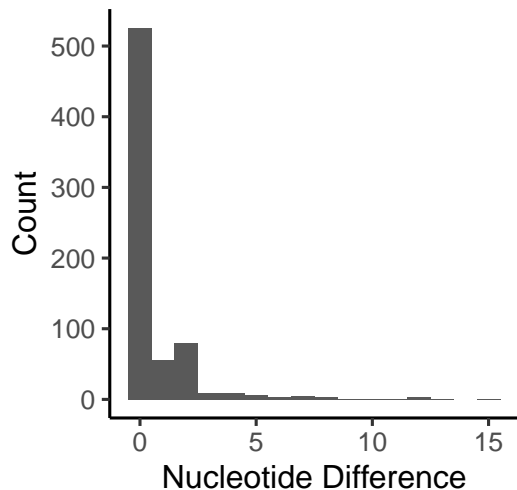


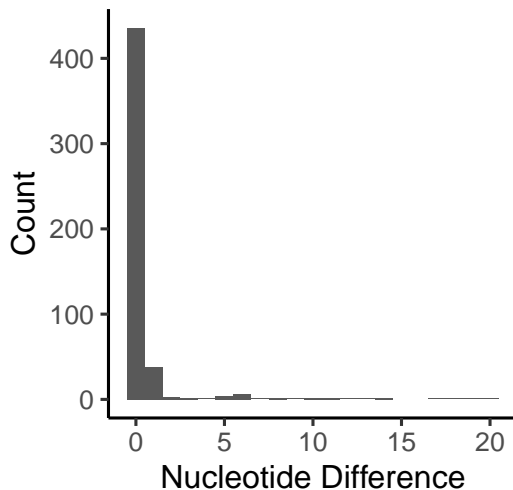
### IGHV1-2\*06

706 sequences assigned  
526 (74.5%) exact matches, in which:  
502 unique CDR3  
7 unique J



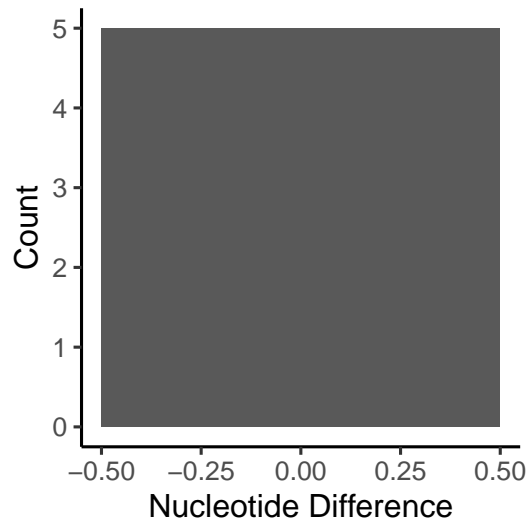
### IGHV1-18\*01

509 sequences assigned  
436 (85.7%) exact matches, in which:  
423 unique CDR3  
6 unique J



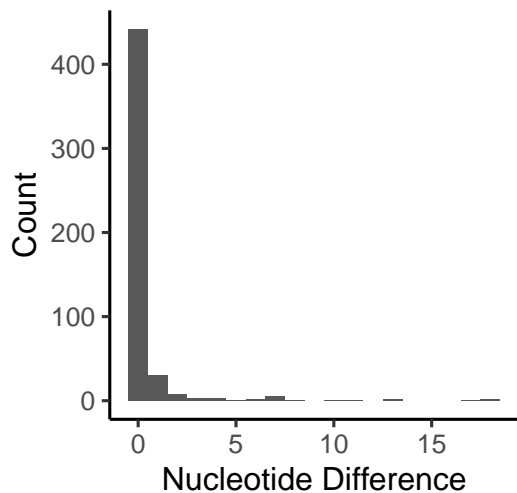
### IGHV1-45\*02

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



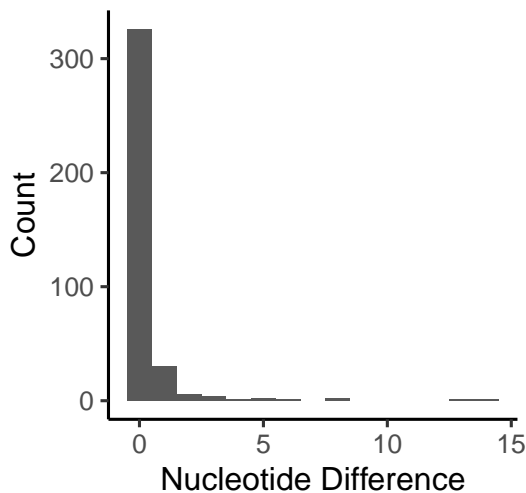
### IGHV1-3\*01

504 sequences assigned  
442 (87.7%) exact matches, in which:  
431 unique CDR3  
7 unique J



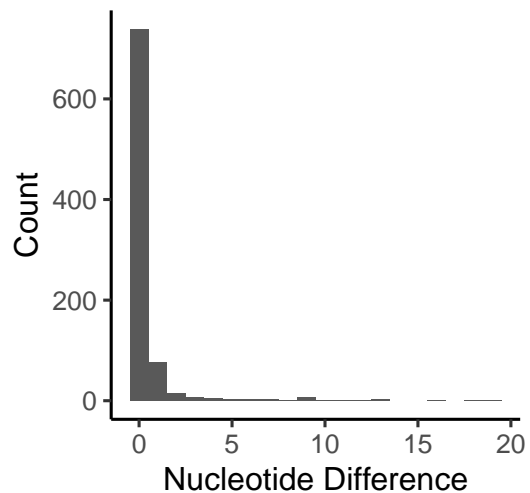
### IGHV1-18\*04

374 sequences assigned  
326 (87.2%) exact matches, in which:  
314 unique CDR3  
6 unique J



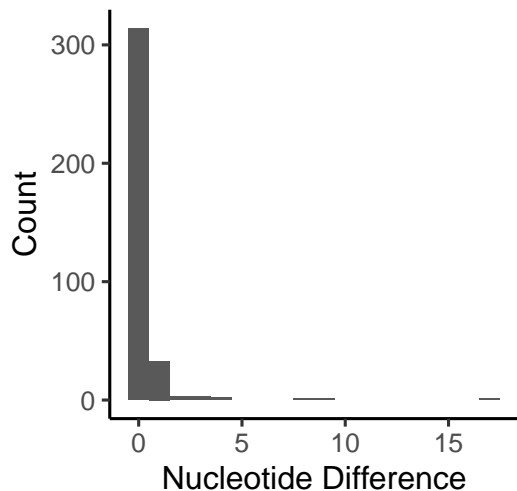
### IGHV1-46\*01

865 sequences assigned  
739 (85.4%) exact matches, in which:  
711 unique CDR3  
7 unique J



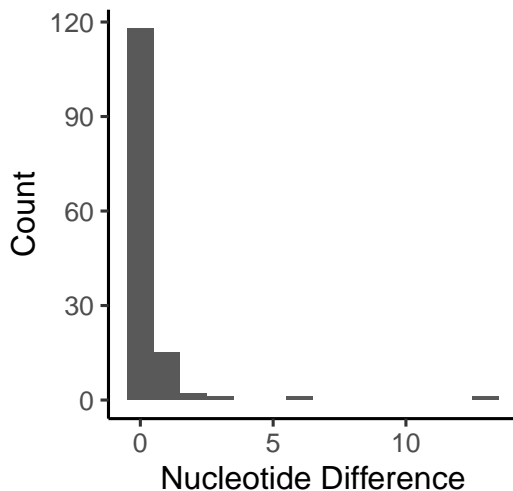
### IGHV1-8\*01

358 sequences assigned  
314 (87.7%) exact matches, in which:  
302 unique CDR3  
7 unique J



