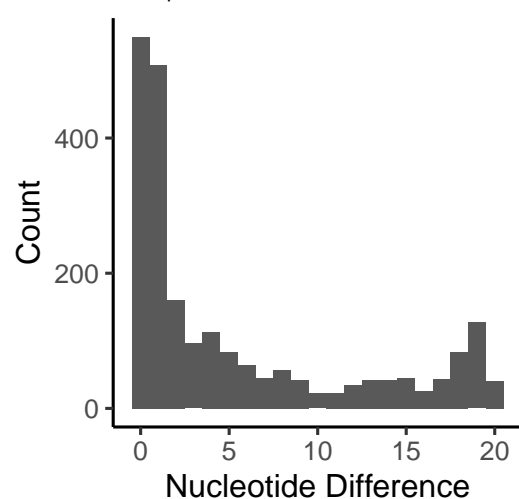
### IGHV1/OR15-3\*02

4 sequences assigned  
No exact matches.



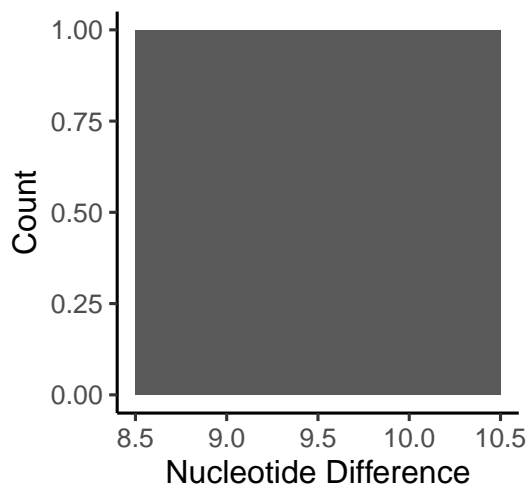
### IGHV5-10-1\*01\_03

2598 sequences assigned  
550 (21.2%) exact matches, in which:  
381 unique CDR3  
6 unique J



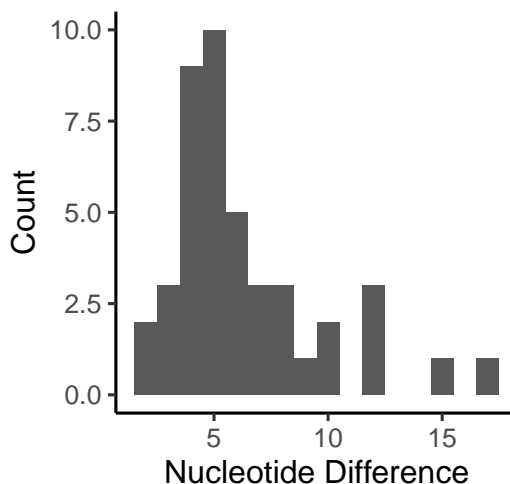
### IGHV1/OR15-1\*04

2 sequences assigned  
No exact matches.



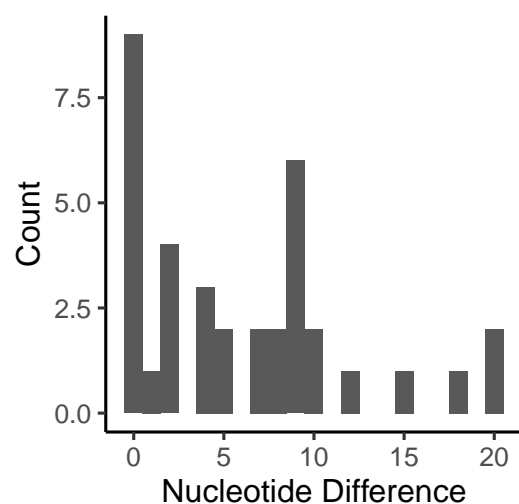
### IGHV4/OR15-8\*01

46 sequences assigned  
No exact matches.



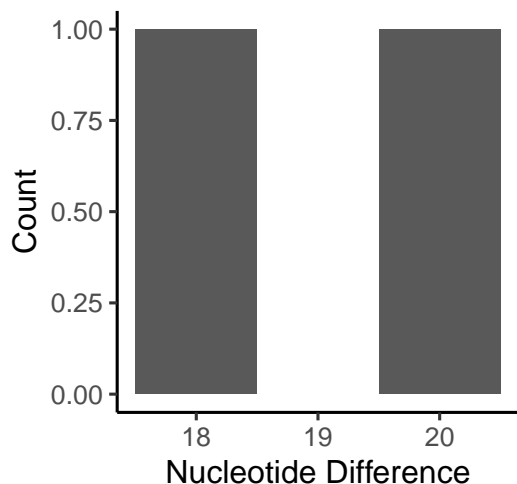
### IGHV5-51\*04

45 sequences assigned  
9 (20%) exact matches, in which:  
9 unique CDR3  
3 unique J



