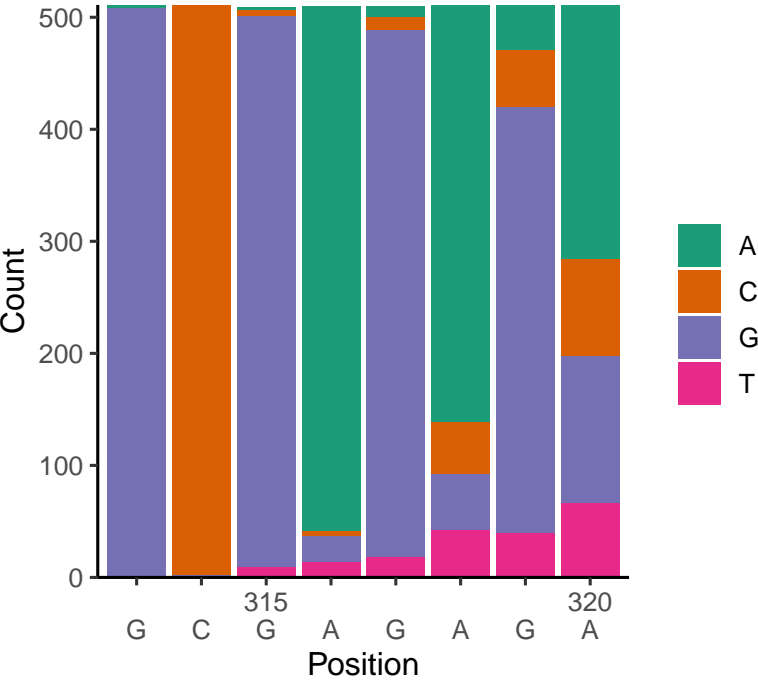
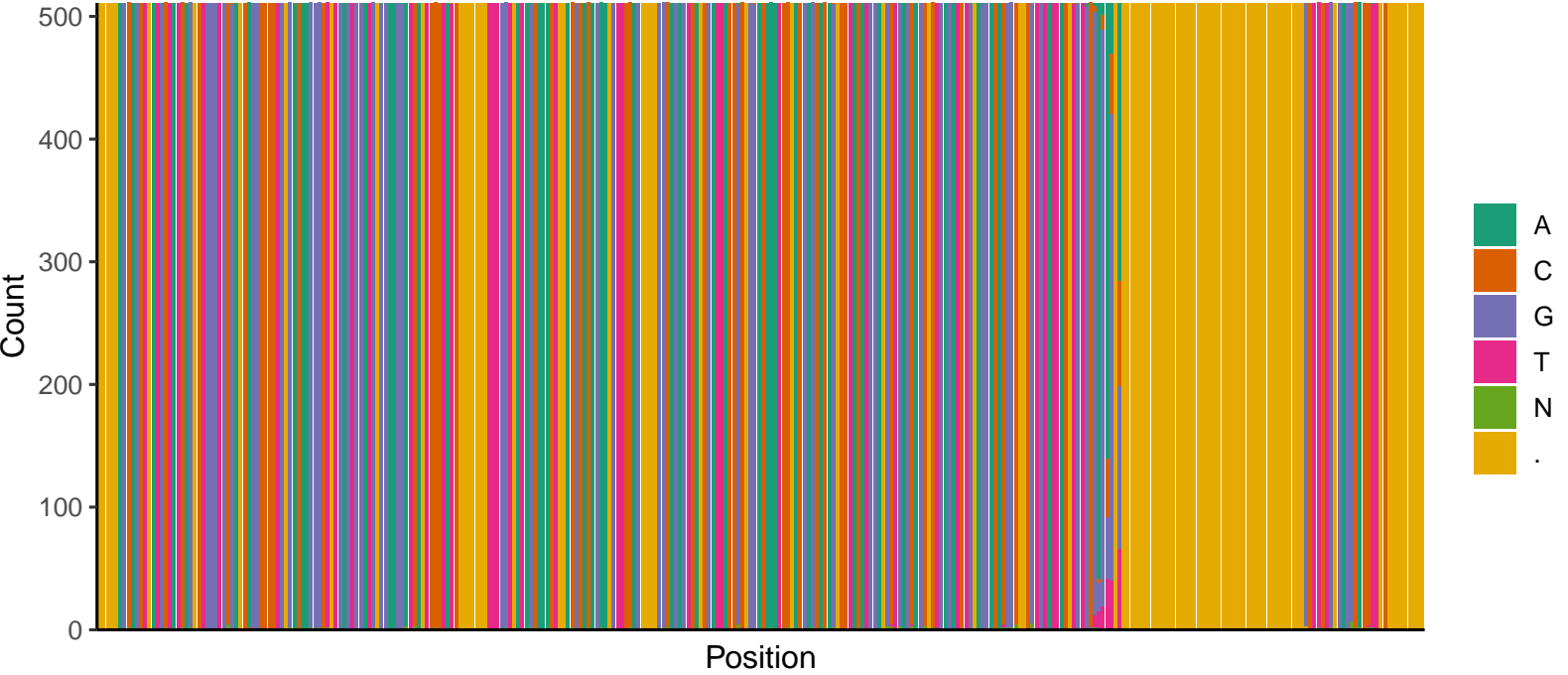


