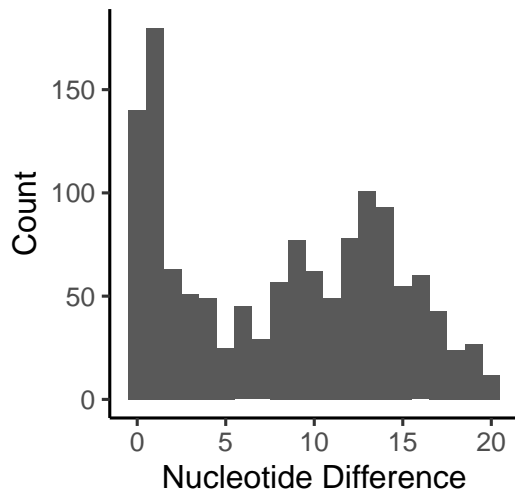


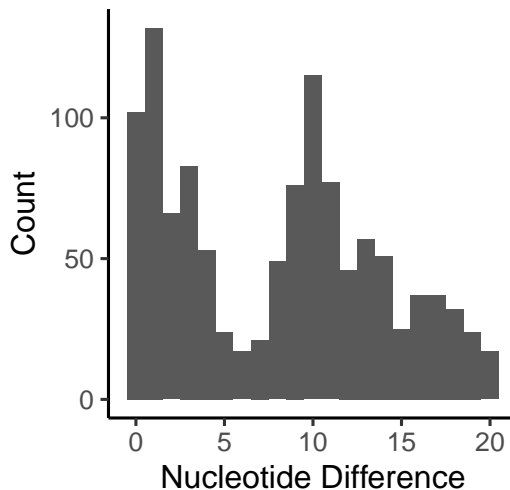
### IGHV1-2\*02

1747 sequences assigned  
140 (8%) exact matches, in which:  
110 unique CDR3  
6 unique J



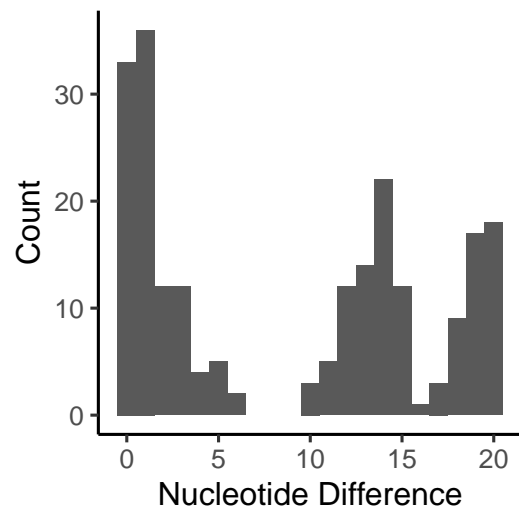
### IGHV1-18\*01

1433 sequences assigned  
102 (7.1%) exact matches, in which:  
80 unique CDR3  
5 unique J



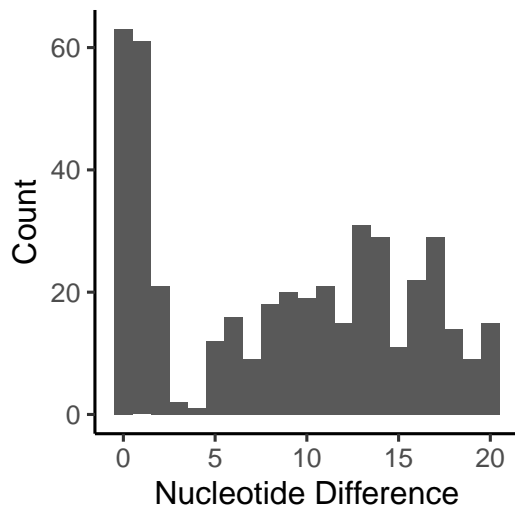
### IGHV1-46\*01

294 sequences assigned  
33 (11.2%) exact matches, in which:  
23 unique CDR3  
5 unique J



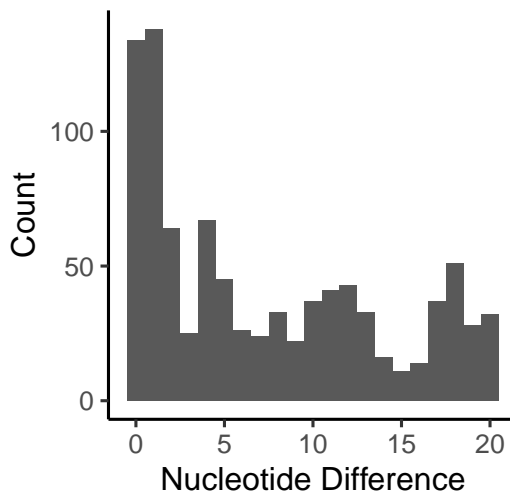
### IGHV1-3\*01

680 sequences assigned  
63 (9.3%) exact matches, in which:  
50 unique CDR3  
6 unique J



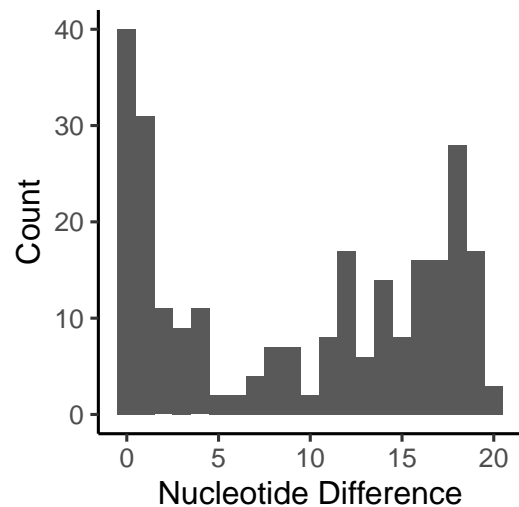
### IGHV1-18\*04

1184 sequences assigned  
134 (11.3%) exact matches, in which:  
101 unique CDR3  
6 unique J



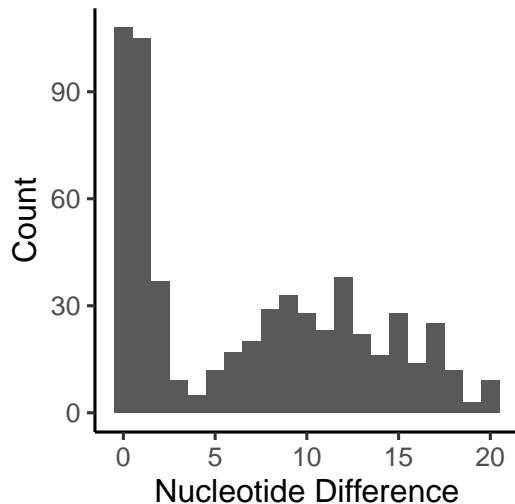
### IGHV1-46\*03

373 sequences assigned  
40 (10.7%) exact matches, in which:  
28 unique CDR3  
5 unique J



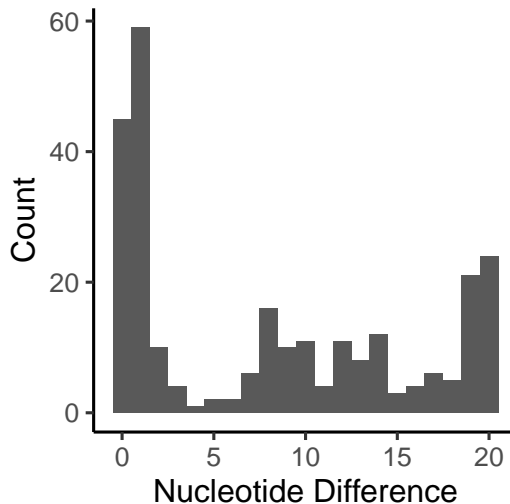
### IGHV1-8\*01

751 sequences assigned  
108 (14.4%) exact matches, in which:  
78 unique CDR3  
6 unique J



