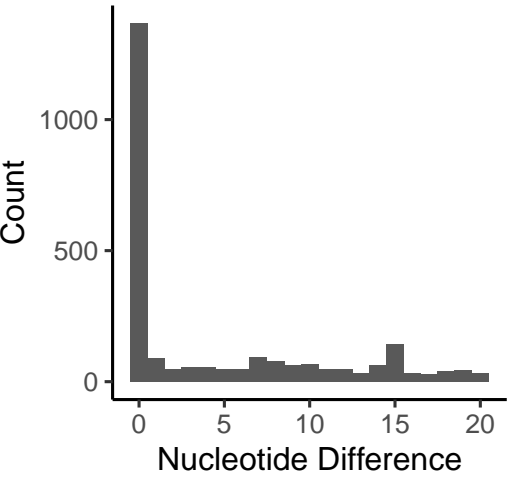


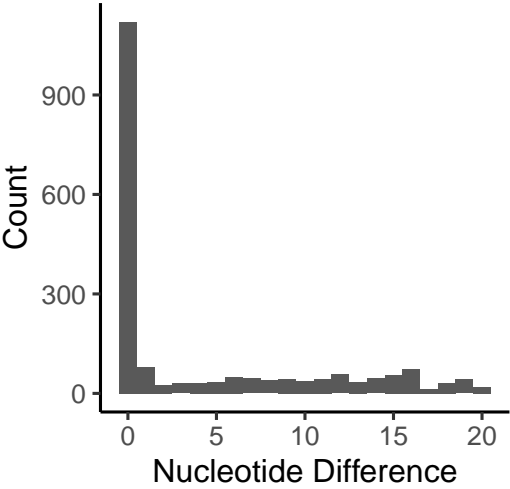
IGHV1-2\*02

2774 sequences assigned  
1367 (49.3%) exact matches, in which:  
1358 unique CDR3  
7 unique J



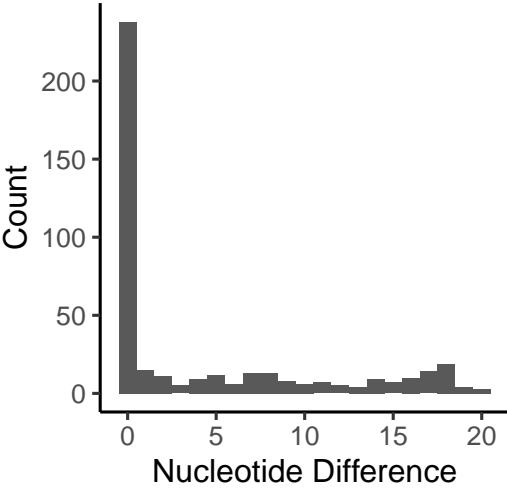
IGHV1-18\*01

2185 sequences assigned  
1121 (51.3%) exact matches, in which:  
1116 unique CDR3  
7 unique J



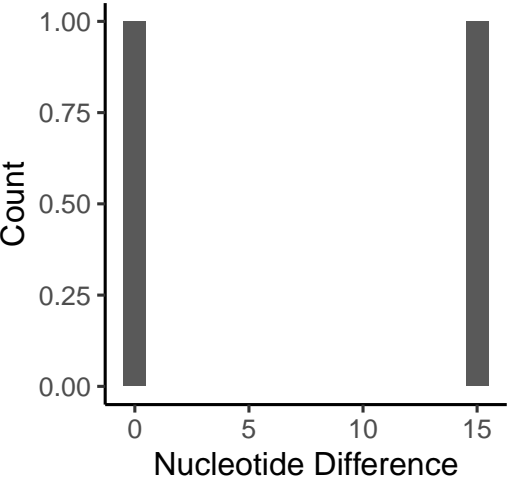
IGHV1-46\*01

452 sequences assigned  
238 (52.7%) exact matches, in which:  
238 unique CDR3  
5 unique J



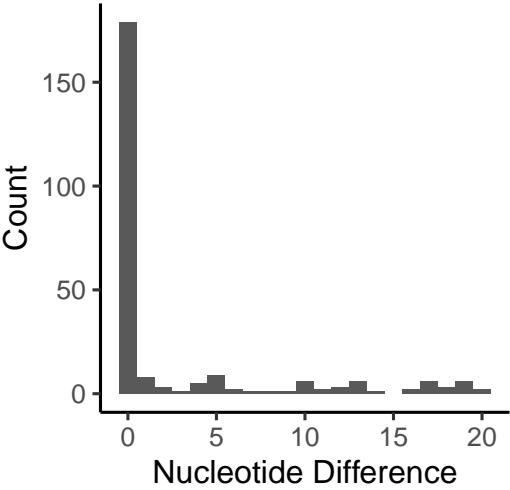
IGHV1-3\*02

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



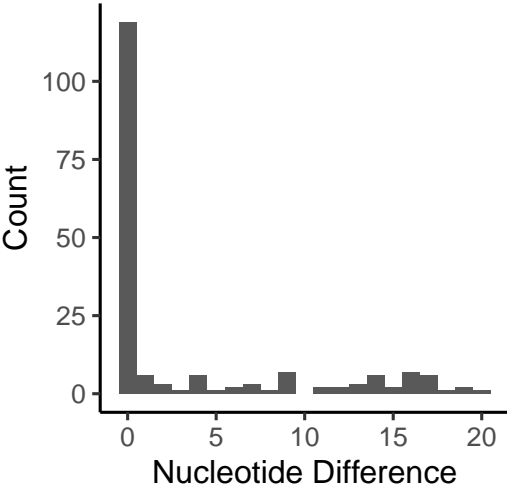
IGHV1-24\*01

275 sequences assigned  
179 (65.1%) exact matches, in which:  
177 unique CDR3  
7 unique J



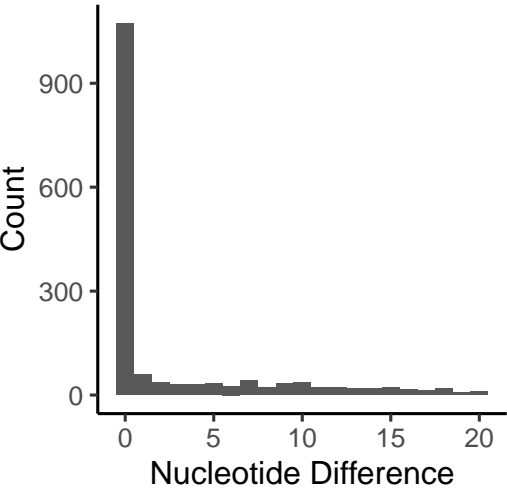
IGHV1-46\*03

195 sequences assigned  
119 (61%) exact matches, in which:  
118 unique CDR3  
6 unique J



