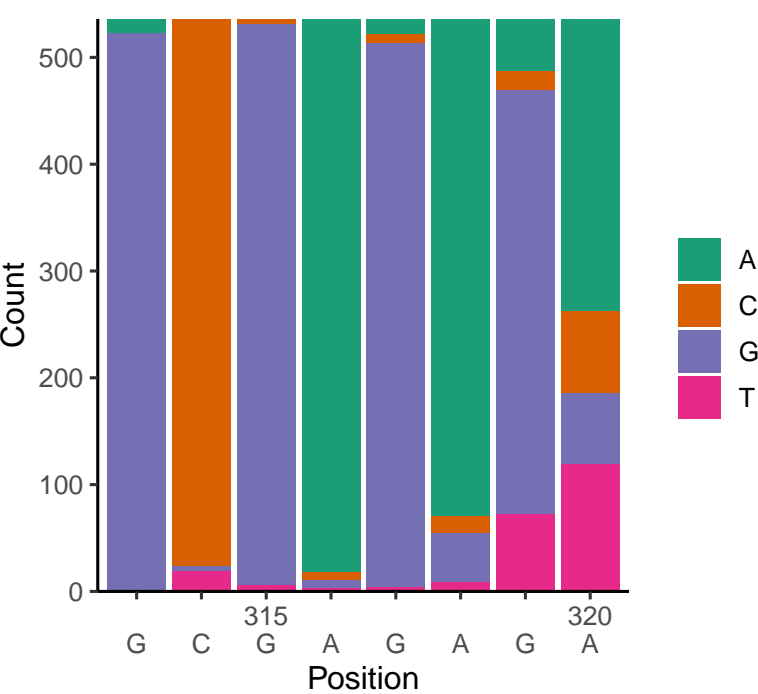
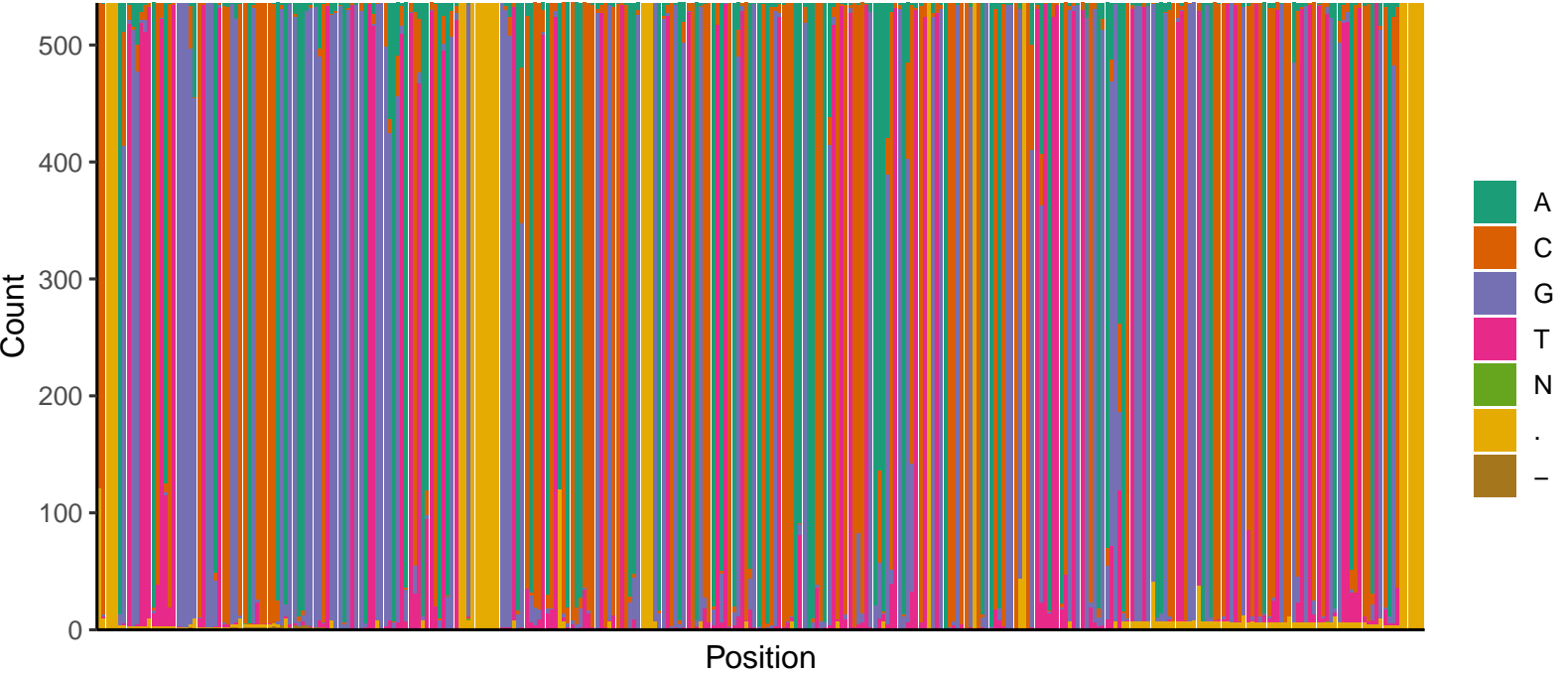


