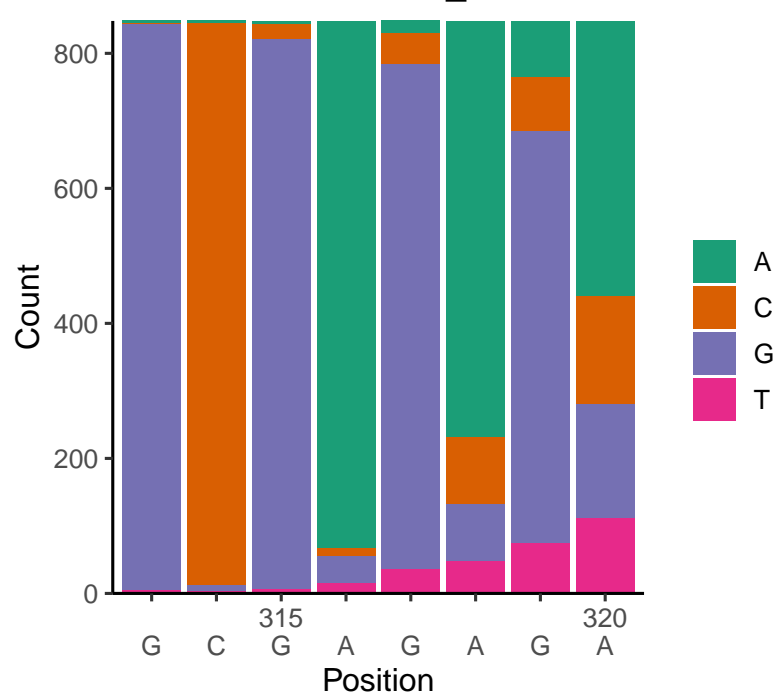
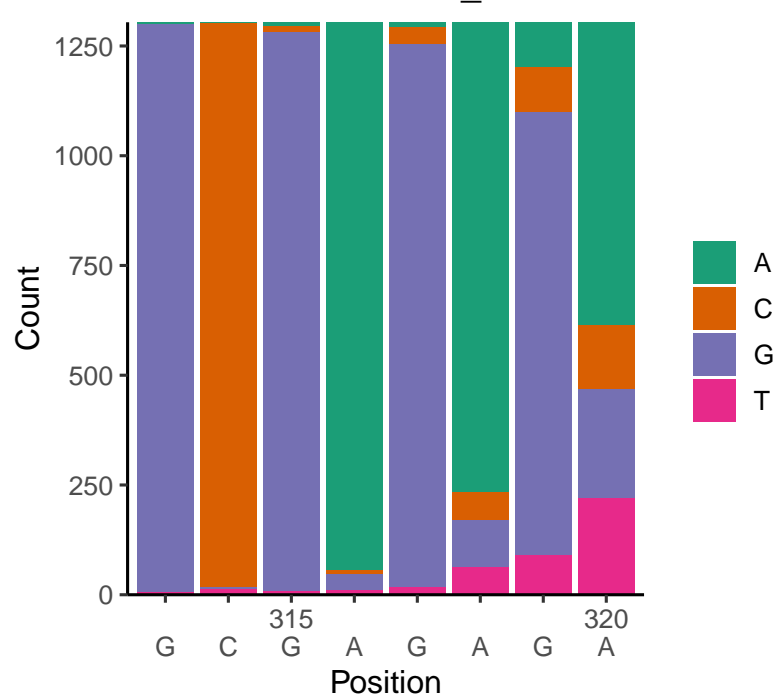


