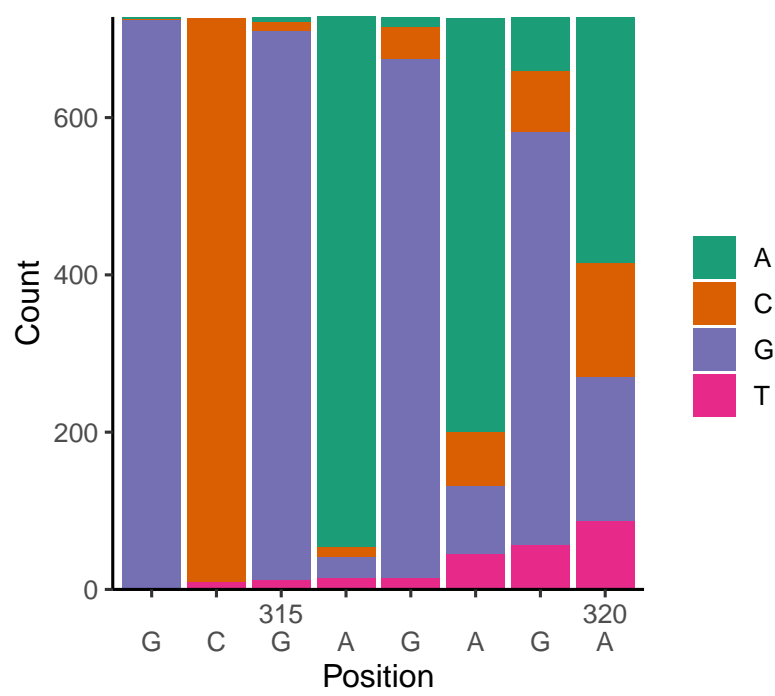
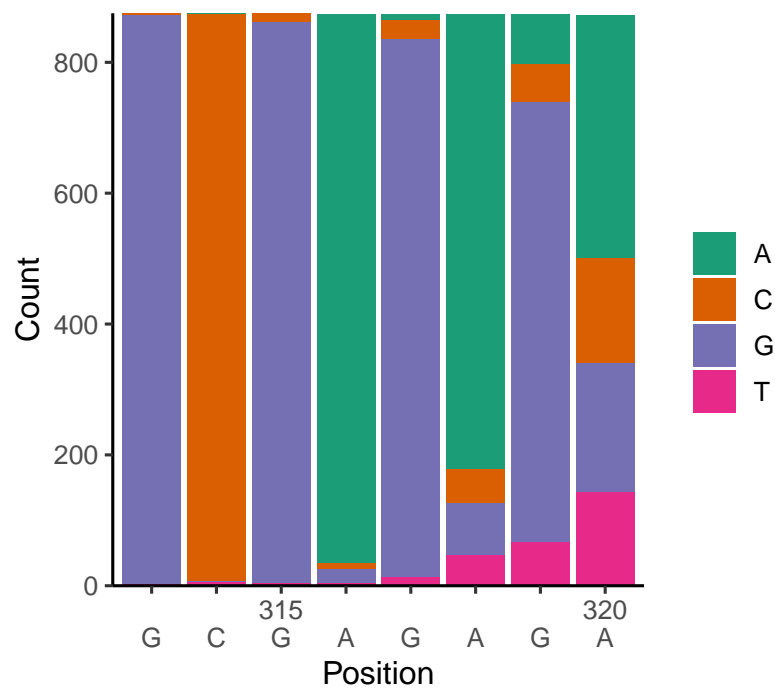


