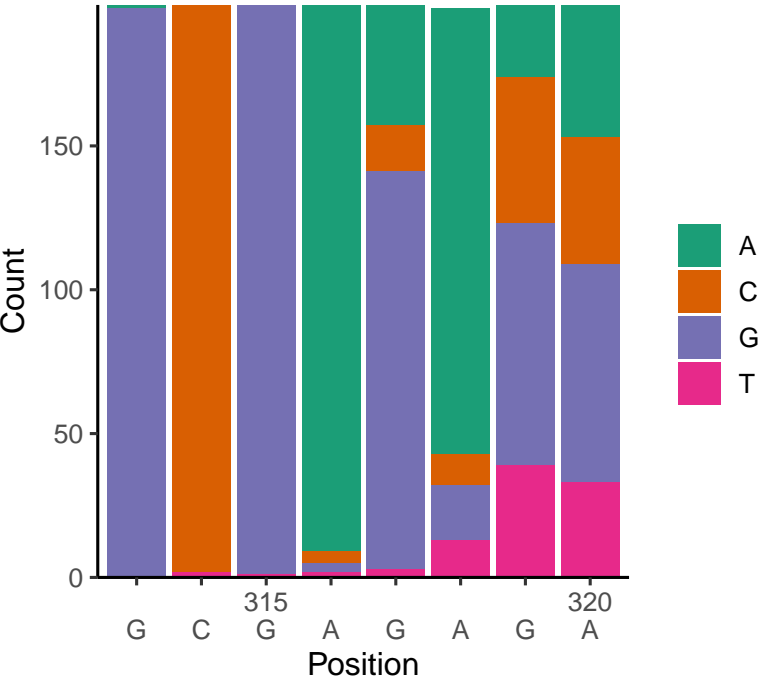


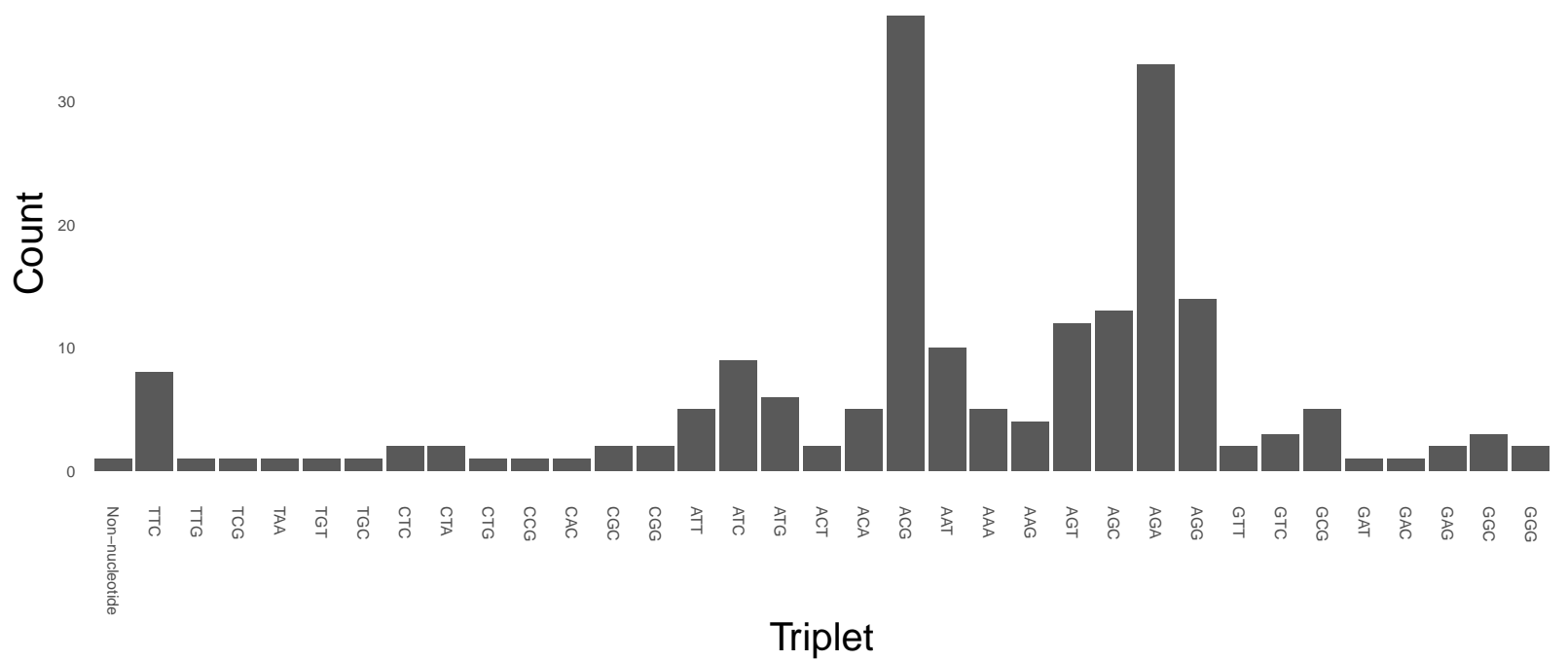
Gene IGHV4-4\*02\_C20T



Gene IGHV4-4\*02\_C20T

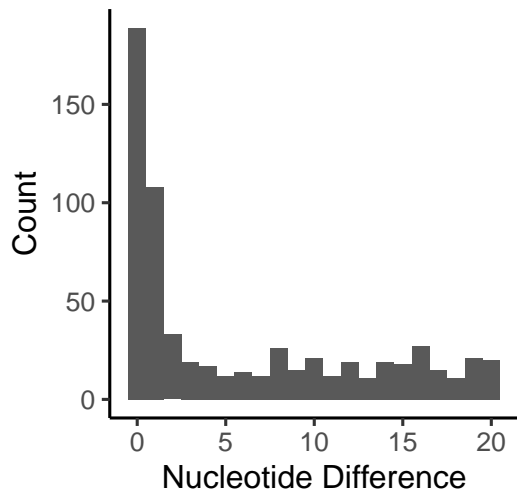


IGHV4-4\*02\_C20T- Final 3 nucleotides as a triplet



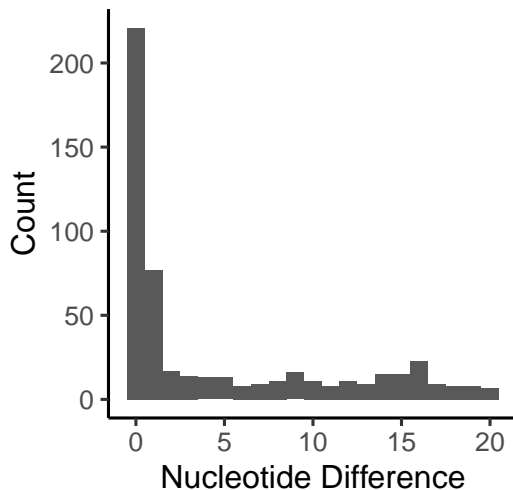
### IGHV1-2\*02

1006 sequences assigned  
189 (18.8%) exact matches, in which:  
189 unique CDR3  
6 unique J



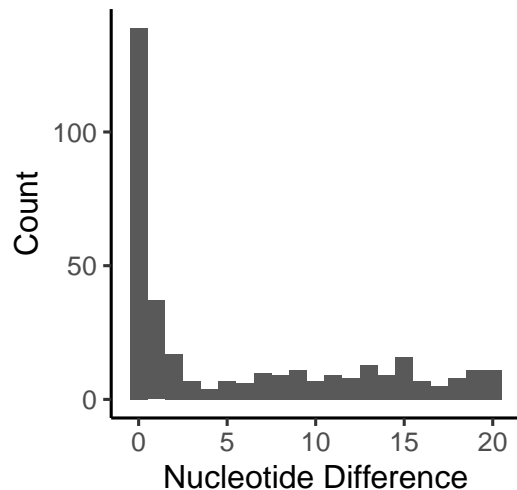
### IGHV1-18\*01

708 sequences assigned  
221 (31.2%) exact matches, in which:  
220 unique CDR3  
7 unique J



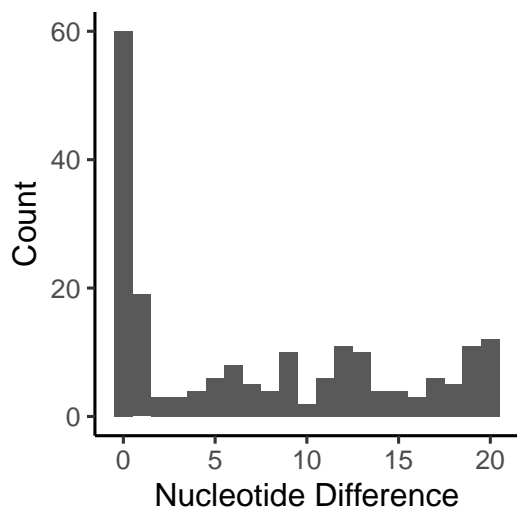
### IGHV1-46\*01

574 sequences assigned  
139 (24.2%) exact matches, in which:  
137 unique CDR3  
7 unique J



