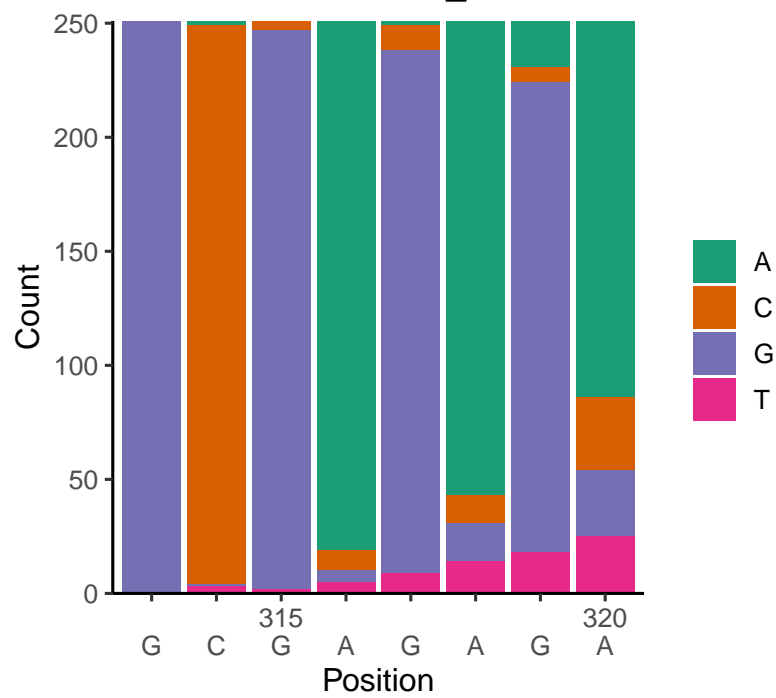
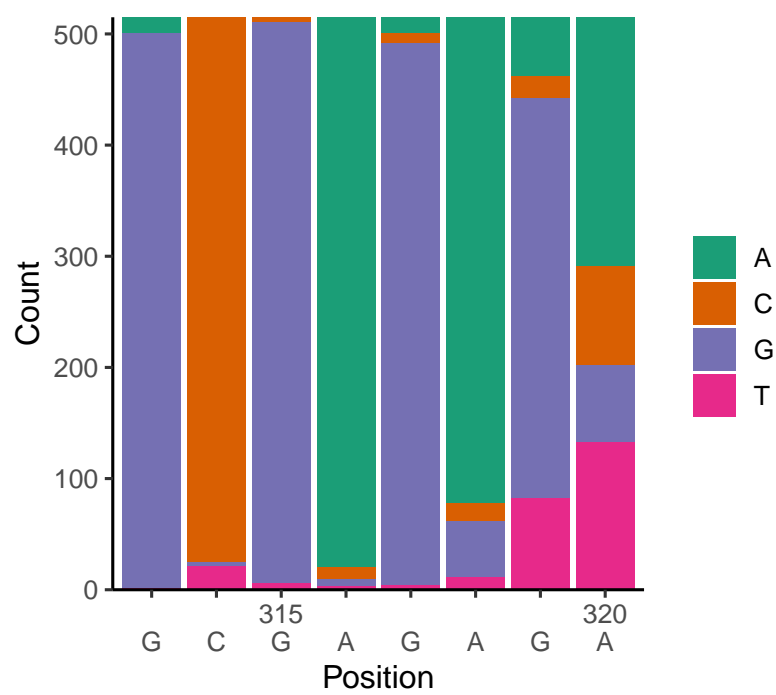