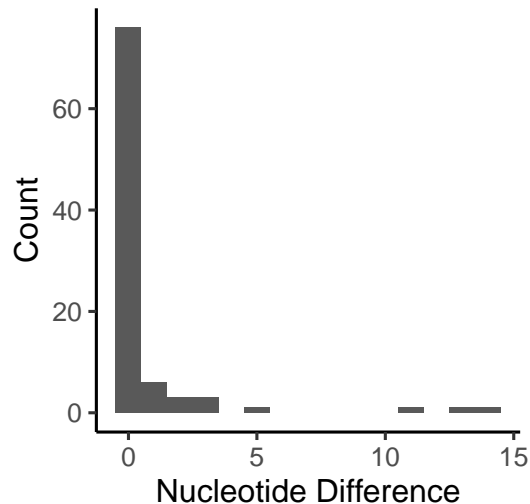
### IGHV1-24\*01

139 sequences assigned  
118 (84.9%) exact matches, in which:  
111 unique CDR3  
7 unique J



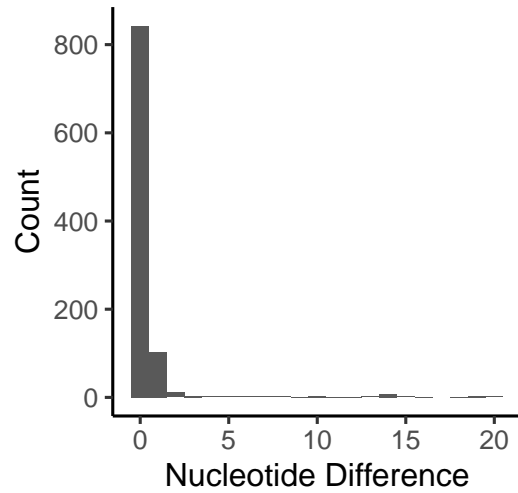
### IGHV1-58\*01

92 sequences assigned  
76 (82.6%) exact matches, in which:  
74 unique CDR3  
6 unique J



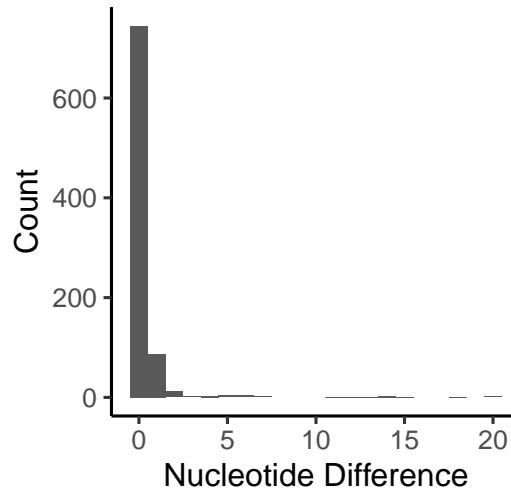
### IGHV1-69\*01

1010 sequences assigned  
843 (83.5%) exact matches, in which:  
818 unique CDR3  
7 unique J



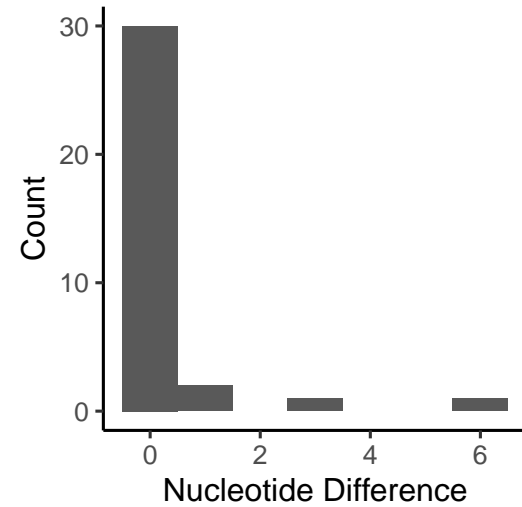
### IGHV1-69\*12

873 sequences assigned  
745 (85.3%) exact matches, in which:  
731 unique CDR3  
6 unique J



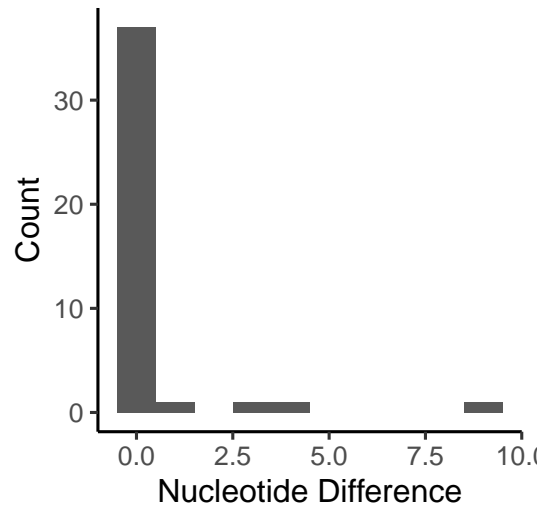
### IGHV2-70\*01

34 sequences assigned  
30 (88.2%) exact matches, in which:  
30 unique CDR3  
5 unique J



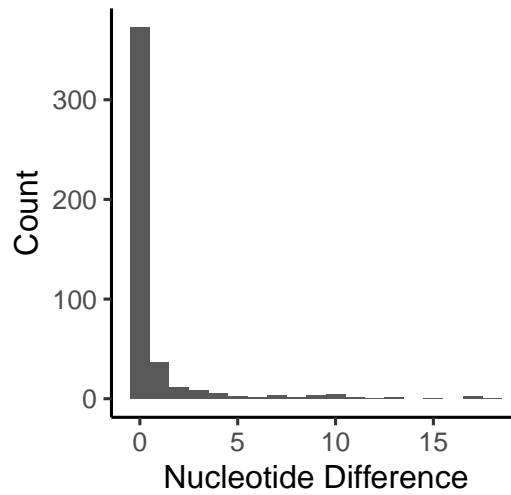
### IGHV1-69-2\*01

41 sequences assigned  
37 (90.2%) exact matches, in which:  
34 unique CDR3  
5 unique J



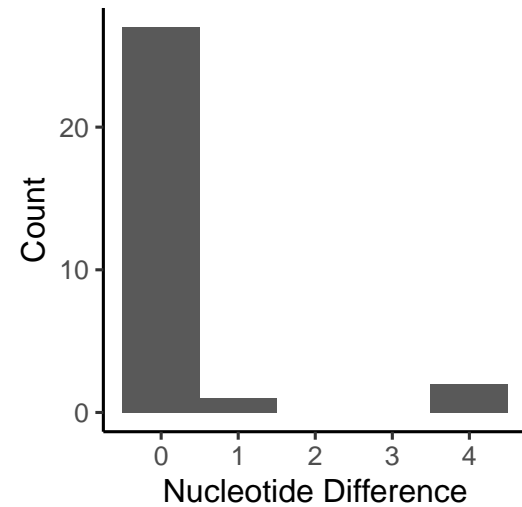
### IGHV2-5\*02

468 sequences assigned  
373 (79.7%) exact matches, in which:  
361 unique CDR3  
7 unique J



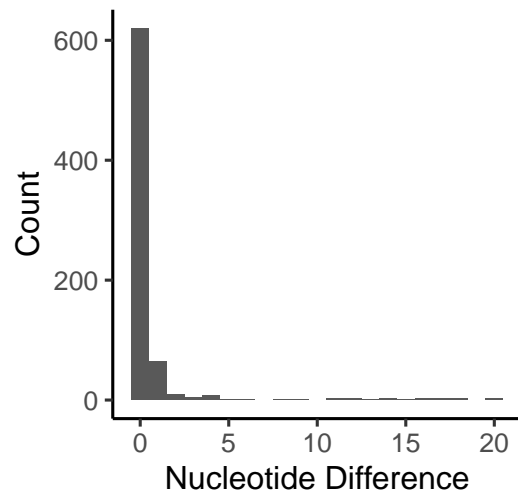
### IGHV2-70\*04

30 sequences assigned  
27 (90%) exact matches, in which:  
26 unique CDR3  
4 unique J