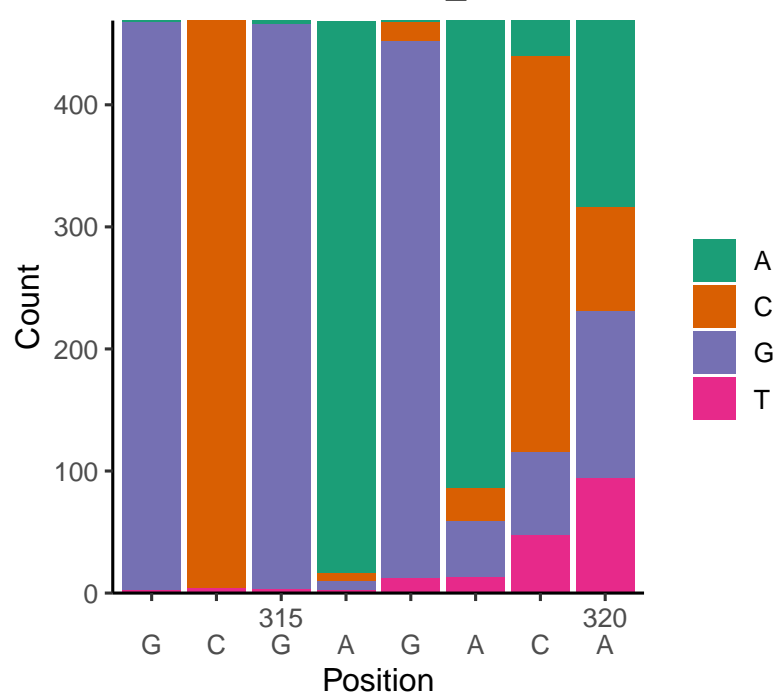
Gene IGHV1-69\*08\_C191T



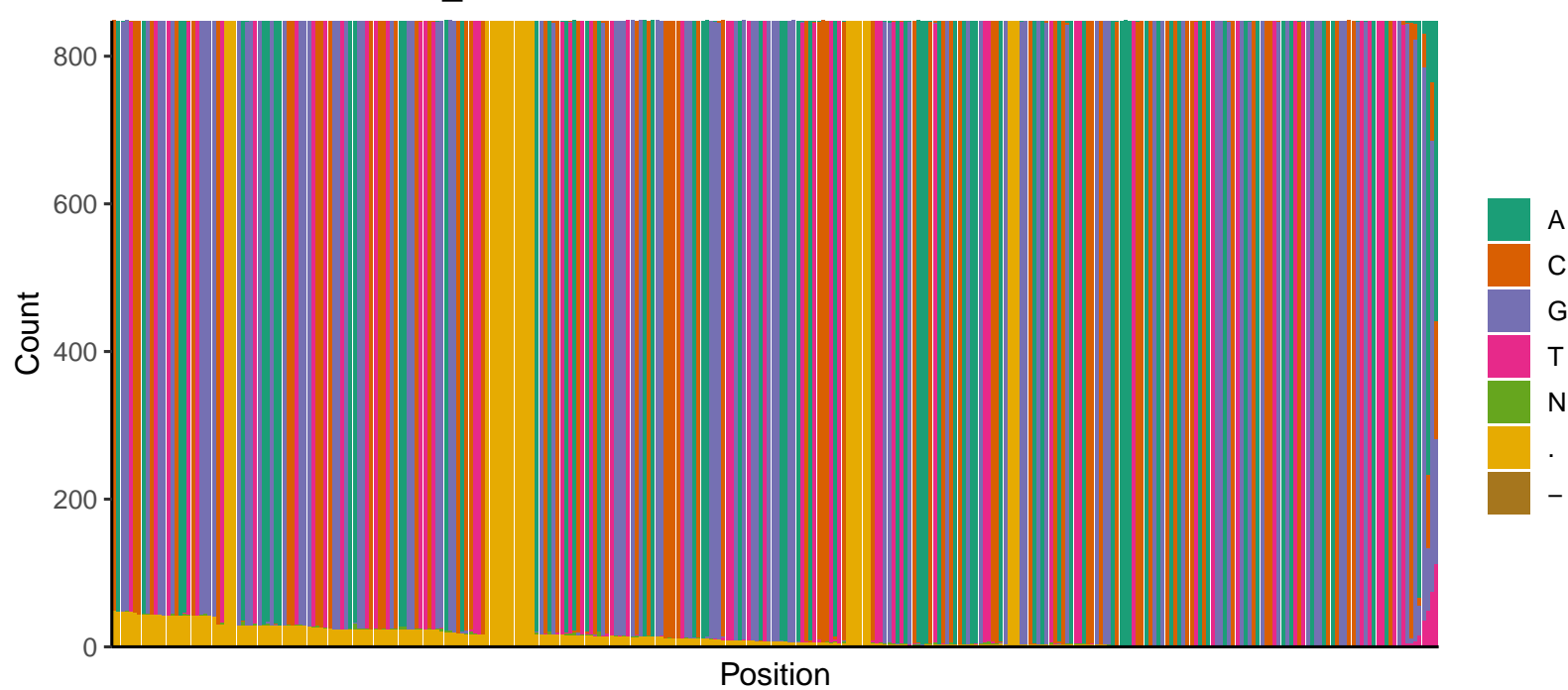
Gene IGHV4-39\*07\_C288A



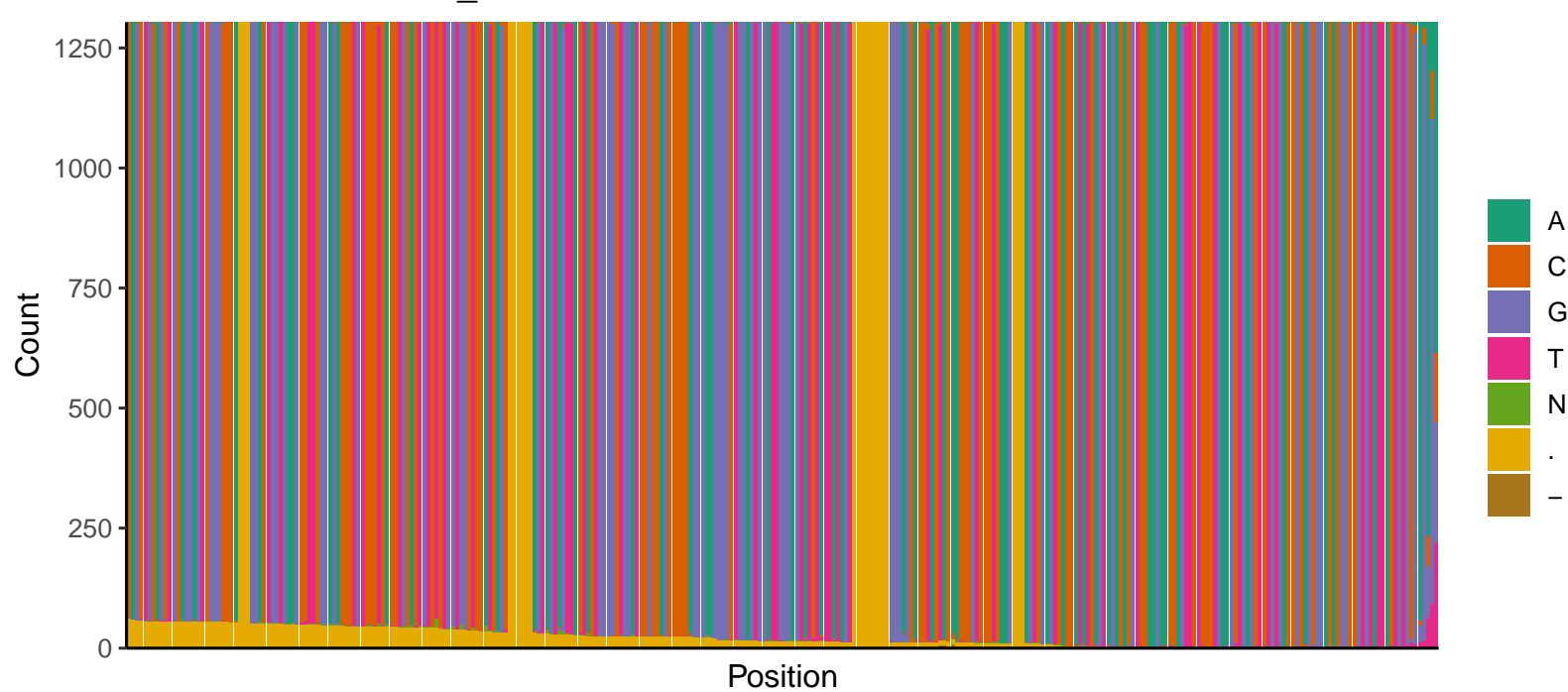
Gene IGHV5-51\*01\_C45G



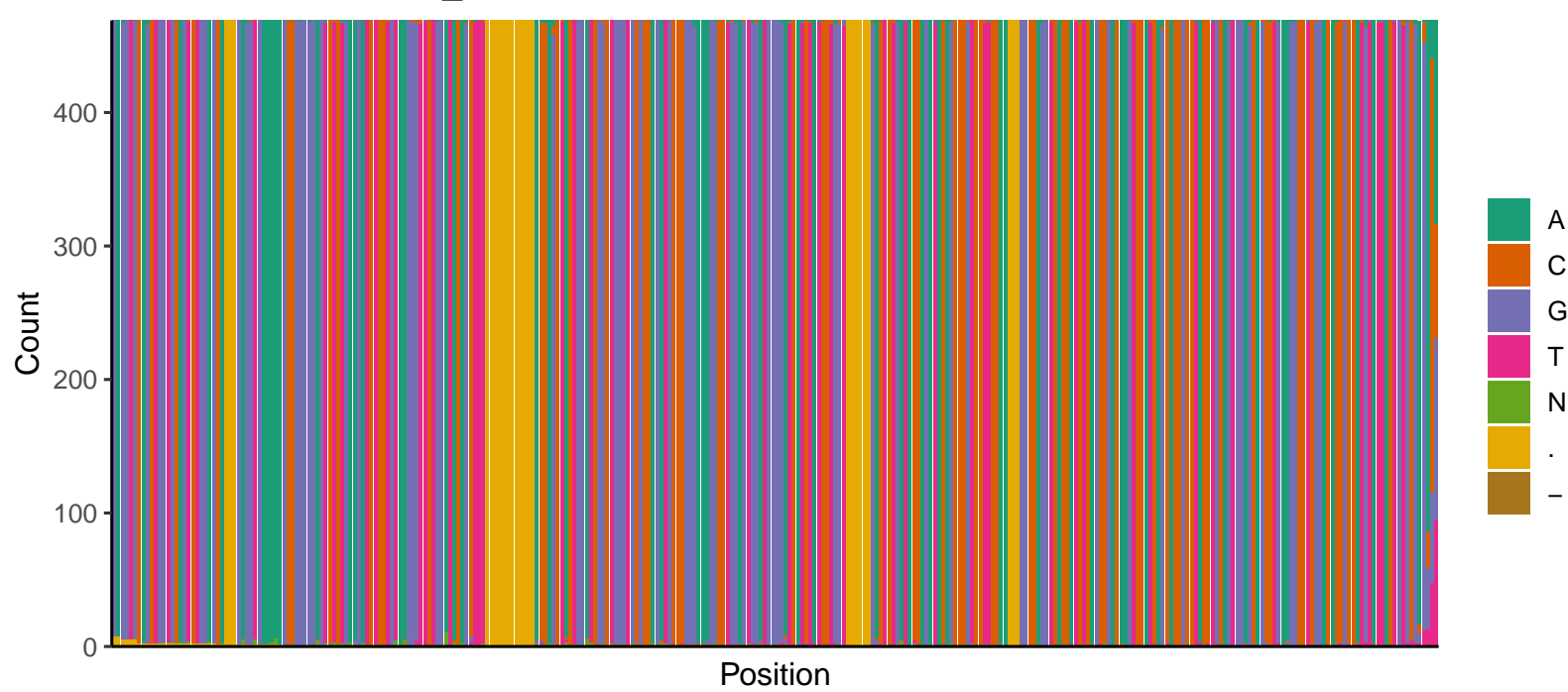
Gene IGHV1-69\*08\_C191T



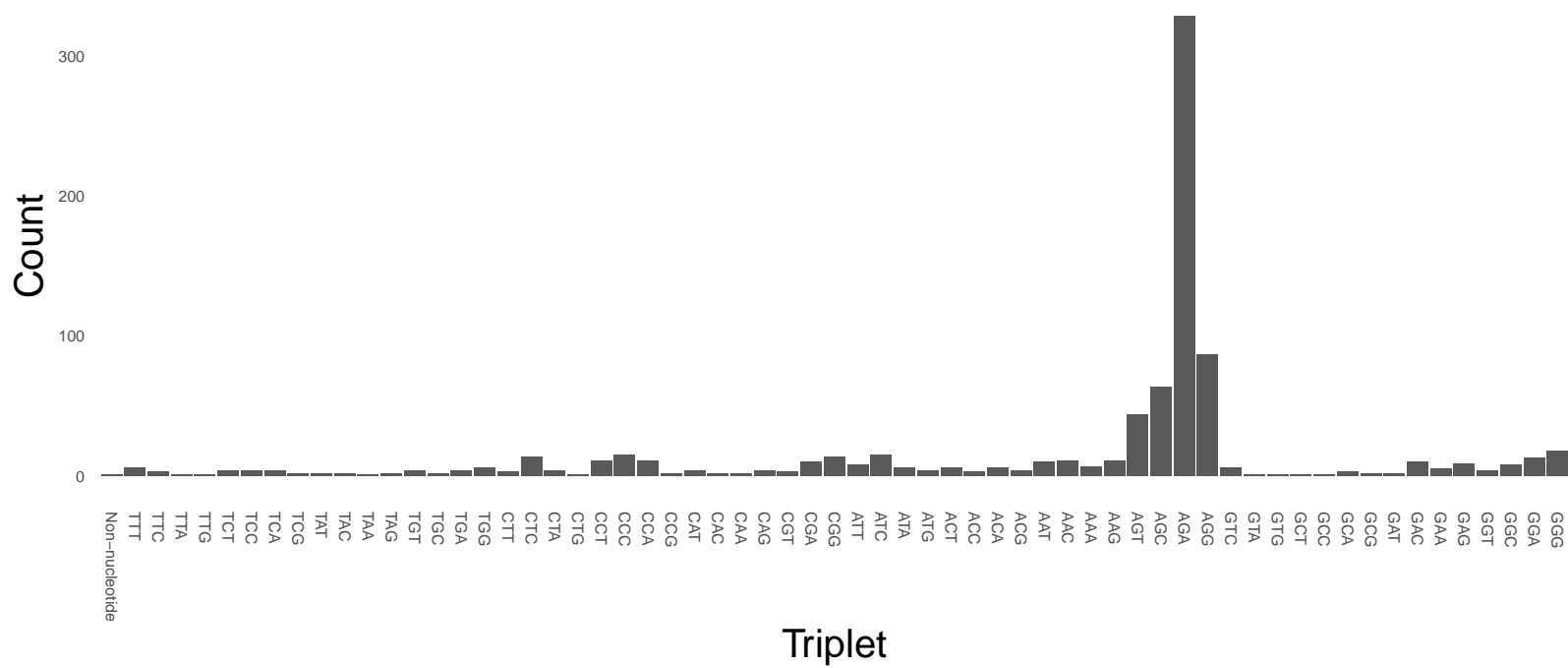
Gene IGHV4-39\*07\_C288A



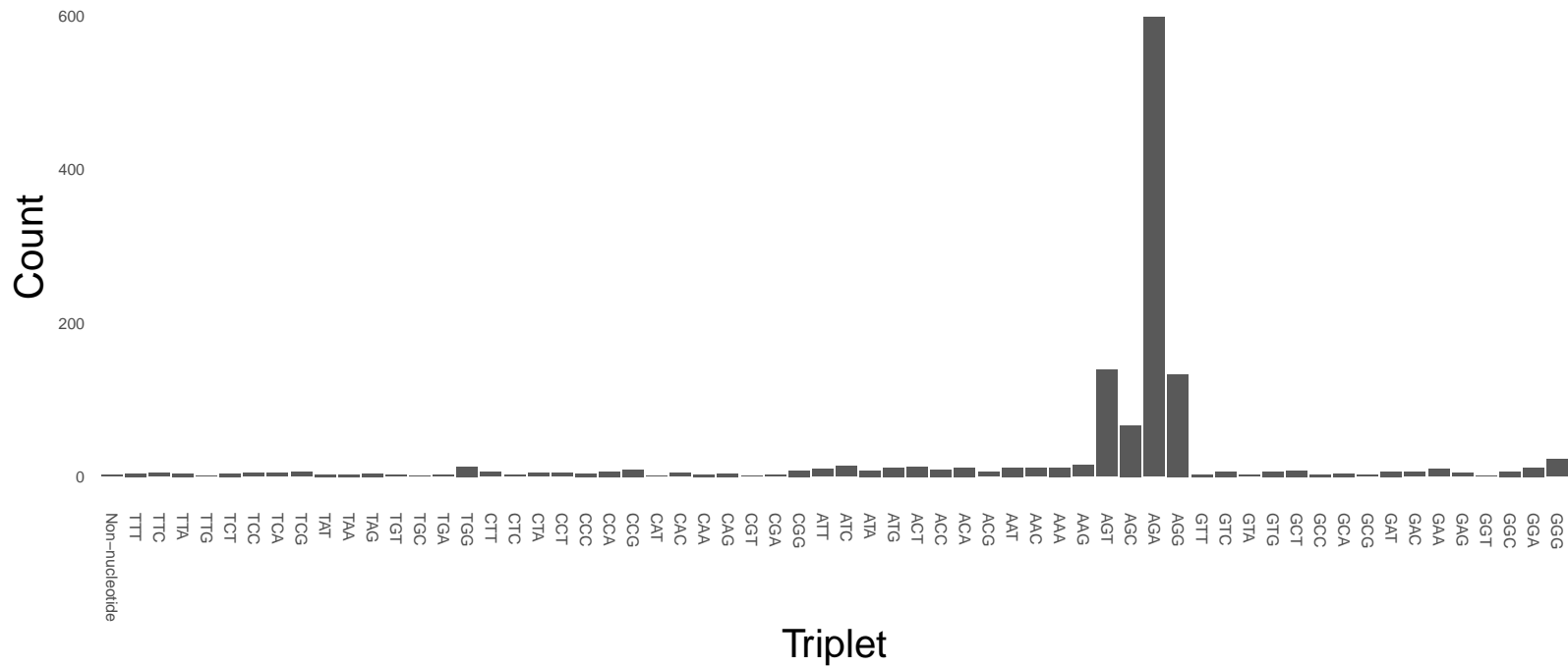
Gene IGHV5-51\*01\_C45G



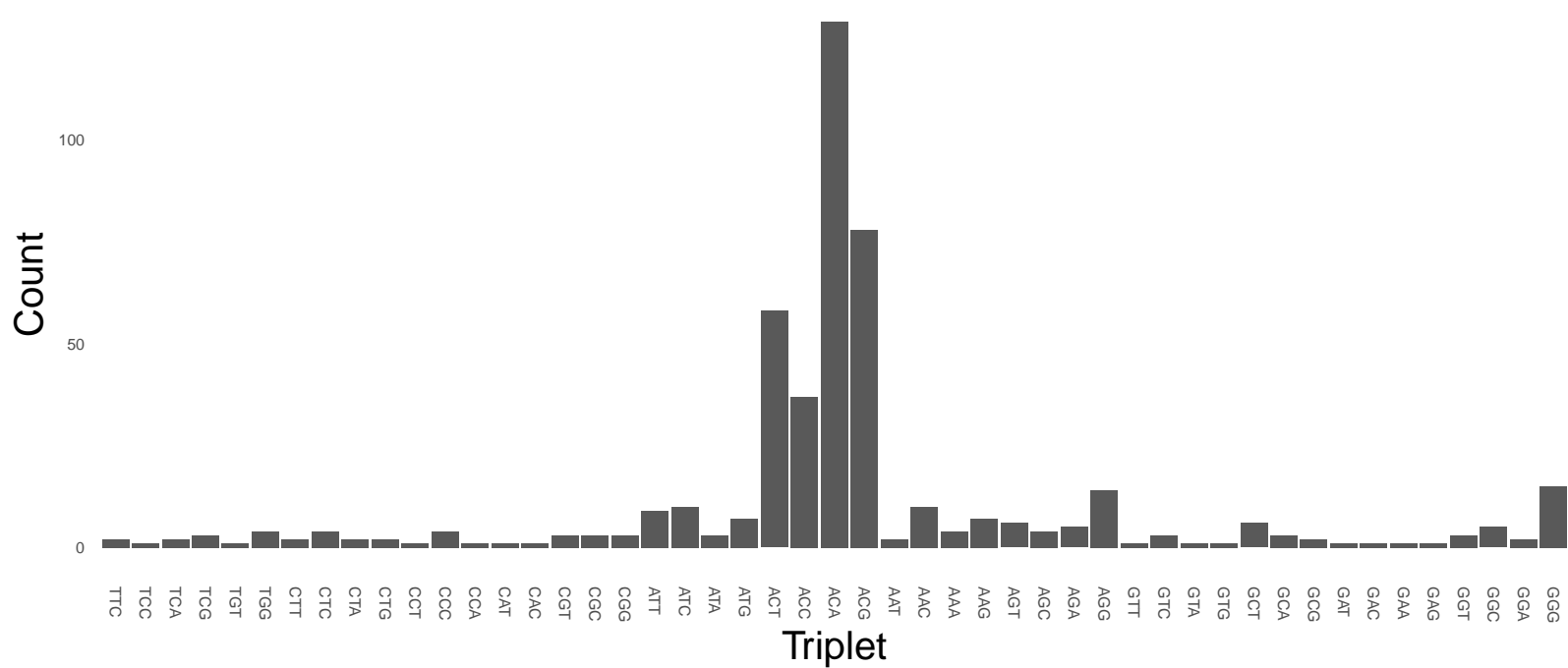
IGHV1-69\*08\_C191T- Final 3 nucleotides as a triplet



IGHV4-39\*07\_C288A- Final 3 nucleotides as a triplet