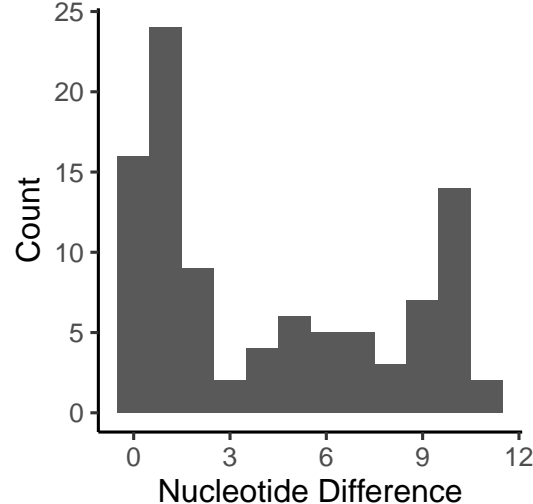
### IGHV1-24\*01

366 sequences assigned  
45 (12.3%) exact matches, in which:  
38 unique CDR3  
6 unique J



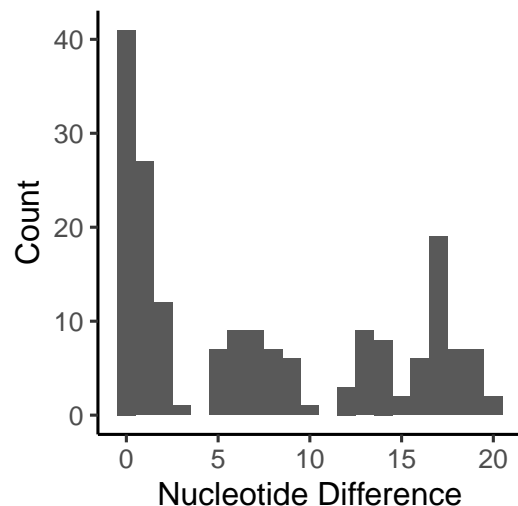
### IGHV1-58\*02

103 sequences assigned  
16 (15.5%) exact matches, in which:  
8 unique CDR3  
2 unique J



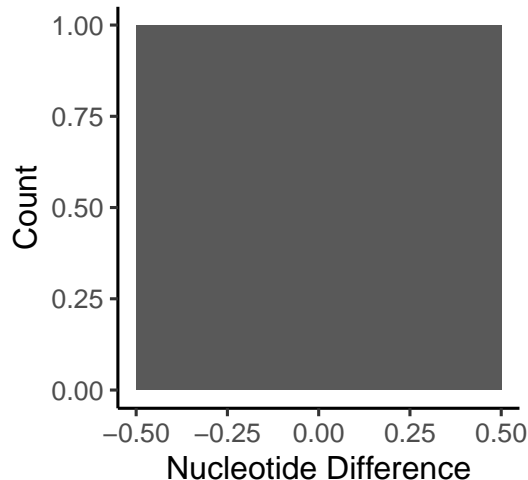
### IGHV1-69\*02

229 sequences assigned  
41 (17.9%) exact matches, in which:  
35 unique CDR3  
6 unique J



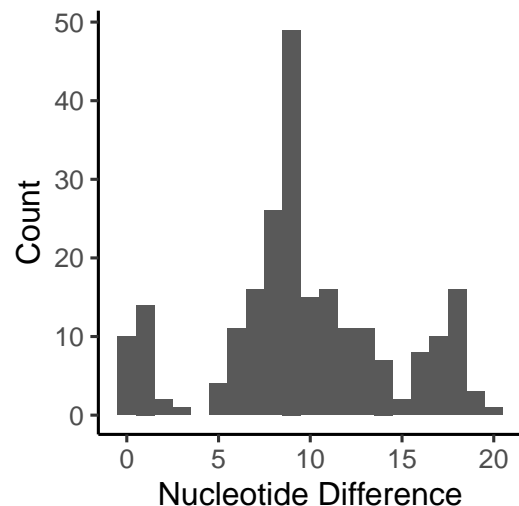
### IGHV1-69D\*01

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



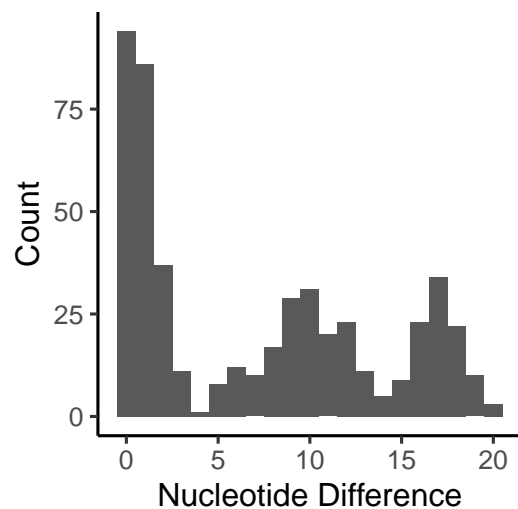
### IGHV2-70\*15

236 sequences assigned  
10 (4.2%) exact matches, in which:  
10 unique CDR3  
4 unique J



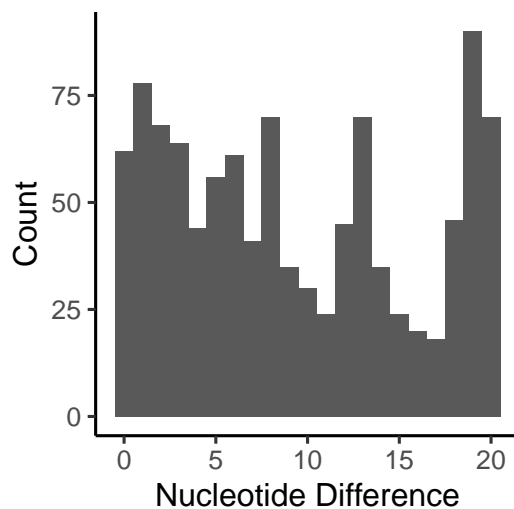
### IGHV1-69\*04

749 sequences assigned  
94 (12.6%) exact matches, in which:  
80 unique CDR3  
5 unique J



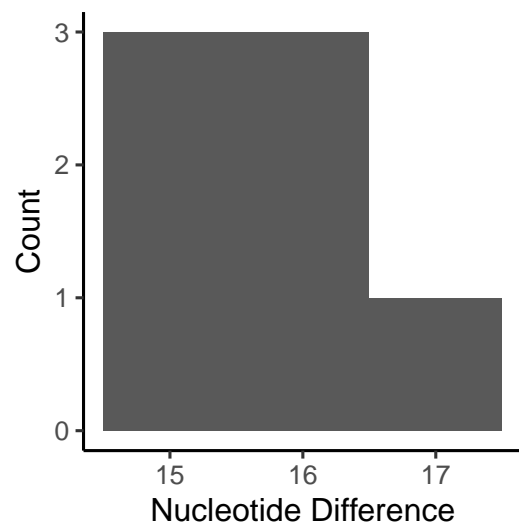
### IGHV2-5\*02

1188 sequences assigned  
62 (5.2%) exact matches, in which:  
51 unique CDR3  
5 unique J



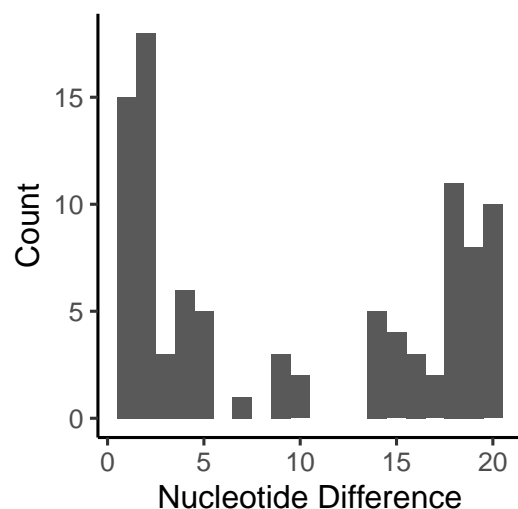
### IGHV2-70D\*04

7 sequences assigned  
No exact matches.