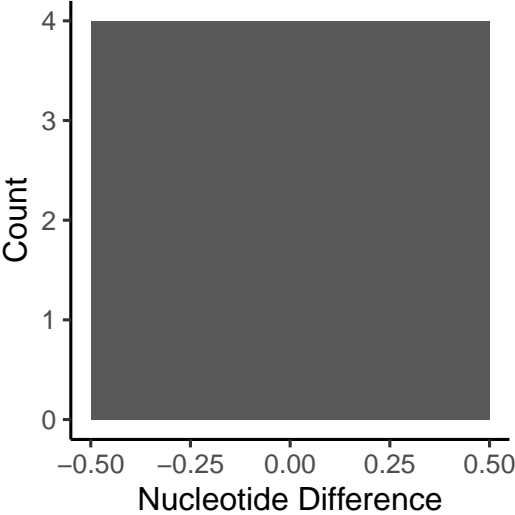
IGHV1-8\*01

1691 sequences assigned  
1073 (63.5%) exact matches, in which:  
1072 unique CDR3  
7 unique J



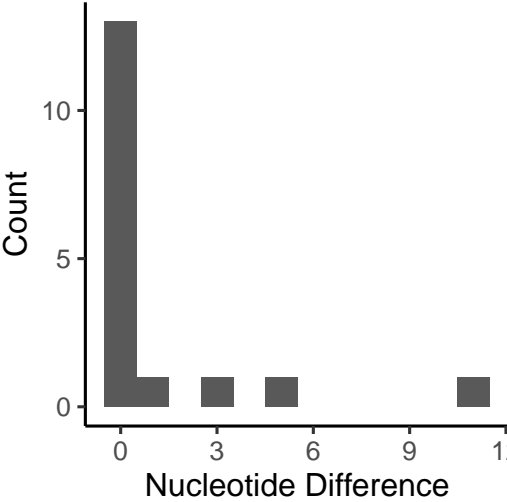
IGHV1-45\*02

5 sequences assigned  
4 (80%) exact matches, in which:  
4 unique CDR3  
3 unique J



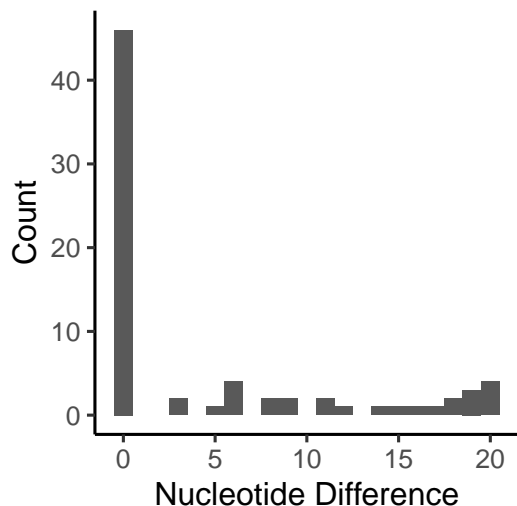
IGHV1-58\*02

17 sequences assigned  
13 (76.5%) exact matches, in which:  
13 unique CDR3  
3 unique J



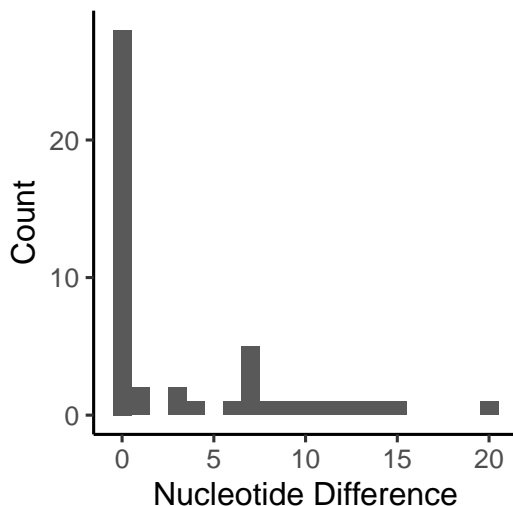
### IGHV1-58\*01\_03

84 sequences assigned  
46 (54.8%) exact matches, in which:  
46 unique CDR3  
5 unique J



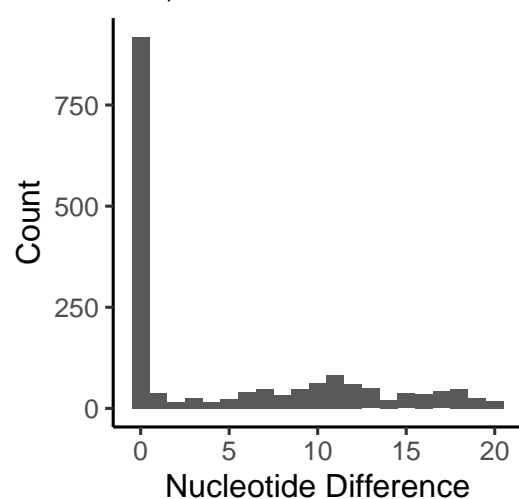
### IGHV2-26\*01

49 sequences assigned  
28 (57.1%) exact matches, in which:  
28 unique CDR3  
6 unique J



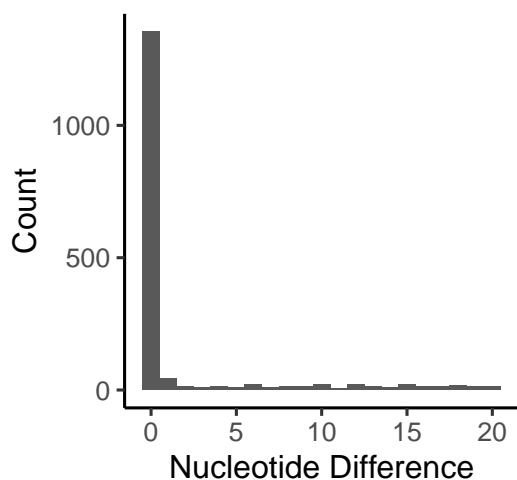
### IGHV3-9\*01

1881 sequences assigned  
919 (48.9%) exact matches, in which:  
654 unique CDR3  
7 unique J



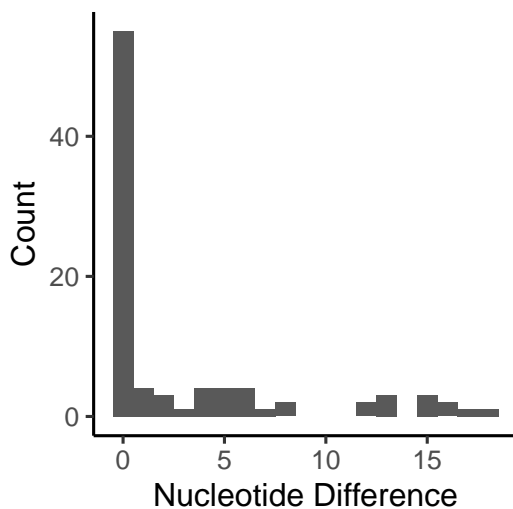
### IGHV1-69\*01\_12\_13

1932 sequences assigned  
1354 (70.1%) exact matches, in which:  
1352 unique CDR3  
7 unique J



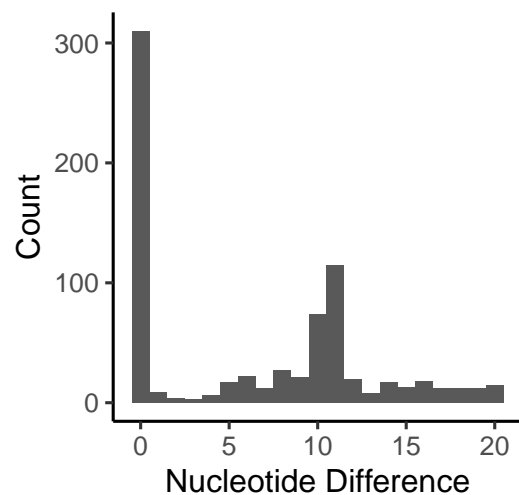
### IGHV2-70\*01

94 sequences assigned  
55 (58.5%) exact matches, in which:  
55 unique CDR3  
6 unique J