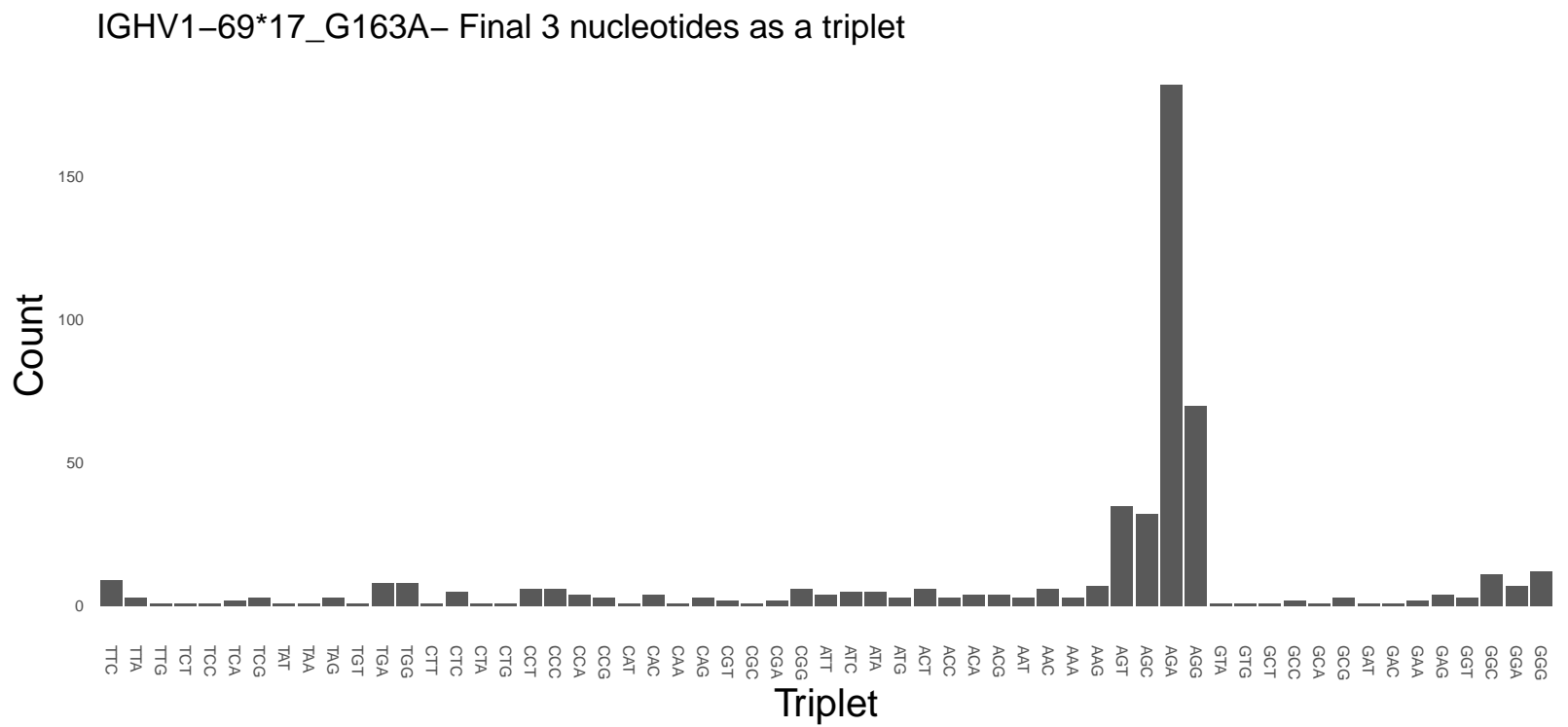
Gene IGHV1-69*17_G163A



Gene IGHV1-69*17_G163A

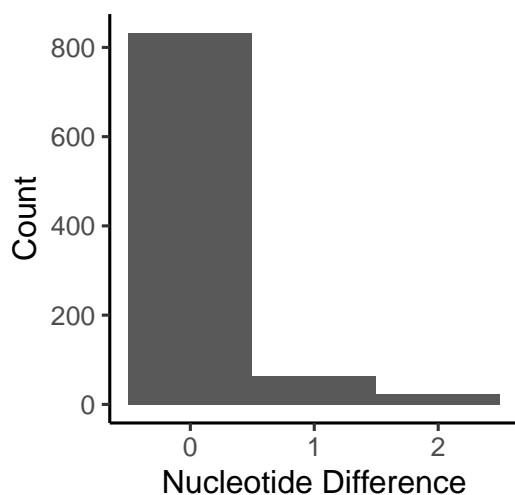


IGHV1-69*17_G163A- Final 3 nucleotides as a triplet



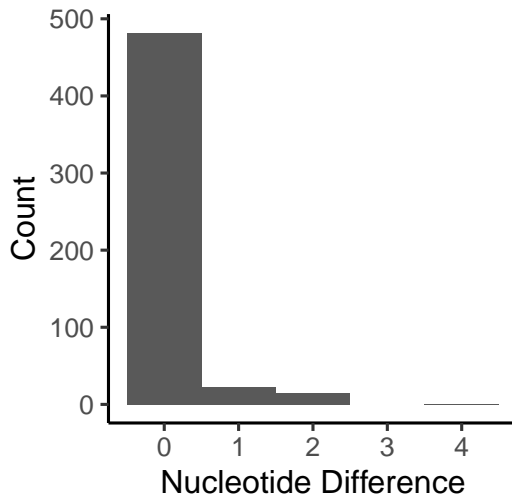
IGHV1-2*02

921 sequences assigned
833 (90.4%) exact matches, in which:
814 unique CDR3
6 unique J



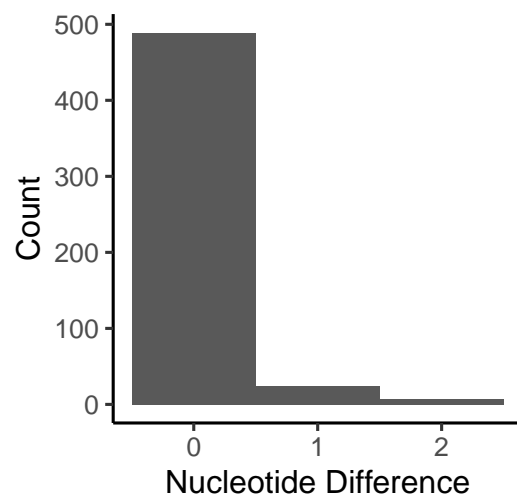
IGHV1-3*01_05

521 sequences assigned
482 (92.5%) exact matches, in which:
480 unique CDR3
7 unique J



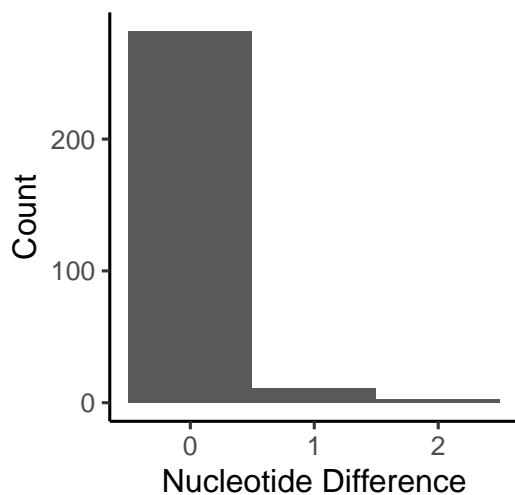
IGHV1-24*01

520 sequences assigned
489 (94%) exact matches, in which:
482 unique CDR3
7 unique J



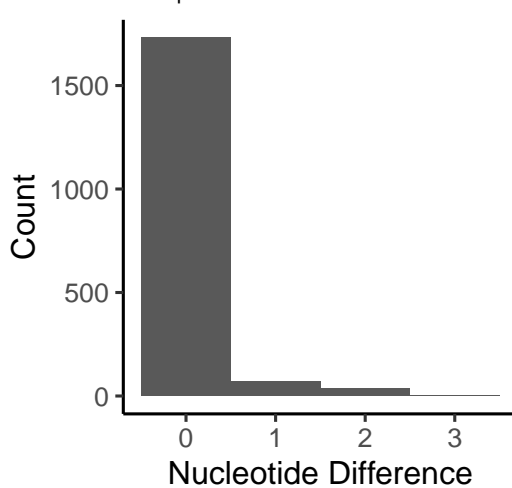
IGHV1-2*04

296 sequences assigned
282 (95.3%) exact matches, in which:
281 unique CDR3
7 unique J