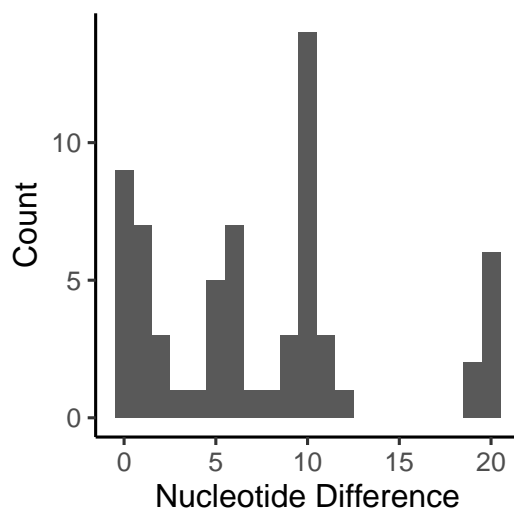
### IGHV1-69\*08

226 sequences assigned  
No exact matches.



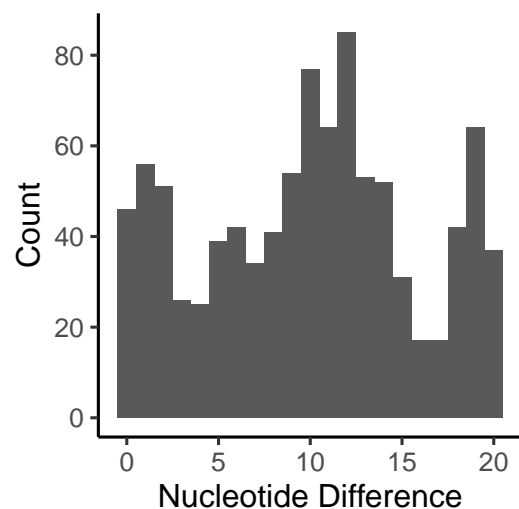
### IGHV2-26\*01

67 sequences assigned  
9 (13.4%) exact matches, in which:  
7 unique CDR3  
3 unique J



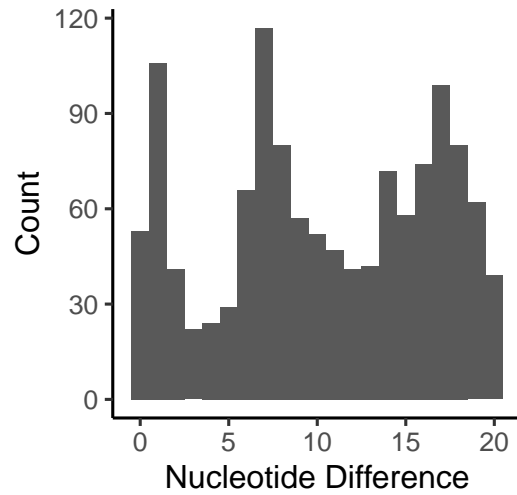
### IGHV3-7\*01

1188 sequences assigned  
46 (3.9%) exact matches, in which:  
39 unique CDR3  
6 unique J



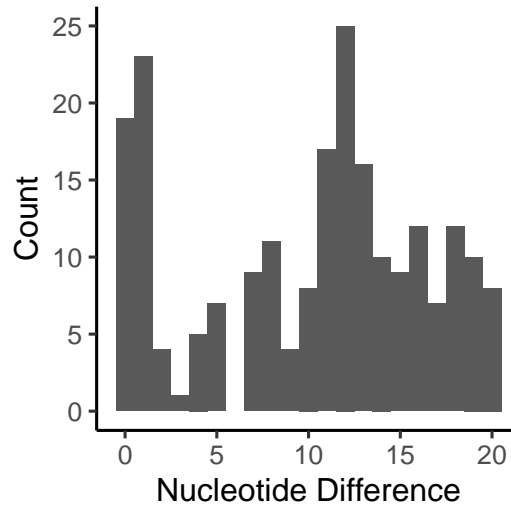
### IGHV3-7\*03

1615 sequences assigned  
53 (3.3%) exact matches, in which:  
39 unique CDR3  
5 unique J



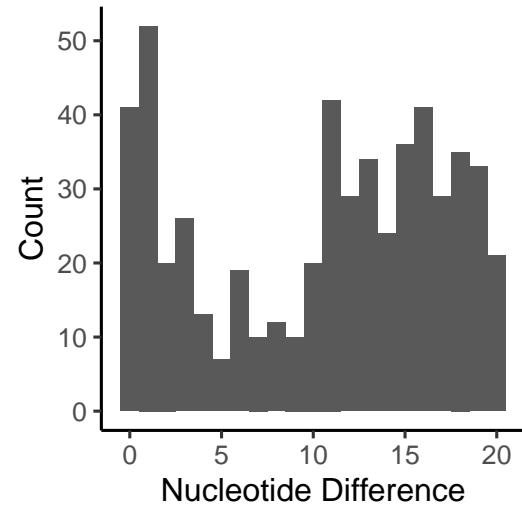
### IGHV3-11\*06

269 sequences assigned  
19 (7.1%) exact matches, in which:  
18 unique CDR3  
5 unique J



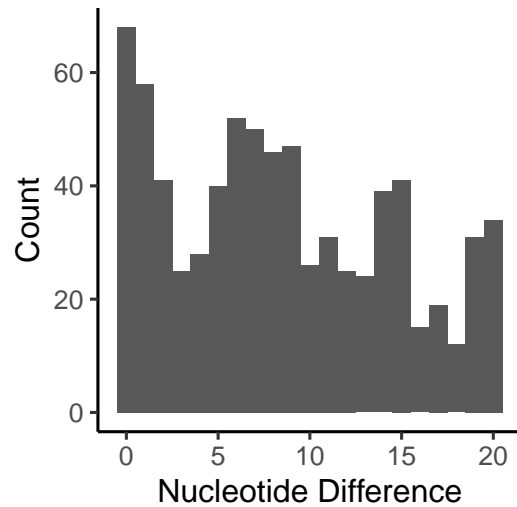
### IGHV3-15\*01

768 sequences assigned  
41 (5.3%) exact matches, in which:  
39 unique CDR3  
4 unique J



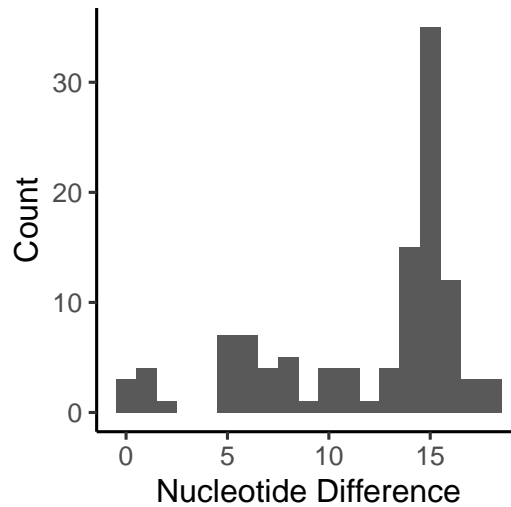
### IGHV3-9\*01

862 sequences assigned  
68 (7.9%) exact matches, in which:  
61 unique CDR3  
5 unique J



