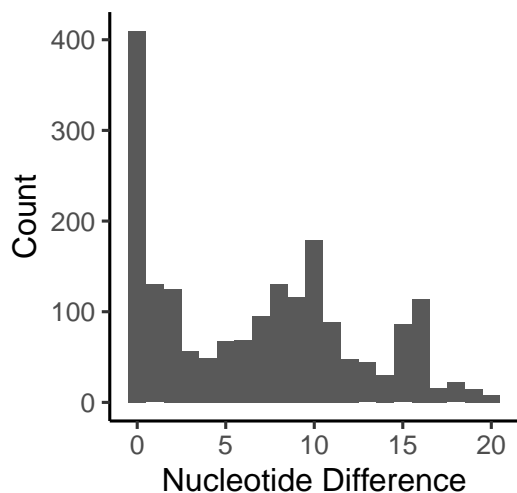


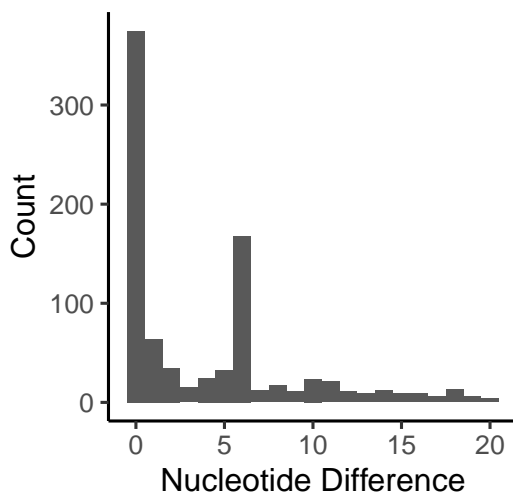
### IGHV1-2\*02

2221 sequences assigned  
410 (18.5%) exact matches, in which:  
385 unique CDR3  
6 unique J



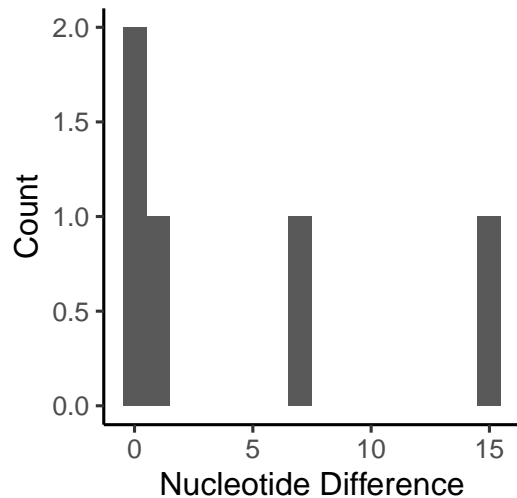
### IGHV1-18\*01

1232 sequences assigned  
375 (30.4%) exact matches, in which:  
353 unique CDR3  
6 unique J



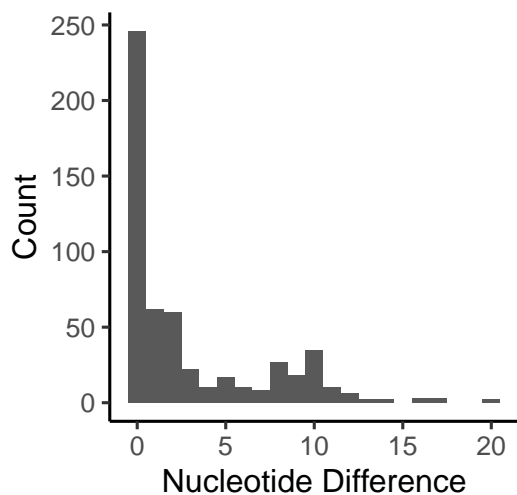
### IGHV1-45\*02

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



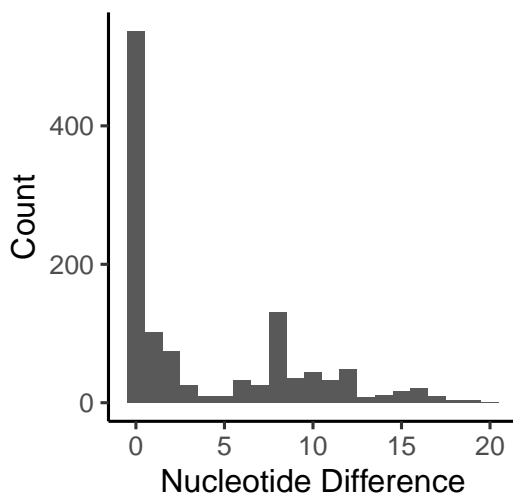
### IGHV1-2\*04

547 sequences assigned  
246 (45%) exact matches, in which:  
235 unique CDR3  
6 unique J



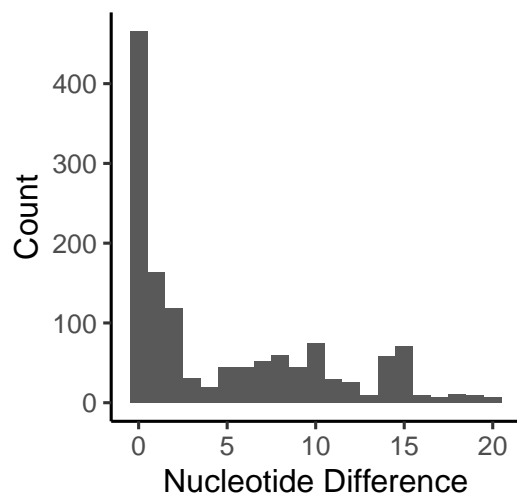
### IGHV1-18\*04

1315 sequences assigned  
537 (40.8%) exact matches, in which:  
504 unique CDR3  
6 unique J



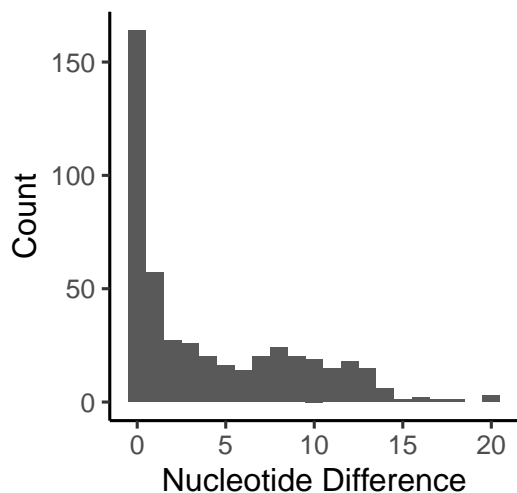
### IGHV1-46\*01

1501 sequences assigned  
466 (31%) exact matches, in which:  
436 unique CDR3  
6 unique J



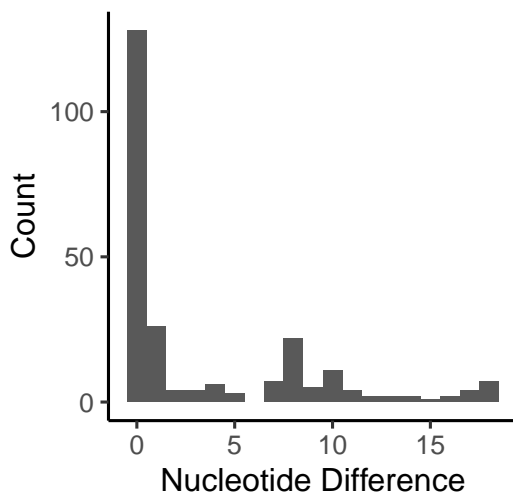
### IGHV1-3\*01\_05

573 sequences assigned  
164 (28.6%) exact matches, in which:  
149 unique CDR3  
6 unique J



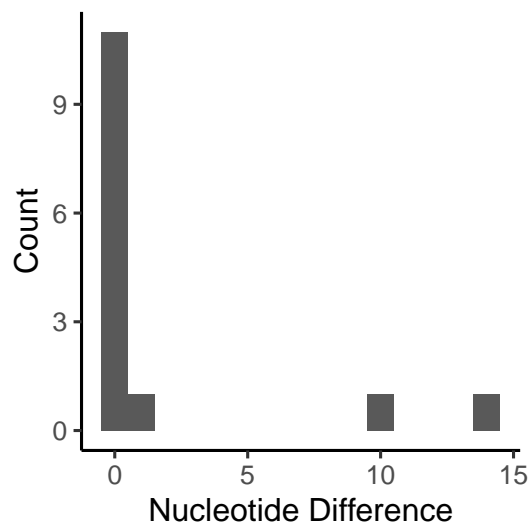
### IGHV1-24\*01

372 sequences assigned  
128 (34.4%) exact matches, in which:  
123 unique CDR3  
6 unique J



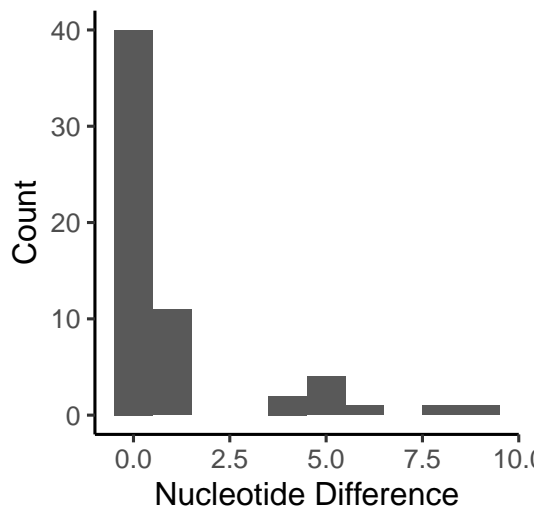
### IGHV1-58\*02

14 sequences assigned  
11 (78.6%) exact matches, in which:  
10 unique CDR3  
4 unique J