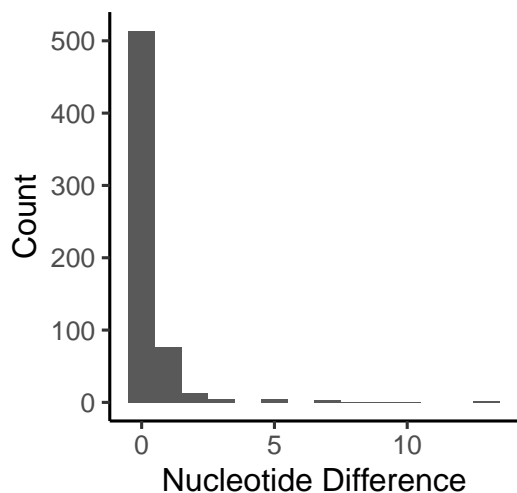


IGHV5-51\*01\_C45G- Final 3 nucleotides as a triplet



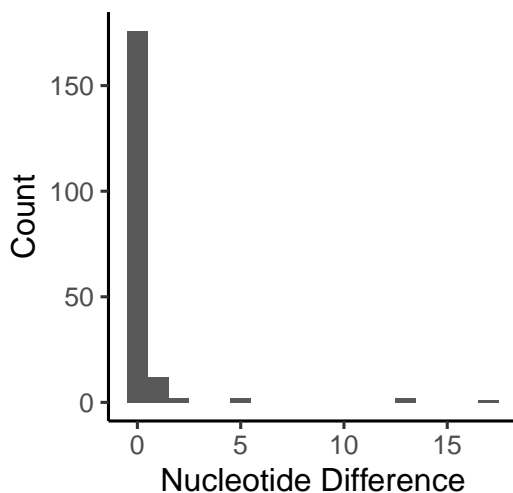
### IGHV1-2\*06

624 sequences assigned  
514 (82.4%) exact matches, in which:  
506 unique CDR3  
6 unique J



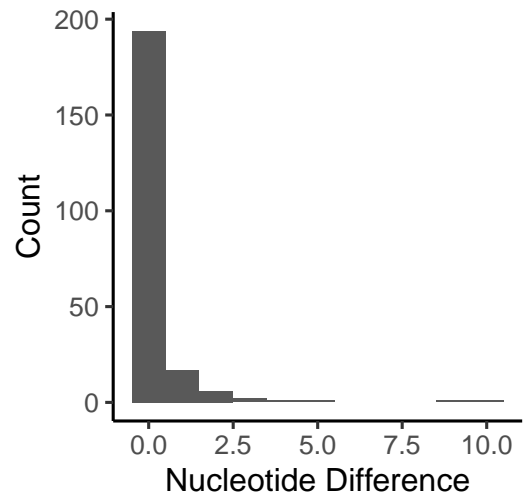
### IGHV1-24\*01

195 sequences assigned  
176 (90.3%) exact matches, in which:  
175 unique CDR3  
7 unique J



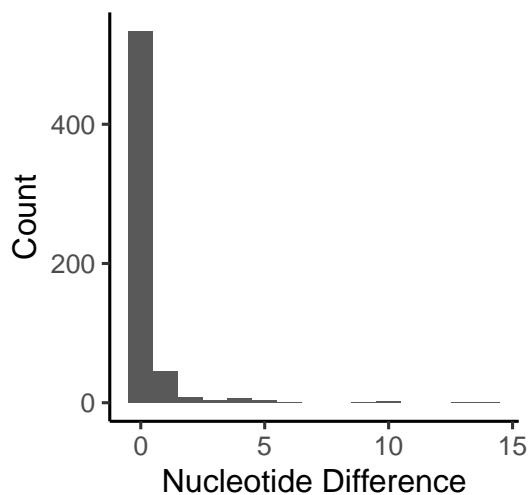
### IGHV1-46\*03

223 sequences assigned  
194 (87%) exact matches, in which:  
194 unique CDR3  
6 unique J