Gene IGHV1-69\*08\_C191T



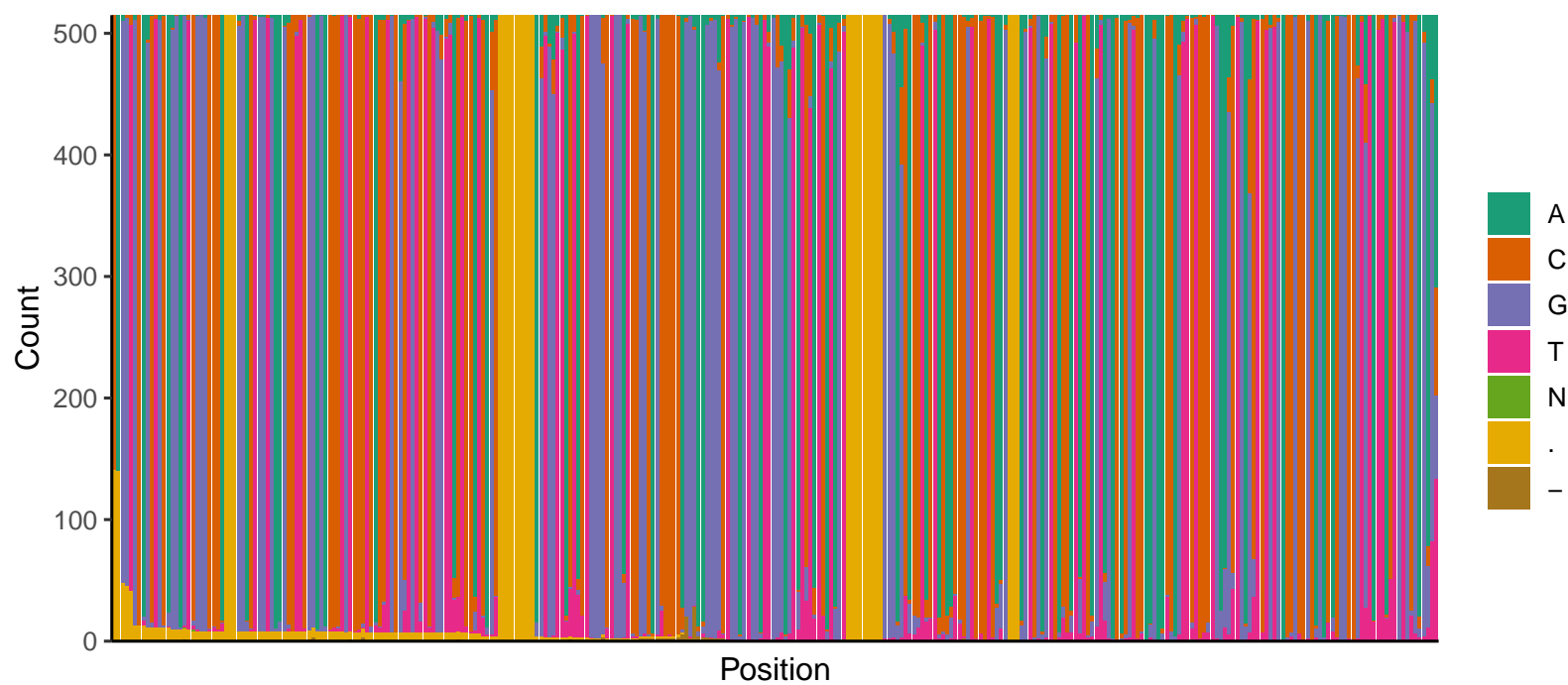
Gene IGHV4-38-2\*02\_A70G



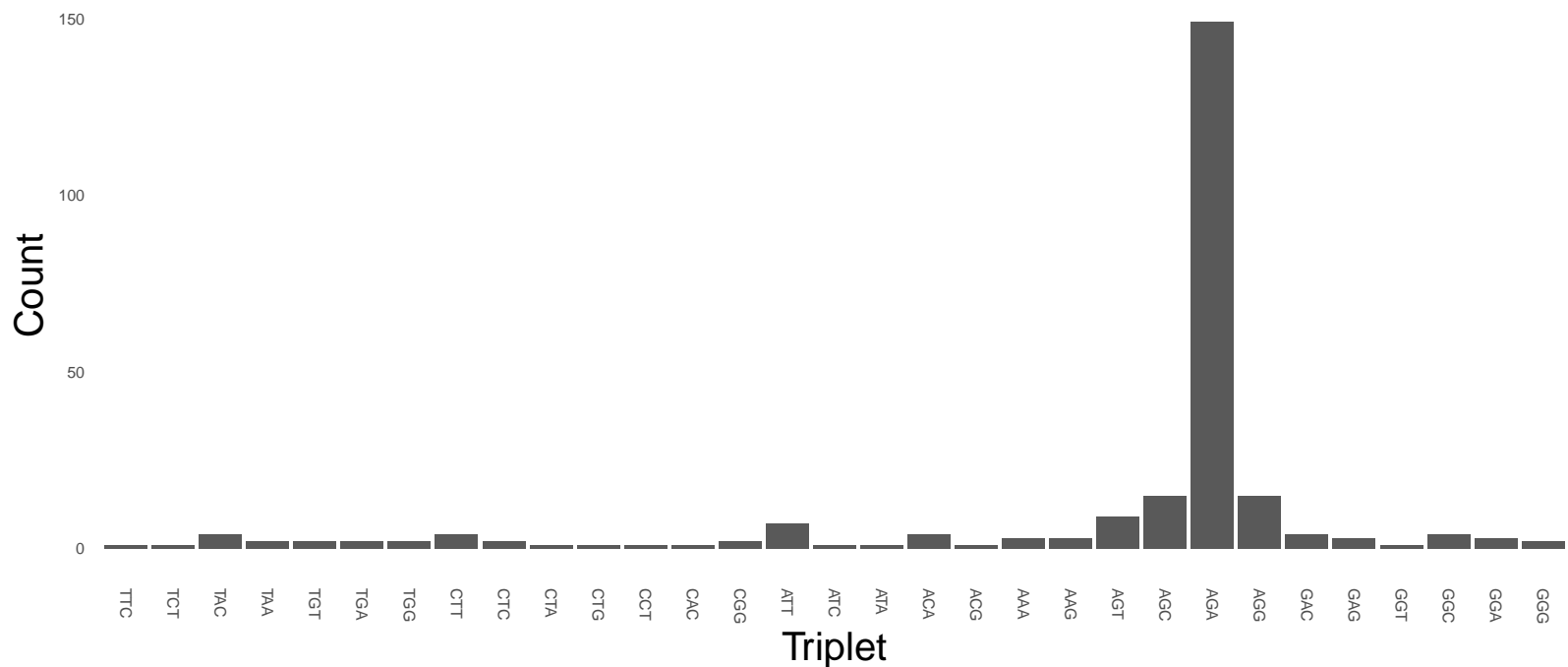
Gene IGHV1-69\*08\_C191T



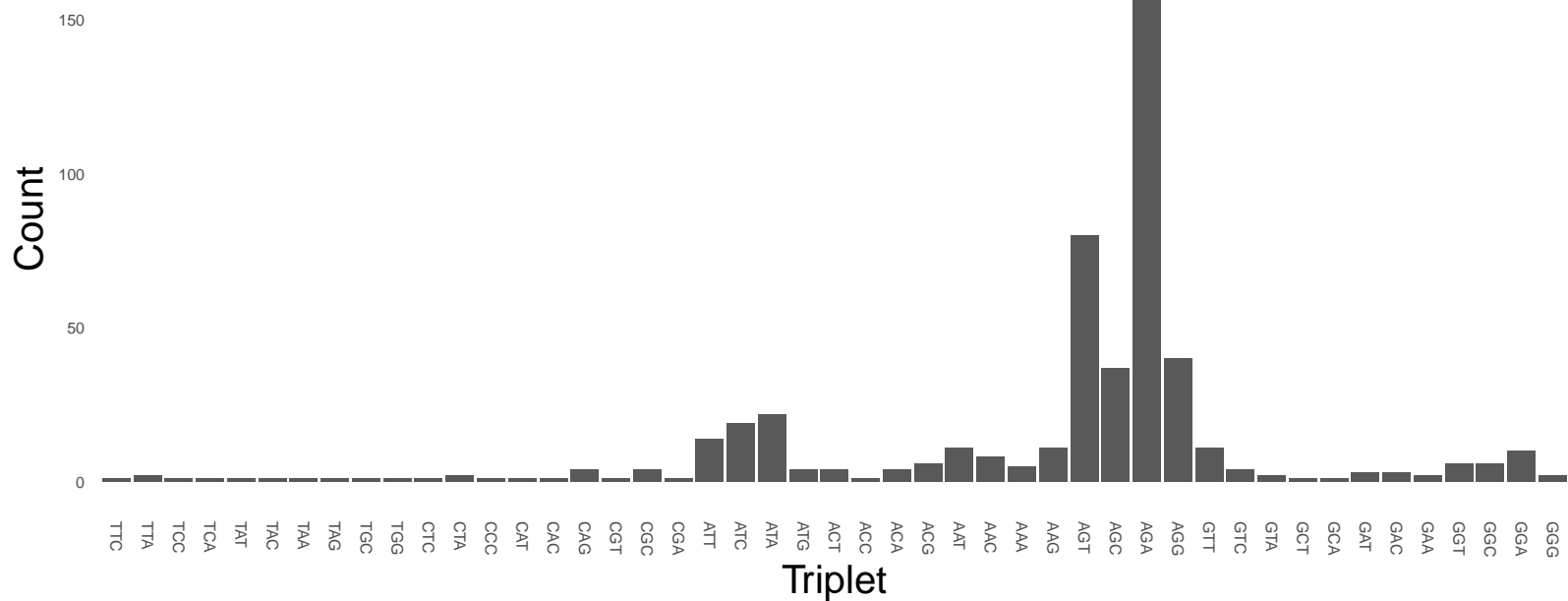
Gene IGHV4-38-2\*02\_A70G



IGHV1-69\*08\_C191T- Final 3 nucleotides as a triplet

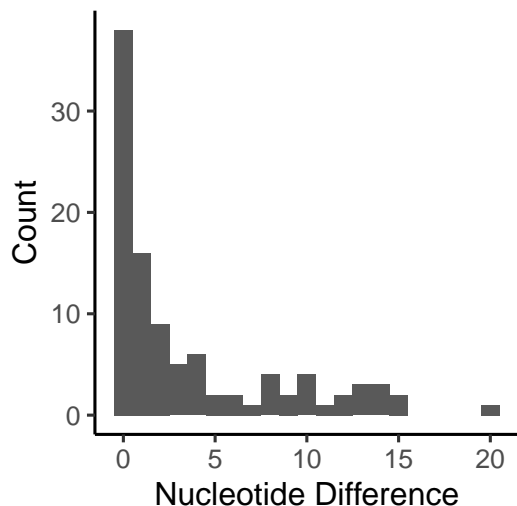


IGHV4-38-2\*02\_A70G- Final 3 nucleotides as a triplet



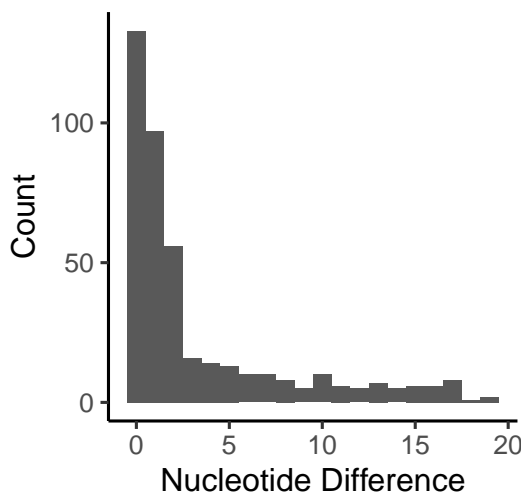
### IGHV1-2\*04

105 sequences assigned  
38 (36.2%) exact matches, in which:  
34 unique CDR3  
5 unique J



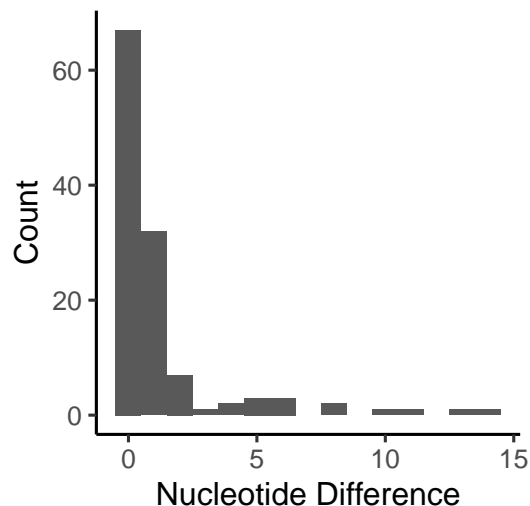
### IGHV1-8\*01

422 sequences assigned  
133 (31.5%) exact matches, in which:  
105 unique CDR3  
4 unique J



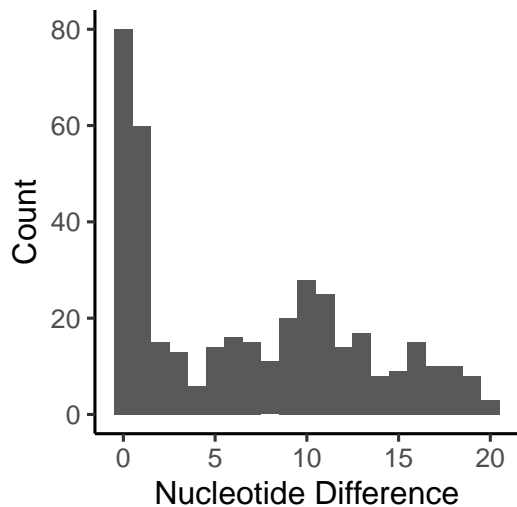
### IGHV1-24\*01

121 sequences assigned  
67 (55.4%) exact matches, in which:  
59 unique CDR3  
5 unique J



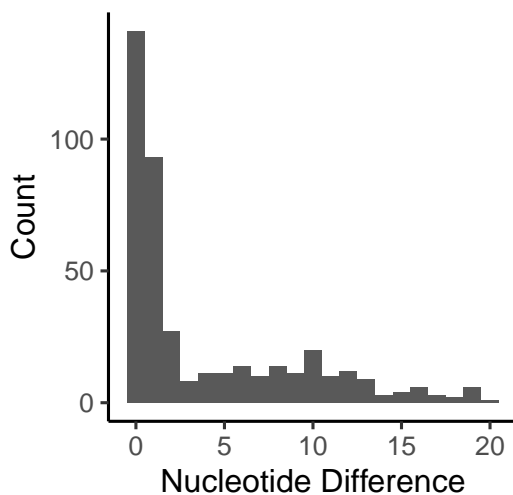
### IGHV1-2\*06

433 sequences assigned  
80 (18.5%) exact matches, in which:  
71 unique CDR3  
5 unique J



