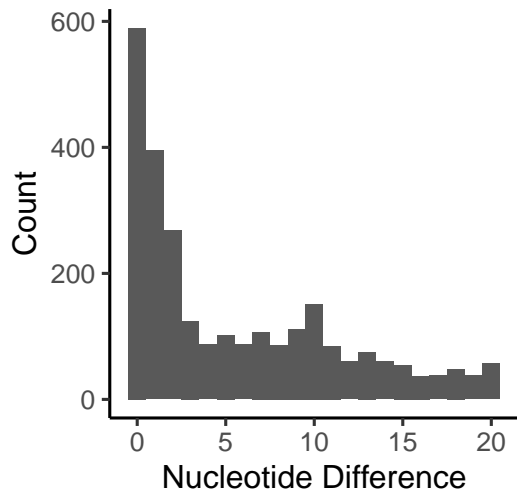


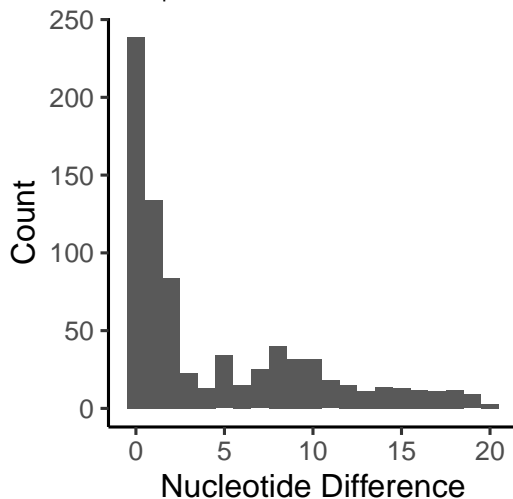
### IGHV1-2\*02

3119 sequences assigned  
590 (18.9%) exact matches, in which:  
572 unique CDR3  
6 unique J



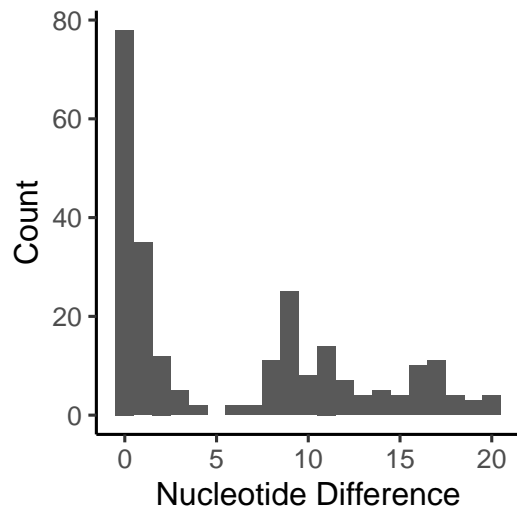
### IGHV1-8\*01

961 sequences assigned  
239 (24.9%) exact matches, in which:  
234 unique CDR3  
5 unique J



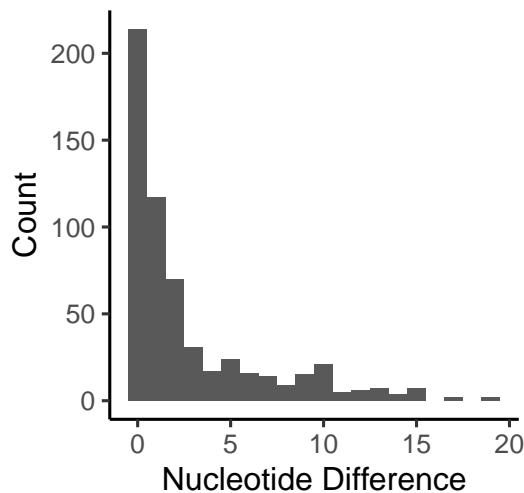
### IGHV1-24\*01

273 sequences assigned  
78 (28.6%) exact matches, in which:  
77 unique CDR3  
5 unique J



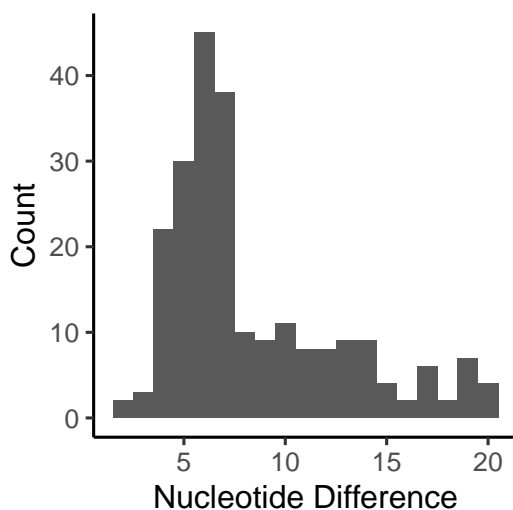
### IGHV1-2\*04

584 sequences assigned  
214 (36.6%) exact matches, in which:  
209 unique CDR3  
6 unique J



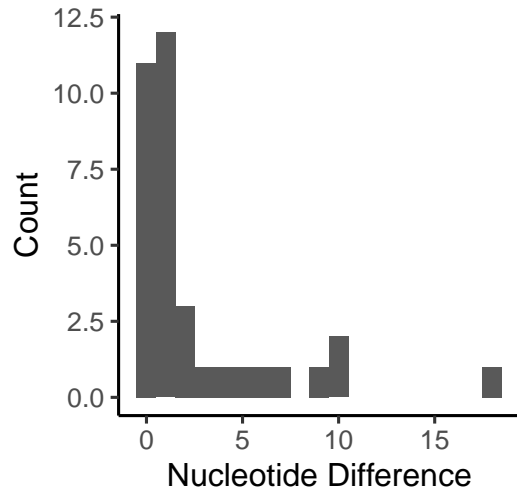
### IGHV1-8\*02

259 sequences assigned  
No exact matches.



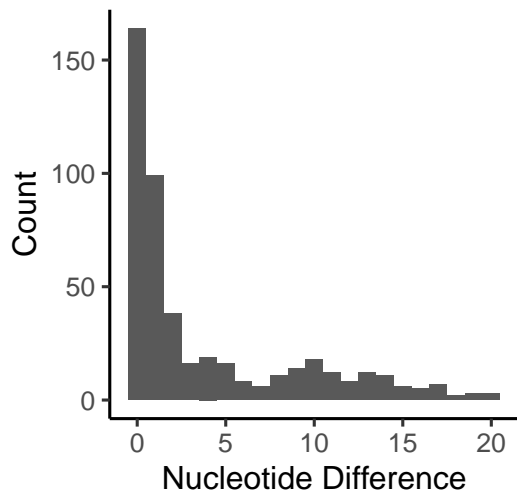
### IGHV1-45\*02

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



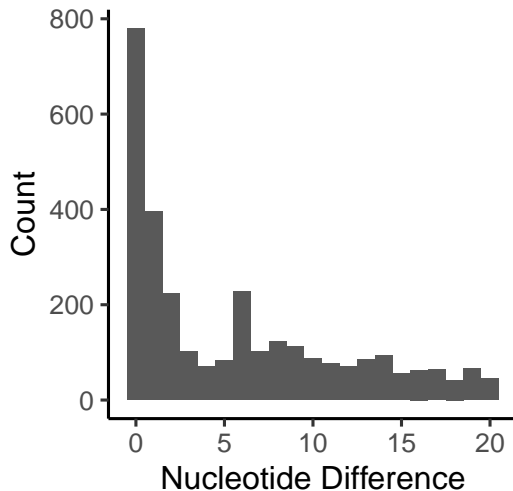
### IGHV1-3\*01\_05

532 sequences assigned  
164 (30.8%) exact matches, in which:  
155 unique CDR3  
5 unique J



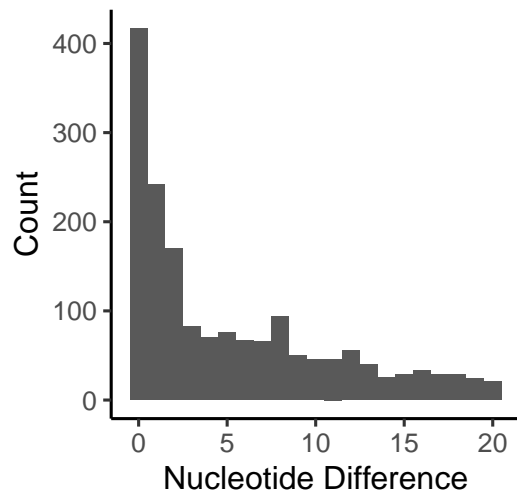
### IGHV1-18\*01

3524 sequences assigned  
780 (22.1%) exact matches, in which:  
765 unique CDR3  
6 unique J



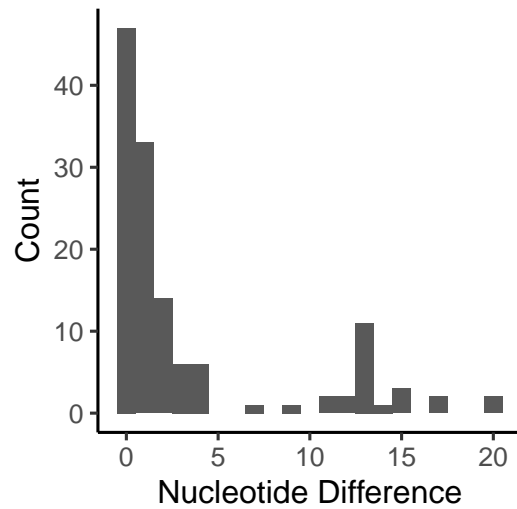
### IGHV1-46\*01

1865 sequences assigned  
417 (22.4%) exact matches, in which:  
408 unique CDR3  
6 unique J



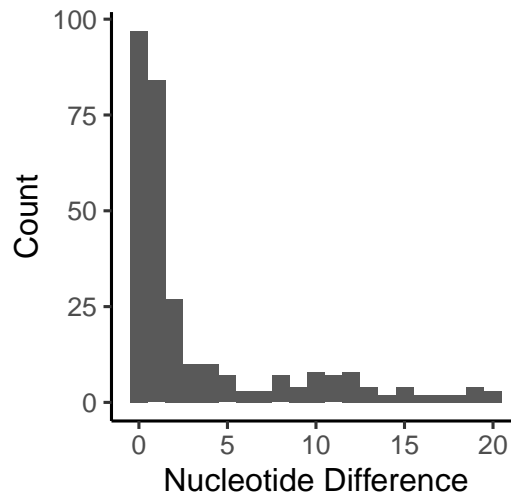
### IGHV1-58\*01\_03

142 sequences assigned  
47 (33.1%) exact matches, in which:  
45 unique CDR3  
5 unique J



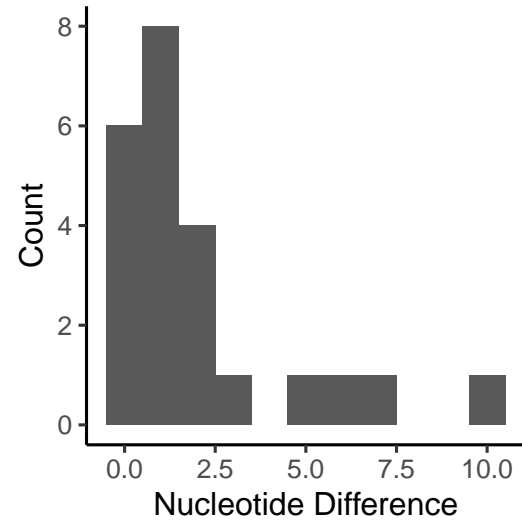
### IGHV2-5\*02

337 sequences assigned  
97 (28.8%) exact matches, in which:  
88 unique CDR3  
4 unique J