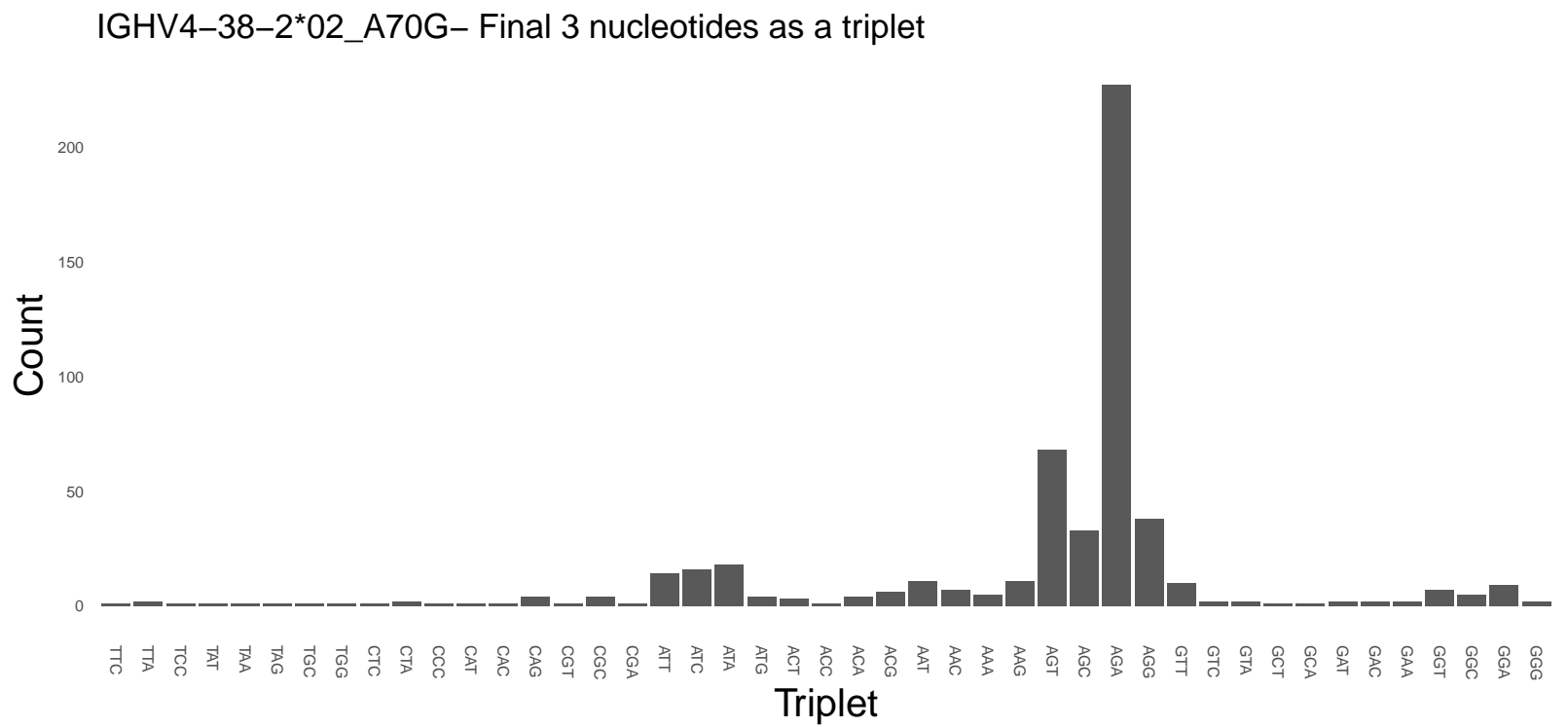
Gene IGHV4-38-2\*02\_A70G



Gene IGHV4-38-2\*02\_A70G

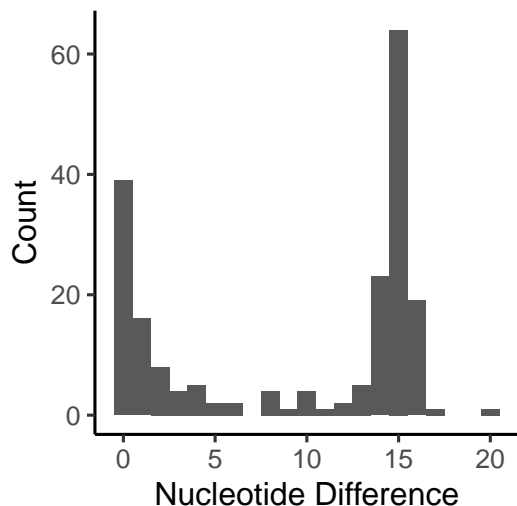


IGHV4-38-2\*02\_A70G- Final 3 nucleotides as a triplet



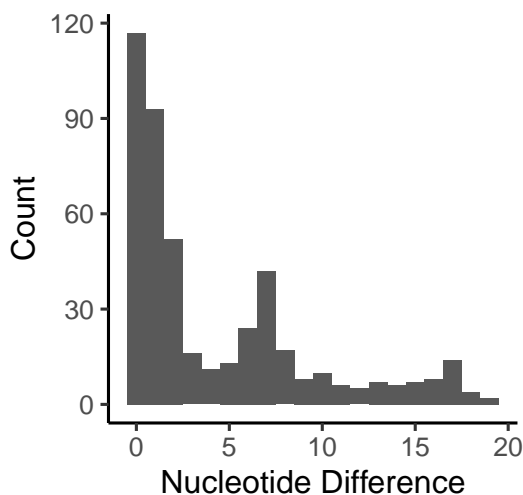
### IGHV1-2\*04

210 sequences assigned  
39 (18.6%) exact matches, in which:  
34 unique CDR3  
5 unique J



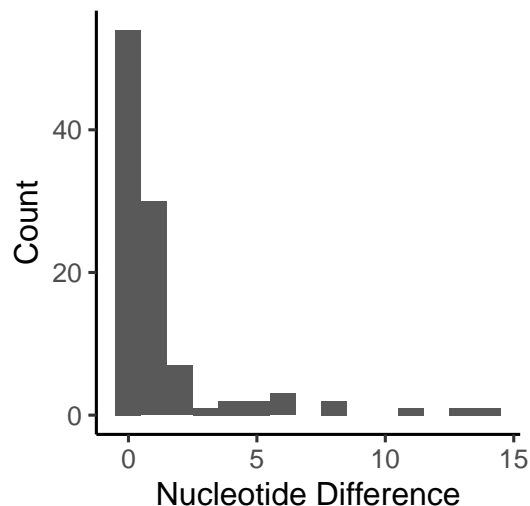
### IGHV1-8\*01

466 sequences assigned  
117 (25.1%) exact matches, in which:  
96 unique CDR3  
4 unique J



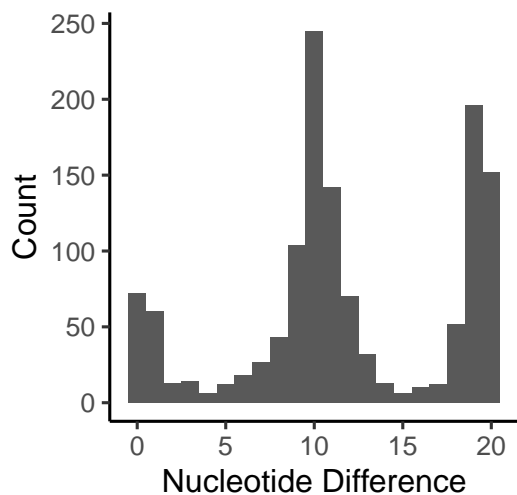
### IGHV1-24\*01

104 sequences assigned  
54 (51.9%) exact matches, in which:  
50 unique CDR3  
5 unique J



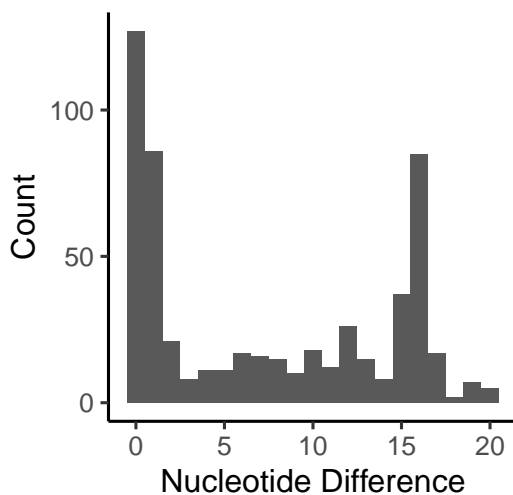
### IGHV1-2\*06

1372 sequences assigned  
72 (5.2%) exact matches, in which:  
66 unique CDR3  
4 unique J



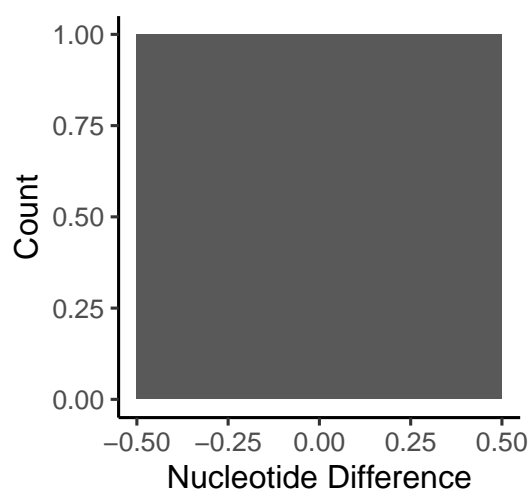
### IGHV1-18\*01

613 sequences assigned  
127 (20.7%) exact matches, in which:  
118 unique CDR3  
4 unique J



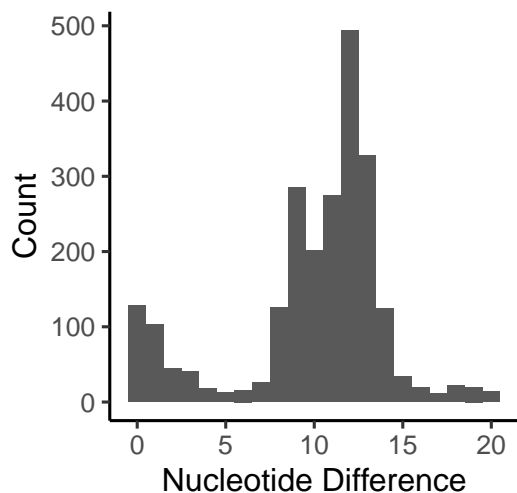
### IGHV1-45\*02

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



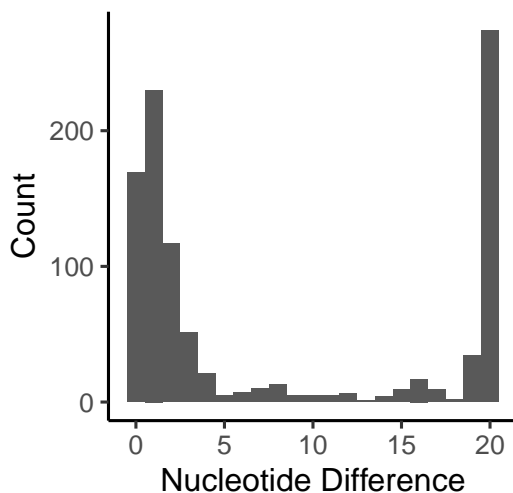
### IGHV1-3\*01

2406 sequences assigned  
128 (5.3%) exact matches, in which:  
121 unique CDR3  
4 unique J



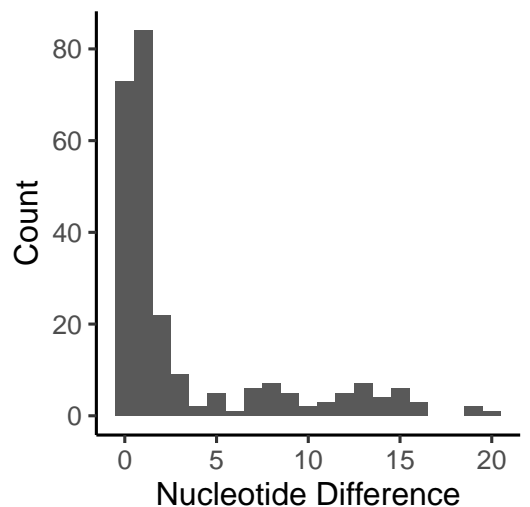
### IGHV1-18\*04

2531 sequences assigned  
169 (6.7%) exact matches, in which:  
129 unique CDR3  
6 unique J



