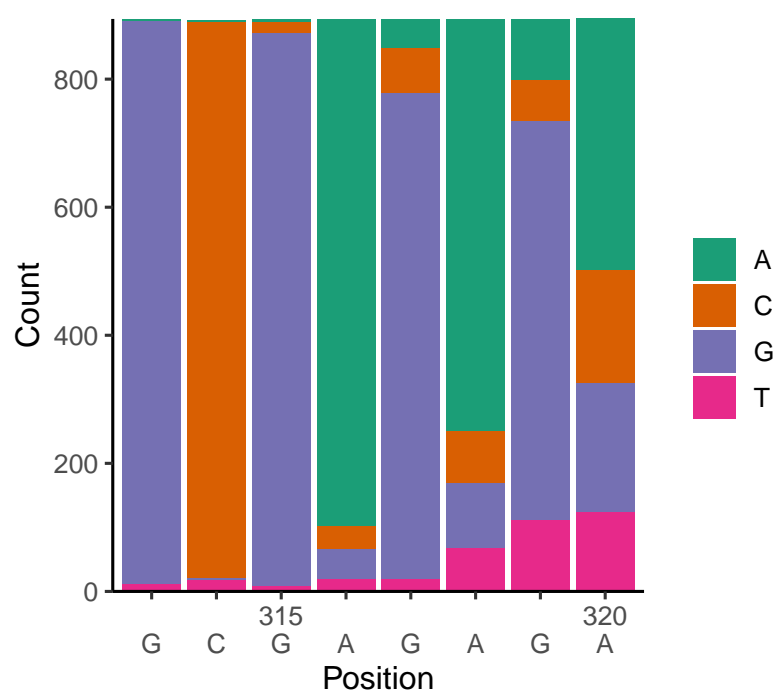
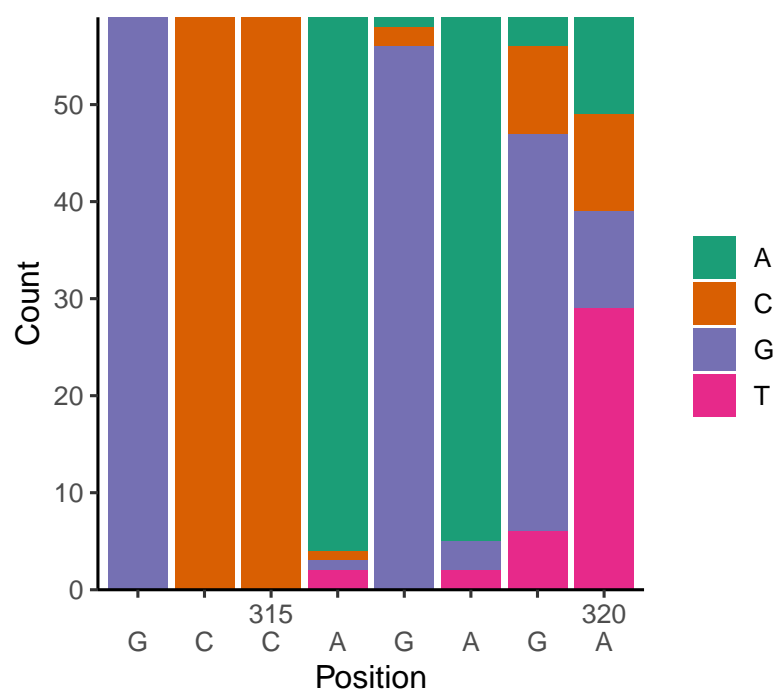