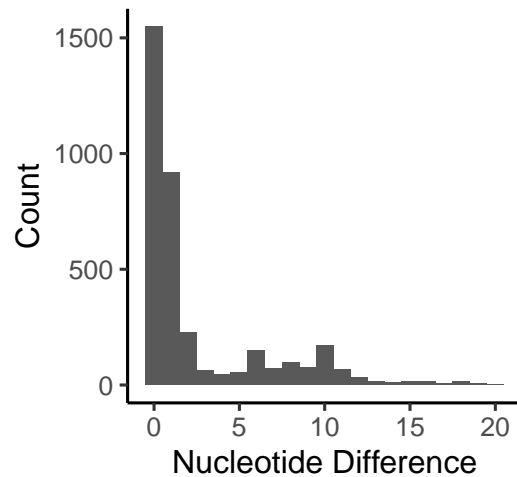
### IGHV2-70\*12

26 sequences assigned  
6 (23.1%) exact matches, in which:  
6 unique CDR3  
4 unique J



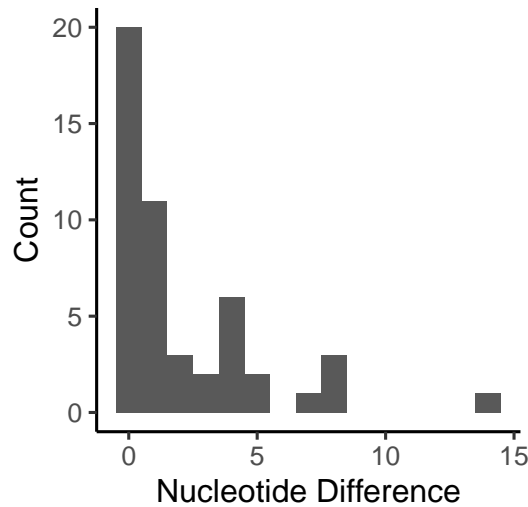
### IGHV1-69\*01\_12\_13

3737 sequences assigned  
1548 (41.4%) exact matches, in which:  
1495 unique CDR3  
6 unique J



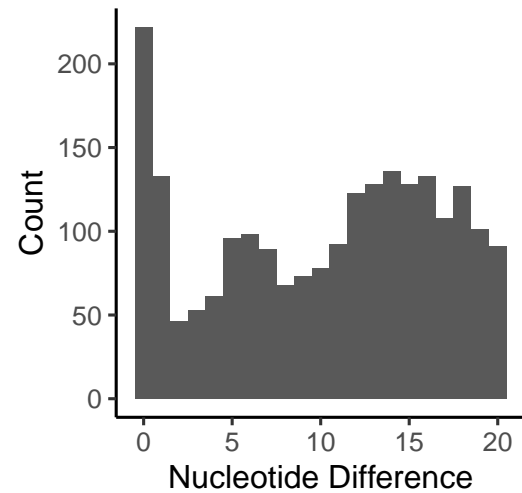
### IGHV2-26\*01

52 sequences assigned  
20 (38.5%) exact matches, in which:  
19 unique CDR3  
4 unique J



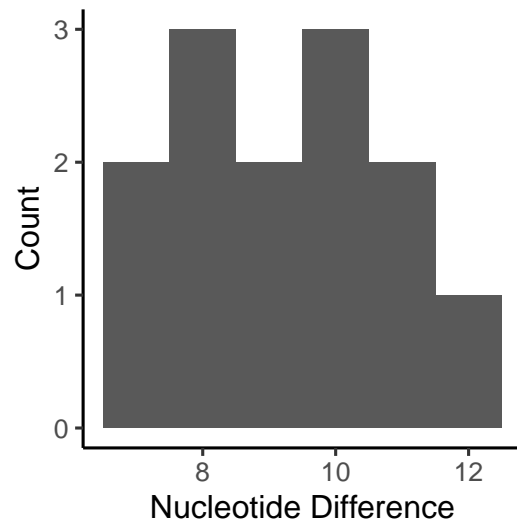
### IGHV3-7\*01

2767 sequences assigned  
222 (8%) exact matches, in which:  
185 unique CDR3  
6 unique J



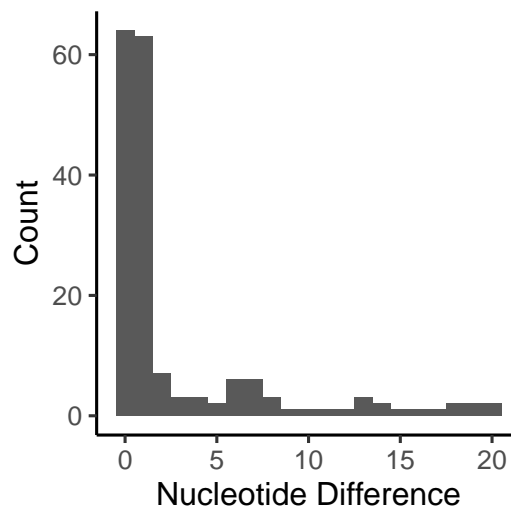
### IGHV1-NL1\*01

13 sequences assigned  
No exact matches.



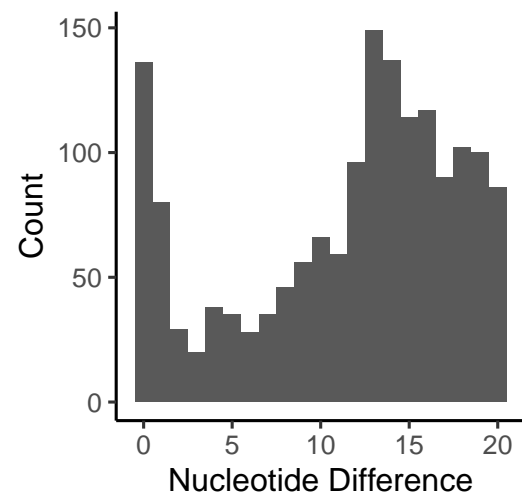
### IGHV2-70\*01

211 sequences assigned  
64 (30.3%) exact matches, in which:  
57 unique CDR3  
4 unique J



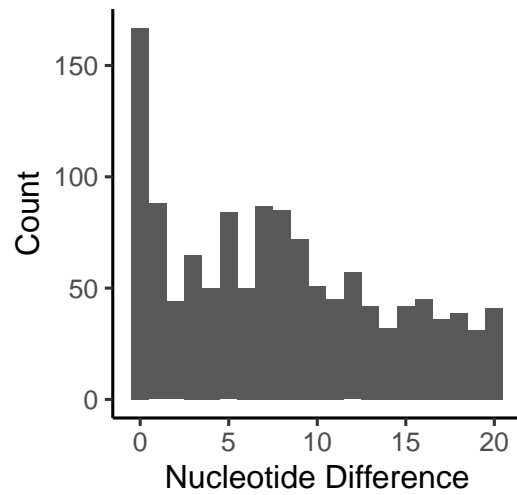
### IGHV3-7\*03

2128 sequences assigned  
136 (6.4%) exact matches, in which:  
115 unique CDR3  
5 unique J



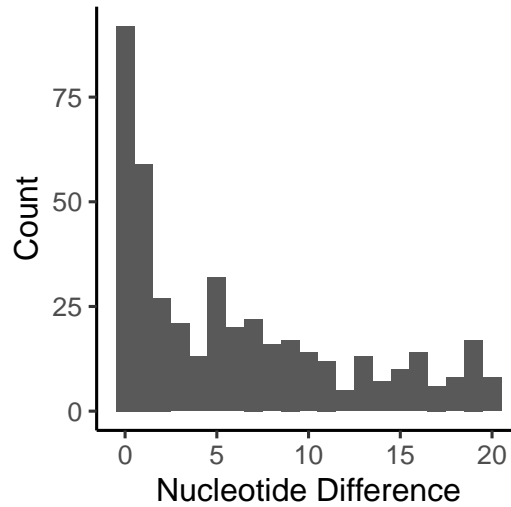
### IGHV3-9\*01

1542 sequences assigned  
167 (10.8%) exact matches, in which:  
134 unique CDR3  
4 unique J



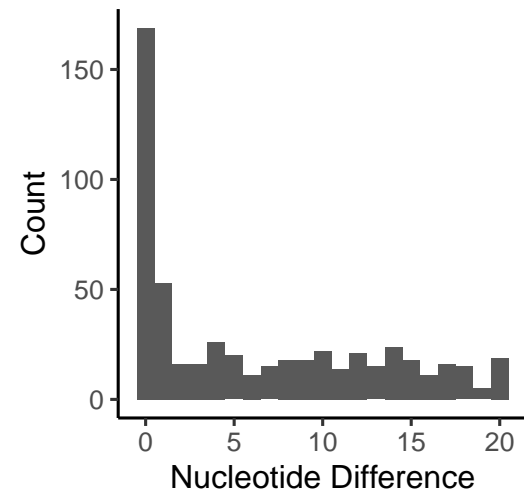
### IGHV3-11\*06

583 sequences assigned  
92 (15.8%) exact matches, in which:  
77 unique CDR3  
4 unique J



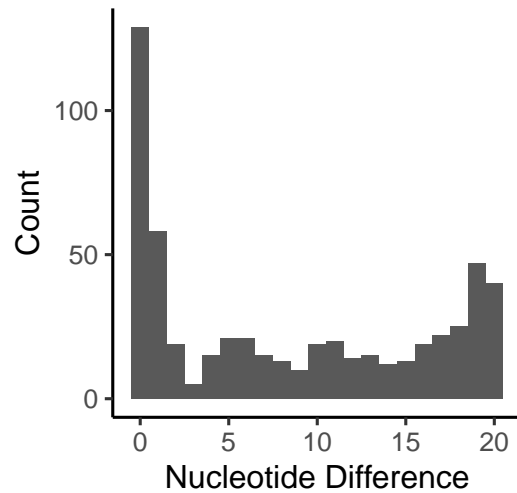
### IGHV3-15\*01\_02

677 sequences assigned  
169 (25%) exact matches, in which:  
122 unique CDR3  
5 unique J



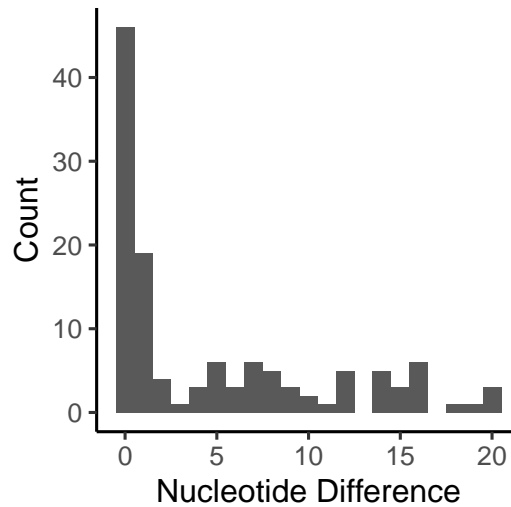
### IGHV3-11\*01

811 sequences assigned  
129 (15.9%) exact matches, in which:  
100 unique CDR3  
6 unique J