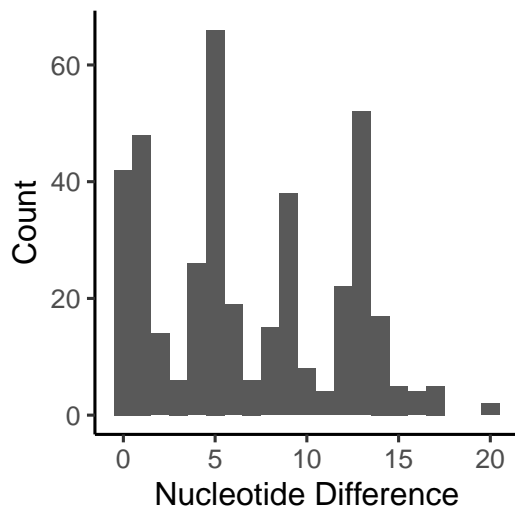
### IGHV1-46\*01

487 sequences assigned  
73 (15%) exact matches, in which:  
63 unique CDR3  
4 unique J



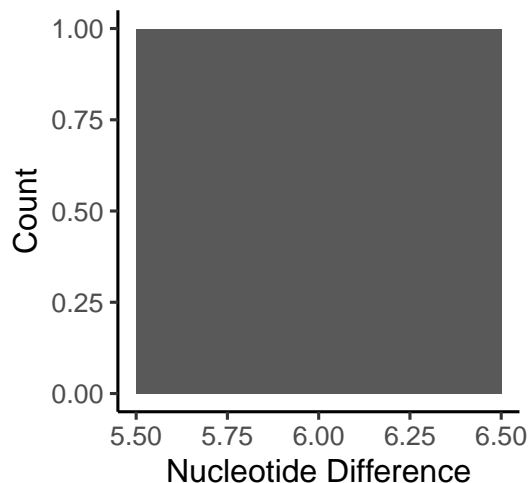
### IGHV1-46\*03

406 sequences assigned  
42 (10.3%) exact matches, in which:  
28 unique CDR3  
5 unique J



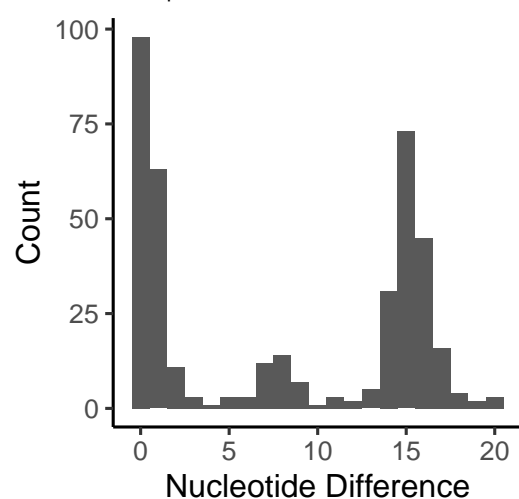
### IGHV1-68\*02

1 sequences assigned  
No exact matches.



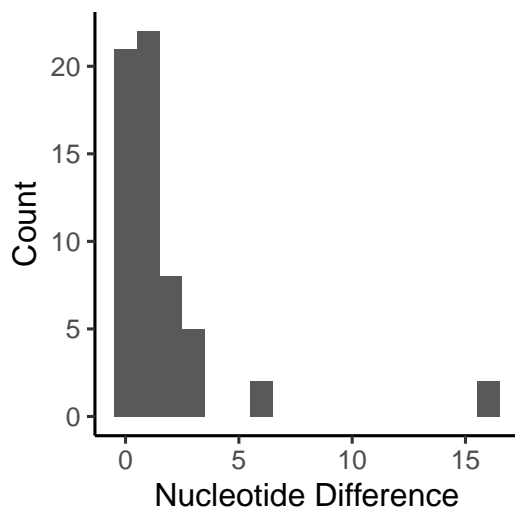
### IGHV1-69\*06

406 sequences assigned  
98 (24.1%) exact matches, in which:  
92 unique CDR3  
4 unique J



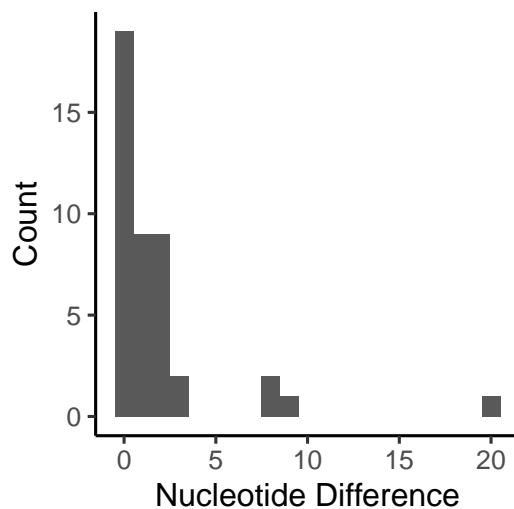
### IGHV1-58\*01

62 sequences assigned  
21 (33.9%) exact matches, in which:  
14 unique CDR3  
3 unique J



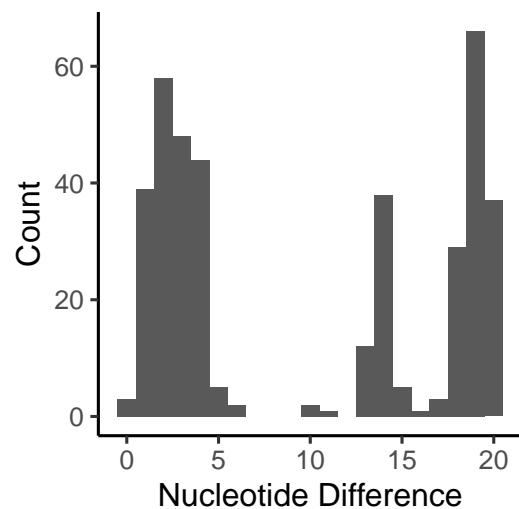
### IGHV1-69-2\*01

44 sequences assigned  
19 (43.2%) exact matches, in which:  
19 unique CDR3  
4 unique J



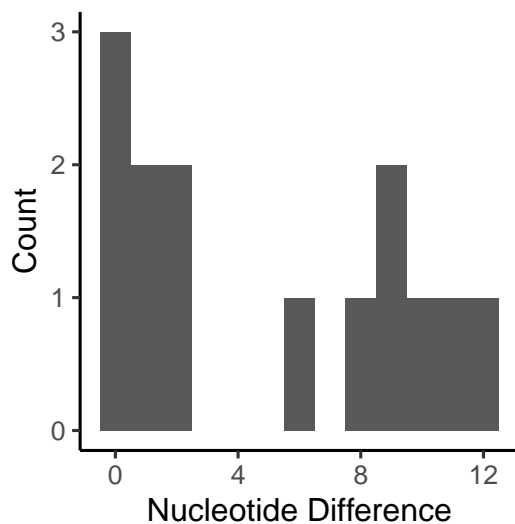
### IGHV1-69\*08

394 sequences assigned  
3 (0.8%) exact matches, in which:  
2 unique CDR3  
1 unique J



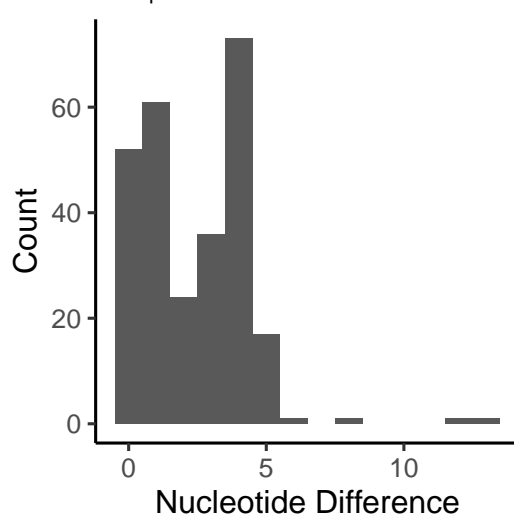
### IGHV1-58\*02

14 sequences assigned  
3 (21.4%) exact matches, in which:  
2 unique CDR3  
2 unique J



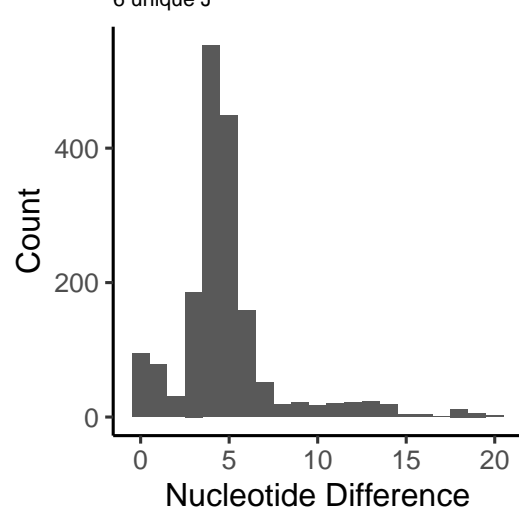
### IGHV1-69\*02

270 sequences assigned  
52 (19.3%) exact matches, in which:  
43 unique CDR3  
6 unique J