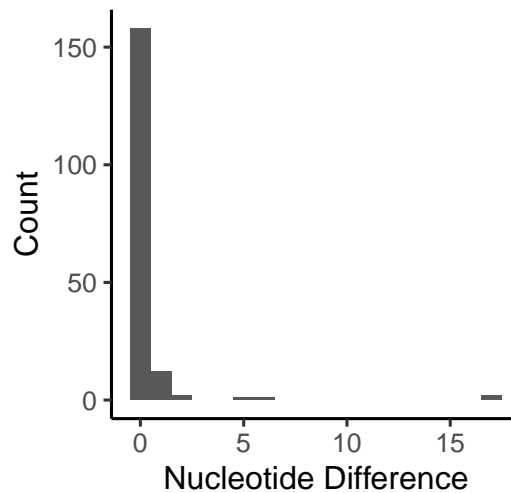
### IGHV1-69\*06

785 sequences assigned  
620 (79%) exact matches, in which:  
589 unique CDR3  
7 unique J



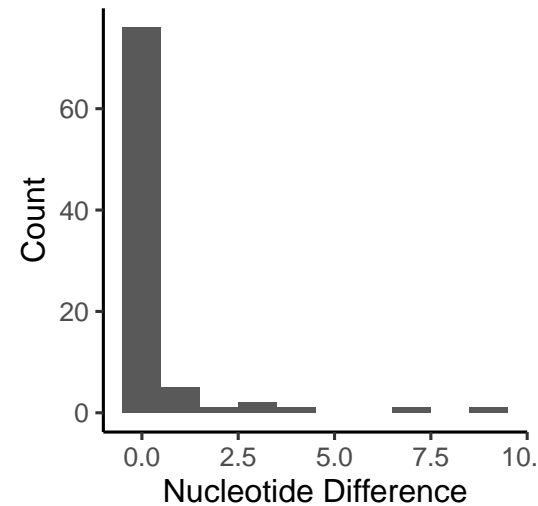
### IGHV2-26\*01

176 sequences assigned  
158 (89.8%) exact matches, in which:  
154 unique CDR3  
7 unique J



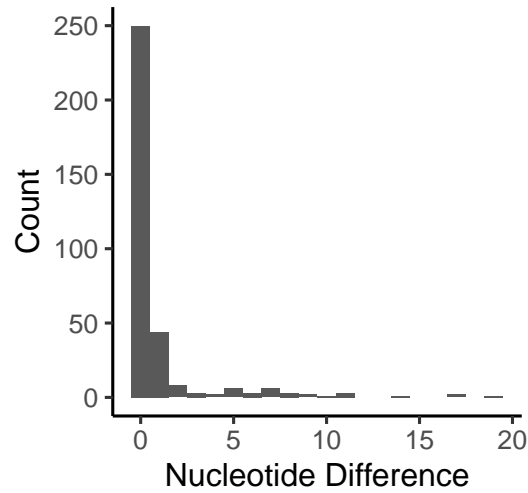
### IGHV2-70\*15

87 sequences assigned  
76 (87.4%) exact matches, in which:  
71 unique CDR3  
5 unique J



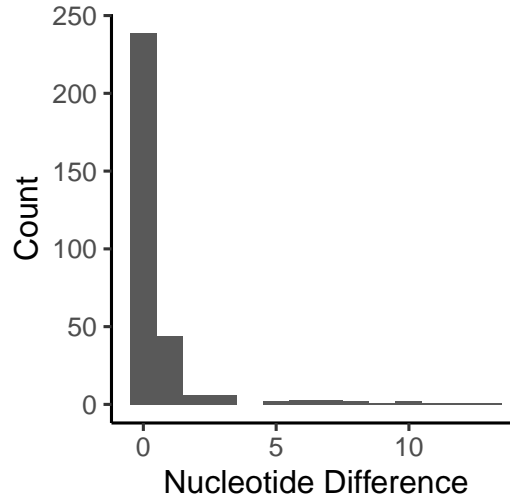
### IGHV3-7\*01

336 sequences assigned  
250 (74.4%) exact matches, in which:  
242 unique CDR3  
6 unique J



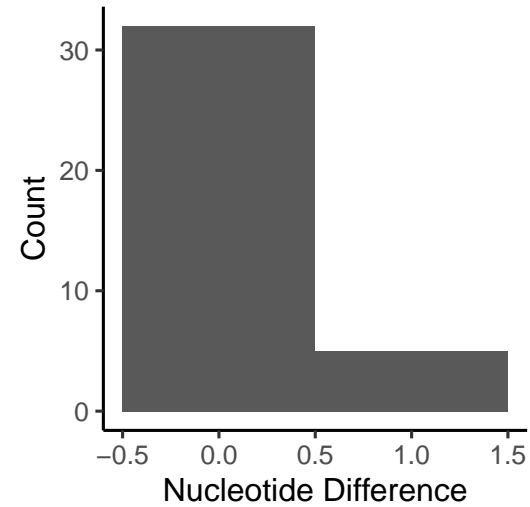
### IGHV3-11\*01

314 sequences assigned  
239 (76.1%) exact matches, in which:  
229 unique CDR3  
6 unique J



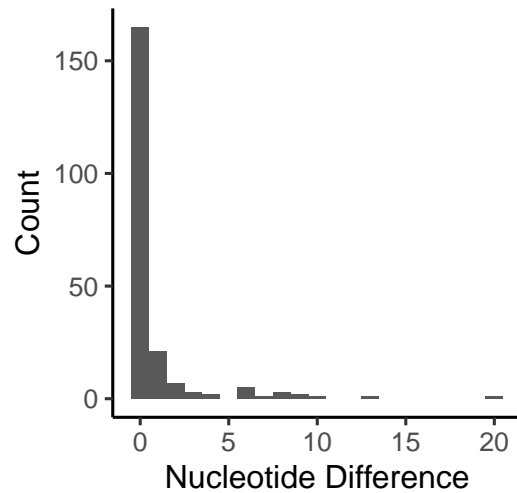
### IGHV3-13\*05

37 sequences assigned  
32 (86.5%) exact matches, in which:  
30 unique CDR3  
4 unique J



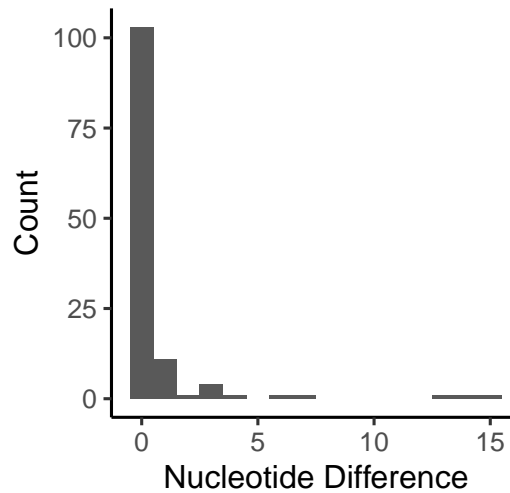
### IGHV3-7\*03

212 sequences assigned  
165 (77.8%) exact matches, in which:  
160 unique CDR3  
6 unique J