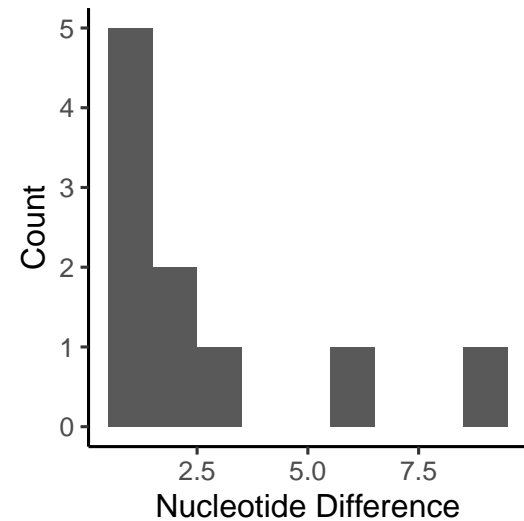
### IGHV3-13\*01

164 sequences assigned  
46 (28%) exact matches, in which:  
36 unique CDR3  
5 unique J



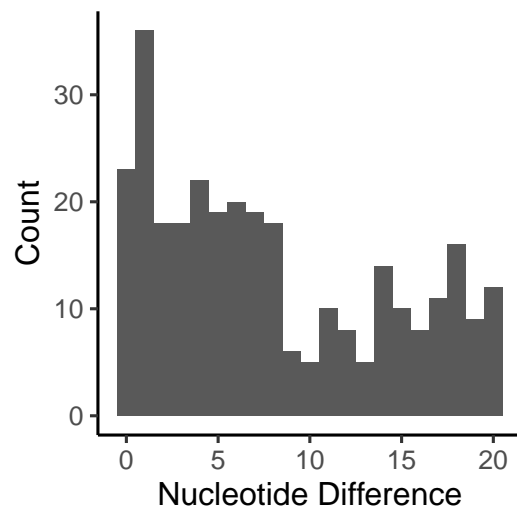
### IGHV3-19\*01

10 sequences assigned  
No exact matches.



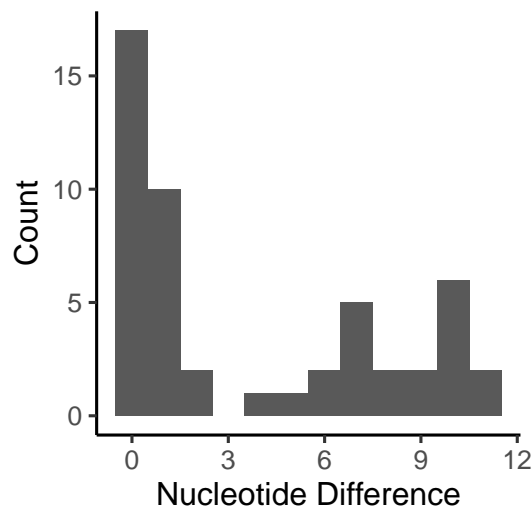
### IGHV3-11\*04

369 sequences assigned  
23 (6.2%) exact matches, in which:  
23 unique CDR3  
4 unique J



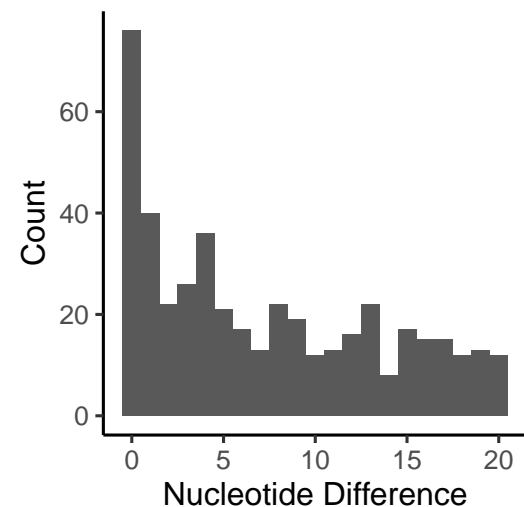
### IGHV3-13\*05

50 sequences assigned  
17 (34%) exact matches, in which:  
14 unique CDR3  
4 unique J



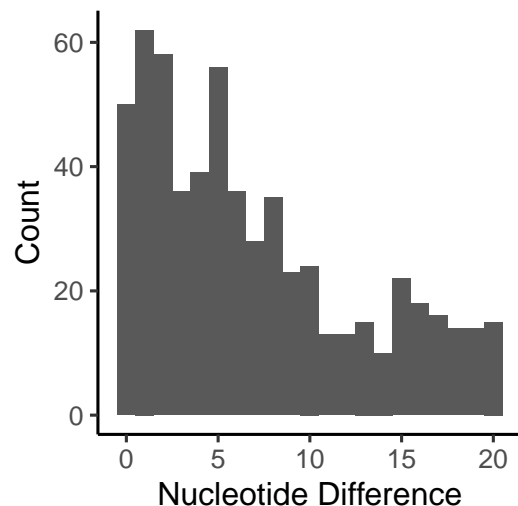
### IGHV3-20\*03\_04\_A104G

528 sequences assigned  
76 (14.4%) exact matches, in which:  
56 unique CDR3  
4 unique J



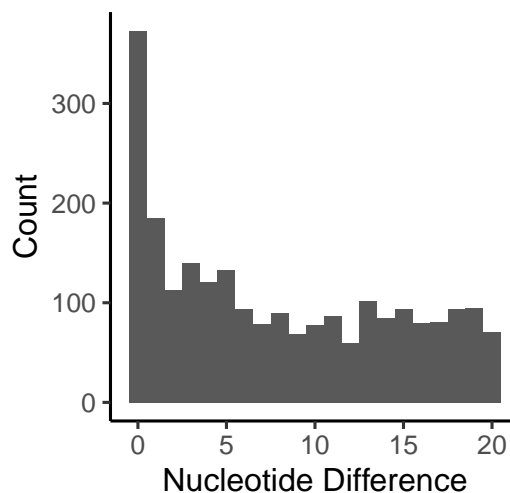
### IGHV3-21\*04

740 sequences assigned  
50 (6.8%) exact matches, in which:  
49 unique CDR3  
6 unique J



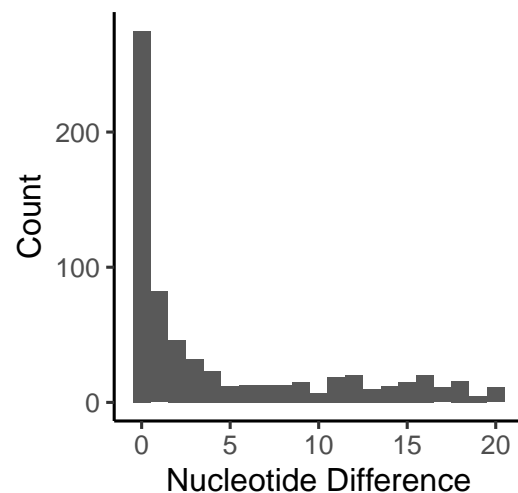
### IGHV3-23\*03

2922 sequences assigned  
373 (12.8%) exact matches, in which:  
287 unique CDR3  
5 unique J



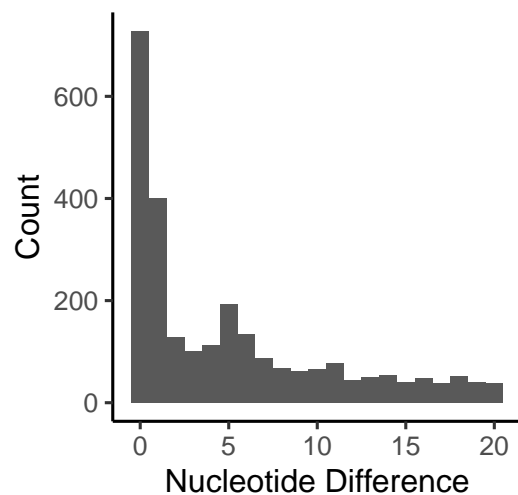
### IGHV3-30\*03

755 sequences assigned  
275 (36.4%) exact matches, in which:  
264 unique CDR3  
6 unique J



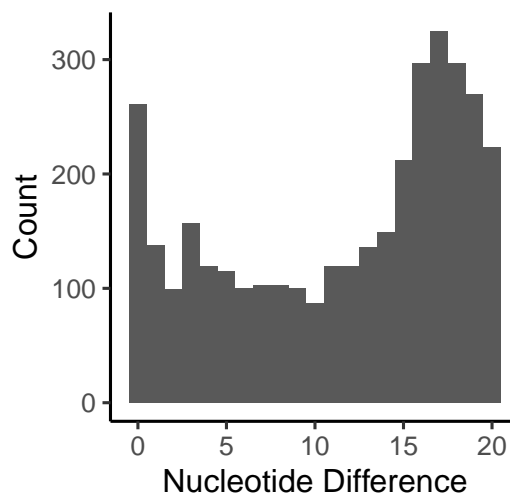
### IGHV3-21\*01\_02

2860 sequences assigned  
728 (25.5%) exact matches, in which:  
586 unique CDR3  
6 unique J



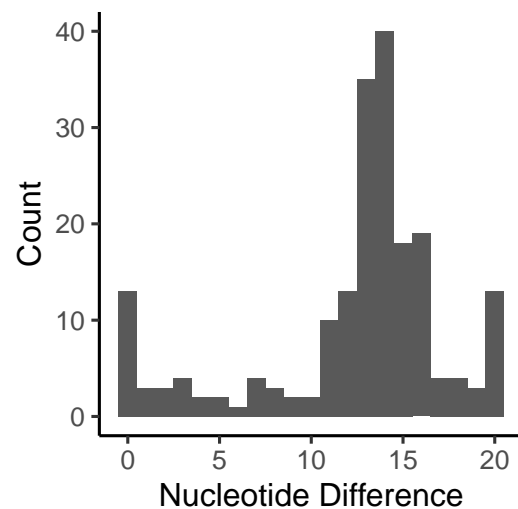
### IGHV3-23\*01\_04

5078 sequences assigned  
261 (5.1%) exact matches, in which:  
206 unique CDR3  
6 unique J



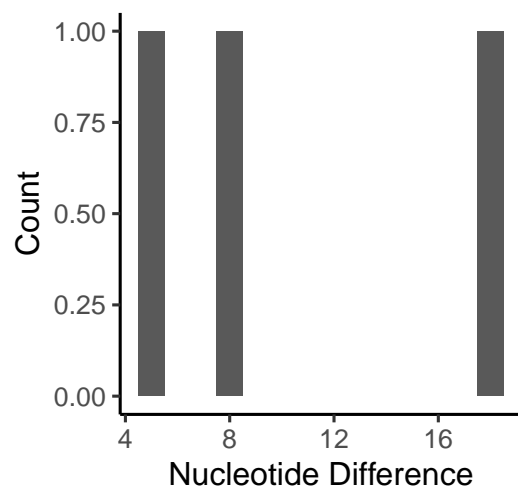
### IGHV3-30\*04

239 sequences assigned  
13 (5.4%) exact matches, in which:  
13 unique CDR3  
3 unique J



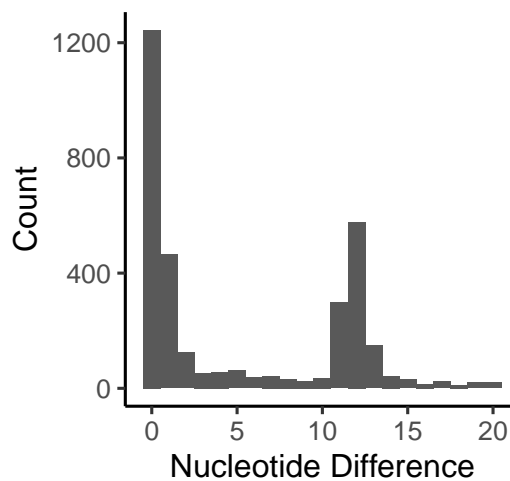
### IGHV3-22\*01\_02

3 sequences assigned  
No exact matches.