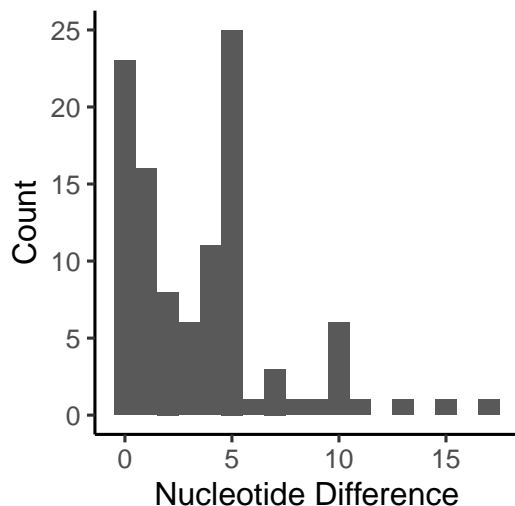
### IGHV2-5\*02

2037 sequences assigned  
95 (4.7%) exact matches, in which:  
87 unique CDR3  
6 unique J



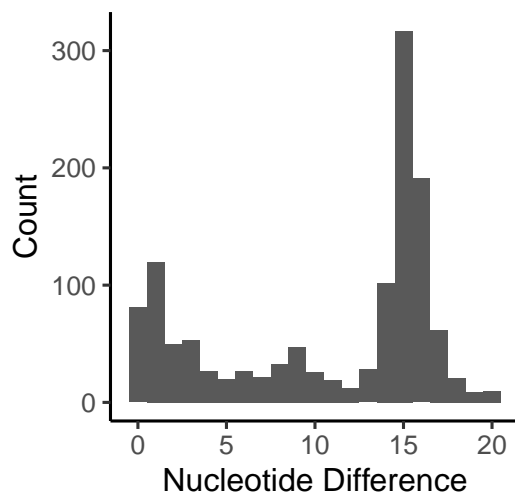
### IGHV2-26\*01

105 sequences assigned  
23 (21.9%) exact matches, in which:  
20 unique CDR3  
4 unique J



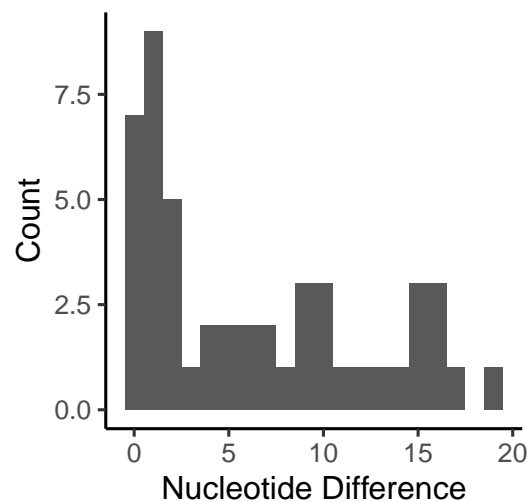
### IGHV3-7\*03

1311 sequences assigned  
81 (6.2%) exact matches, in which:  
66 unique CDR3  
5 unique J



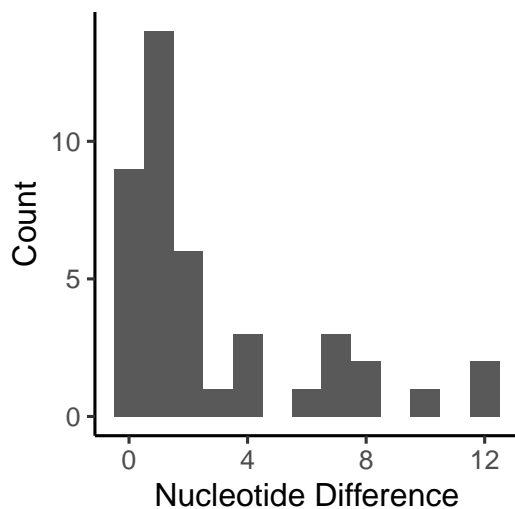
### IGHV3-11\*06

50 sequences assigned  
7 (14%) exact matches, in which:  
7 unique CDR3  
3 unique J



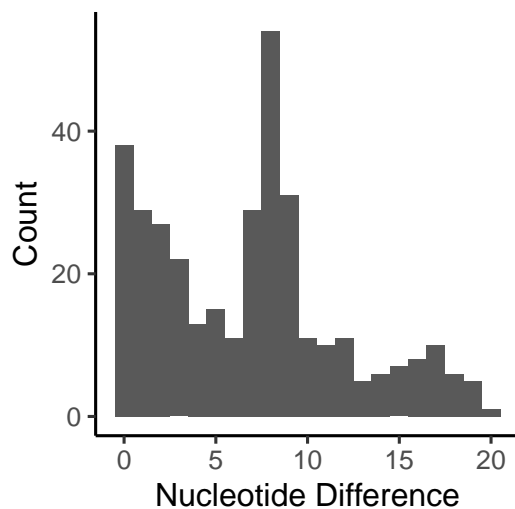
### IGHV2-70\*01

42 sequences assigned  
9 (21.4%) exact matches, in which:  
8 unique CDR3  
4 unique J



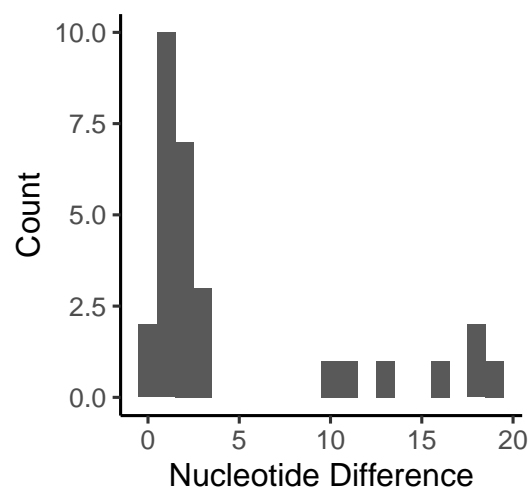
### IGHV3-9\*01

400 sequences assigned  
38 (9.5%) exact matches, in which:  
37 unique CDR3  
5 unique J



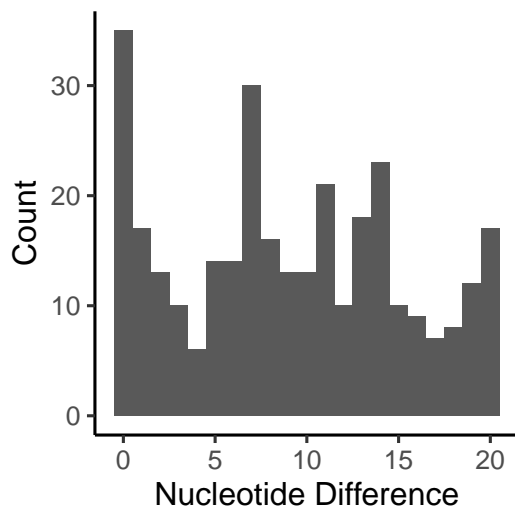
### IGHV3-13\*01

36 sequences assigned  
2 (5.6%) exact matches, in which:  
2 unique CDR3  
1 unique J



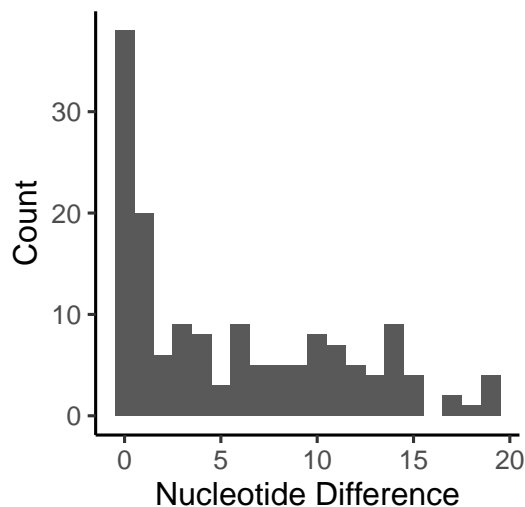
### IGHV3-7\*01

389 sequences assigned  
35 (9%) exact matches, in which:  
35 unique CDR3  
4 unique J



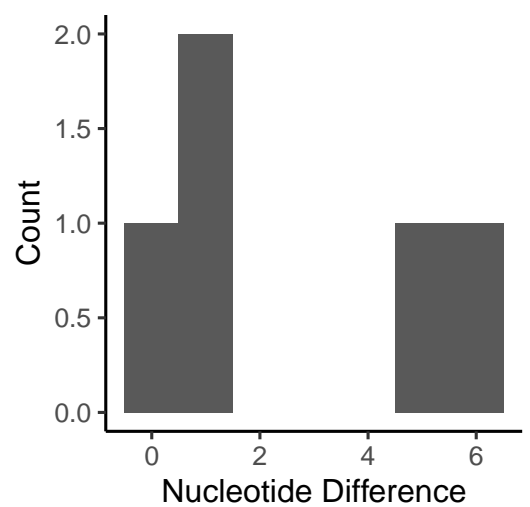
### IGHV3-11\*01

168 sequences assigned  
38 (22.6%) exact matches, in which:  
37 unique CDR3  
5 unique J