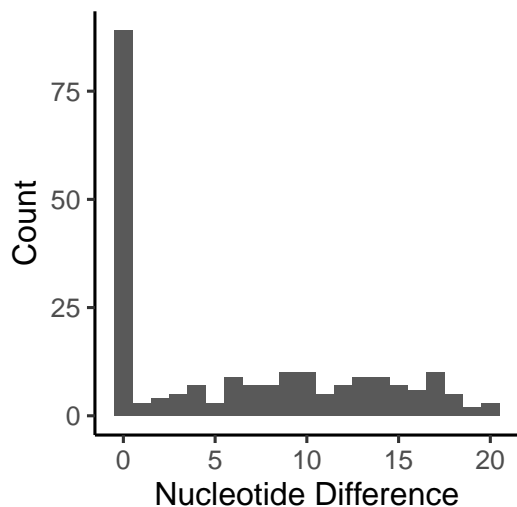
### IGHV3-11\*01

852 sequences assigned  
310 (36.4%) exact matches, in which:  
228 unique CDR3  
7 unique J



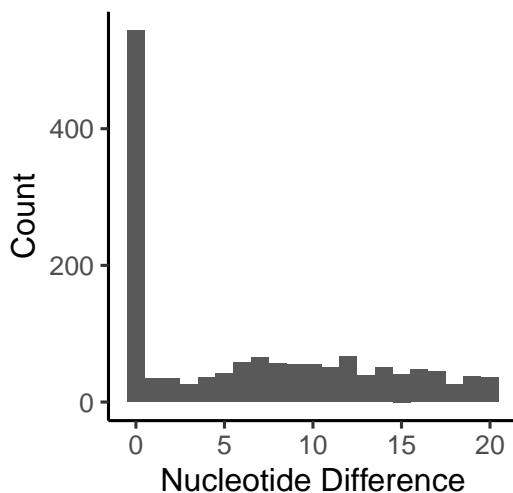
### IGHV2-5\*01

262 sequences assigned  
89 (34%) exact matches, in which:  
89 unique CDR3  
7 unique J



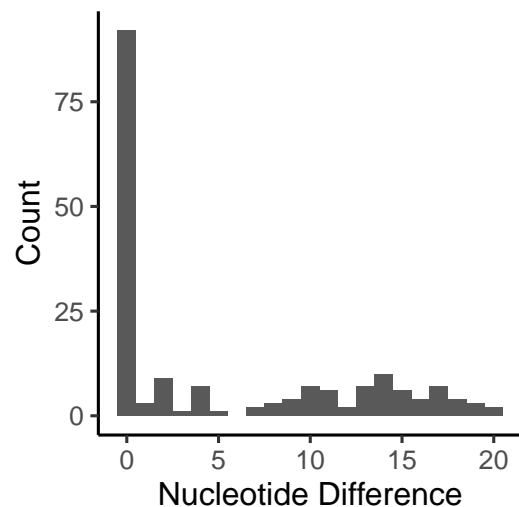
### IGHV3-7\*01

1632 sequences assigned  
544 (33.3%) exact matches, in which:  
386 unique CDR3  
7 unique J



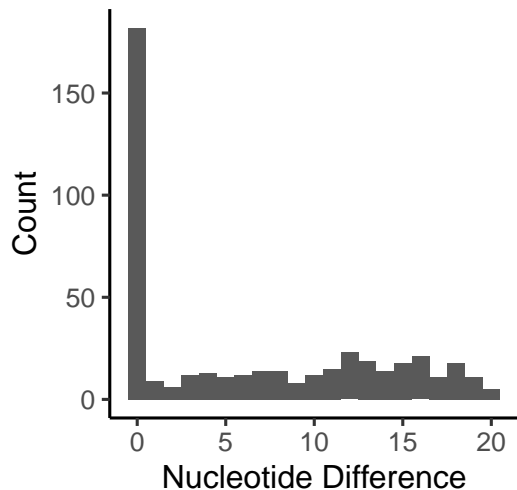
### IGHV3-13\*01

207 sequences assigned  
92 (44.4%) exact matches, in which:  
62 unique CDR3  
6 unique J



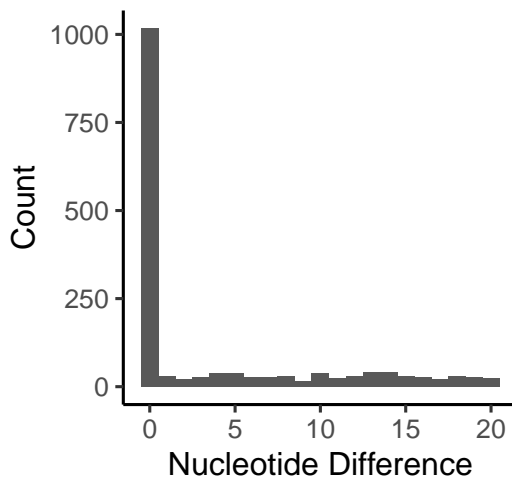
### IGHV3-15\*01\_02

555 sequences assigned  
182 (32.8%) exact matches, in which:  
136 unique CDR3  
7 unique J



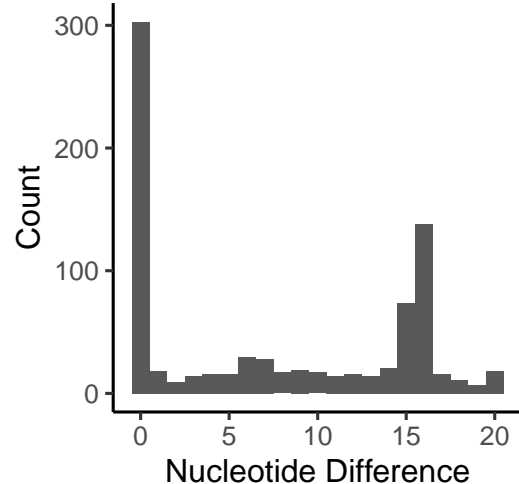
### IGHV3-21\*01\_02

1809 sequences assigned  
1017 (56.2%) exact matches, in which:  
732 unique CDR3  
7 unique J



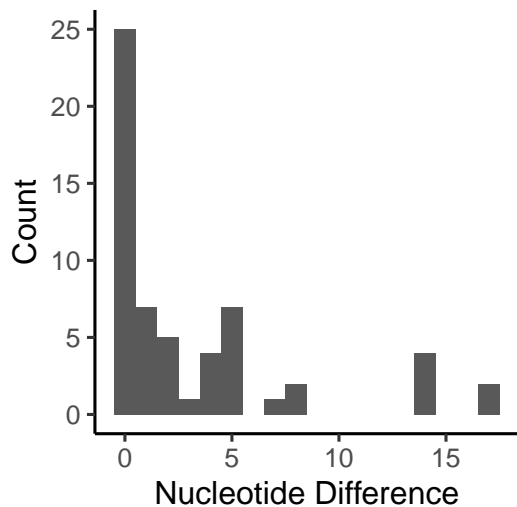
### IGHV3-33\*01

967 sequences assigned  
303 (31.3%) exact matches, in which:  
222 unique CDR3  
6 unique J