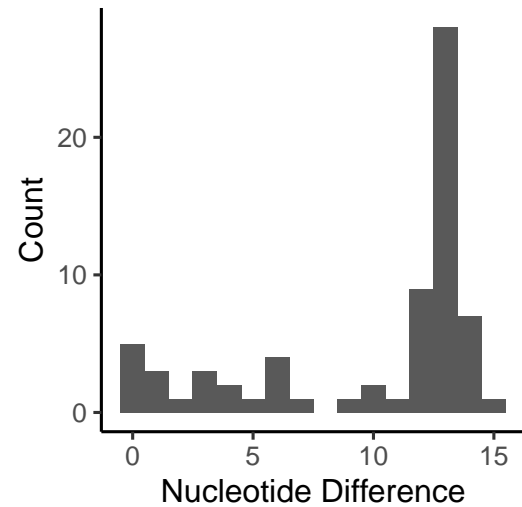
### IGHV3-13\*01

131 sequences assigned  
3 (2.3%) exact matches, in which:  
3 unique CDR3  
3 unique J



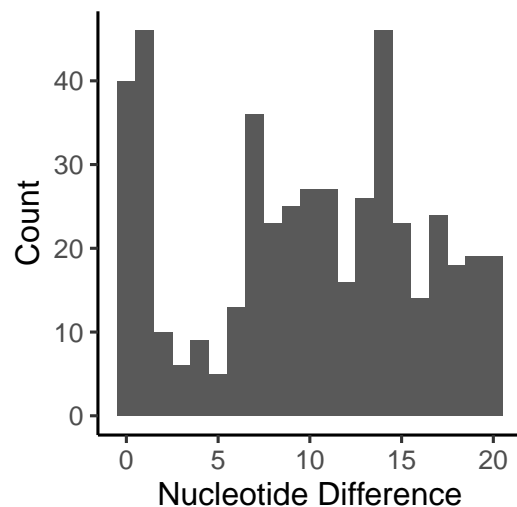
### IGHV3-20\*01

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



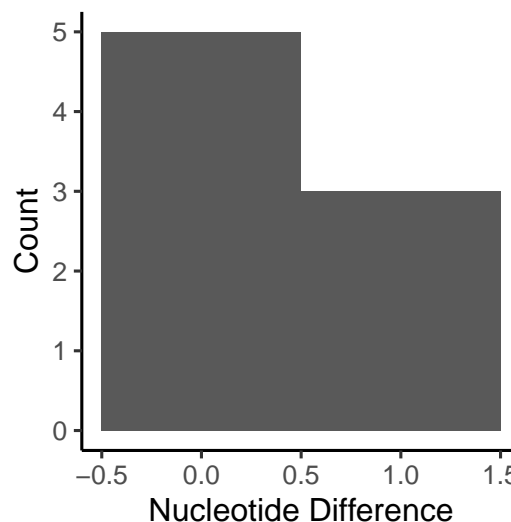
### IGHV3-11\*01

674 sequences assigned  
40 (5.9%) exact matches, in which:  
35 unique CDR3  
4 unique J



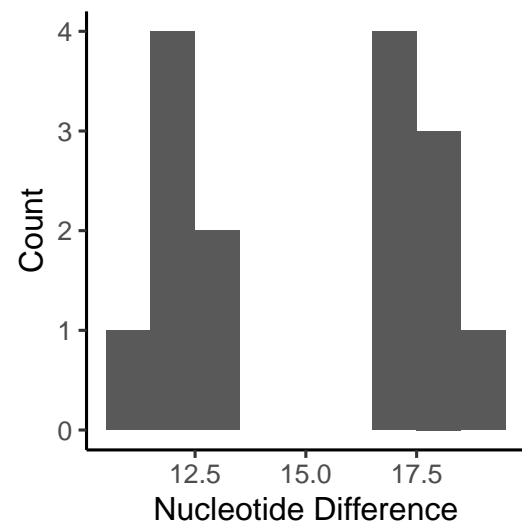
### IGHV3-13\*05

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



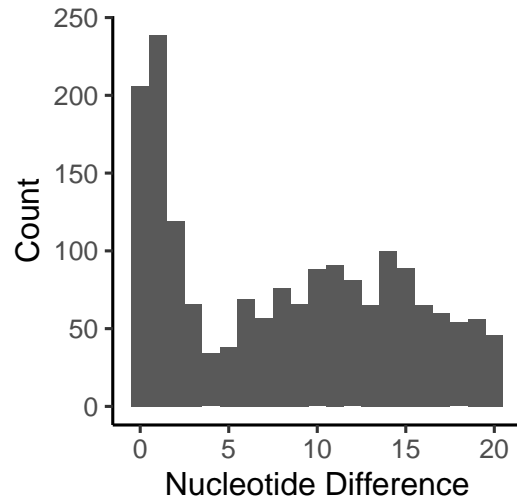
### IGHV3-20\*04

18 sequences assigned  
No exact matches.



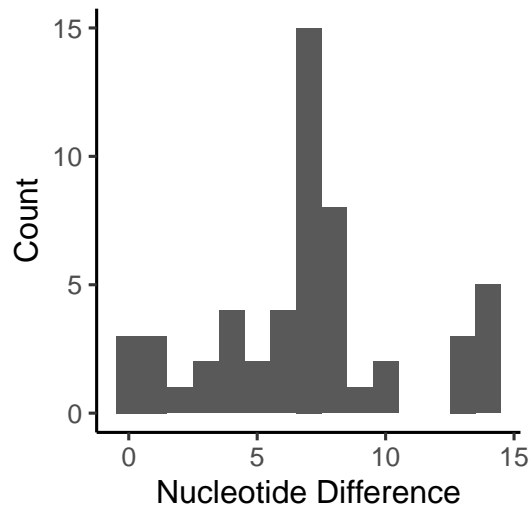
### IGHV3-21\*01

2372 sequences assigned  
206 (8.7%) exact matches, in which:  
164 unique CDR3  
6 unique J



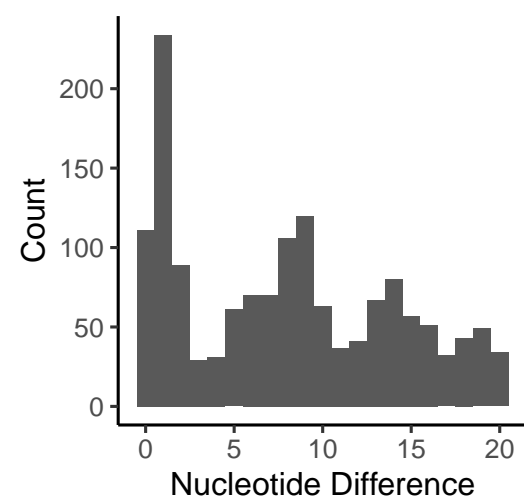
### IGHV3-43\*01

102 sequences assigned  
3 (2.9%) exact matches, in which:  
2 unique CDR3  
2 unique J



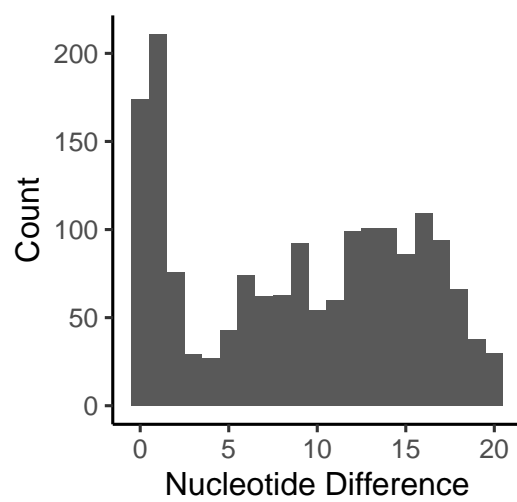
### IGHV3-48\*03

1709 sequences assigned  
111 (6.5%) exact matches, in which:  
81 unique CDR3  
4 unique J