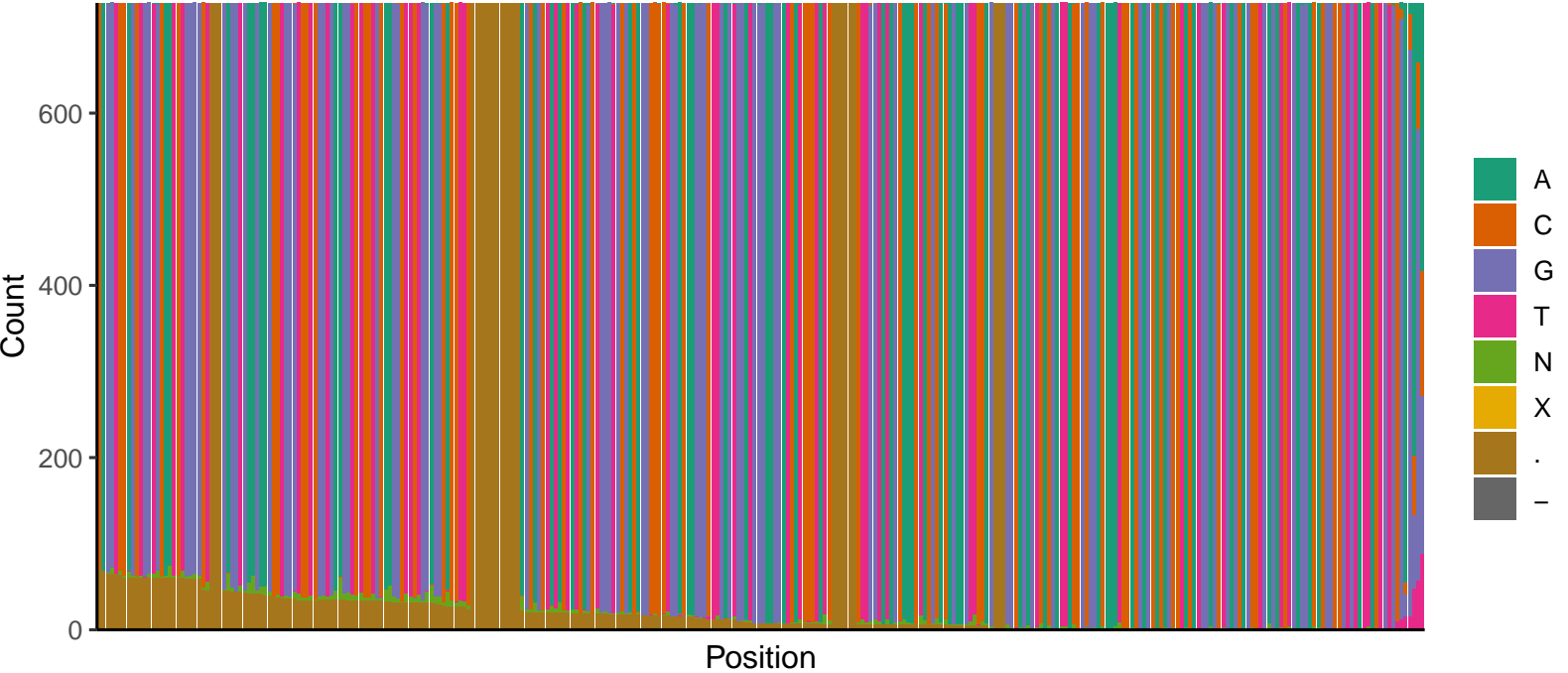
Gene IGHV1-69\*08\_C191T



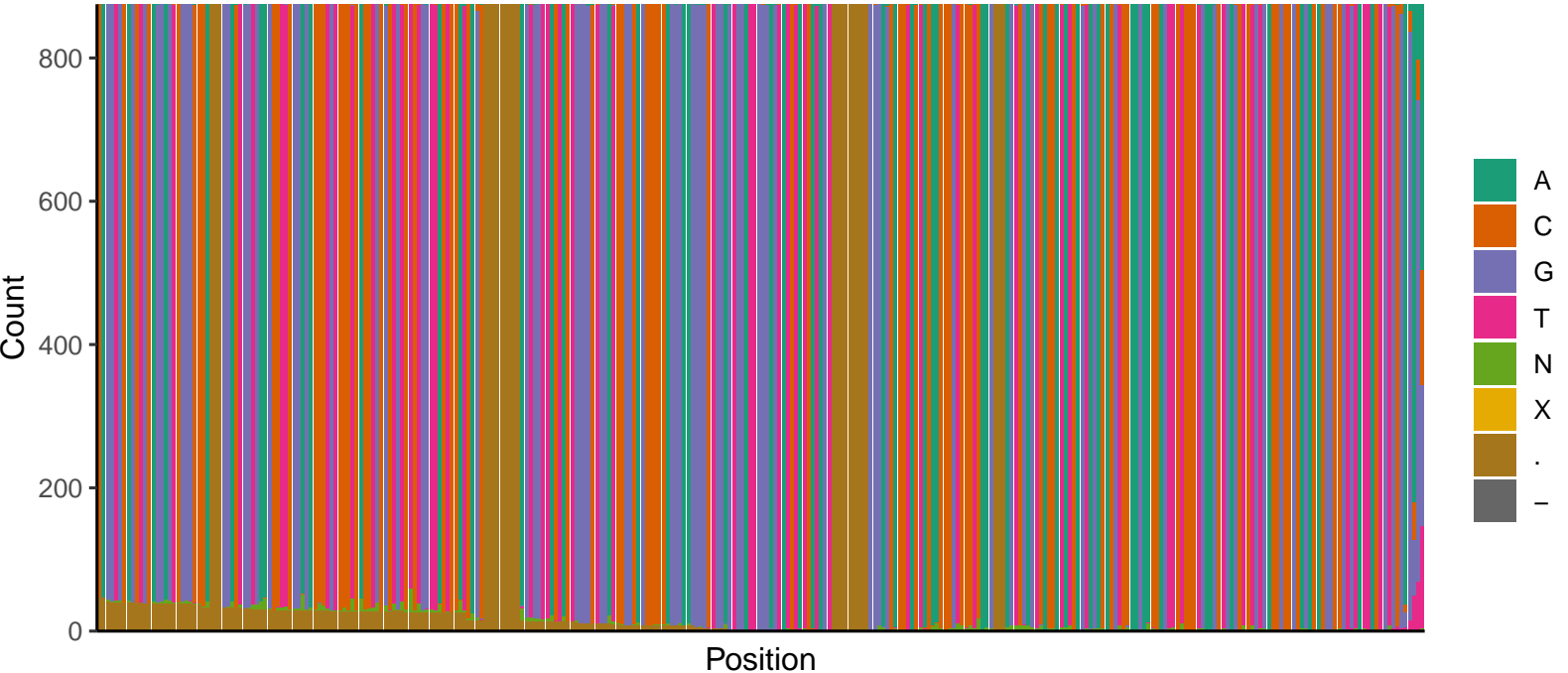
Gene IGHV4-38-2\*02\_A70G



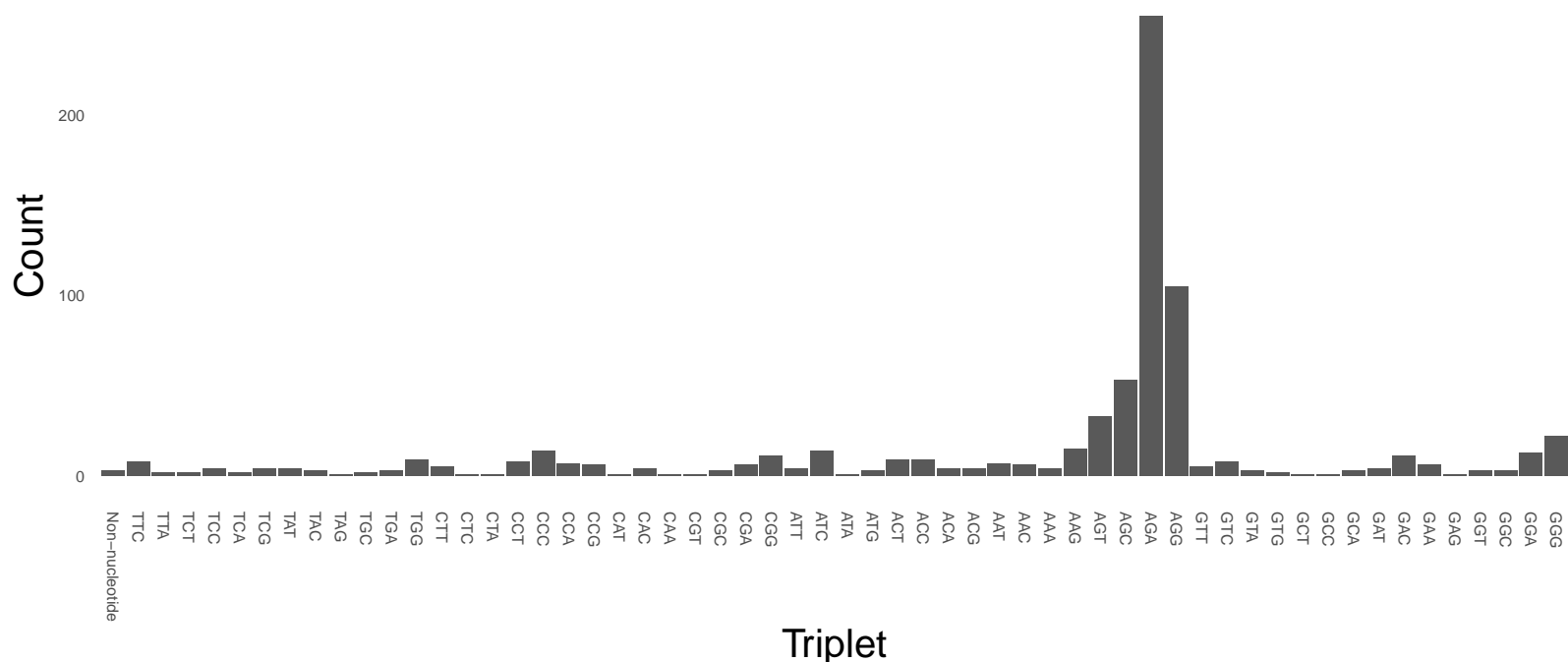
Gene IGHV1-69\*08\_C191T



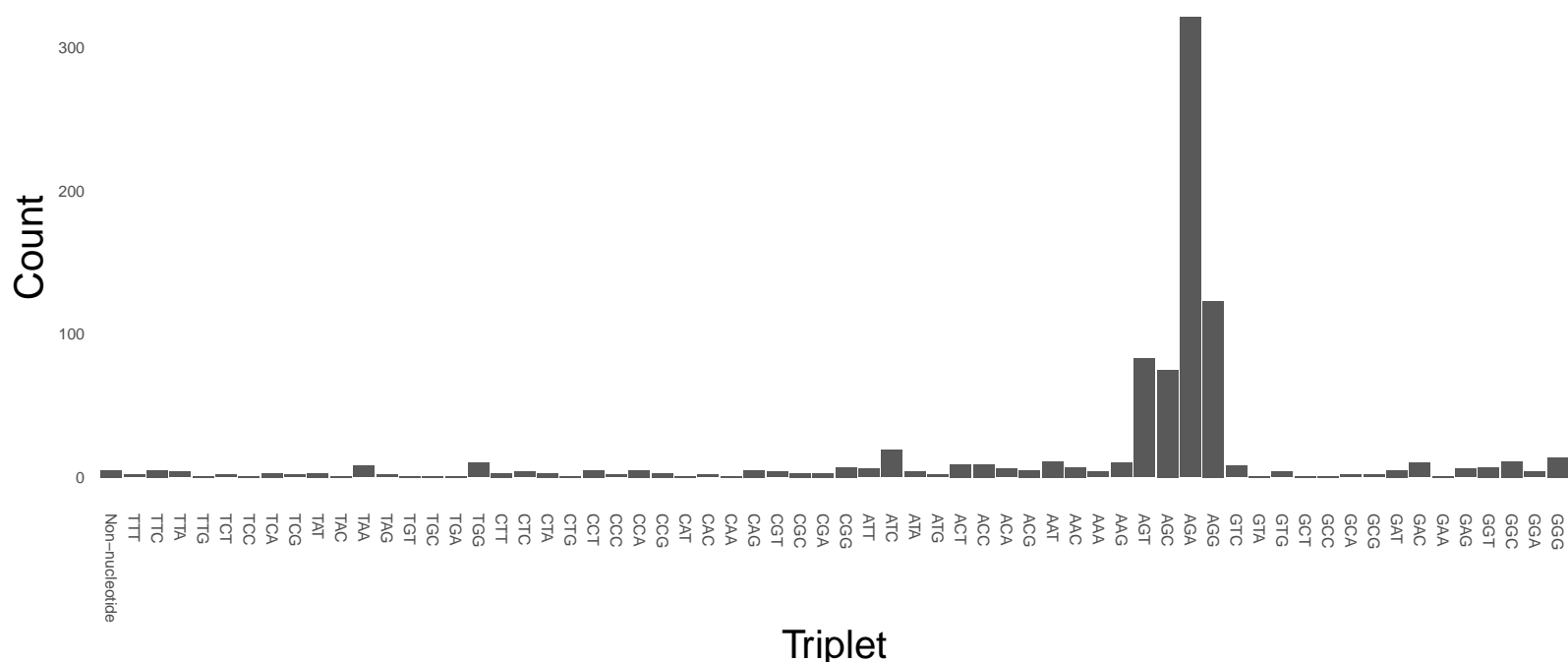
Gene IGHV4-38-2\*02\_A70G



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

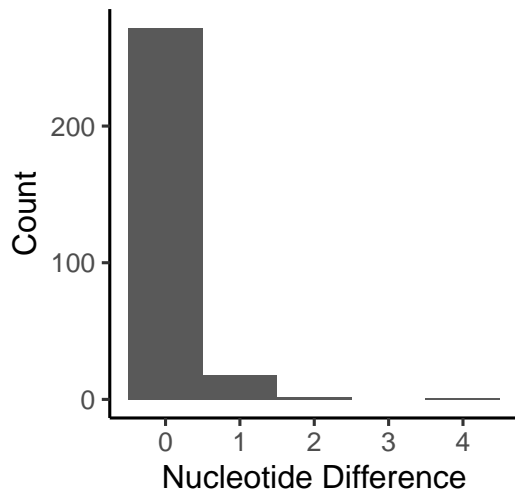


IGHV4-38-2\*02\_A70G- Final 3 nucleotides as a triplet



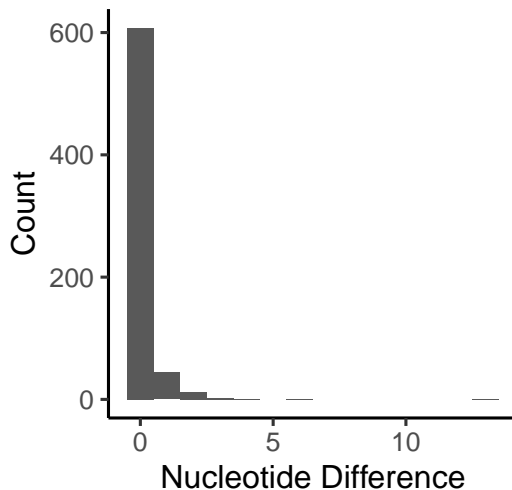
### IGHV1-2\*04

293 sequences assigned  
272 (92.8%) exact matches, in which:  
259 unique CDR3  
7 unique J



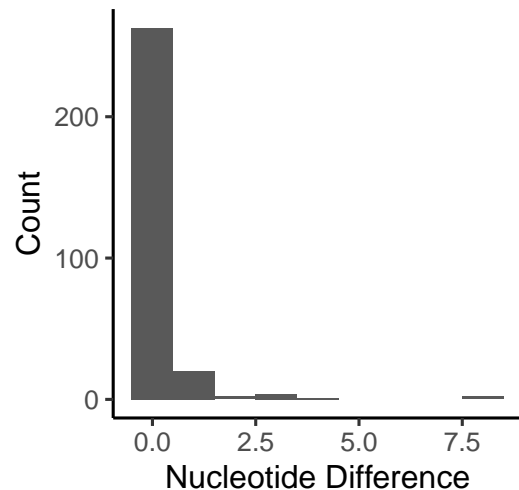
### IGHV1-18\*04

669 sequences assigned  
608 (90.9%) exact matches, in which:  
586 unique CDR3  
6 unique J



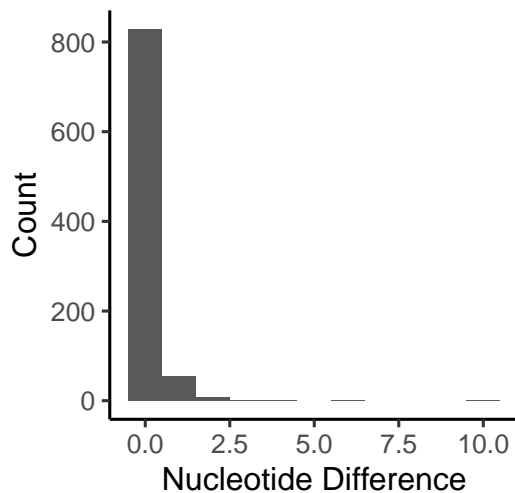
### IGHV1-46\*01

292 sequences assigned  
263 (90.1%) exact matches, in which:  
249 unique CDR3  
7 unique J