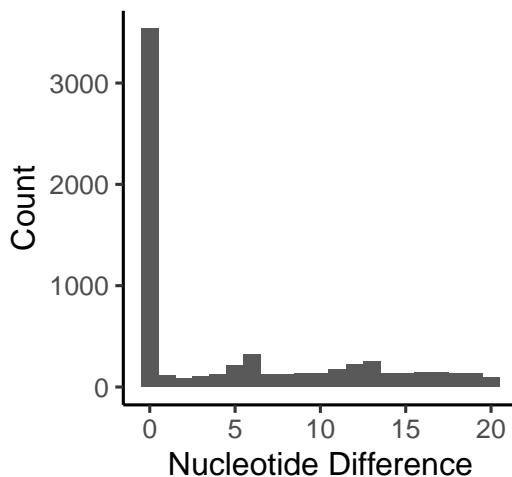
### IGHV3-20\*01\_02

66 sequences assigned  
25 (37.9%) exact matches, in which:  
19 unique CDR3  
5 unique J



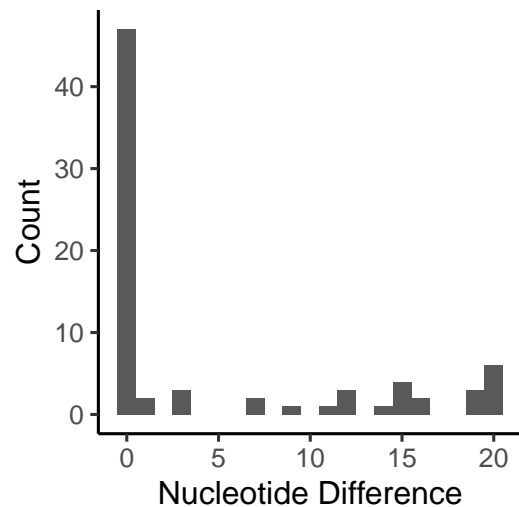
### IGHV3-23\*01\_04

7736 sequences assigned  
3536 (45.7%) exact matches, in which:  
2460 unique CDR3  
7 unique J



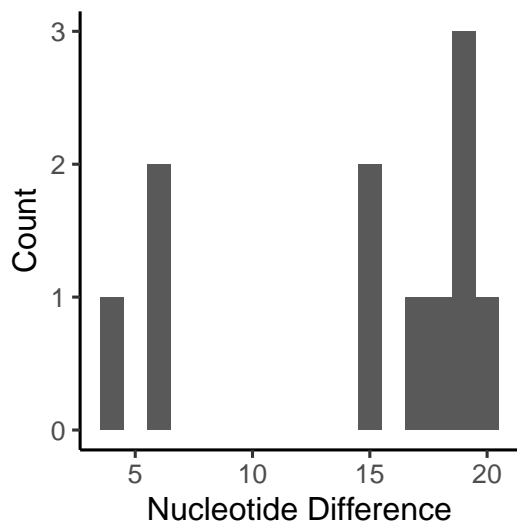
### IGHV3-43\*01

93 sequences assigned  
47 (50.5%) exact matches, in which:  
32 unique CDR3  
5 unique J



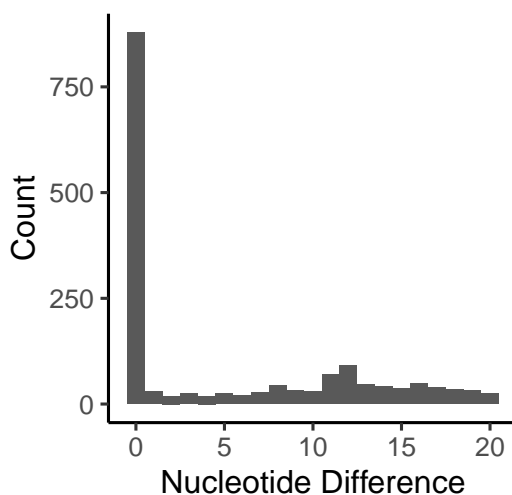
### IGHV3-20\*03\_04

23 sequences assigned  
No exact matches.



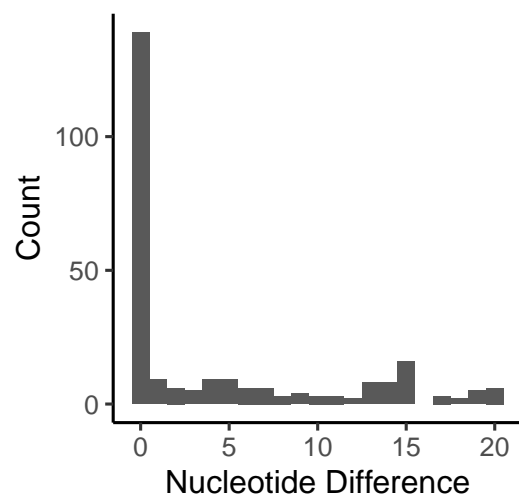
### IGHV3-30-3\*01

1924 sequences assigned  
879 (45.7%) exact matches, in which:  
651 unique CDR3  
7 unique J



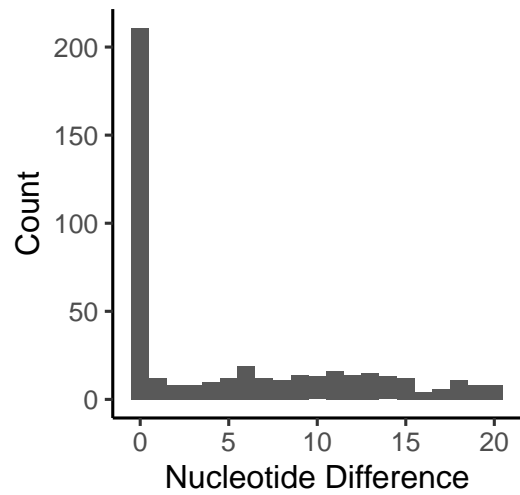
### IGHV3-48\*01

289 sequences assigned  
139 (48.1%) exact matches, in which:  
100 unique CDR3  
5 unique J



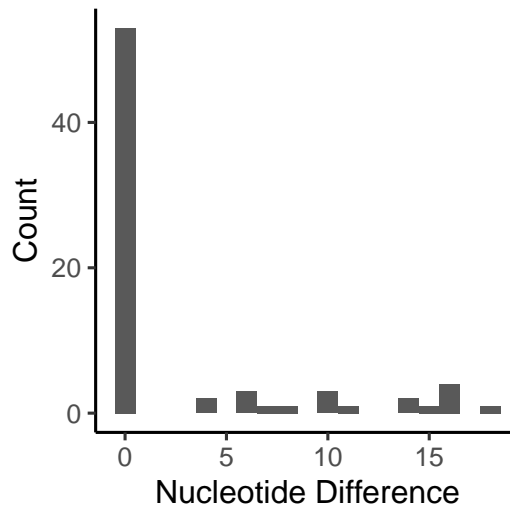
### IGHV3-48\*04

561 sequences assigned  
211 (37.6%) exact matches, in which:  
157 unique CDR3  
5 unique J