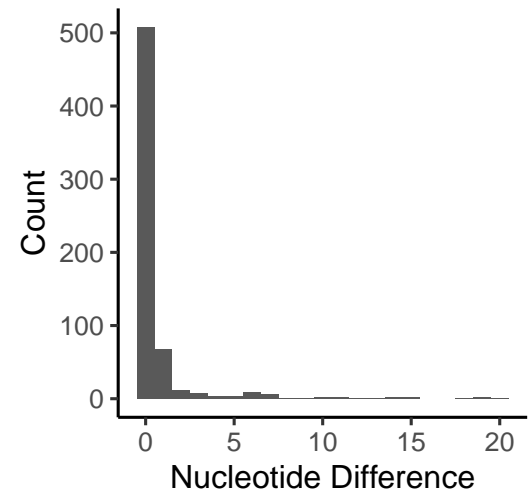
### IGHV3-11\*06

125 sequences assigned  
103 (82.4%) exact matches, in which:  
97 unique CDR3  
6 unique J



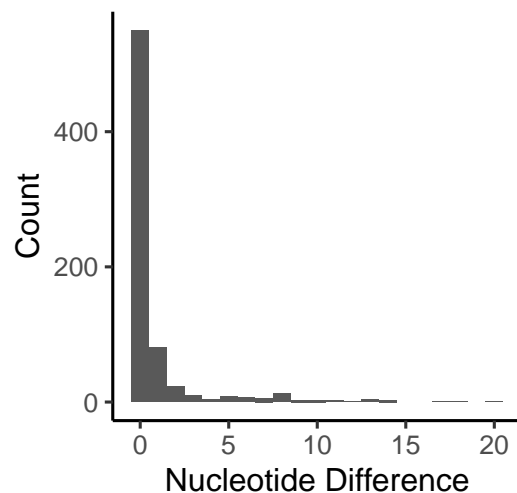
### IGHV3-15\*01

637 sequences assigned  
508 (79.7%) exact matches, in which:  
485 unique CDR3  
7 unique J



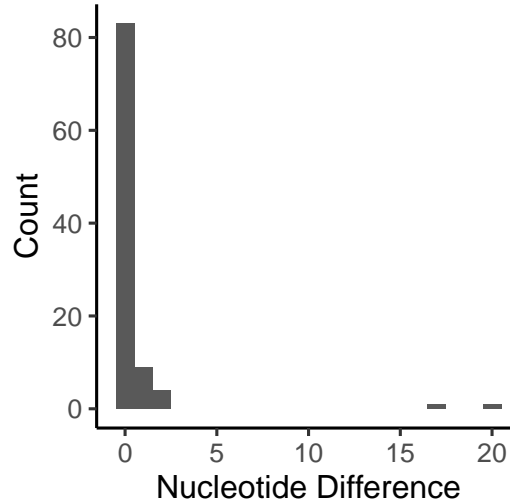
### IGHV3-9\*01

720 sequences assigned  
550 (76.4%) exact matches, in which:  
509 unique CDR3  
7 unique J



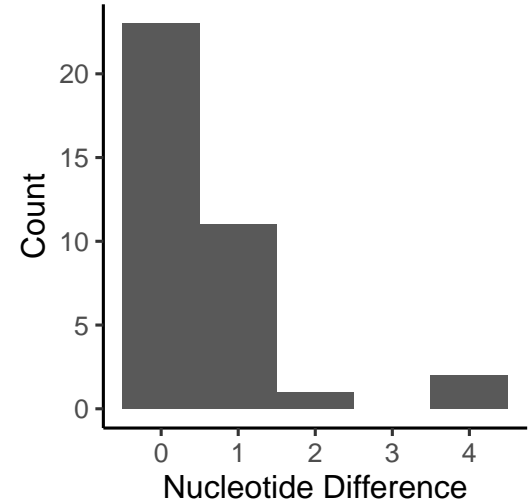
### IGHV3-13\*01

98 sequences assigned  
83 (84.7%) exact matches, in which:  
78 unique CDR3  
5 unique J



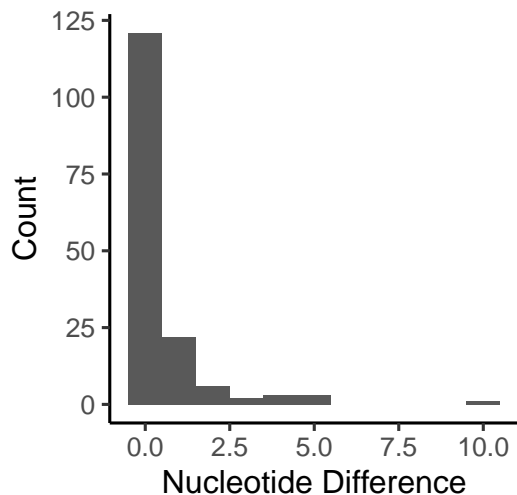
### IGHV3-20\*01

37 sequences assigned  
23 (62.2%) exact matches, in which:  
22 unique CDR3  
5 unique J



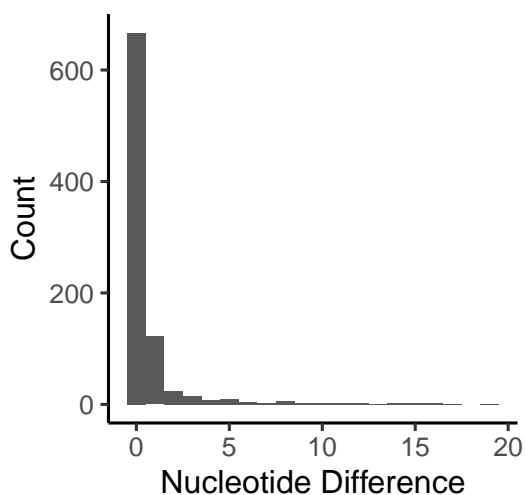
### IGHV3–20\*04

158 sequences assigned  
121 (76.6%) exact matches, in which:  
112 unique CDR3  
6 unique J



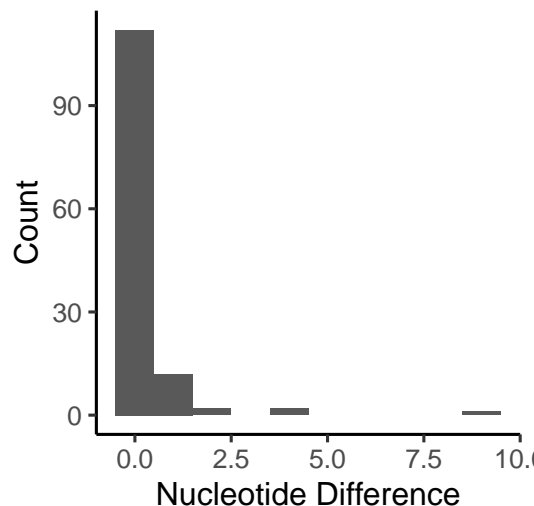
### IGHV3–33\*01

884 sequences assigned  
667 (75.5%) exact matches, in which:  
639 unique CDR3  
7 unique J



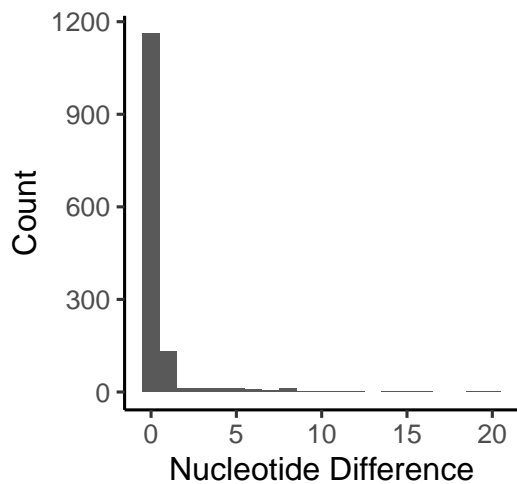
### IGHV3–43\*01

130 sequences assigned  
112 (86.2%) exact matches, in which:  
109 unique CDR3  
7 unique J