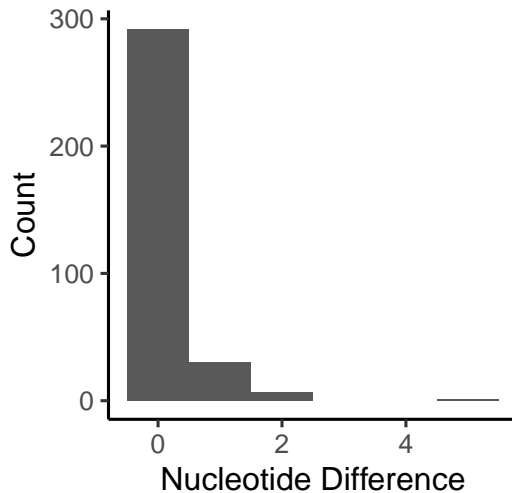
### IGHV1-3\*01

899 sequences assigned  
829 (92.2%) exact matches, in which:  
796 unique CDR3  
7 unique J



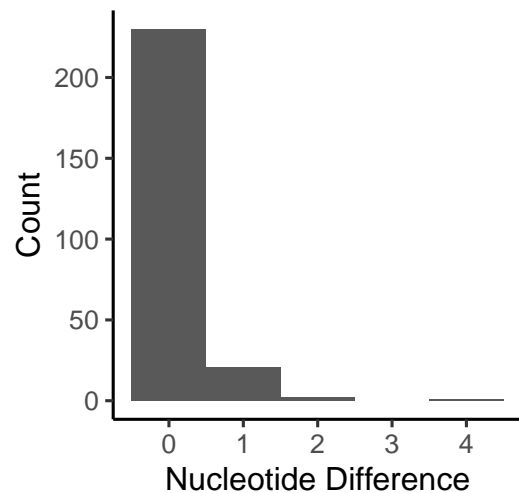
### IGHV1-24\*01

330 sequences assigned  
292 (88.5%) exact matches, in which:  
278 unique CDR3  
7 unique J



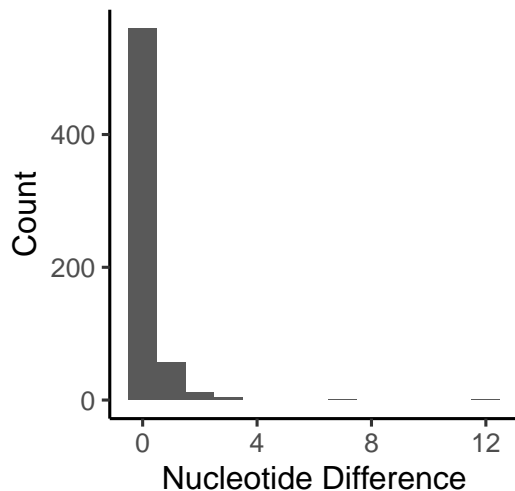
### IGHV1-46\*03

254 sequences assigned  
230 (90.6%) exact matches, in which:  
220 unique CDR3  
6 unique J



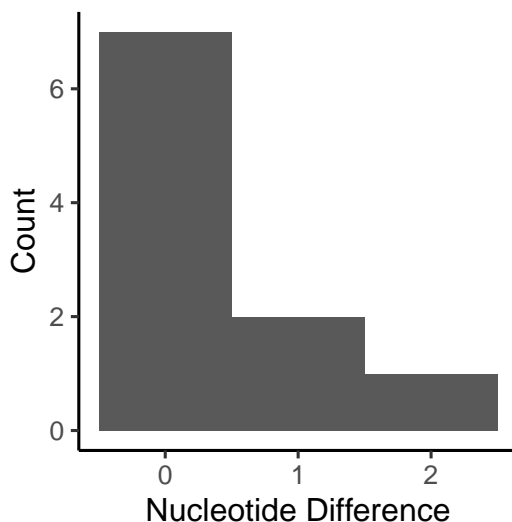
### IGHV1-18\*01

634 sequences assigned  
560 (88.3%) exact matches, in which:  
539 unique CDR3  
6 unique J



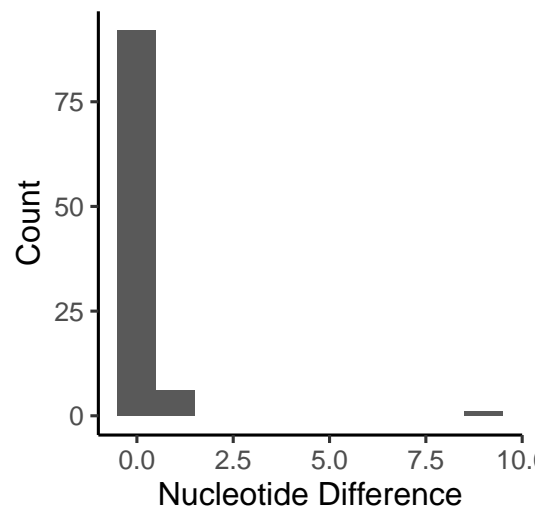
### IGHV1-45\*02

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



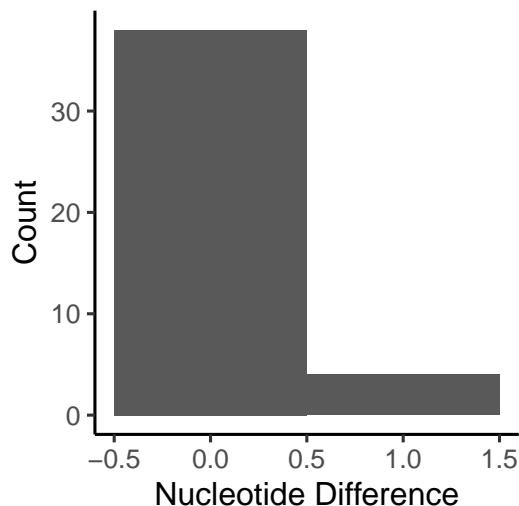
### IGHV1-58\*01

99 sequences assigned  
92 (92.9%) exact matches, in which:  
86 unique CDR3  
6 unique J



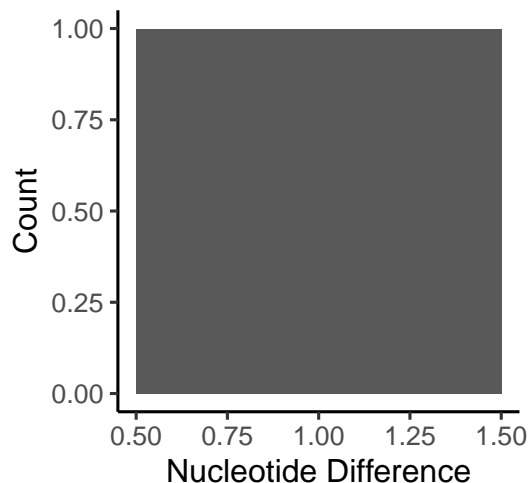
### IGHV1-58\*02

42 sequences assigned  
38 (90.5%) exact matches, in which:  
36 unique CDR3  
5 unique J



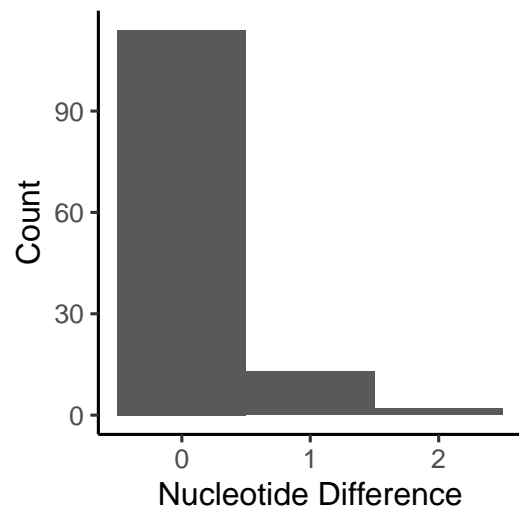
### IGHV1-NL1\*01

1 sequences assigned  
No exact matches.



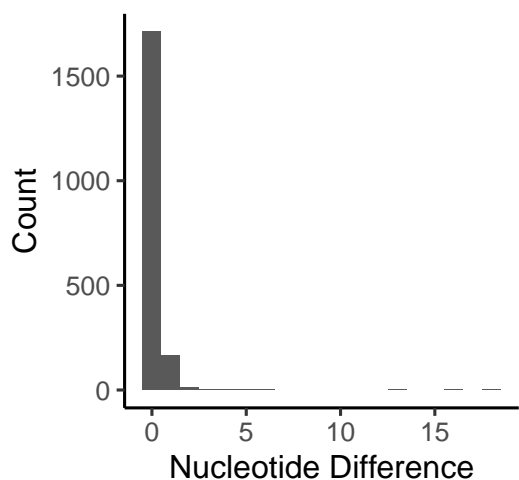
### IGHV2-70\*01

129 sequences assigned  
114 (88.4%) exact matches, in which:  
112 unique CDR3  
5 unique J



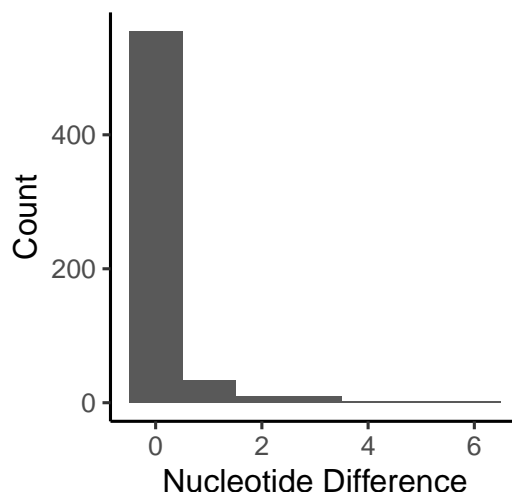
### IGHV1-69\*01

1902 sequences assigned  
1712 (90%) exact matches, in which:  
1607 unique CDR3  
7 unique J