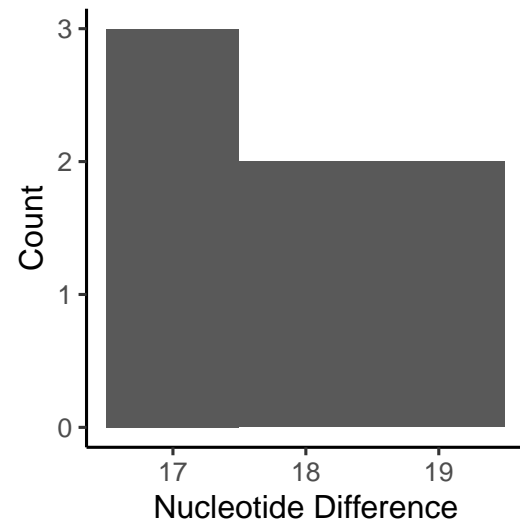
### IGHV3-53\*04

86 sequences assigned  
53 (61.6%) exact matches, in which:  
36 unique CDR3  
5 unique J



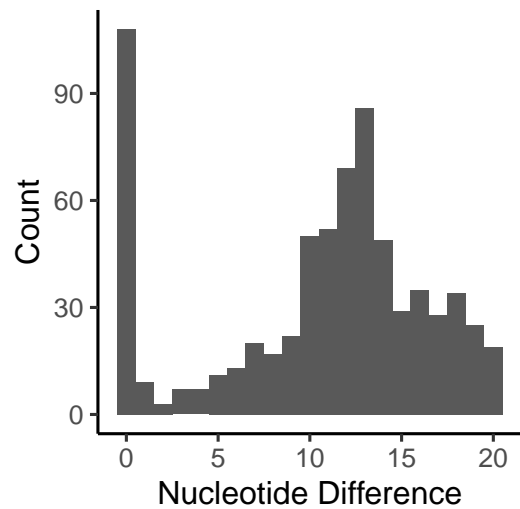
### IGHV3-66\*02

7 sequences assigned  
No exact matches.



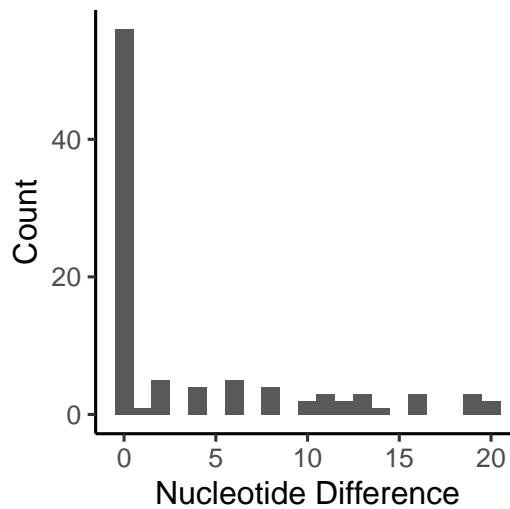
### IGHV3-49\*03\_05

795 sequences assigned  
108 (13.6%) exact matches, in which:  
83 unique CDR3  
6 unique J



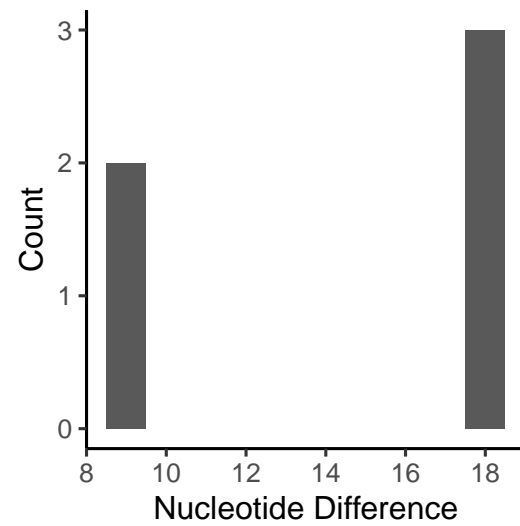
### IGHV3-53\*01\_02

104 sequences assigned  
56 (53.8%) exact matches, in which:  
43 unique CDR3  
5 unique J



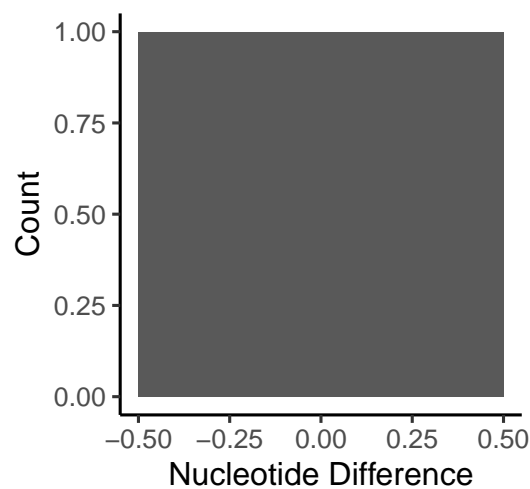
### IGHV3-69-1\*01

7 sequences assigned  
No exact matches.



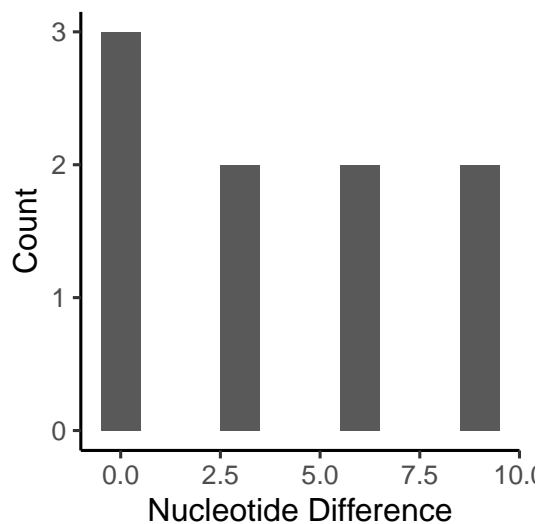
### IGHV3-52\*02

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



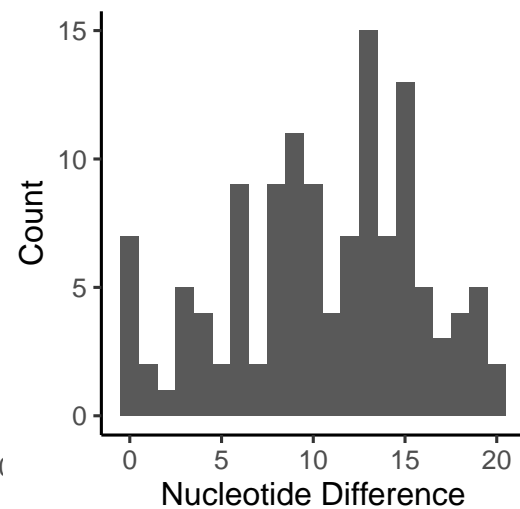
### IGHV3-64\*02\_07

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



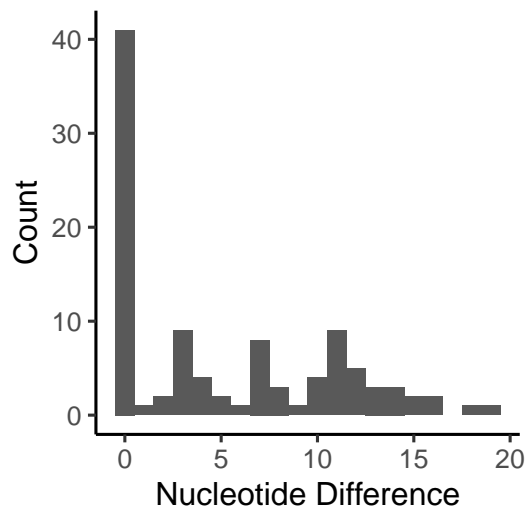
### IGHV3-72\*01

145 sequences assigned  
7 (4.8%) exact matches, in which:  
6 unique CDR3  
4 unique J