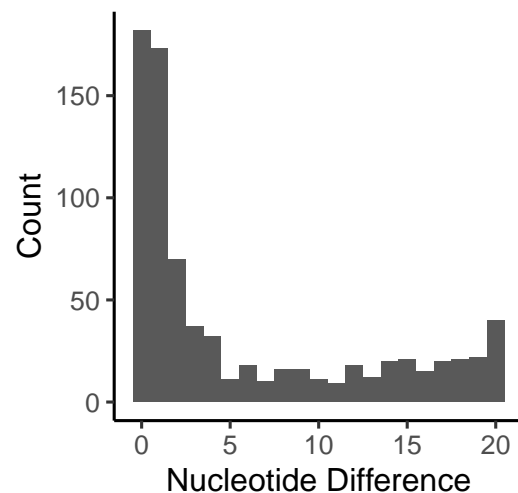
### IGHV3-30-3\*01

3588 sequences assigned  
1244 (34.7%) exact matches, in which:  
1058 unique CDR3  
6 unique J



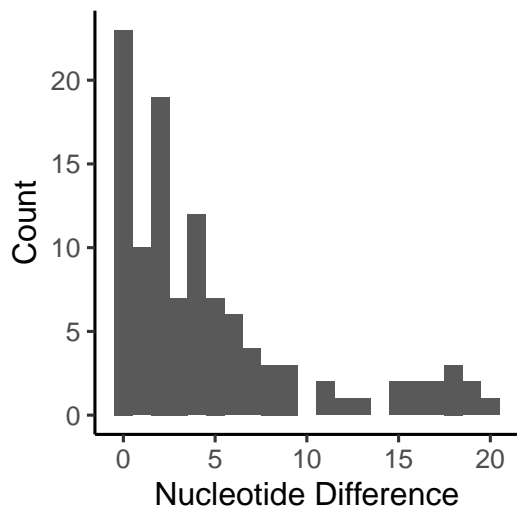
### IGHV3-33\*01

1016 sequences assigned  
182 (17.9%) exact matches, in which:  
146 unique CDR3  
6 unique J



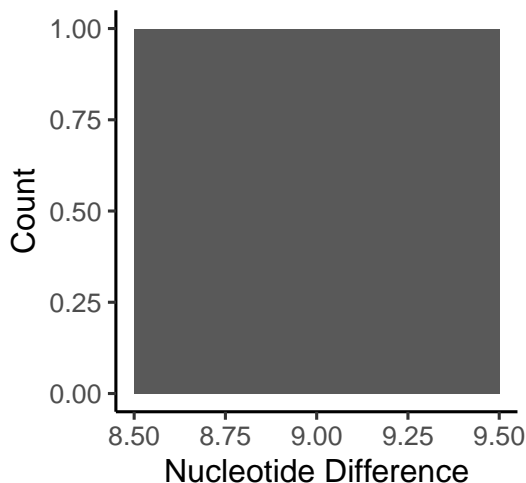
### IGHV3-33\*05

139 sequences assigned  
23 (16.5%) exact matches, in which:  
22 unique CDR3  
4 unique J



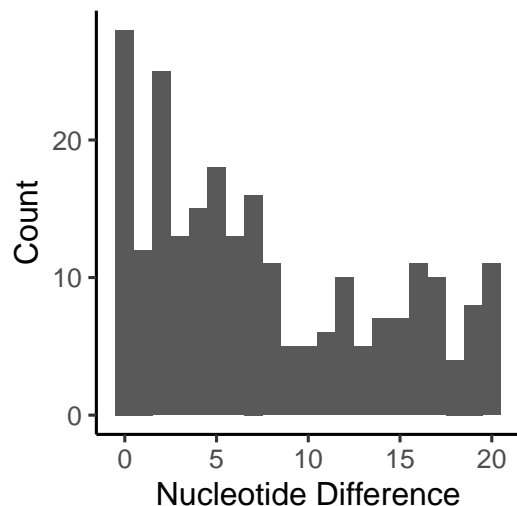
### IGHV3-35\*01

1 sequences assigned  
No exact matches.



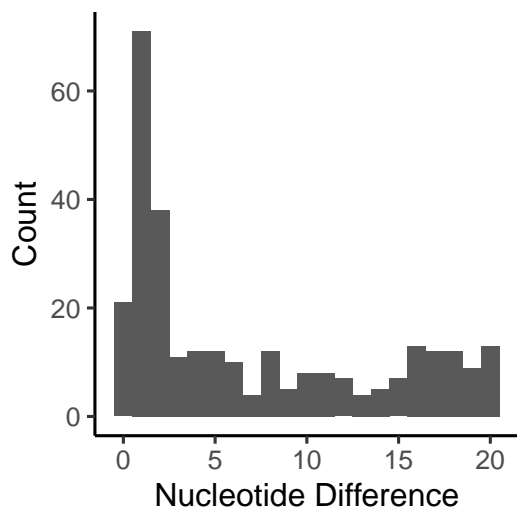
### IGHV3-48\*01

290 sequences assigned  
28 (9.7%) exact matches, in which:  
28 unique CDR3  
5 unique J



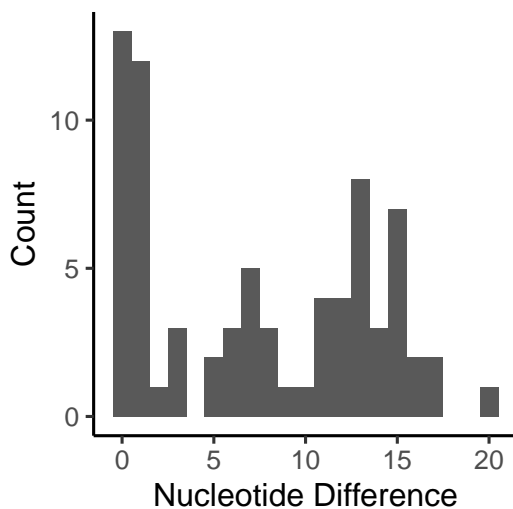
### IGHV3-33\*06

422 sequences assigned  
21 (5%) exact matches, in which:  
20 unique CDR3  
4 unique J



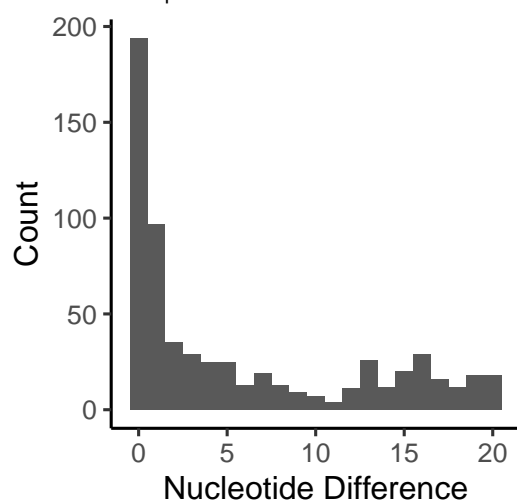
### IGHV3-43\*01

112 sequences assigned  
13 (11.6%) exact matches, in which:  
11 unique CDR3  
4 unique J



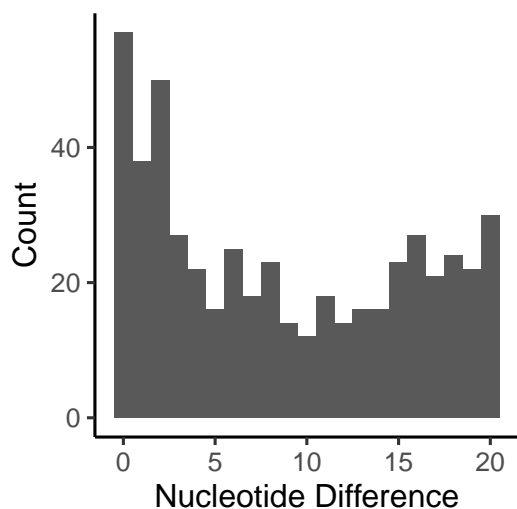
### IGHV3-48\*02

809 sequences assigned  
194 (24%) exact matches, in which:  
148 unique CDR3  
5 unique J



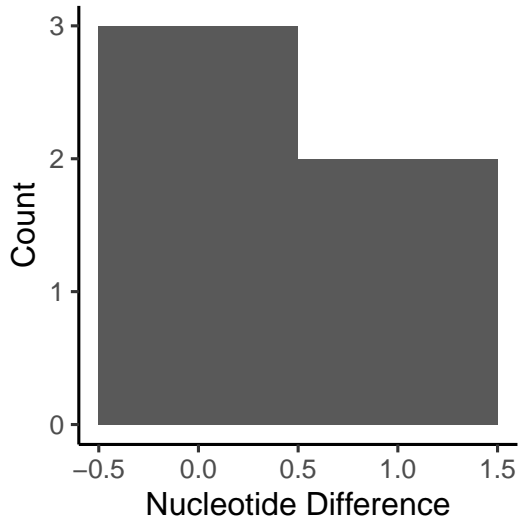
### IGHV3-33\*08

695 sequences assigned  
57 (8.2%) exact matches, in which:  
51 unique CDR3  
5 unique J



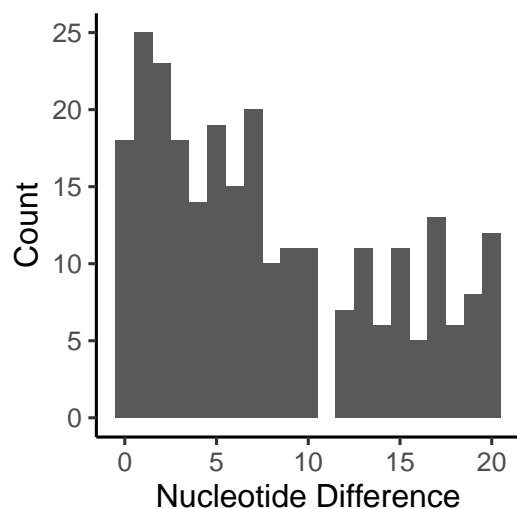
### IGHV3-47\*02

5 sequences assigned  
3 (60%) exact matches, in which:  
2 unique CDR3  
1 unique J