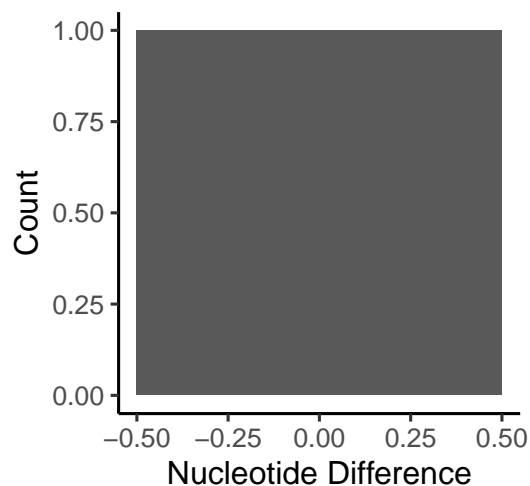
### IGHV1-18\*01

446 sequences assigned  
141 (31.6%) exact matches, in which:  
126 unique CDR3  
4 unique J



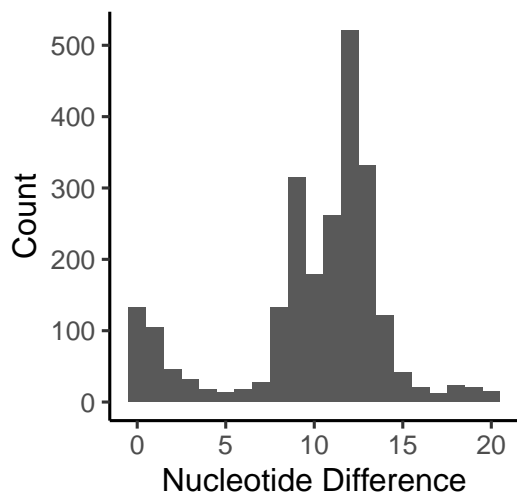
### IGHV1-45\*02

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



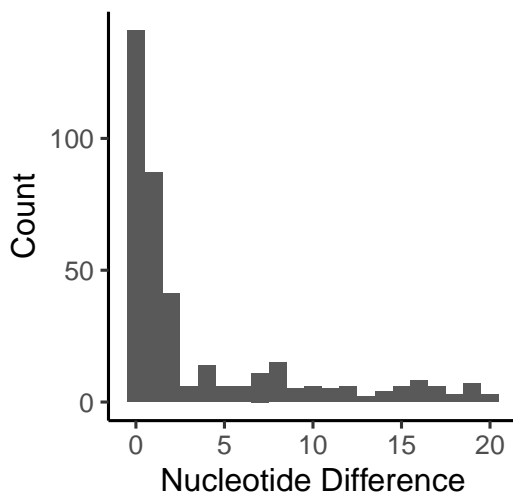
### IGHV1-3\*01

2449 sequences assigned  
132 (5.4%) exact matches, in which:  
125 unique CDR3  
5 unique J



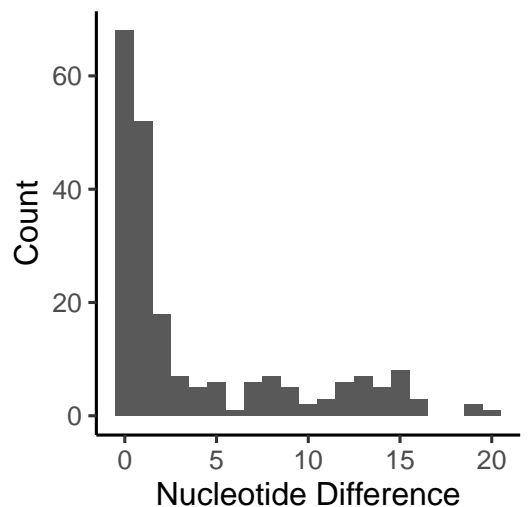
### IGHV1-18\*04

413 sequences assigned  
141 (34.1%) exact matches, in which:  
123 unique CDR3  
6 unique J



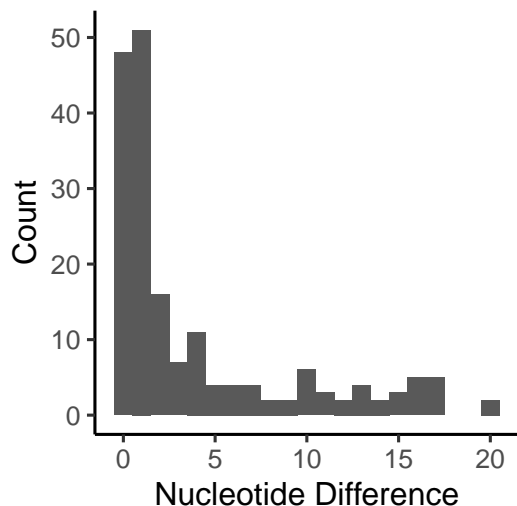
### IGHV1-46\*01

241 sequences assigned  
68 (28.2%) exact matches, in which:  
55 unique CDR3  
4 unique J



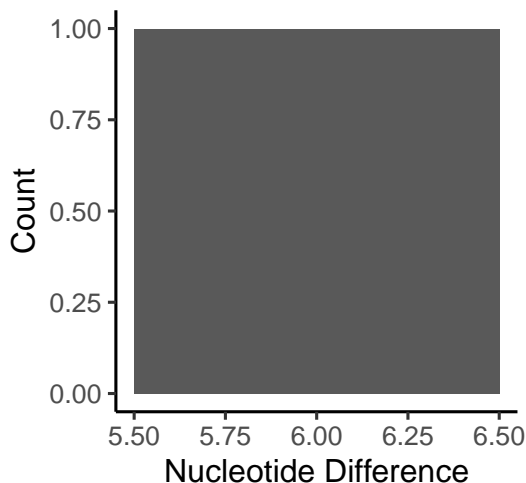
## IGHV1-46\*03

188 sequences assigned  
48 (25.5%) exact matches, in which:  
30 unique CDR3  
5 unique J



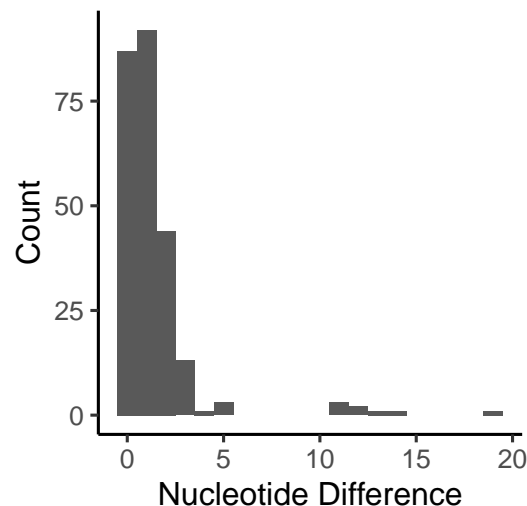
## IGHV1-68\*02

1 sequences assigned  
No exact matches.



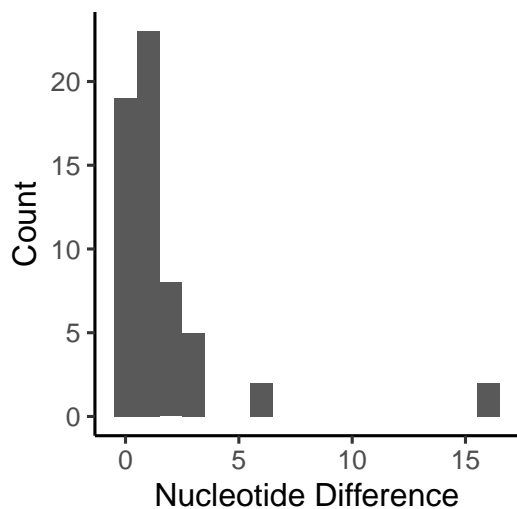
## IGHV1-69\*08\_C191T

251 sequences assigned  
87 (34.7%) exact matches, in which:  
72 unique CDR3  
6 unique J



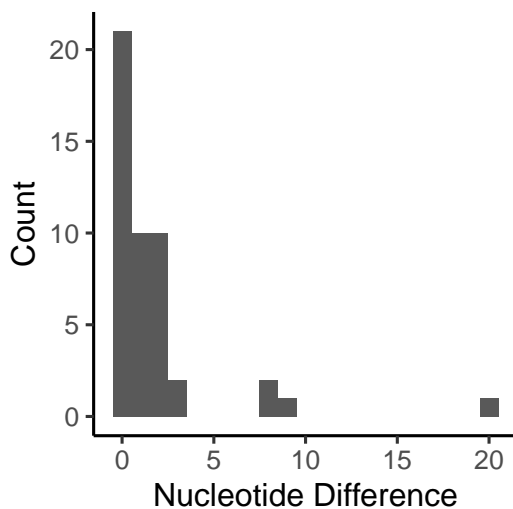
## IGHV1-58\*01

61 sequences assigned  
19 (31.1%) exact matches, in which:  
14 unique CDR3  
3 unique J



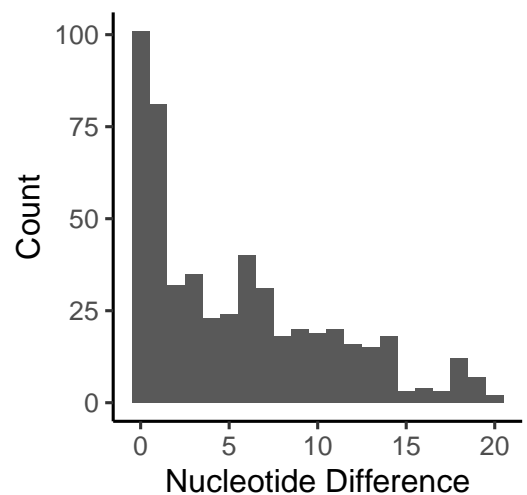
## IGHV1-69-2\*01

48 sequences assigned  
21 (43.8%) exact matches, in which:  
20 unique CDR3  
4 unique J