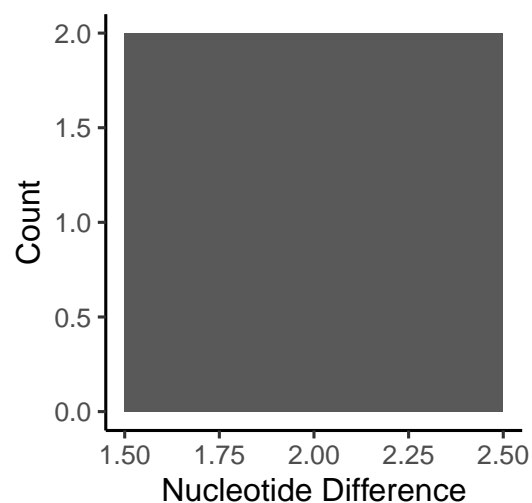
### IGHV2-5\*02

614 sequences assigned  
555 (90.4%) exact matches, in which:  
501 unique CDR3  
7 unique J



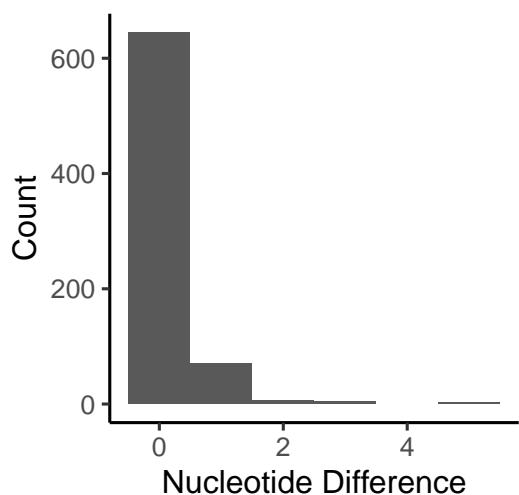
### IGHV2-70D\*14

2 sequences assigned  
No exact matches.



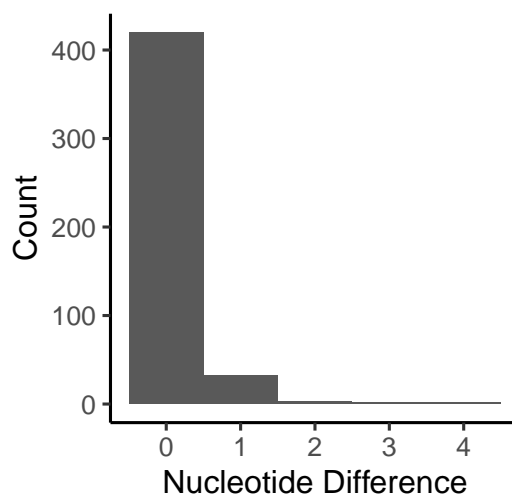
### IGHV1-69\*08\_C191T

728 sequences assigned  
645 (88.6%) exact matches, in which:  
599 unique CDR3  
6 unique J



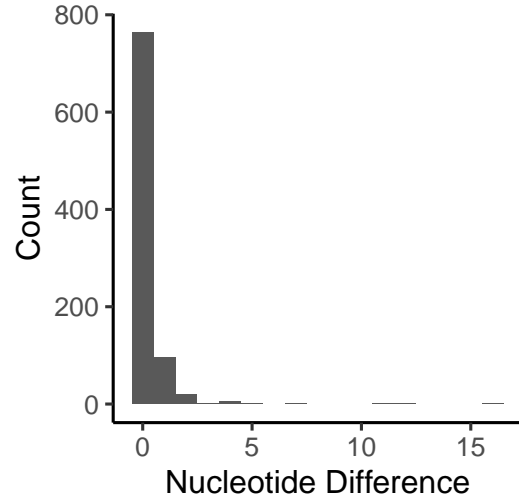
### IGHV2-26\*01

459 sequences assigned  
420 (91.5%) exact matches, in which:  
397 unique CDR3  
7 unique J



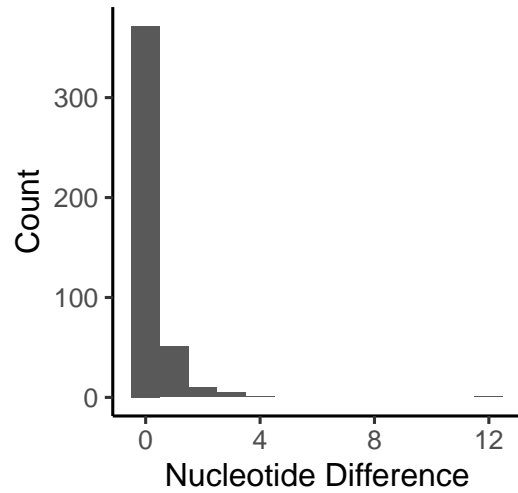
### IGHV3-7\*03

893 sequences assigned  
764 (85.6%) exact matches, in which:  
726 unique CDR3  
7 unique J



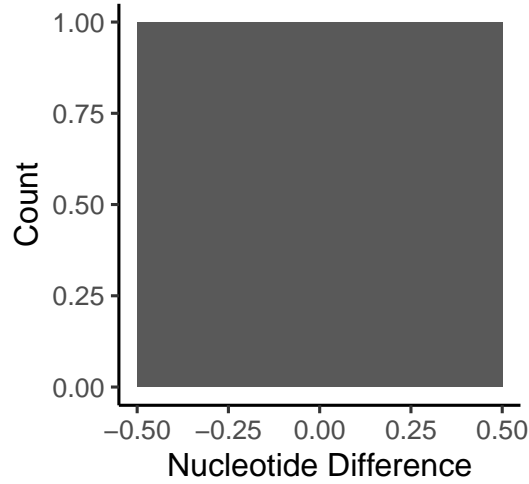
### IGHV3-11\*06

440 sequences assigned  
372 (84.5%) exact matches, in which:  
356 unique CDR3  
7 unique J



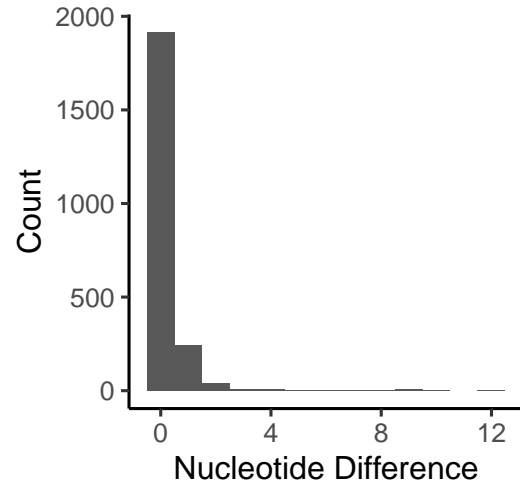
### IGHV3-19\*01

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



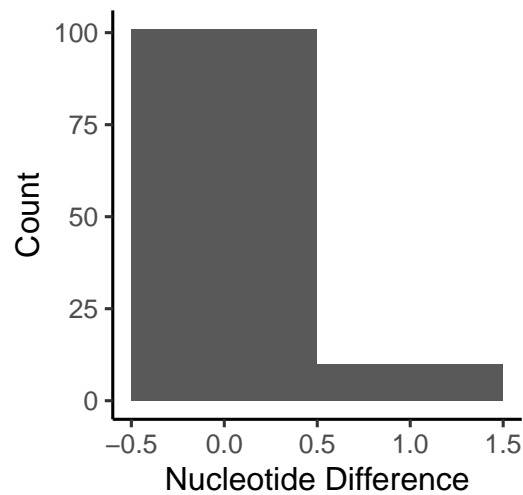
### IGHV3-23\*01

2234 sequences assigned  
1914 (85.7%) exact matches, in which:  
1834 unique CDR3  
7 unique J



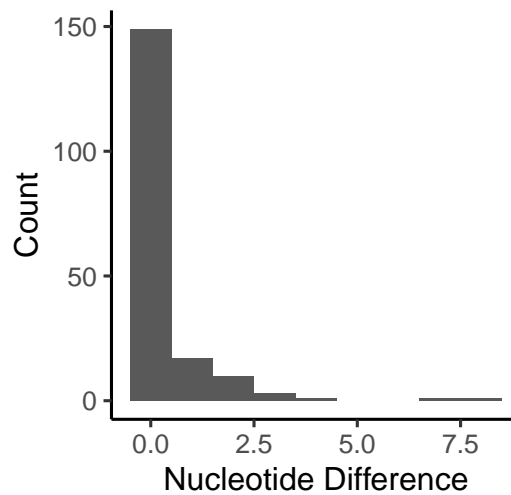
### IGHV3-13\*05

111 sequences assigned  
101 (91%) exact matches, in which:  
91 unique CDR3  
5 unique J



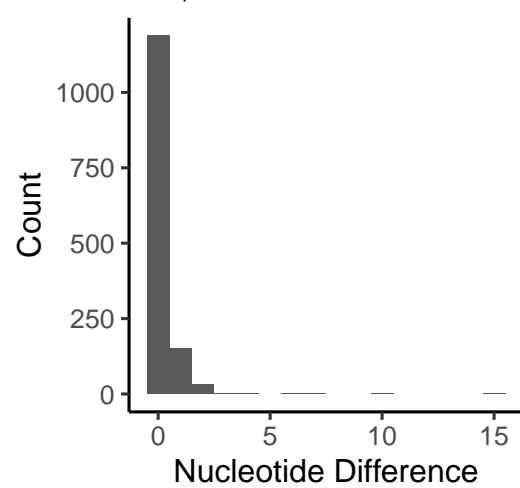
### IGHV3-20\*04

182 sequences assigned  
149 (81.9%) exact matches, in which:  
140 unique CDR3  
6 unique J



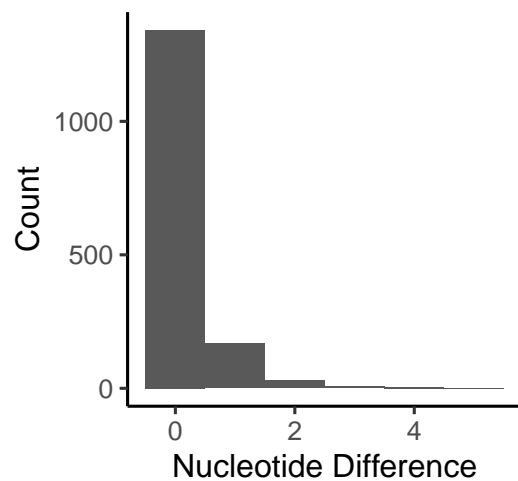
### IGHV3-23\*04

1378 sequences assigned  
1188 (86.2%) exact matches, in which:  
1142 unique CDR3  
6 unique J