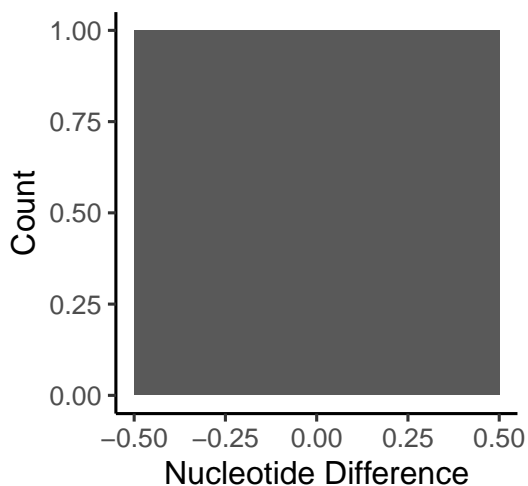
### IGHV3–21\*01

1372 sequences assigned  
1161 (84.6%) exact matches, in which:  
1100 unique CDR3  
7 unique J



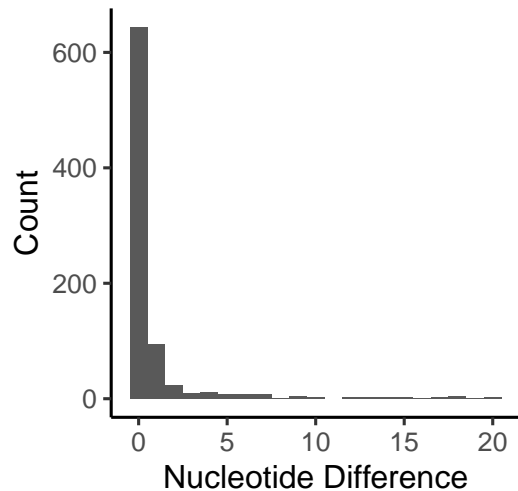
### IGHV3–35\*01

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



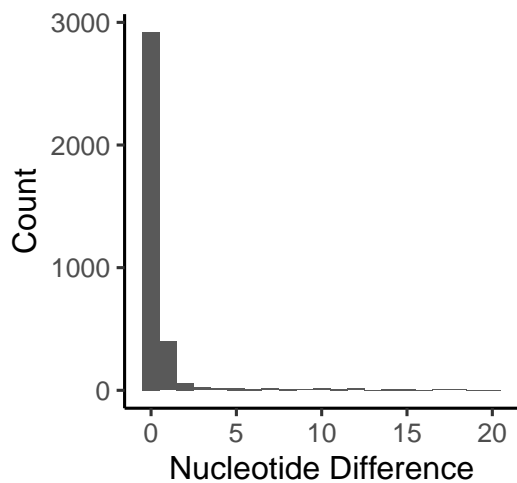
### IGHV3–48\*02

838 sequences assigned  
644 (76.8%) exact matches, in which:  
630 unique CDR3  
7 unique J



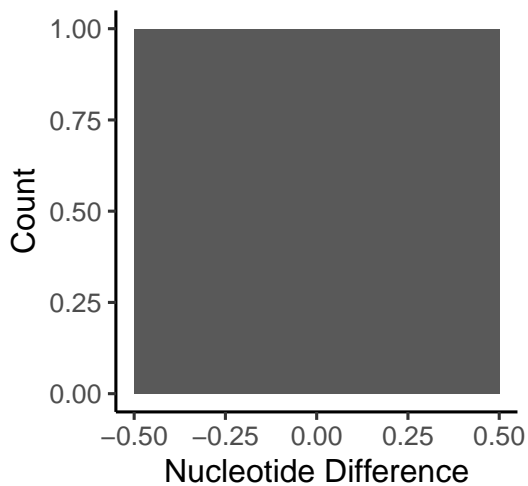
### IGHV3–23\*01

3577 sequences assigned  
2921 (81.7%) exact matches, in which:  
2710 unique CDR3  
7 unique J



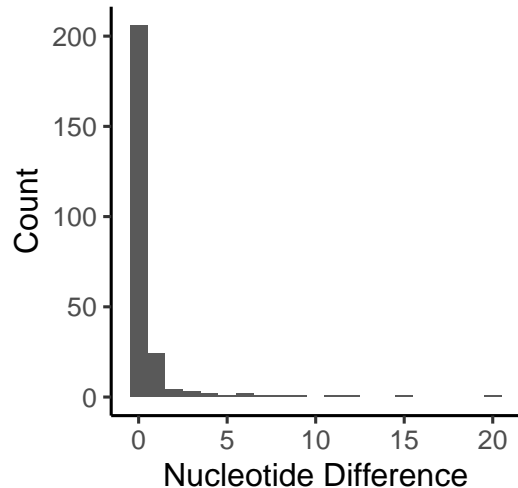
### IGHV3–38\*03

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



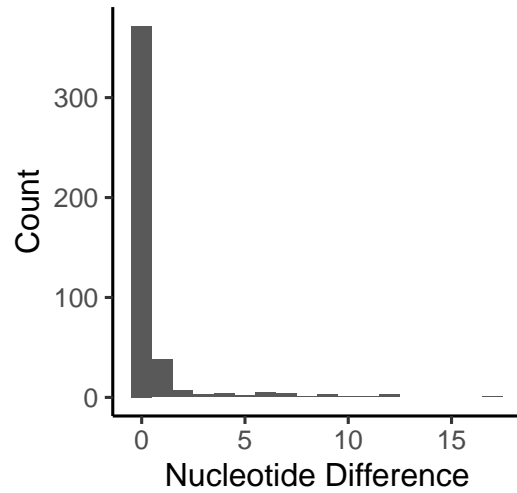
### IGHV3–49\*05

250 sequences assigned  
206 (82.4%) exact matches, in which:  
198 unique CDR3  
7 unique J



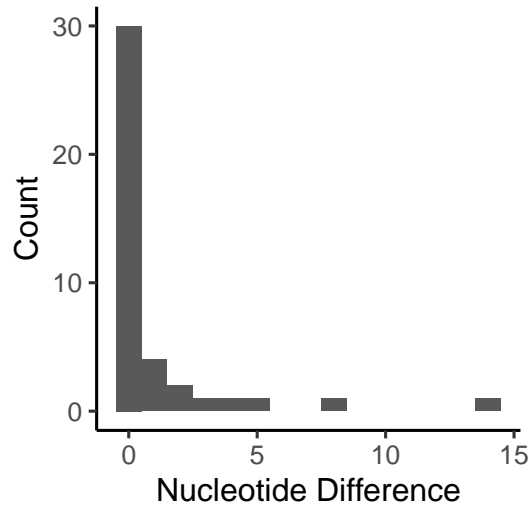
### IGHV3-53\*01

446 sequences assigned  
372 (83.4%) exact matches, in which:  
359 unique CDR3  
7 unique J



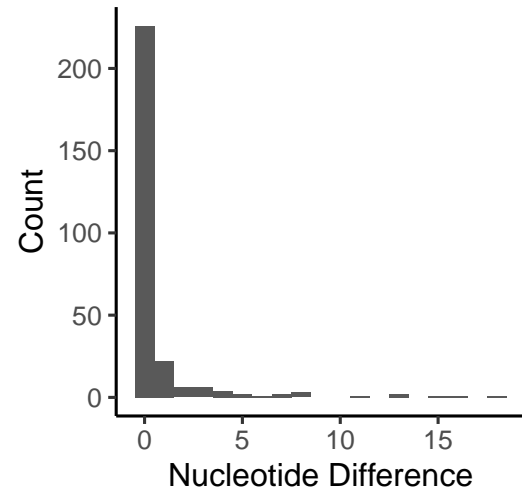
### IGHV3-72\*01

41 sequences assigned  
30 (73.2%) exact matches, in which:  
30 unique CDR3  
4 unique J