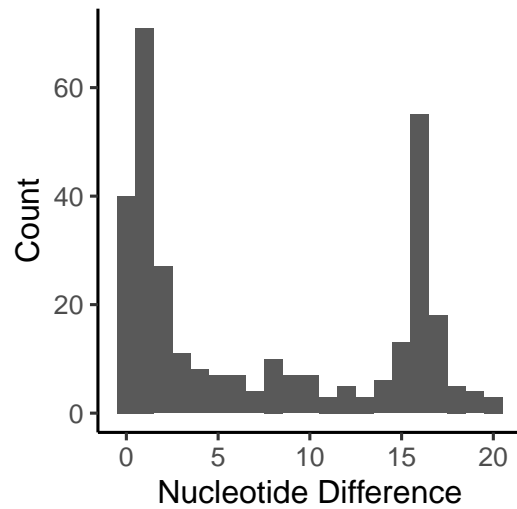
### IGHV3-13\*05

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



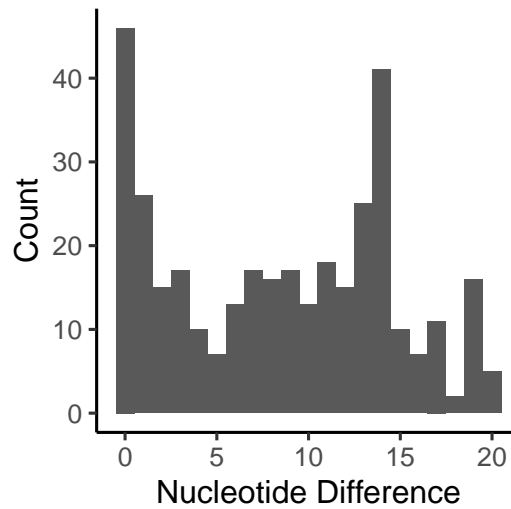
### IGHV3-15\*01

847 sequences assigned  
40 (4.7%) exact matches, in which:  
36 unique CDR3  
5 unique J



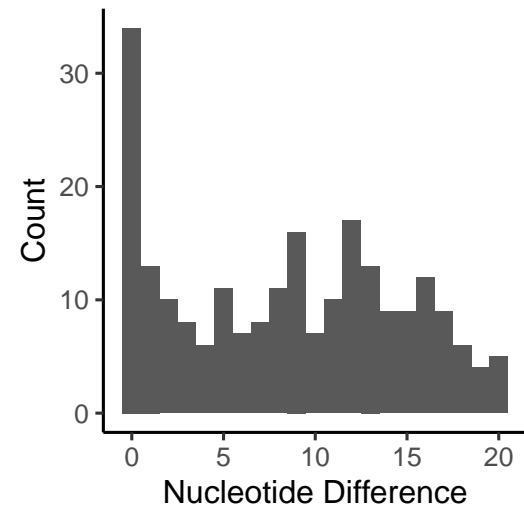
### IGHV3-23\*04

659 sequences assigned  
46 (7%) exact matches, in which:  
44 unique CDR3  
5 unique J



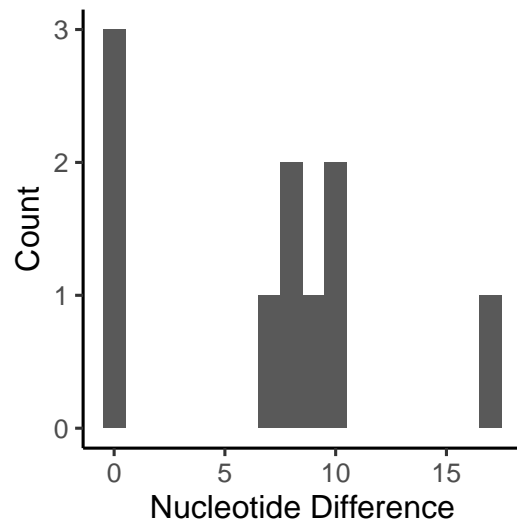
### IGHV3-48\*01

254 sequences assigned  
34 (13.4%) exact matches, in which:  
33 unique CDR3  
4 unique J



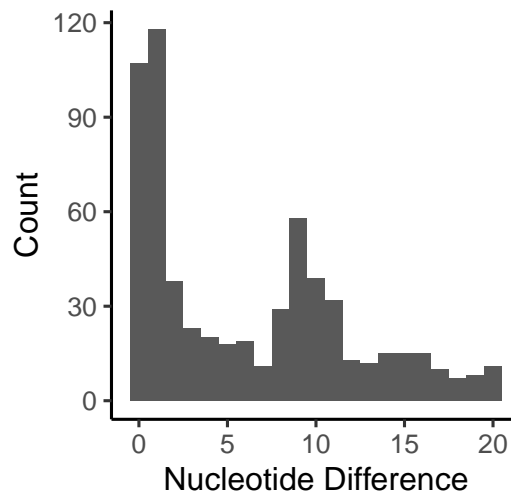
### IGHV3-20\*01

11 sequences assigned  
3 (27.3%) exact matches, in which:  
3 unique CDR3  
2 unique J



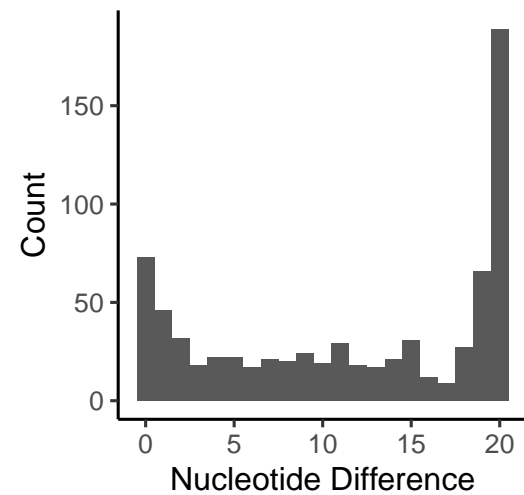
### IGHV3-33\*01

656 sequences assigned  
107 (16.3%) exact matches, in which:  
92 unique CDR3  
5 unique J



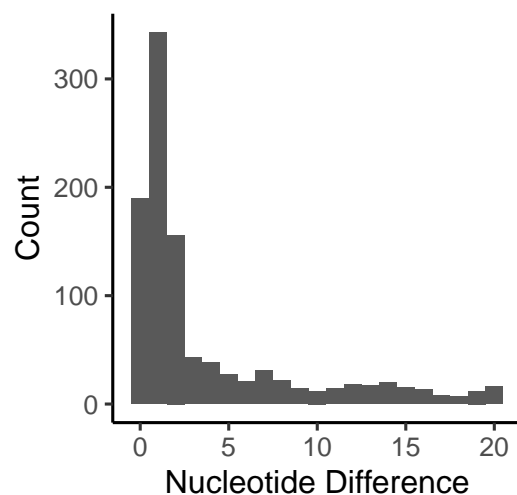
### IGHV3-48\*03

1013 sequences assigned  
73 (7.2%) exact matches, in which:  
73 unique CDR3  
6 unique J



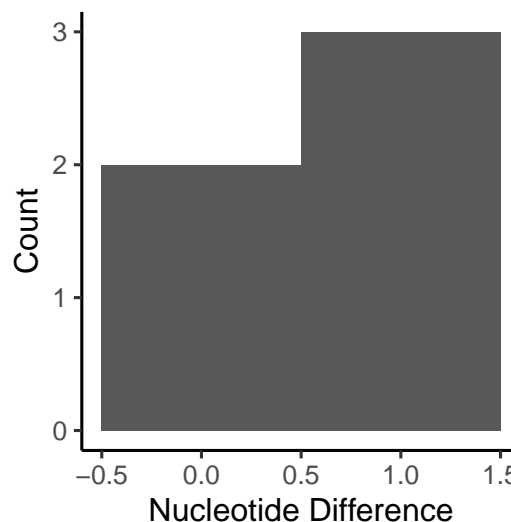
### IGHV3-21\*01

1380 sequences assigned  
190 (13.8%) exact matches, in which:  
129 unique CDR3  
6 unique J