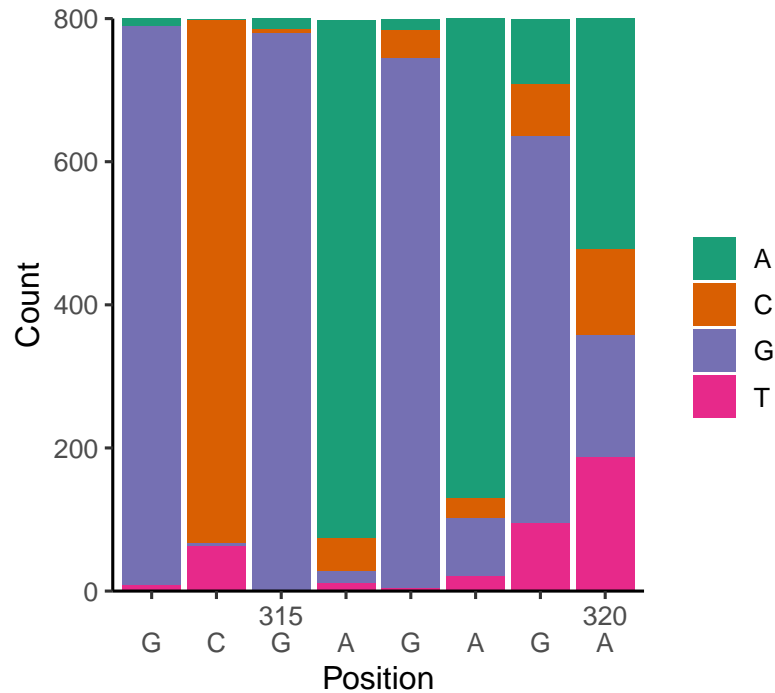
Gene IGHV1-69\*08\_C191T



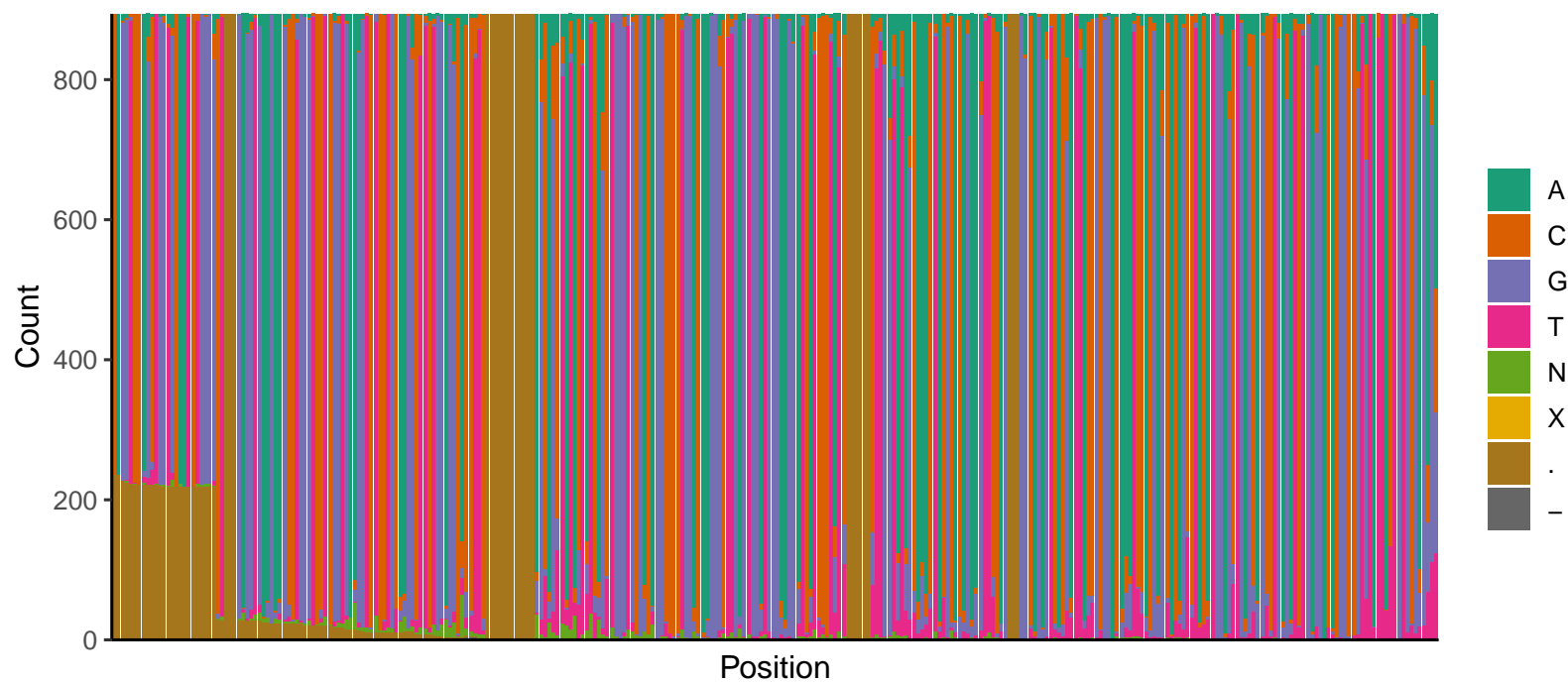
Gene IGHV4-30-2\*01\_G139C



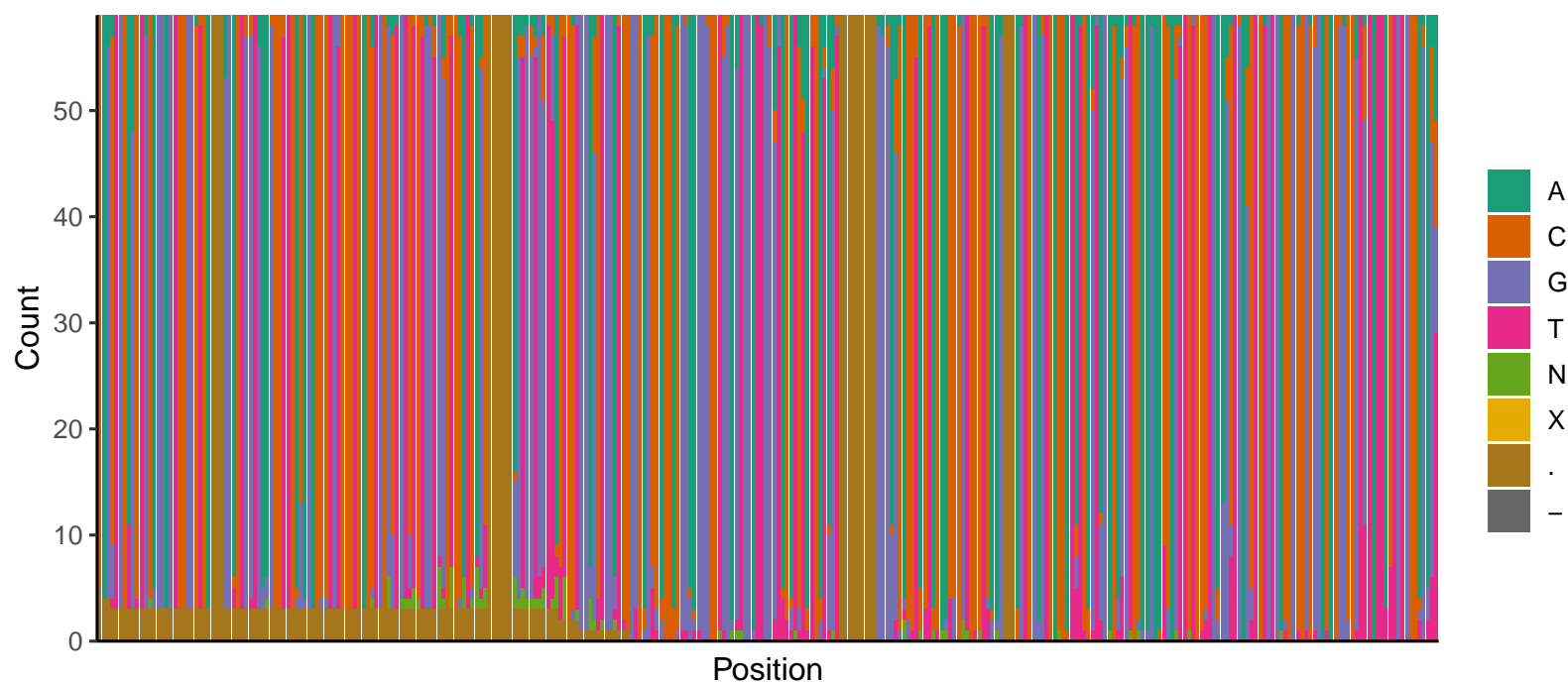
Gene IGHV4-38-2\*02\_A70G



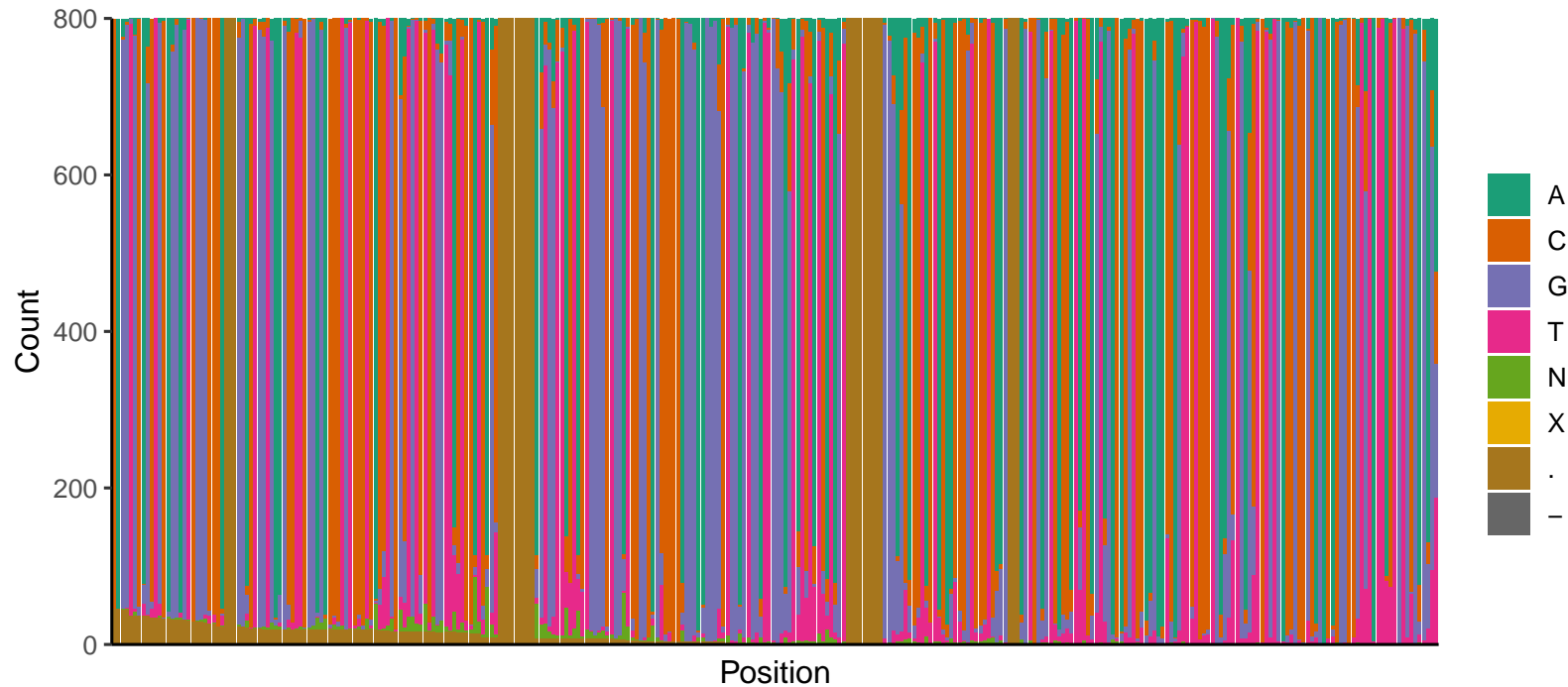
Gene IGHV1-69\*08\_C191T



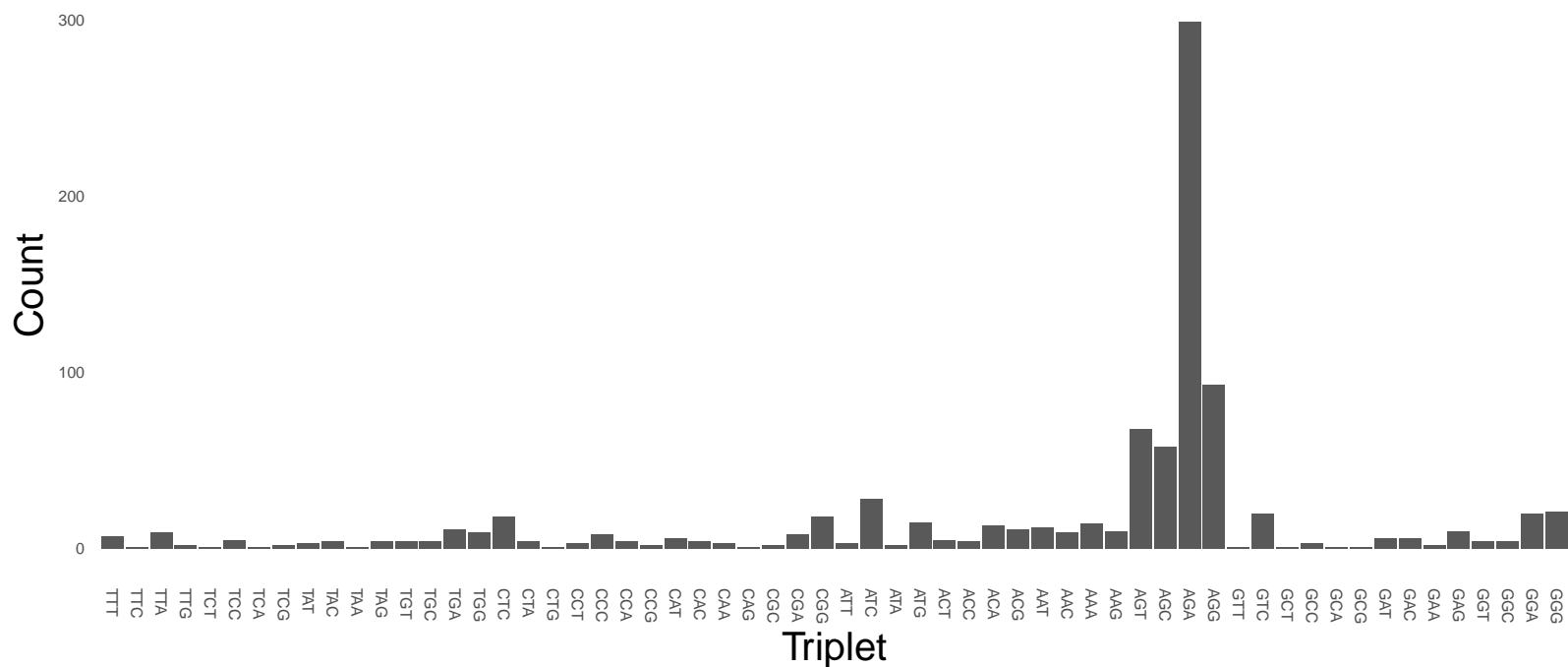
Gene IGHV4-30-2\*01\_G139C



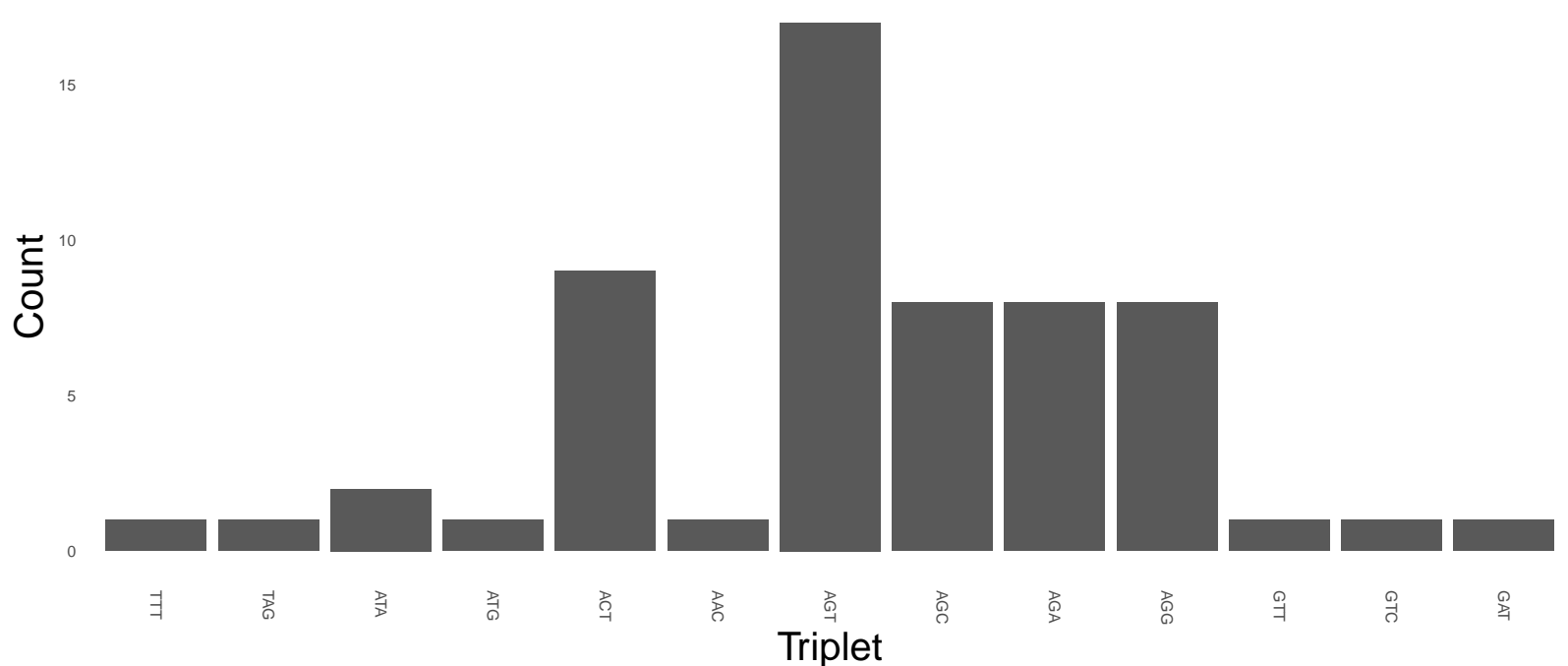
Gene IGHV4-38-2\*02\_A70G



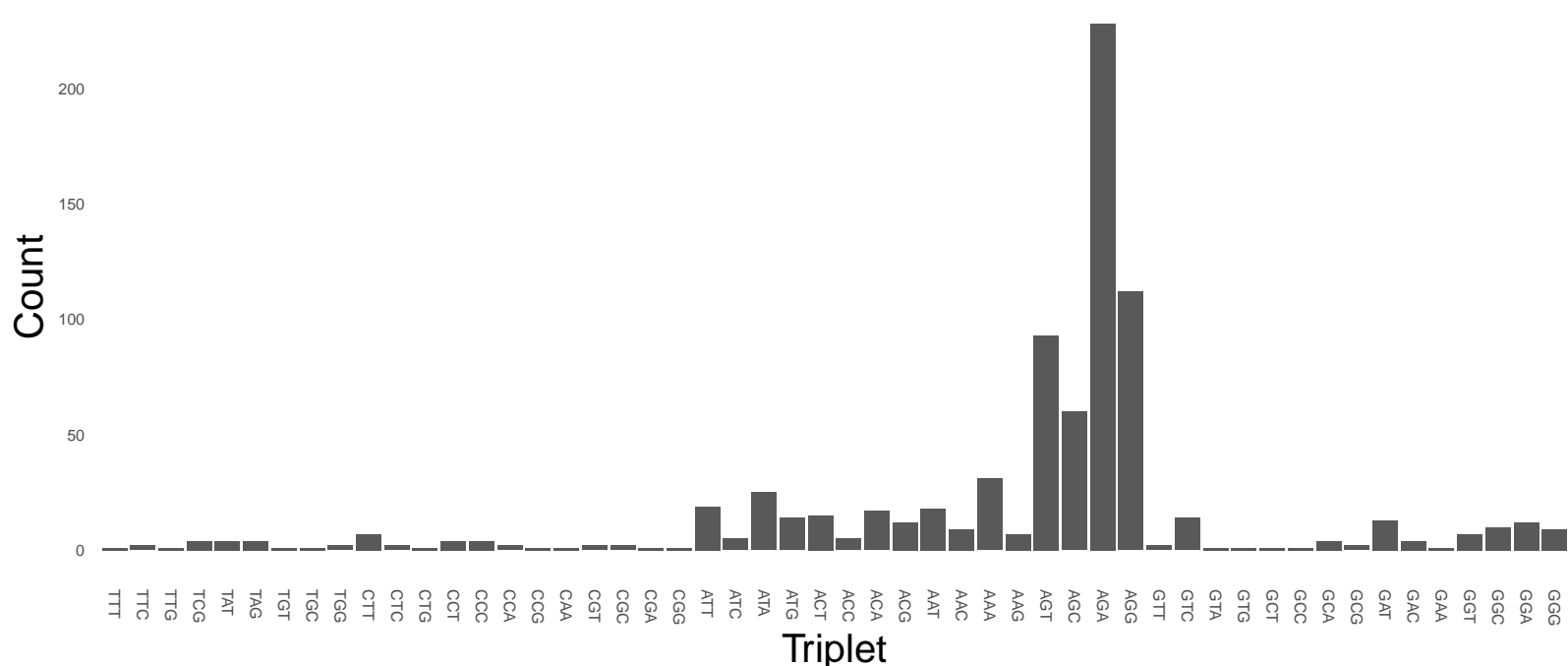
IGHV1-69\*08\_C191T- Final 3 nucleotides as a triplet