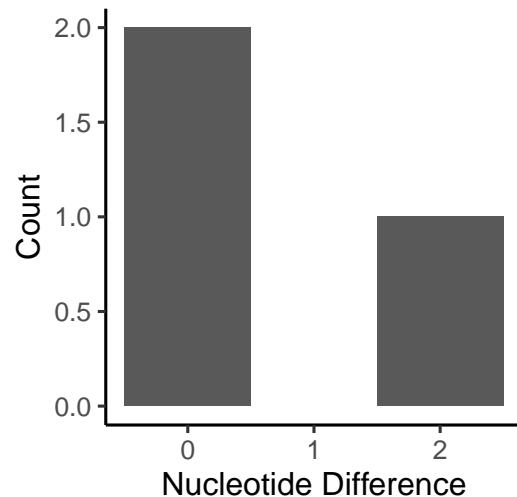
IGHV1-8*01

1840 sequences assigned
1731 (94.1%) exact matches, in which:
1704 unique CDR3
7 unique J



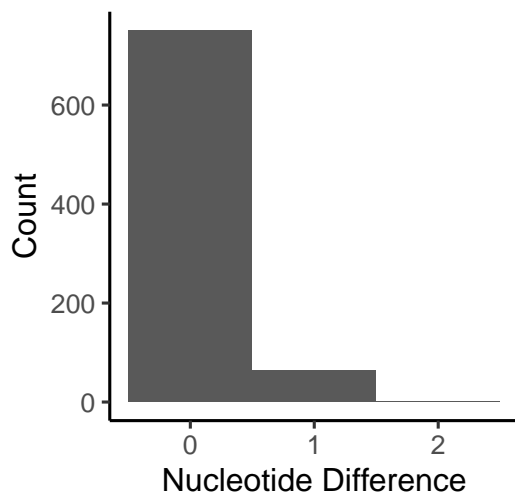
IGHV1-45*02

3 sequences assigned
2 (66.7%) exact matches, in which:
2 unique CDR3
1 unique J



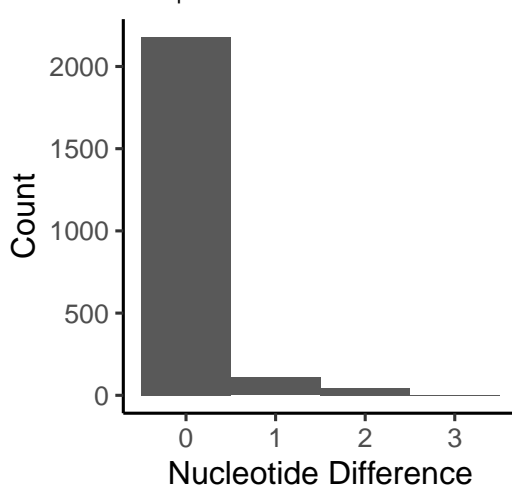
IGHV1-2*06

816 sequences assigned
751 (92%) exact matches, in which:
724 unique CDR3
7 unique J



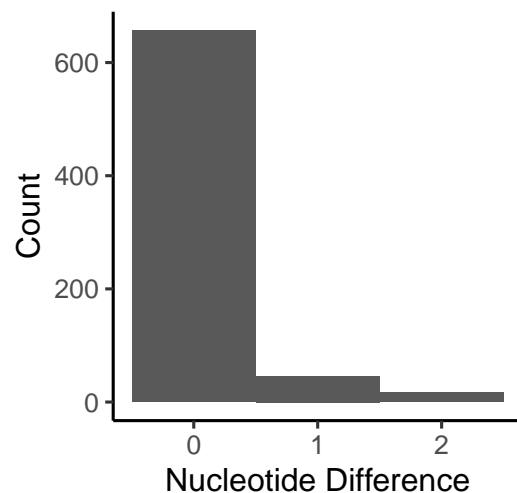
IGHV1-18*01

2333 sequences assigned
2179 (93.4%) exact matches, in which:
2142 unique CDR3
7 unique J



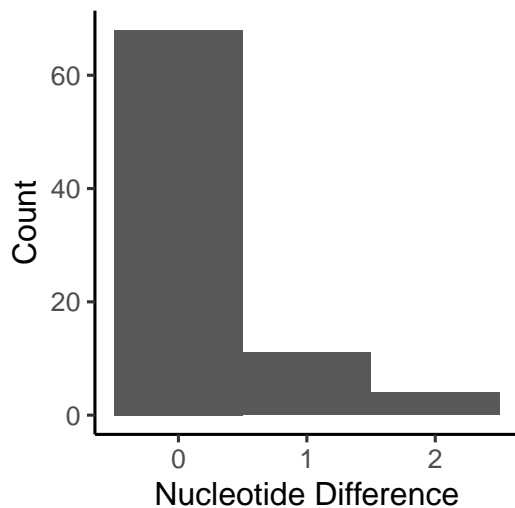
IGHV1-46*01

720 sequences assigned
657 (91.2%) exact matches, in which:
649 unique CDR3
7 unique J



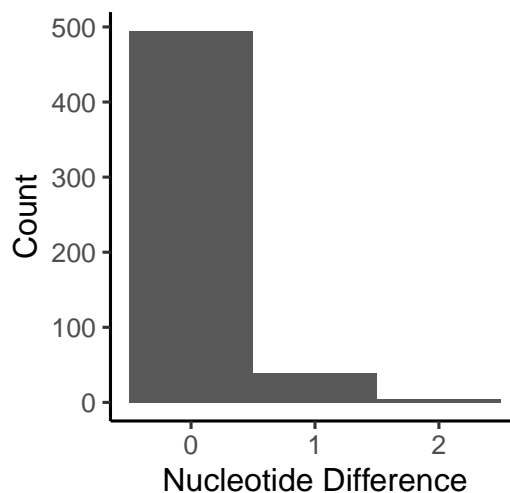
IGHV1-58*02

83 sequences assigned
68 (81.9%) exact matches, in which:
66 unique CDR3
5 unique J



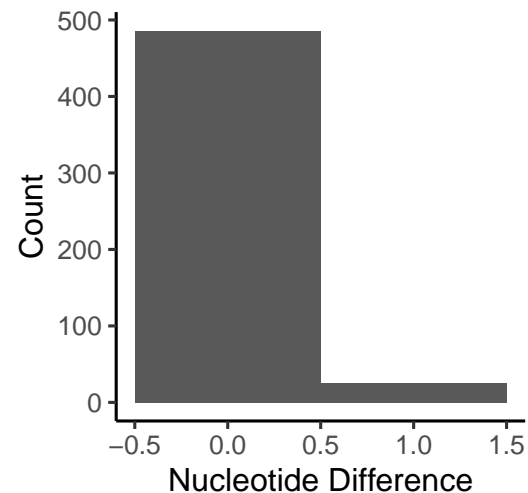
IGHV1-69*02

539 sequences assigned
495 (91.8%) exact matches, in which:
488 unique CDR3
6 unique J