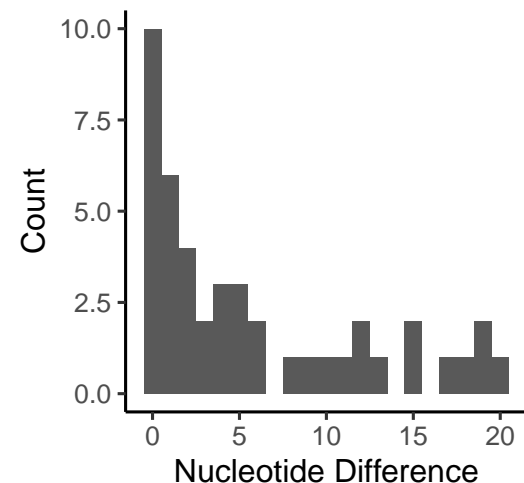
### IGHV3-43\*01

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



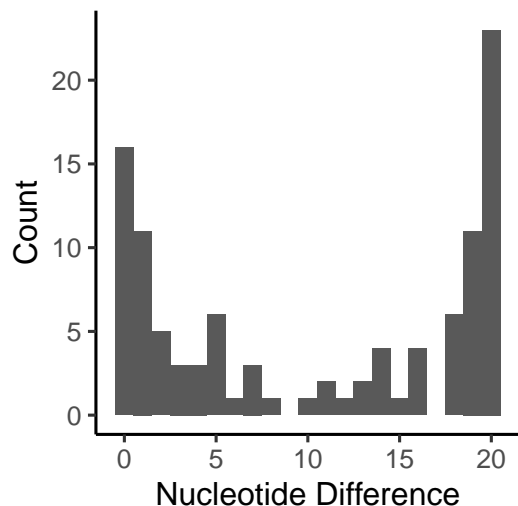
### IGHV3-49\*03

44 sequences assigned  
10 (22.7%) exact matches, in which:  
10 unique CDR3  
4 unique J



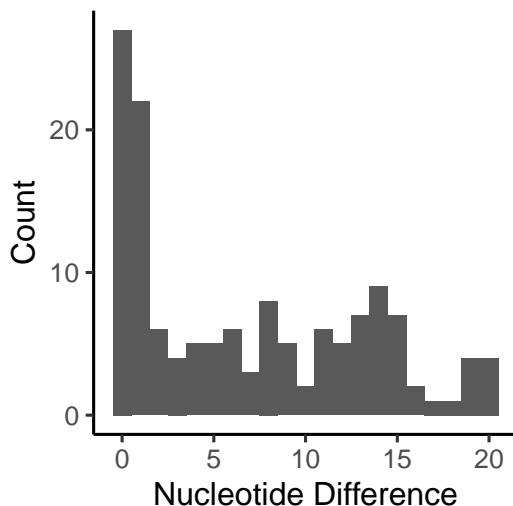
### IGHV3-49\*04

148 sequences assigned  
16 (10.8%) exact matches, in which:  
16 unique CDR3  
2 unique J



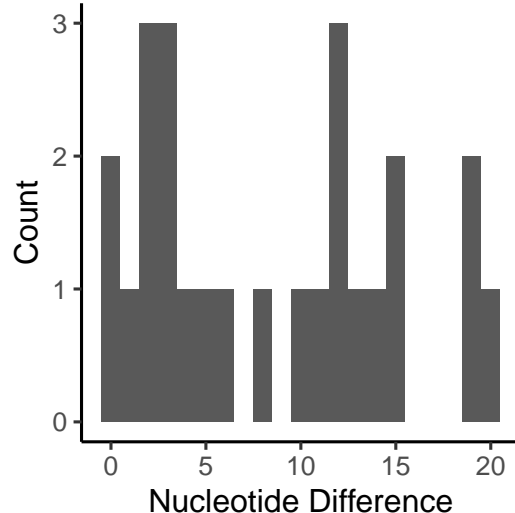
### IGHV3-66\*02

185 sequences assigned  
27 (14.6%) exact matches, in which:  
25 unique CDR3  
4 unique J



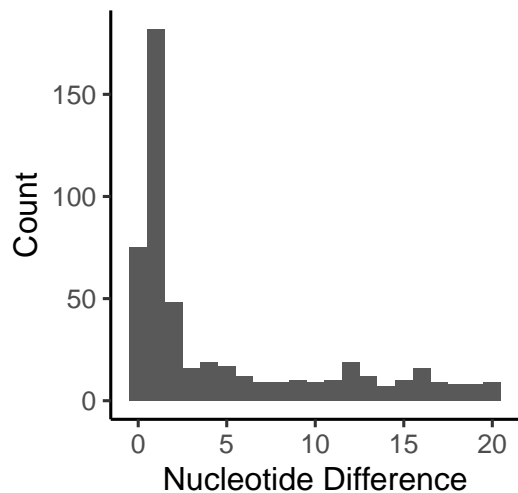
### IGHV3-73\*02

28 sequences assigned  
2 (7.1%) exact matches, in which:  
2 unique CDR3  
1 unique J



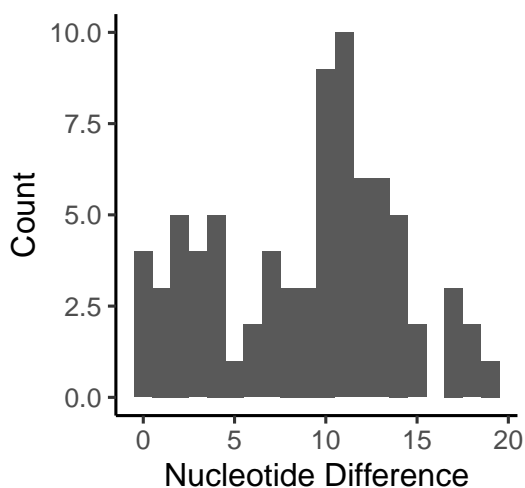
### IGHV3-53\*02

568 sequences assigned  
75 (13.2%) exact matches, in which:  
56 unique CDR3  
4 unique J



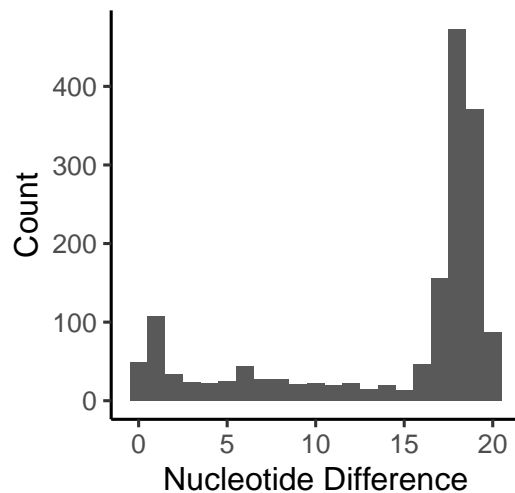
### IGHV3-72\*01

91 sequences assigned  
4 (4.4%) exact matches, in which:  
4 unique CDR3  
3 unique J



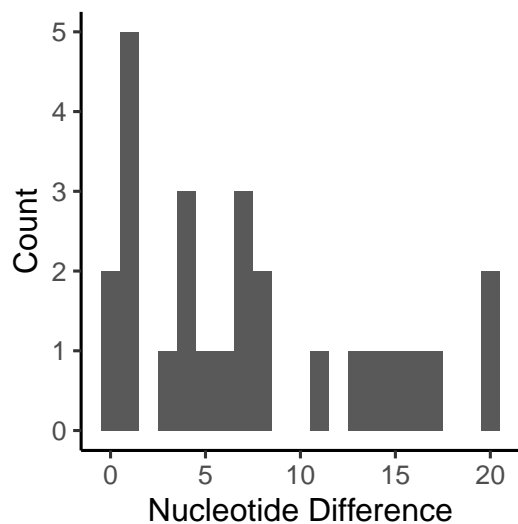
### IGHV3-74\*01

1874 sequences assigned  
49 (2.6%) exact matches, in which:  
39 unique CDR3  
5 unique J



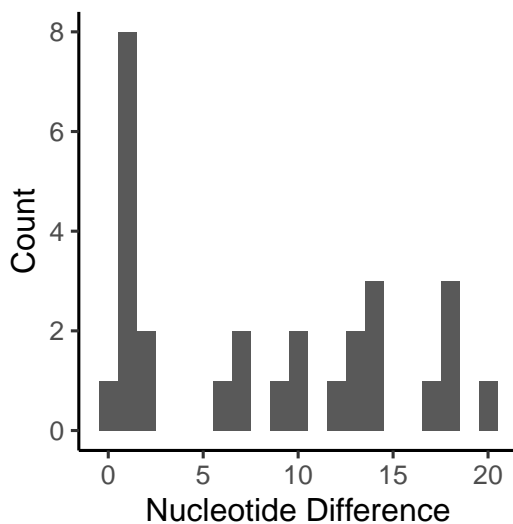
### IGHV3-64\*01

32 sequences assigned  
2 (6.2%) exact matches, in which:  
2 unique CDR3  
2 unique J



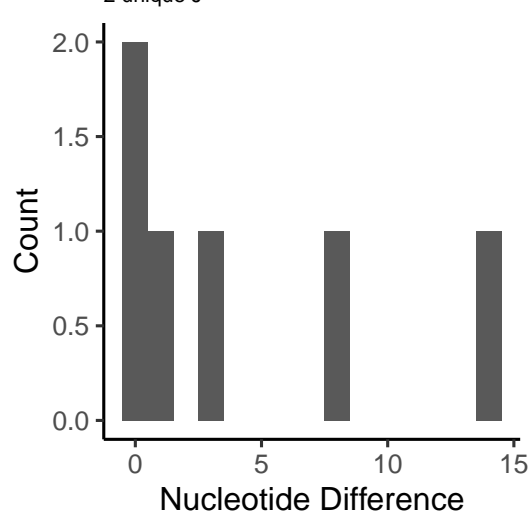
### IGHV3-73\*01

36 sequences assigned  
1 (2.8%) exact matches, in which:  
1 unique CDR3  
1 unique J