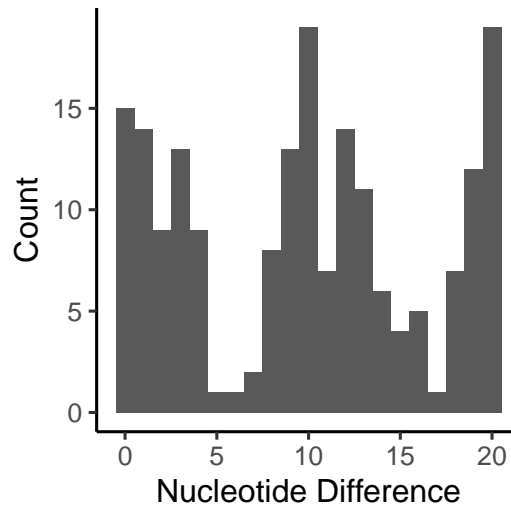
### IGHV3-30-3\*01

2163 sequences assigned  
174 (8%) exact matches, in which:  
146 unique CDR3  
6 unique J



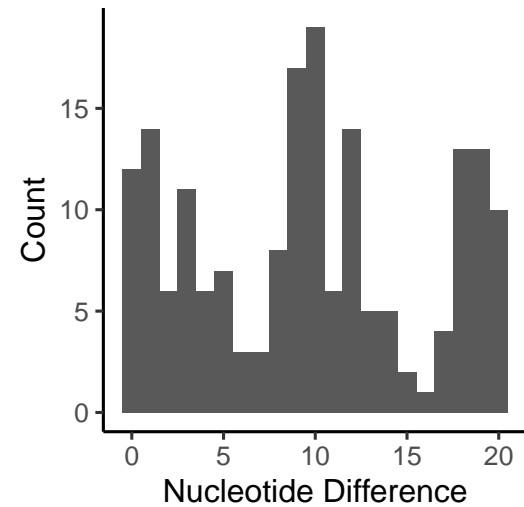
### IGHV3-43\*02

234 sequences assigned  
15 (6.4%) exact matches, in which:  
14 unique CDR3  
3 unique J



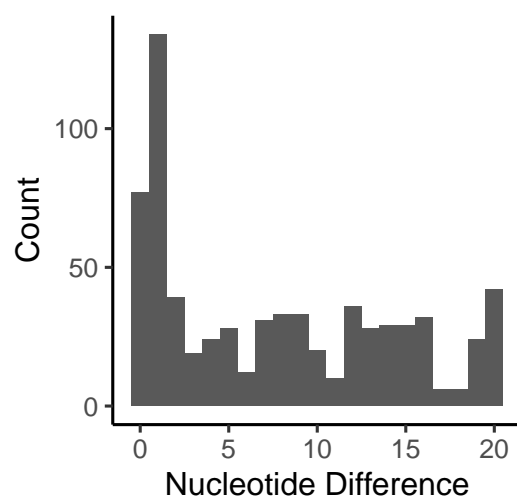
### IGHV3-49\*03

340 sequences assigned  
12 (3.5%) exact matches, in which:  
12 unique CDR3  
3 unique J



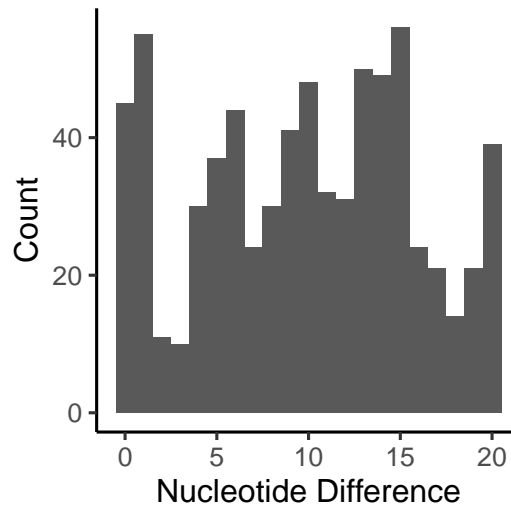
### IGHV3-33\*01

856 sequences assigned  
77 (9%) exact matches, in which:  
53 unique CDR3  
4 unique J



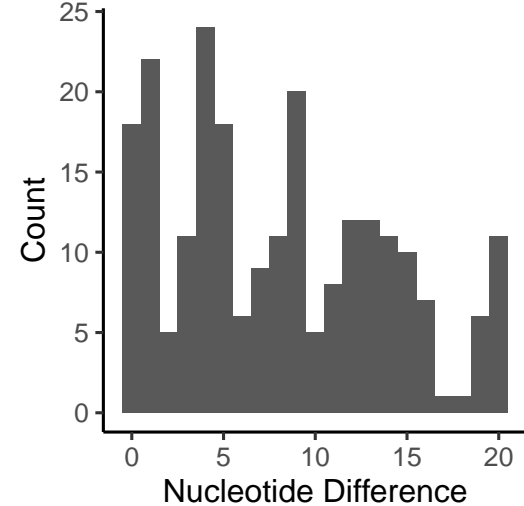
### IGHV3-48\*01

897 sequences assigned  
45 (5%) exact matches, in which:  
33 unique CDR3  
4 unique J



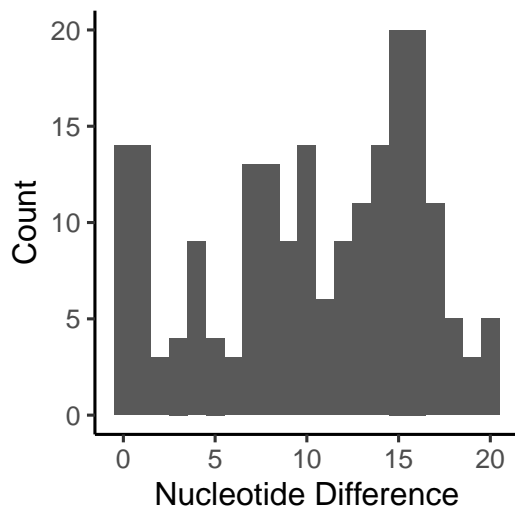
### IGHV3-49\*04

304 sequences assigned  
18 (5.9%) exact matches, in which:  
17 unique CDR3  
5 unique J



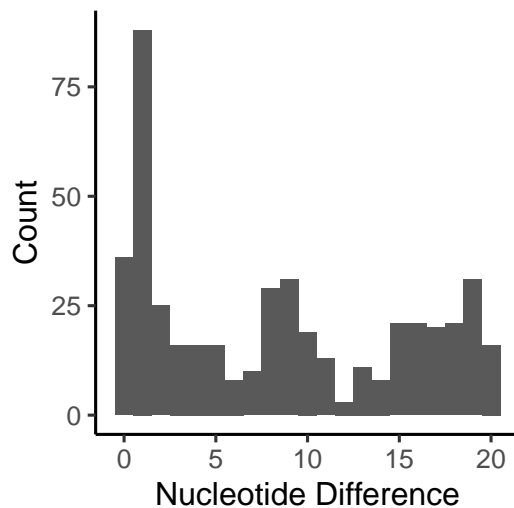
### IGHV3-53\*02

418 sequences assigned  
14 (3.3%) exact matches, in which:  
13 unique CDR3  
5 unique J



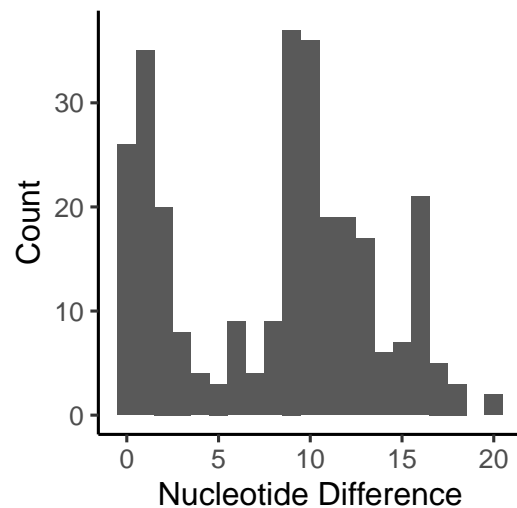
### IGHV3-66\*01

547 sequences assigned  
36 (6.6%) exact matches, in which:  
27 unique CDR3  
5 unique J