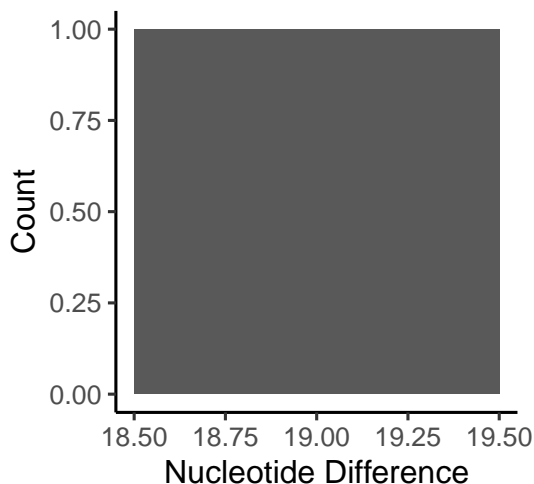
### IGHV1/OR15-2\*02\_03

12 sequences assigned  
No exact matches.



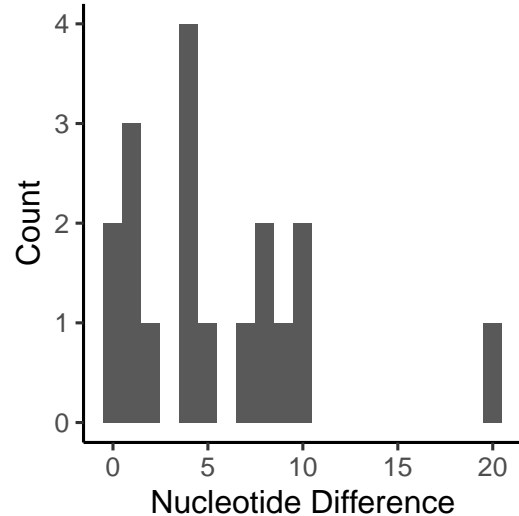
### IGHV1/OR15-9\*01

1 sequences assigned  
No exact matches.



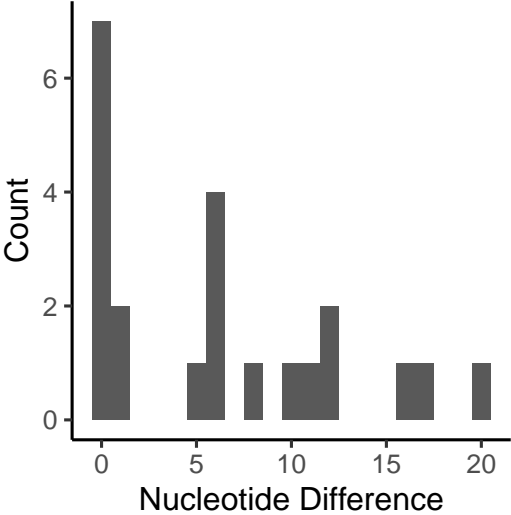
### IGHV5-51\*06

21 sequences assigned  
2 (9.5%) exact matches, in which:  
2 unique CDR3  
2 unique J



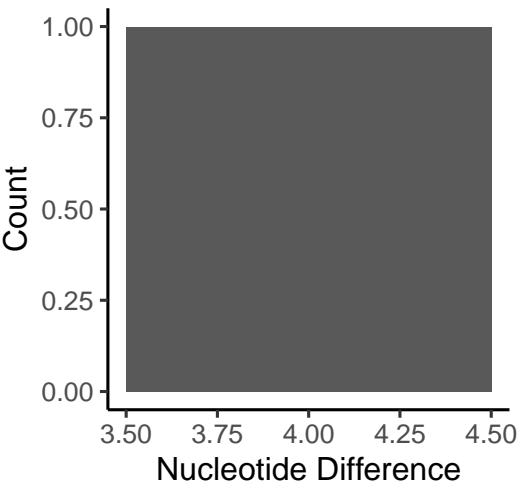
IGHV5-51\*07

30 sequences assigned  
7 (23.3%) exact matches, in which:  
7 unique CDR3  
5 unique J



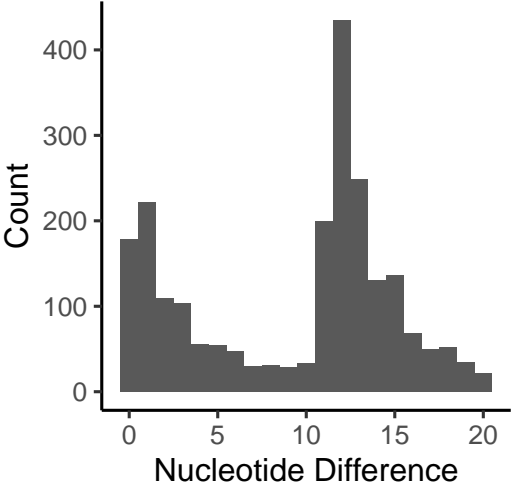
IGHV3/OR16-10\*01\_03

2 sequences assigned  
No exact matches.