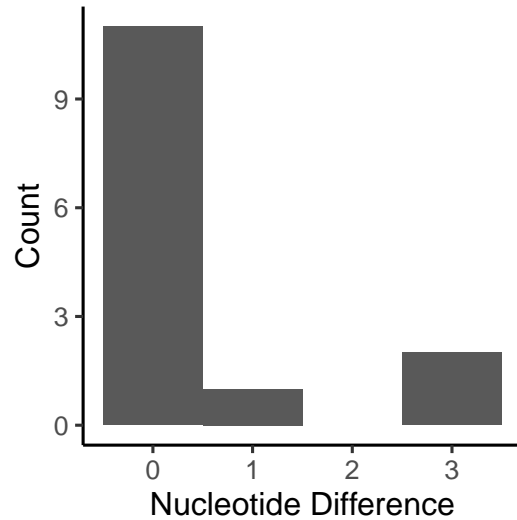
### IGHV3-74\*01

280 sequences assigned  
226 (80.7%) exact matches, in which:  
214 unique CDR3  
7 unique J



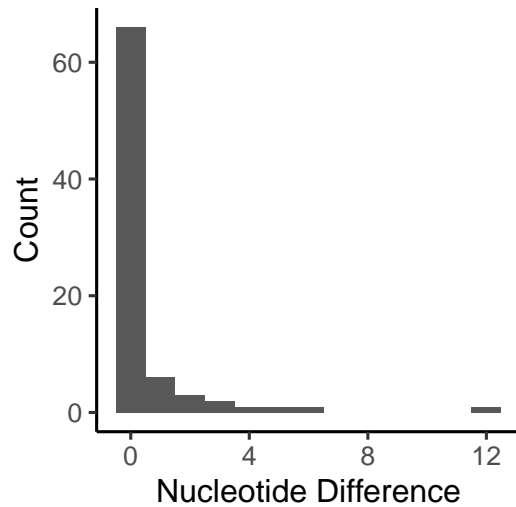
### IGHV3-64\*02

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



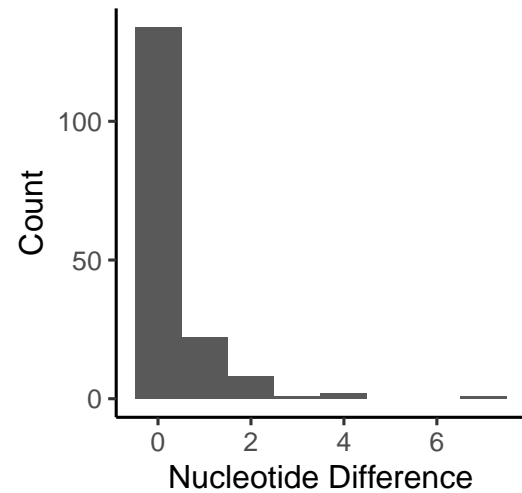
### IGHV3-73\*01

81 sequences assigned  
66 (81.5%) exact matches, in which:  
61 unique CDR3  
6 unique J



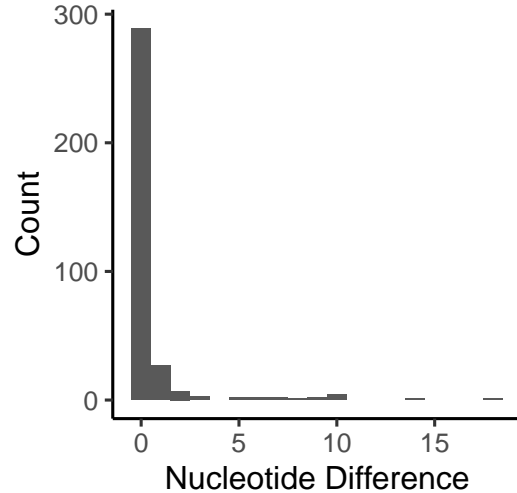
### IGHV3-64D\*09

168 sequences assigned  
134 (79.8%) exact matches, in which:  
122 unique CDR3  
6 unique J



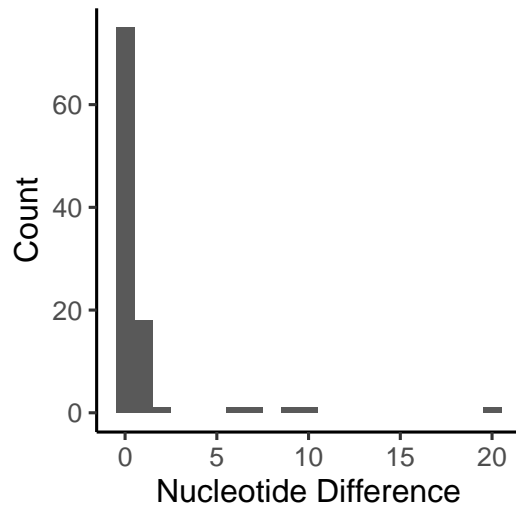
### IGHV3-66\*01

341 sequences assigned  
289 (84.8%) exact matches, in which:  
277 unique CDR3  
6 unique J



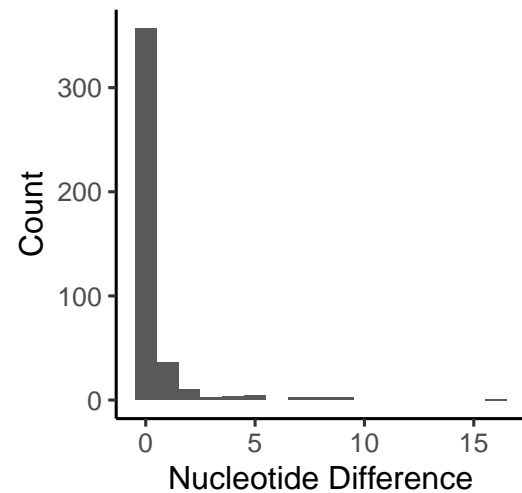
### IGHV3-73\*02

99 sequences assigned  
75 (75.8%) exact matches, in which:  
71 unique CDR3  
6 unique J



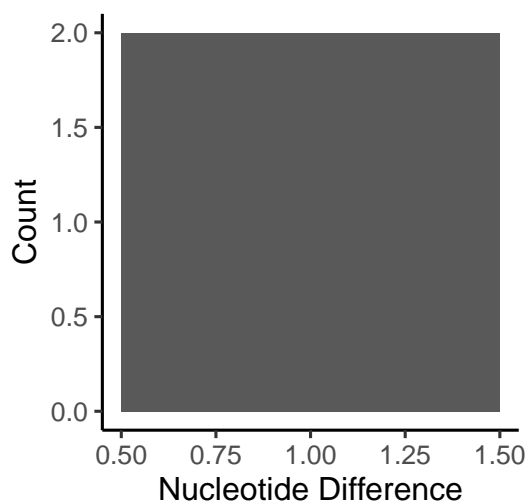
### IGHV4-4\*02

423 sequences assigned  
357 (84.4%) exact matches, in which:  
353 unique CDR3  
7 unique J



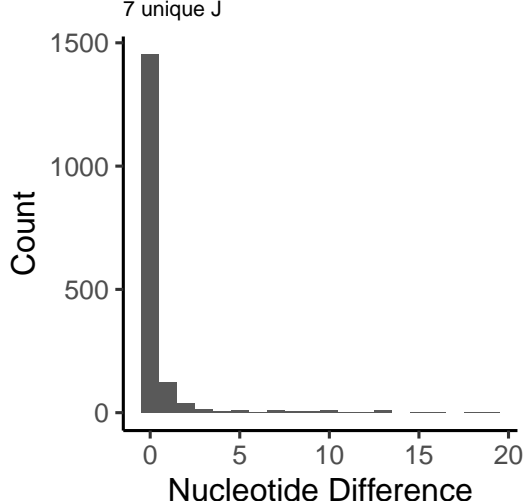
### IGHV4-28\*04

2 sequences assigned  
No exact matches.