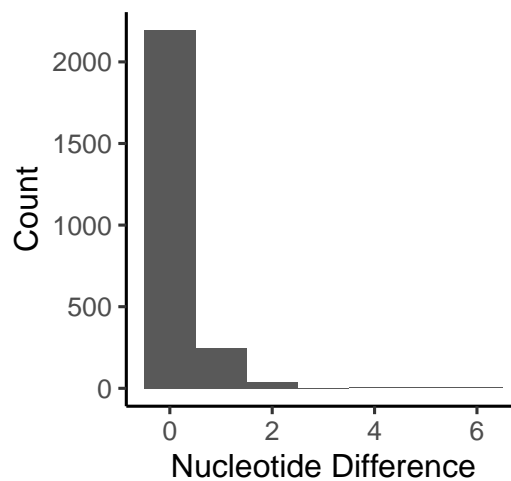
### IGHV3-15\*01

1552 sequences assigned  
1342 (86.5%) exact matches, in which:  
1277 unique CDR3  
7 unique J



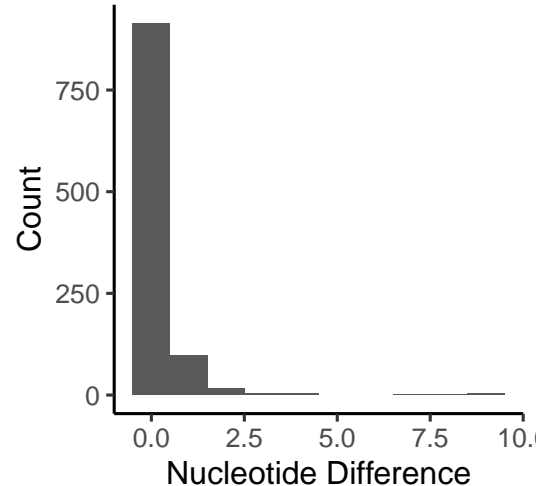
### IGHV3-21\*01

2497 sequences assigned  
2195 (87.9%) exact matches, in which:  
2078 unique CDR3  
7 unique J



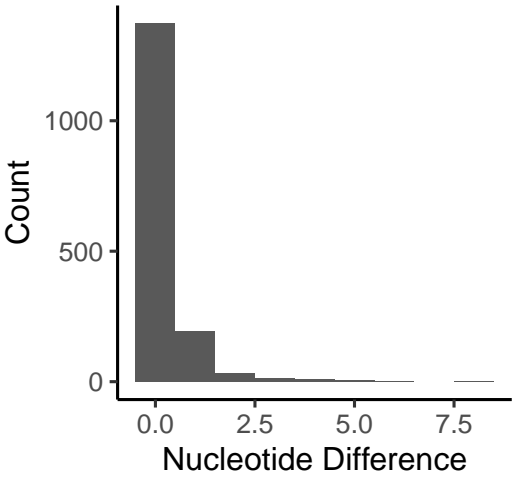
### IGHV3-30\*01

1042 sequences assigned  
914 (87.7%) exact matches, in which:  
869 unique CDR3  
6 unique J



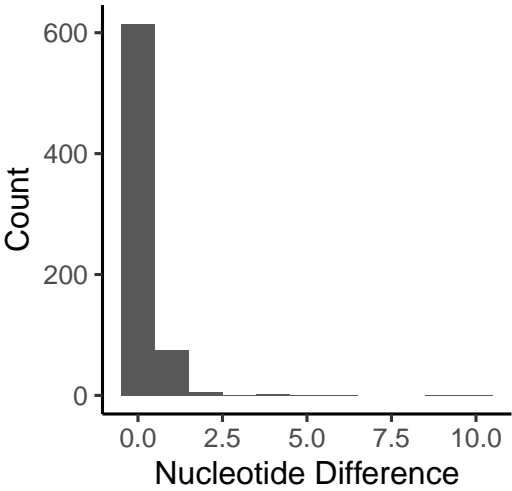
IGHV3-33\*01

1626 sequences assigned  
1373 (84.4%) exact matches, in which:  
1297 unique CDR3  
7 unique J



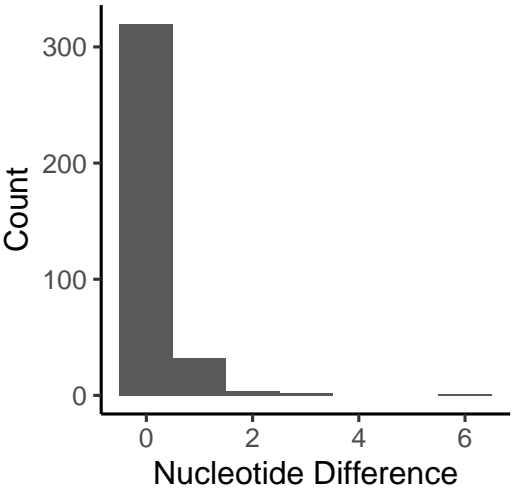
IGHV3-48\*01

703 sequences assigned  
615 (87.5%) exact matches, in which:  
591 unique CDR3  
6 unique J



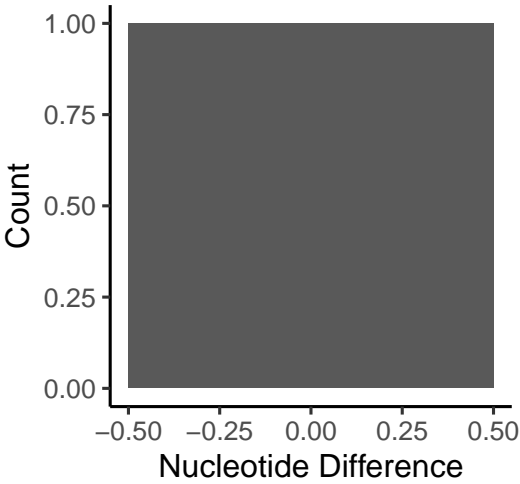
IGHV3-49\*04

359 sequences assigned  
320 (89.1%) exact matches, in which:  
307 unique CDR3  
6 unique J



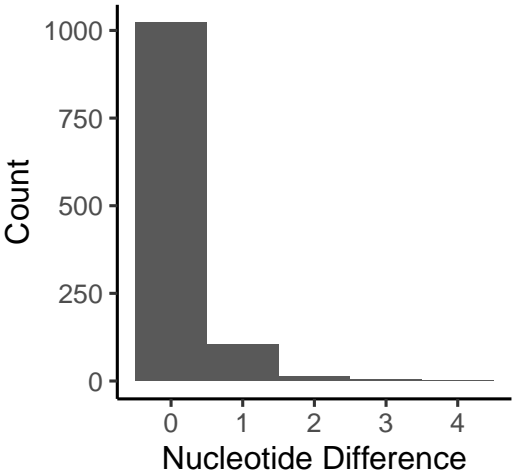
IGHV3-35\*02

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



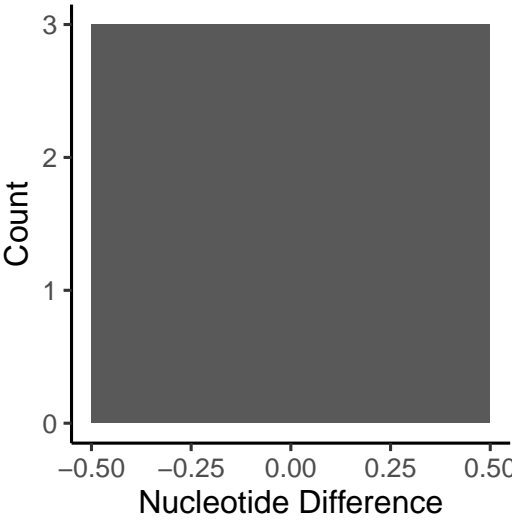
IGHV3-48\*03

1144 sequences assigned  
1022 (89.3%) exact matches, in which:  
985 unique CDR3  
6 unique J



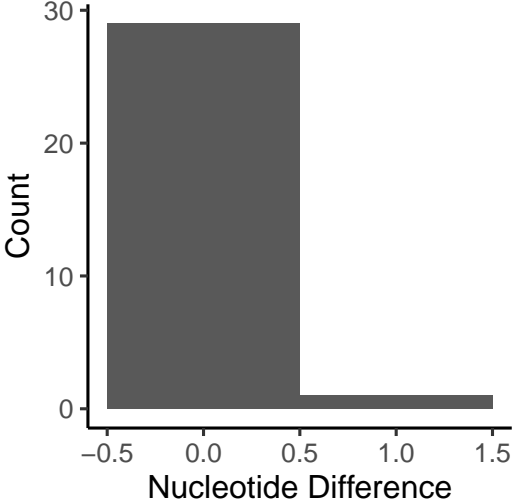
IGHV3-52\*01

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



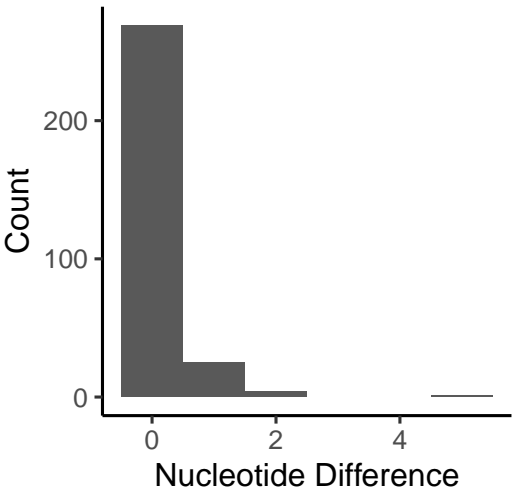
IGHV3-43\*01

30 sequences assigned  
29 (96.7%) exact matches, in which:  
29 unique CDR3  
6 unique J