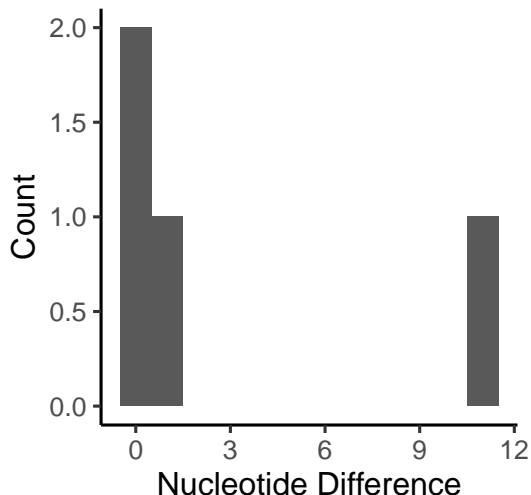
### IGHV1-3\*01

605 sequences assigned  
534 (88.3%) exact matches, in which:  
525 unique CDR3  
7 unique J



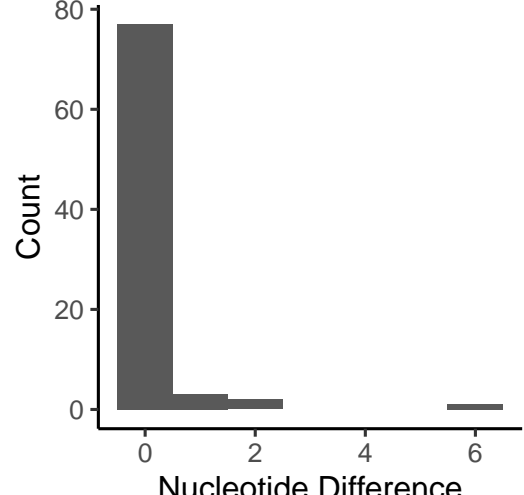
### IGHV1-45\*02

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



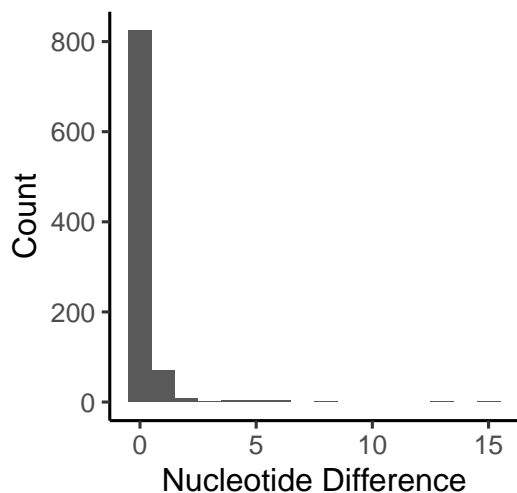
### IGHV1-58\*02

83 sequences assigned  
77 (92.8%) exact matches, in which:  
74 unique CDR3  
5 unique J



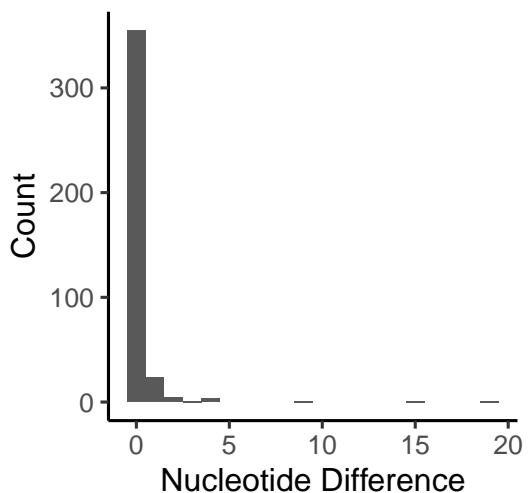
### IGHV1-18\*01

923 sequences assigned  
825 (89.4%) exact matches, in which:  
820 unique CDR3  
7 unique J



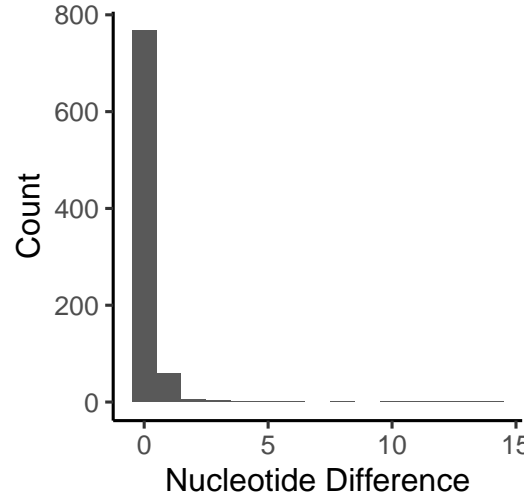
### IGHV1-46\*01

390 sequences assigned  
355 (91%) exact matches, in which:  
354 unique CDR3  
6 unique J



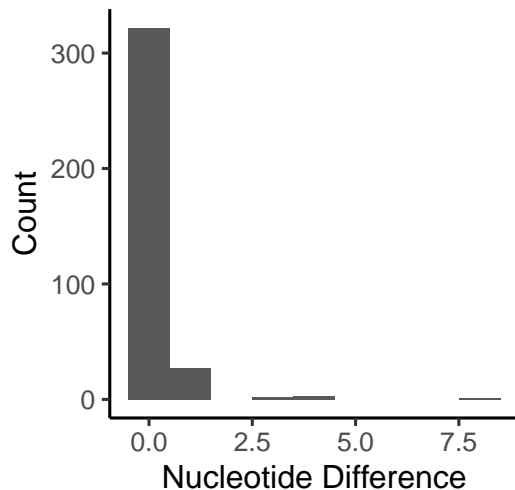
### IGHV1-69\*08\_C191T

848 sequences assigned  
768 (90.6%) exact matches, in which:  
757 unique CDR3  
7 unique J



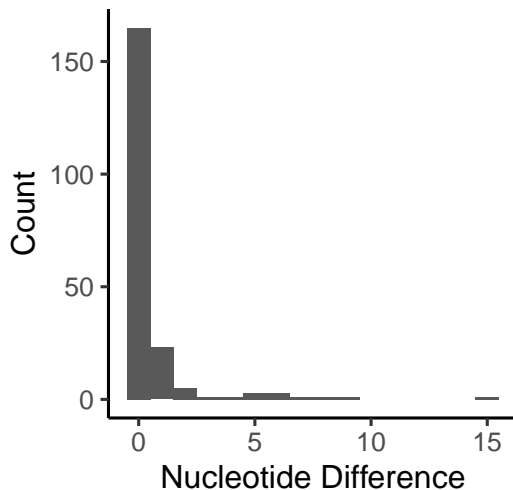
### IGHV2–5\*02

356 sequences assigned  
322 (90.4%) exact matches, in which:  
319 unique CDR3  
7 unique J



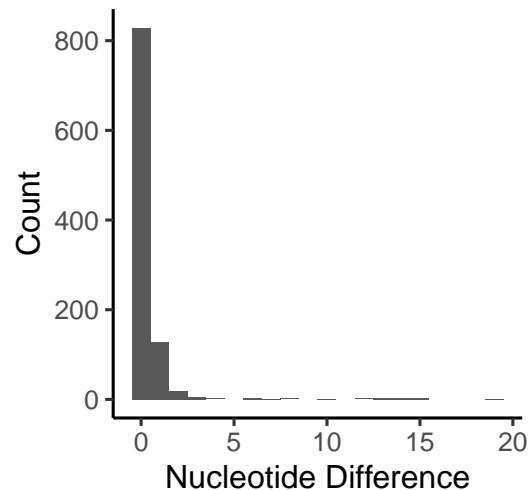
### IGHV3–7\*04

206 sequences assigned  
165 (80.1%) exact matches, in which:  
162 unique CDR3  
6 unique J



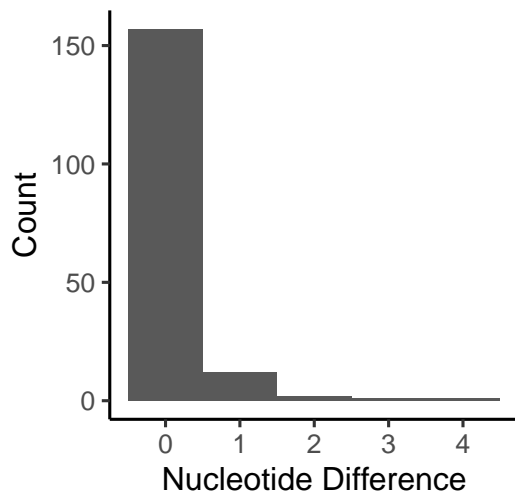
### IGHV3–15\*01

1005 sequences assigned  
829 (82.5%) exact matches, in which:  
814 unique CDR3  
7 unique J



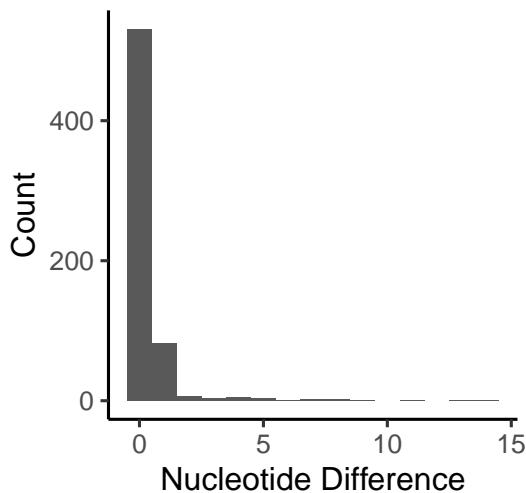
### IGHV2–26\*01

173 sequences assigned  
157 (90.8%) exact matches, in which:  
156 unique CDR3  
7 unique J