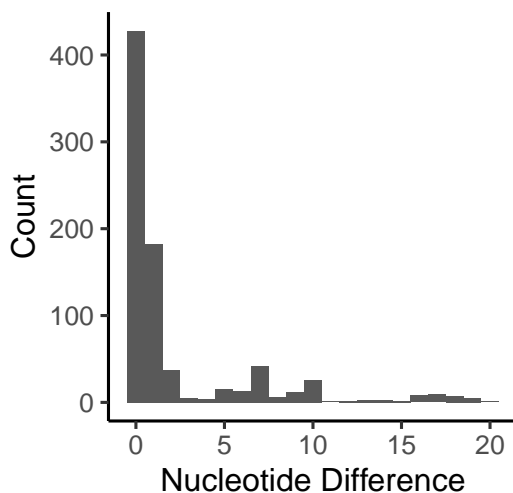
### IGHV1-58\*01\_03

60 sequences assigned  
40 (66.7%) exact matches, in which:  
33 unique CDR3  
5 unique J



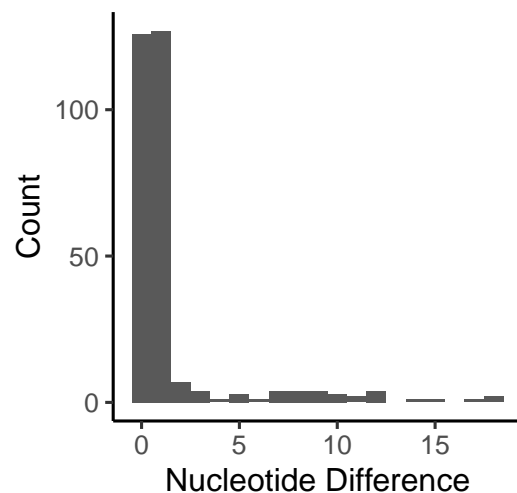
### IGHV1-69\*04\_09

991 sequences assigned  
428 (43.2%) exact matches, in which:  
410 unique CDR3  
6 unique J



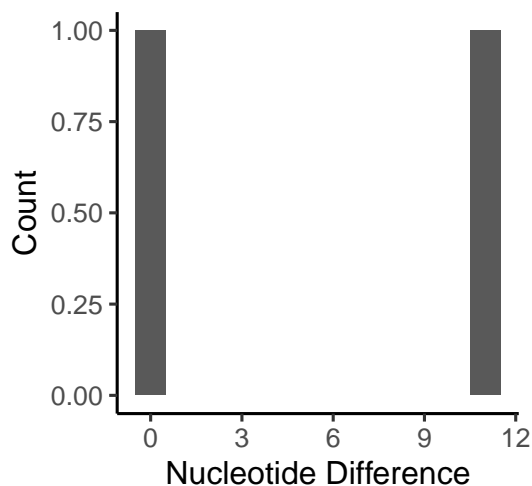
### IGHV2-26\*01

337 sequences assigned  
126 (37.4%) exact matches, in which:  
92 unique CDR3  
5 unique J



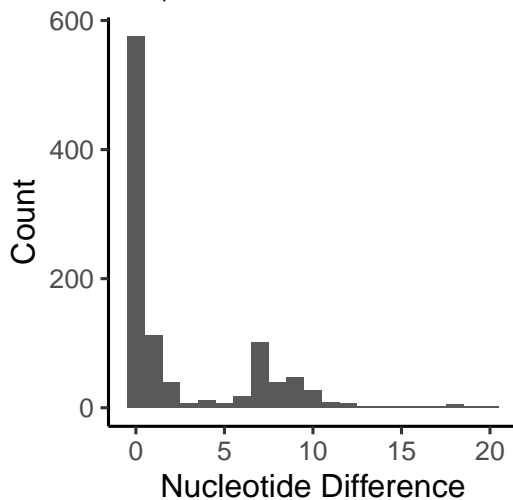
### IGHV1-69-2\*01

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



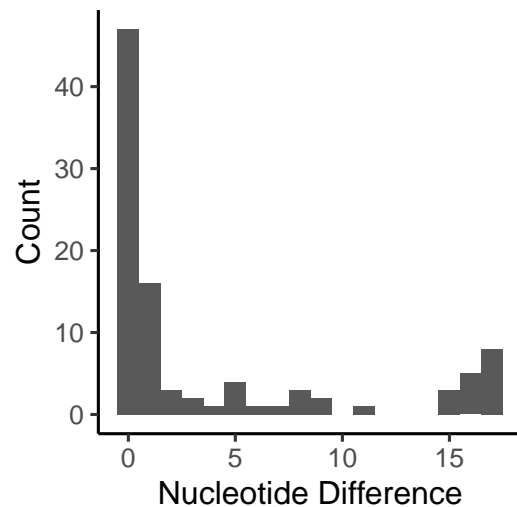
### IGHV1-69\*06\_14

1080 sequences assigned  
576 (53.3%) exact matches, in which:  
565 unique CDR3  
6 unique J



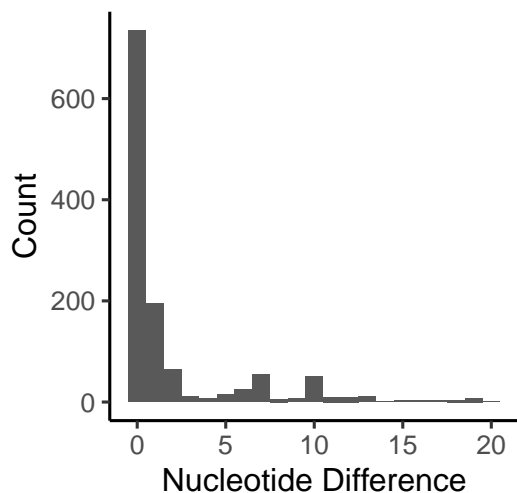
### IGHV2-70\*01

105 sequences assigned  
47 (44.8%) exact matches, in which:  
44 unique CDR3  
5 unique J



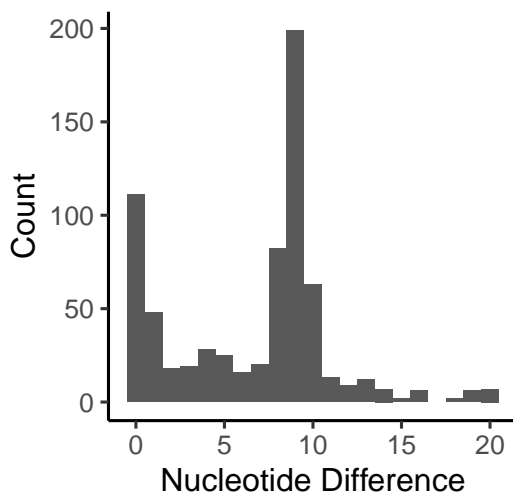
### IGHV1-69\*01\_12\_13

1272 sequences assigned  
735 (57.8%) exact matches, in which:  
713 unique CDR3  
6 unique J



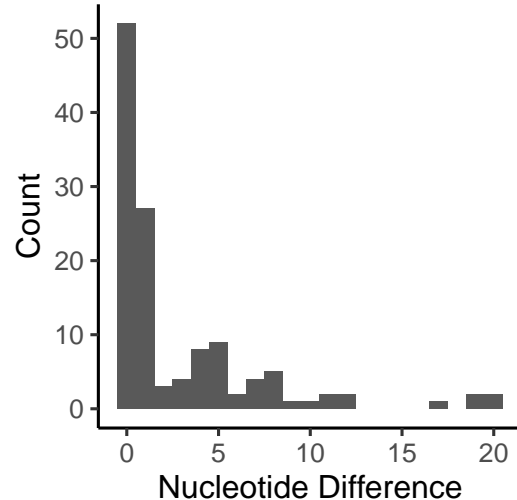
### IGHV2-5\*02

841 sequences assigned  
111 (13.2%) exact matches, in which:  
106 unique CDR3  
6 unique J



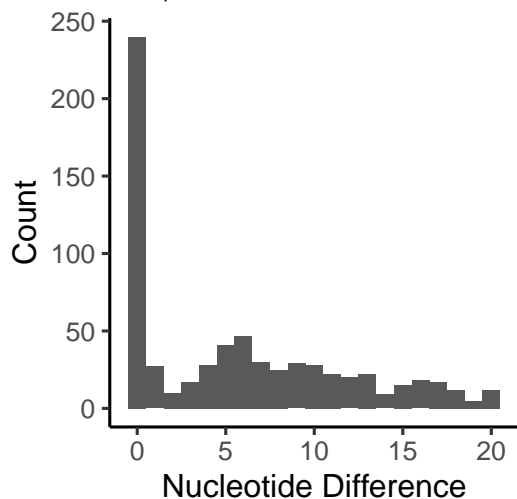
### IGHV2-70\*11\_15

134 sequences assigned  
52 (38.8%) exact matches, in which:  
49 unique CDR3  
4 unique J



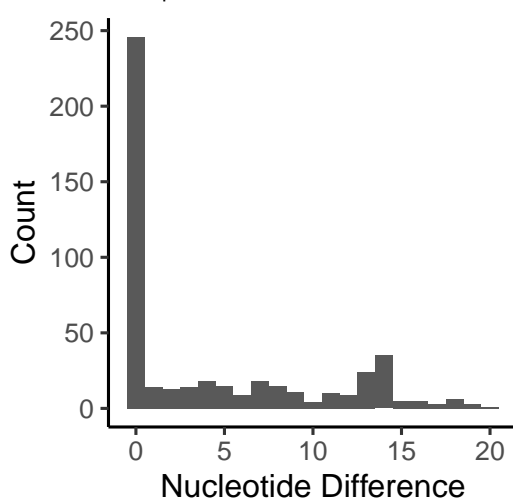
### IGHV3-7\*03

1104 sequences assigned  
240 (21.7%) exact matches, in which:  
131 unique CDR3  
6 unique J