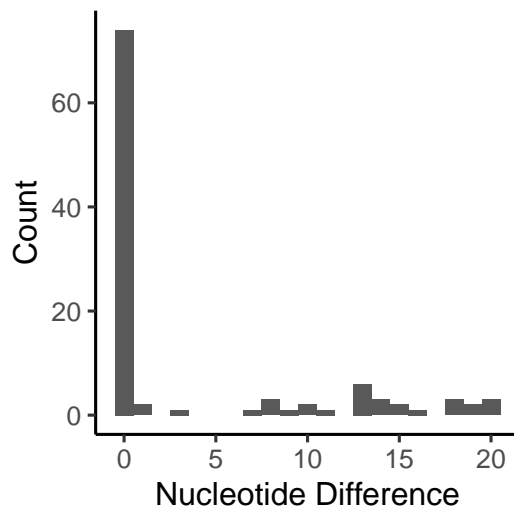
### IGHV3-73\*01\_02

121 sequences assigned  
41 (33.9%) exact matches, in which:  
30 unique CDR3  
5 unique J



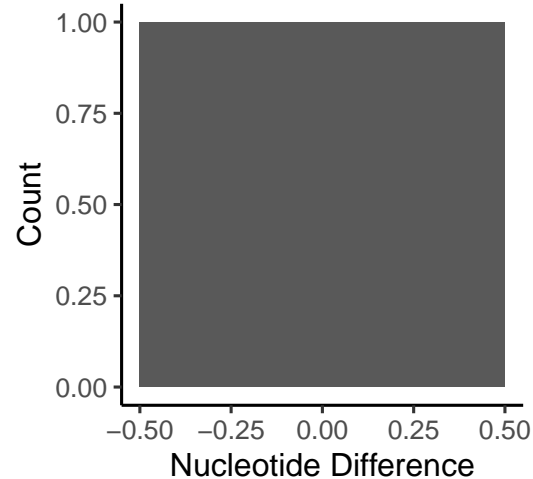
### IGHV3-43D\*03

120 sequences assigned  
74 (61.7%) exact matches, in which:  
49 unique CDR3  
4 unique J



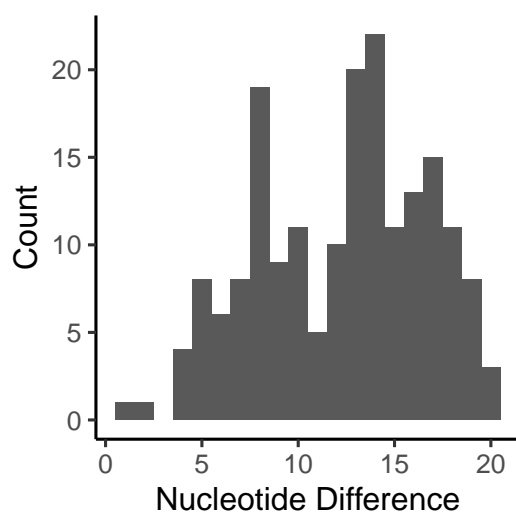
### IGHV4-28\*01\_07

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



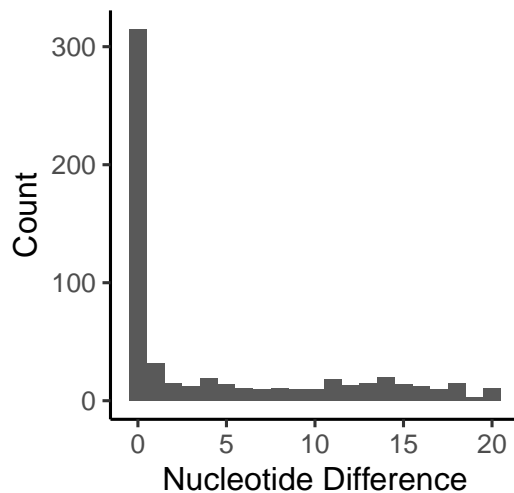
### IGHV3-74\*03

272 sequences assigned  
No exact matches.



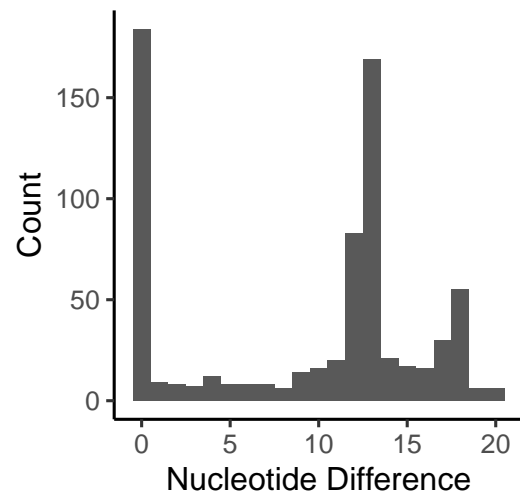
### IGHV4-4\*07

686 sequences assigned  
315 (45.9%) exact matches, in which:  
314 unique CDR3  
7 unique J



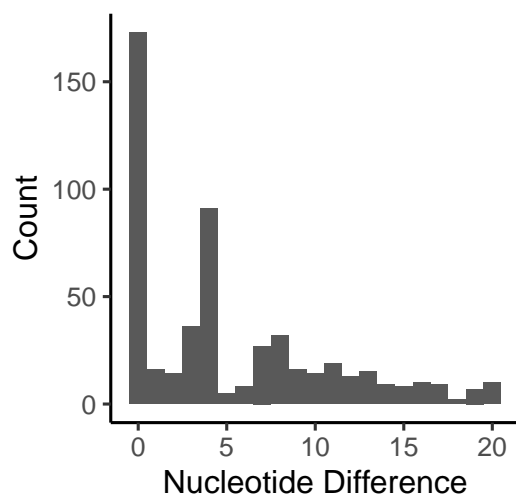
### IGHV4-30-4\*01

889 sequences assigned  
184 (20.7%) exact matches, in which:  
184 unique CDR3  
7 unique J