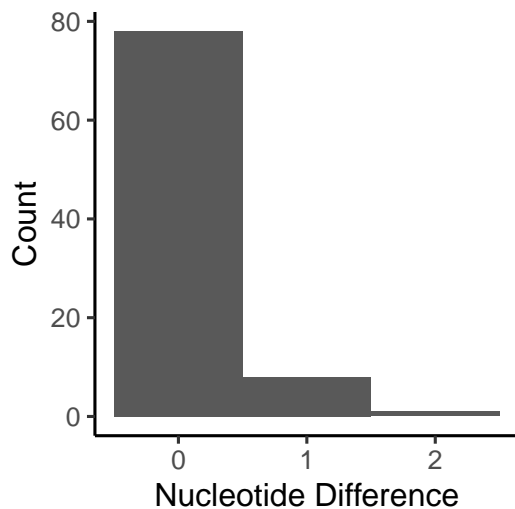
IGHV1-69*17_G163A

511 sequences assigned
486 (95.1%) exact matches, in which:
474 unique CDR3
6 unique J



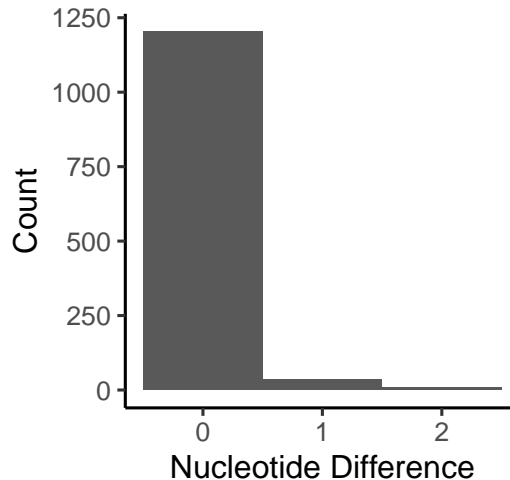
IGHV1-58*01_03

87 sequences assigned
78 (89.7%) exact matches, in which:
78 unique CDR3
7 unique J



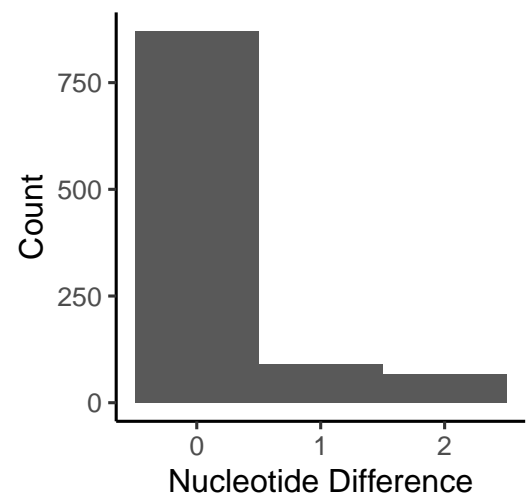
IGHV1-69*01_12_13

1244 sequences assigned
1203 (96.7%) exact matches, in which:
1203 unique CDR3
7 unique J



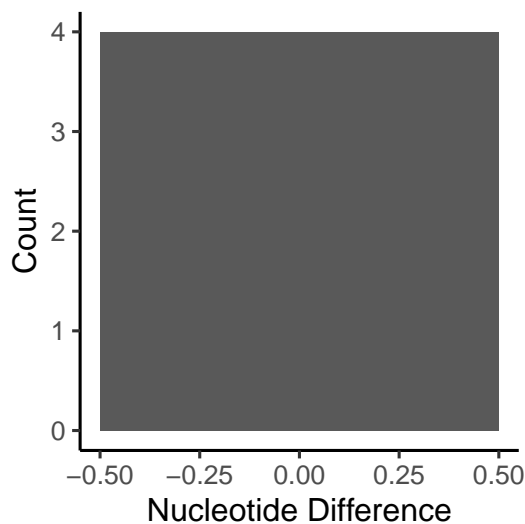
IGHV2-5*02

1027 sequences assigned
871 (84.8%) exact matches, in which:
861 unique CDR3
7 unique J



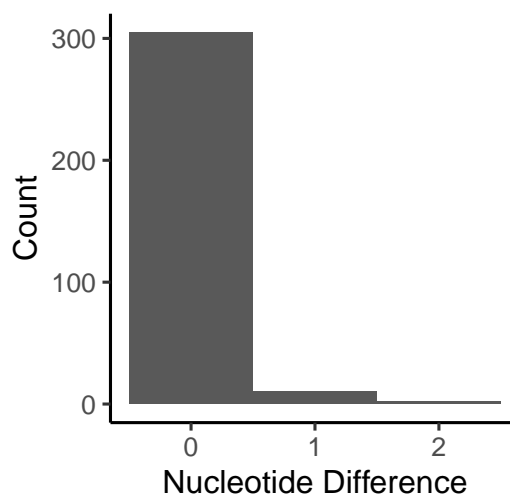
IGHV1-69-2*01

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



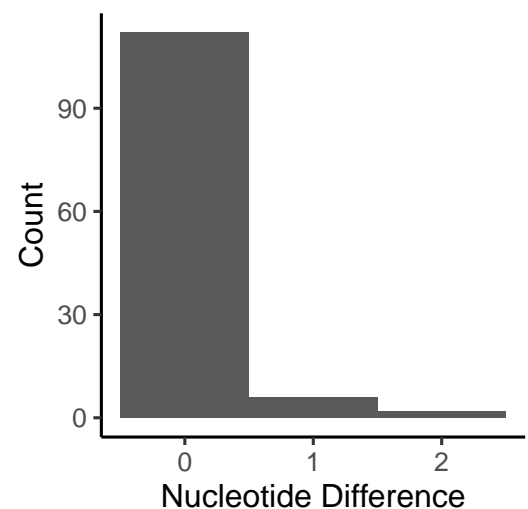
IGHV1-69*06_14

317 sequences assigned
305 (96.2%) exact matches, in which:
305 unique CDR3
6 unique J



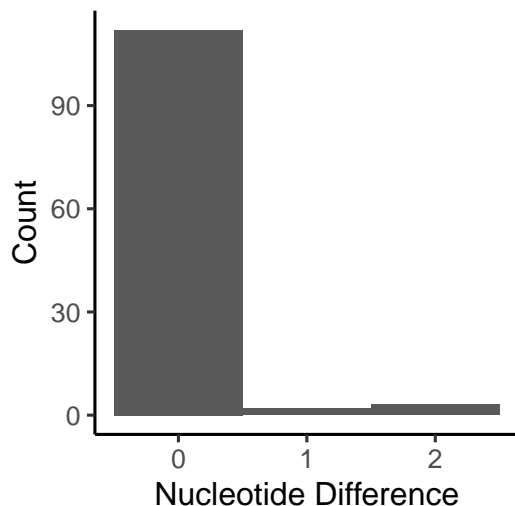
IGHV2-26*01

120 sequences assigned
112 (93.3%) exact matches, in which:
111 unique CDR3
6 unique J