IGHV4-30-2\*01\_G139C- Final 3 nucleotides as a triplet

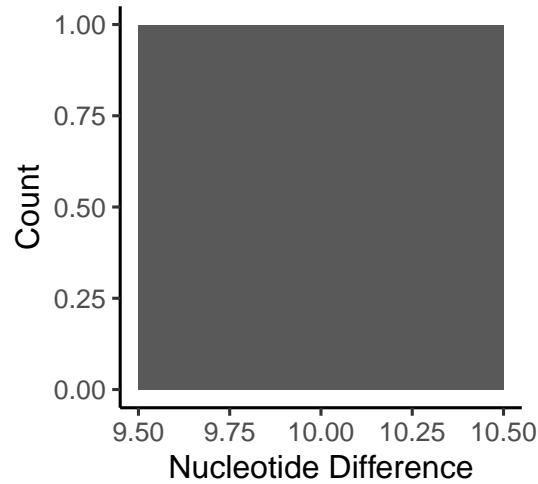


IGHV4-38-2\*02\_A70G- Final 3 nucleotides as a triplet



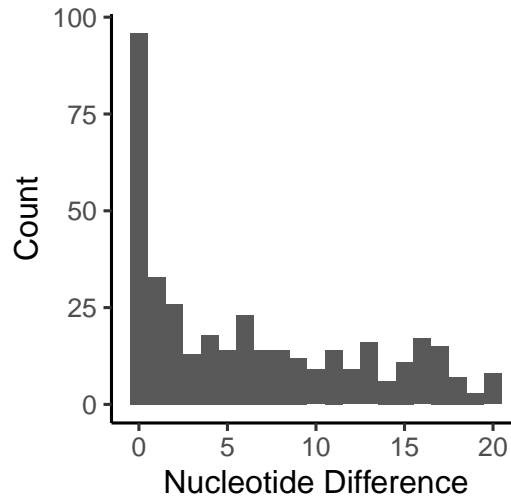
### IGHV1/OR21-1\*01

1 sequences assigned  
No exact matches.



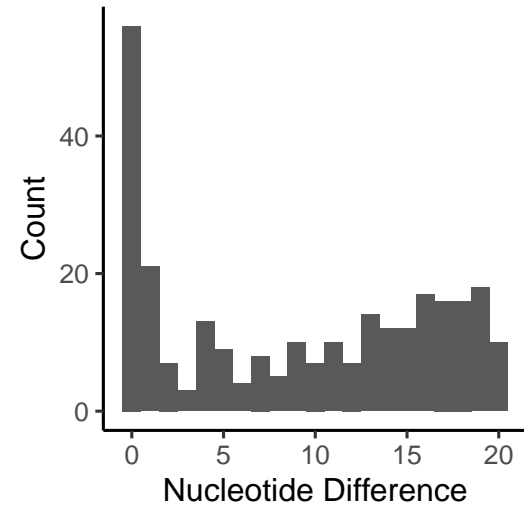
### IGHV1-3\*01

553 sequences assigned  
96 (17.4%) exact matches, in which:  
95 unique CDR3  
6 unique J



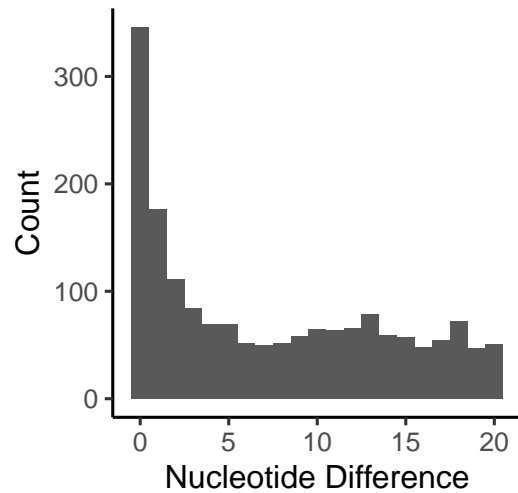
### IGHV1-24\*01

348 sequences assigned  
56 (16.1%) exact matches, in which:  
55 unique CDR3  
6 unique J



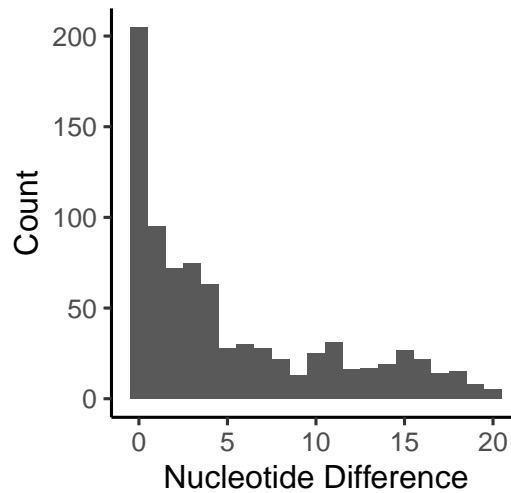
### IGHV1-2\*02

2686 sequences assigned  
346 (12.9%) exact matches, in which:  
337 unique CDR3  
6 unique J



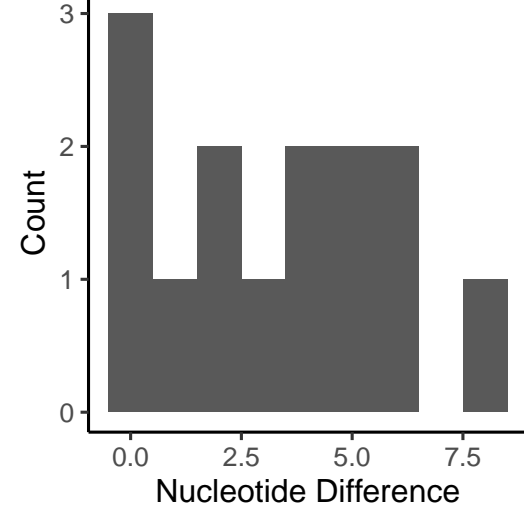
### IGHV1-8\*01

943 sequences assigned  
205 (21.7%) exact matches, in which:  
195 unique CDR3  
6 unique J



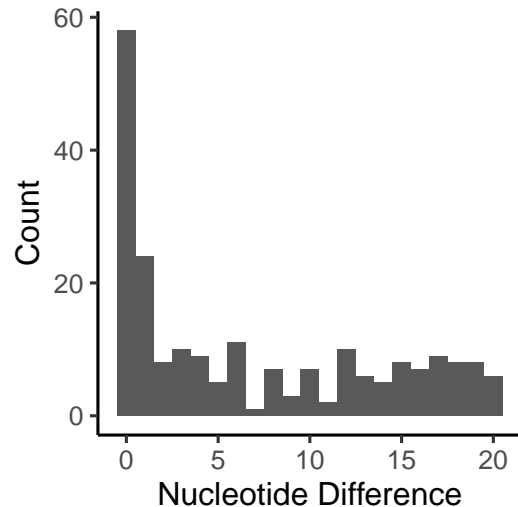
### IGHV1-45\*02

16 sequences assigned  
3 (18.8%) exact matches, in which:  
3 unique CDR3  
2 unique J



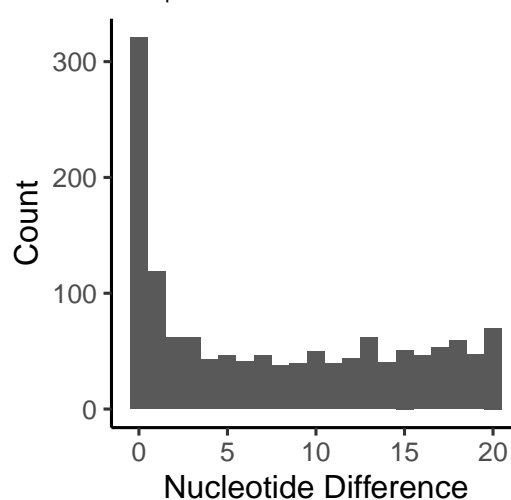
### IGHV1-2\*04

356 sequences assigned  
58 (16.3%) exact matches, in which:  
56 unique CDR3  
4 unique J



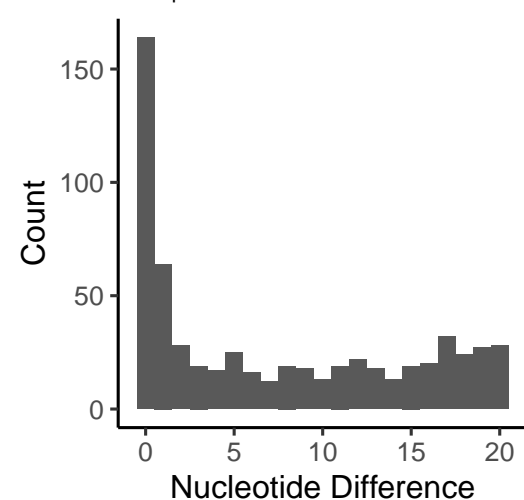
### IGHV1-18\*01

2218 sequences assigned  
321 (14.5%) exact matches, in which:  
312 unique CDR3  
5 unique J



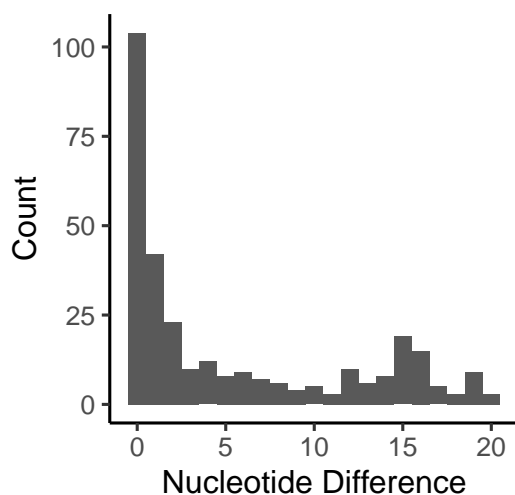
### IGHV1-46\*01

1078 sequences assigned  
164 (15.2%) exact matches, in which:  
161 unique CDR3  
6 unique J



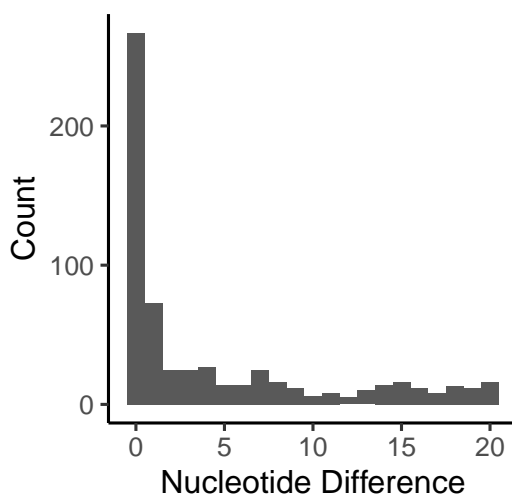
### IGHV1–46\*03

476 sequences assigned  
104 (21.8%) exact matches, in which:  
102 unique CDR3  
5 unique J



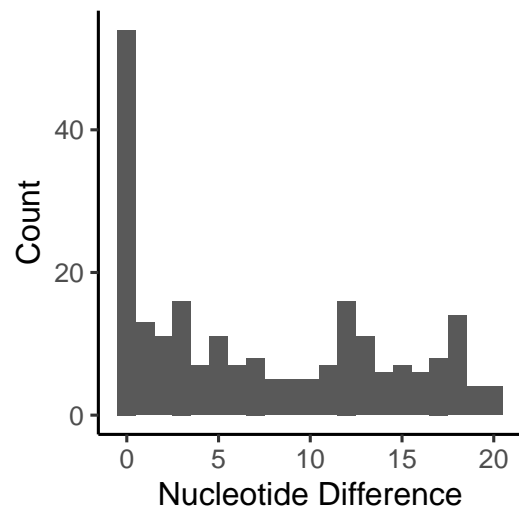
### IGHV1–69\*08\_C191T

894 sequences assigned  
267 (29.9%) exact matches, in which:  
263 unique CDR3  
6 unique J