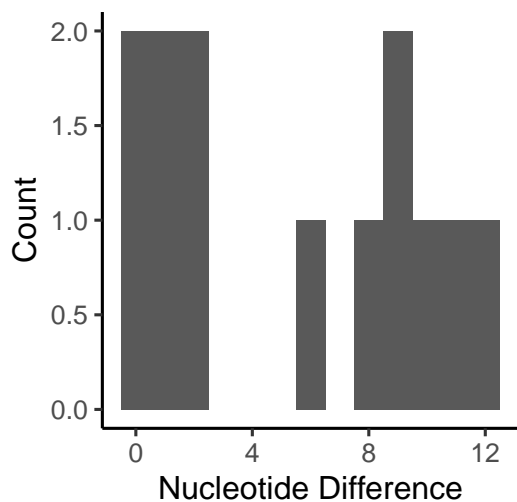
## IGHV2-5\*02

557 sequences assigned  
101 (18.1%) exact matches, in which:  
92 unique CDR3  
6 unique J



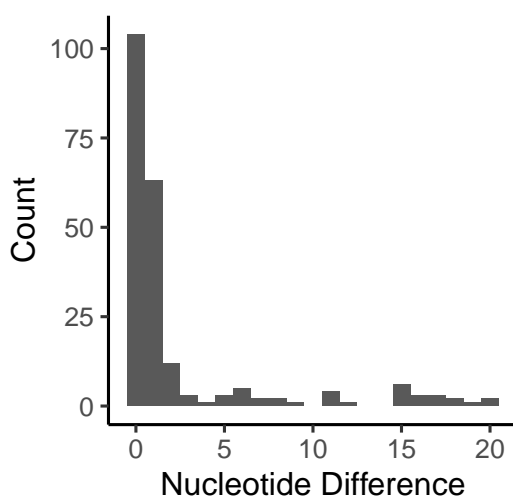
## IGHV1-58\*02

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



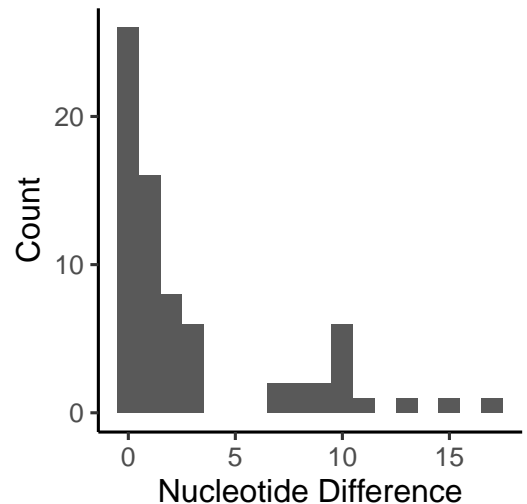
## IGHV1-69\*06

223 sequences assigned  
104 (46.6%) exact matches, in which:  
95 unique CDR3  
5 unique J



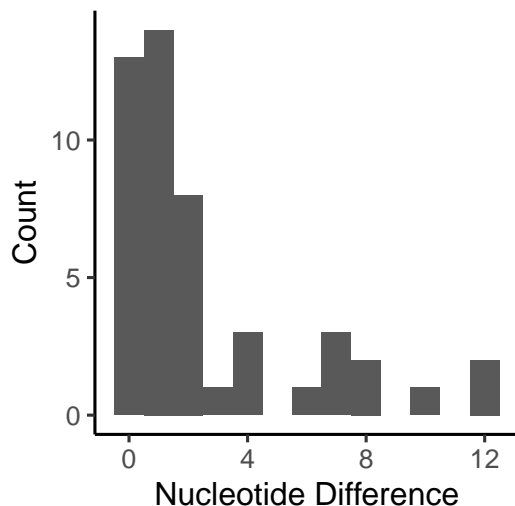
## IGHV2-26\*01

72 sequences assigned  
26 (36.1%) exact matches, in which:  
22 unique CDR3  
4 unique J



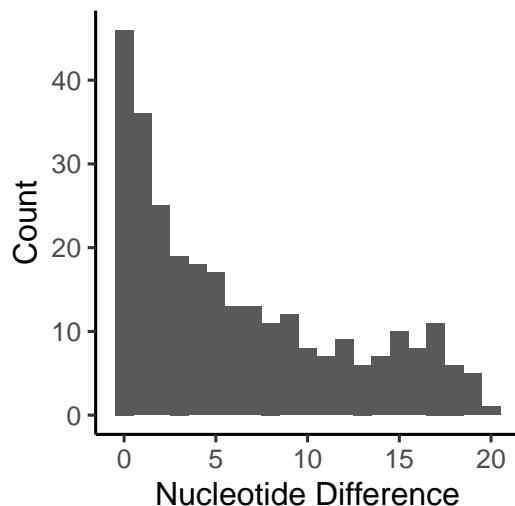
### IGHV2-70\*01

48 sequences assigned  
13 (27.1%) exact matches, in which:  
10 unique CDR3  
4 unique J



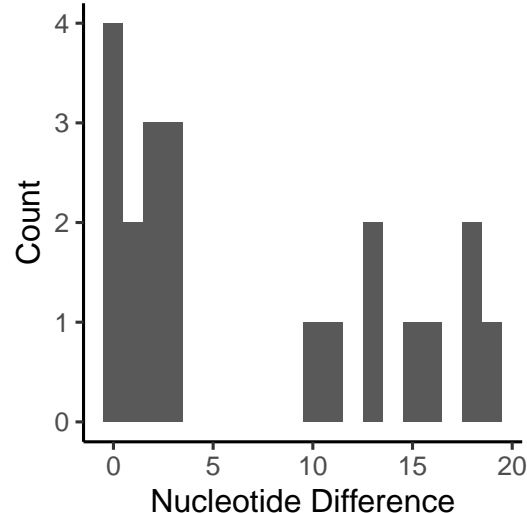
### IGHV3-9\*01

302 sequences assigned  
46 (15.2%) exact matches, in which:  
44 unique CDR3  
5 unique J



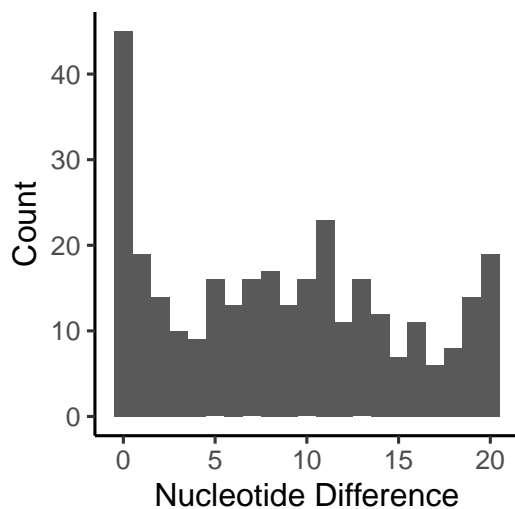
### IGHV3-13\*01

30 sequences assigned  
4 (13.3%) exact matches, in which:  
4 unique CDR3  
3 unique J



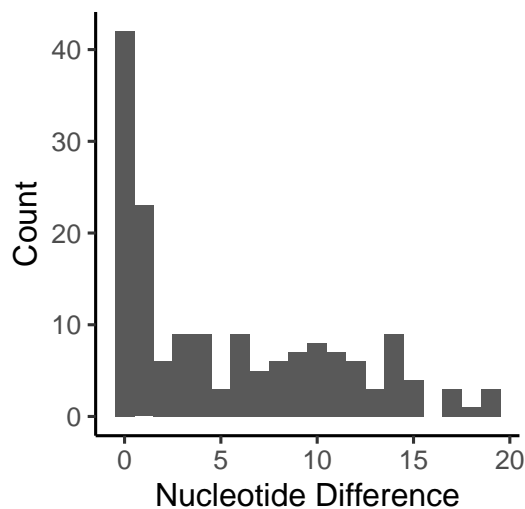
### IGHV3-7\*01

406 sequences assigned  
45 (11.1%) exact matches, in which:  
43 unique CDR3  
4 unique J



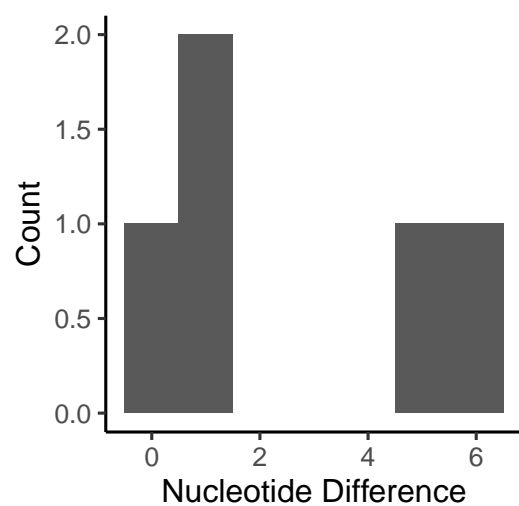
### IGHV3-11\*01

179 sequences assigned  
42 (23.5%) exact matches, in which:  
40 unique CDR3  
5 unique J