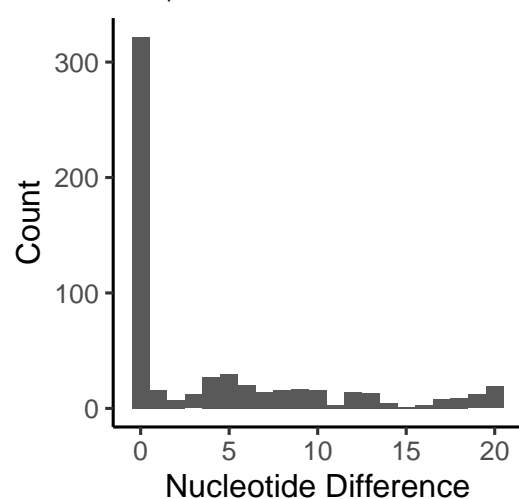
### IGHV3-11\*06\_T300C

535 sequences assigned  
246 (46%) exact matches, in which:  
135 unique CDR3  
6 unique J



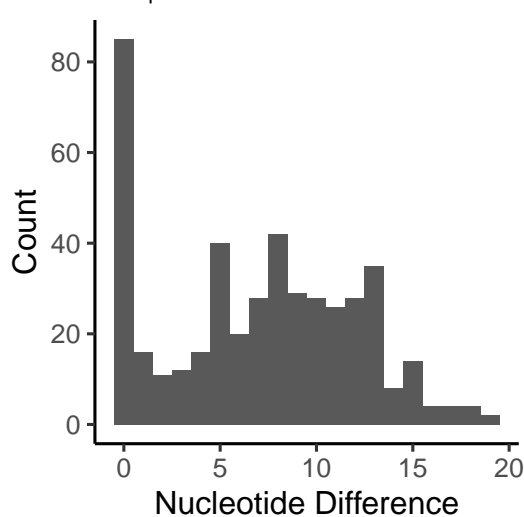
### IGHV3-15\*01\_02

650 sequences assigned  
322 (49.5%) exact matches, in which:  
180 unique CDR3  
5 unique J



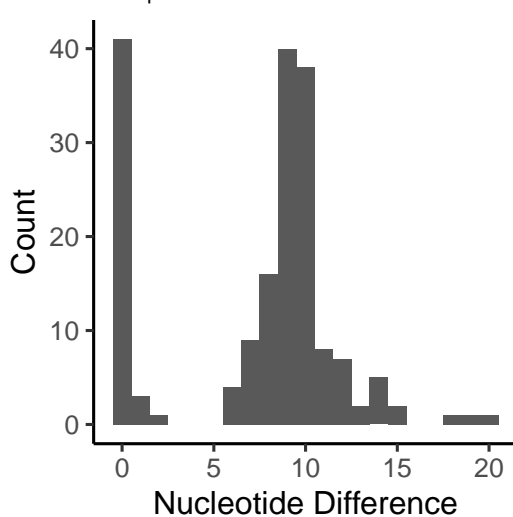
### IGHV3-7\*04

468 sequences assigned  
85 (18.2%) exact matches, in which:  
45 unique CDR3  
5 unique J



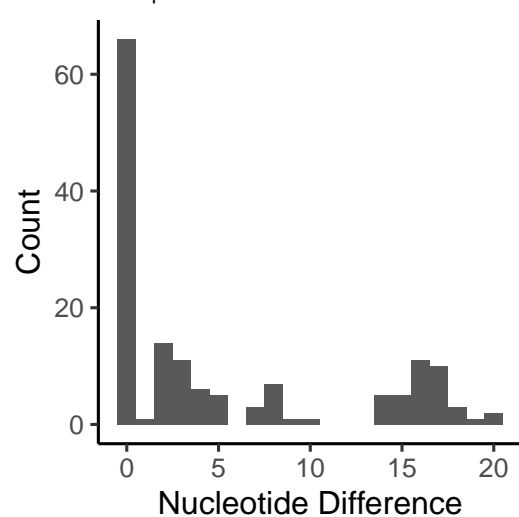
### IGHV3-13\*04

181 sequences assigned  
41 (22.7%) exact matches, in which:  
20 unique CDR3  
5 unique J



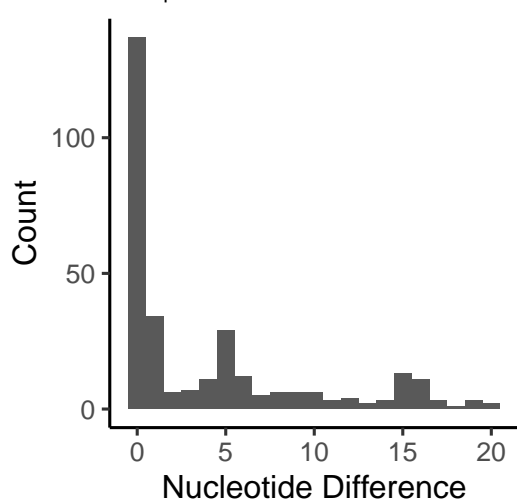
### IGHV3-20\*03\_04

178 sequences assigned  
66 (37.1%) exact matches, in which:  
36 unique CDR3  
5 unique J



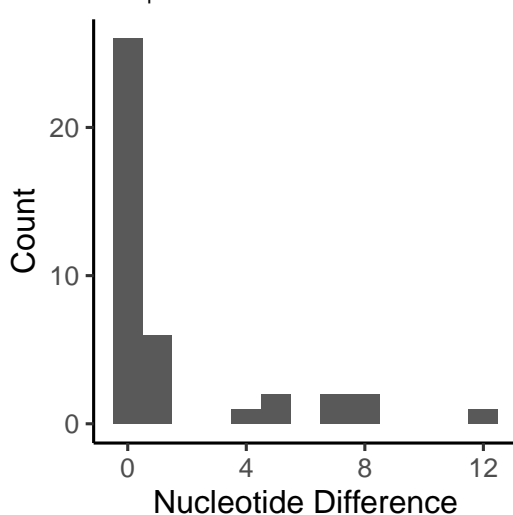
### IGHV3-11\*06

389 sequences assigned  
137 (35.2%) exact matches, in which:  
83 unique CDR3  
5 unique J



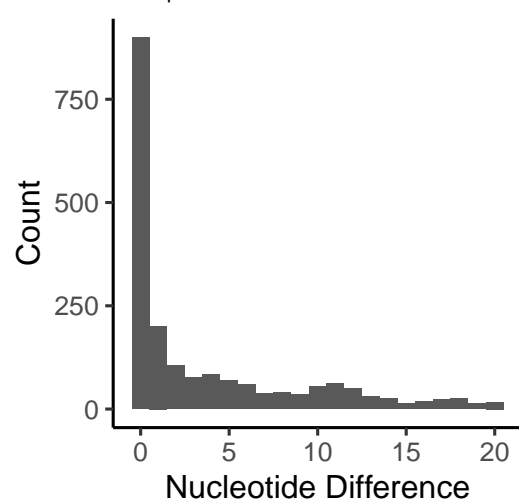
### IGHV3-13\*05

40 sequences assigned  
26 (65%) exact matches, in which:  
15 unique CDR3  
6 unique J



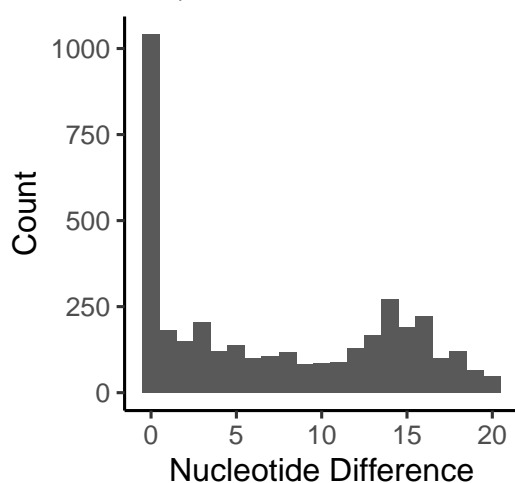
### IGHV3-21\*01\_02

2118 sequences assigned  
900 (42.5%) exact matches, in which:  
498 unique CDR3  
6 unique J



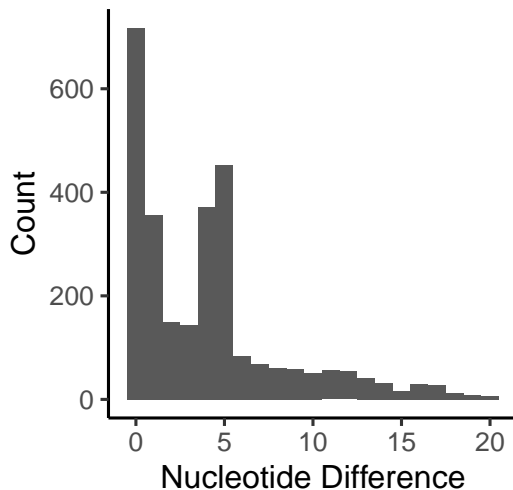
### IGHV3-23\*01\_04

4237 sequences assigned  
1041 (24.6%) exact matches, in which:  
577 unique CDR3  
6 unique J