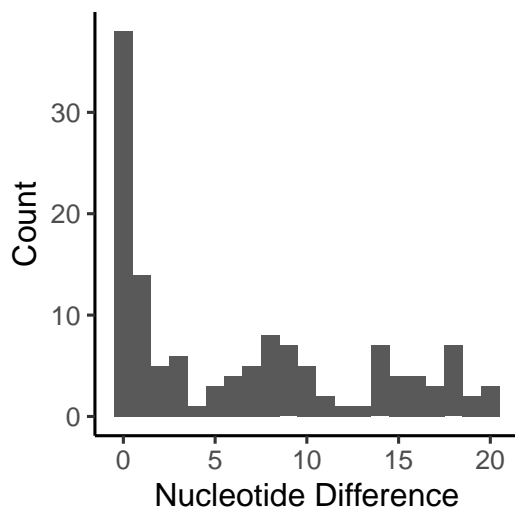
### IGHV2–70\*15

338 sequences assigned  
54 (16%) exact matches, in which:  
50 unique CDR3  
4 unique J



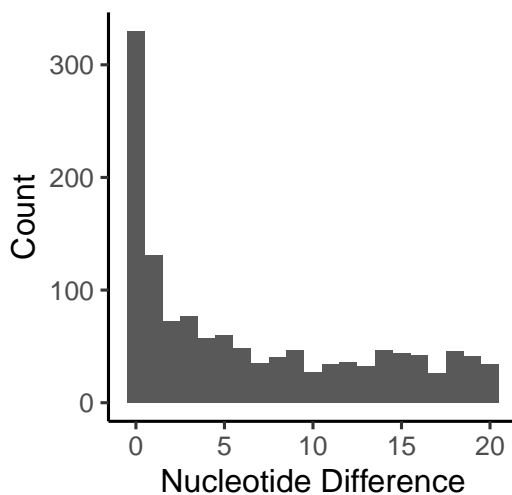
### IGHV1–58\*02

152 sequences assigned  
38 (25%) exact matches, in which:  
38 unique CDR3  
5 unique J



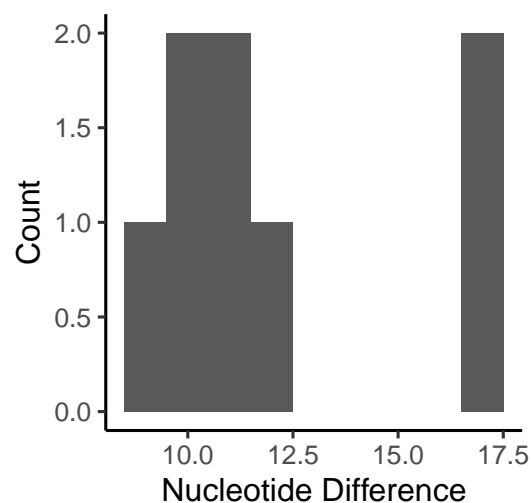
### IGHV2–5\*02

1594 sequences assigned  
330 (20.7%) exact matches, in which:  
324 unique CDR3  
6 unique J



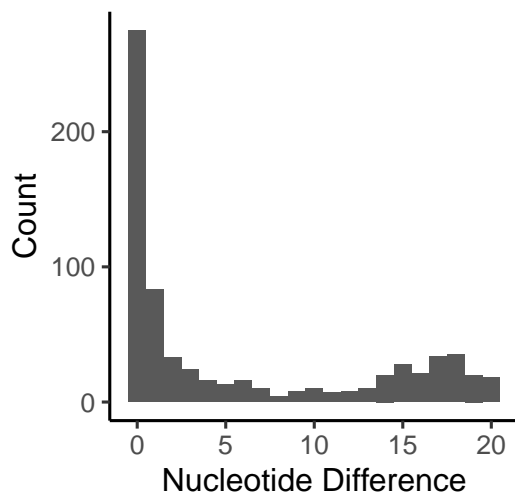
### IGHV2–70D\*14

10 sequences assigned  
No exact matches.



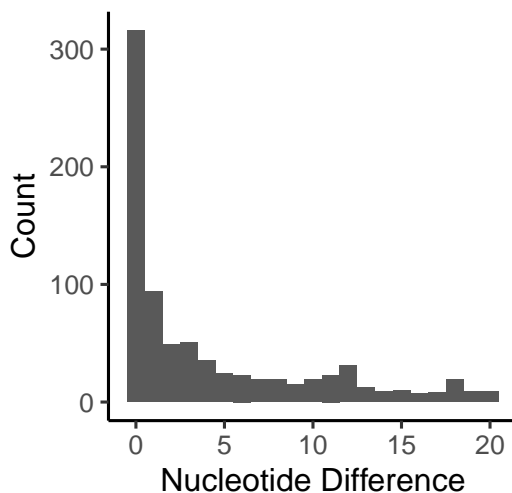
### IGHV1–69\*04

1209 sequences assigned  
275 (22.7%) exact matches, in which:  
260 unique CDR3  
6 unique J



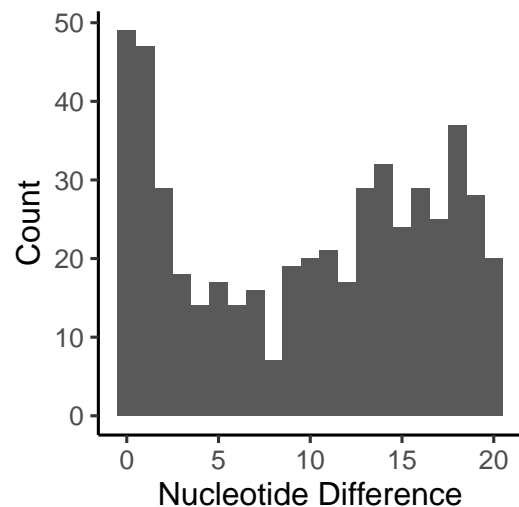
### IGHV2–26\*01

875 sequences assigned  
316 (36.1%) exact matches, in which:  
307 unique CDR3  
6 unique J



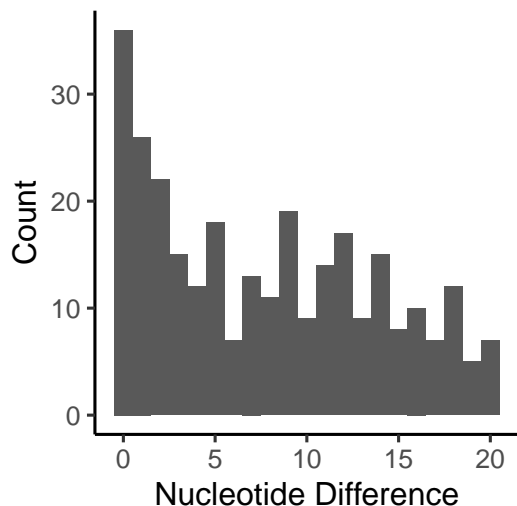
### IGHV3–7\*01

715 sequences assigned  
49 (6.9%) exact matches, in which:  
47 unique CDR3  
5 unique J



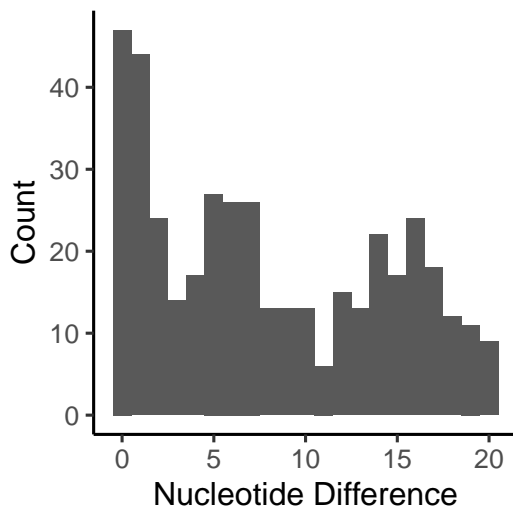
### IGHV3-7\*04

363 sequences assigned  
36 (9.9%) exact matches, in which:  
36 unique CDR3  
4 unique J



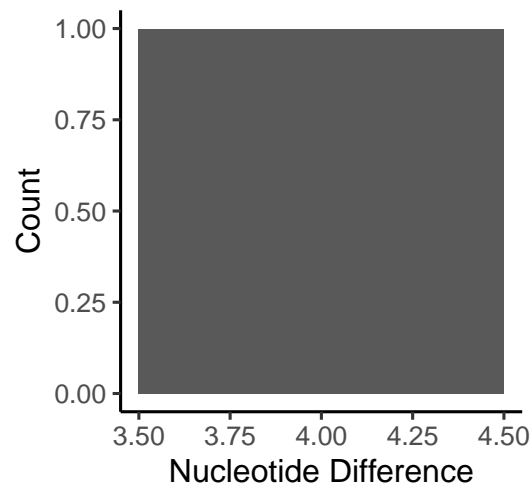
### IGHV3-11\*06

575 sequences assigned  
47 (8.2%) exact matches, in which:  
47 unique CDR3  
4 unique J



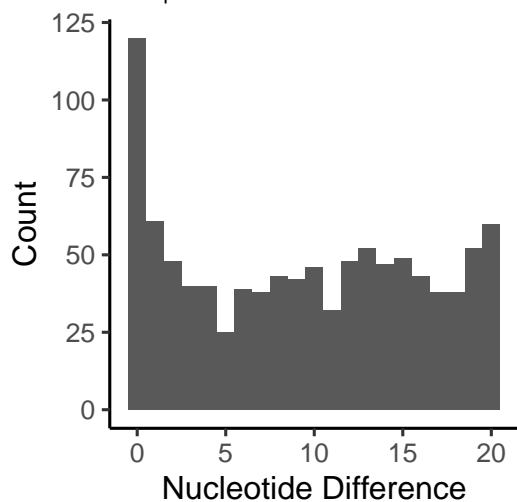
### IGHV3-19\*01

1 sequences assigned  
No exact matches.



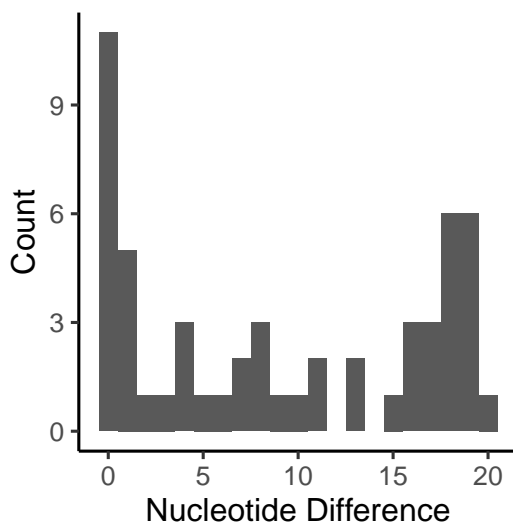
### IGHV3-9\*01

1567 sequences assigned  
120 (7.7%) exact matches, in which:  
117 unique CDR3  
6 unique J



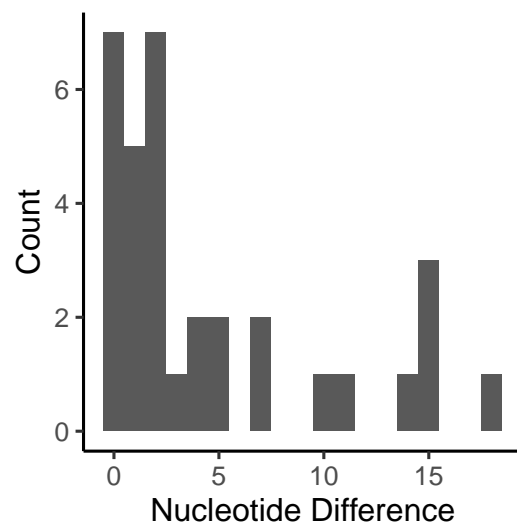
### IGHV3-13\*05

65 sequences assigned  
11 (16.9%) exact matches, in which:  
11 unique CDR3  
3 unique J



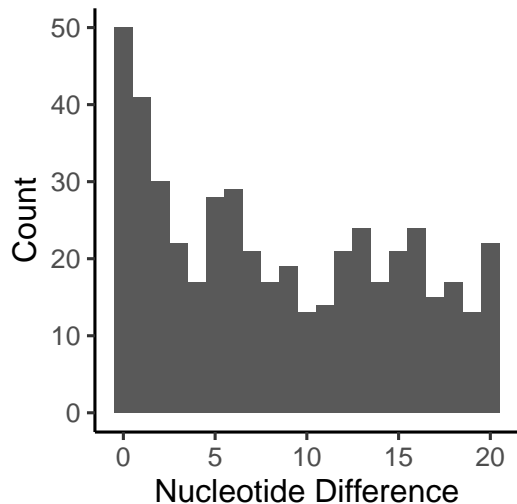
### IGHV3-20\*01

41 sequences assigned  
7 (17.1%) exact matches, in which:  
7 unique CDR3  
4 unique J