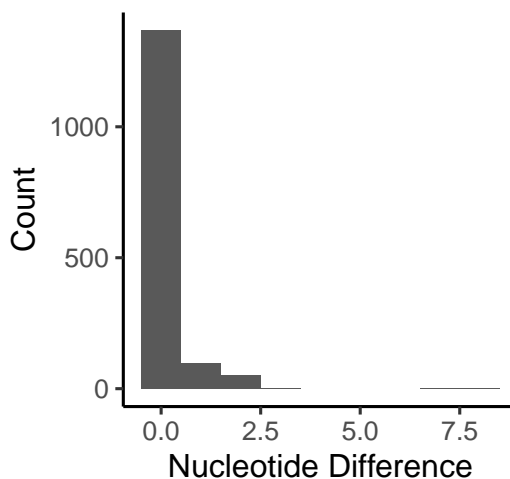
IGHV2-70*01

117 sequences assigned
112 (95.7%) exact matches, in which:
112 unique CDR3
6 unique J



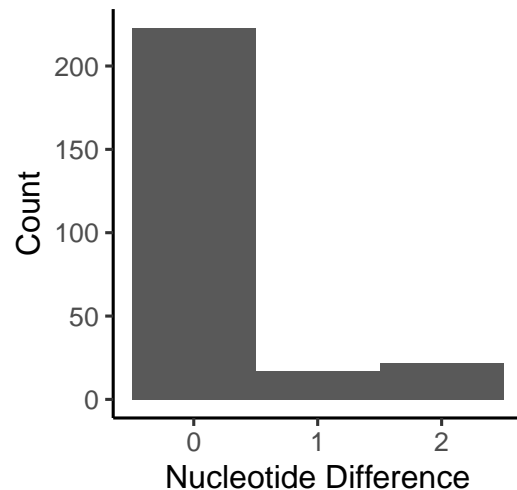
IGHV3-11*01

1520 sequences assigned
1368 (90%) exact matches, in which:
1313 unique CDR3
7 unique J



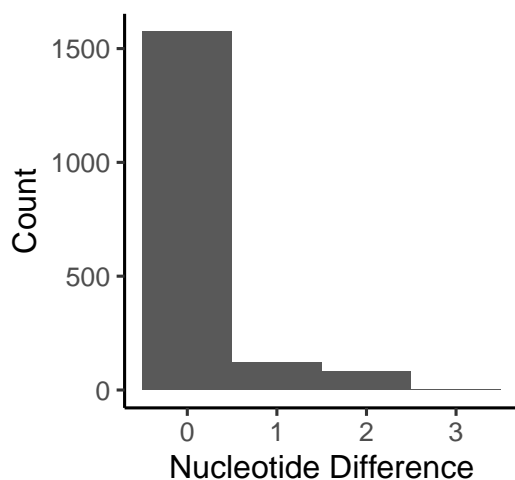
IGHV3-20*01_02

262 sequences assigned
223 (85.1%) exact matches, in which:
208 unique CDR3
7 unique J



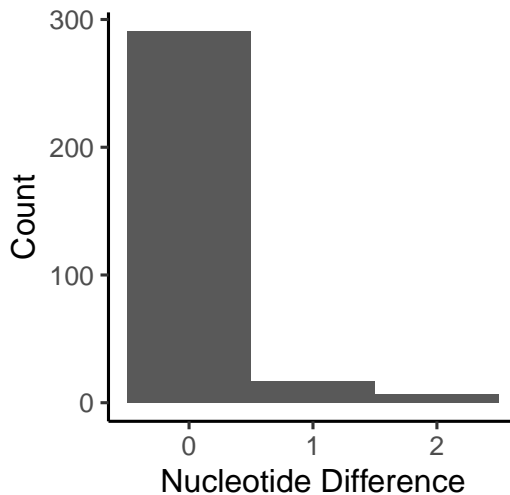
IGHV3-7*01

1781 sequences assigned
1574 (88.4%) exact matches, in which:
1521 unique CDR3
7 unique J



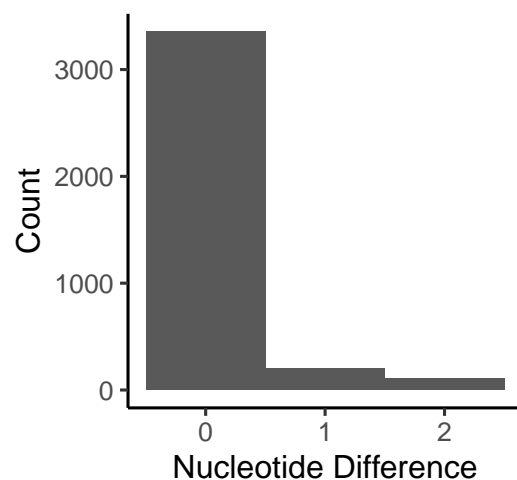
IGHV3-13*01

315 sequences assigned
291 (92.4%) exact matches, in which:
284 unique CDR3
6 unique J



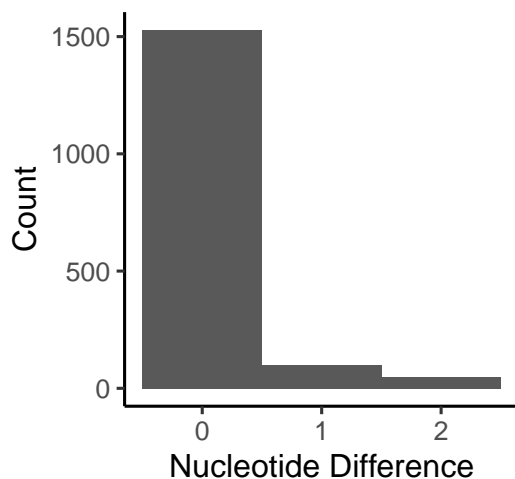
IGHV3-21*01_02

3660 sequences assigned
3354 (91.6%) exact matches, in which:
3186 unique CDR3
7 unique J



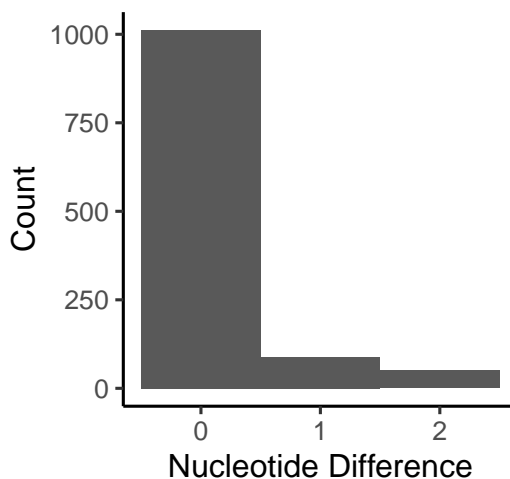
IGHV3-9*01

1677 sequences assigned
1528 (91.1%) exact matches, in which:
1481 unique CDR3
7 unique J