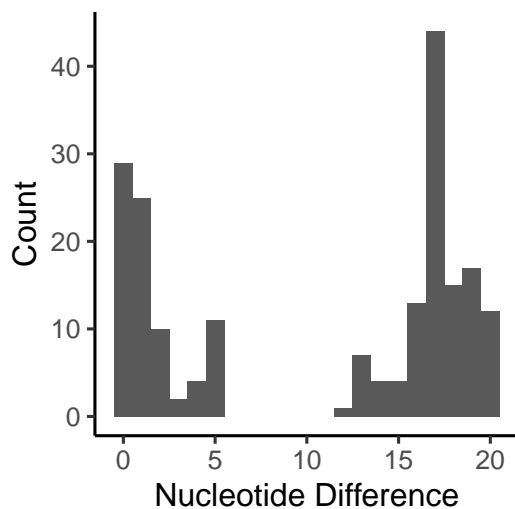
### IGHV3-73\*01

375 sequences assigned  
26 (6.9%) exact matches, in which:  
22 unique CDR3  
4 unique J



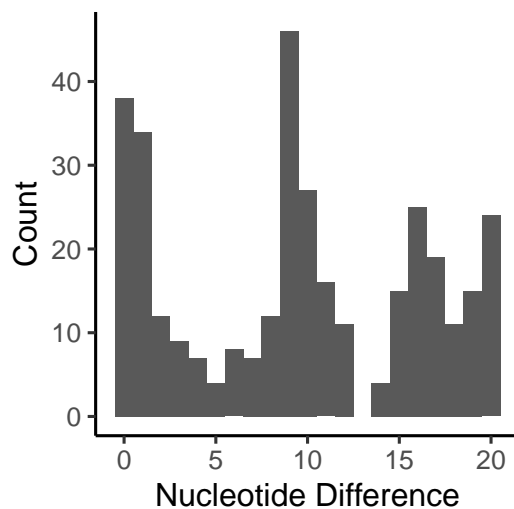
### IGHV3-53\*04

255 sequences assigned  
29 (11.4%) exact matches, in which:  
23 unique CDR3  
4 unique J



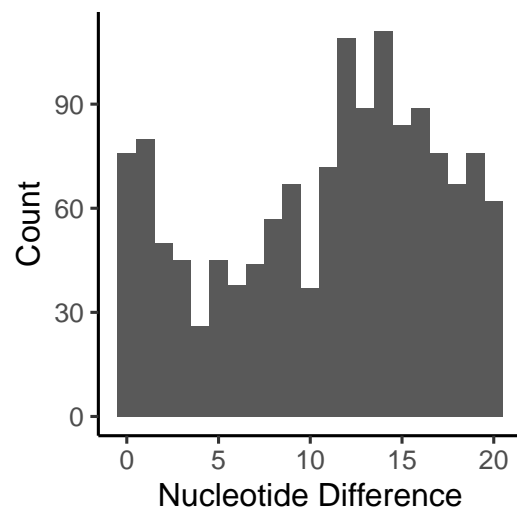
### IGHV3-66\*02

549 sequences assigned  
38 (6.9%) exact matches, in which:  
33 unique CDR3  
4 unique J



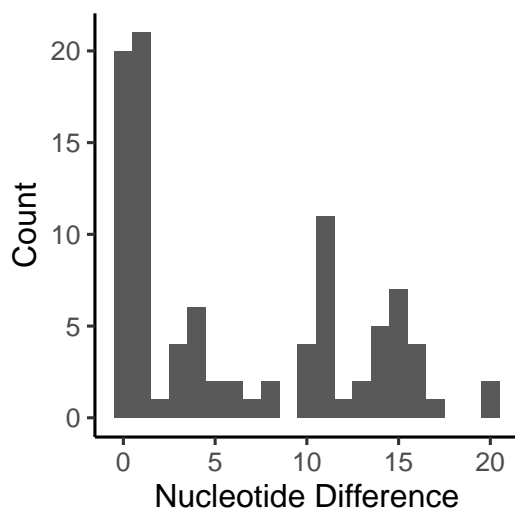
### IGHV3-74\*01

1885 sequences assigned  
76 (4%) exact matches, in which:  
64 unique CDR3  
4 unique J



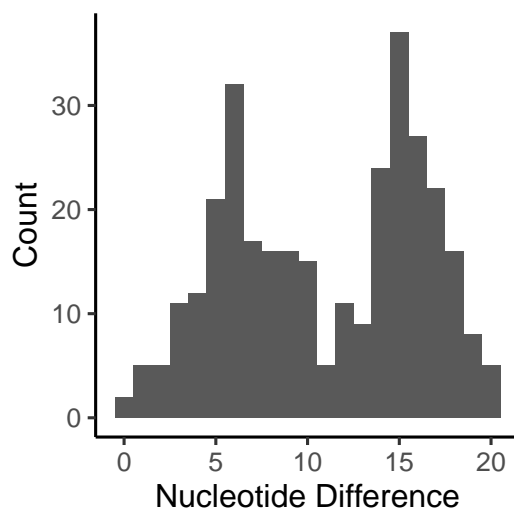
### IGHV3-64\*01

139 sequences assigned  
20 (14.4%) exact matches, in which:  
13 unique CDR3  
3 unique J



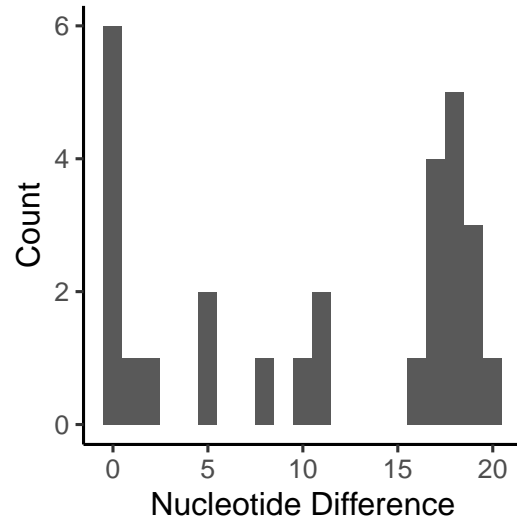
### IGHV3-72\*01

445 sequences assigned  
2 (0.4%) exact matches, in which:  
2 unique CDR3  
1 unique J



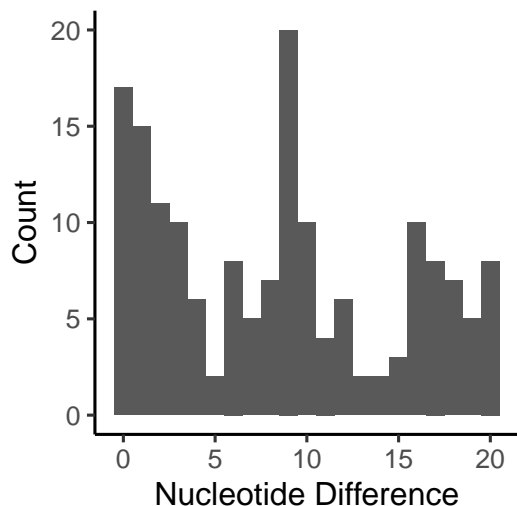
### IGHV3-43D\*03

30 sequences assigned  
6 (20%) exact matches, in which:  
6 unique CDR3  
3 unique J



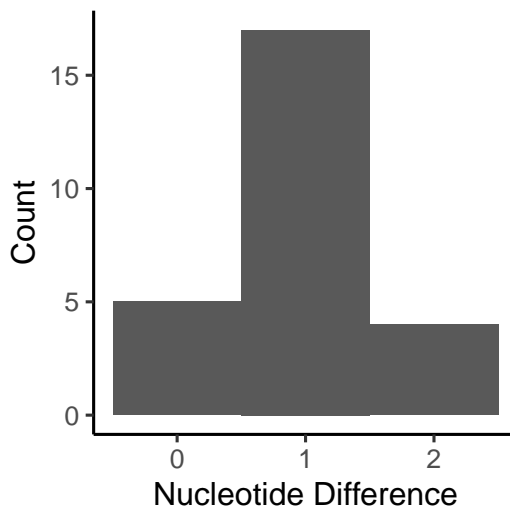
### IGHV3-64D\*06

247 sequences assigned  
17 (6.9%) exact matches, in which:  
17 unique CDR3  
4 unique J