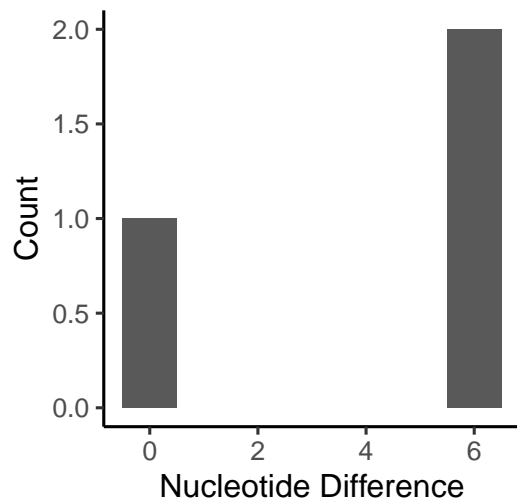
### IGHV3-33\*01

3041 sequences assigned  
718 (23.6%) exact matches, in which:  
408 unique CDR3  
6 unique J



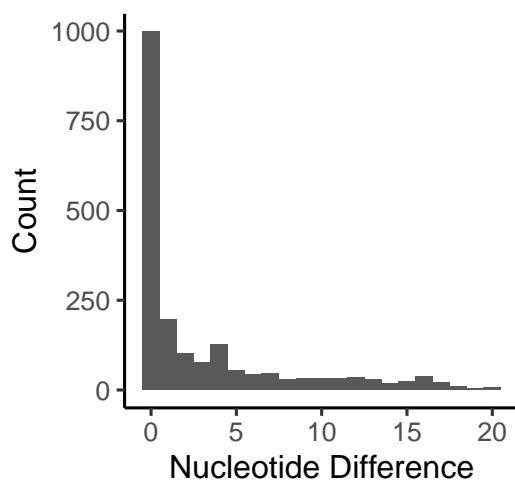
### IGHV3-35\*01

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



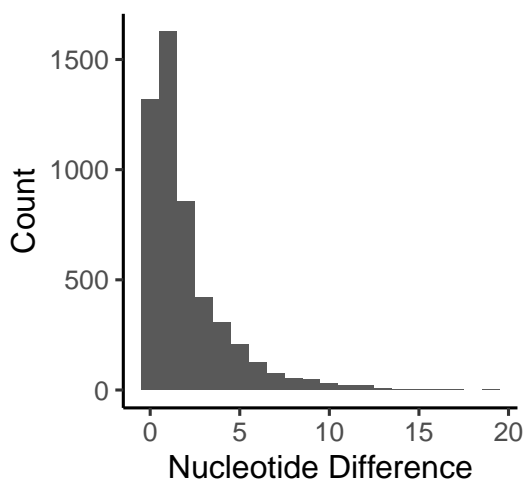
### IGHV3-30-3\*01

2065 sequences assigned  
998 (48.3%) exact matches, in which:  
567 unique CDR3  
6 unique J



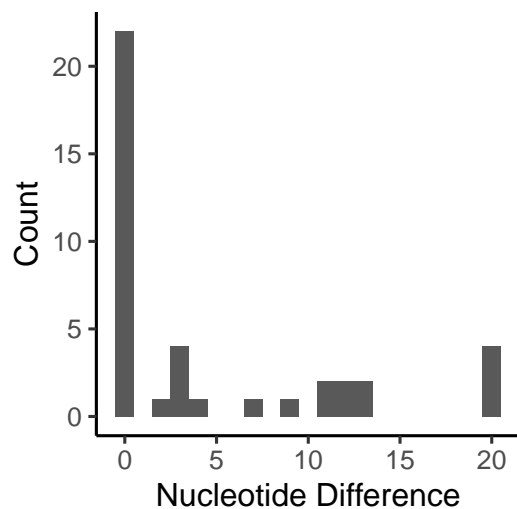
### IGHV3-33\*01\_T105C\_A

5127 sequences assigned  
1319 (25.7%) exact matches, in which:  
738 unique CDR3  
6 unique J



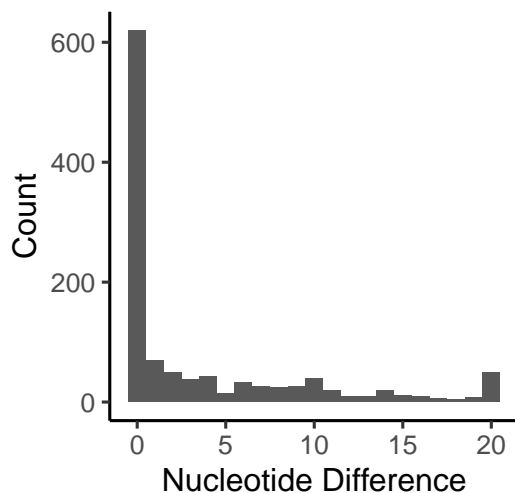
### IGHV3-43\*01

119 sequences assigned  
22 (18.5%) exact matches, in which:  
11 unique CDR3  
3 unique J



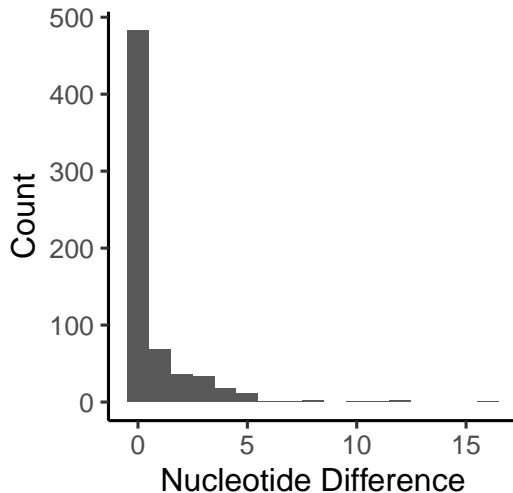
### IGHV3-30\*01

1279 sequences assigned  
620 (48.5%) exact matches, in which:  
376 unique CDR3  
6 unique J



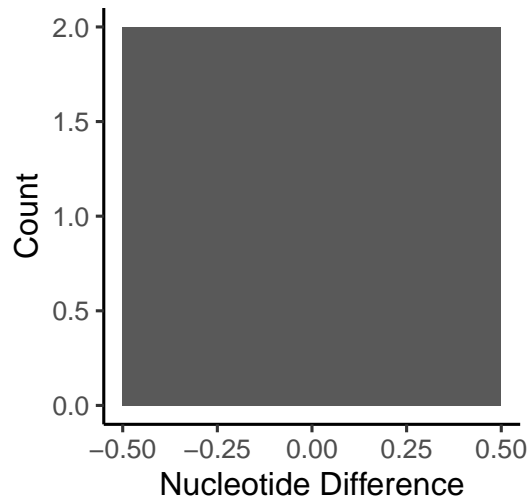
### IGHV3-33\*01\_T105C\_A1

658 sequences assigned  
483 (73.4%) exact matches, in which:  
368 unique CDR3  
6 unique J



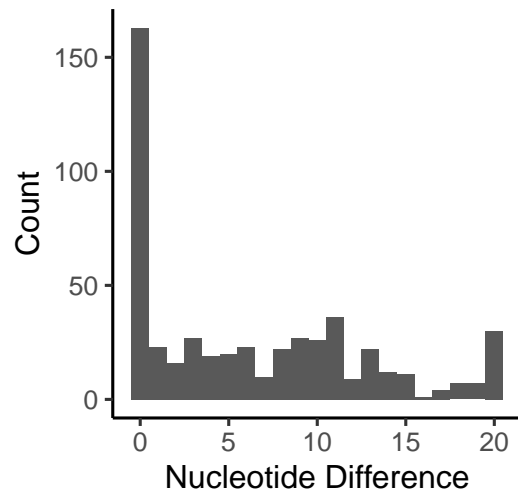
### IGHV3-47\*01

2 sequences assigned  
2 (100%) exact matches, in which:  
1 unique CDR3  
1 unique J



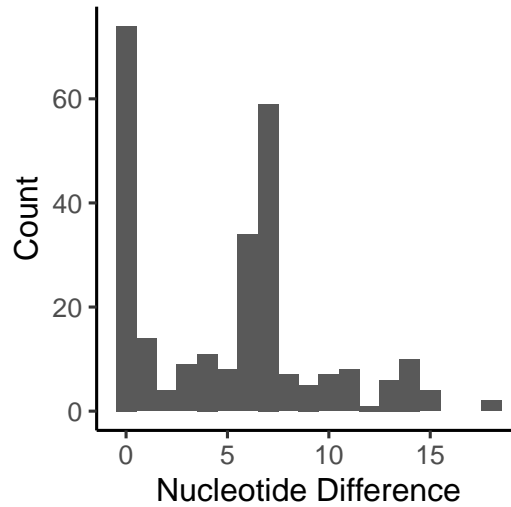
### IGHV3-48\*01

650 sequences assigned  
163 (25.1%) exact matches, in which:  
80 unique CDR3  
6 unique J



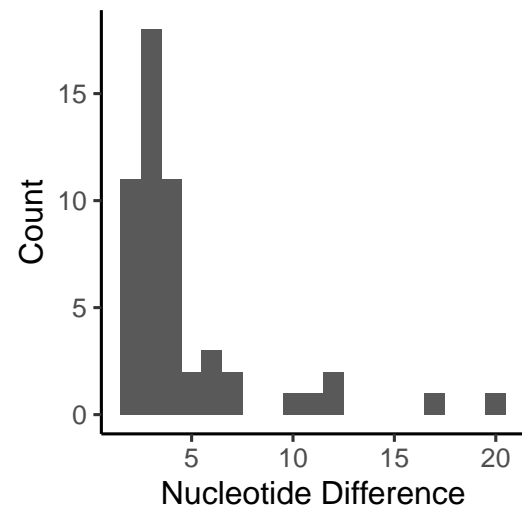
### IGHV3-49\*03\_05

273 sequences assigned  
74 (27.1%) exact matches, in which:  
44 unique CDR3  
6 unique J



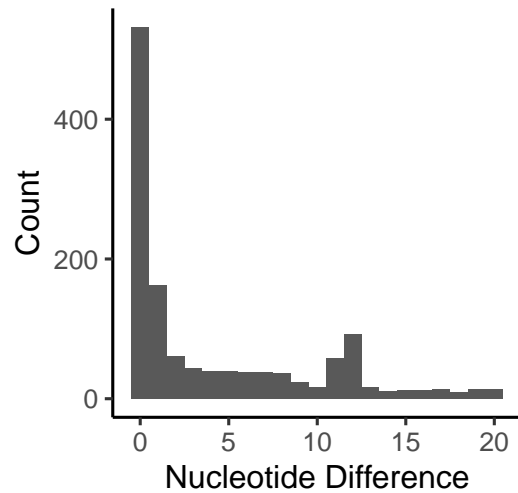
### IGHV3-64\*04

55 sequences assigned  
No exact matches.