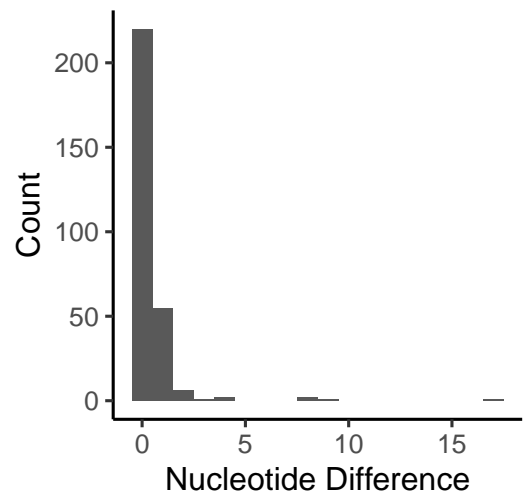
### IGHV3–11\*05

640 sequences assigned  
531 (83%) exact matches, in which:  
529 unique CDR3  
7 unique J



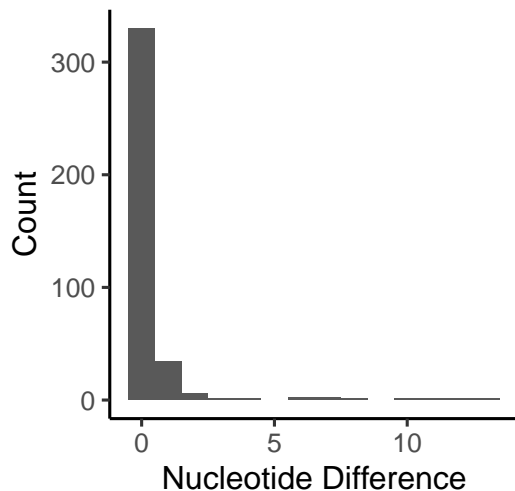
### IGHV3–20\*04

288 sequences assigned  
220 (76.4%) exact matches, in which:  
218 unique CDR3  
7 unique J



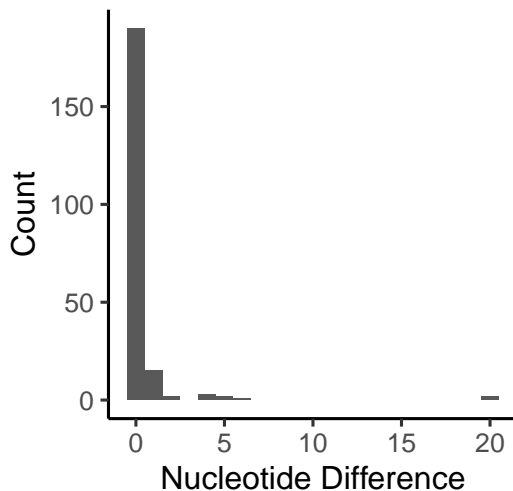
### IGHV3–7\*03

381 sequences assigned  
330 (86.6%) exact matches, in which:  
324 unique CDR3  
6 unique J



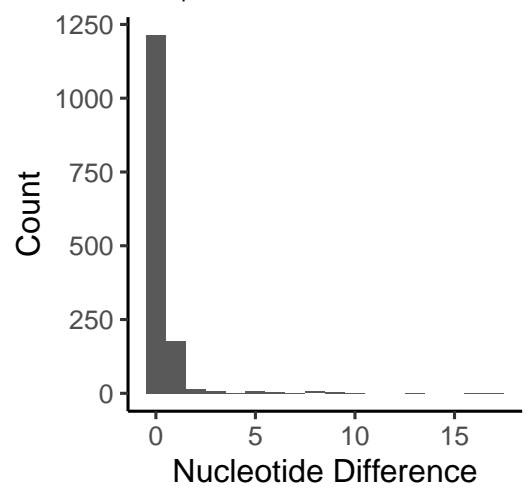
### IGHV3–13\*04

218 sequences assigned  
190 (87.2%) exact matches, in which:  
185 unique CDR3  
6 unique J



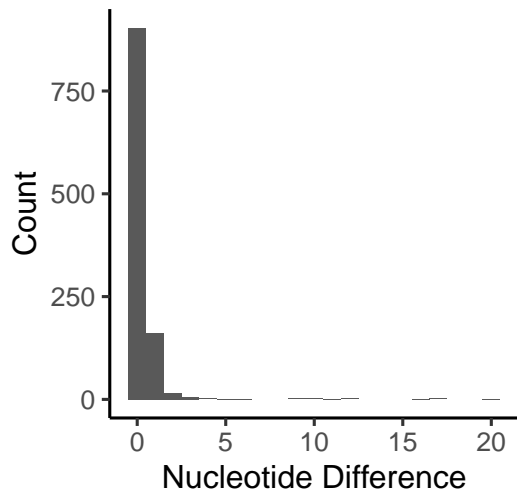
### IGHV3–21\*01

1444 sequences assigned  
1214 (84.1%) exact matches, in which:  
1202 unique CDR3  
7 unique J



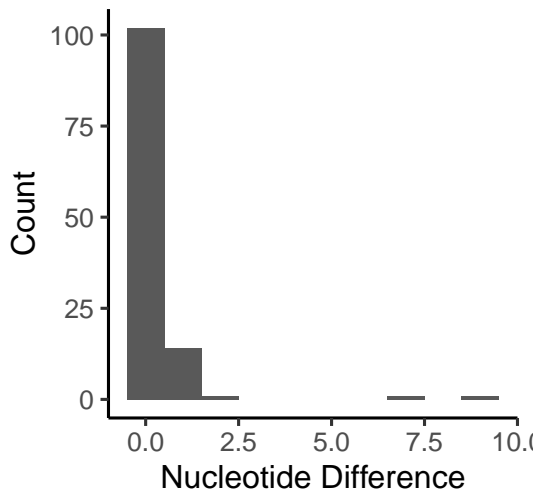
### IGHV3–23\*04

1104 sequences assigned  
904 (81.9%) exact matches, in which:  
896 unique CDR3  
6 unique J



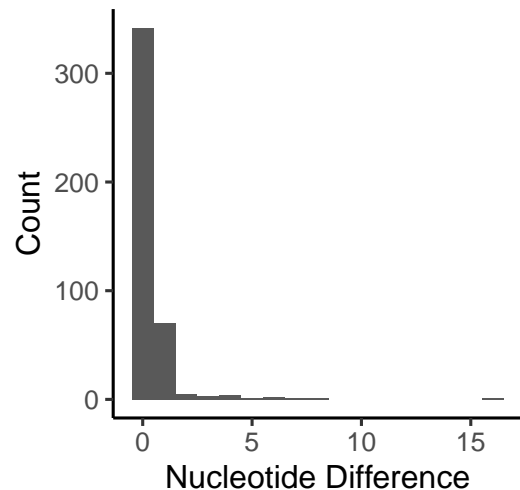
### IGHV3–43\*01

125 sequences assigned  
102 (81.6%) exact matches, in which:  
102 unique CDR3  
6 unique J



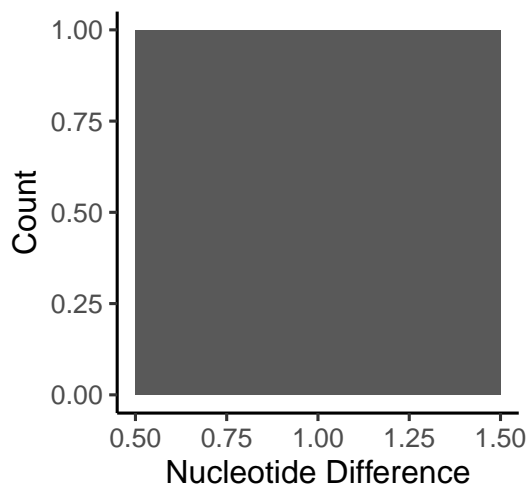
### IGHV3–49\*03

430 sequences assigned  
342 (79.5%) exact matches, in which:  
340 unique CDR3  
7 unique J



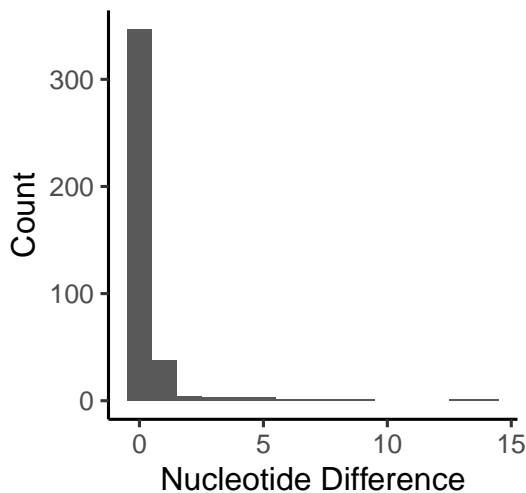
### IGHV3–33\*02

1 sequences assigned  
No exact matches.