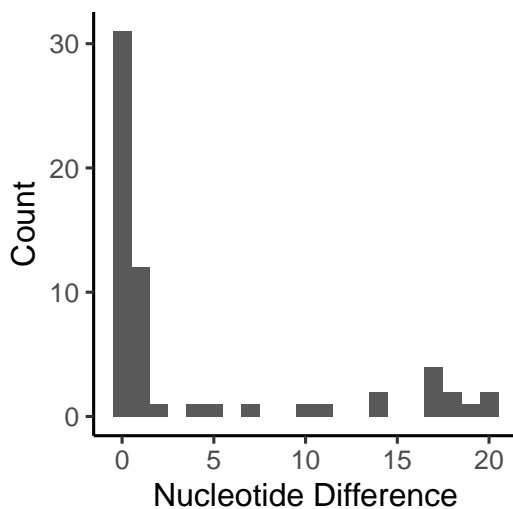
### IGHV1-3\*01

394 sequences assigned  
60 (15.2%) exact matches, in which:  
60 unique CDR3  
6 unique J



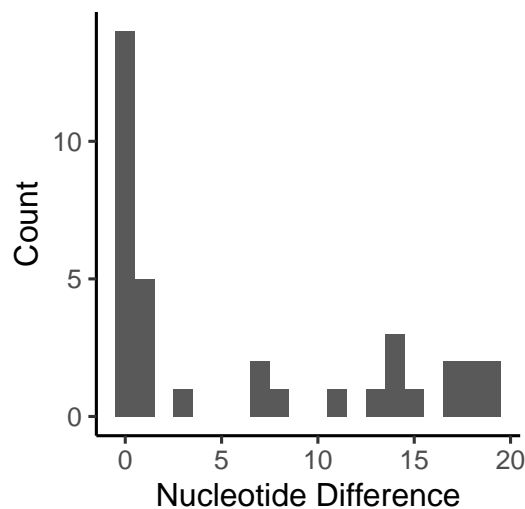
### IGHV1-24\*01

70 sequences assigned  
31 (44.3%) exact matches, in which:  
31 unique CDR3  
5 unique J



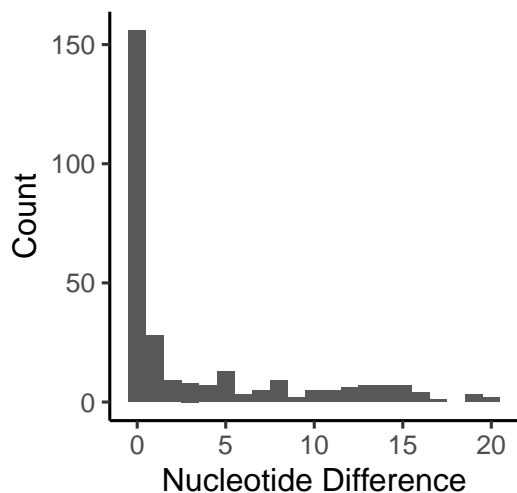
### IGHV1-58\*01

44 sequences assigned  
14 (31.8%) exact matches, in which:  
14 unique CDR3  
4 unique J



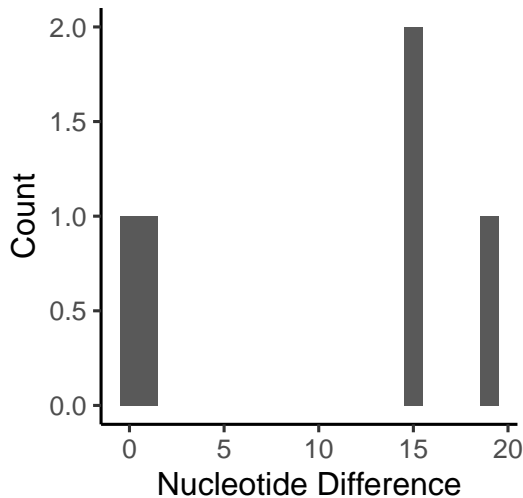
### IGHV1-8\*01

390 sequences assigned  
156 (40%) exact matches, in which:  
156 unique CDR3  
5 unique J



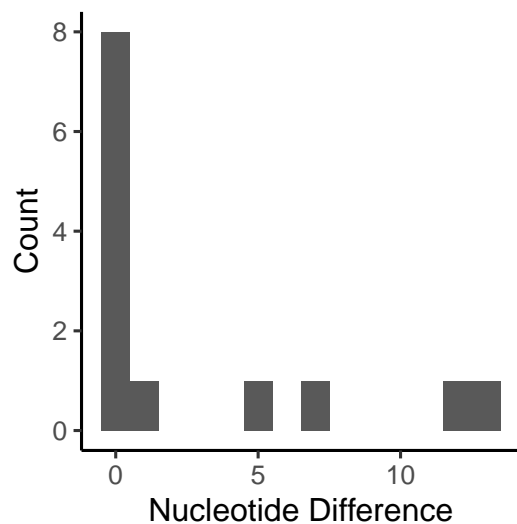
### IGHV1-45\*02

39 sequences assigned  
1 (2.6%) exact matches, in which:  
1 unique CDR3  
1 unique J



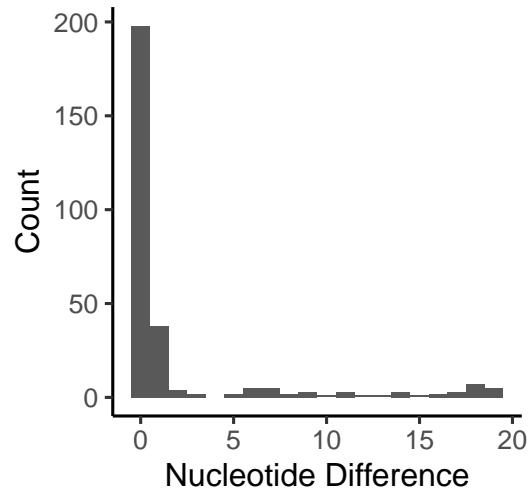
### IGHV1-58\*02

13 sequences assigned  
8 (61.5%) exact matches, in which:  
8 unique CDR3  
4 unique J



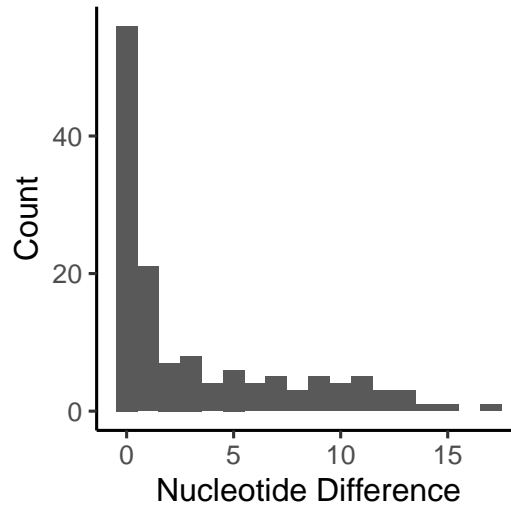
### IGHV1–69\*04

533 sequences assigned  
198 (37.1%) exact matches, in which:  
198 unique CDR3  
6 unique J



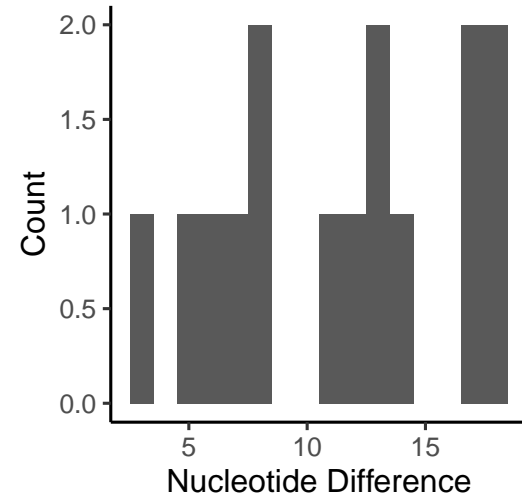
### IGHV2–26\*01

155 sequences assigned  
56 (36.1%) exact matches, in which:  
56 unique CDR3  
6 unique J



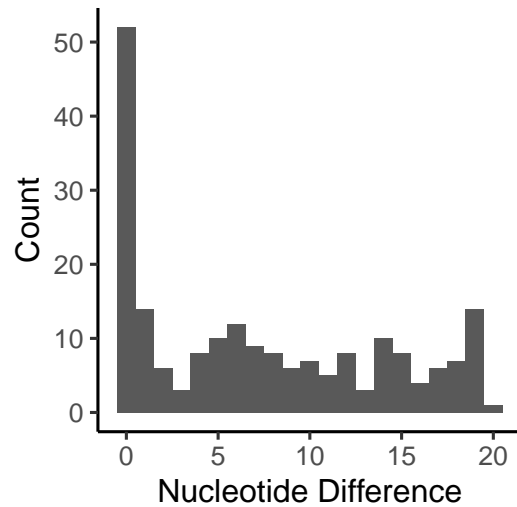
### IGHV2–70\*17

15 sequences assigned  
No exact matches.