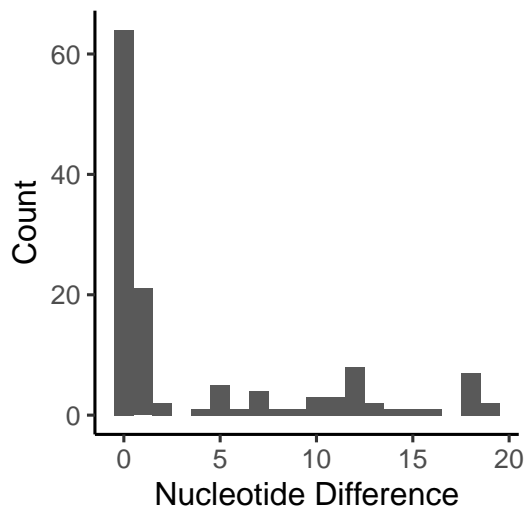
### IGHV3-48\*04

328 sequences assigned  
18 (5.5%) exact matches, in which:  
17 unique CDR3  
4 unique J



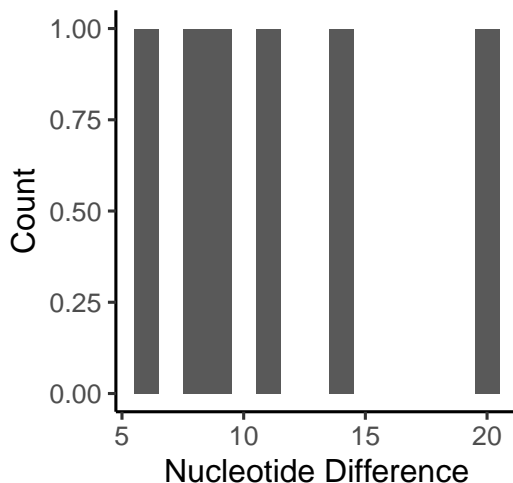
### IGHV3-49\*03\_05

159 sequences assigned  
64 (40.3%) exact matches, in which:  
43 unique CDR3  
6 unique J



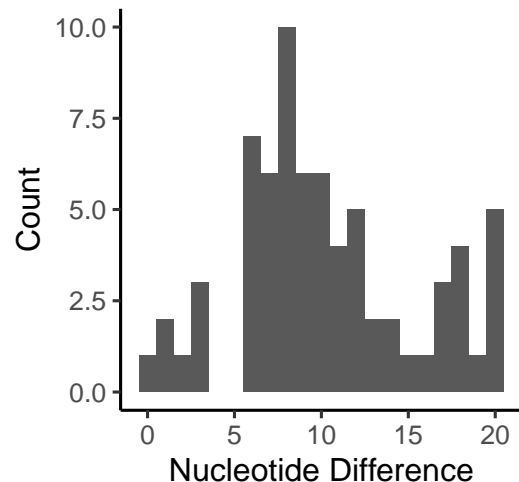
### IGHV3-64\*04

7 sequences assigned  
No exact matches.



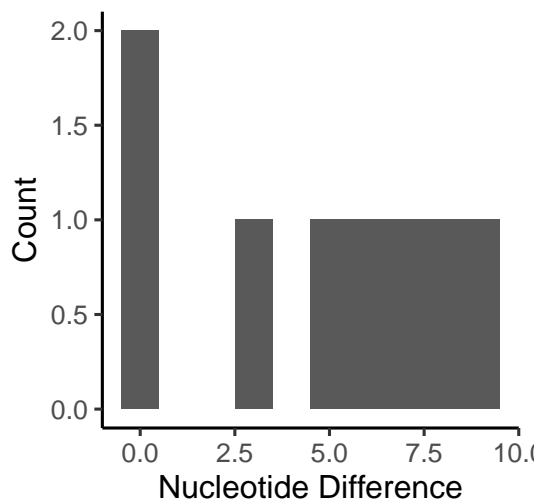
### IGHV3-66\*02

95 sequences assigned  
1 (1.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



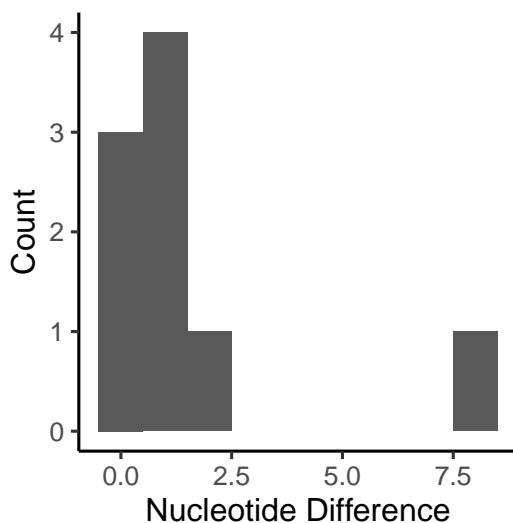
### IGHV3-52\*01\_03

8 sequences assigned  
2 (25%) exact matches, in which:  
1 unique CDR3  
1 unique J



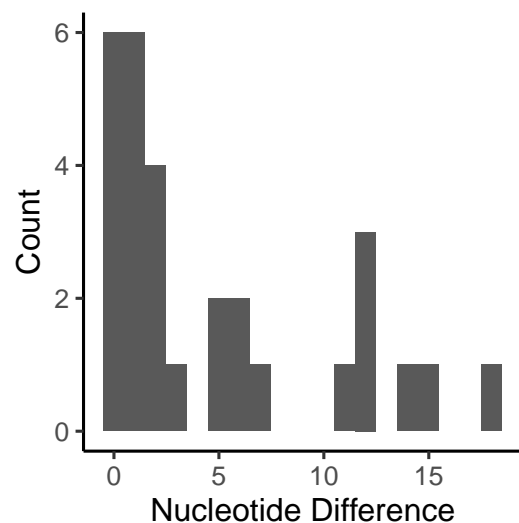
### IGHV3-64\*02\_07

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



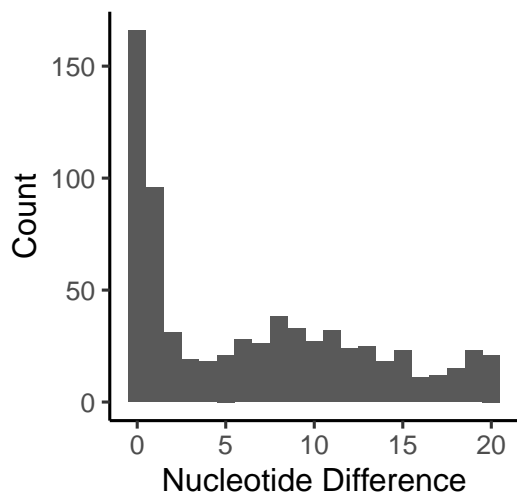
### IGHV3-66\*03

34 sequences assigned  
6 (17.6%) exact matches, in which:  
6 unique CDR3  
2 unique J



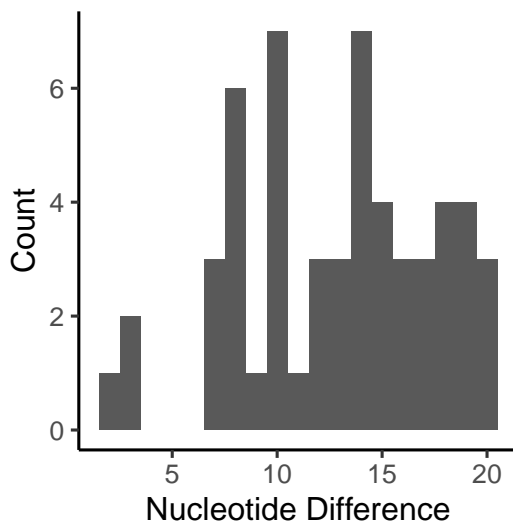
### IGHV3-53\*01\_02

827 sequences assigned  
166 (20.1%) exact matches, in which:  
132 unique CDR3  
6 unique J



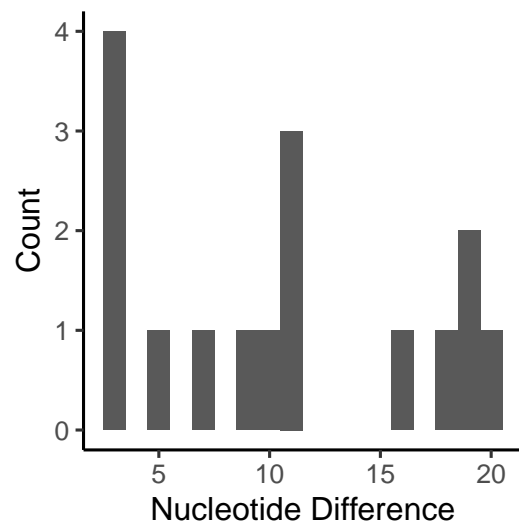
### IGHV3-66\*01

82 sequences assigned  
No exact matches.



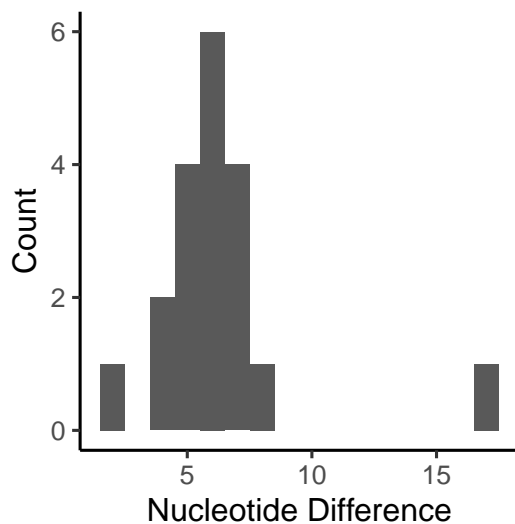
### IGHV3-69-1\*01

25 sequences assigned  
No exact matches.



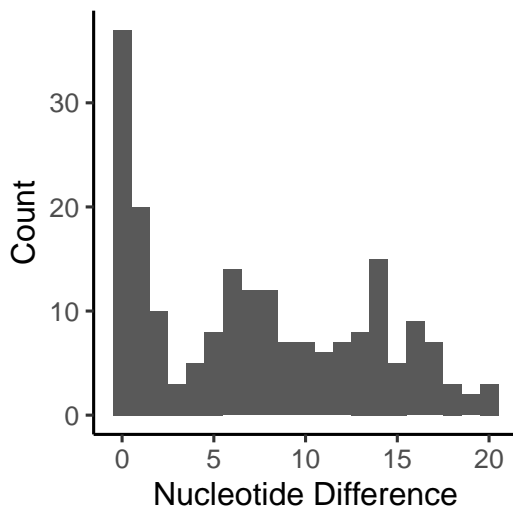
### IGHV3-69-1\*02

26 sequences assigned  
No exact matches.