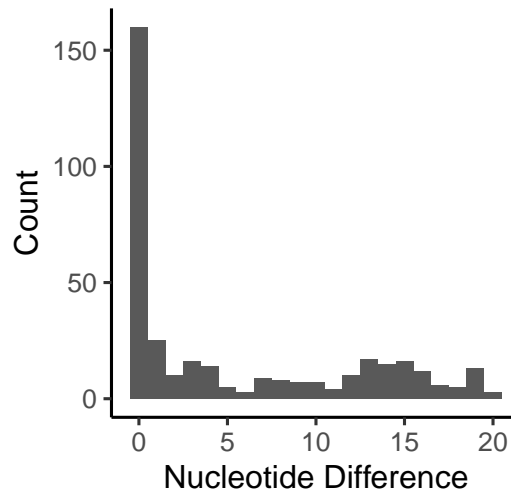
### IGHV3-48\*03

1467 sequences assigned  
532 (36.3%) exact matches, in which:  
293 unique CDR3  
6 unique J



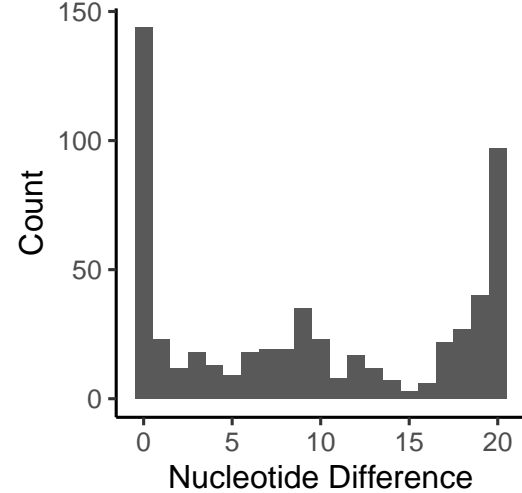
### IGHV3-53\*01\_02

392 sequences assigned  
160 (40.8%) exact matches, in which:  
86 unique CDR3  
6 unique J



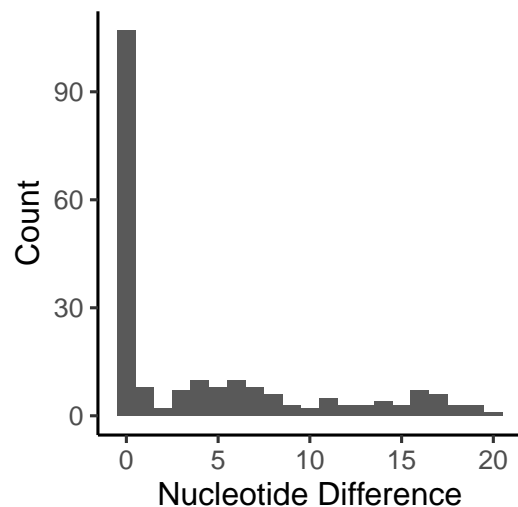
### IGHV3-66\*01

865 sequences assigned  
144 (16.6%) exact matches, in which:  
76 unique CDR3  
6 unique J



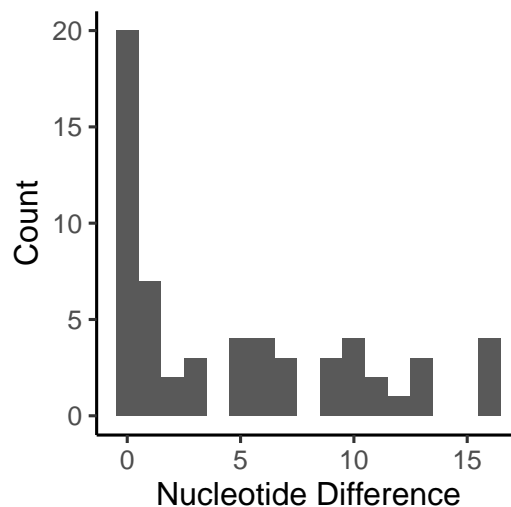
### IGHV3-49\*04

212 sequences assigned  
107 (50.5%) exact matches, in which:  
63 unique CDR3  
6 unique J



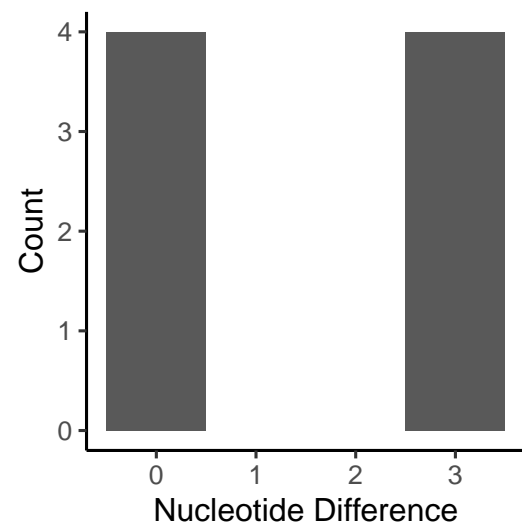
### IGHV3-64\*01

63 sequences assigned  
20 (31.7%) exact matches, in which:  
11 unique CDR3  
5 unique J



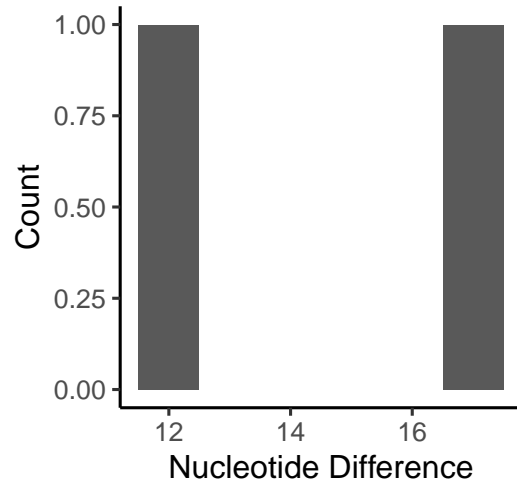
### IGHV3-69-1\*01

8 sequences assigned  
4 (50%) exact matches, in which:  
2 unique CDR3  
2 unique J



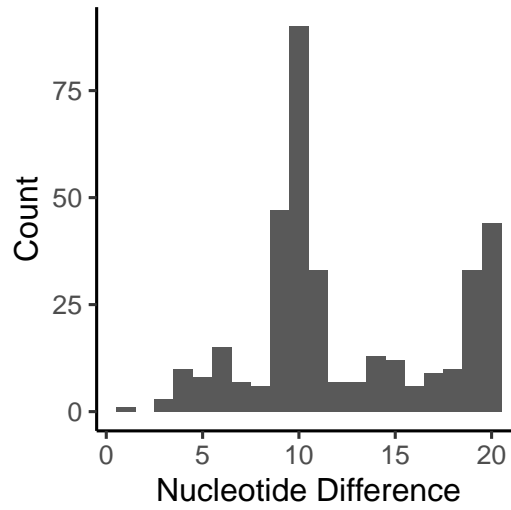
### IGHV3-69-1\*02

2 sequences assigned  
No exact matches.



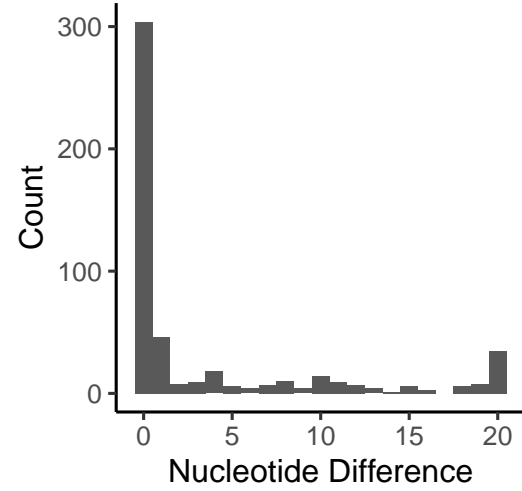
### IGHV3-74\*03

549 sequences assigned  
No exact matches.