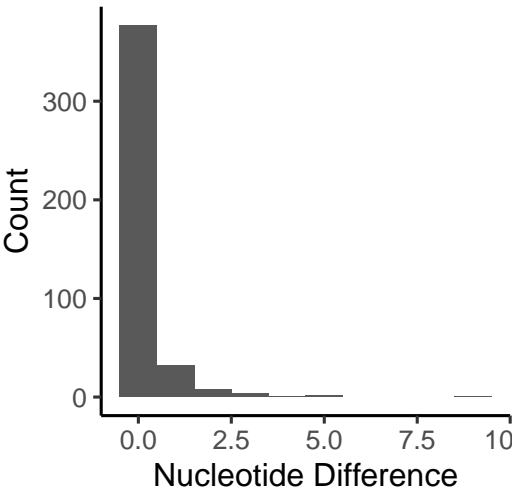
IGHV3-49\*03

299 sequences assigned  
269 (90%) exact matches, in which:  
261 unique CDR3  
6 unique J



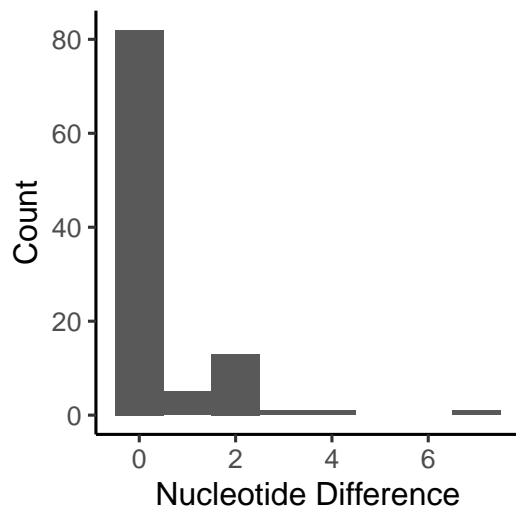
IGHV3-53\*02

425 sequences assigned  
377 (88.7%) exact matches, in which:  
361 unique CDR3  
7 unique J



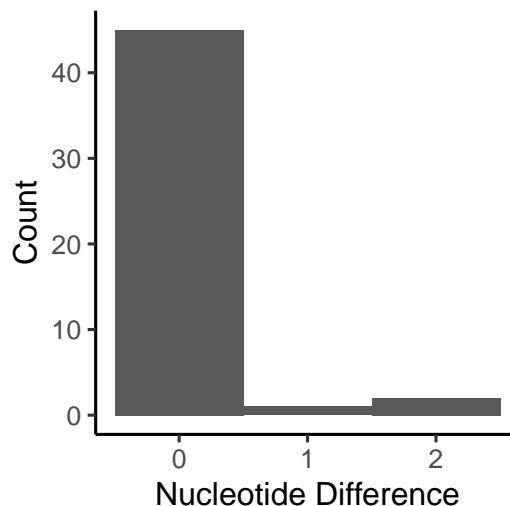
### IGHV3-64\*01

103 sequences assigned  
82 (79.6%) exact matches, in which:  
80 unique CDR3  
6 unique J



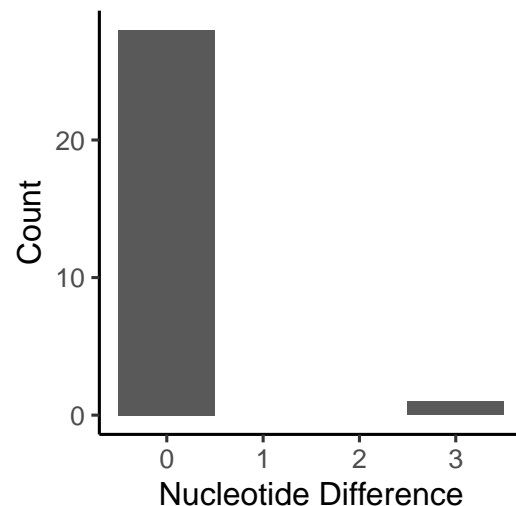
### IGHV3-73\*01

49 sequences assigned  
45 (91.8%) exact matches, in which:  
43 unique CDR3  
5 unique J



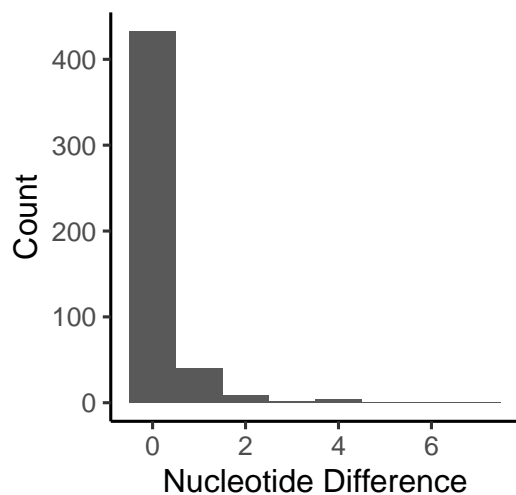
### IGHV3-43D\*04

29 sequences assigned  
28 (96.6%) exact matches, in which:  
27 unique CDR3  
3 unique J



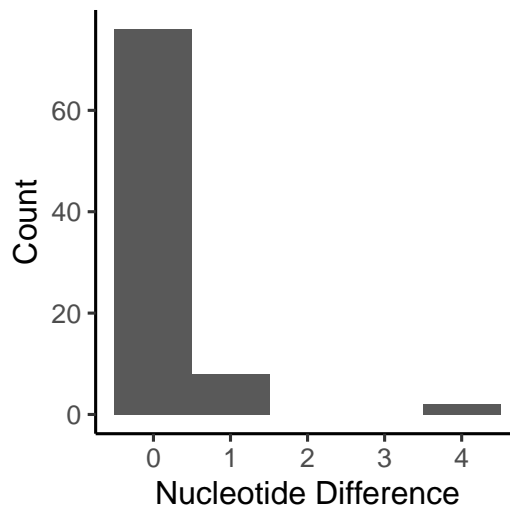
### IGHV3-66\*02

491 sequences assigned  
433 (88.2%) exact matches, in which:  
402 unique CDR3  
7 unique J



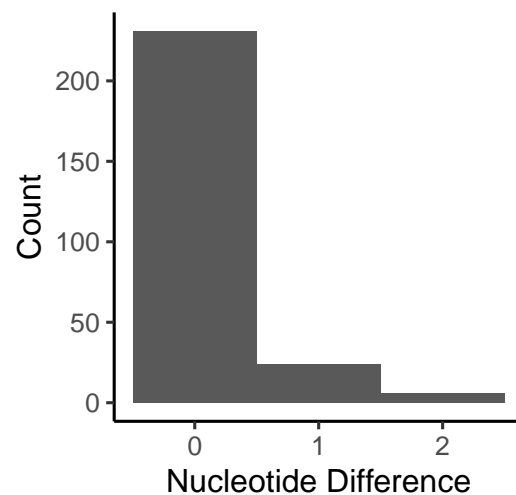
### IGHV3-73\*02

86 sequences assigned  
76 (88.4%) exact matches, in which:  
72 unique CDR3  
6 unique J



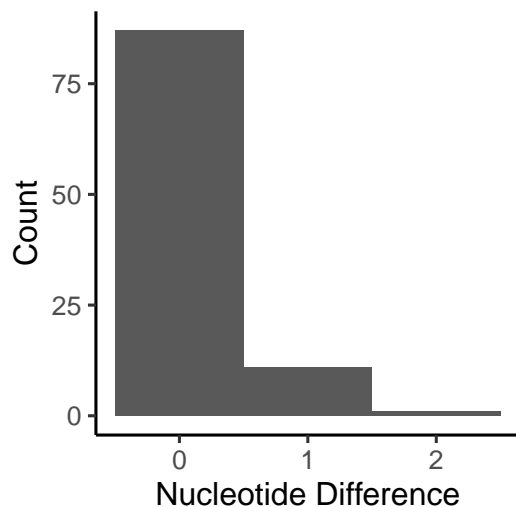
### IGHV3-64D\*06

261 sequences assigned  
231 (88.5%) exact matches, in which:  
219 unique CDR3  
6 unique J



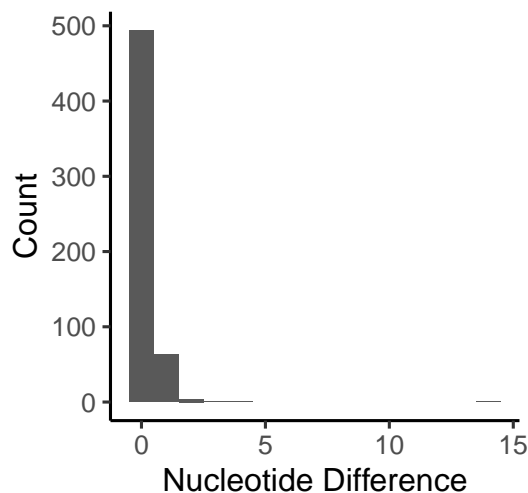
### IGHV3-72\*01

99 sequences assigned  
87 (87.9%) exact matches, in which:  
80 unique CDR3  
7 unique J



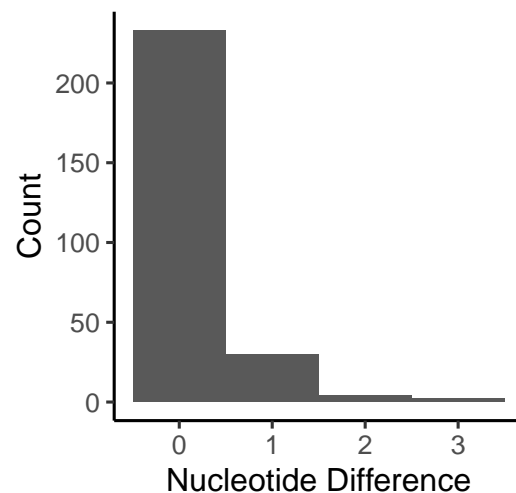
### IGHV3-74\*01

564 sequences assigned  
494 (87.6%) exact matches, in which:  
469 unique CDR3  
7 unique J



### IGHV3-64D\*09

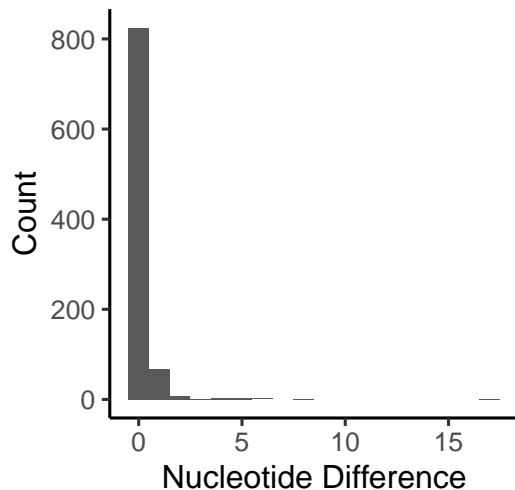
269 sequences assigned  
233 (86.6%) exact matches, in which:  
217 unique CDR3  
6 unique J