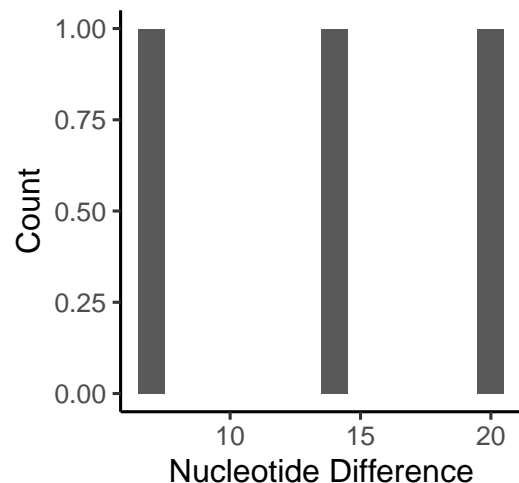
### IGHV3-73\*01\_02

234 sequences assigned  
37 (15.8%) exact matches, in which:  
23 unique CDR3  
4 unique J



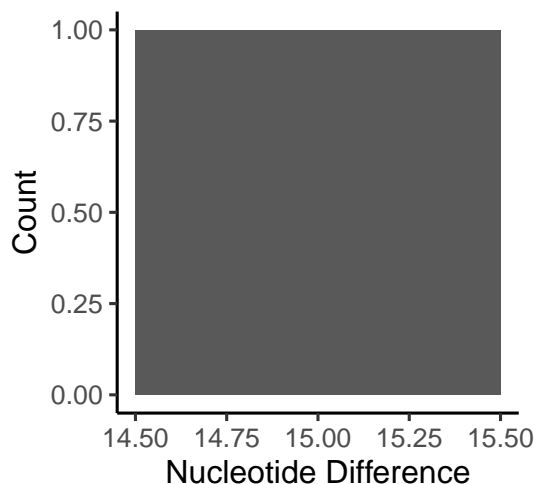
### IGHV3-43D\*04

5 sequences assigned  
No exact matches.



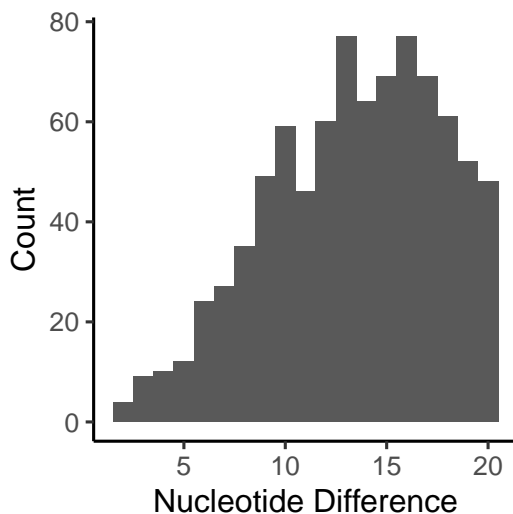
### IGHV3-71\*01\_04

1 sequences assigned  
No exact matches.



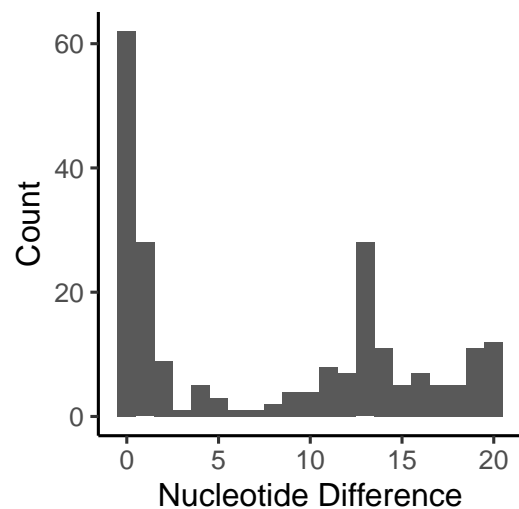
### IGHV3-74\*03

1182 sequences assigned  
No exact matches.



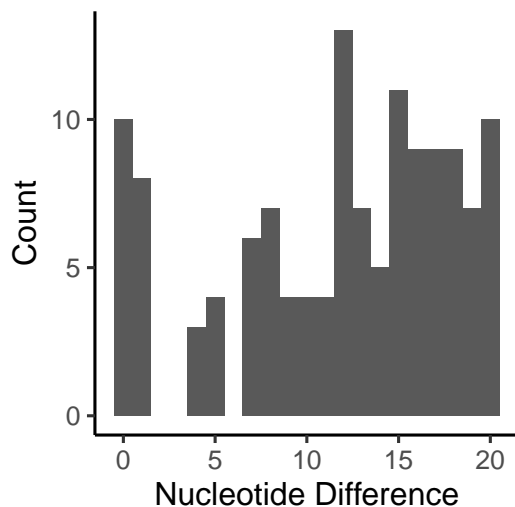
### IGHV3-64D\*06

326 sequences assigned  
62 (19%) exact matches, in which:  
48 unique CDR3  
5 unique J



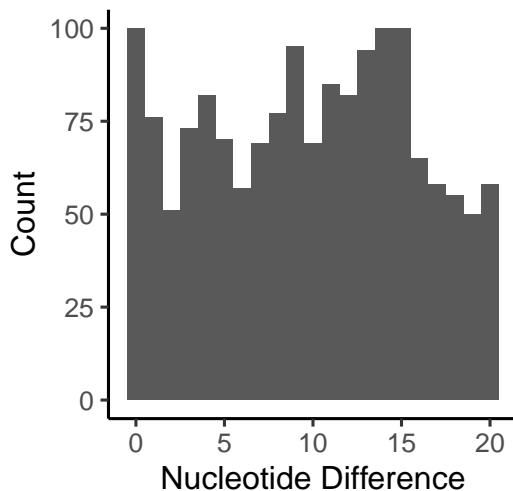
### IGHV3-72\*01

150 sequences assigned  
10 (6.7%) exact matches, in which:  
7 unique CDR3  
3 unique J



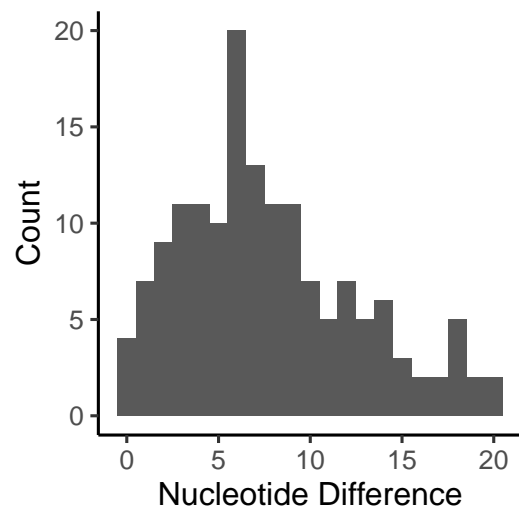
### IGHV3-74\*01\_02

1927 sequences assigned  
100 (5.2%) exact matches, in which:  
81 unique CDR3  
4 unique J



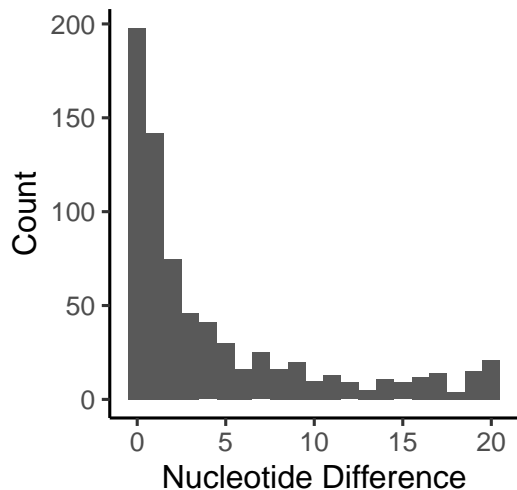
### IGHV3-NL1\*01

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



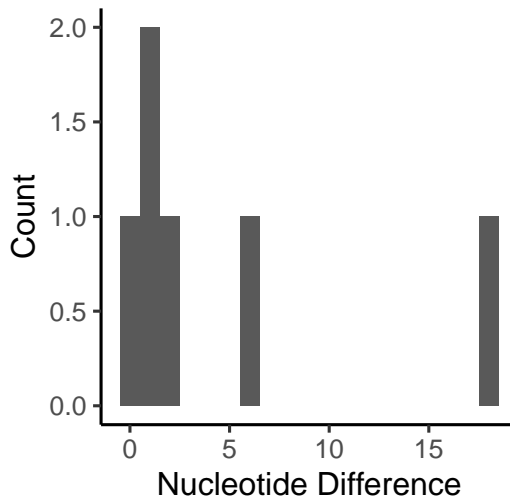
### IGHV4-4\*07

1268 sequences assigned  
198 (15.6%) exact matches, in which:  
187 unique CDR3  
6 unique J



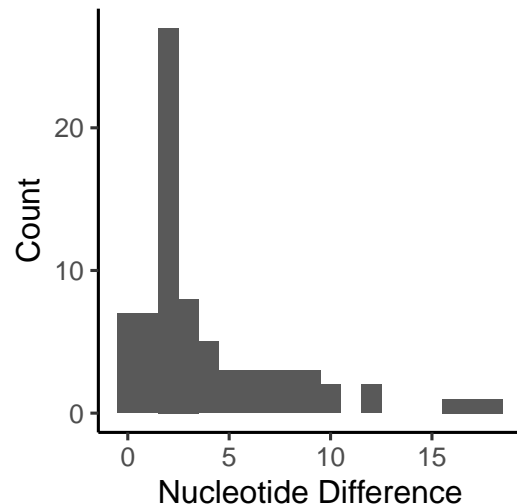
### IGHV4-28\*01\_07

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



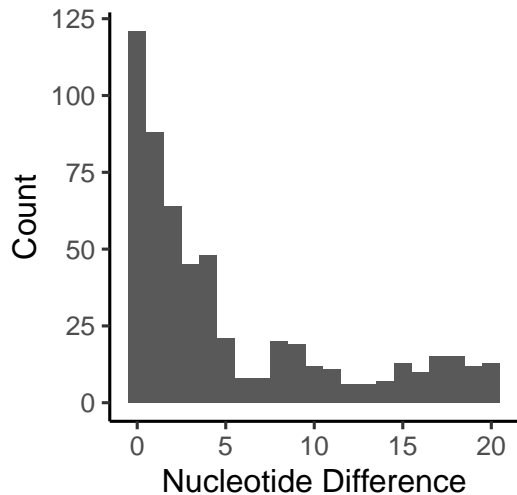
### IGHV4-30-2\*05

79 sequences assigned  
7 (8.9%) exact matches, in which:  
7 unique CDR3  
3 unique J



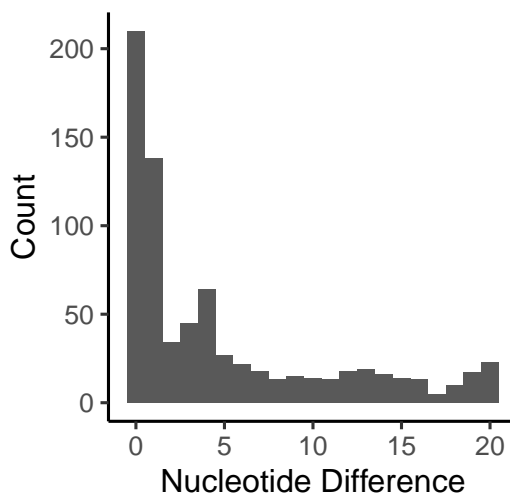
### IGHV4-4\*02\_03

683 sequences assigned  
121 (17.7%) exact matches, in which:  
113 unique CDR3  
6 unique J