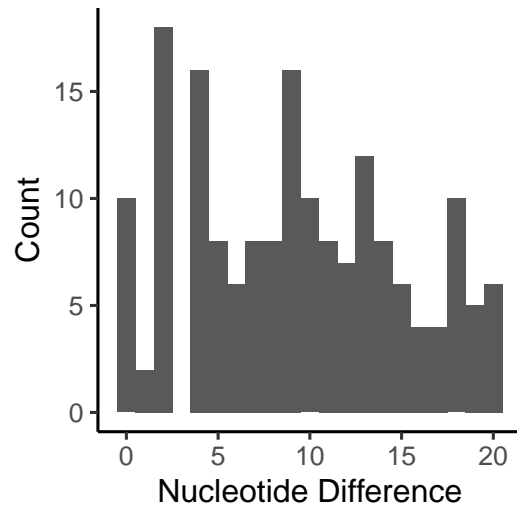
### IGHV3-64D\*06

574 sequences assigned  
304 (53%) exact matches, in which:  
132 unique CDR3  
6 unique J



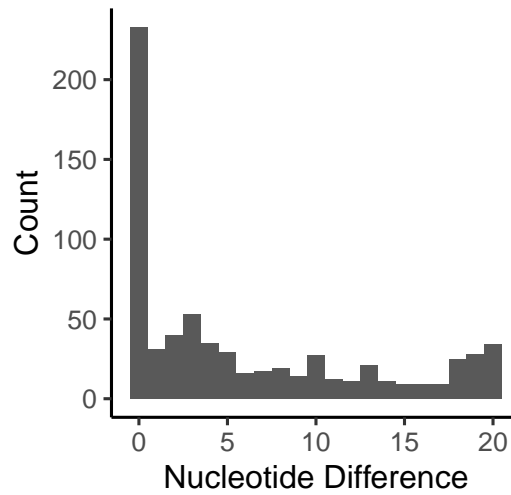
### IGHV3-72\*01

177 sequences assigned  
10 (5.6%) exact matches, in which:  
5 unique CDR3  
3 unique J



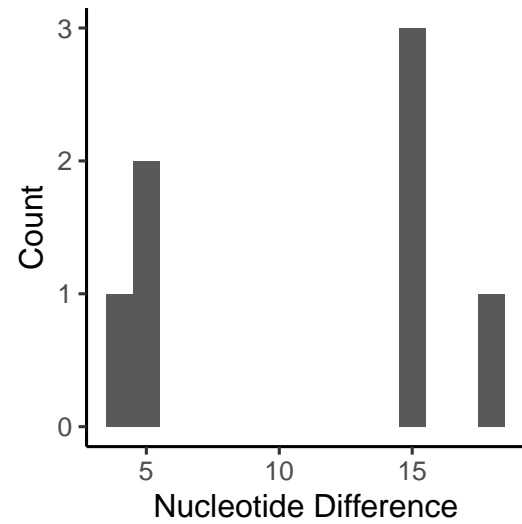
### IGHV3-74\*01\_02

968 sequences assigned  
233 (24.1%) exact matches, in which:  
119 unique CDR3  
6 unique J



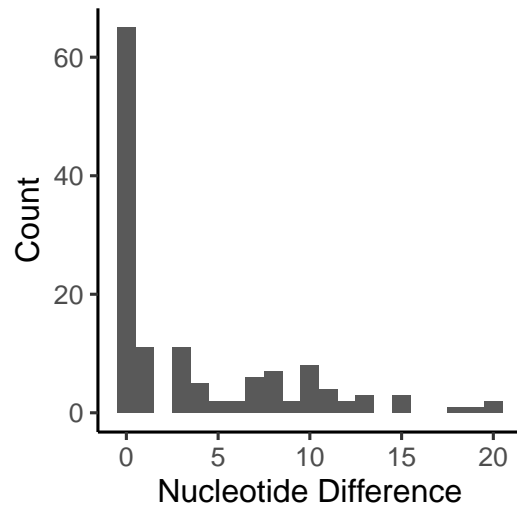
### IGHV3-NL1\*01

9 sequences assigned  
No exact matches.



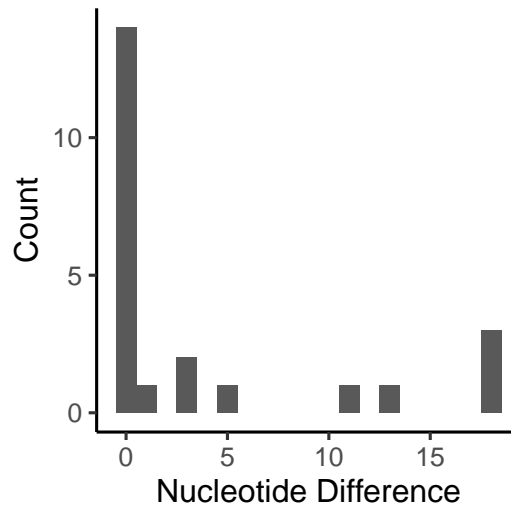
### IGHV3-73\*01\_02

149 sequences assigned  
65 (43.6%) exact matches, in which:  
34 unique CDR3  
6 unique J



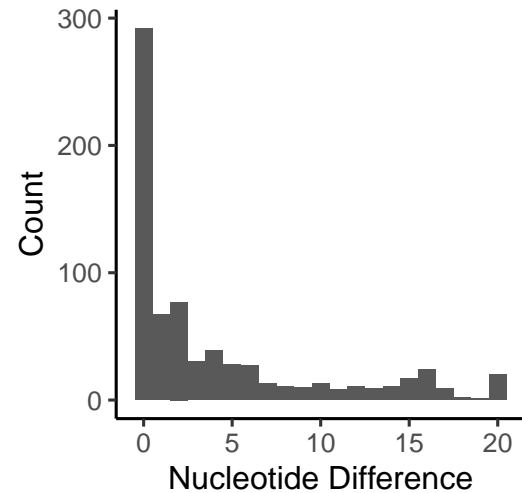
### IGHV3-43D\*04

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



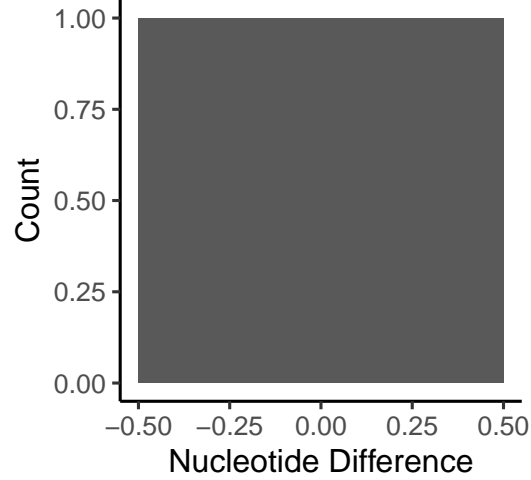
### IGHV4-4\*02\_03

798 sequences assigned  
292 (36.6%) exact matches, in which:  
248 unique CDR3  
6 unique J



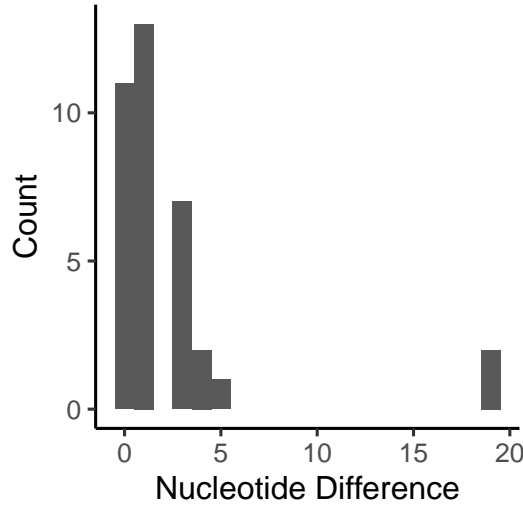
### IGHV4-28\*01\_07

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



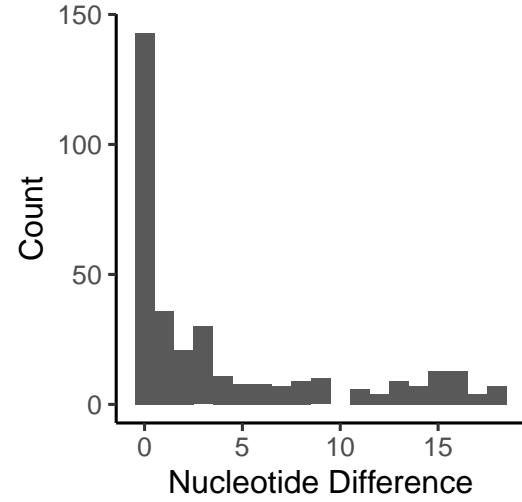
### IGHV4-30-2\*01\_C300T\_C

37 sequences assigned  
11 (29.7%) exact matches, in which:  
11 unique CDR3  
3 unique J



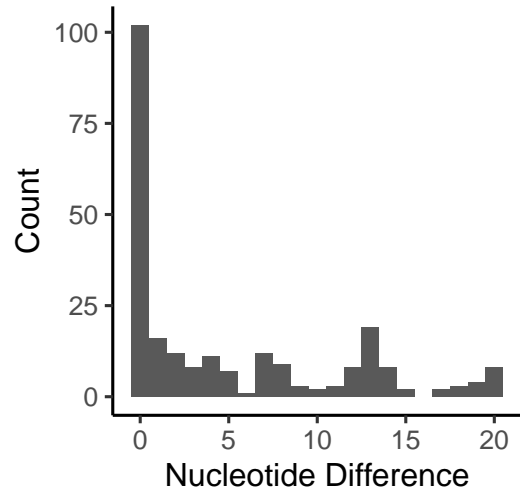
### IGHV4-31\*02

379 sequences assigned  
143 (37.7%) exact matches, in which:  
123 unique CDR3  
6 unique J



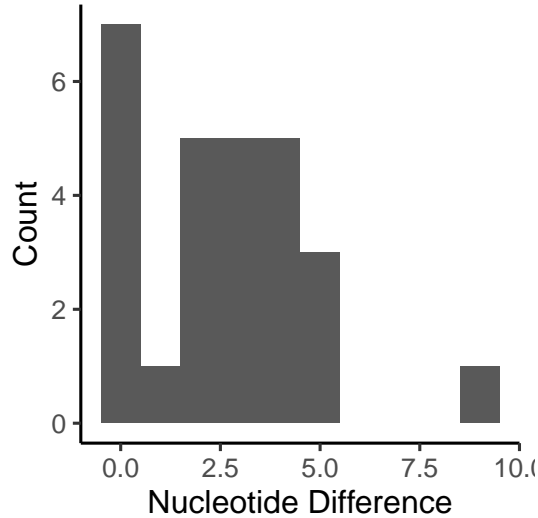
### IGHV4-30-2\*01

309 sequences assigned  
102 (33%) exact matches, in which:  
65 unique CDR3  
6 unique J