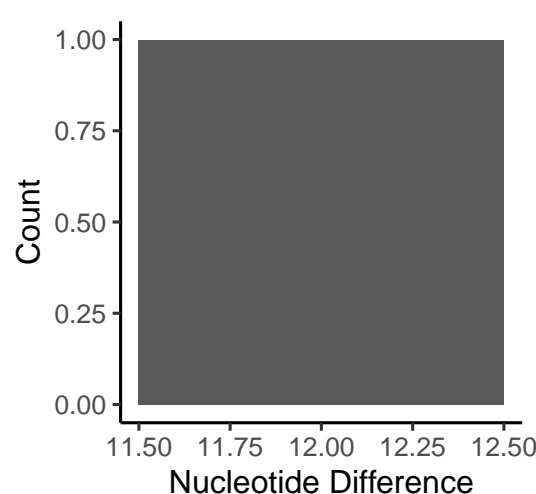
### IGHV4-39\*01

1708 sequences assigned  
1453 (85.1%) exact matches, in which:  
1377 unique CDR3  
7 unique J



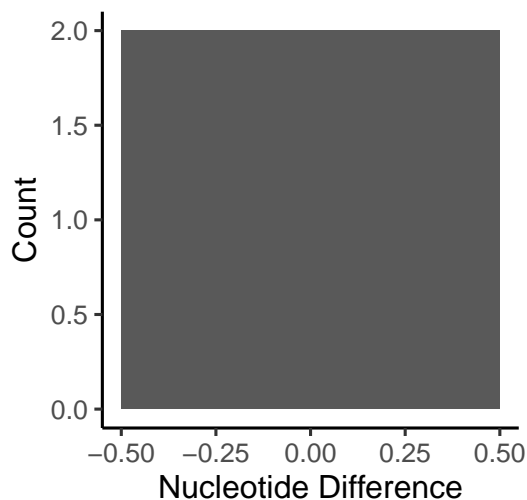
### IGHV1/OR15-9\*01

1 sequences assigned  
No exact matches.



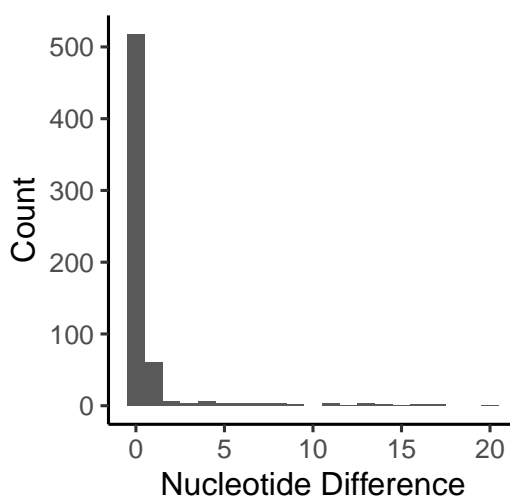
### IGHV4-31\*10

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



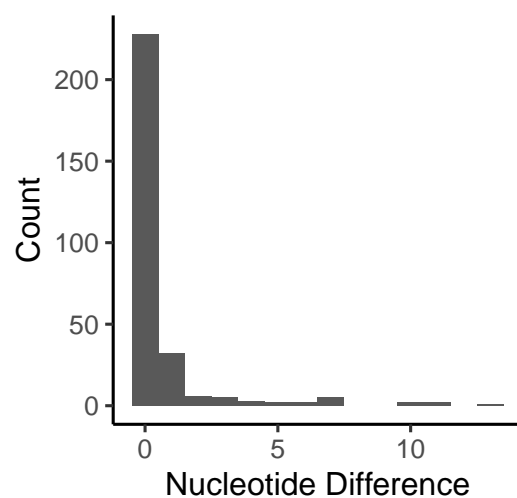
### IGHV4-59\*01

631 sequences assigned  
518 (82.1%) exact matches, in which:  
510 unique CDR3  
7 unique J



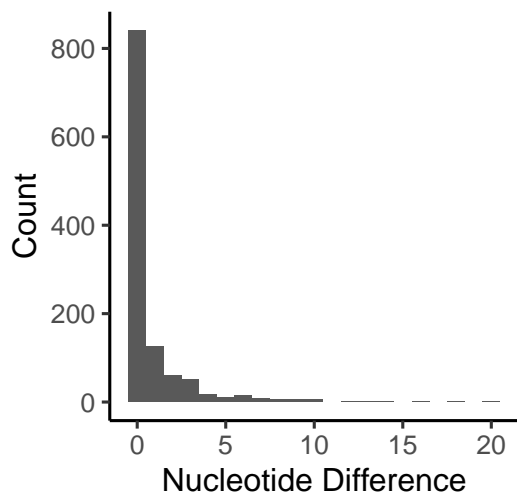
### IGHV5-10-1\*03

288 sequences assigned  
228 (79.2%) exact matches, in which:  
219 unique CDR3  
6 unique J



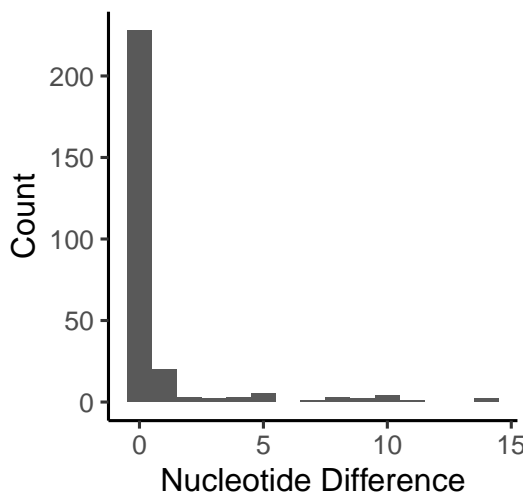
### IGHV4-34\*01

1166 sequences assigned  
841 (72.1%) exact matches, in which:  
800 unique CDR3  
7 unique J



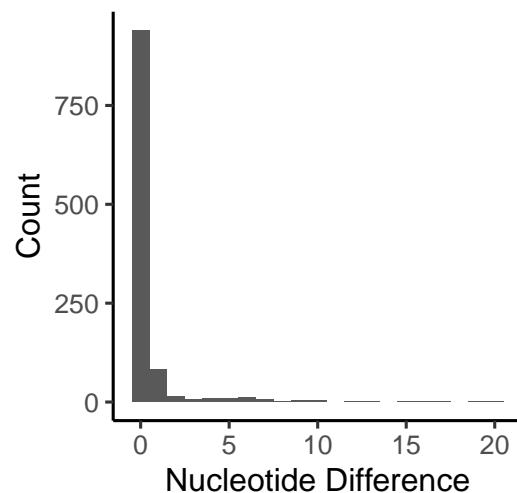
### IGHV4-61\*01

277 sequences assigned  
228 (82.3%) exact matches, in which:  
225 unique CDR3  
7 unique J



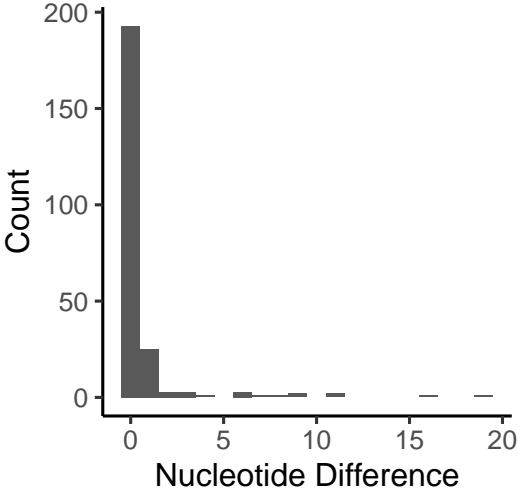
### IGHV5-51\*01

1103 sequences assigned  
940 (85.2%) exact matches, in which:  
900 unique CDR3  
7 unique J