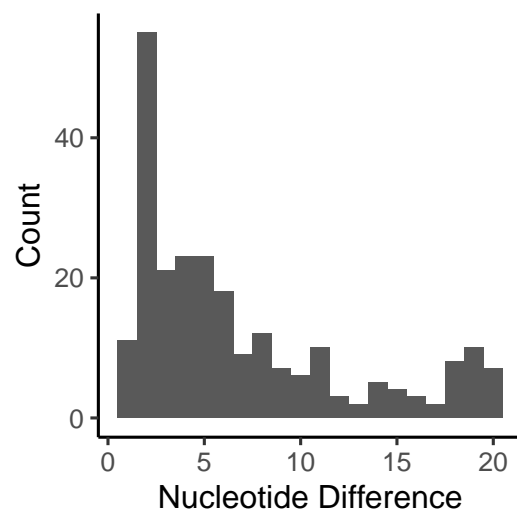
### IGHV4-30-4\*01

854 sequences assigned  
210 (24.6%) exact matches, in which:  
197 unique CDR3  
6 unique J



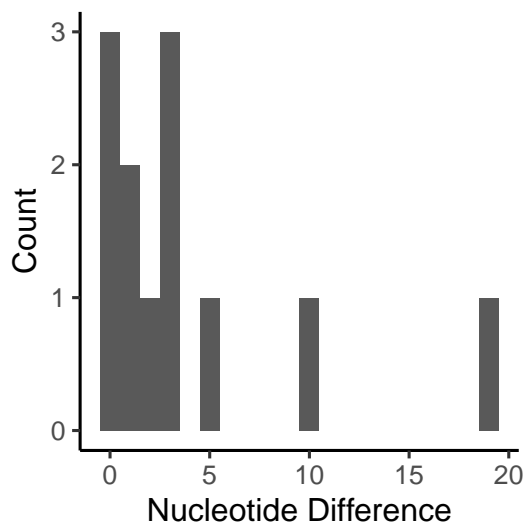
### IGHV4-30-4\*08

270 sequences assigned  
No exact matches.



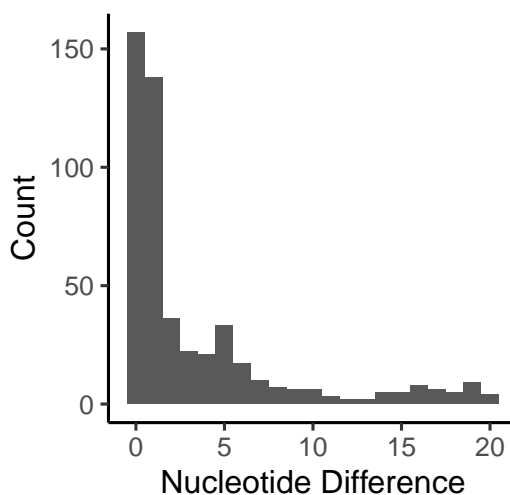
### IGHV4-28\*03

12 sequences assigned  
3 (25%) exact matches, in which:  
2 unique CDR3  
2 unique J



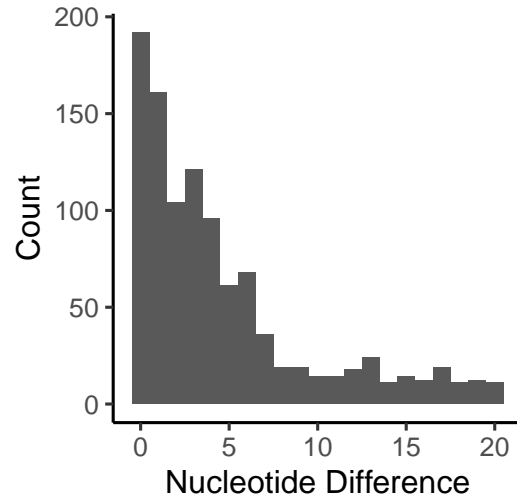
### IGHV4-30-2\*01

660 sequences assigned  
157 (23.8%) exact matches, in which:  
136 unique CDR3  
5 unique J



### IGHV4-31\*02

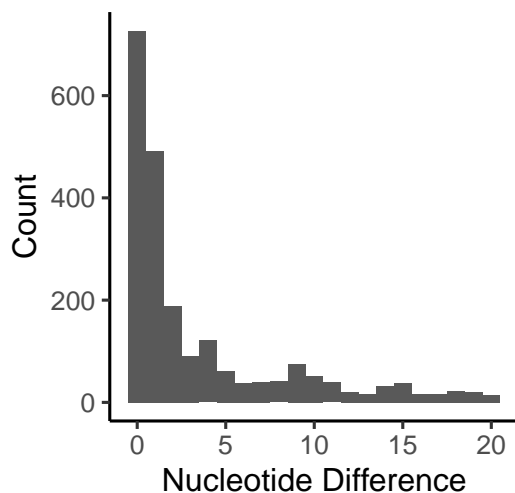
1275 sequences assigned  
192 (15.1%) exact matches, in which:  
174 unique CDR3  
5 unique J





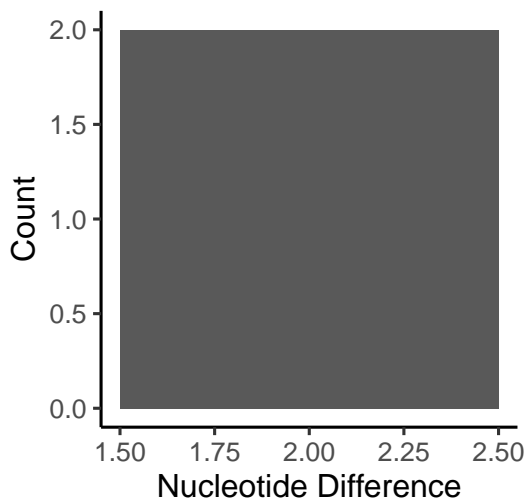
### IGHV4-34\*01\_02

2269 sequences assigned  
727 (32%) exact matches, in which:  
671 unique CDR3  
6 unique J



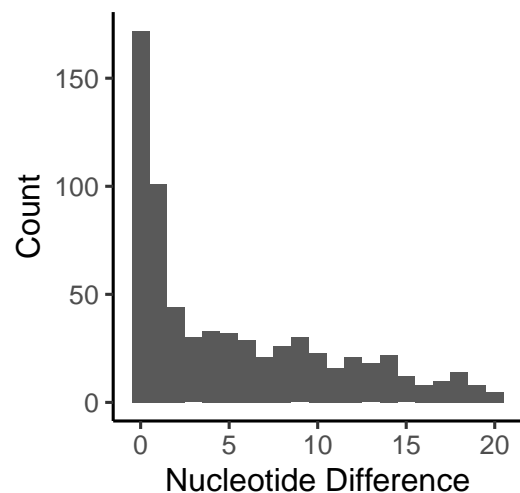
### IGHV4-55\*09

2 sequences assigned  
No exact matches.



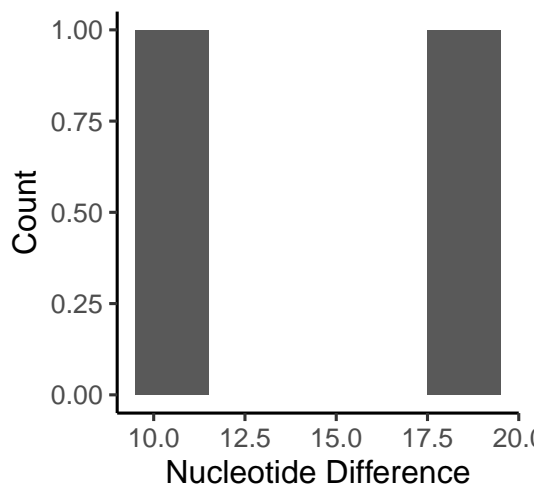
### IGHV4-61\*01

703 sequences assigned  
172 (24.5%) exact matches, in which:  
159 unique CDR3  
6 unique J



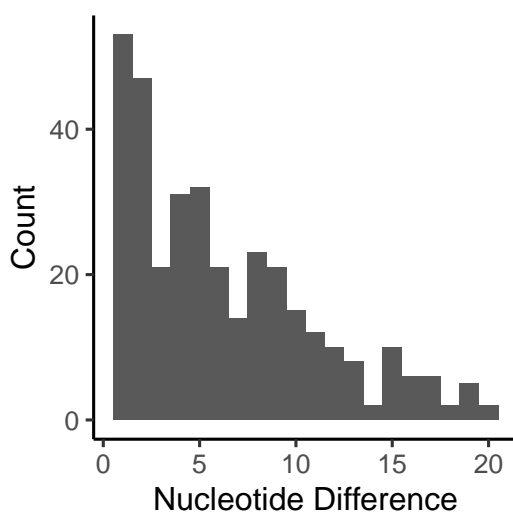
### IGHV4-38-2\*02

21 sequences assigned  
No exact matches.



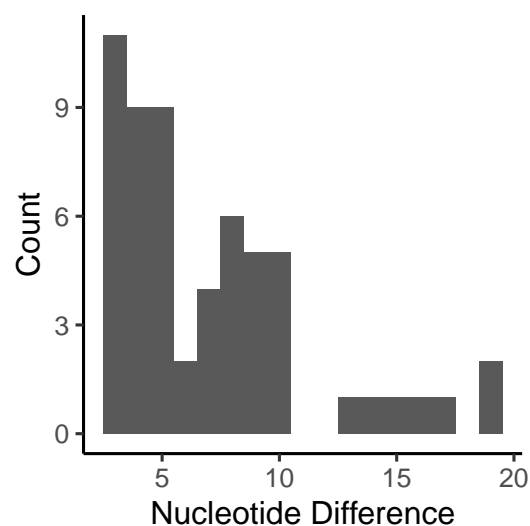
### IGHV4-59\*08

378 sequences assigned  
No exact matches.



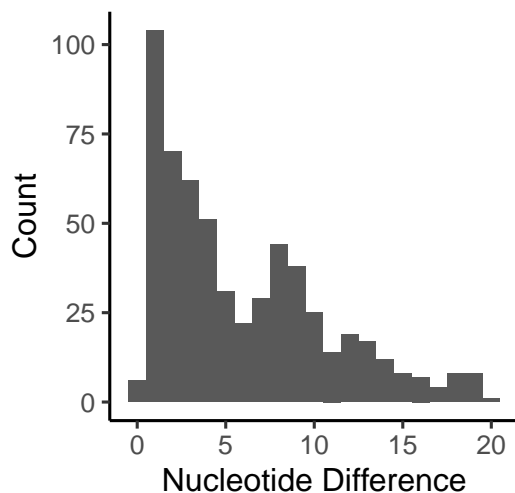
### IGHV4-61\*02

84 sequences assigned  
No exact matches.