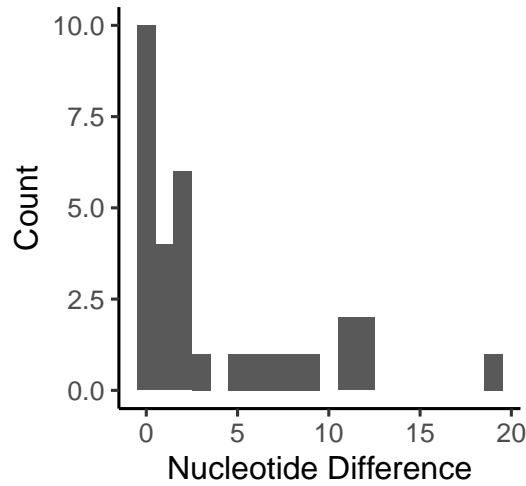
### IGHV2–5\*01

243 sequences assigned  
52 (21.4%) exact matches, in which:  
52 unique CDR3  
5 unique J



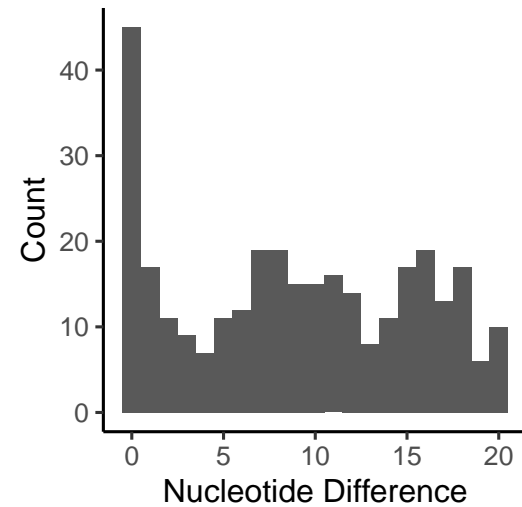
### IGHV2–70\*01

33 sequences assigned  
10 (30.3%) exact matches, in which:  
10 unique CDR3  
4 unique J



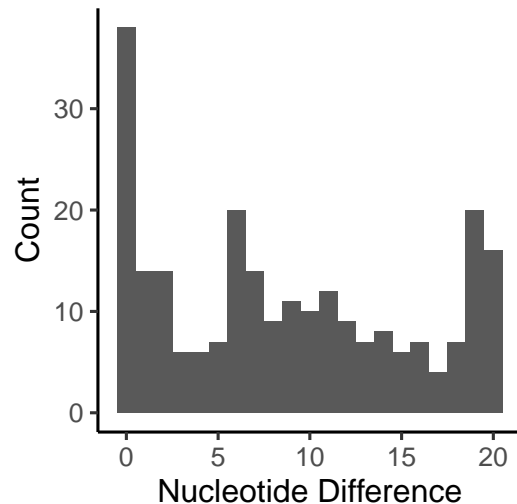
### IGHV3–7\*01

384 sequences assigned  
45 (11.7%) exact matches, in which:  
43 unique CDR3  
5 unique J



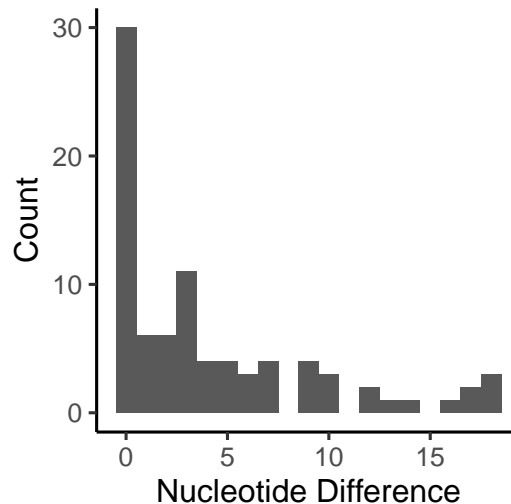
### IGHV2–5\*02

579 sequences assigned  
38 (6.6%) exact matches, in which:  
38 unique CDR3  
5 unique J



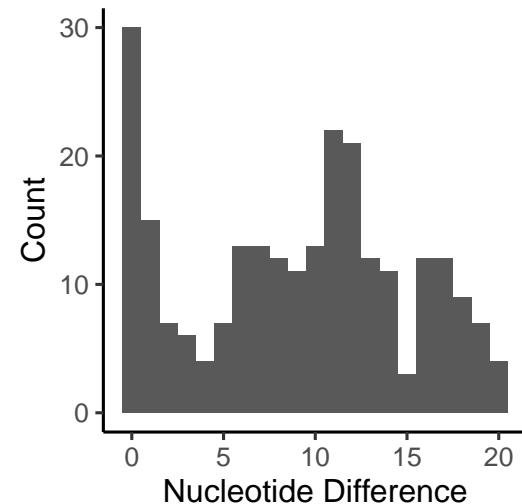
### IGHV2–70\*15

87 sequences assigned  
30 (34.5%) exact matches, in which:  
29 unique CDR3  
5 unique J



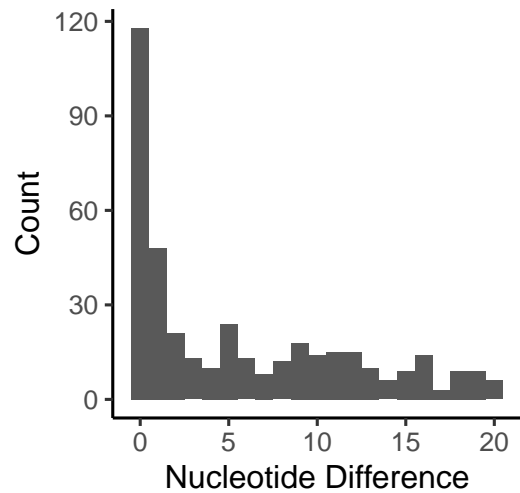
### IGHV3–7\*03

306 sequences assigned  
30 (9.8%) exact matches, in which:  
30 unique CDR3  
5 unique J



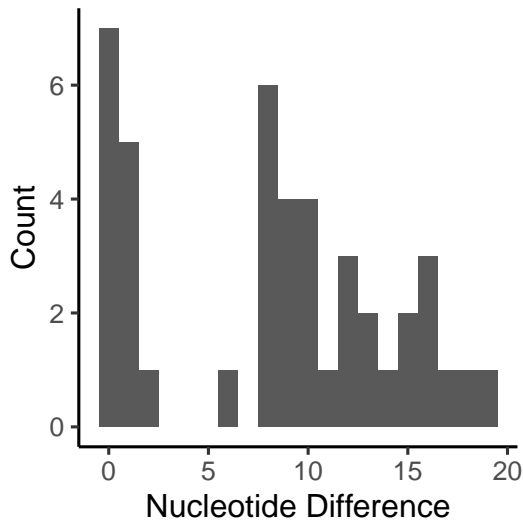
### IGHV3-9\*01

514 sequences assigned  
118 (23%) exact matches, in which:  
117 unique CDR3  
6 unique J



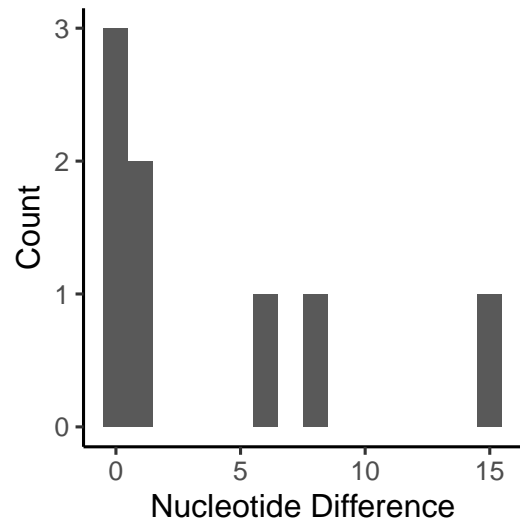
### IGHV3-13\*01

45 sequences assigned  
7 (15.6%) exact matches, in which:  
7 unique CDR3  
5 unique J