### IGHV3-43D\*04

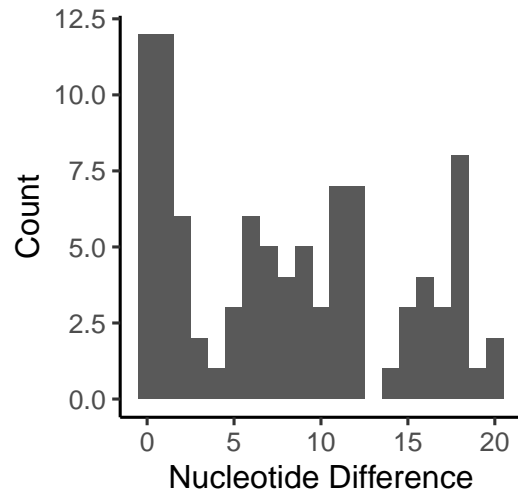
6 sequences assigned  
2 (33.3%) exact matches, in which:  
2 unique CDR3  
2 unique J





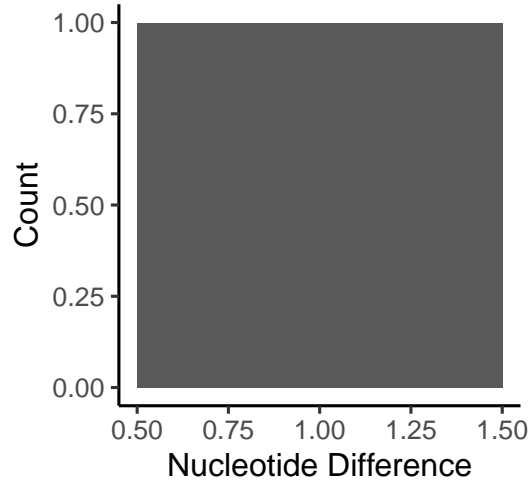
### IGHV3-64D\*06

114 sequences assigned  
12 (10.5%) exact matches, in which:  
12 unique CDR3  
2 unique J



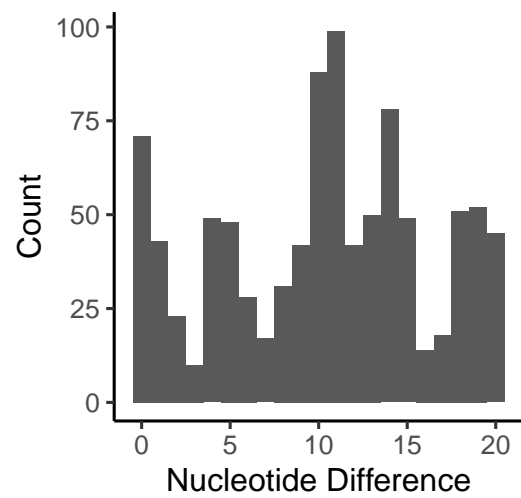
### IGHV4-28\*07

6 sequences assigned  
No exact matches.



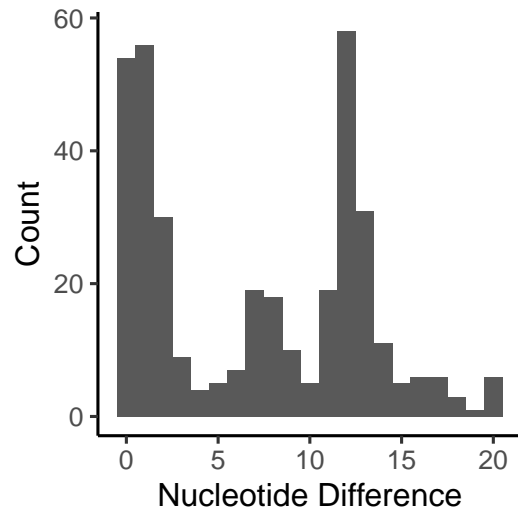
### IGHV4-34\*01

1320 sequences assigned  
71 (5.4%) exact matches, in which:  
71 unique CDR3  
5 unique J



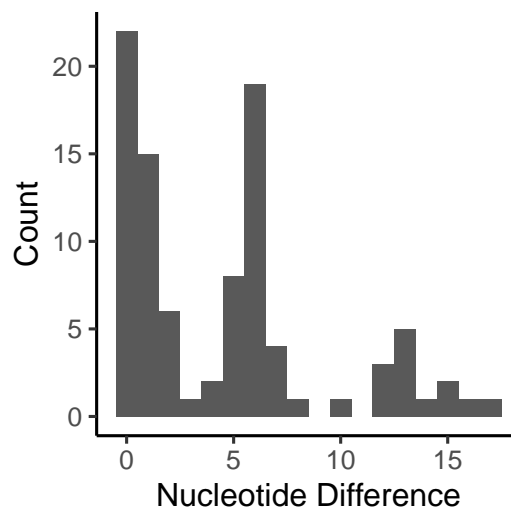
### IGHV4-4\*02

493 sequences assigned  
54 (11%) exact matches, in which:  
48 unique CDR3  
4 unique J



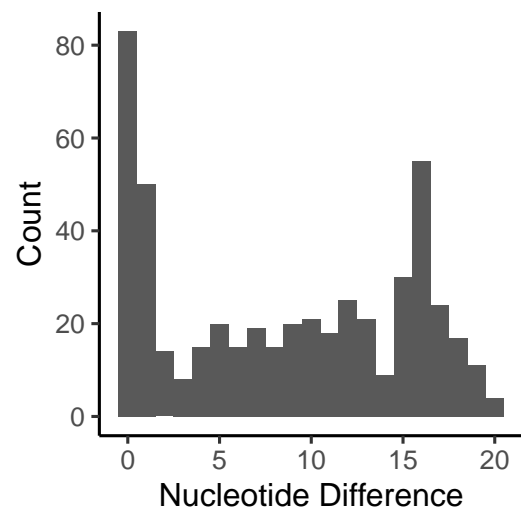
### IGHV4-30-2\*01

93 sequences assigned  
22 (23.7%) exact matches, in which:  
21 unique CDR3  
4 unique J



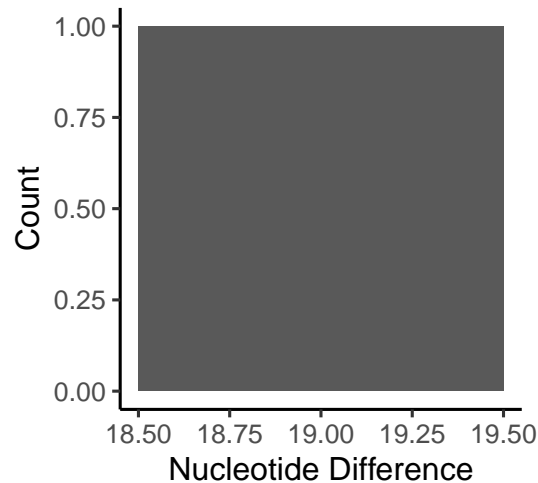
### IGHV4-38-2\*02\_A70G

536 sequences assigned  
83 (15.5%) exact matches, in which:  
72 unique CDR3  
5 unique J



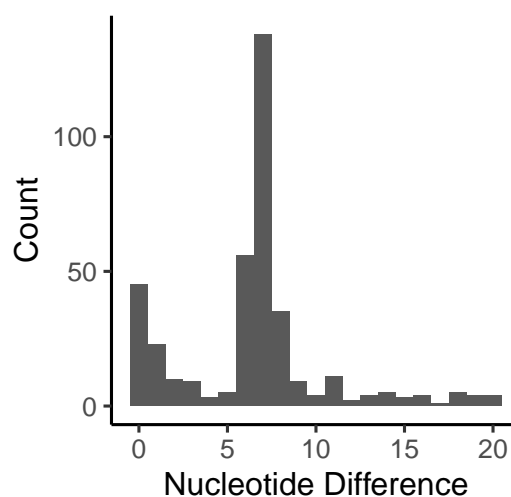
### IGHV4-28\*03

1 sequences assigned  
No exact matches.