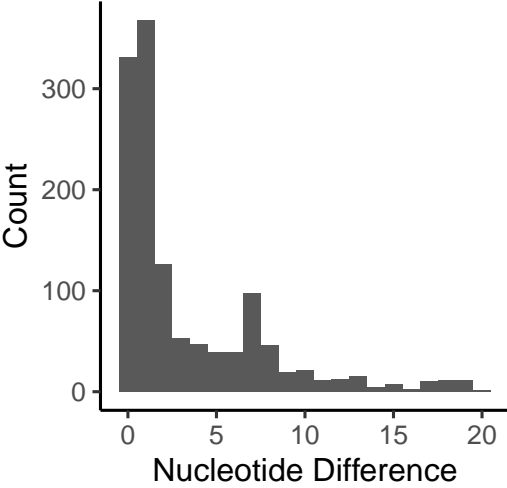
IGHV6-1\*01\_02

2357 sequences assigned  
179 (7.6%) exact matches, in which:  
153 unique CDR3  
5 unique J



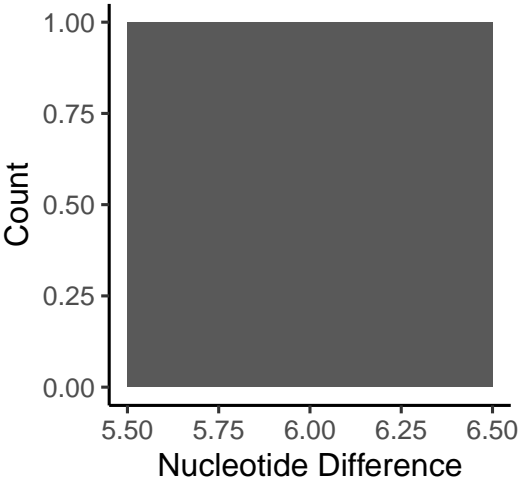
IGHV7-4-1\*02

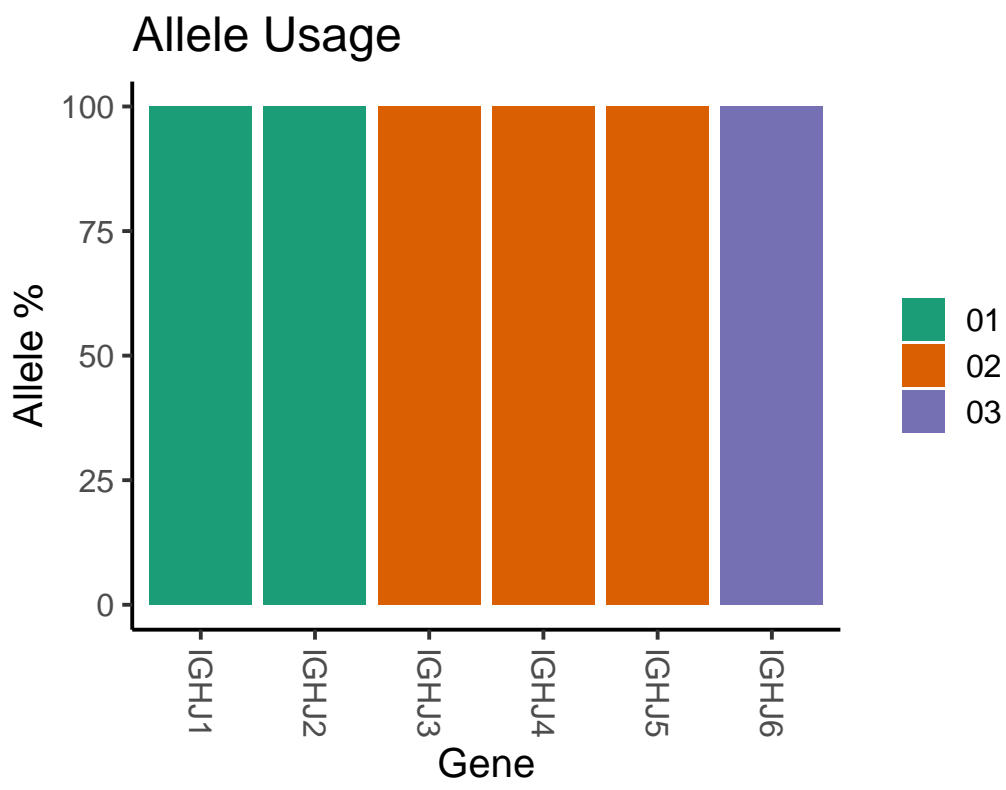
1443 sequences assigned  
331 (22.9%) exact matches, in which:  
246 unique CDR3  
6 unique J



IGHV3/OR16-6\*02

1 sequences assigned  
No exact matches.





Warning – no inferred sequences found.