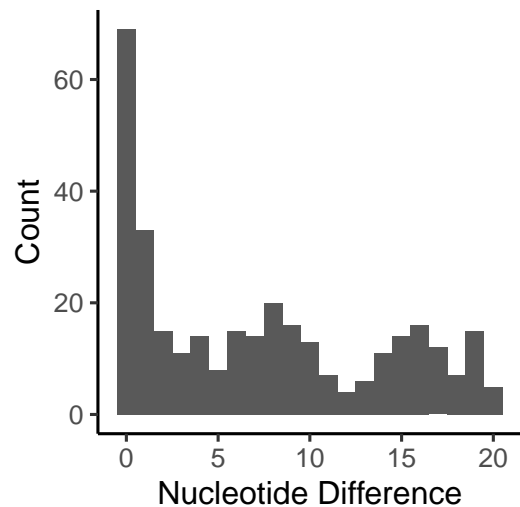
### IGHV3-20\*01

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



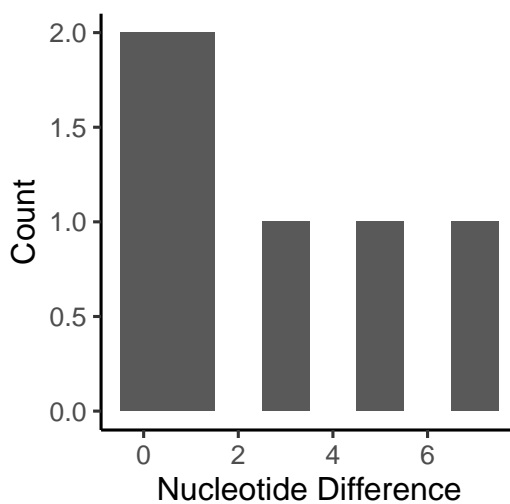
### IGHV3-11\*01

366 sequences assigned  
69 (18.9%) exact matches, in which:  
69 unique CDR3  
6 unique J



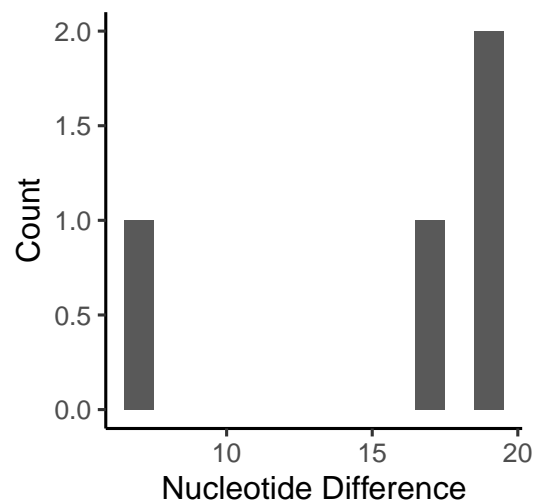
### IGHV3-13\*05

7 sequences assigned  
2 (28.6%) exact matches, in which:  
2 unique CDR3  
2 unique J



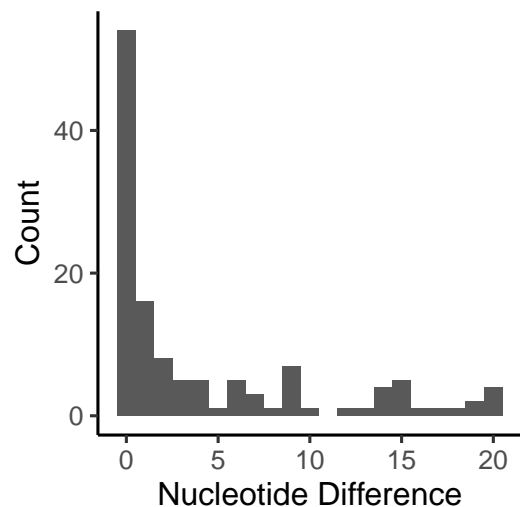
### IGHV3-20\*04

10 sequences assigned  
No exact matches.



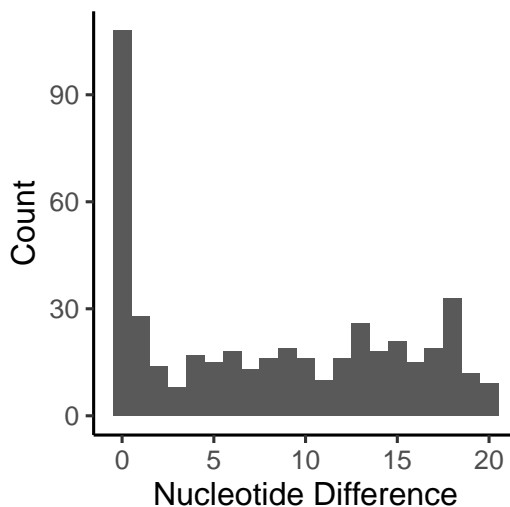
### IGHV3-11\*06

151 sequences assigned  
54 (35.8%) exact matches, in which:  
54 unique CDR3  
6 unique J



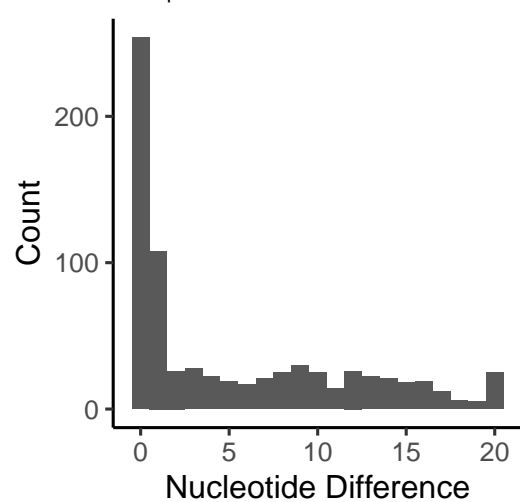
### IGHV3-15\*01

585 sequences assigned  
108 (18.5%) exact matches, in which:  
108 unique CDR3  
7 unique J



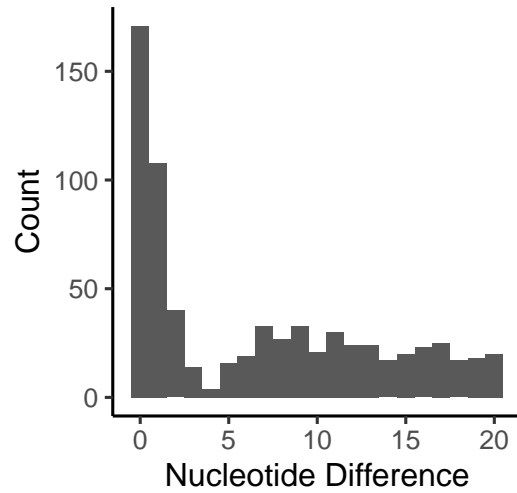
### IGHV3-21\*01

875 sequences assigned  
254 (29%) exact matches, in which:  
248 unique CDR3  
7 unique J



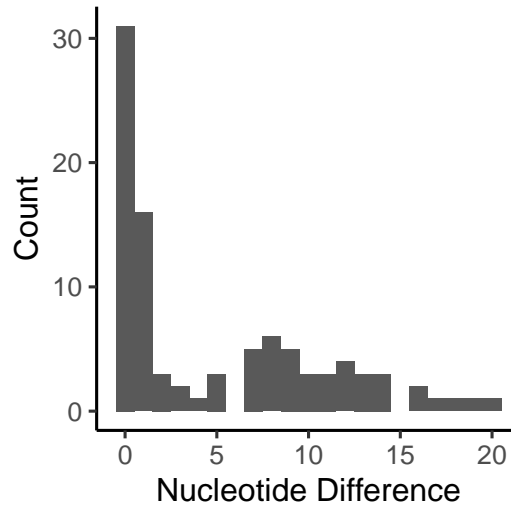
### IGHV3-30-3\*01

1767 sequences assigned  
171 (9.7%) exact matches, in which:  
170 unique CDR3  
6 unique J