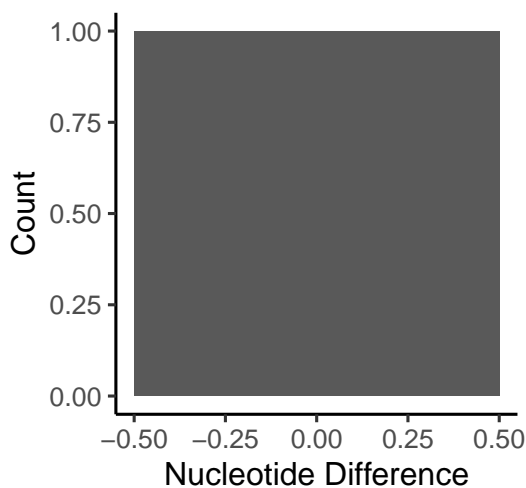
### IGHV4-4\*02

911 sequences assigned  
825 (90.6%) exact matches, in which:  
794 unique CDR3  
7 unique J



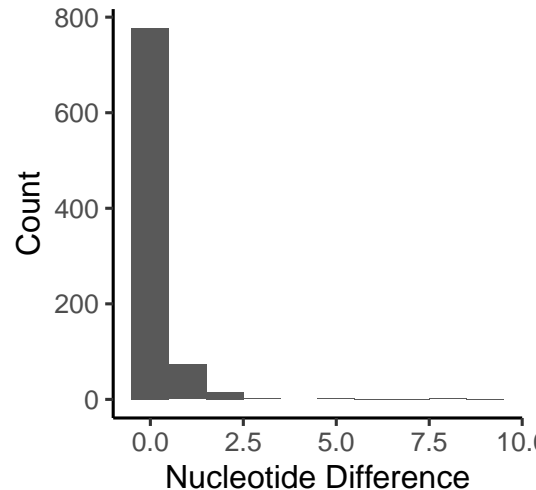
### IGHV4-30-4\*01

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



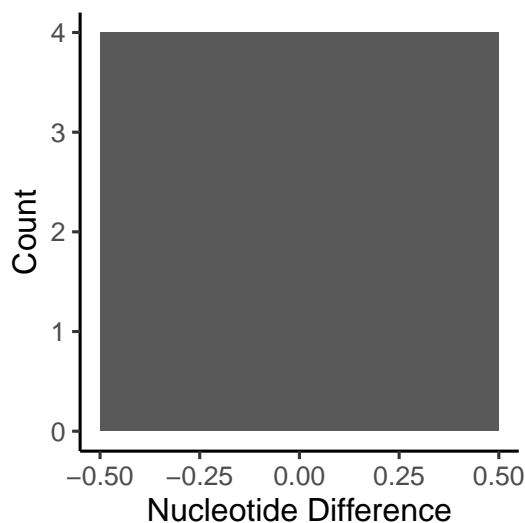
### IGHV4-38-2\*02\_A70G

875 sequences assigned  
778 (88.9%) exact matches, in which:  
723 unique CDR3  
7 unique J



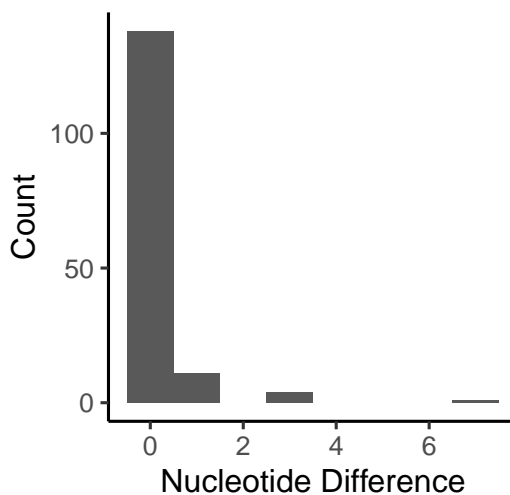
### IGHV4-28\*01

4 sequences assigned  
4 (100%) exact matches, in which:  
4 unique CDR3  
2 unique J



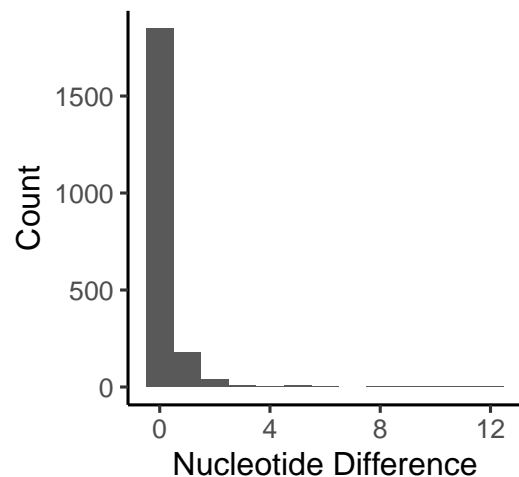
### IGHV4-31\*01

154 sequences assigned  
138 (89.6%) exact matches, in which:  
134 unique CDR3  
5 unique J



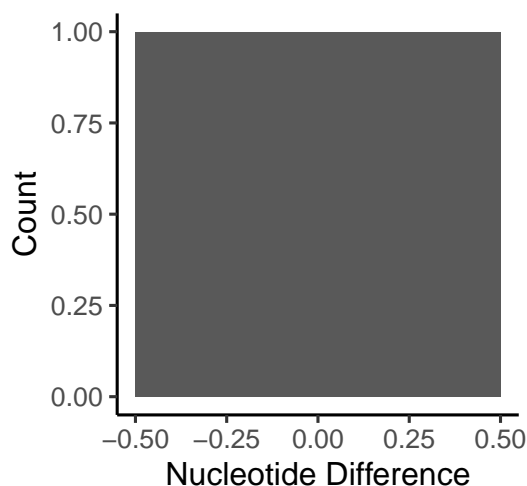
### IGHV4-39\*01

2089 sequences assigned  
1847 (88.4%) exact matches, in which:  
1707 unique CDR3  
7 unique J



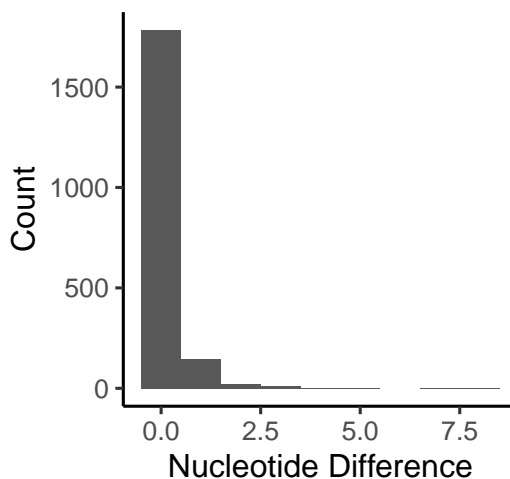
### IGHV4-28\*02

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



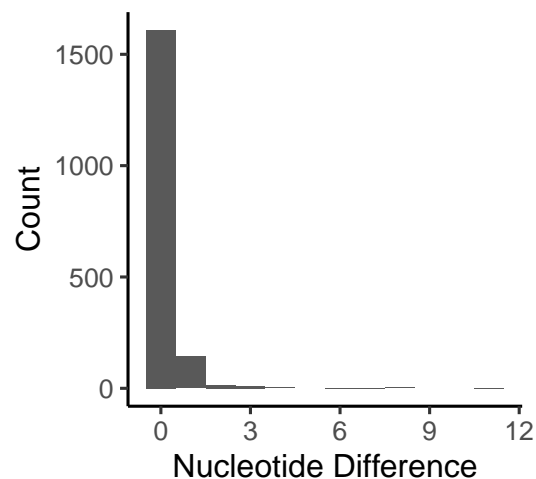
### IGHV4-34\*01

1971 sequences assigned  
1784 (90.5%) exact matches, in which:  
1654 unique CDR3  
7 unique J



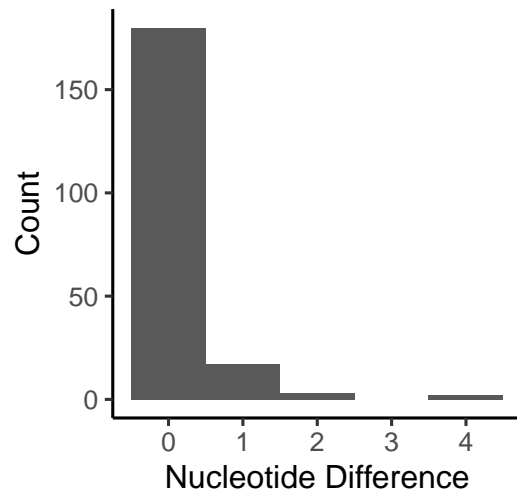
### IGHV4-59\*01

1790 sequences assigned  
1609 (89.9%) exact matches, in which:  
1548 unique CDR3  
7 unique J



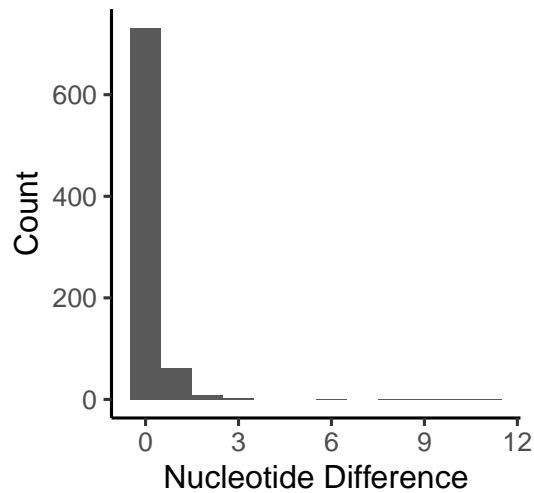
### IGHV4–61\*01

202 sequences assigned  
180 (89.1%) exact matches, in which:  
171 unique CDR3  
6 unique J