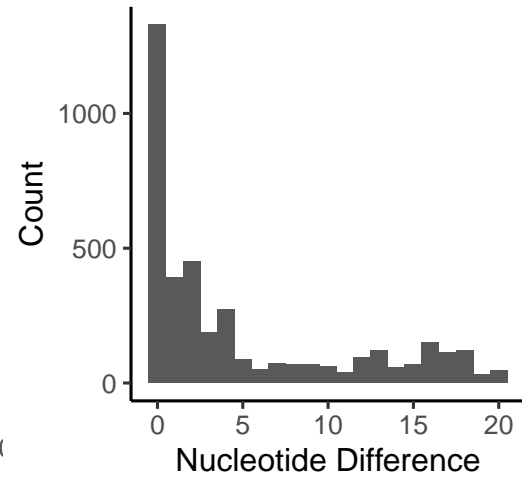
### IGHV4-30-2\*01\_G245C\_G245A\_G245G

28 sequences assigned  
7 (25%) exact matches, in which:  
7 unique CDR3  
3 unique J



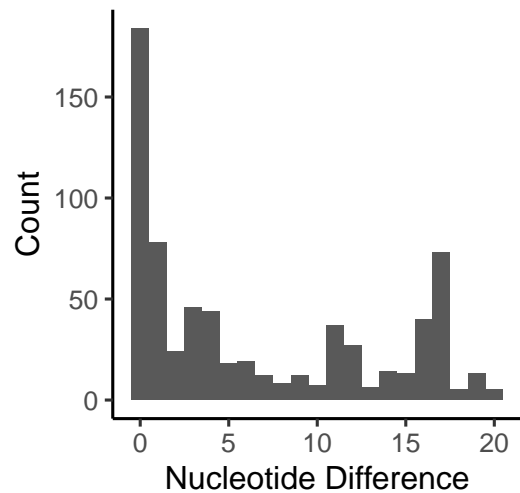
### IGHV4-34\*01\_02

4228 sequences assigned  
1329 (31.4%) exact matches, in which:  
1032 unique CDR3  
6 unique J



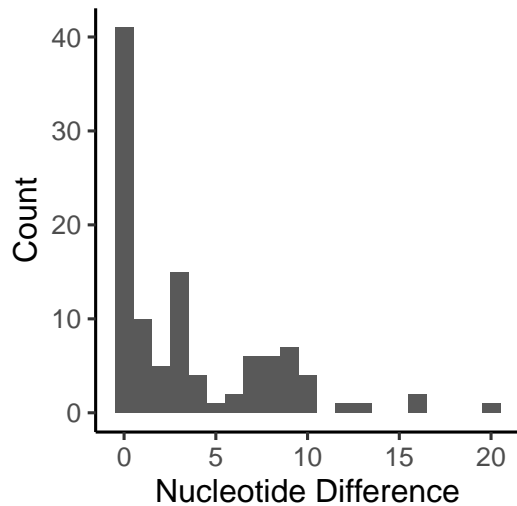
### IGHV4-30-4\*01

699 sequences assigned  
184 (26.3%) exact matches, in which:  
167 unique CDR3  
6 unique J



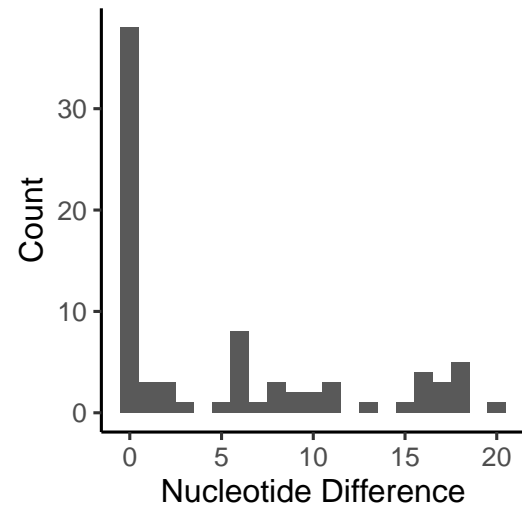
### IGHV4-31\*01

107 sequences assigned  
41 (38.3%) exact matches, in which:  
32 unique CDR3  
5 unique J



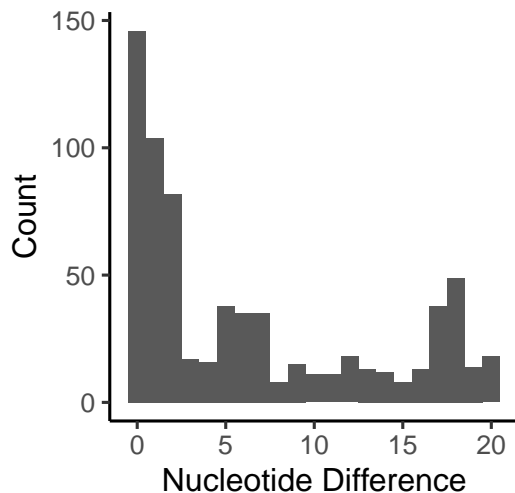
### IGHV4-38-2\*01\_A291G\_C

84 sequences assigned  
38 (45.2%) exact matches, in which:  
38 unique CDR3  
5 unique J



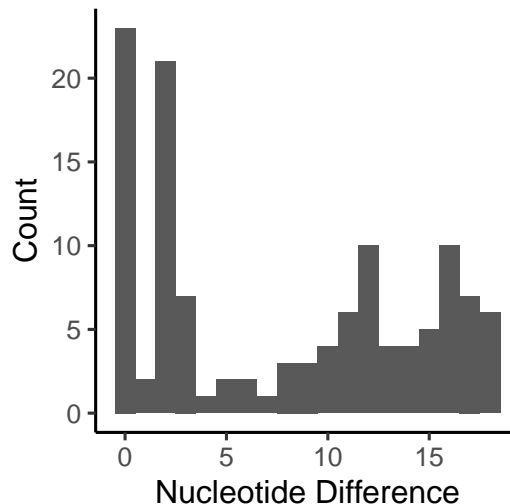
### IGHV4-38-2\*02\_A70G

1002 sequences assigned  
146 (14.6%) exact matches, in which:  
122 unique CDR3  
6 unique J



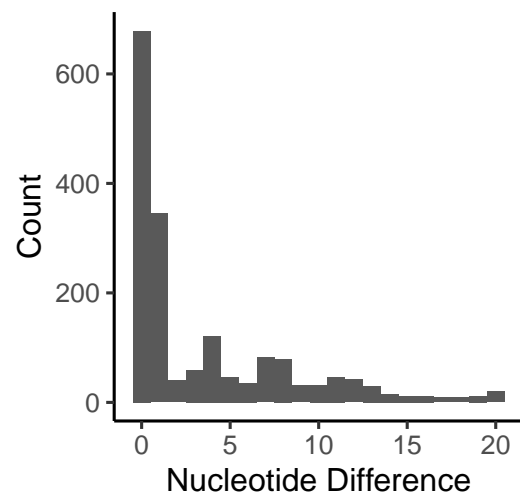
### IGHV4-39\*07\_A103G\_A11

125 sequences assigned  
23 (18.4%) exact matches, in which:  
22 unique CDR3  
5 unique J



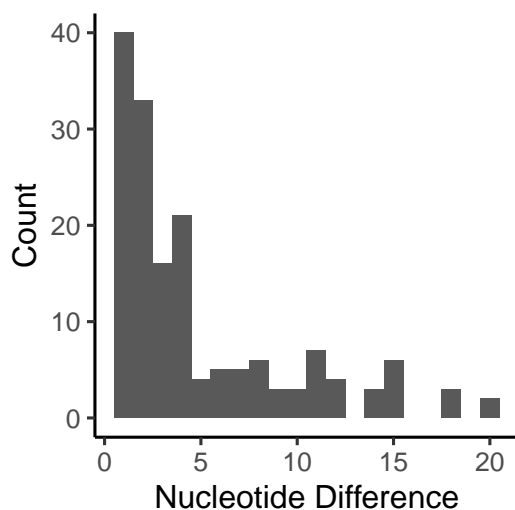
### IGHV4-59\*02\_G88A

2249 sequences assigned  
679 (30.2%) exact matches, in which:  
577 unique CDR3  
6 unique J



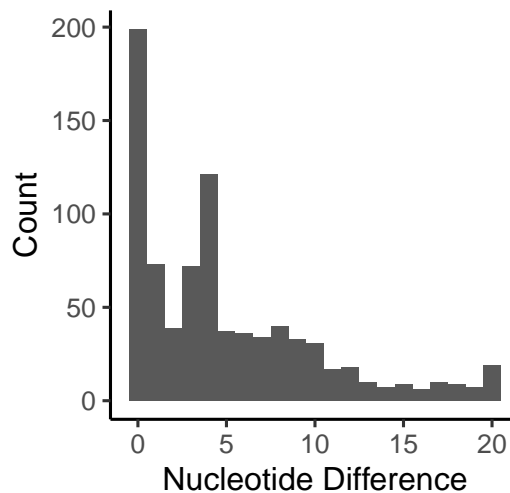
### IGHV4-39\*07

167 sequences assigned  
No exact matches.