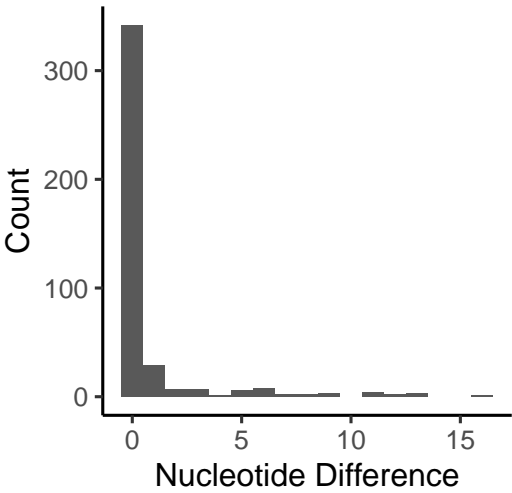
# IGHV6-1\*01

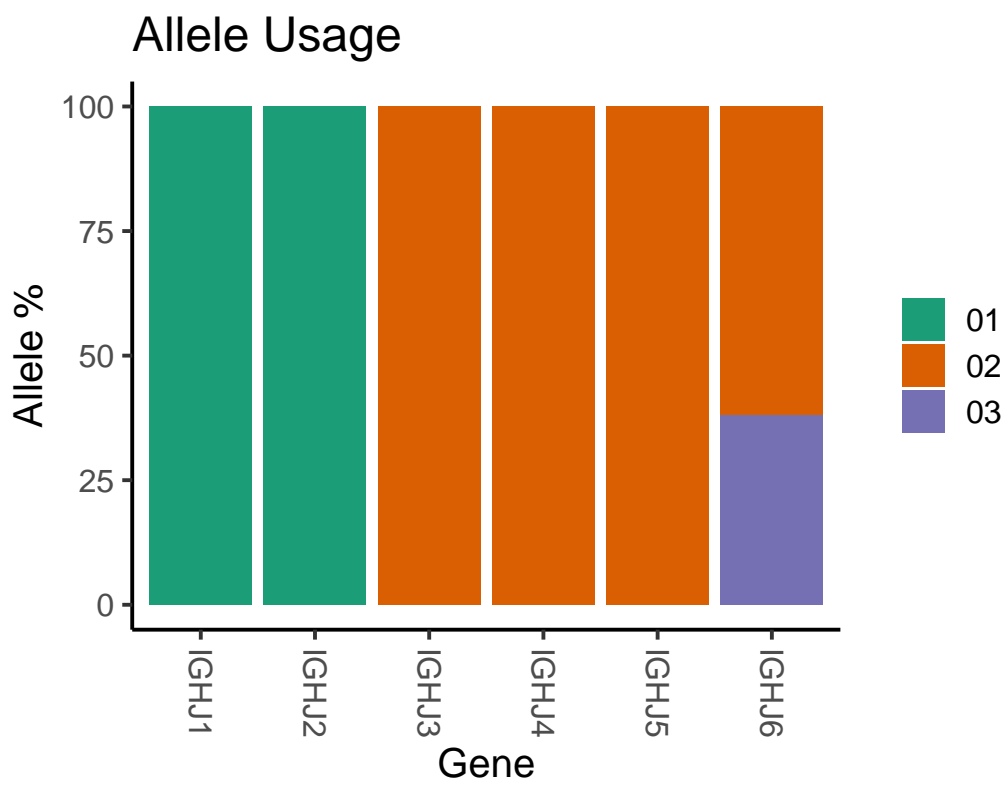
236 sequences assigned  
193 (81.8%) exact matches, in which:  
180 unique CDR3  
7 unique J



# IGHV7-4-1\*02

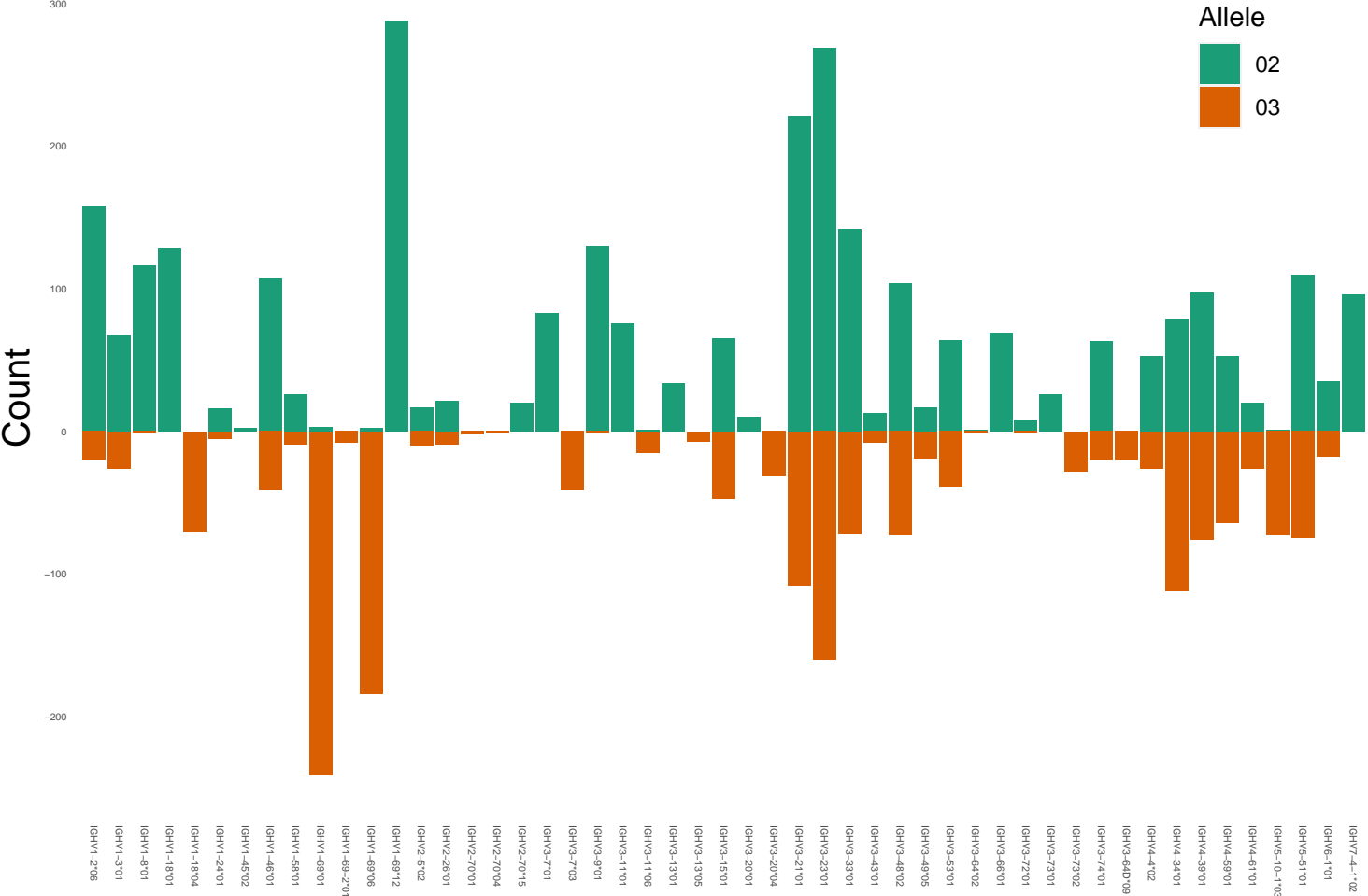
417 sequences assigned  
342 (82%) exact matches, in which:  
336 unique CDR3  
6 unique J







Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.