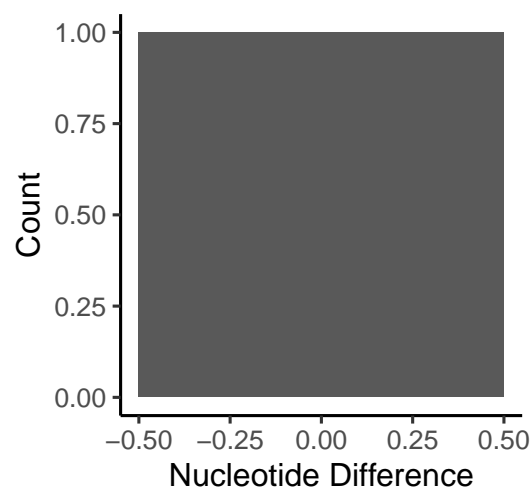
### IGHV3–48\*01

405 sequences assigned  
347 (85.7%) exact matches, in which:  
344 unique CDR3  
6 unique J



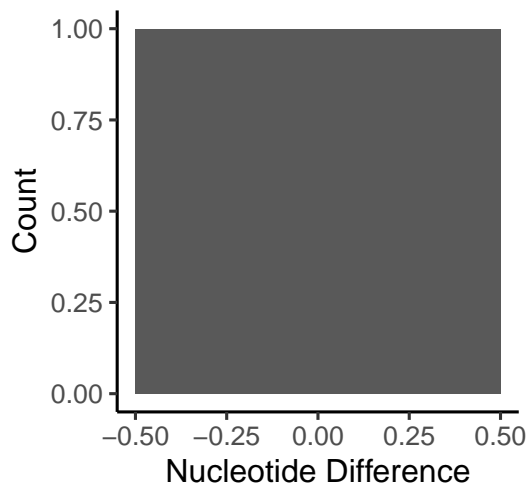
### IGHV3–52\*02

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



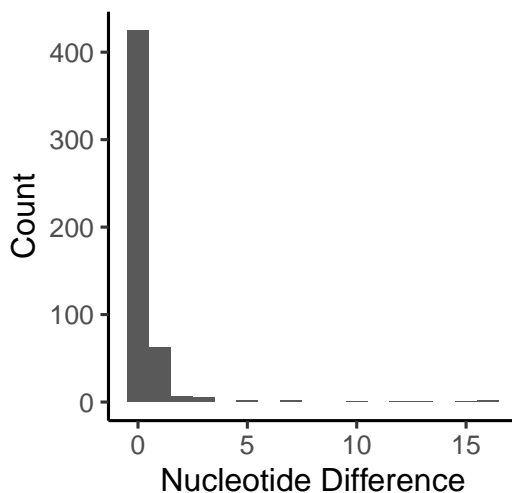
### IGHV3–33\*05

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



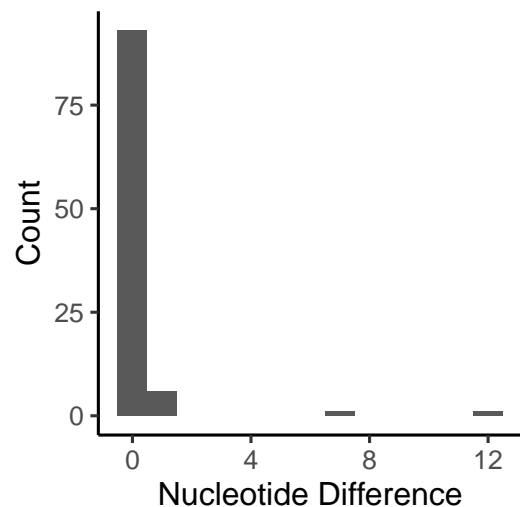
### IGHV3–48\*04

509 sequences assigned  
425 (83.5%) exact matches, in which:  
422 unique CDR3  
6 unique J



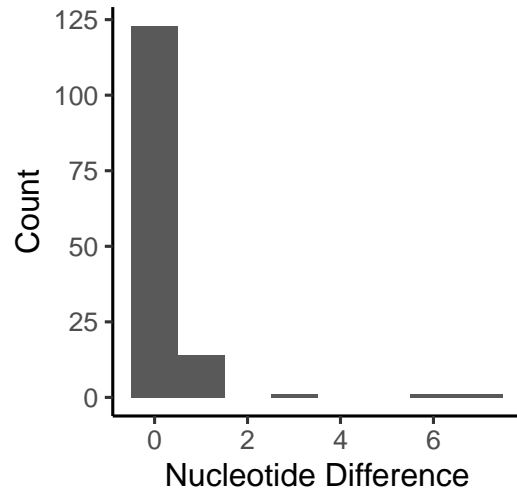
### IGHV3–53\*02

101 sequences assigned  
93 (92.1%) exact matches, in which:  
90 unique CDR3  
6 unique J



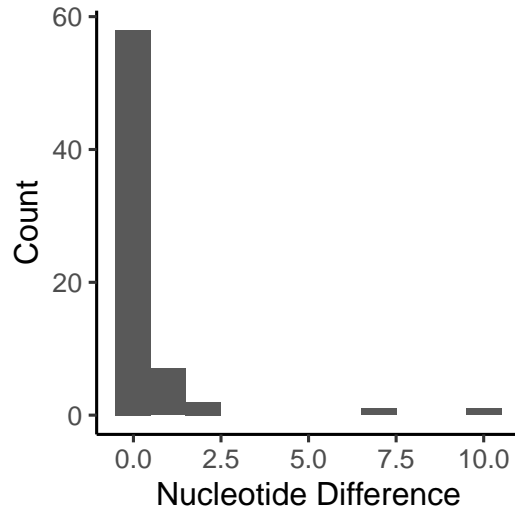
### IGHV3-53\*04

140 sequences assigned  
123 (87.9%) exact matches, in which:  
123 unique CDR3  
6 unique J



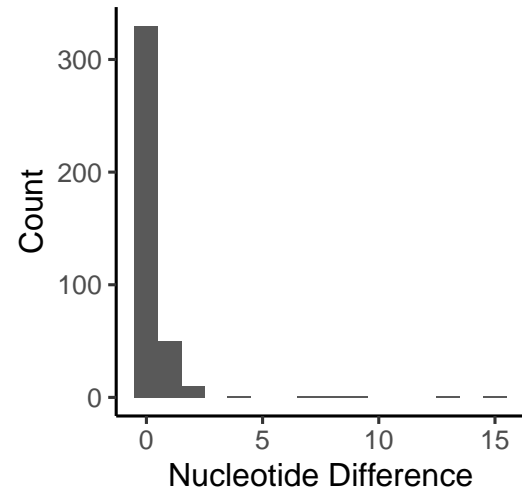
### IGHV3-72\*01

69 sequences assigned  
58 (84.1%) exact matches, in which:  
58 unique CDR3  
6 unique J



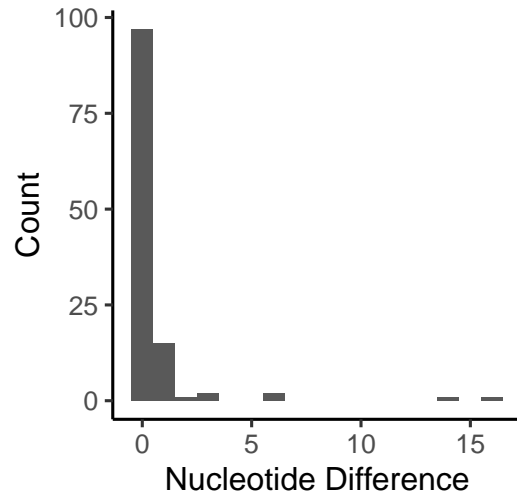
### IGHV3-64D\*06

397 sequences assigned  
330 (83.1%) exact matches, in which:  
327 unique CDR3  
7 unique J



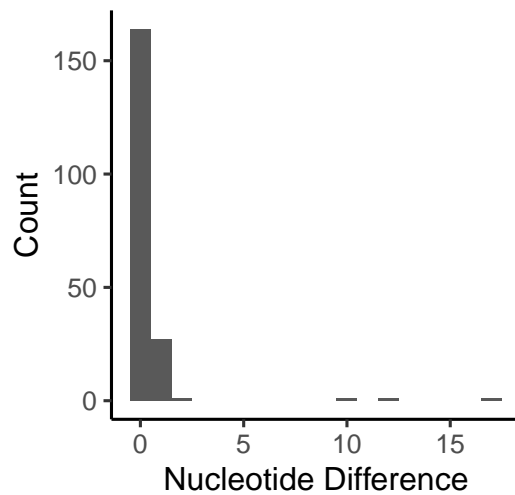
### IGHV3-64\*01

120 sequences assigned  
97 (80.8%) exact matches, in which:  
97 unique CDR3  
6 unique J



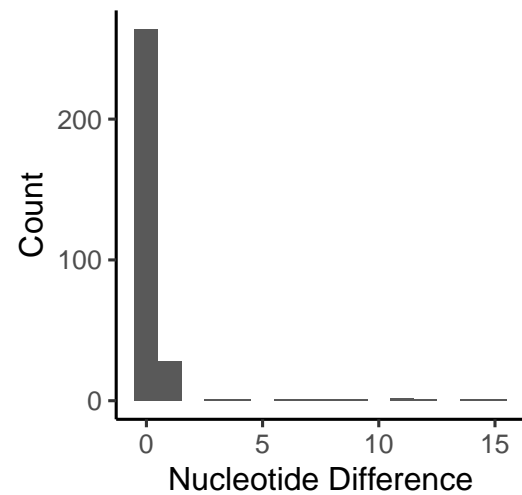
### IGHV3-73\*01

195 sequences assigned  
164 (84.1%) exact matches, in which:  
161 unique CDR3  
5 unique J



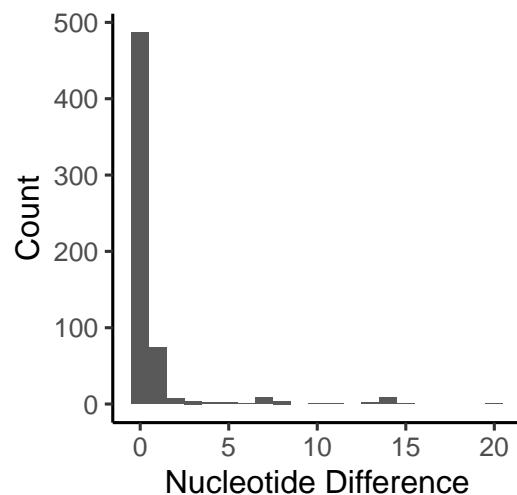
### IGHV4-4\*02

304 sequences assigned  
264 (86.8%) exact matches, in which:  
262 unique CDR3  
7 unique J