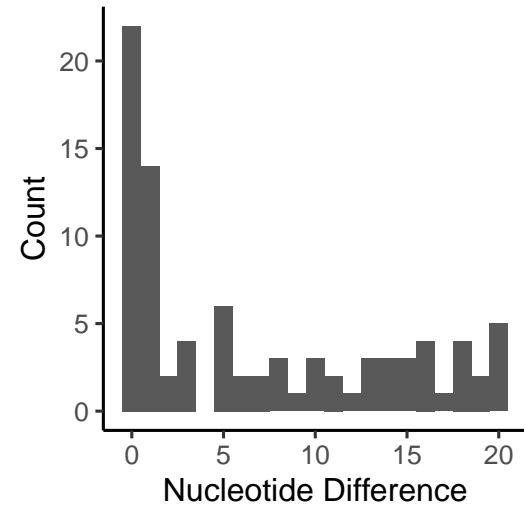
### IGHV3-43\*02

119 sequences assigned  
31 (26.1%) exact matches, in which:  
31 unique CDR3  
5 unique J



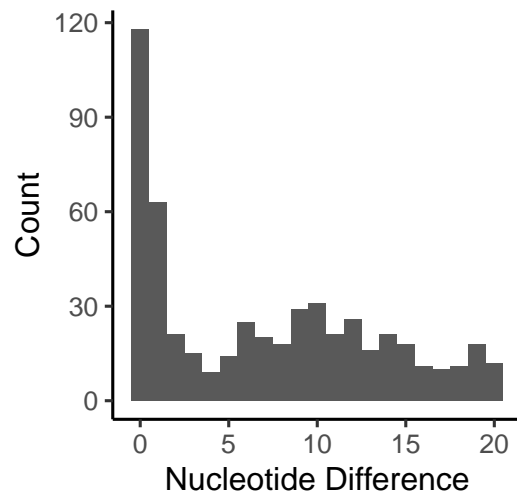
### IGHV3-49\*04

140 sequences assigned  
22 (15.7%) exact matches, in which:  
22 unique CDR3  
3 unique J



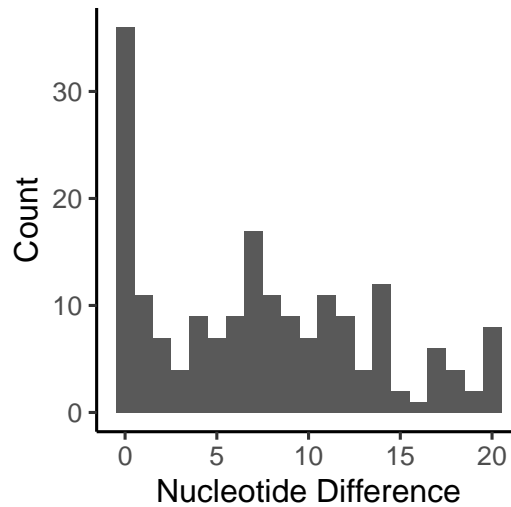
### IGHV3-33\*01

742 sequences assigned  
118 (15.9%) exact matches, in which:  
118 unique CDR3  
6 unique J



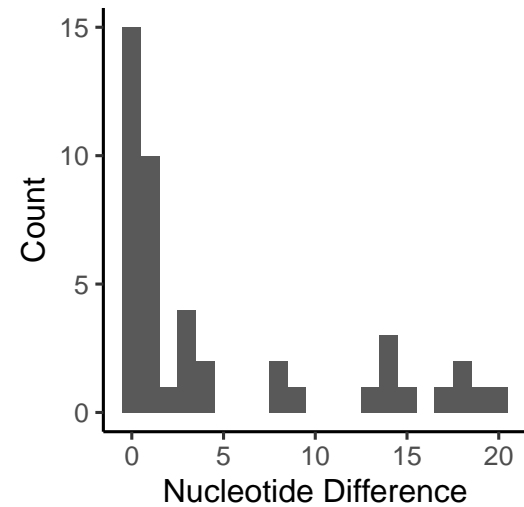
### IGHV3-48\*02

214 sequences assigned  
36 (16.8%) exact matches, in which:  
35 unique CDR3  
5 unique J



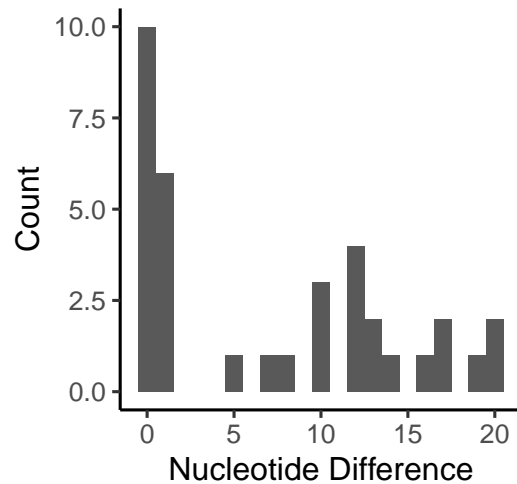
### IGHV3-49\*05

99 sequences assigned  
15 (15.2%) exact matches, in which:  
15 unique CDR3  
3 unique J



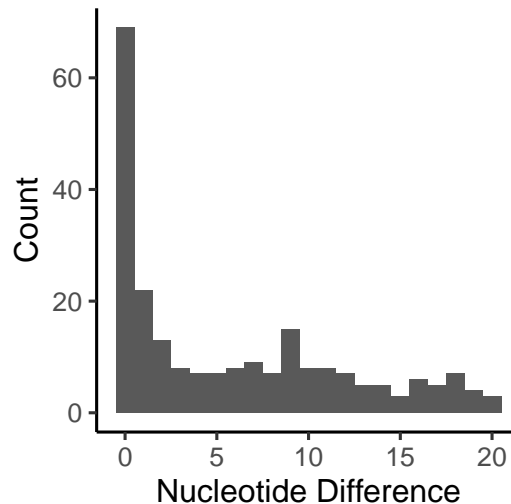
### IGHV3-43\*01

50 sequences assigned  
10 (20%) exact matches, in which:  
10 unique CDR3  
3 unique J



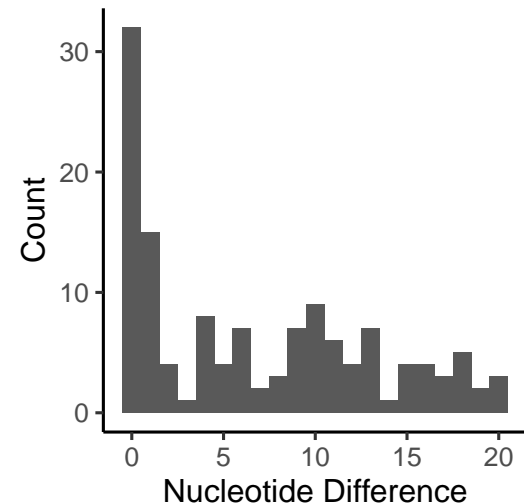
### IGHV3-48\*03

270 sequences assigned  
69 (25.6%) exact matches, in which:  
69 unique CDR3  
5 unique J



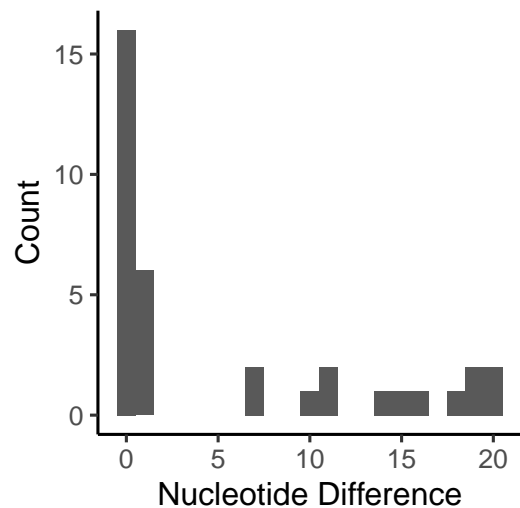
### IGHV3-53\*01

225 sequences assigned  
32 (14.2%) exact matches, in which:  
32 unique CDR3  
5 unique J



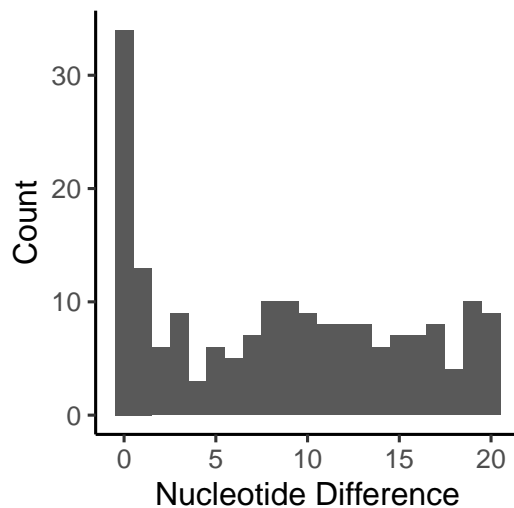
### IGHV3-53\*04

36 sequences assigned  
16 (44.4%) exact matches, in which:  
16 unique CDR3  
4 unique J