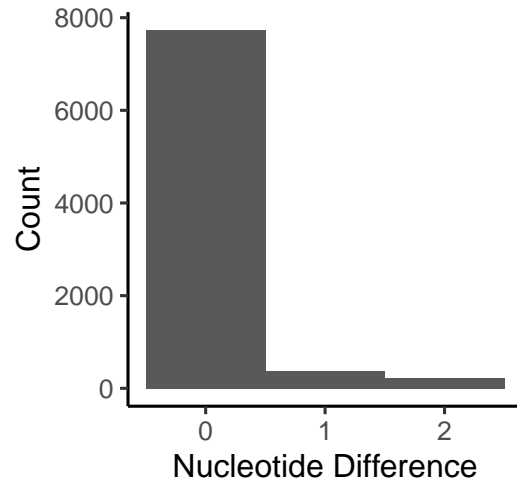
IGHV3-15*01_02

1150 sequences assigned
1012 (88%) exact matches, in which:
966 unique CDR3
7 unique J



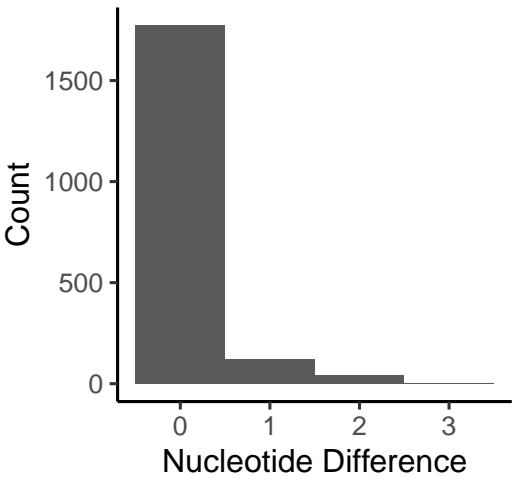
IGHV3-23*01_04

8330 sequences assigned
7733 (92.8%) exact matches, in which:
7377 unique CDR3
7 unique J



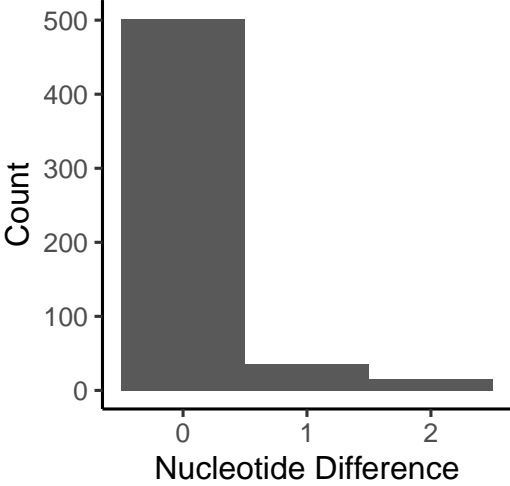
IGHV3-30-3*01

1935 sequences assigned
1773 (91.6%) exact matches, in which:
1720 unique CDR3
7 unique J



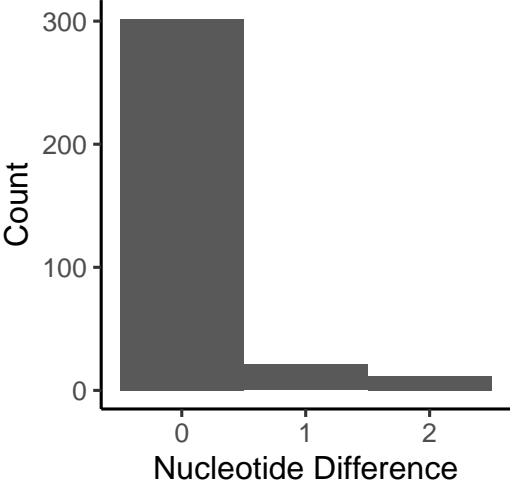
IGHV3-43*02

553 sequences assigned
502 (90.8%) exact matches, in which:
480 unique CDR3
7 unique J



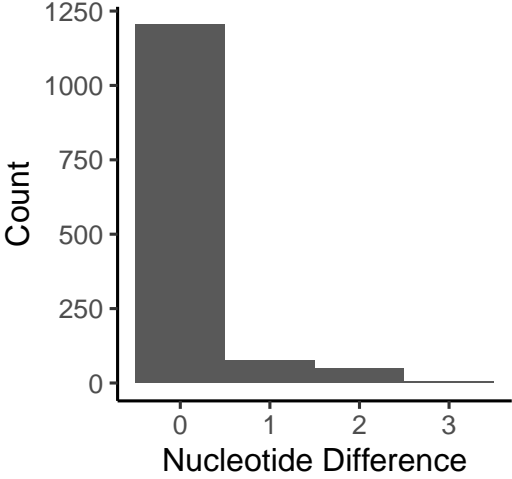
IGHV3-49*04

335 sequences assigned
302 (90.1%) exact matches, in which:
295 unique CDR3
7 unique J



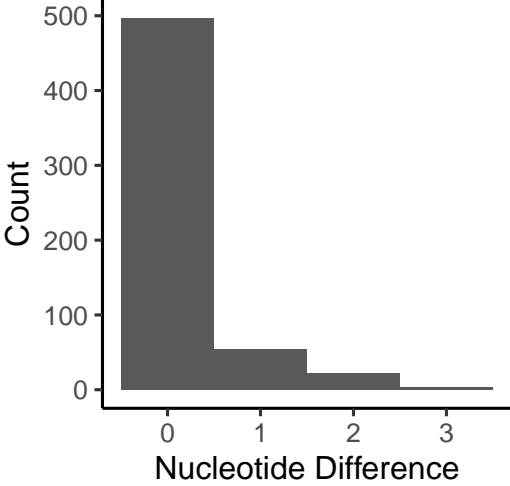
IGHV3-33*01

1332 sequences assigned
1204 (90.4%) exact matches, in which:
1162 unique CDR3
7 unique J



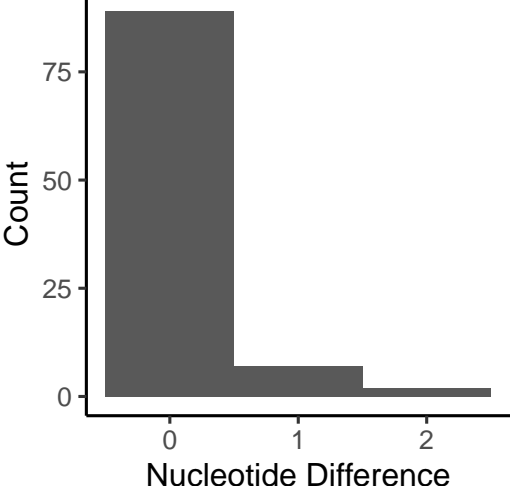
IGHV3-48*01

576 sequences assigned
497 (86.3%) exact matches, in which:
471 unique CDR3
6 unique J