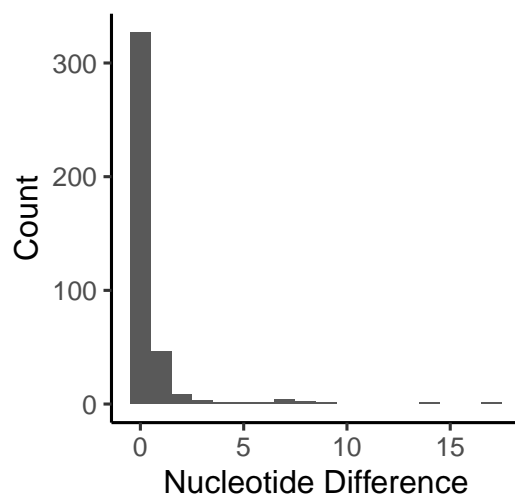
### IGHV3-66\*02

606 sequences assigned  
487 (80.4%) exact matches, in which:  
483 unique CDR3  
7 unique J



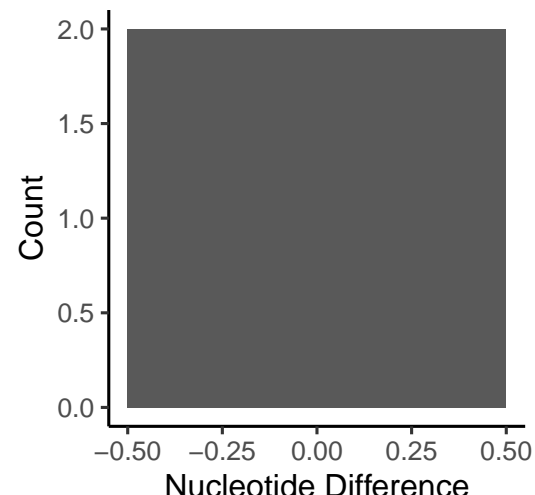
### IGHV3-74\*01

397 sequences assigned  
327 (82.4%) exact matches, in which:  
324 unique CDR3  
7 unique J



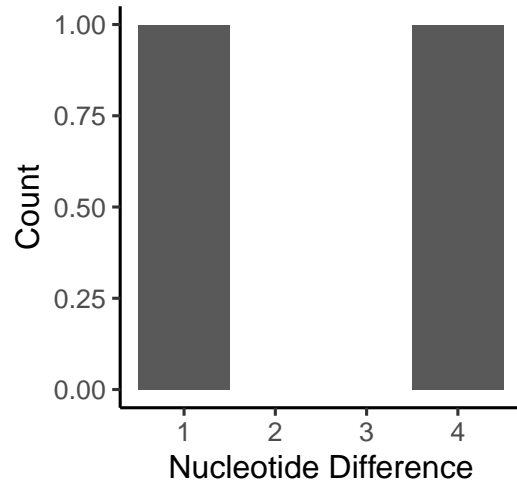
### IGHV4-28\*01

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



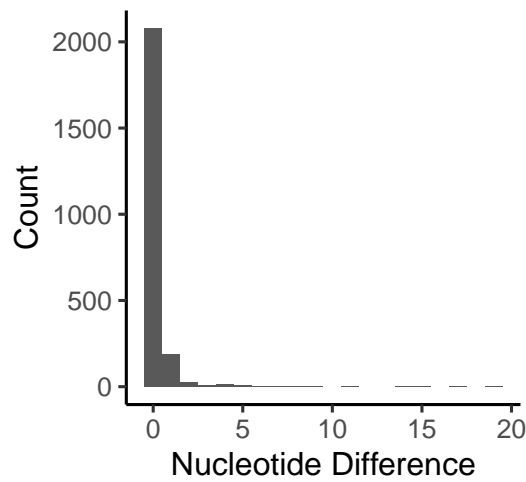
### IGHV4-28\*03

2 sequences assigned  
No exact matches.



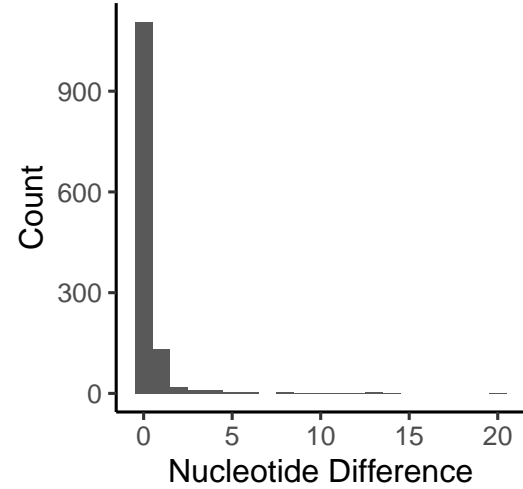
### IGHV4-34\*01

2350 sequences assigned  
2078 (88.4%) exact matches, in which:  
2044 unique CDR3  
7 unique J



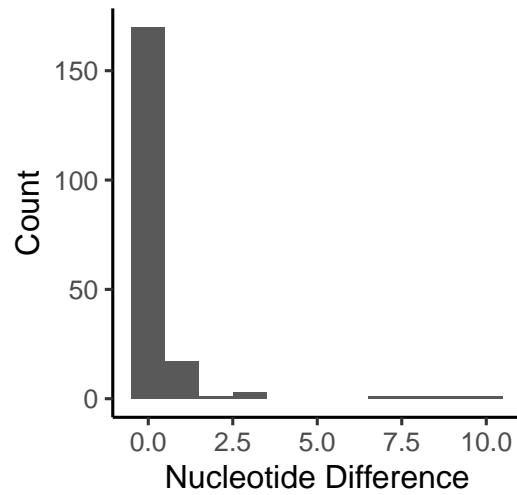
### IGHV4-39\*07\_C288A

1304 sequences assigned  
1107 (84.9%) exact matches, in which:  
1086 unique CDR3  
7 unique J



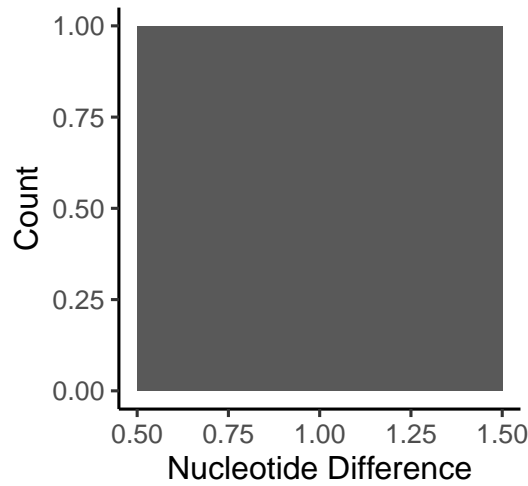
### IGHV4-30-2\*01

195 sequences assigned  
170 (87.2%) exact matches, in which:  
167 unique CDR3  
6 unique J



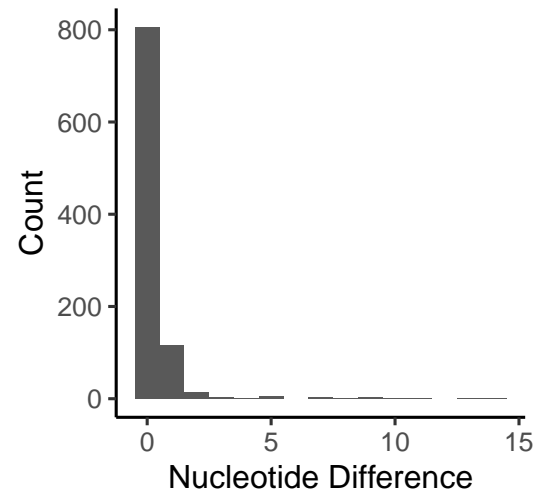
### IGHV4-38-2\*02

1 sequences assigned  
No exact matches.



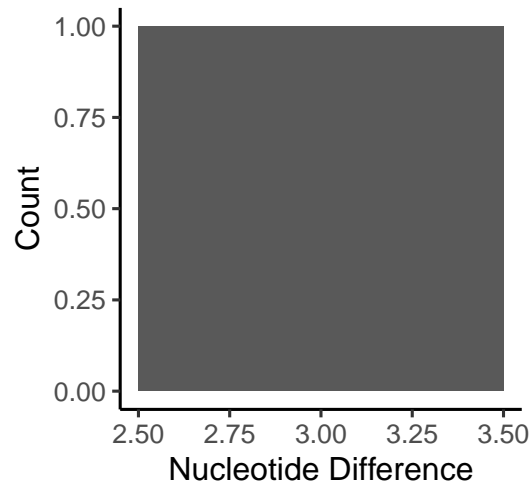
### IGHV4-59\*01

958 sequences assigned  
806 (84.1%) exact matches, in which:  
795 unique CDR3  
7 unique J



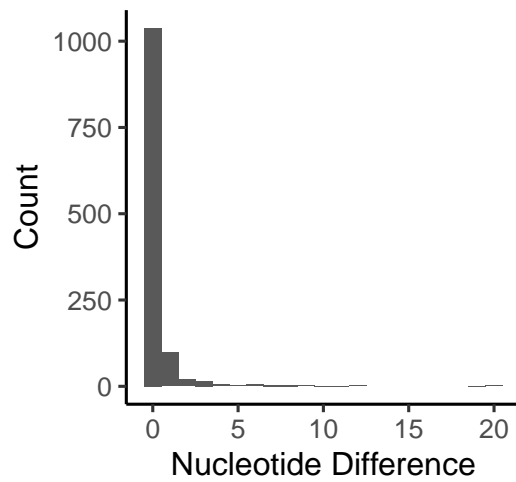
### IGHV4-31\*11

1 sequences assigned  
No exact matches.