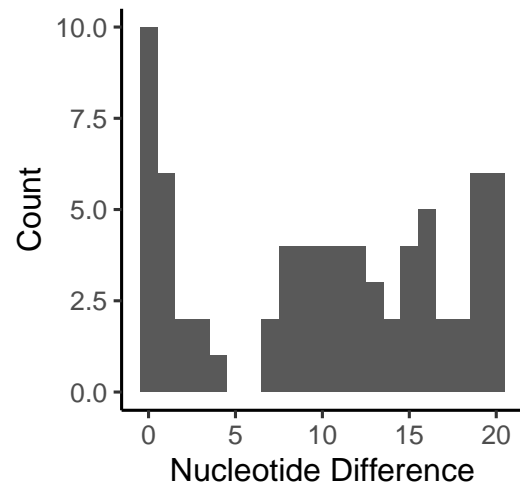
### IGHV3-66\*01

224 sequences assigned  
34 (15.2%) exact matches, in which:  
34 unique CDR3  
4 unique J



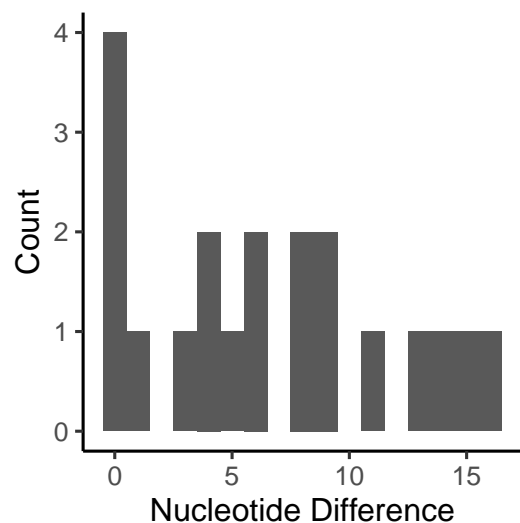
### IGHV3-73\*02

92 sequences assigned  
10 (10.9%) exact matches, in which:  
10 unique CDR3  
5 unique J



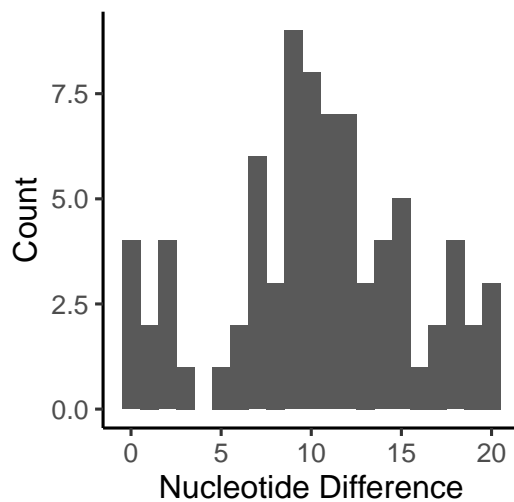
### IGHV3-64\*01

23 sequences assigned  
4 (17.4%) exact matches, in which:  
4 unique CDR3  
3 unique J



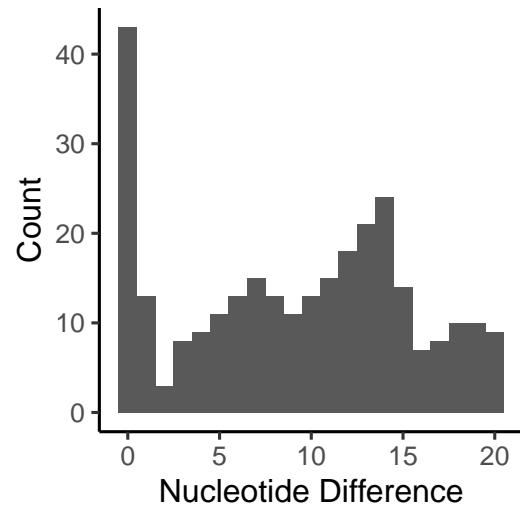
### IGHV3-72\*01

96 sequences assigned  
4 (4.2%) exact matches, in which:  
4 unique CDR3  
3 unique J



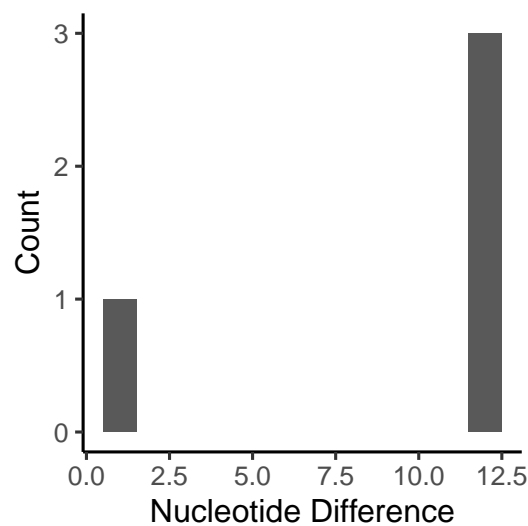
### IGHV3-74\*01

386 sequences assigned  
43 (11.1%) exact matches, in which:  
43 unique CDR3  
7 unique J



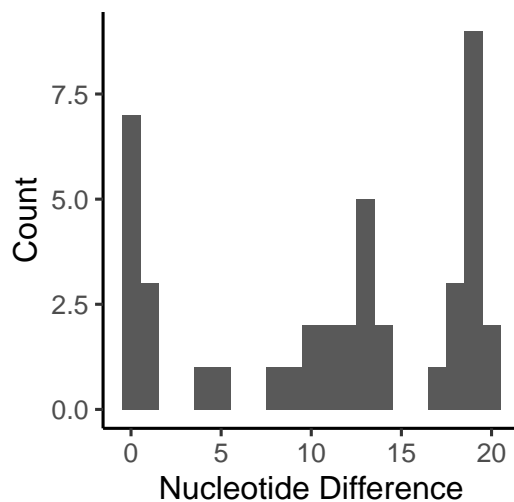
### IGHV3-64\*07

17 sequences assigned  
No exact matches.



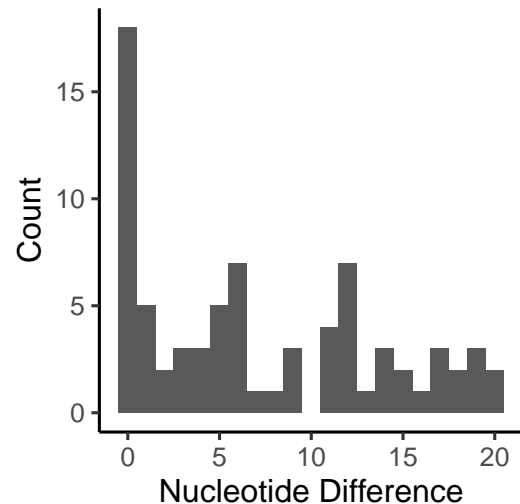
### IGHV3-73\*01

70 sequences assigned  
7 (10%) exact matches, in which:  
7 unique CDR3  
3 unique J



### IGHV3-64D\*06

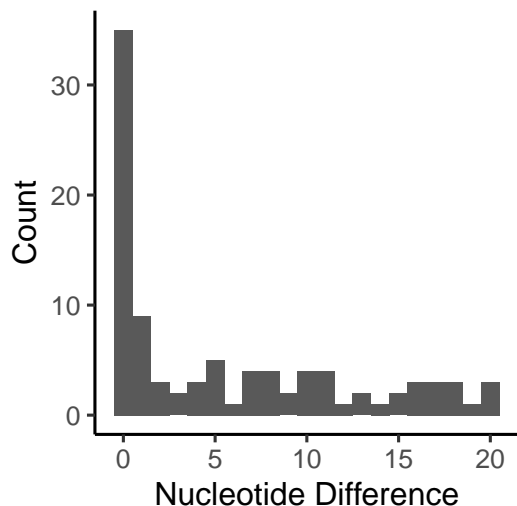
99 sequences assigned  
18 (18.2%) exact matches, in which:  
18 unique CDR3  
5 unique J