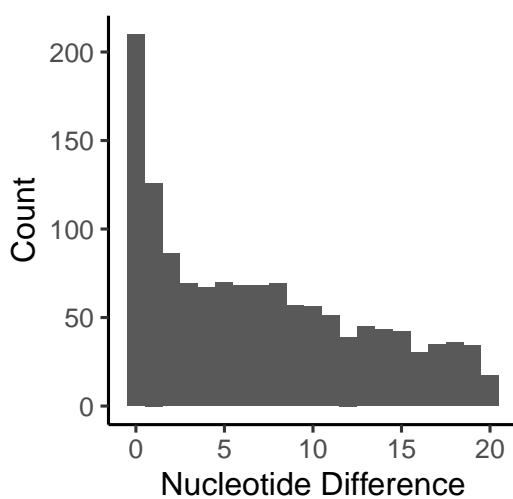
### IGHV3-11\*04

704 sequences assigned  
50 (7.1%) exact matches, in which:  
50 unique CDR3  
6 unique J



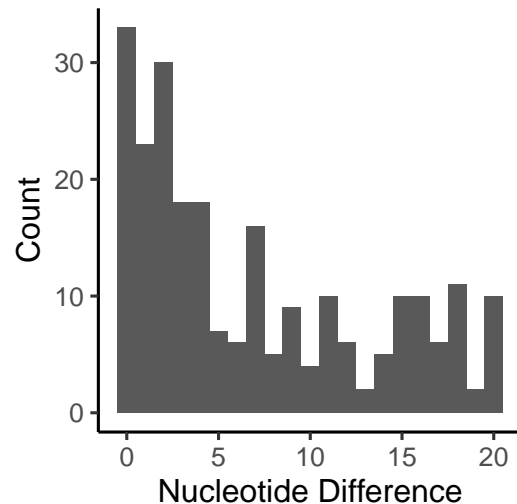
### IGHV3-15\*01

1684 sequences assigned  
210 (12.5%) exact matches, in which:  
207 unique CDR3  
6 unique J



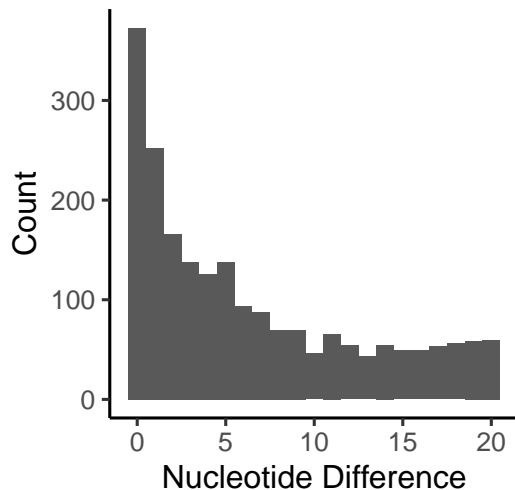
### IGHV3-20\*04

337 sequences assigned  
33 (9.8%) exact matches, in which:  
32 unique CDR3  
5 unique J



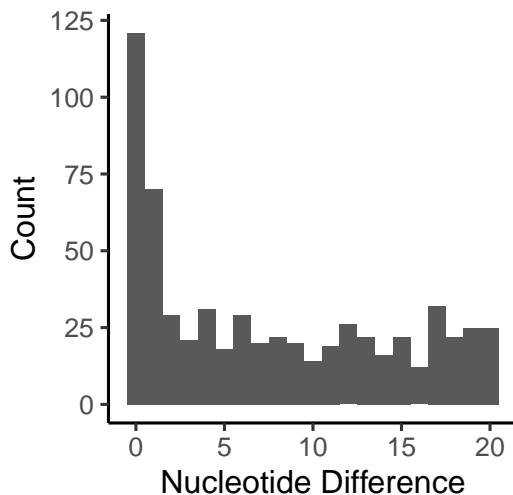
### IGHV3-21\*01

2661 sequences assigned  
373 (14%) exact matches, in which:  
358 unique CDR3  
6 unique J



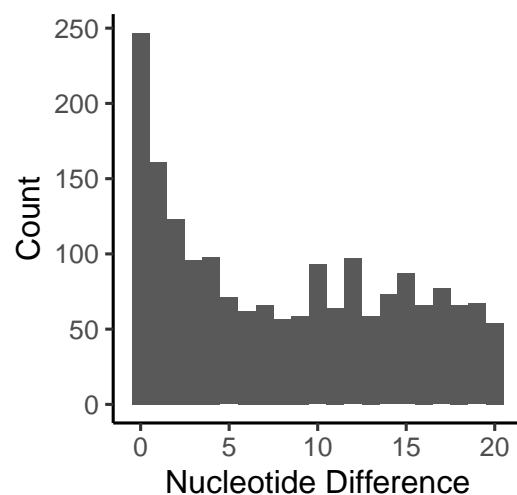
### IGHV3-23\*04

968 sequences assigned  
121 (12.5%) exact matches, in which:  
120 unique CDR3  
6 unique J



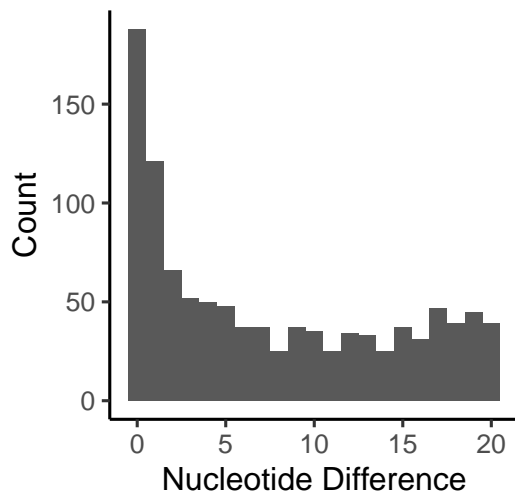
### IGHV3-30\*18

2581 sequences assigned  
247 (9.6%) exact matches, in which:  
243 unique CDR3  
6 unique J



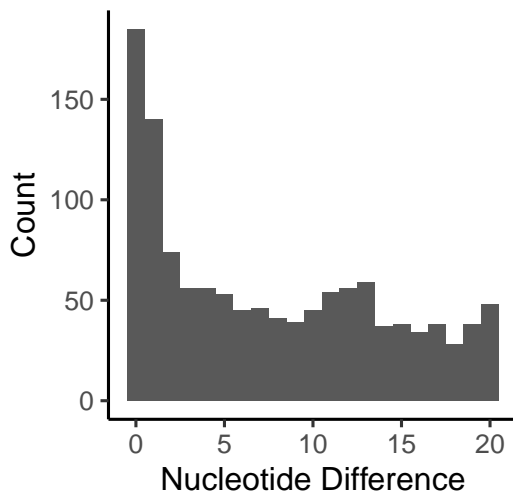
### IGHV3-23\*01

1543 sequences assigned  
188 (12.2%) exact matches, in which:  
185 unique CDR3  
6 unique J



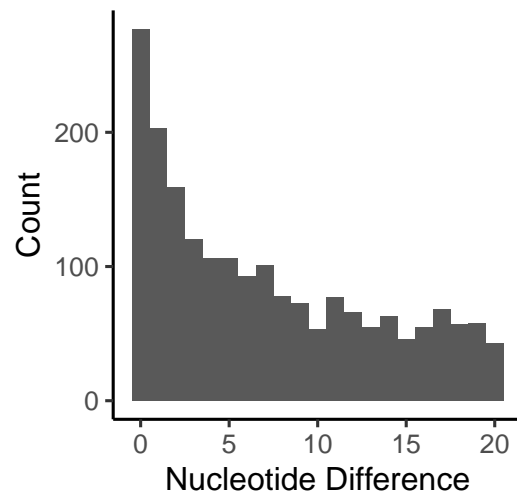
### IGHV3-30-3\*01

1772 sequences assigned  
185 (10.4%) exact matches, in which:  
183 unique CDR3  
6 unique J



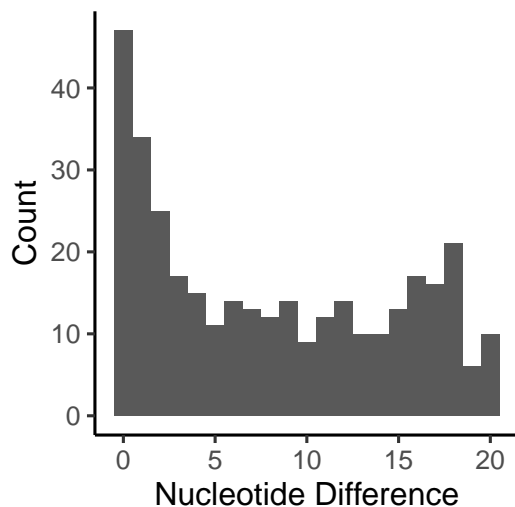
### IGHV3-33\*01

2558 sequences assigned  
277 (10.8%) exact matches, in which:  
272 unique CDR3  
6 unique J



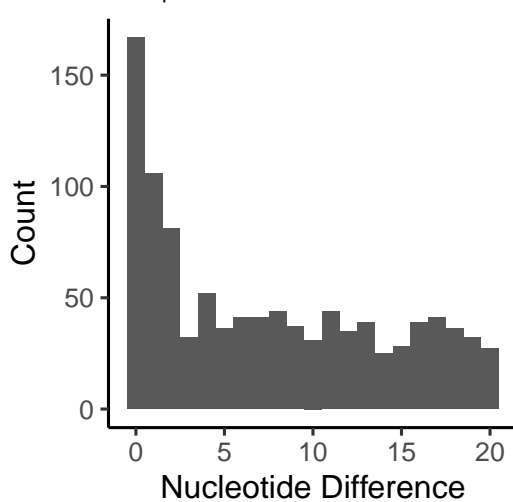
### IGHV3-23\*03

576 sequences assigned  
47 (8.2%) exact matches, in which:  
47 unique CDR3  
6 unique J



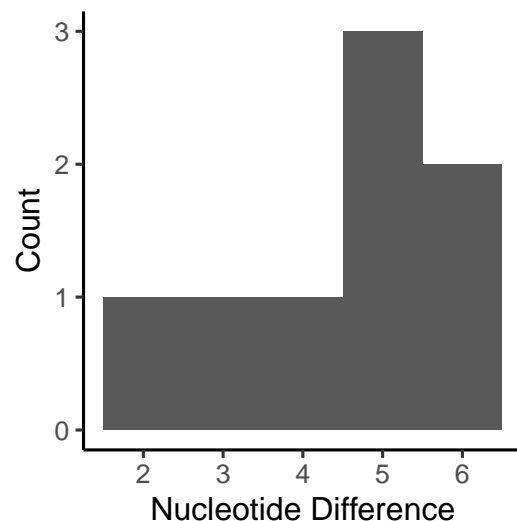
### IGHV3-30\*02

1527 sequences assigned  
167 (10.9%) exact matches, in which:  
166 unique CDR3  
6 unique J



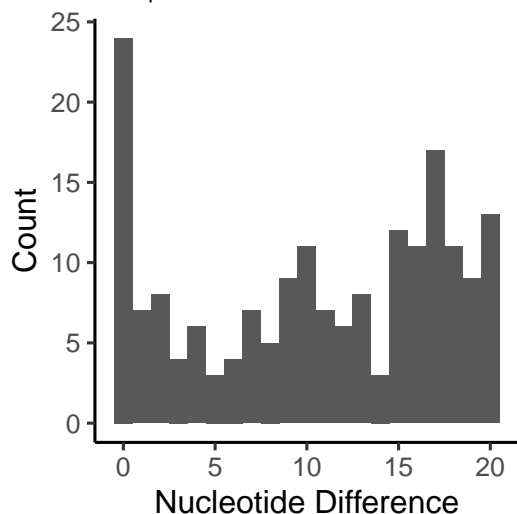
### IGHV3-35\*01

8 sequences assigned  
No exact matches.