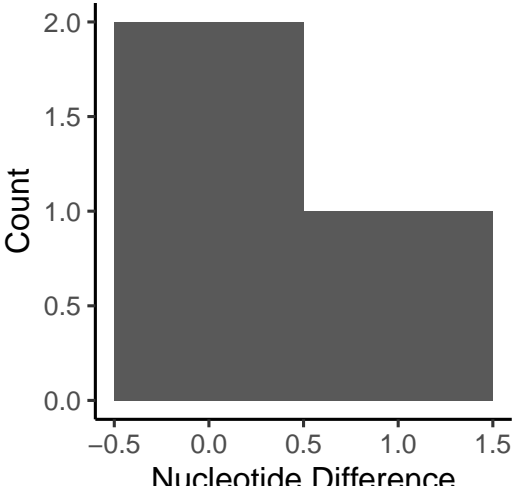
IGHV3-49*03_05

98 sequences assigned
89 (90.8%) exact matches, in which:
86 unique CDR3
5 unique J



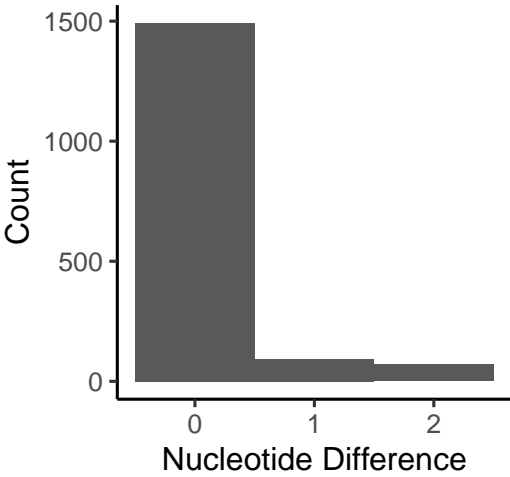
IGHV3-35*01

3 sequences assigned
2 (66.7%) exact matches, in which:
2 unique CDR3
2 unique J



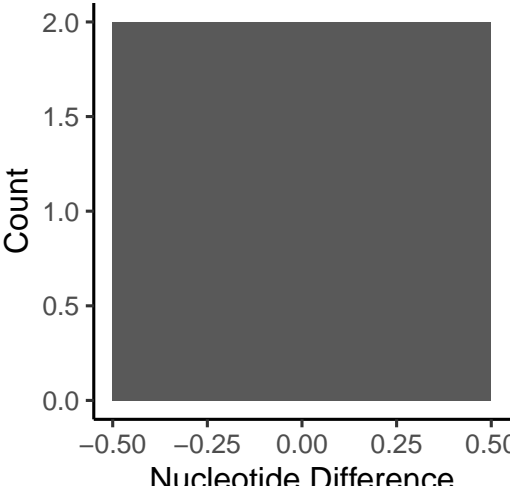
IGHV3-48*03

1655 sequences assigned
1492 (90.2%) exact matches, in which:
1454 unique CDR3
7 unique J



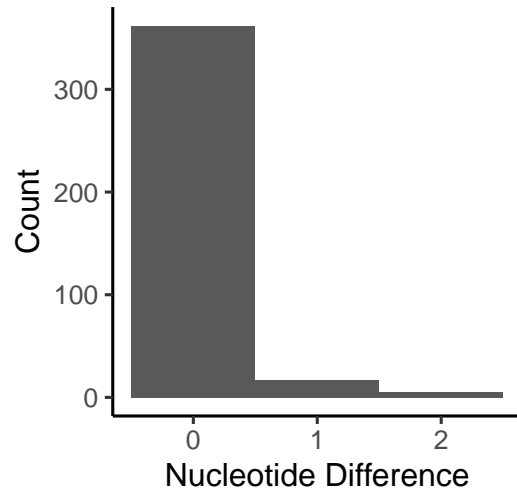
IGHV3-52*01_03

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



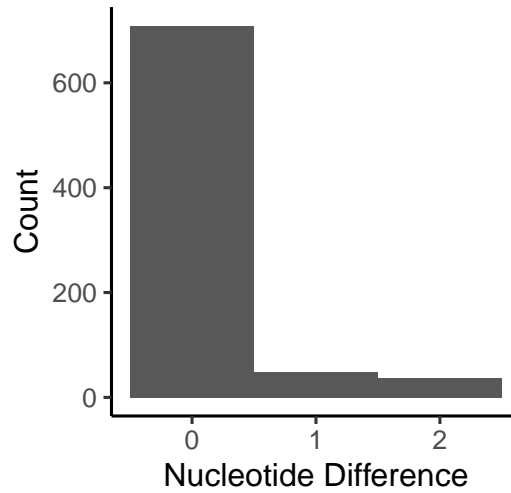
IGHV3-53*04

384 sequences assigned
362 (94.3%) exact matches, in which:
348 unique CDR3
7 unique J



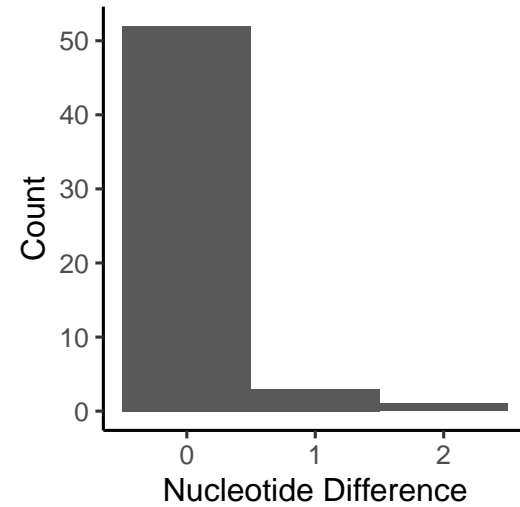
IGHV3-66*02

794 sequences assigned
709 (89.3%) exact matches, in which:
659 unique CDR3
6 unique J



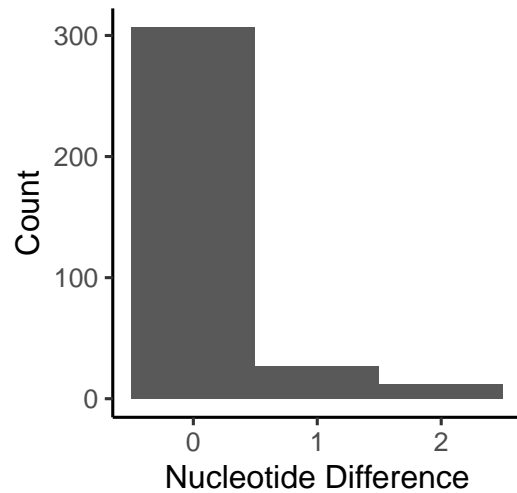
IGHV3-72*01

56 sequences assigned
52 (92.9%) exact matches, in which:
52 unique CDR3
6 unique J