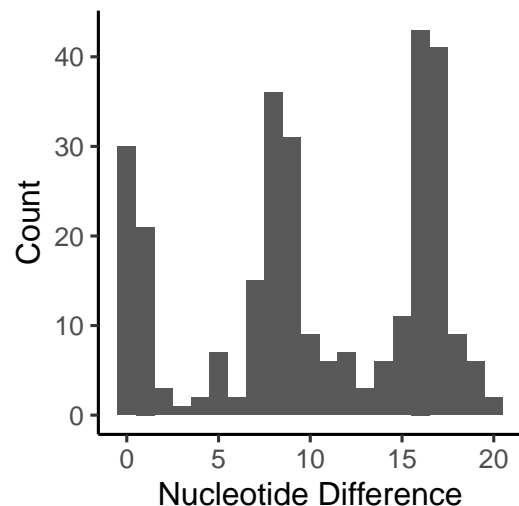
### IGHV4-28\*01

26 sequences assigned  
5 (19.2%) exact matches, in which:  
3 unique CDR3  
1 unique J



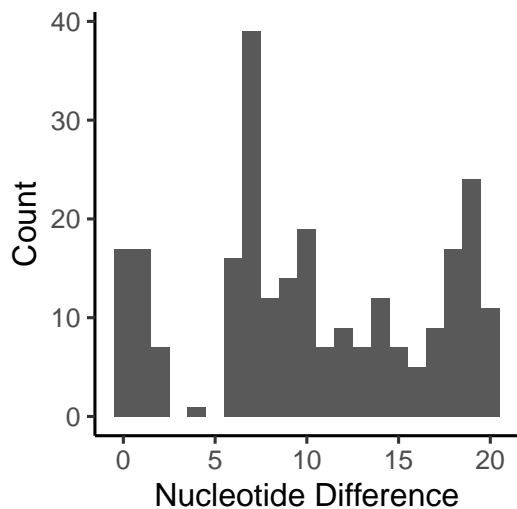
### IGHV4-31\*03

581 sequences assigned  
30 (5.2%) exact matches, in which:  
24 unique CDR3  
6 unique J



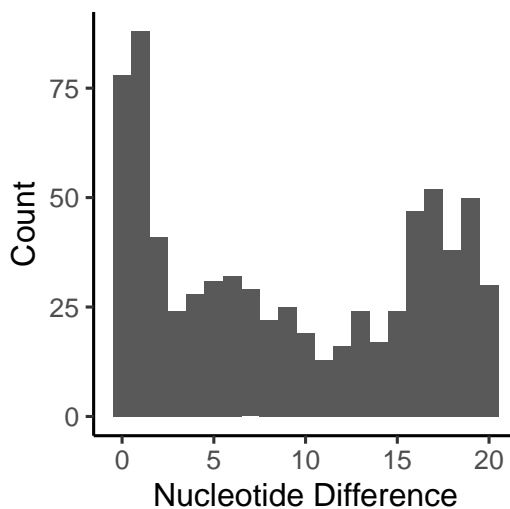
### IGHV4-4\*02

393 sequences assigned  
17 (4.3%) exact matches, in which:  
16 unique CDR3  
4 unique J



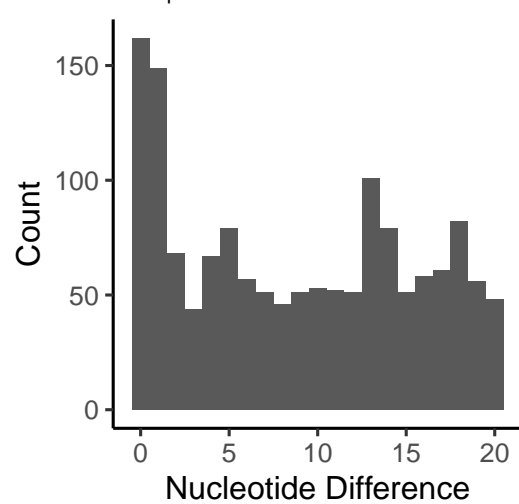
### IGHV4-30-4\*01

1067 sequences assigned  
78 (7.3%) exact matches, in which:  
64 unique CDR3  
4 unique J



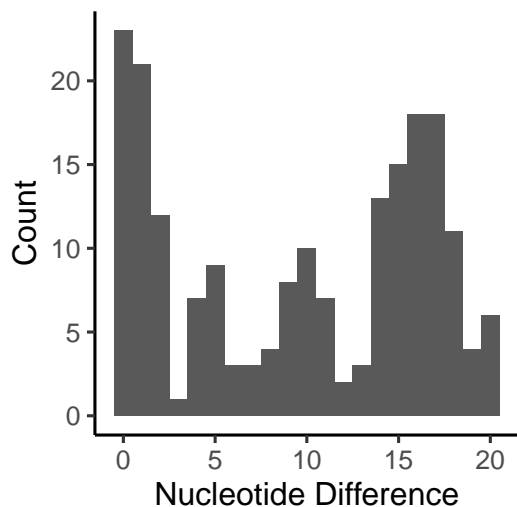
### IGHV4-34\*01

2025 sequences assigned  
162 (8%) exact matches, in which:  
145 unique CDR3  
6 unique J



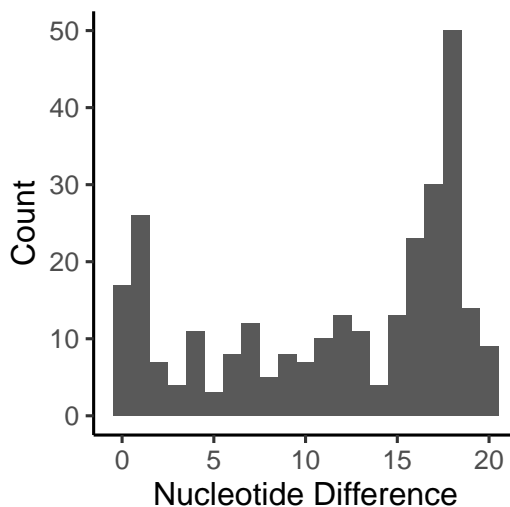
### IGHV4-4\*07

254 sequences assigned  
23 (9.1%) exact matches, in which:  
18 unique CDR3  
4 unique J



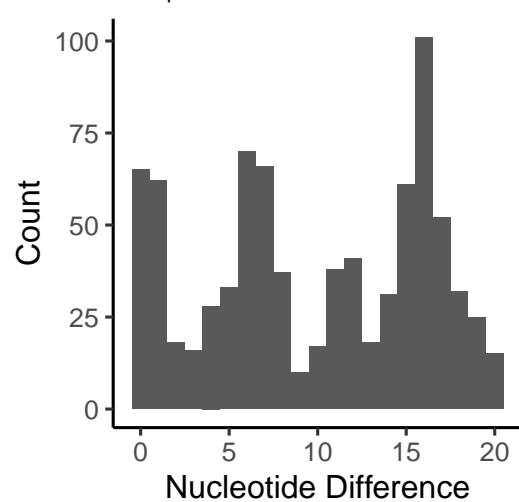
### IGHV4-30-2\*01

460 sequences assigned  
17 (3.7%) exact matches, in which:  
16 unique CDR3  
5 unique J