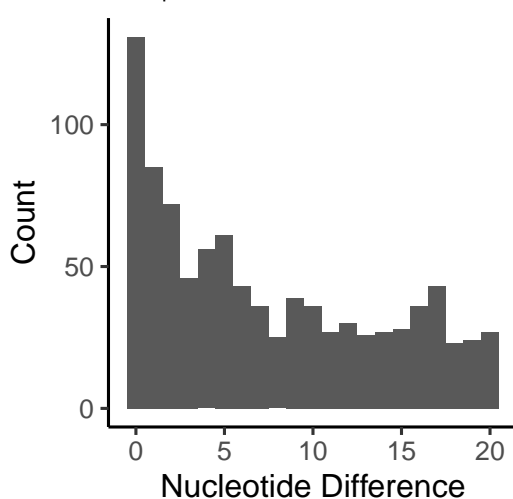
### IGHV3-43\*01

319 sequences assigned  
24 (7.5%) exact matches, in which:  
24 unique CDR3  
4 unique J



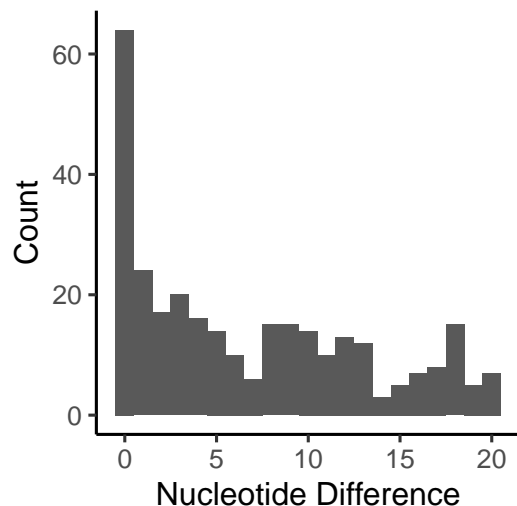
### IGHV3-48\*03

1256 sequences assigned  
131 (10.4%) exact matches, in which:  
126 unique CDR3  
6 unique J



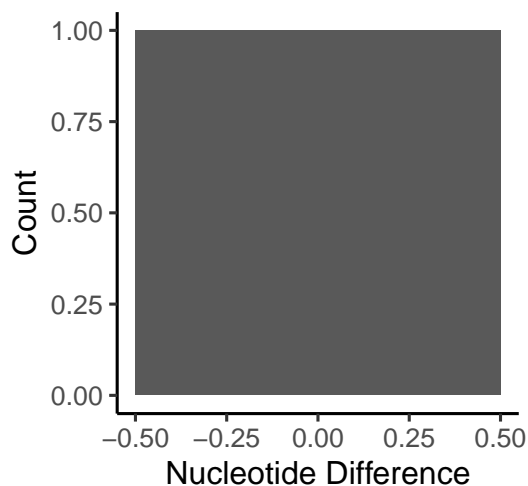
### IGHV3-53\*01

492 sequences assigned  
64 (13%) exact matches, in which:  
64 unique CDR3  
6 unique J



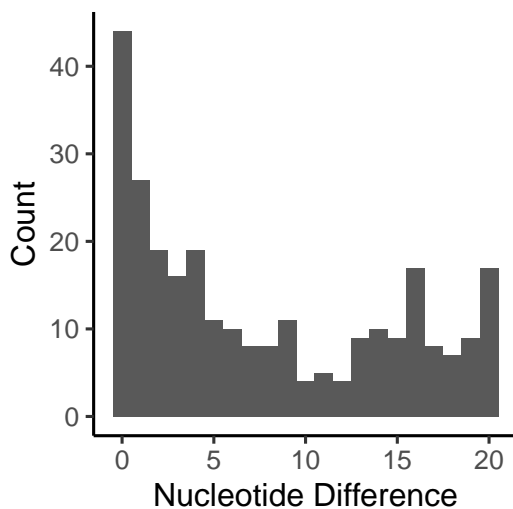
### IGHV3-47\*02

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



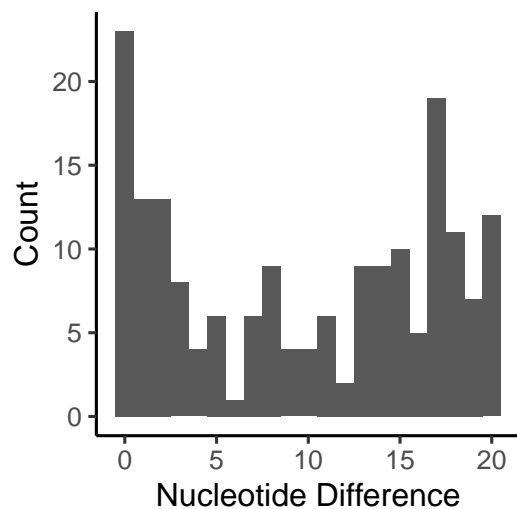
### IGHV3-49\*03

467 sequences assigned  
44 (9.4%) exact matches, in which:  
44 unique CDR3  
4 unique J



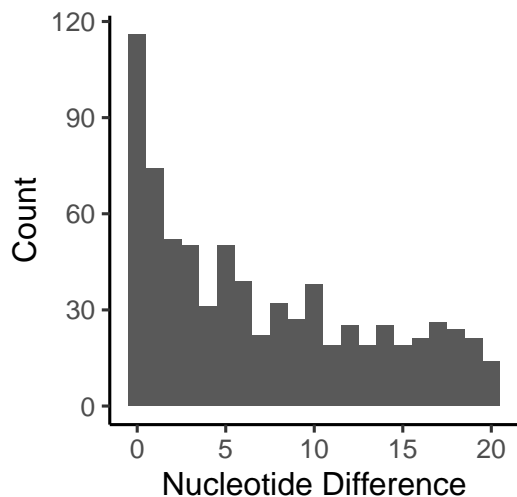
### IGHV3-53\*02

310 sequences assigned  
23 (7.4%) exact matches, in which:  
23 unique CDR3  
4 unique J



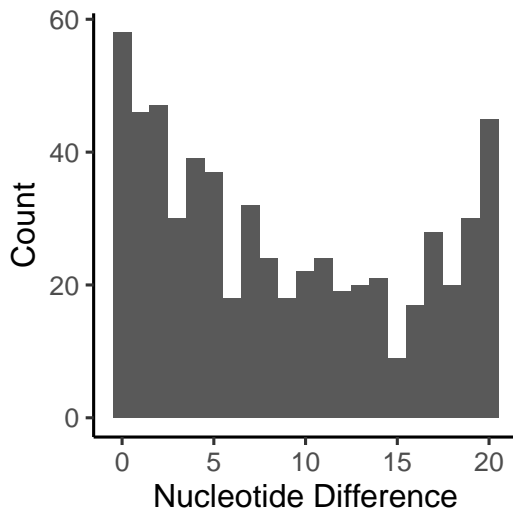
### IGHV3-48\*01

973 sequences assigned  
116 (11.9%) exact matches, in which:  
108 unique CDR3  
5 unique J



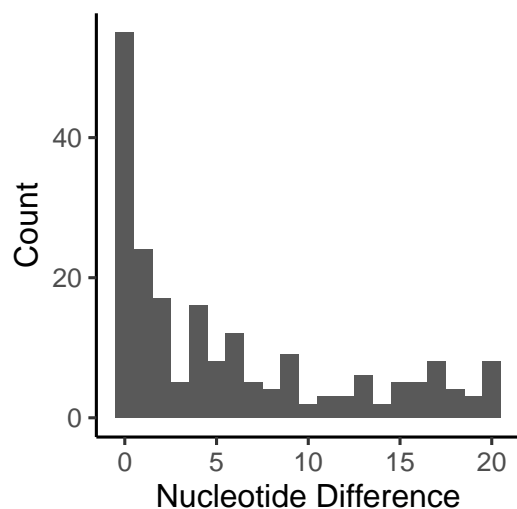
### IGHV3-49\*04

920 sequences assigned  
58 (6.3%) exact matches, in which:  
53 unique CDR3  
6 unique J



### IGHV3-64\*01

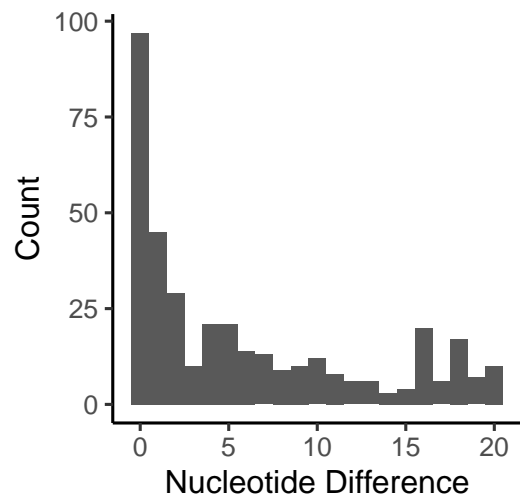
286 sequences assigned  
55 (19.2%) exact matches, in which:  
54 unique CDR3  
6 unique J





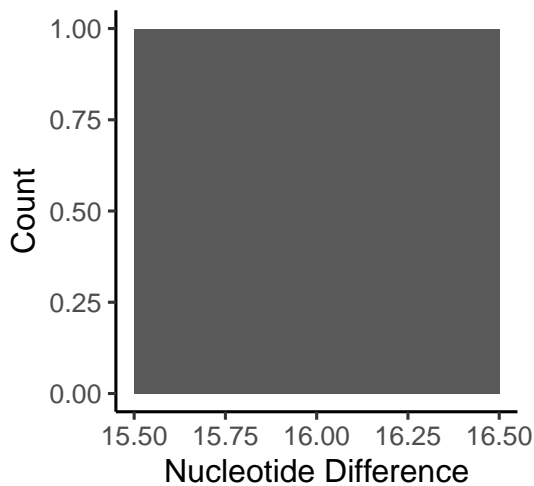
### IGHV3-66\*01

545 sequences assigned  
97 (17.8%) exact matches, in which:  
95 unique CDR3  
6 unique J



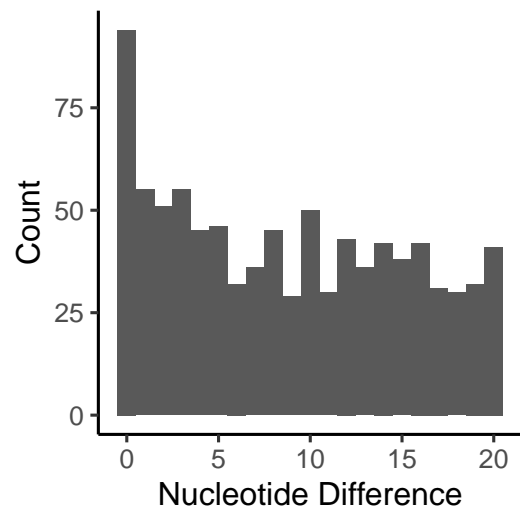
### IGHV3-71\*03

1 sequences assigned  
No exact matches.



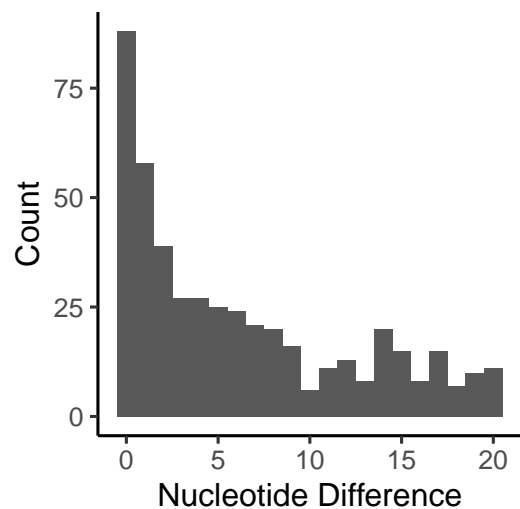
### IGHV3-74\*01

1345 sequences assigned  
94 (7%) exact matches, in which:  
93 unique CDR3  
6 unique J



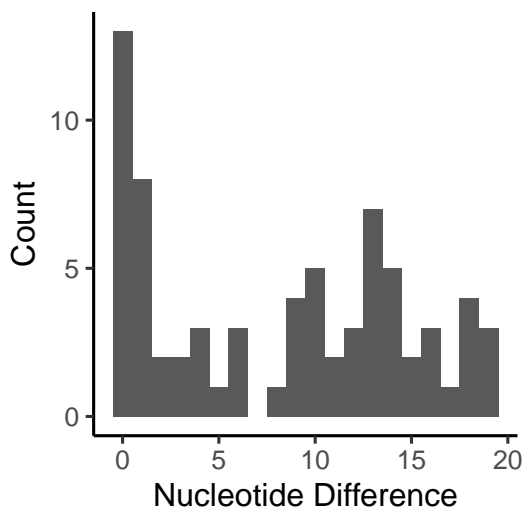
### IGHV3-66\*02

660 sequences assigned  
88 (13.3%) exact matches, in which:  
86 unique CDR3  
5 unique J



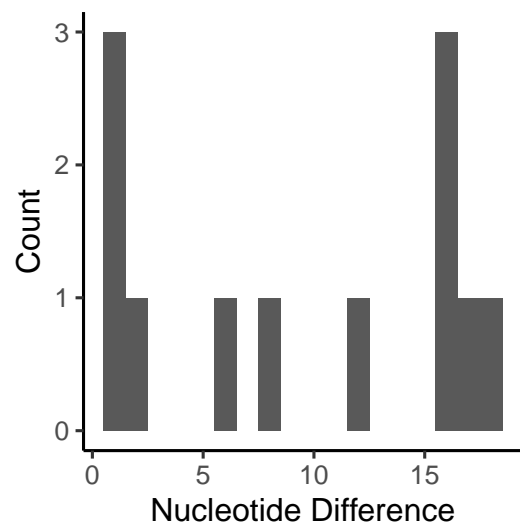
### IGHV3-72\*01

104 sequences assigned  
13 (12.5%) exact matches, in which:  
13 unique CDR3  
4 unique J



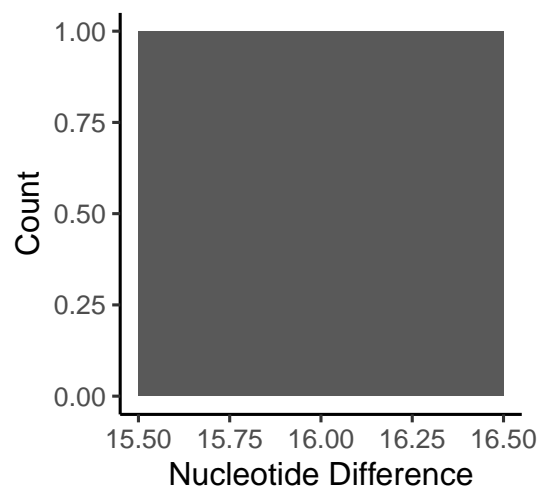
### IGHV3-43D\*04

18 sequences assigned  
No exact matches.