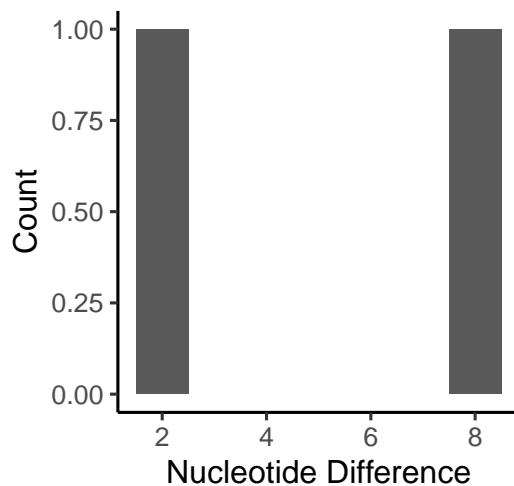
### IGHV3-74\*01\_02

575 sequences assigned  
173 (30.1%) exact matches, in which:  
120 unique CDR3  
6 unique J



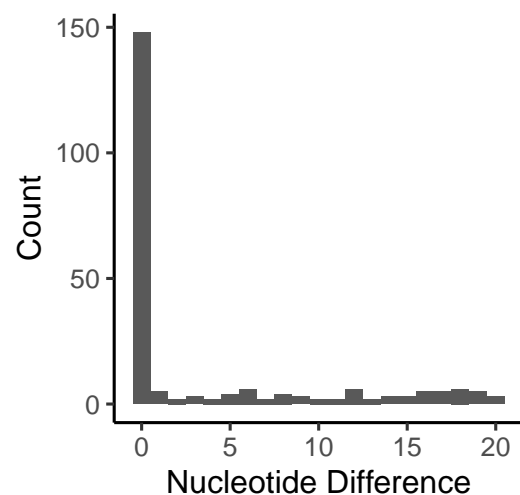
### IGHV4-28\*03

2 sequences assigned  
No exact matches.



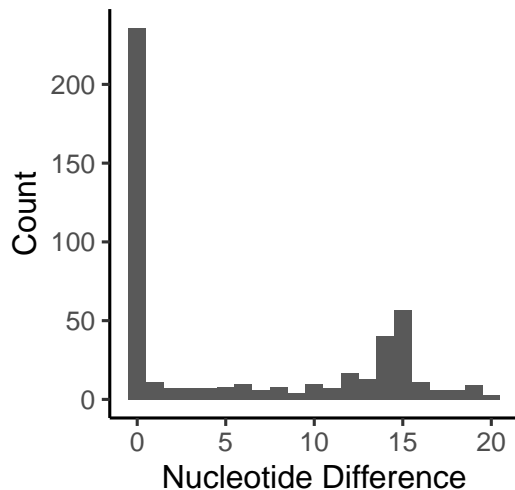
### IGHV4-30-2\*01

255 sequences assigned  
148 (58%) exact matches, in which:  
146 unique CDR3  
7 unique J



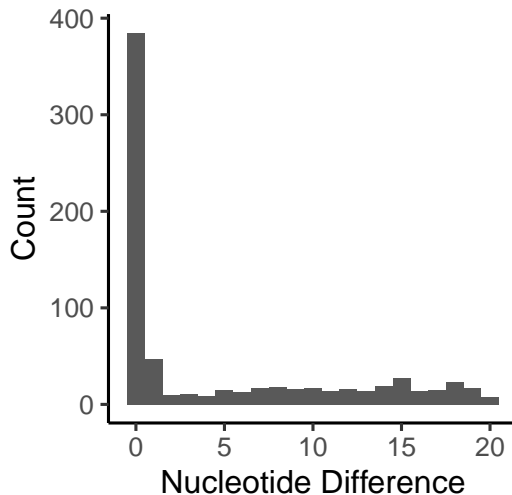
### IGHV4-31\*02

539 sequences assigned  
236 (43.8%) exact matches, in which:  
235 unique CDR3  
7 unique J



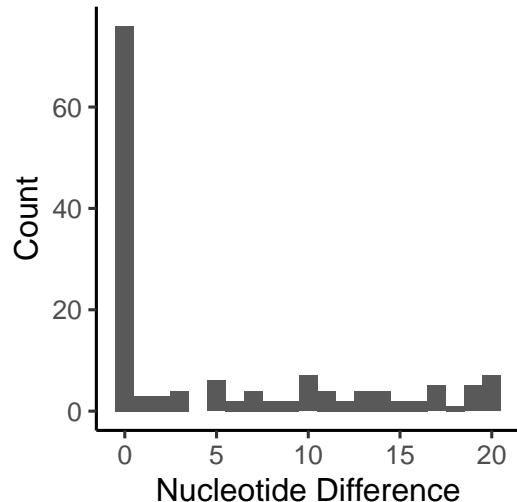
### IGHV4-39\*07

891 sequences assigned  
385 (43.2%) exact matches, in which:  
384 unique CDR3  
7 unique J



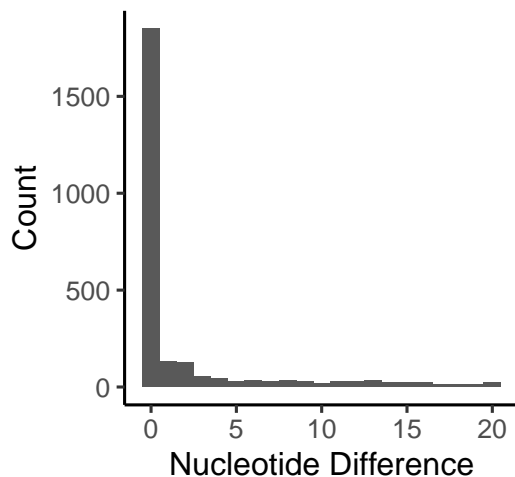
### IGHV4-61\*01

436 sequences assigned  
76 (17.4%) exact matches, in which:  
76 unique CDR3  
5 unique J



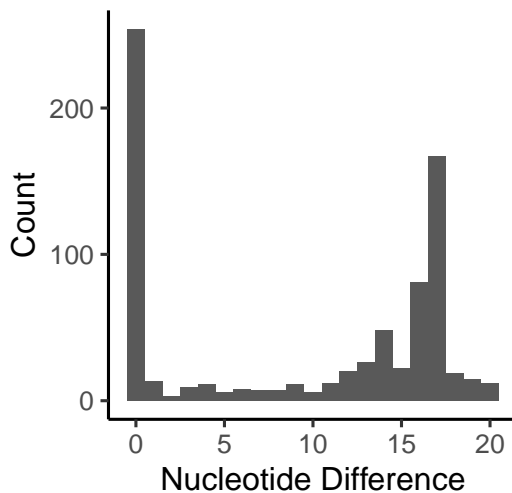
### IGHV4-34\*01\_02

2724 sequences assigned  
1849 (67.9%) exact matches, in which:  
1839 unique CDR3  
7 unique J



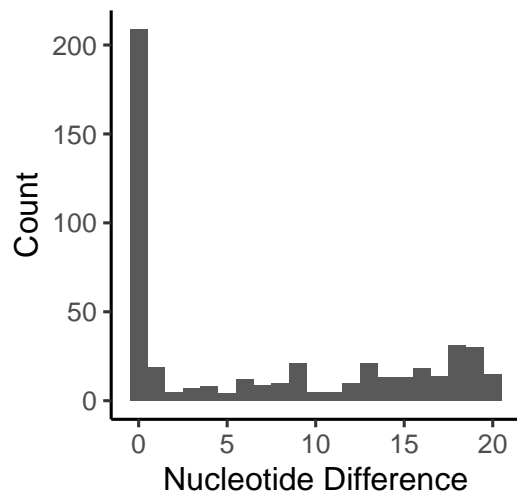
### IGHV4-39\*02\_C258G

850 sequences assigned  
254 (29.9%) exact matches, in which:  
252 unique CDR3  
6 unique J