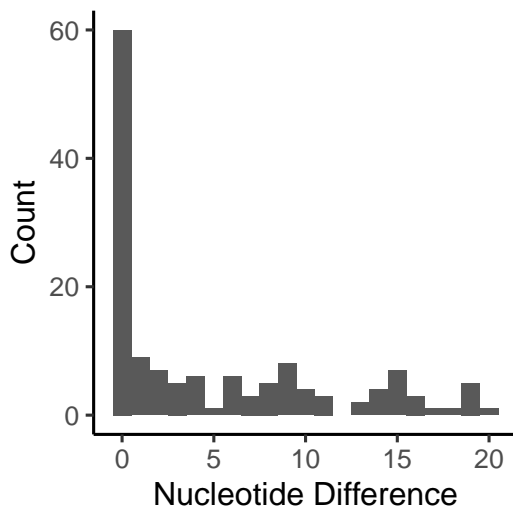
### IGHV4-4\*07

121 sequences assigned  
35 (28.9%) exact matches, in which:  
35 unique CDR3  
4 unique J



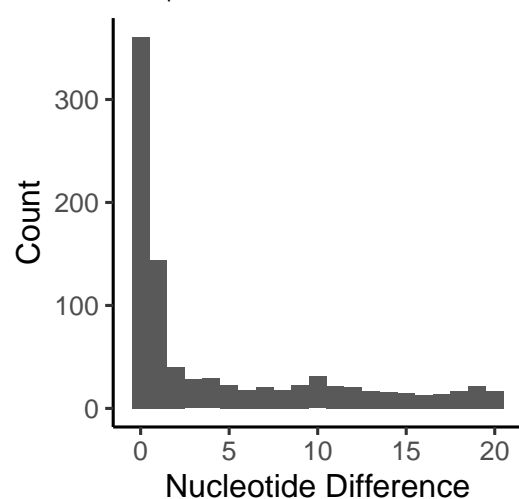
### IGHV4-30-4\*01

183 sequences assigned  
60 (32.8%) exact matches, in which:  
59 unique CDR3  
5 unique J



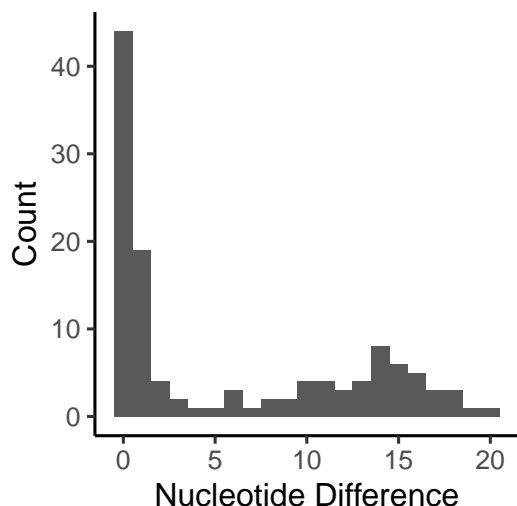
### IGHV4-34\*01

1223 sequences assigned  
361 (29.5%) exact matches, in which:  
359 unique CDR3  
7 unique J



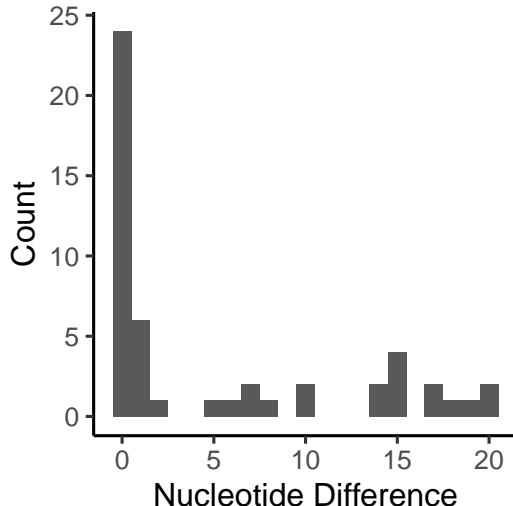
### IGHV4-4\*02\_C20T

199 sequences assigned  
44 (22.1%) exact matches, in which:  
43 unique CDR3  
4 unique J



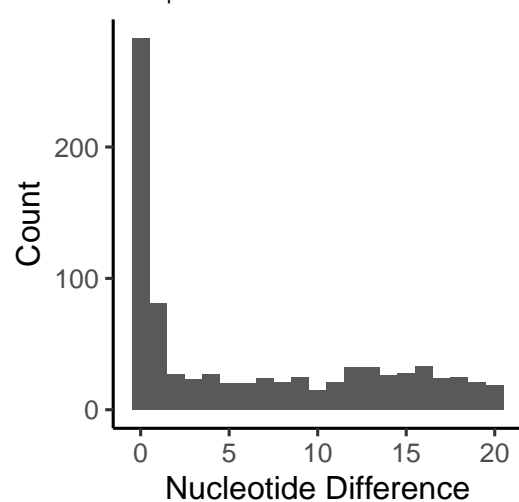
### IGHV4-30-2\*01

61 sequences assigned  
24 (39.3%) exact matches, in which:  
24 unique CDR3  
4 unique J



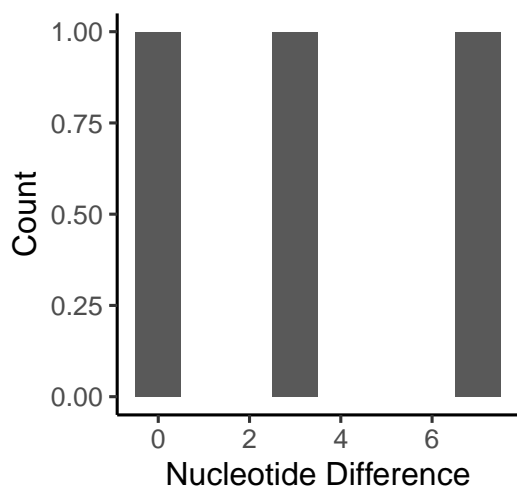
### IGHV4-39\*01

1208 sequences assigned  
283 (23.4%) exact matches, in which:  
283 unique CDR3  
7 unique J



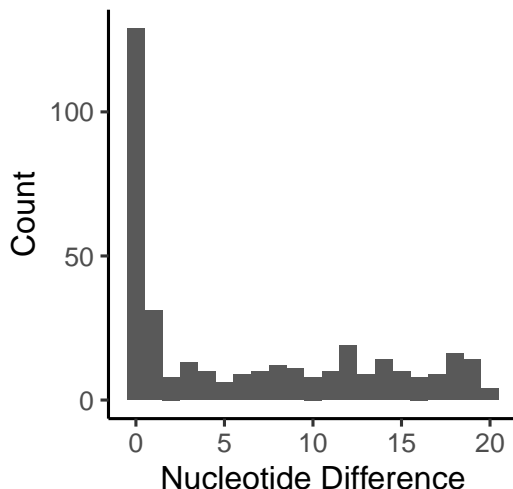
### IGHV4-28\*01

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



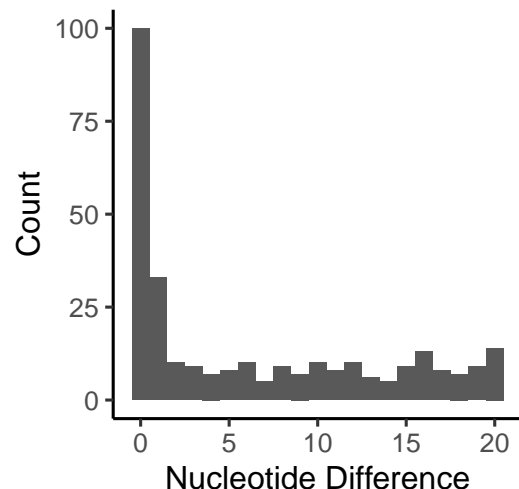
### IGHV4-31\*03

480 sequences assigned  
129 (26.9%) exact matches, in which:  
129 unique CDR3  
7 unique J



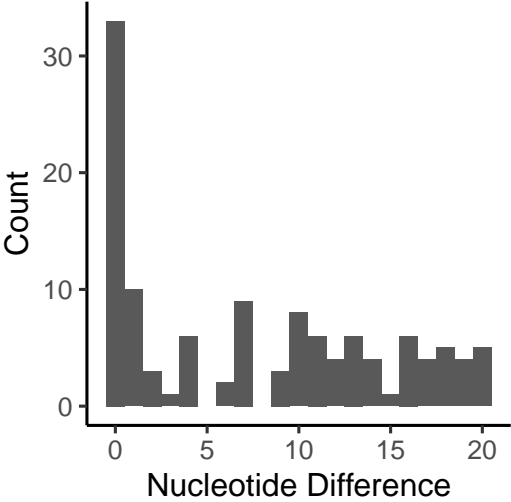
### IGHV4-59\*01

417 sequences assigned  
100 (24%) exact matches, in which:  
100 unique CDR3  
7 unique J