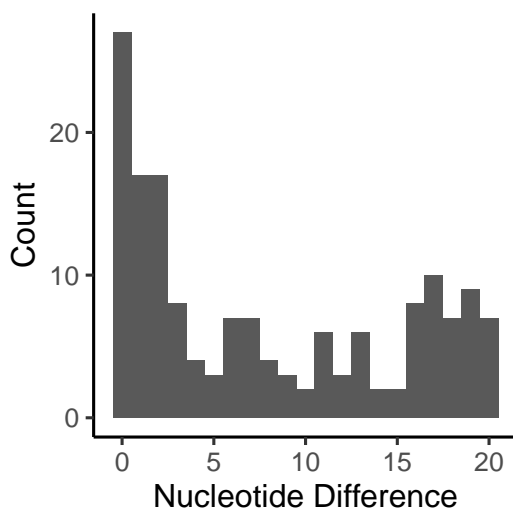
### IGHV3-69-1\*02

1 sequences assigned  
No exact matches.



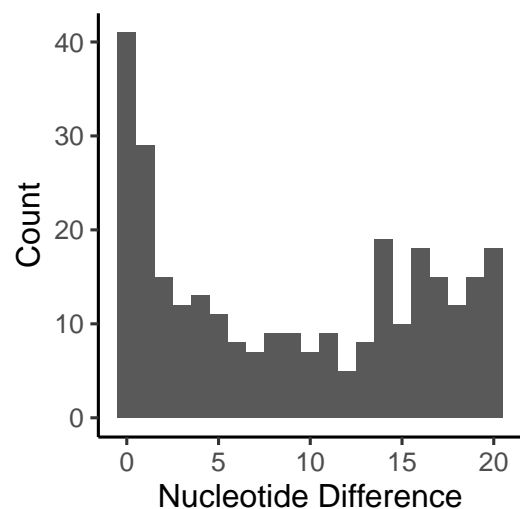
### IGHV3-73\*01

195 sequences assigned  
27 (13.8%) exact matches, in which:  
27 unique CDR3  
5 unique J



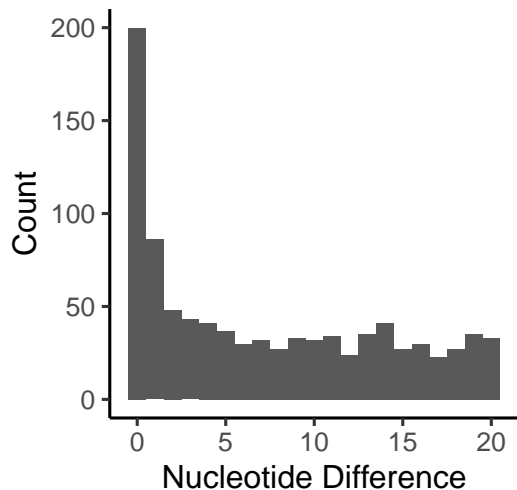
### IGHV3-64D\*06

465 sequences assigned  
41 (8.8%) exact matches, in which:  
41 unique CDR3  
4 unique J



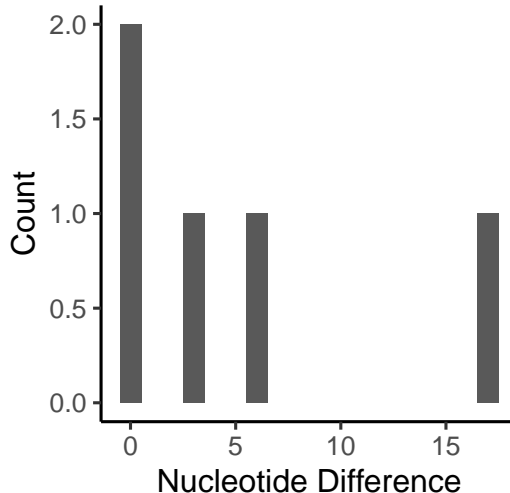
### IGHV4-4\*07

1374 sequences assigned  
200 (14.6%) exact matches, in which:  
195 unique CDR3  
6 unique J



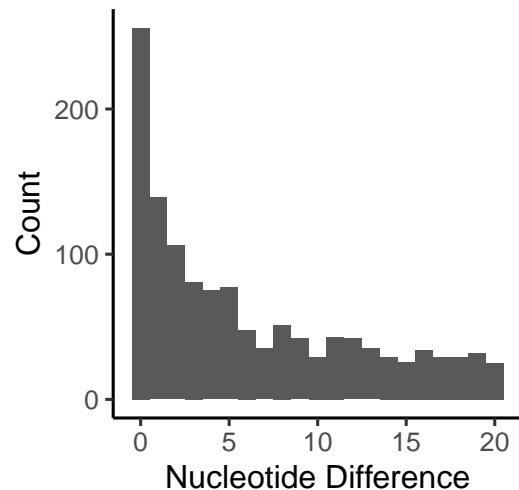
### IGHV4-30-2\*05

5 sequences assigned  
2 (40%) exact matches, in which:  
2 unique CDR3  
1 unique J



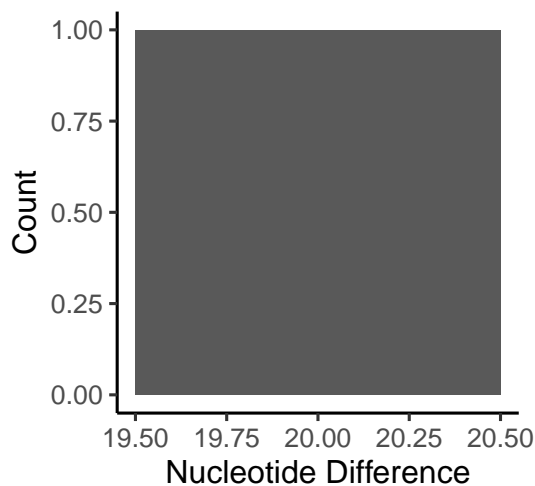
### IGHV4-31\*03

1679 sequences assigned  
256 (15.2%) exact matches, in which:  
247 unique CDR3  
6 unique J



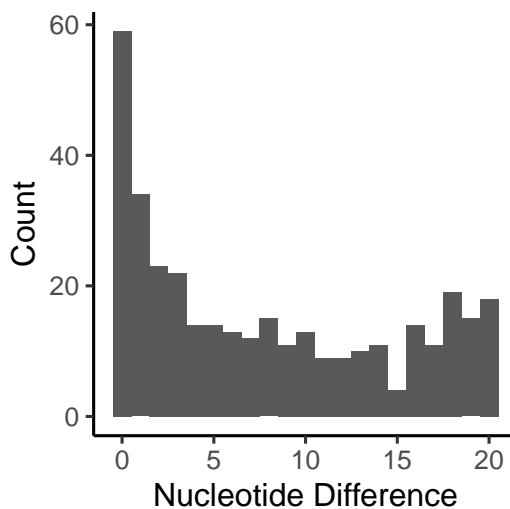
### IGHV4-28\*01

5 sequences assigned  
No exact matches.



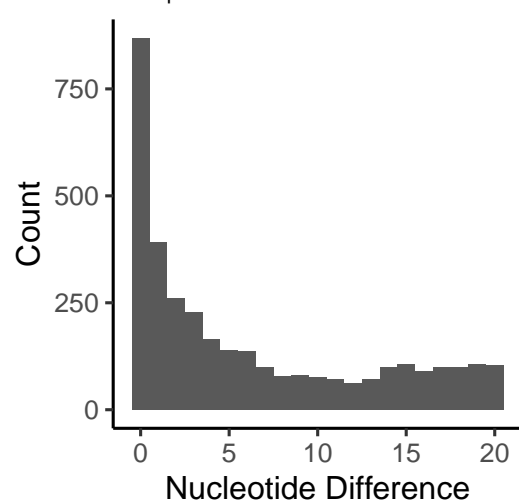
### IGHV4-30-4\*08

604 sequences assigned  
59 (9.8%) exact matches, in which:  
58 unique CDR3  
5 unique J



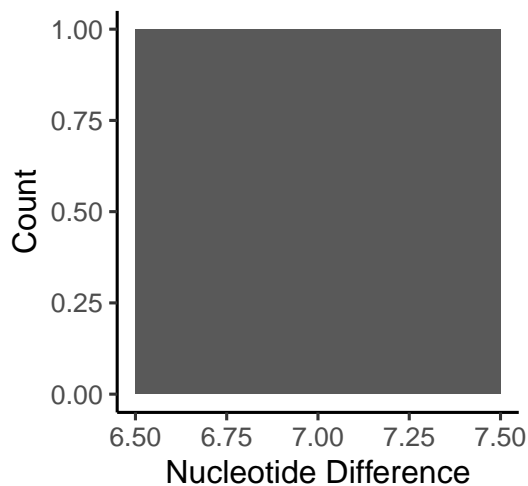
### IGHV4-34\*01

4495 sequences assigned  
869 (19.3%) exact matches, in which:  
809 unique CDR3  
6 unique J



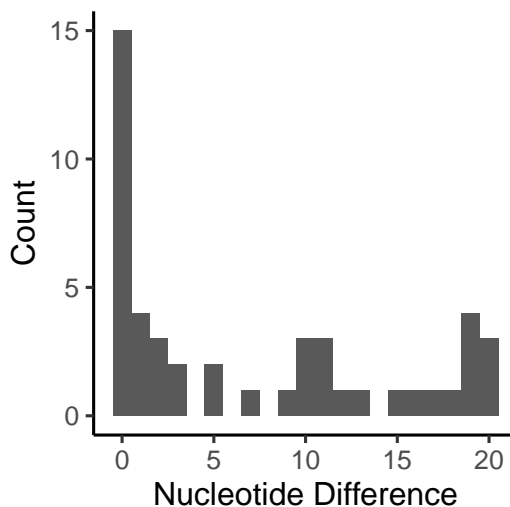
### IGHV4-28\*03

1 sequences assigned  
No exact matches.