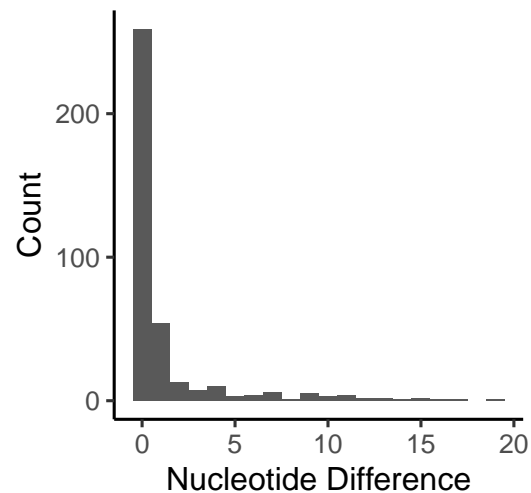
### IGHV4-59\*08

1100 sequences assigned  
199 (18.1%) exact matches, in which:  
179 unique CDR3  
6 unique J



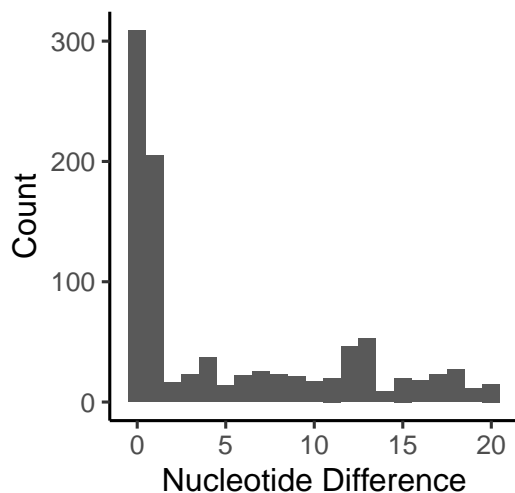
### IGHV4-59\*12\_C300T

382 sequences assigned  
259 (67.8%) exact matches, in which:  
259 unique CDR3  
6 unique J



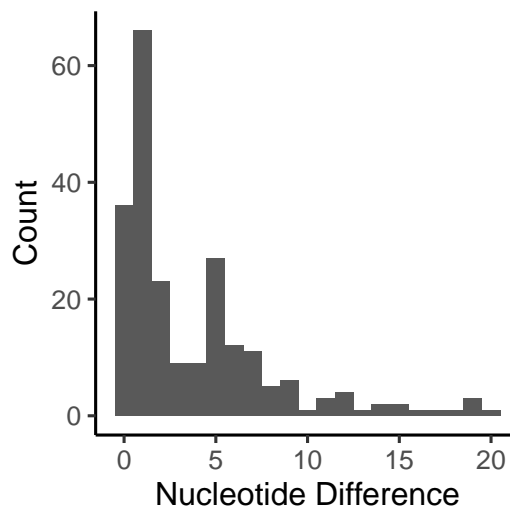
### IGHV4-39\*02\_C258G

1073 sequences assigned  
309 (28.8%) exact matches, in which:  
237 unique CDR3  
6 unique J



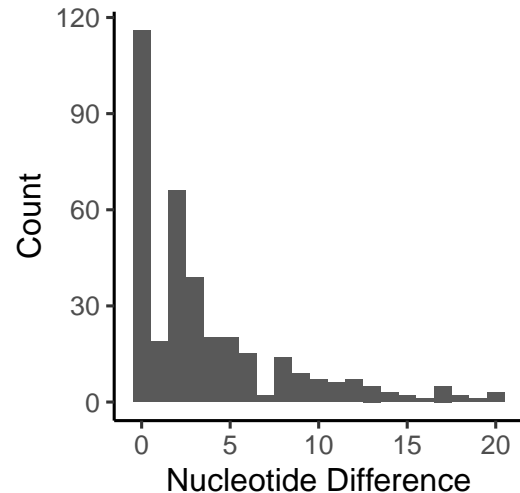
### IGHV4-59\*12

244 sequences assigned  
36 (14.8%) exact matches, in which:  
36 unique CDR3  
6 unique J



### IGHV4-61\*01

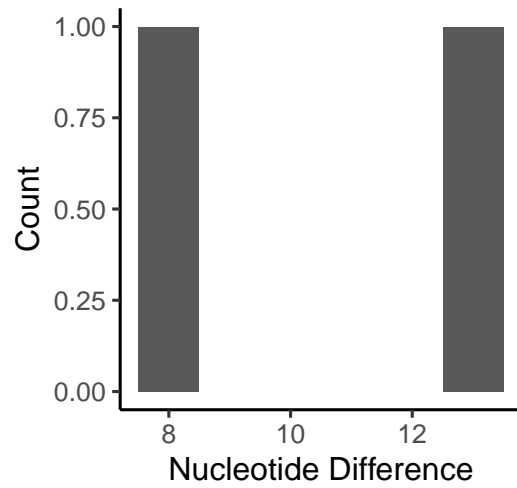
441 sequences assigned  
116 (26.3%) exact matches, in which:  
113 unique CDR3  
6 unique J





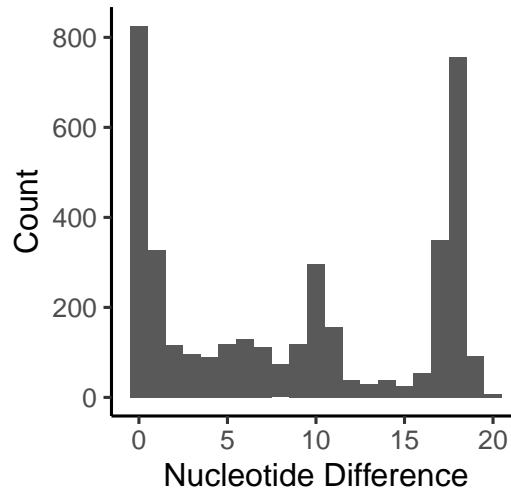
### IGHV4/OR15–8\*01

5 sequences assigned  
No exact matches.



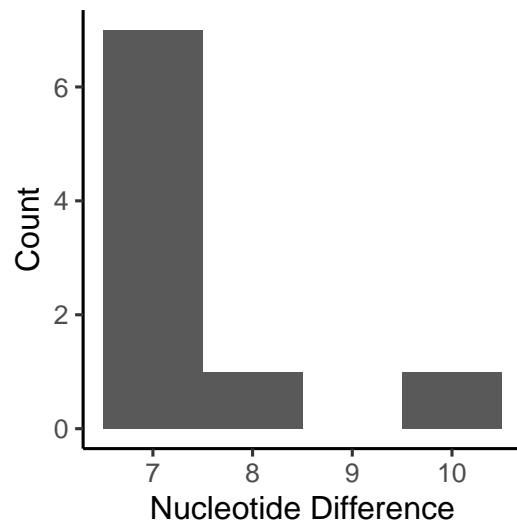
### IGHV5–51\*07\_A128G

3903 sequences assigned  
826 (21.2%) exact matches, in which:  
500 unique CDR3  
6 unique J



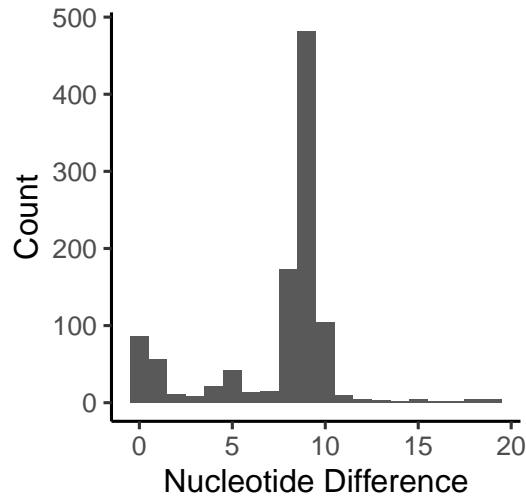
### IGHV4/OR15–8\*02

17 sequences assigned  
No exact matches.



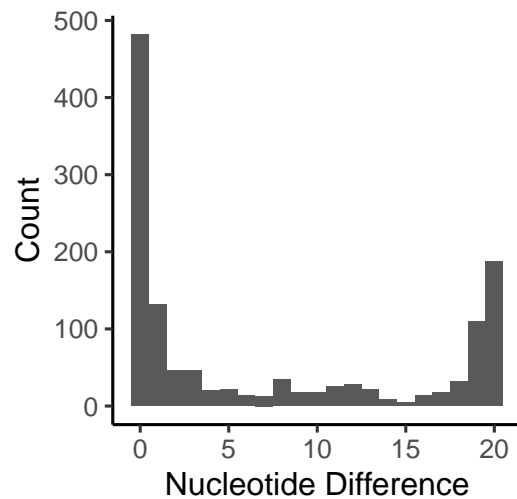
### IGHV6–1\*01\_02

1052 sequences assigned  
86 (8.2%) exact matches, in which:  
79 unique CDR3  
6 unique J



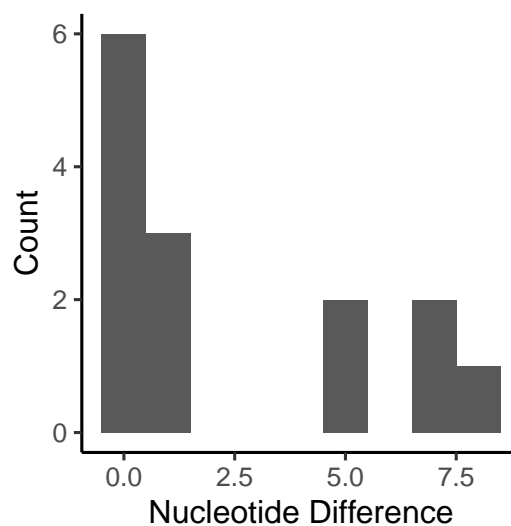
### IGHV5–10–1\*01\_03

1658 sequences assigned  
482 (29.1%) exact matches, in which:  
325 unique CDR3  
6 unique J



### IGHV7–4–1\*01

14 sequences assigned  
6 (42.9%) exact matches, in which:  
6 unique CDR3  
2 unique J





Warning – no inferred sequences found.