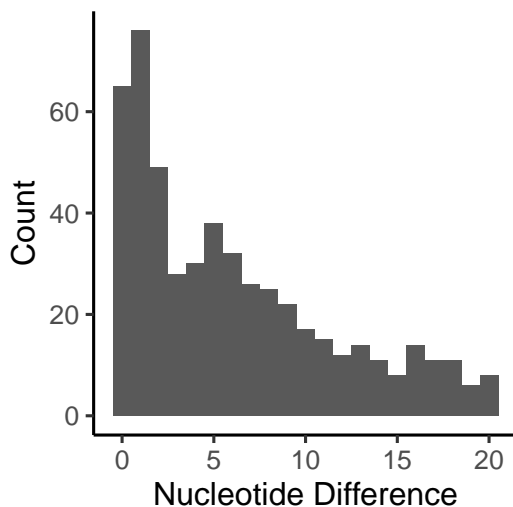
### IGHV4-39\*07

628 sequences assigned  
6 (1%) exact matches, in which:  
6 unique CDR3  
4 unique J



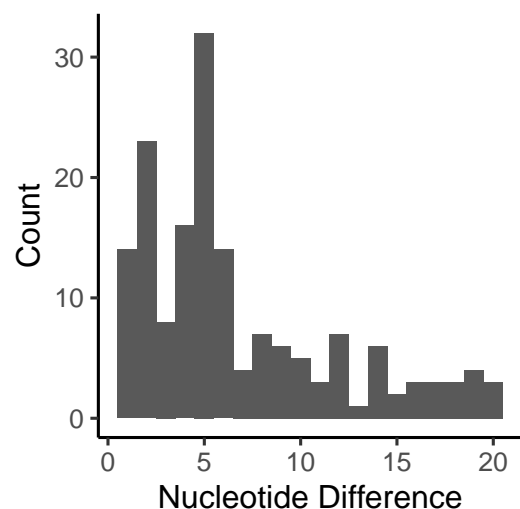
### IGHV4-59\*12

707 sequences assigned  
65 (9.2%) exact matches, in which:  
65 unique CDR3  
5 unique J



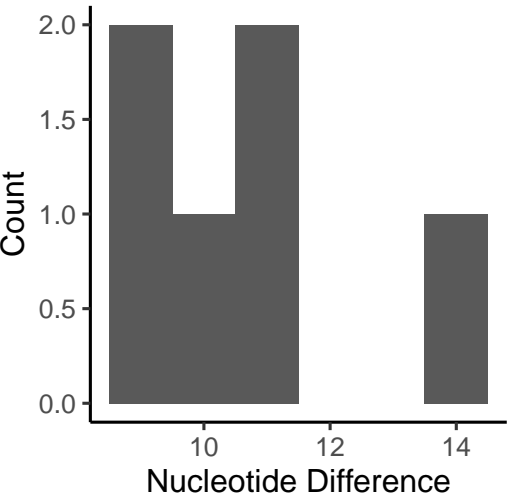
### IGHV4-61\*08

200 sequences assigned  
No exact matches.



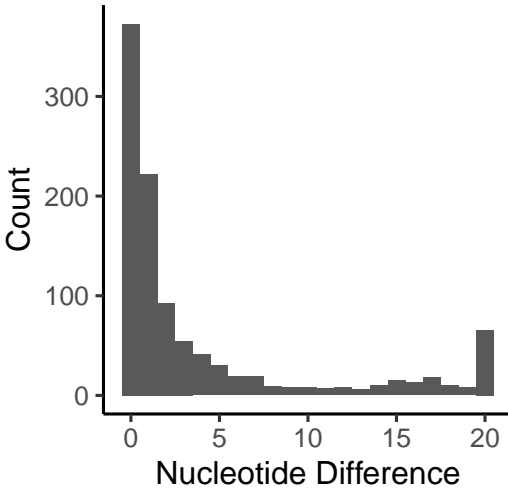
IGHV1/OR15-3\*02

6 sequences assigned  
No exact matches.



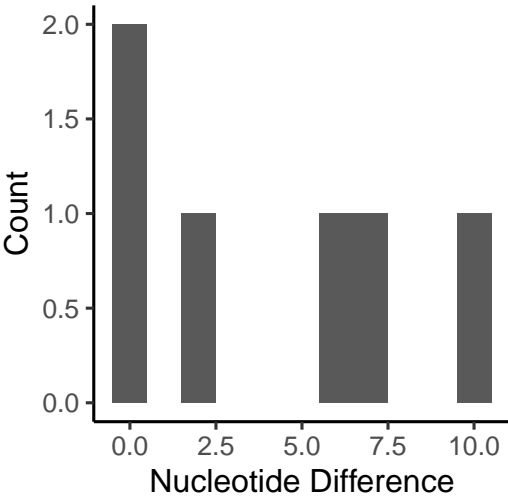
IGHV5-10-1\*01\_03

2553 sequences assigned  
373 (14.6%) exact matches, in which:  
336 unique CDR3  
6 unique J



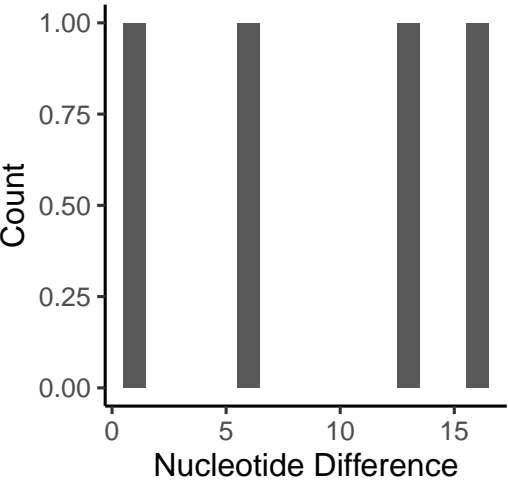
IGHV5-51\*07

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



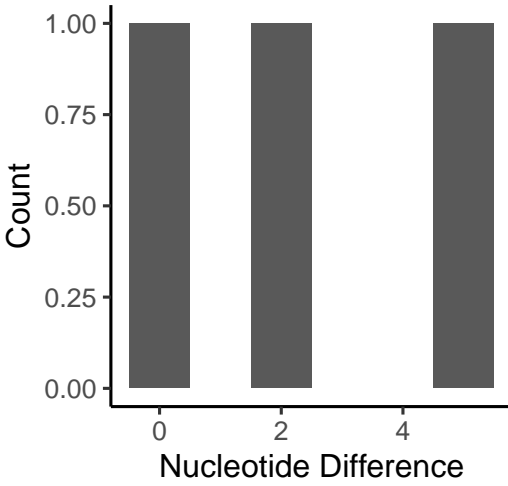
IGHV4/OR15-8\*01

6 sequences assigned  
No exact matches.



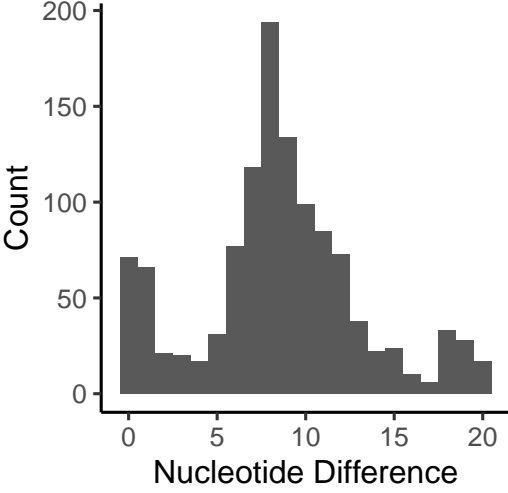
IGHV5-51\*04

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



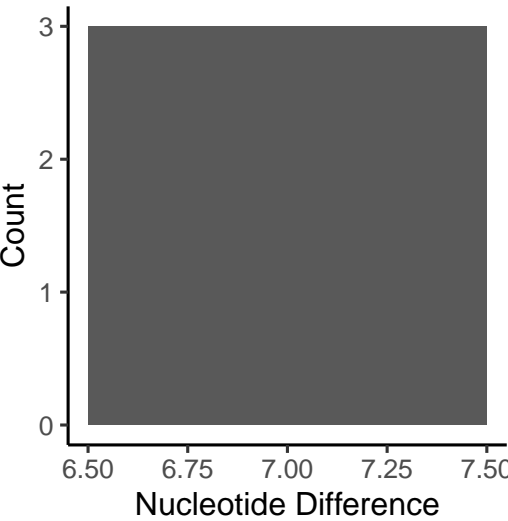
IGHV6-1\*01\_02

1272 sequences assigned  
71 (5.6%) exact matches, in which:  
65 unique CDR3  
6 unique J



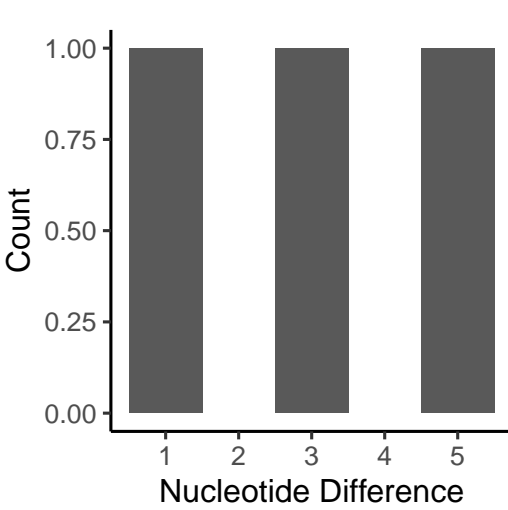
IGHV4/OR15-8\*02

6 sequences assigned  
No exact matches.



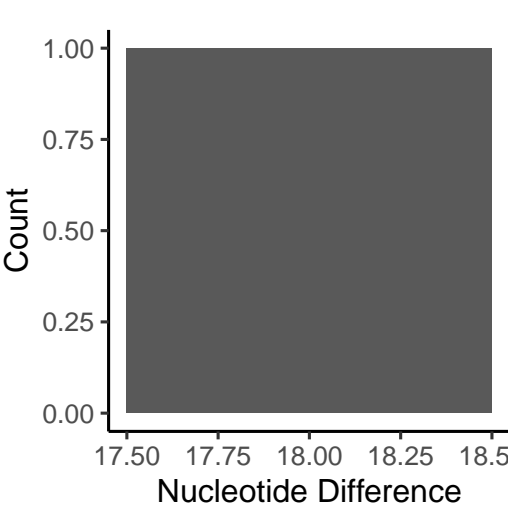
IGHV5-51\*06

4 sequences assigned  
No exact matches.



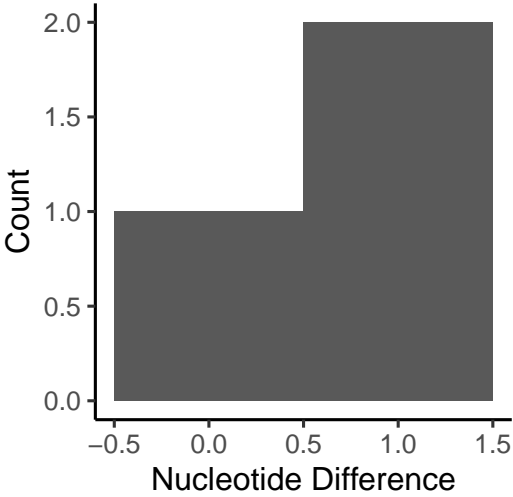
IGHV3/OR16-13\*01

1 sequences assigned  
No exact matches.



IGHV7-4-1\*01

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





Warning – no inferred sequences found.