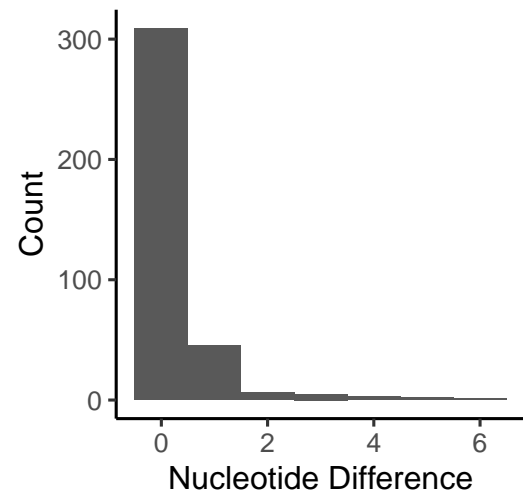
### IGHV4-39\*01

1201 sequences assigned  
1038 (86.4%) exact matches, in which:  
1025 unique CDR3  
6 unique J



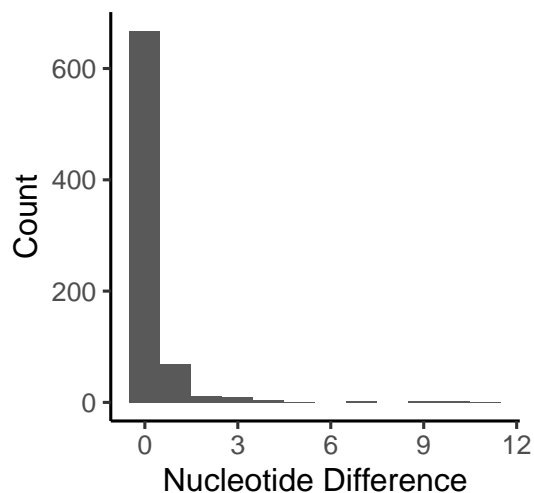
### IGHV4-59\*08

372 sequences assigned  
309 (83.1%) exact matches, in which:  
306 unique CDR3  
6 unique J



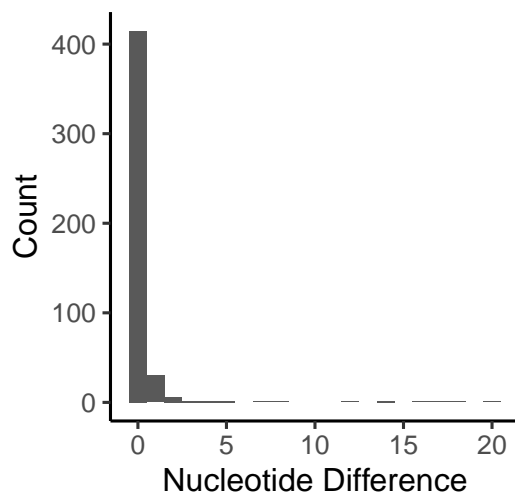
### IGHV4-61\*02

771 sequences assigned  
668 (86.6%) exact matches, in which:  
661 unique CDR3  
6 unique J



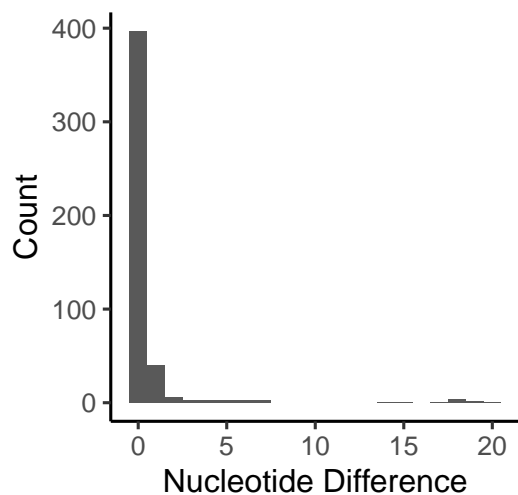
### IGHV5-51\*01\_C45G

469 sequences assigned  
415 (88.5%) exact matches, in which:  
411 unique CDR3  
6 unique J



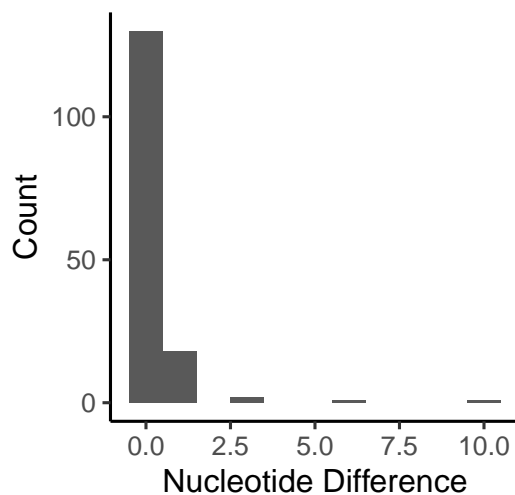
### IGHV5-10-1\*01

469 sequences assigned  
397 (84.6%) exact matches, in which:  
392 unique CDR3  
7 unique J



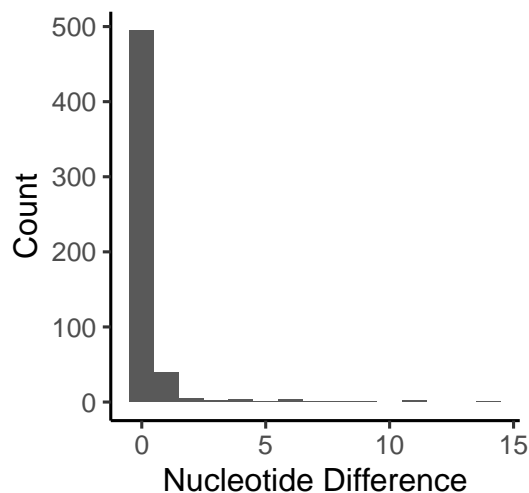
### IGHV6-1\*01

152 sequences assigned  
130 (85.5%) exact matches, in which:  
129 unique CDR3  
6 unique J



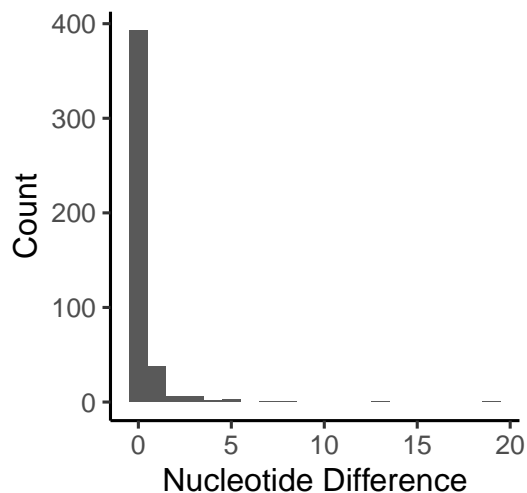
### IGHV5-51\*01

556 sequences assigned  
495 (89%) exact matches, in which:  
492 unique CDR3  
6 unique J

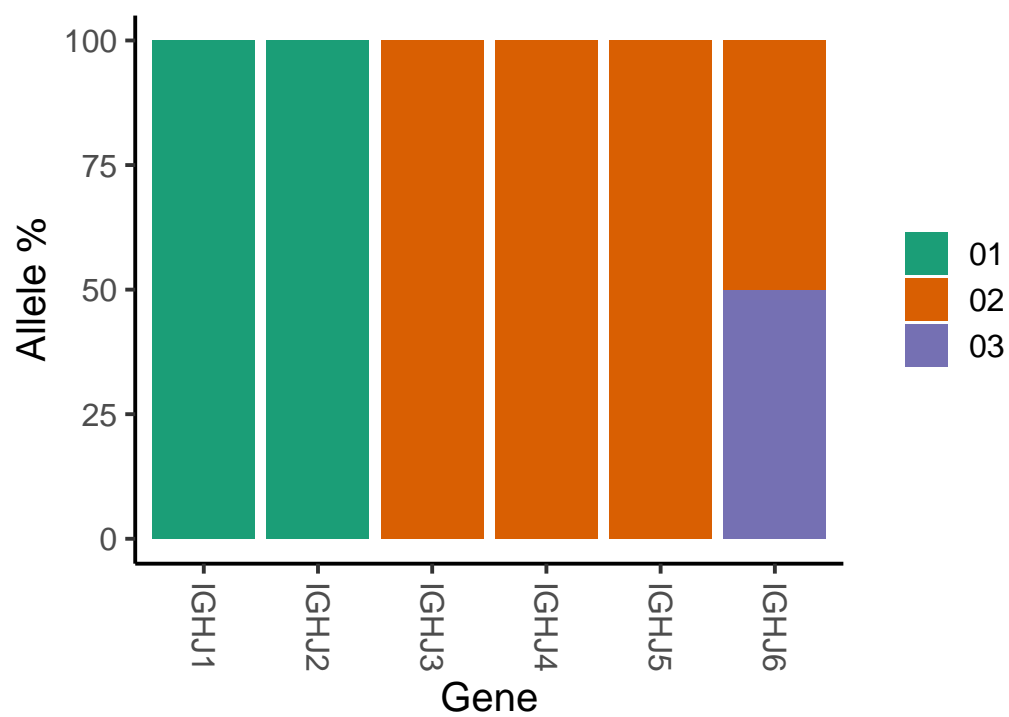


### IGHV7-4-1\*02

452 sequences assigned  
393 (86.9%) exact matches, in which:  
390 unique CDR3  
7 unique J



Allele Usage



Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.