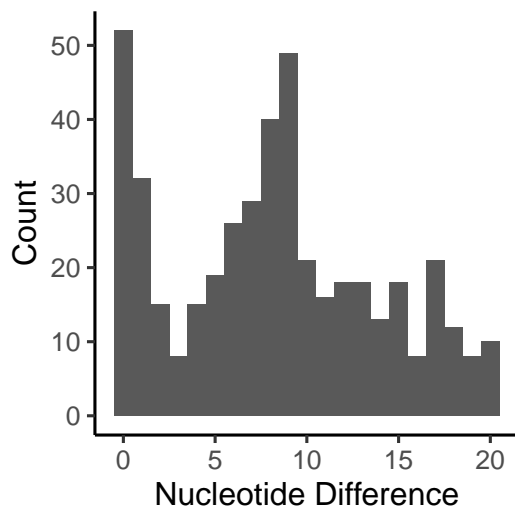
### IGHV3-13\*05

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



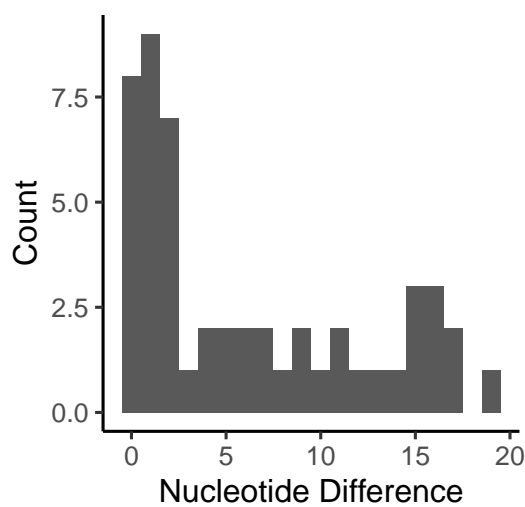
### IGHV3-7\*03

474 sequences assigned  
52 (11%) exact matches, in which:  
50 unique CDR3  
5 unique J



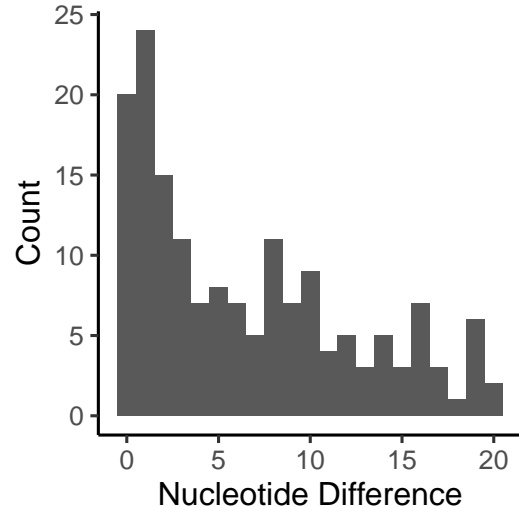
### IGHV3-11\*06

53 sequences assigned  
8 (15.1%) exact matches, in which:  
8 unique CDR3  
3 unique J



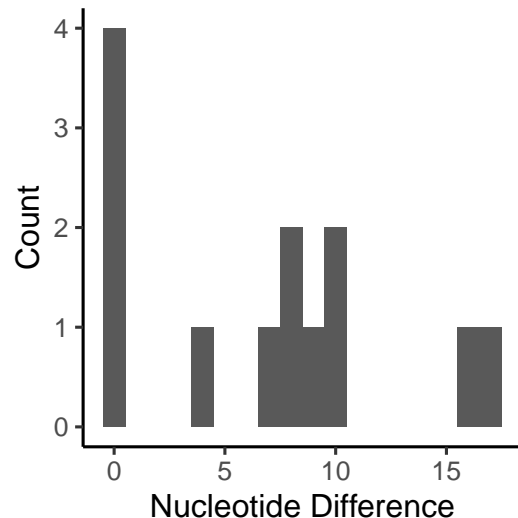
### IGHV3-15\*01

174 sequences assigned  
20 (11.5%) exact matches, in which:  
19 unique CDR3  
5 unique J



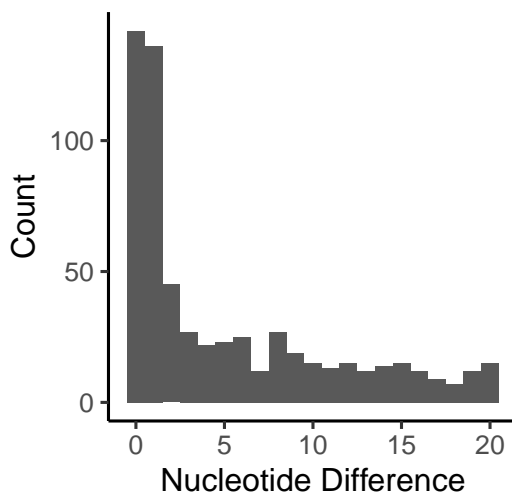
### IGHV3-20\*01

14 sequences assigned  
4 (28.6%) exact matches, in which:  
4 unique CDR3  
3 unique J



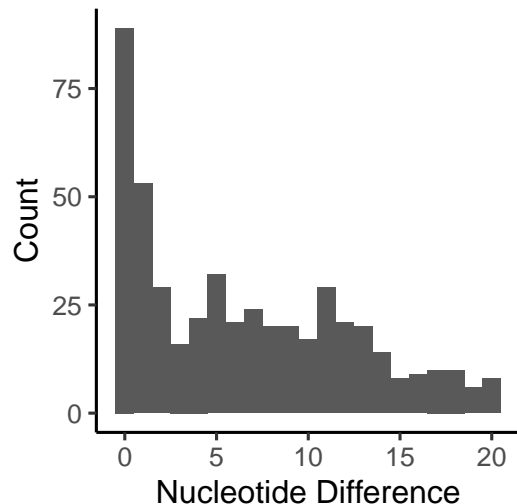
### IGHV3-33\*01

646 sequences assigned  
142 (22%) exact matches, in which:  
111 unique CDR3  
5 unique J



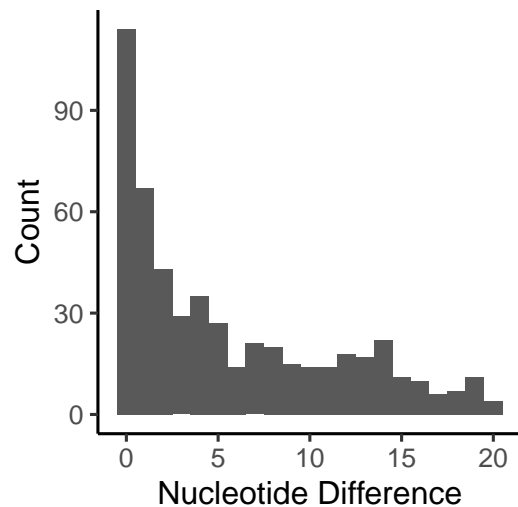
### IGHV3-48\*03

524 sequences assigned  
89 (17%) exact matches, in which:  
85 unique CDR3  
6 unique J



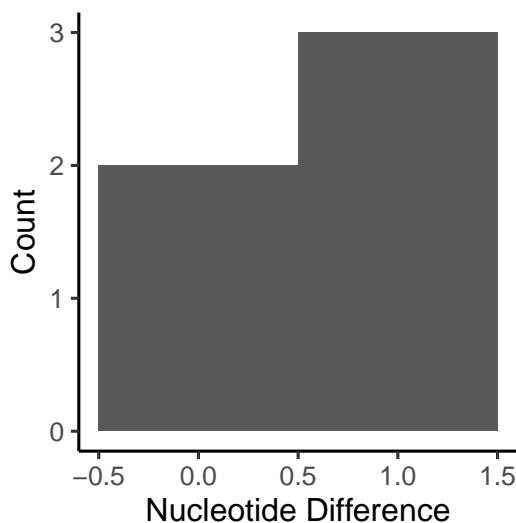
### IGHV3-21\*01

548 sequences assigned  
114 (20.8%) exact matches, in which:  
103 unique CDR3  
6 unique J



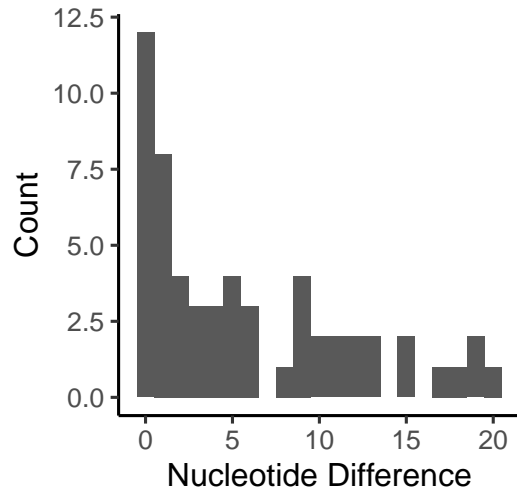
### IGHV3-43\*01

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



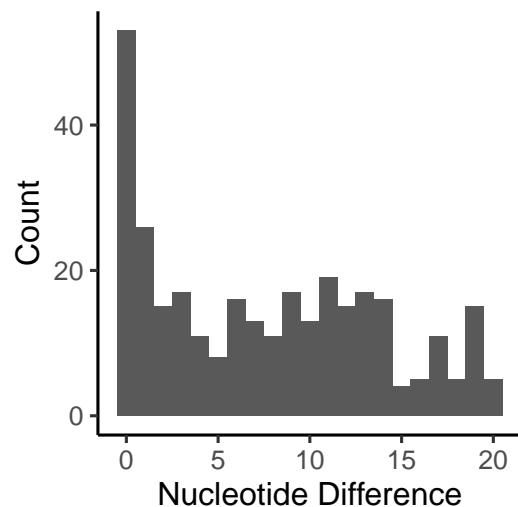
### IGHV3-49\*03

57 sequences assigned  
12 (21.1%) exact matches, in which:  
12 unique CDR3  
4 unique J