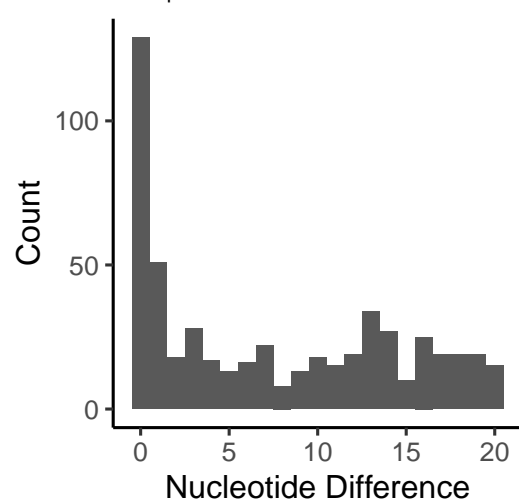
### IGHV4-30-2\*01\_G139C

59 sequences assigned  
15 (25.4%) exact matches, in which:  
15 unique CDR3  
5 unique J



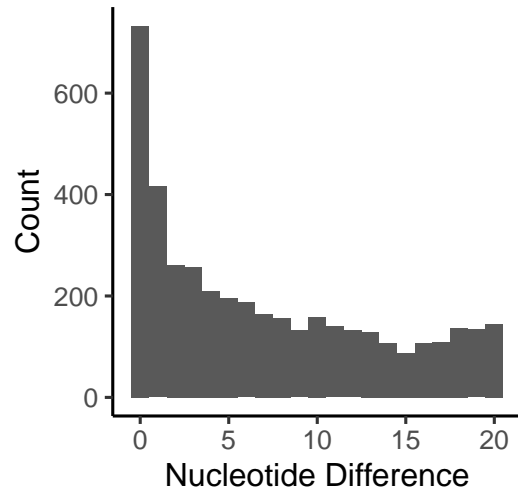
### IGHV4-38-2\*02\_A70G

800 sequences assigned  
129 (16.1%) exact matches, in which:  
128 unique CDR3  
6 unique J



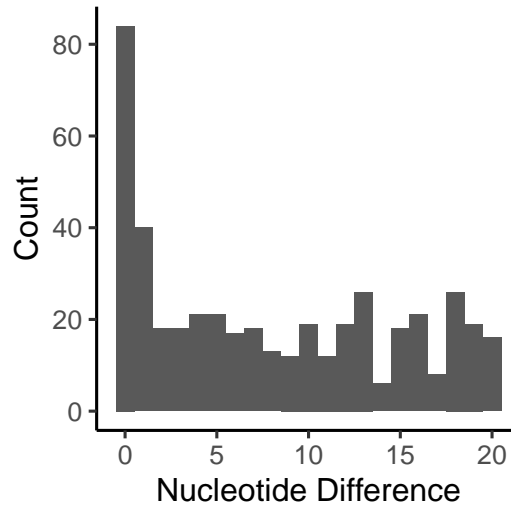
### IGHV4–39\*01

6161 sequences assigned  
733 (11.9%) exact matches, in which:  
711 unique CDR3  
6 unique J



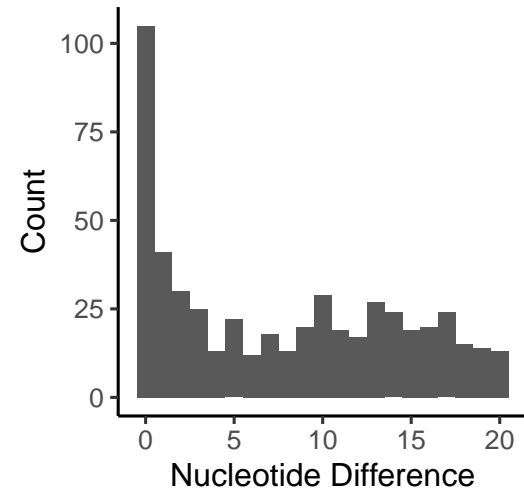
### IGHV4–59\*08

695 sequences assigned  
84 (12.1%) exact matches, in which:  
81 unique CDR3  
6 unique J



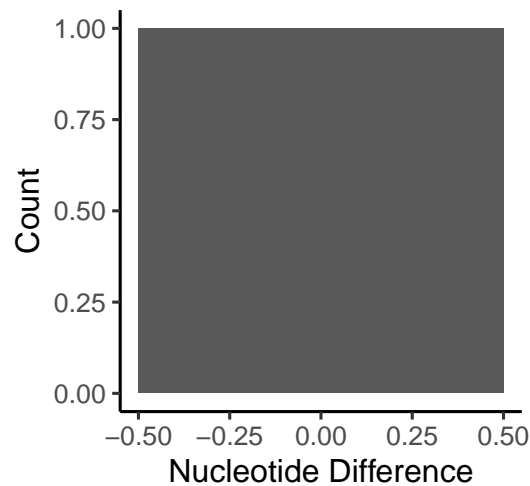
### IGHV5–10–1\*03

675 sequences assigned  
105 (15.6%) exact matches, in which:  
103 unique CDR3  
5 unique J



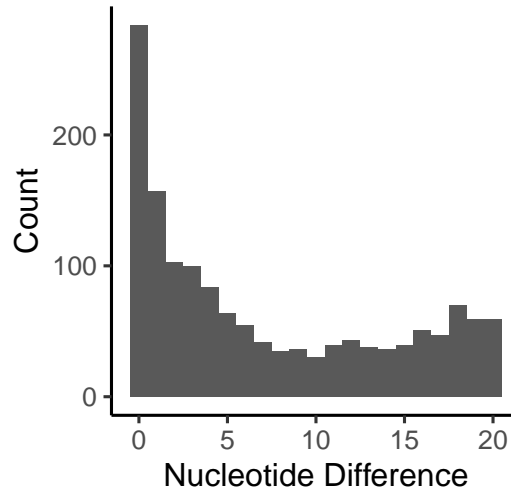
### IGHV4–55\*01

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



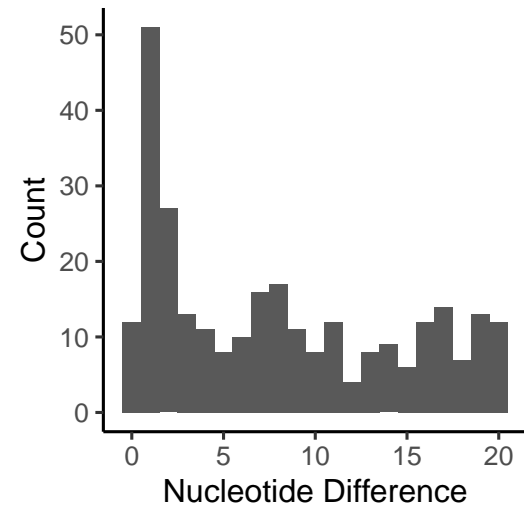
### IGHV4–61\*02

2167 sequences assigned  
284 (13.1%) exact matches, in which:  
281 unique CDR3  
6 unique J



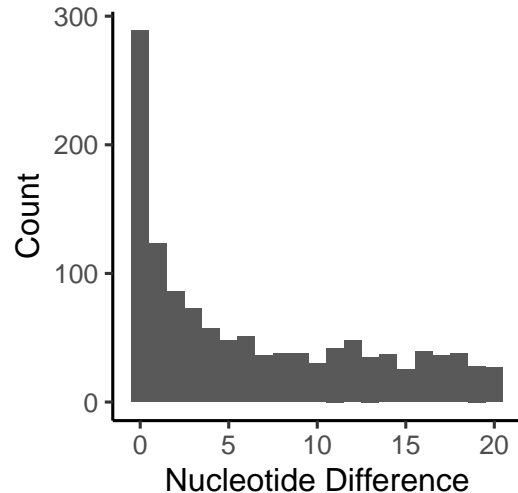
### IGHV5–51\*01

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



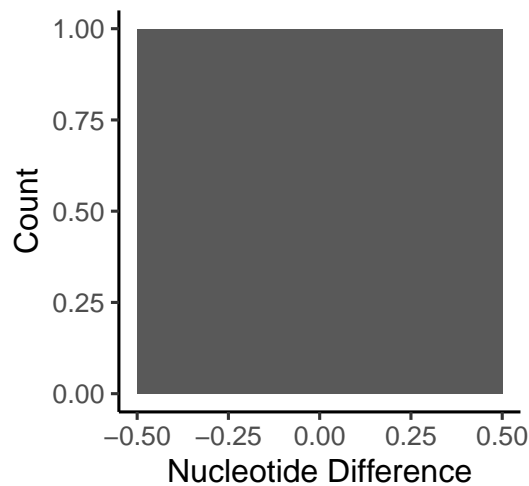
### IGHV4–59\*01

1783 sequences assigned  
289 (16.2%) exact matches, in which:  
283 unique CDR3  
6 unique J



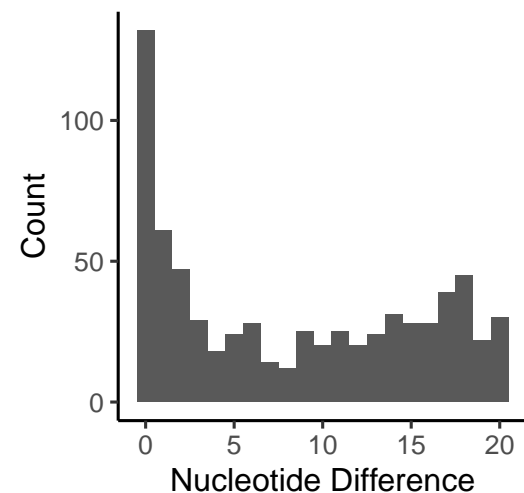
### IGHV1/OR15–2\*01

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



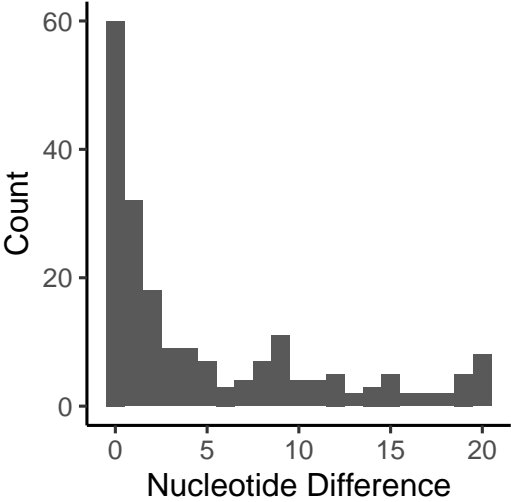
### IGHV5–51\*03

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



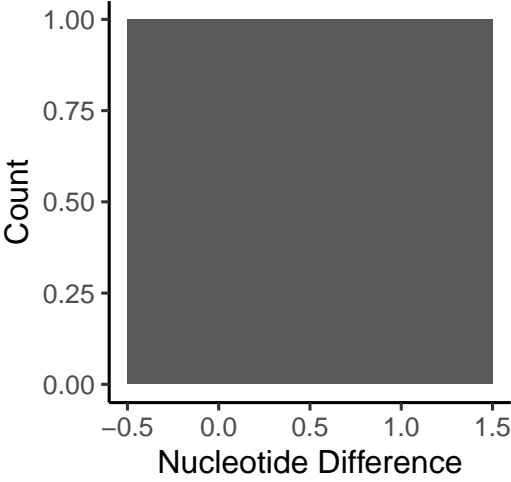
IGHV6-1\*01

257 sequences assigned  
60 (23.3%) exact matches, in which:  
57 unique CDR3  
6 unique J

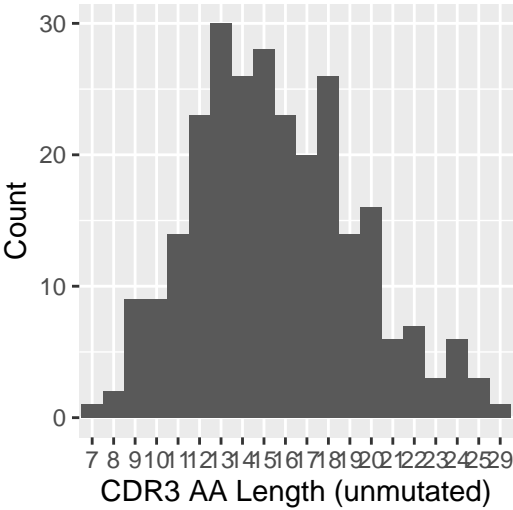


IGHV7-4-1\*01

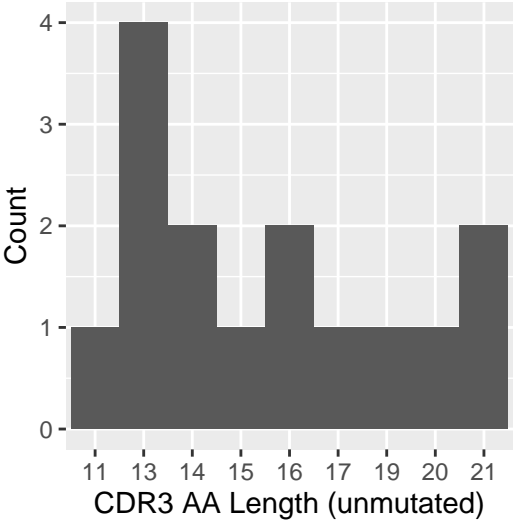
2 sequences assigned  
1 (50%) exact matches, in which:  
1 unique CDR3  
1 unique J



IGHV1-69\*08\_C191T



IGHV4-30-2\*01\_G139C



IGHV4-38-2\*02\_A70G