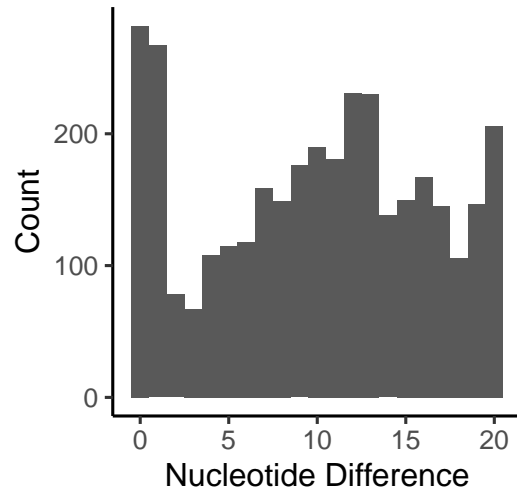
### IGHV4-38-2\*02

1261 sequences assigned  
65 (5.2%) exact matches, in which:  
56 unique CDR3  
6 unique J



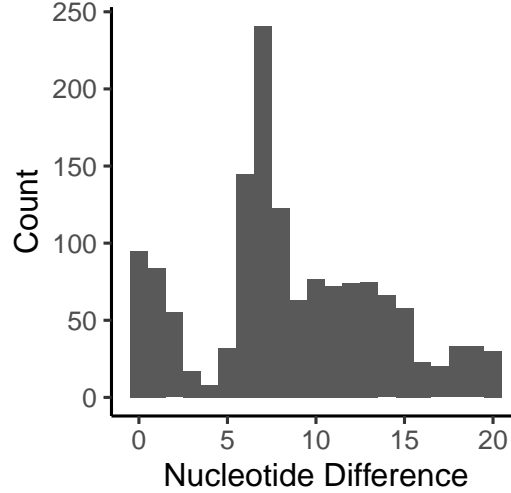
### IGHV4–39\*01

5159 sequences assigned  
282 (5.5%) exact matches, in which:  
263 unique CDR3  
6 unique J



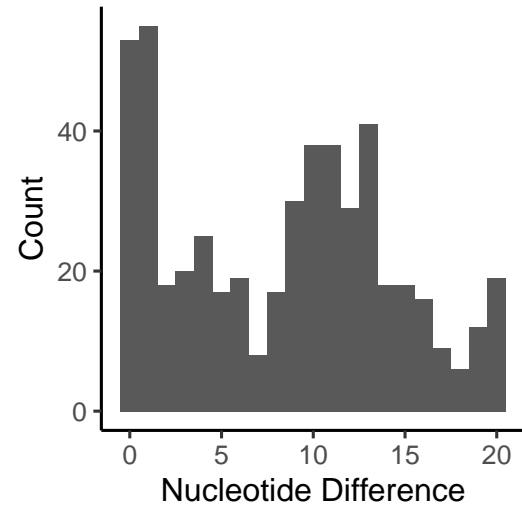
### IGHV4–61\*02

1812 sequences assigned  
95 (5.2%) exact matches, in which:  
69 unique CDR3  
6 unique J



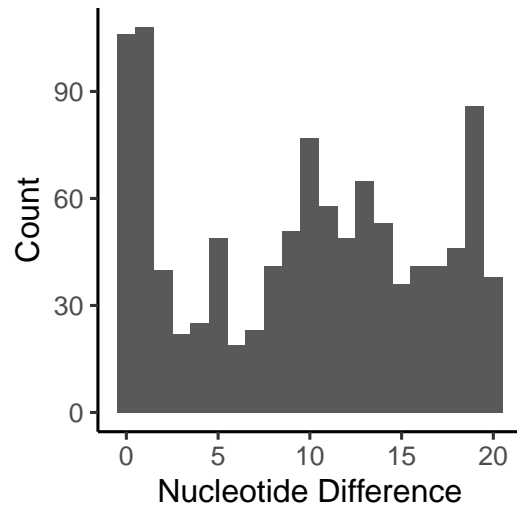
### IGHV5–51\*03

631 sequences assigned  
53 (8.4%) exact matches, in which:  
48 unique CDR3  
5 unique J



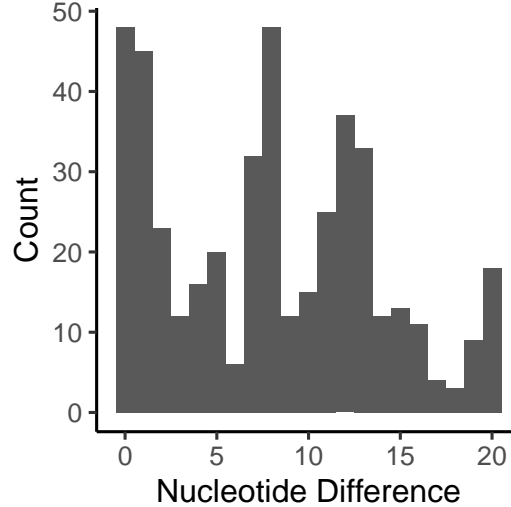
### IGHV4–59\*01

1285 sequences assigned  
106 (8.2%) exact matches, in which:  
88 unique CDR3  
6 unique J



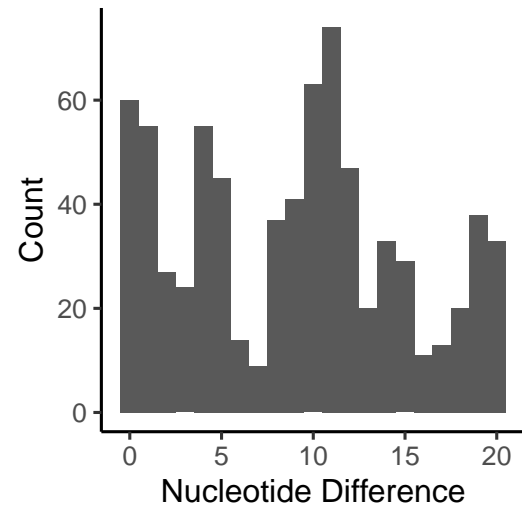
### IGHV5–10–1\*03

634 sequences assigned  
48 (7.6%) exact matches, in which:  
43 unique CDR3  
5 unique J



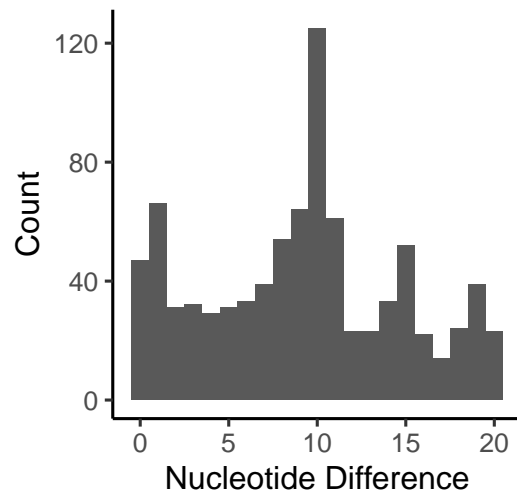
### IGHV6–1\*01

793 sequences assigned  
60 (7.6%) exact matches, in which:  
46 unique CDR3  
6 unique J



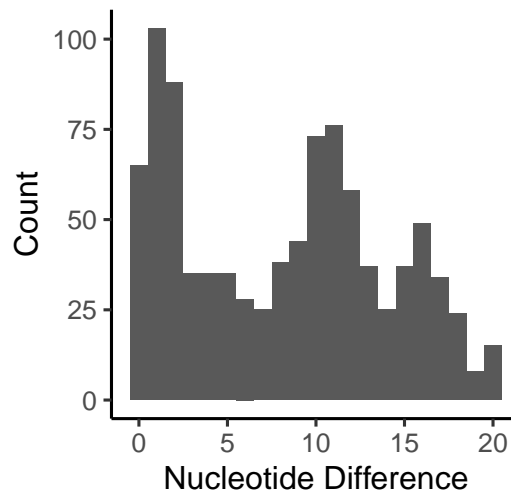
### IGHV4–59\*08

1065 sequences assigned  
47 (4.4%) exact matches, in which:  
35 unique CDR3  
5 unique J



### IGHV5–51\*01

1178 sequences assigned  
65 (5.5%) exact matches, in which:  
57 unique CDR3  
5 unique J







[illegible]