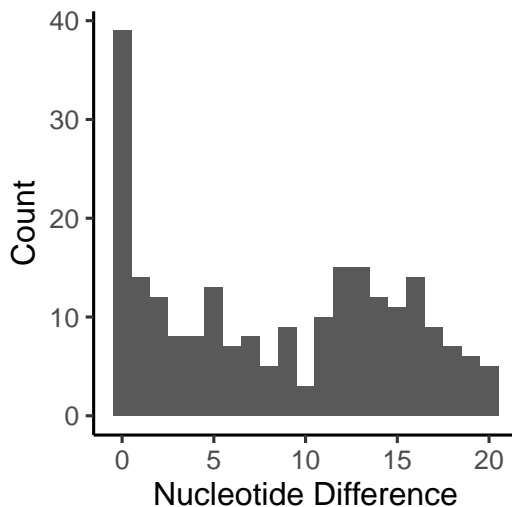
### IGHV3-23\*04

430 sequences assigned  
53 (12.3%) exact matches, in which:  
51 unique CDR3  
5 unique J



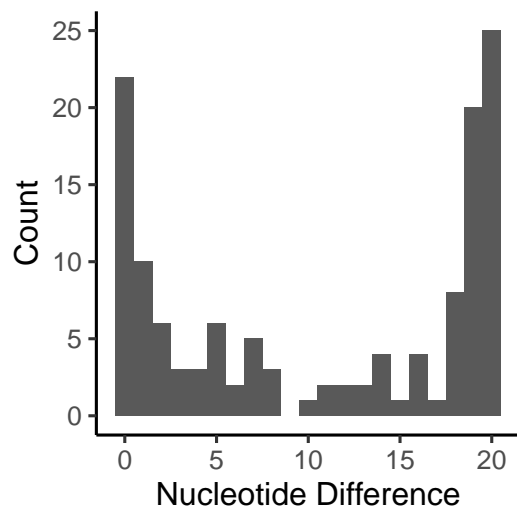
### IGHV3-48\*01

266 sequences assigned  
39 (14.7%) exact matches, in which:  
38 unique CDR3  
4 unique J



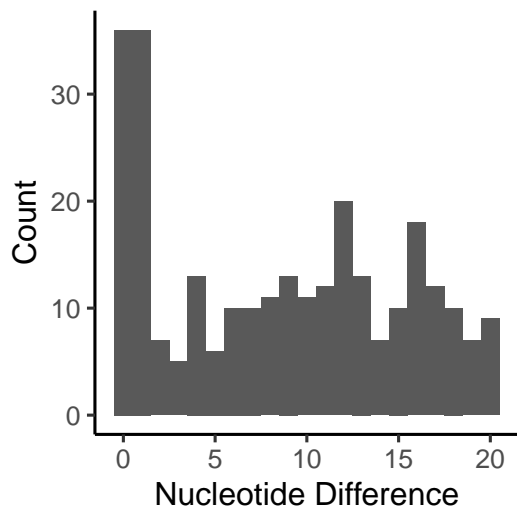
### IGHV3-49\*04

153 sequences assigned  
22 (14.4%) exact matches, in which:  
20 unique CDR3  
3 unique J



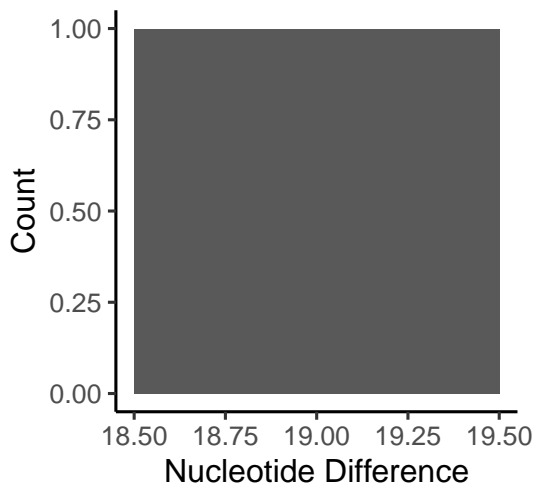
### IGHV3-53\*02

317 sequences assigned  
36 (11.4%) exact matches, in which:  
34 unique CDR3  
5 unique J



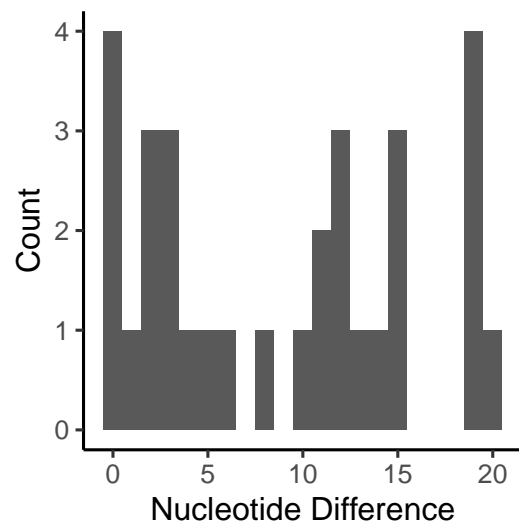
### IGHV3-69-1\*01

3 sequences assigned  
No exact matches.



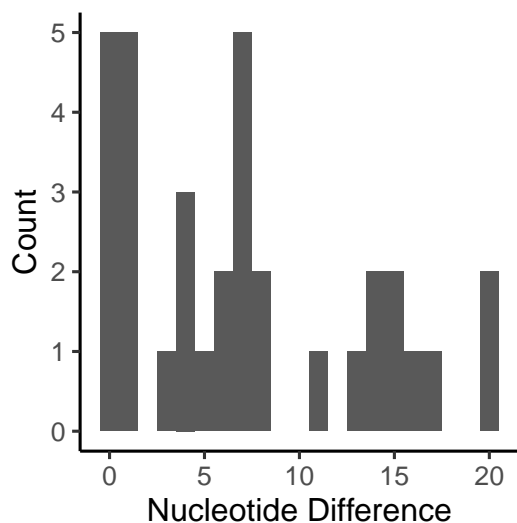
### IGHV3-73\*02

36 sequences assigned  
4 (11.1%) exact matches, in which:  
4 unique CDR3  
2 unique J



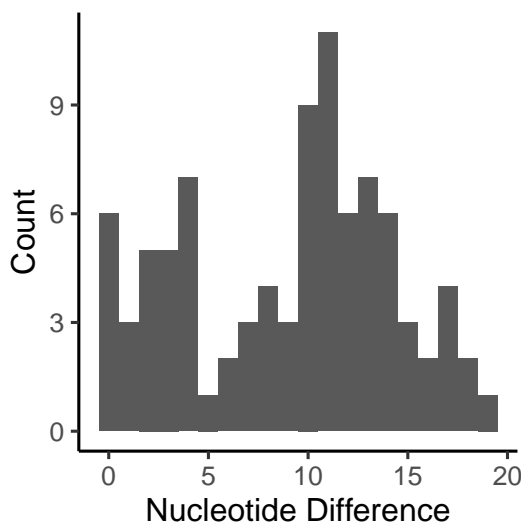
### IGHV3-64\*01

40 sequences assigned  
5 (12.5%) exact matches, in which:  
4 unique CDR3  
3 unique J



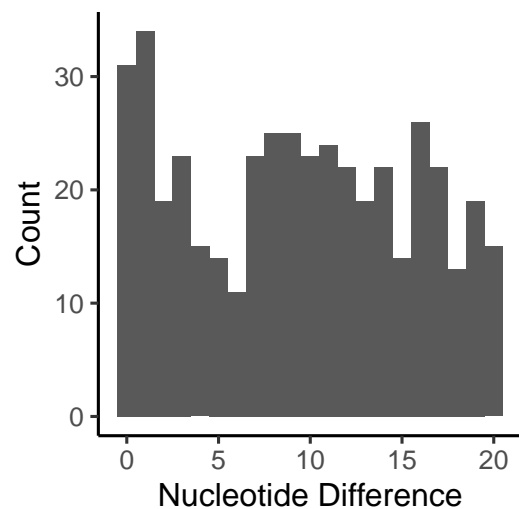
### IGHV3-72\*01

104 sequences assigned  
6 (5.8%) exact matches, in which:  
6 unique CDR3  
4 unique J



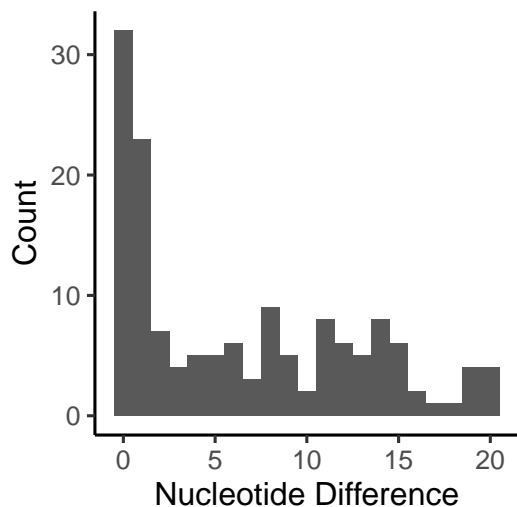
### IGHV3-74\*01

502 sequences assigned  
31 (6.2%) exact matches, in which:  
31 unique CDR3  
5 unique J