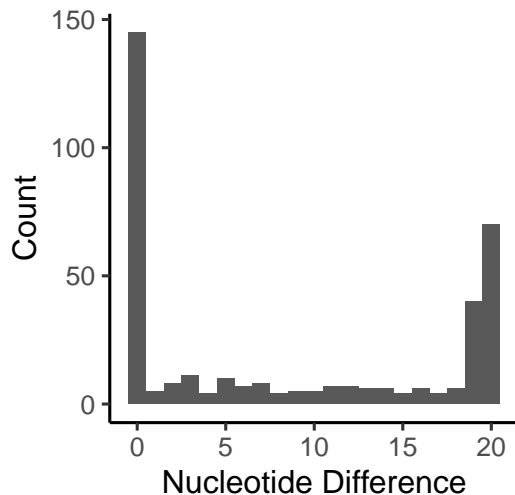
### IGHV4-61\*02\_A234G

638 sequences assigned  
209 (32.8%) exact matches, in which:  
208 unique CDR3  
6 unique J



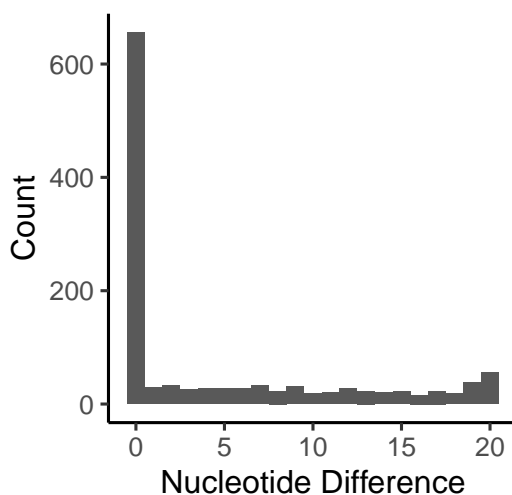
### IGHV4-38-2\*02

389 sequences assigned  
145 (37.3%) exact matches, in which:  
145 unique CDR3  
6 unique J



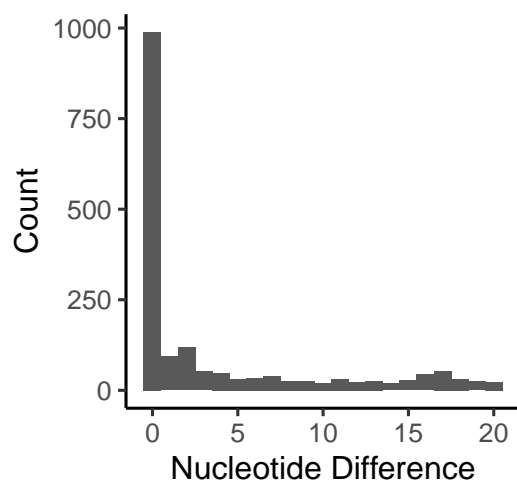
### IGHV4-59\*02\_G88A

1692 sequences assigned  
656 (38.8%) exact matches, in which:  
653 unique CDR3  
7 unique J



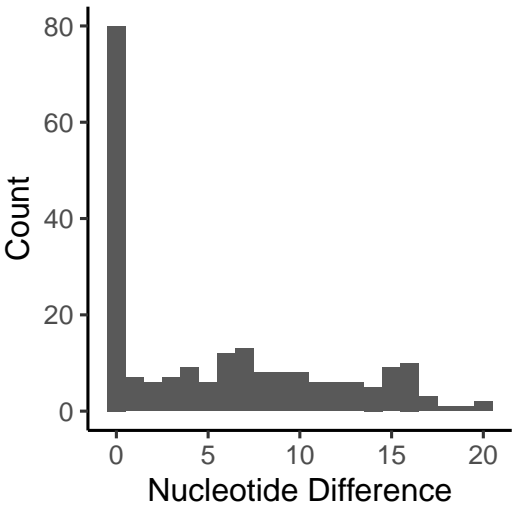
### IGHV5-51\*07\_A128G

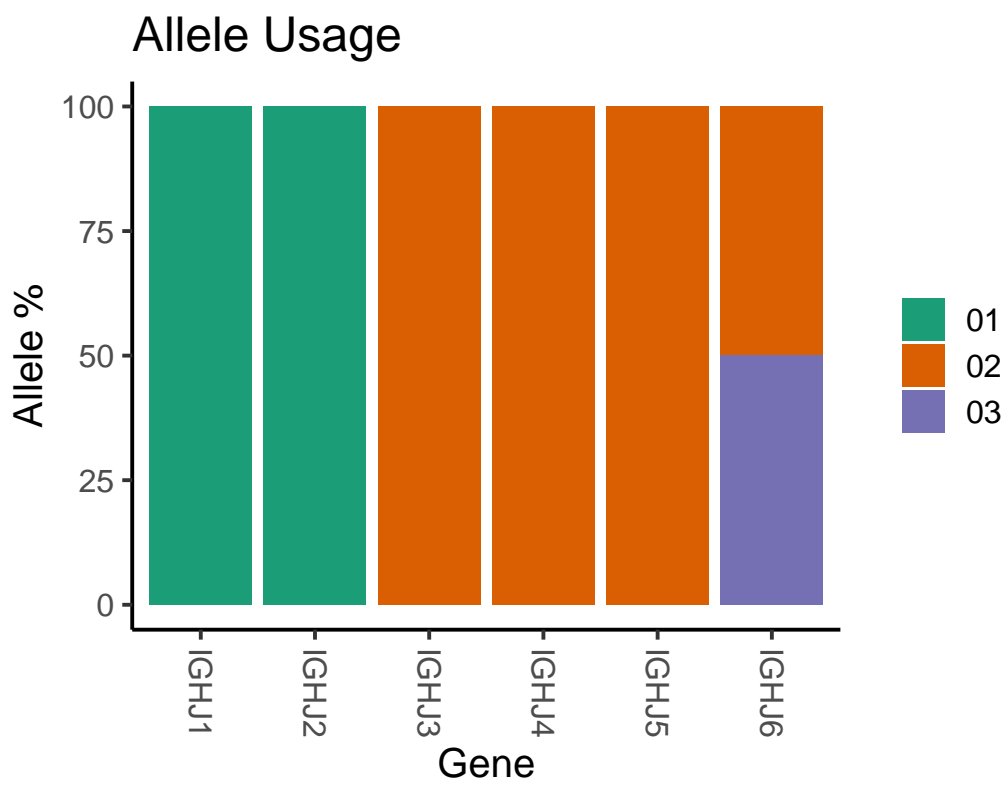
1862 sequences assigned  
989 (53.1%) exact matches, in which:  
984 unique CDR3  
7 unique J



# IGHV6-1\*01\_02

215 sequences assigned  
80 (37.2%) exact matches, in which:  
80 unique CDR3  
7 unique J







Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.