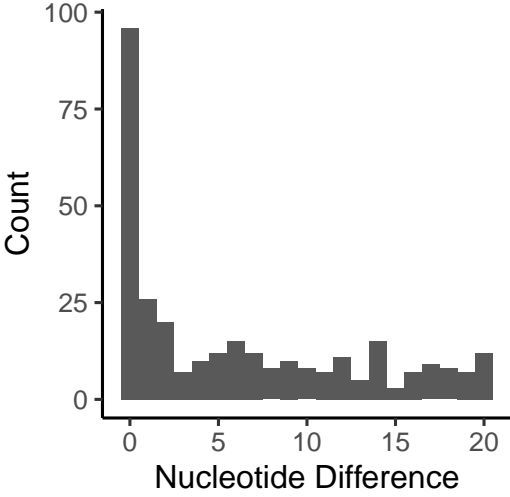
IGHV4-59\*08

166 sequences assigned  
33 (19.9%) exact matches, in which:  
32 unique CDR3  
5 unique J



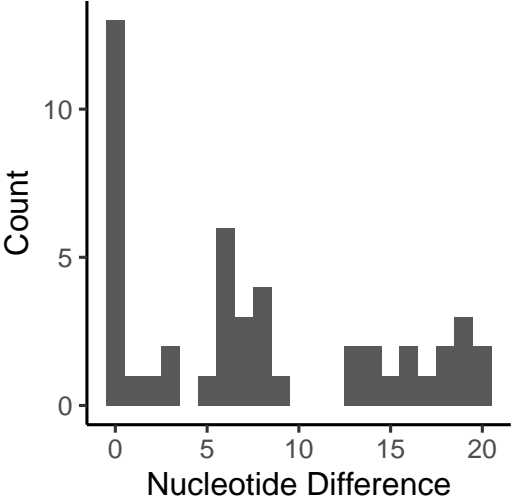
IGHV5-51\*01

454 sequences assigned  
96 (21.1%) exact matches, in which:  
95 unique CDR3  
6 unique J



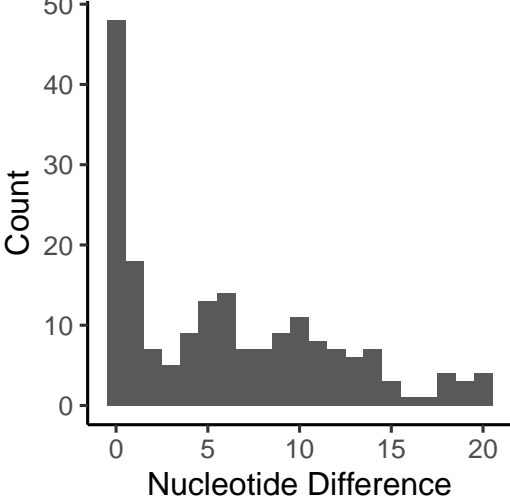
IGHV4-61\*01

63 sequences assigned  
13 (20.6%) exact matches, in which:  
13 unique CDR3  
5 unique J



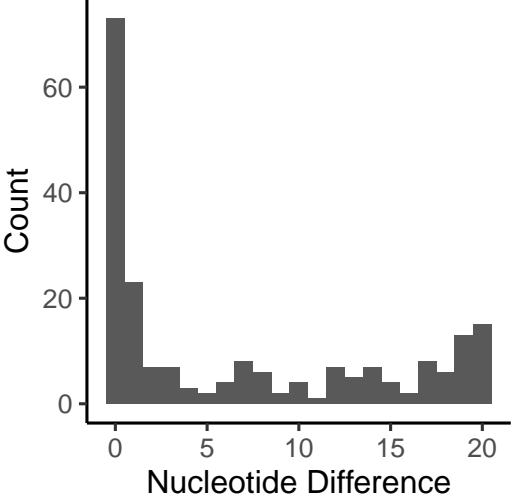
IGHV6-1\*01

210 sequences assigned  
48 (22.9%) exact matches, in which:  
48 unique CDR3  
7 unique J



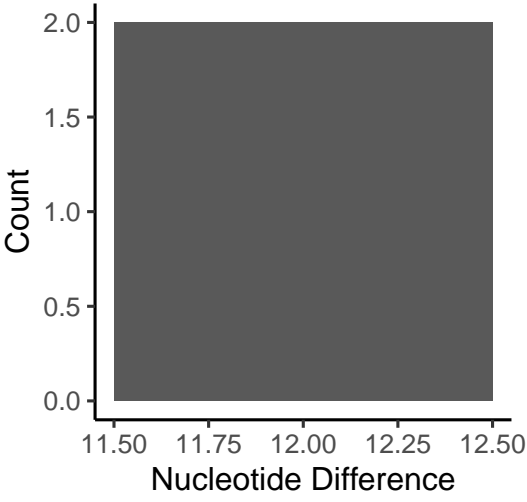
IGHV5-10-1\*03

308 sequences assigned  
73 (23.7%) exact matches, in which:  
73 unique CDR3  
5 unique J

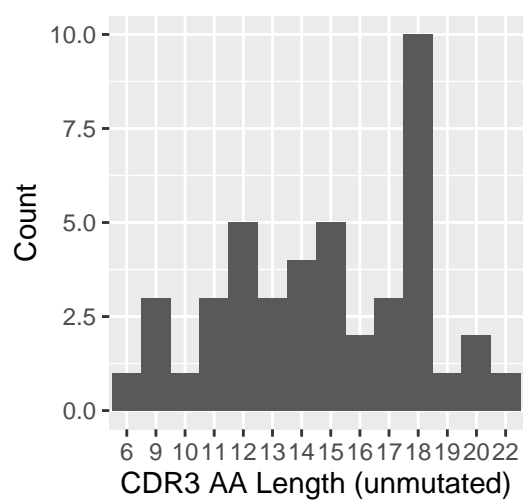


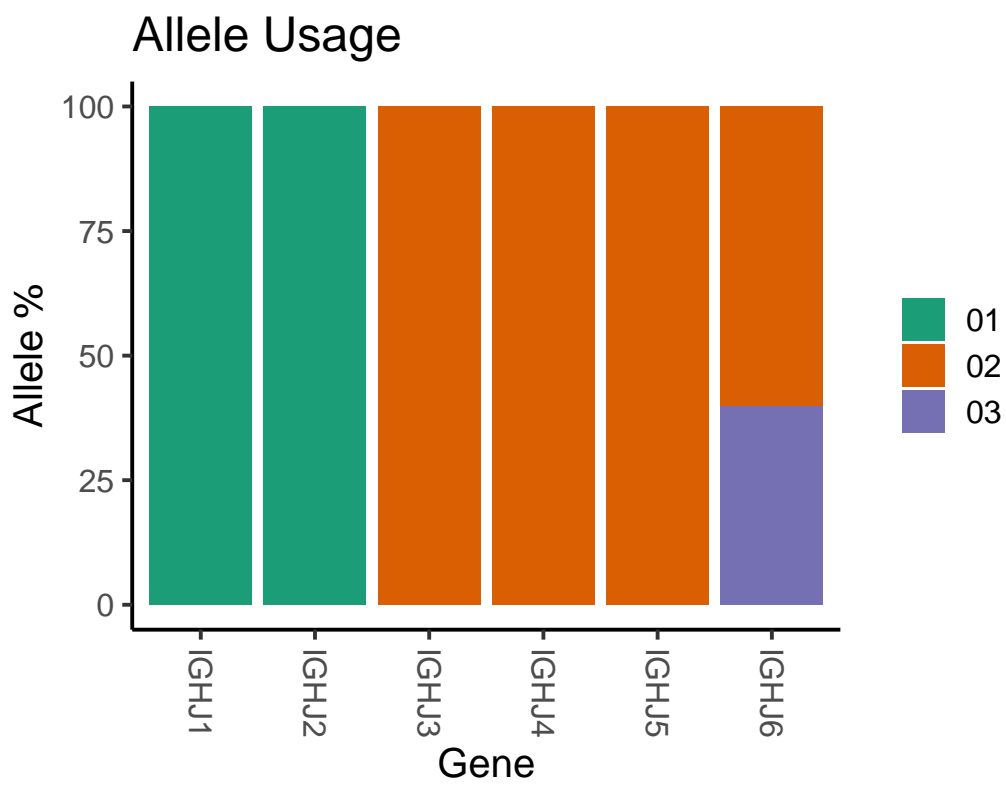
IGHV7-4-1\*01

2 sequences assigned  
No exact matches.



IGHV4-4\*02\_C20T





Sequence Count by IGHJ6 allele usage