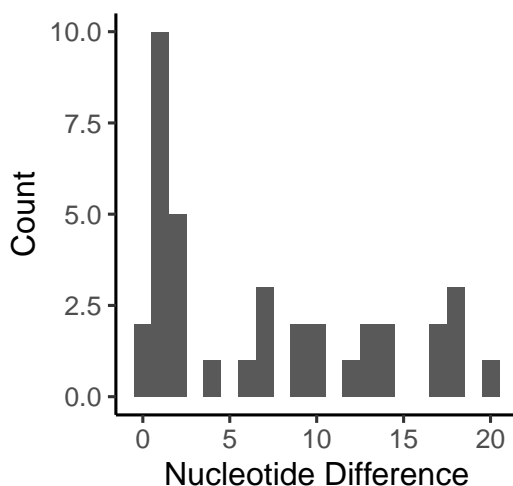
### IGHV3-66\*02

175 sequences assigned  
32 (18.3%) exact matches, in which:  
27 unique CDR3  
4 unique J



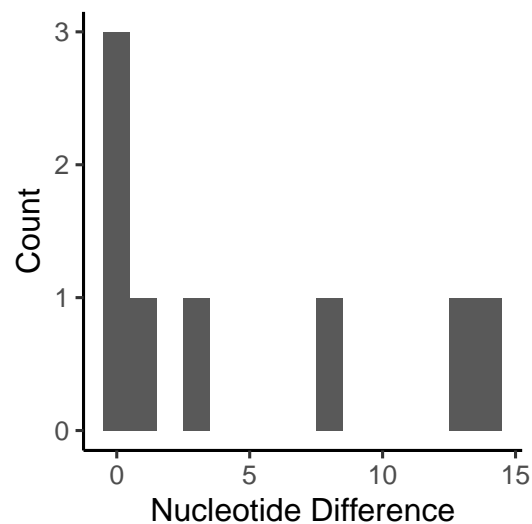
### IGHV3-73\*01

45 sequences assigned  
2 (4.4%) exact matches, in which:  
1 unique CDR3  
1 unique J



### IGHV3-43D\*04

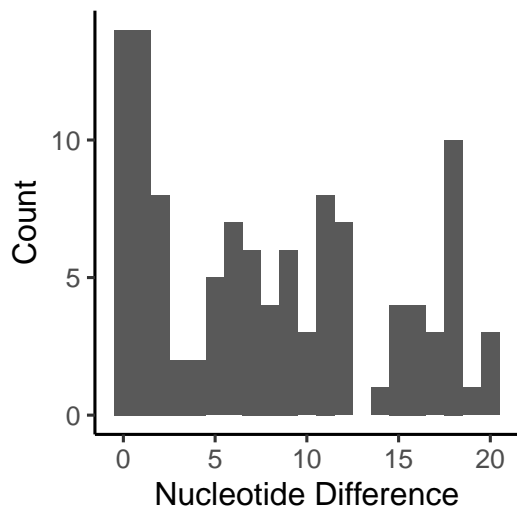
8 sequences assigned  
3 (37.5%) exact matches, in which:  
3 unique CDR3  
2 unique J





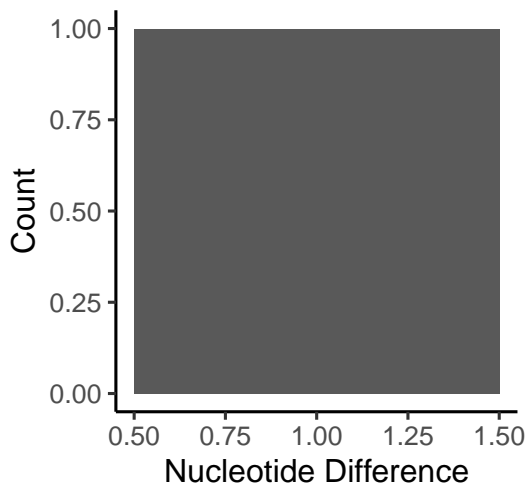
### IGHV3-64D\*06

133 sequences assigned  
14 (10.5%) exact matches, in which:  
14 unique CDR3  
3 unique J



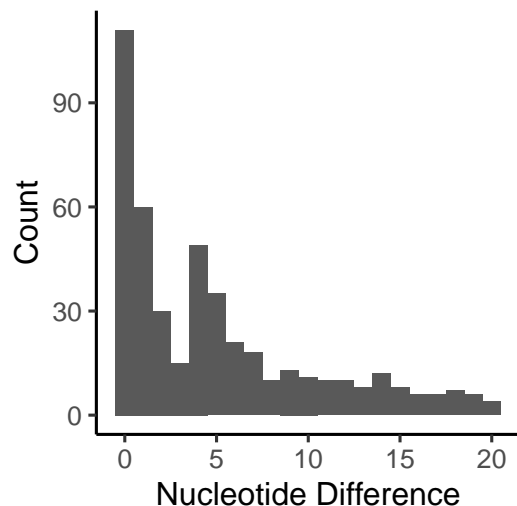
### IGHV4-28\*07

6 sequences assigned  
No exact matches.



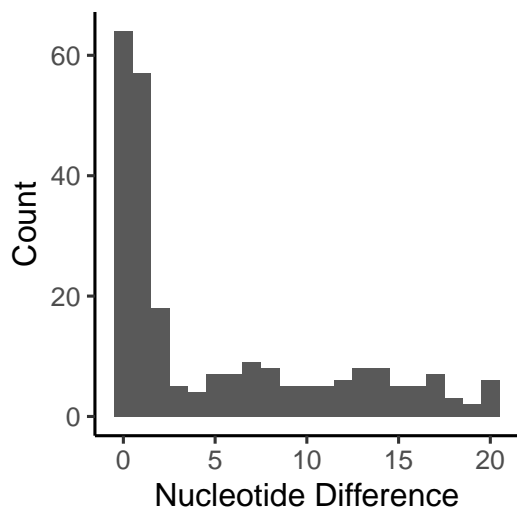
### IGHV4-34\*01

476 sequences assigned  
111 (23.3%) exact matches, in which:  
108 unique CDR3  
6 unique J



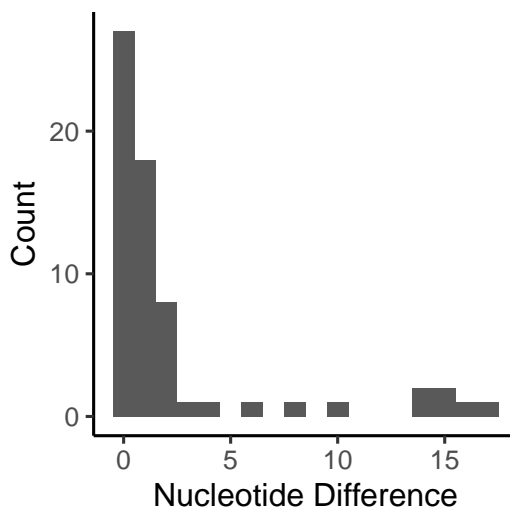
### IGHV4-4\*02

271 sequences assigned  
64 (23.6%) exact matches, in which:  
50 unique CDR3  
4 unique J



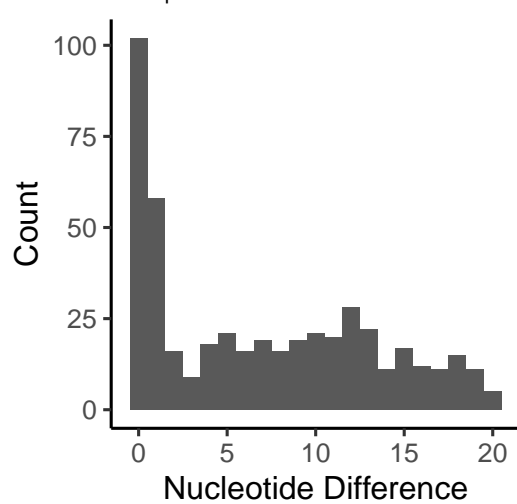
### IGHV4-30-2\*01

65 sequences assigned  
27 (41.5%) exact matches, in which:  
23 unique CDR3  
4 unique J



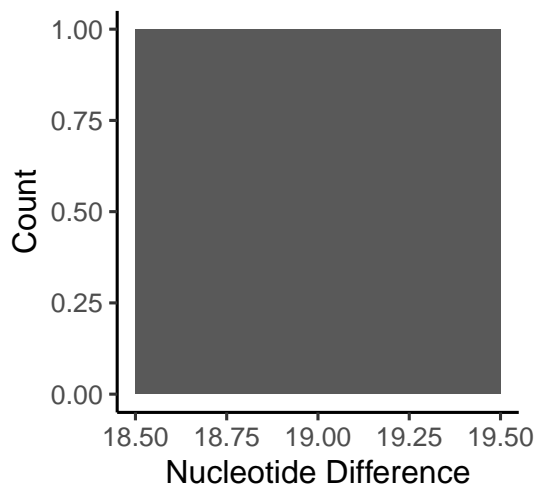
### IGHV4-38-2\*02\_A70G

515 sequences assigned  
102 (19.8%) exact matches, in which:  
85 unique CDR3  
5 unique J



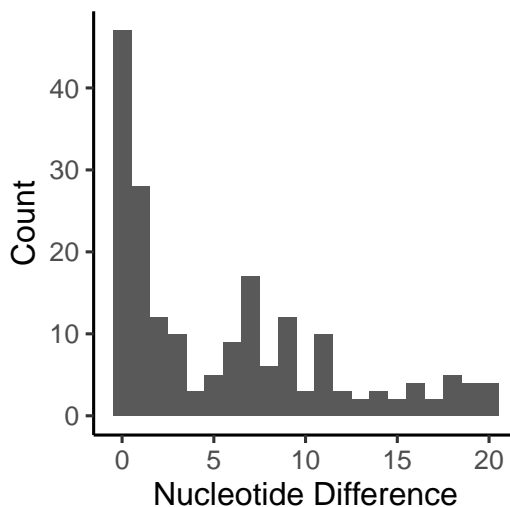
### IGHV4-28\*03

1 sequences assigned  
No exact matches.