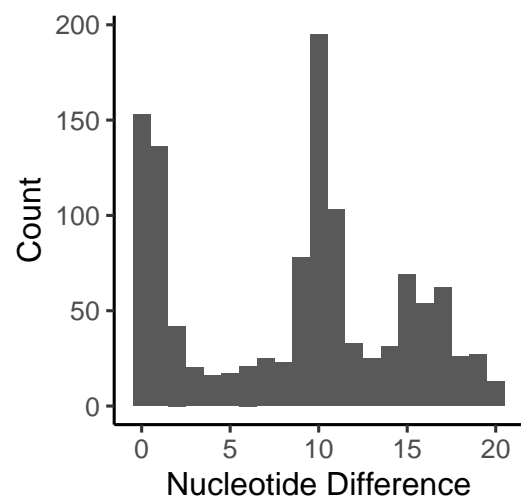
### IGHV4-31\*03

863 sequences assigned  
45 (5.2%) exact matches, in which:  
42 unique CDR3  
5 unique J



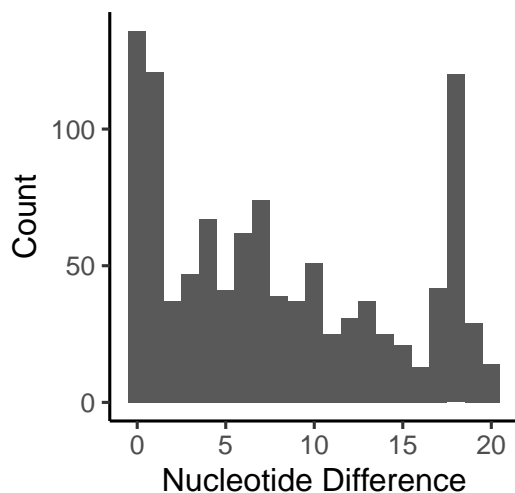
### IGHV4-39\*01

1296 sequences assigned  
153 (11.8%) exact matches, in which:  
139 unique CDR3  
6 unique J



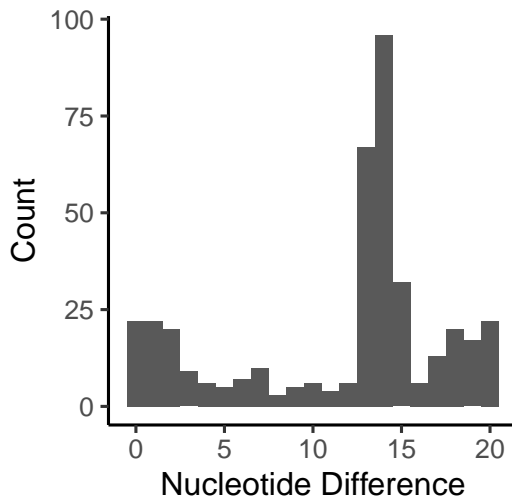
### IGHV4–59\*01

1215 sequences assigned  
136 (11.2%) exact matches, in which:  
118 unique CDR3  
6 unique J



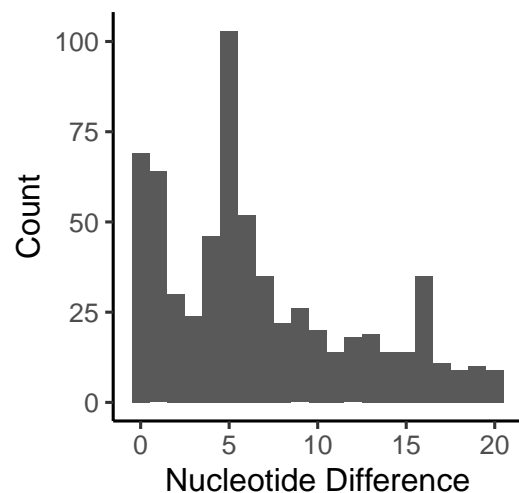
### IGHV5–10–1\*03

451 sequences assigned  
22 (4.9%) exact matches, in which:  
22 unique CDR3  
3 unique J



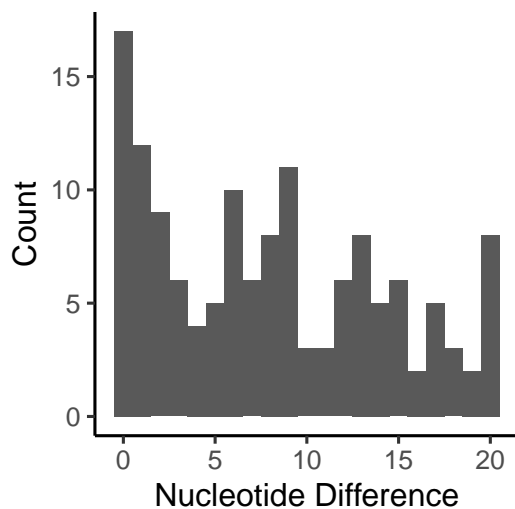
### IGHV6–1\*01

665 sequences assigned  
69 (10.4%) exact matches, in which:  
58 unique CDR3  
6 unique J



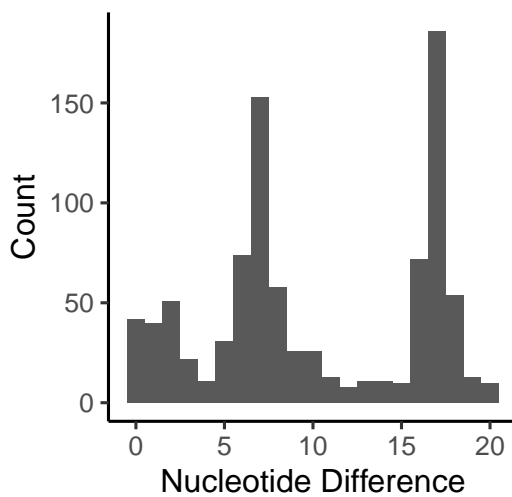
### IGHV4–61\*01

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



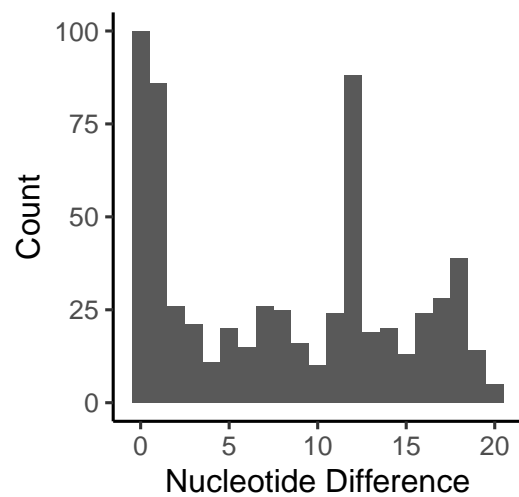
### IGHV5–51\*01

992 sequences assigned  
42 (4.2%) exact matches, in which:  
40 unique CDR3  
5 unique J



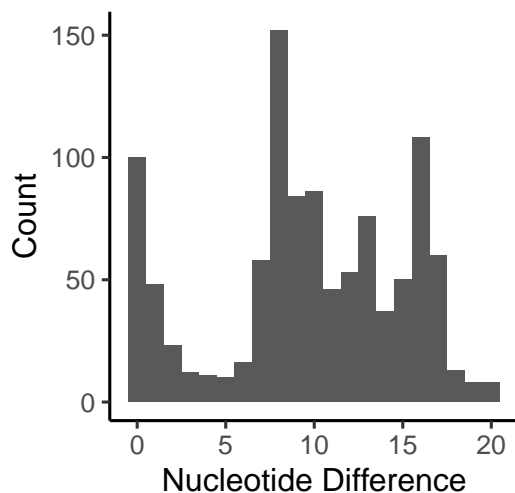
### IGHV7–4–1\*02

660 sequences assigned  
100 (15.2%) exact matches, in which:  
87 unique CDR3  
6 unique J



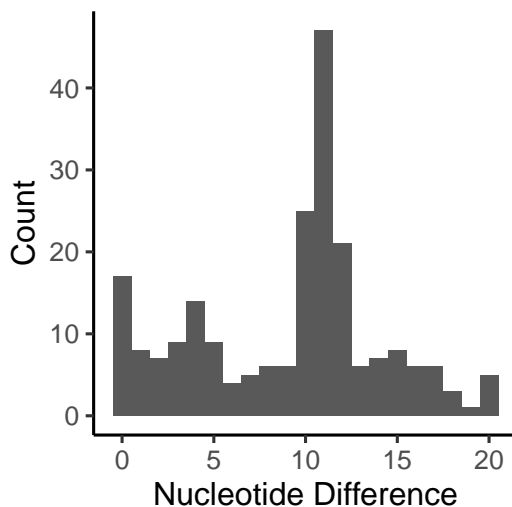
### IGHV4–61\*02

1393 sequences assigned  
100 (7.2%) exact matches, in which:  
89 unique CDR3  
6 unique J

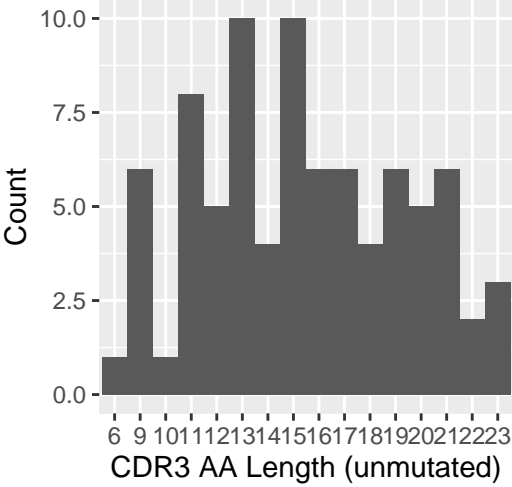


### IGHV5–51\*03

282 sequences assigned  
17 (6%) exact matches, in which:  
17 unique CDR3  
4 unique J



IGHV4-38-2\*02\_A70G





[illegible]