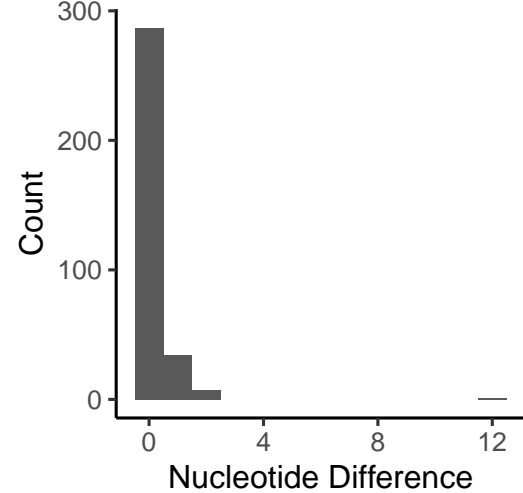
### IGHV5–10–1\*03

811 sequences assigned  
732 (90.3%) exact matches, in which:  
694 unique CDR3  
7 unique J



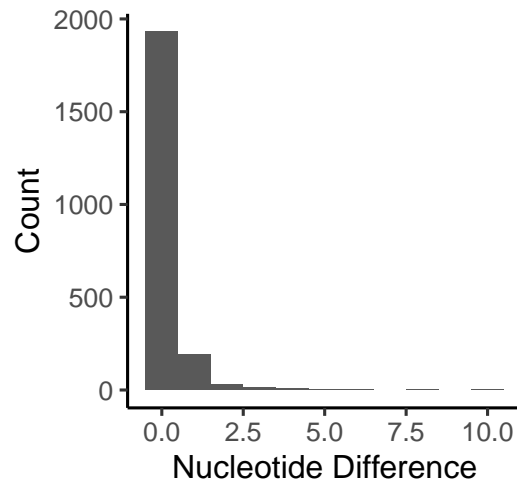
### IGHV6–1\*01

329 sequences assigned  
287 (87.2%) exact matches, in which:  
270 unique CDR3  
7 unique J



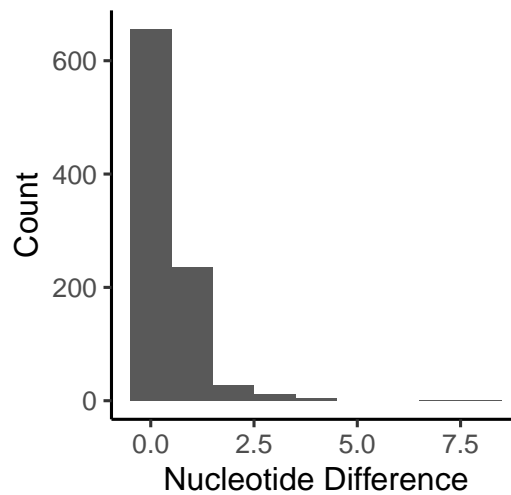
### IGHV4–61\*02

2184 sequences assigned  
1931 (88.4%) exact matches, in which:  
1819 unique CDR3  
7 unique J



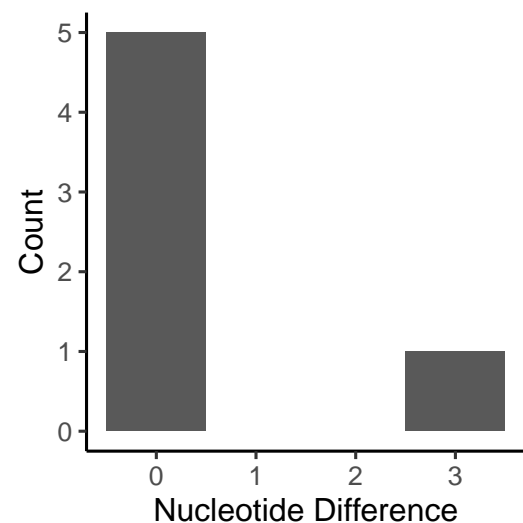
### IGHV5–51\*01

937 sequences assigned  
656 (70%) exact matches, in which:  
630 unique CDR3  
7 unique J



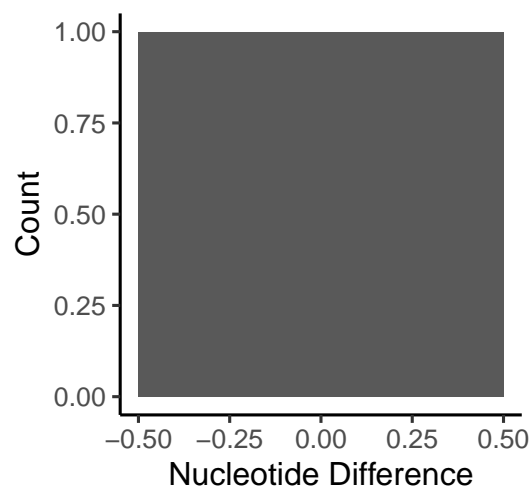
### IGHV7–4–1\*01

6 sequences assigned  
5 (83.3%) exact matches, in which:  
4 unique CDR3  
4 unique J



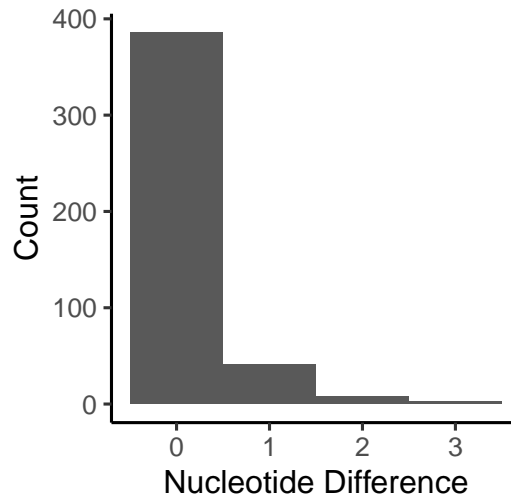
### IGHV1/OR15–4\*01

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

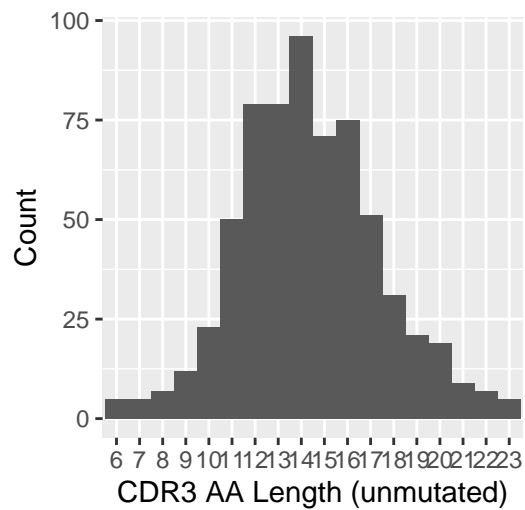


### IGHV5–51\*03

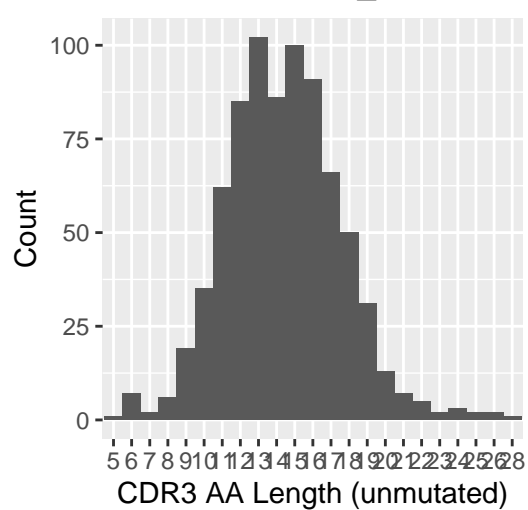
438 sequences assigned  
386 (88.1%) exact matches, in which:  
364 unique CDR3  
6 unique J

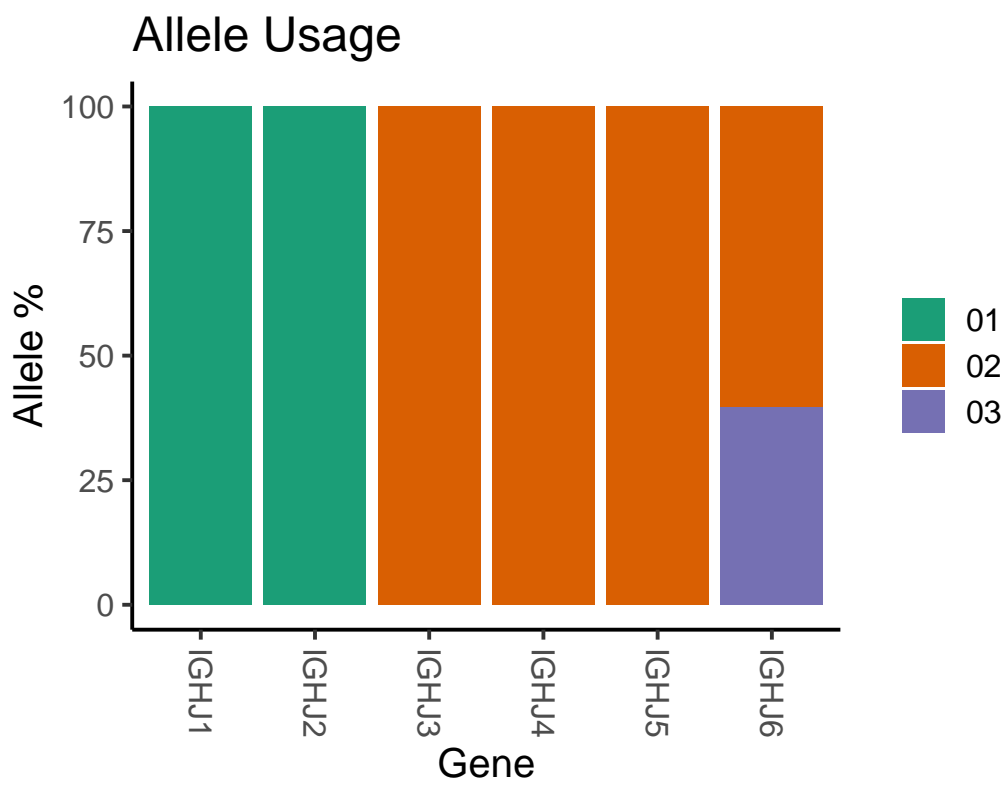


IGHV1-69\*08\_C191T



IGHV4-38-2\*02\_A70G





Sequence Count by IGHJ6 allele usage