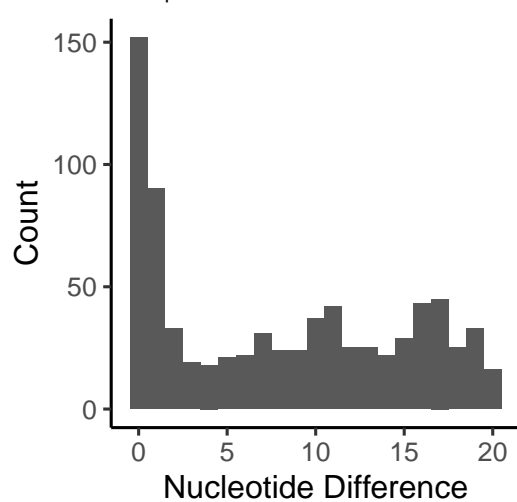
### IGHV4-31\*03

243 sequences assigned  
47 (19.3%) exact matches, in which:  
43 unique CDR3  
5 unique J



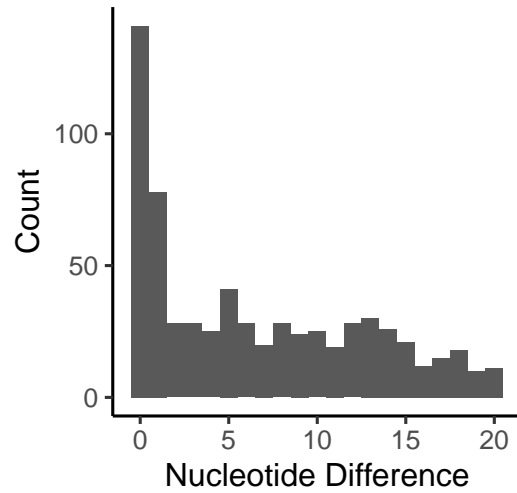
### IGHV4-39\*01

845 sequences assigned  
152 (18%) exact matches, in which:  
146 unique CDR3  
6 unique J



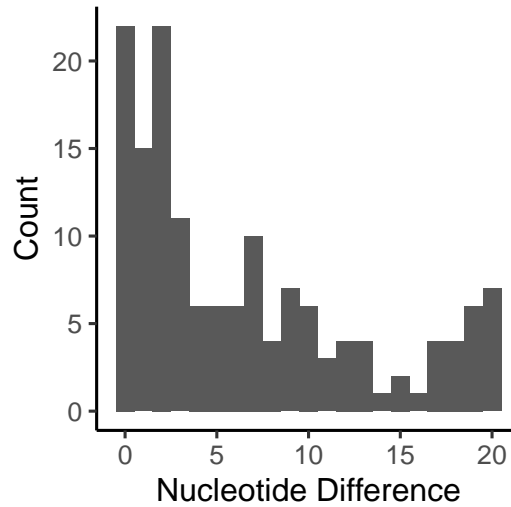
### IGHV4–59\*01

728 sequences assigned  
141 (19.4%) exact matches, in which:  
121 unique CDR3  
6 unique J



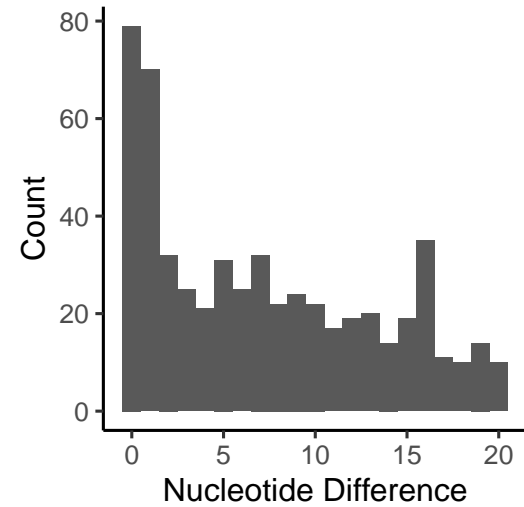
### IGHV5–10–1\*03

158 sequences assigned  
22 (13.9%) exact matches, in which:  
22 unique CDR3  
3 unique J



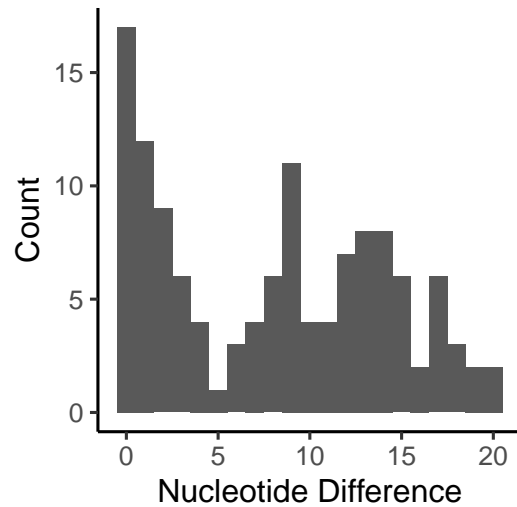
### IGHV6–1\*01

575 sequences assigned  
79 (13.7%) exact matches, in which:  
64 unique CDR3  
6 unique J



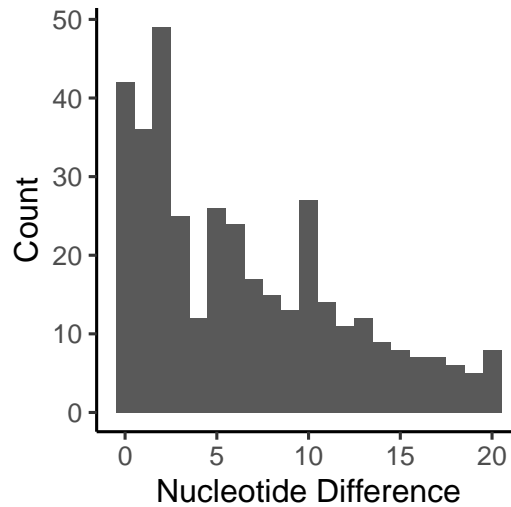
### IGHV4–61\*01

145 sequences assigned  
17 (11.7%) exact matches, in which:  
16 unique CDR3  
4 unique J



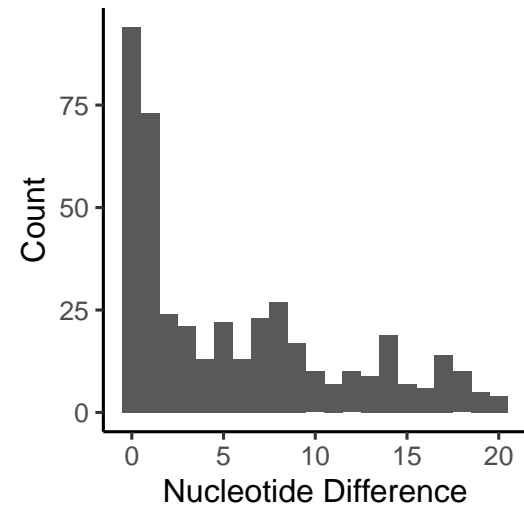
### IGHV5–51\*01

394 sequences assigned  
42 (10.7%) exact matches, in which:  
38 unique CDR3  
5 unique J



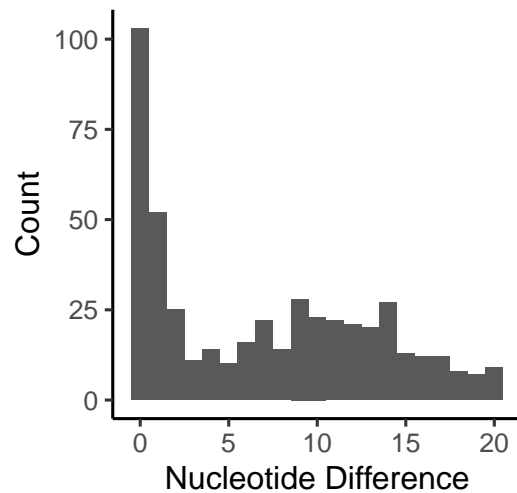
### IGHV7–4–1\*02

449 sequences assigned  
94 (20.9%) exact matches, in which:  
81 unique CDR3  
5 unique J



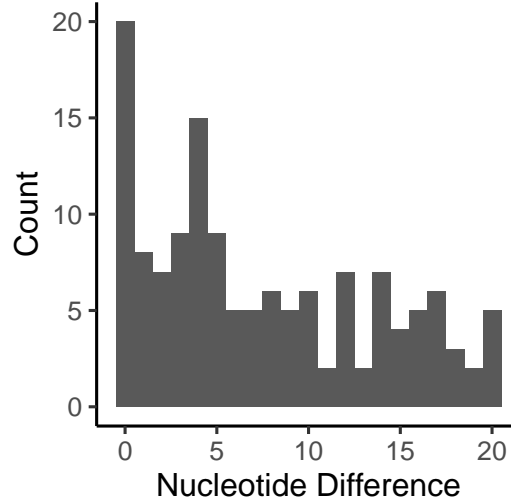
### IGHV4–61\*02

496 sequences assigned  
103 (20.8%) exact matches, in which:  
89 unique CDR3  
6 unique J



### IGHV5–51\*03

147 sequences assigned  
20 (13.6%) exact matches, in which:  
20 unique CDR3  
4 unique J





Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.