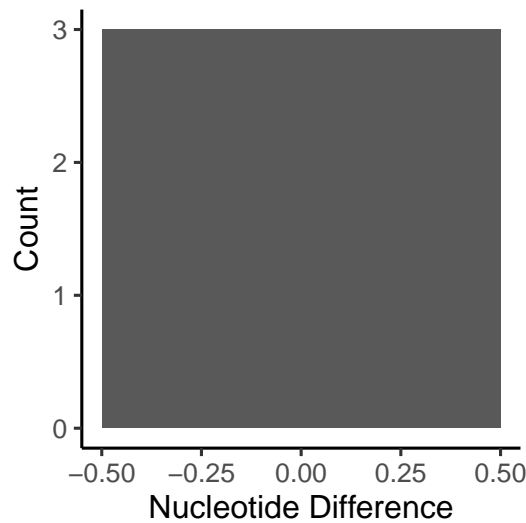
IGHV3-53*01_02

346 sequences assigned
307 (88.7%) exact matches, in which:
297 unique CDR3
6 unique J



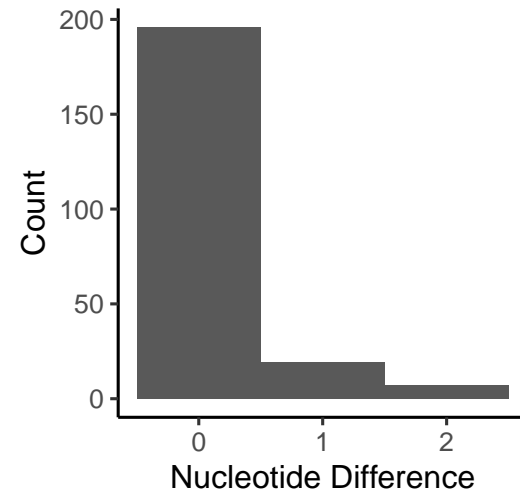
IGHV3-69-1*01

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



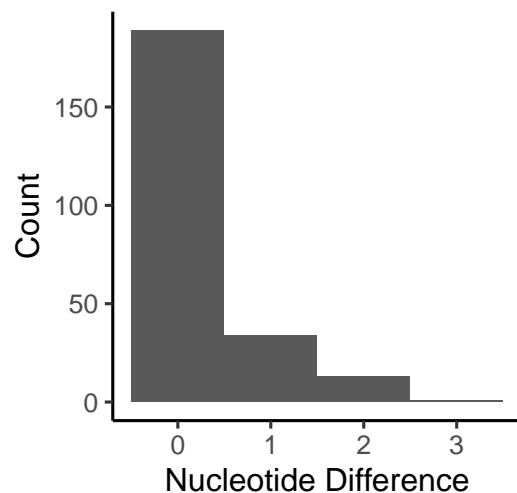
IGHV3-73*01_02

222 sequences assigned
196 (88.3%) exact matches, in which:
188 unique CDR3
7 unique J



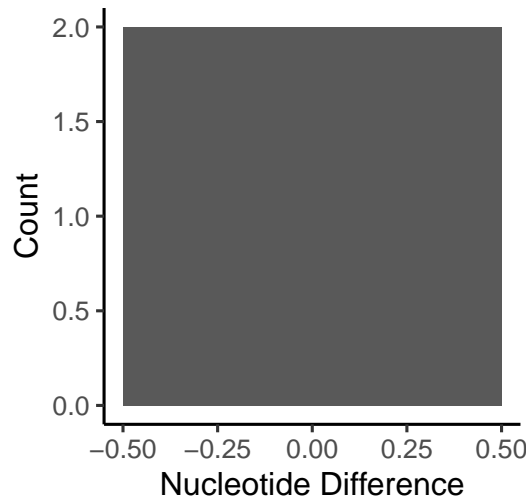
IGHV3-64*01

237 sequences assigned
189 (79.7%) exact matches, in which:
178 unique CDR3
5 unique J



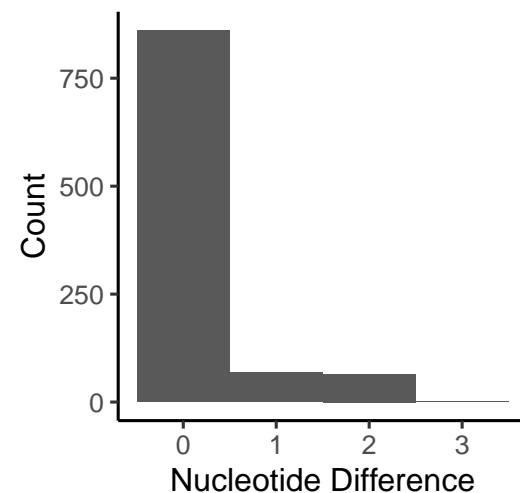
IGHV3-69-1*02

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



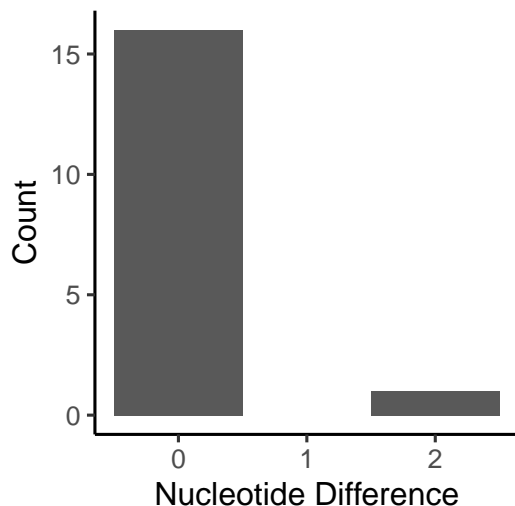
IGHV3-74*01_02

997 sequences assigned
861 (86.4%) exact matches, in which:
825 unique CDR3
7 unique J



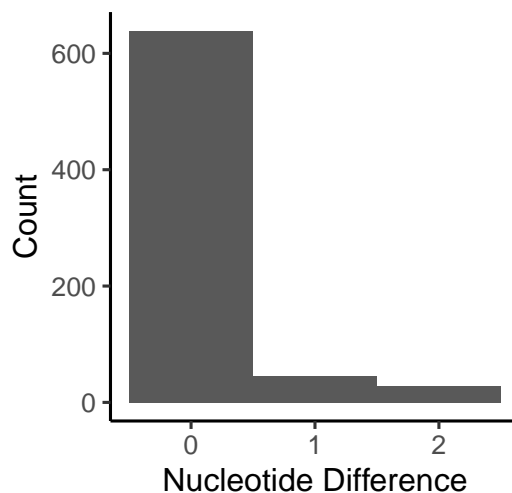
IGHV3-43D*04

17 sequences assigned
16 (94.1%) exact matches, in which:
16 unique CDR3
2 unique J



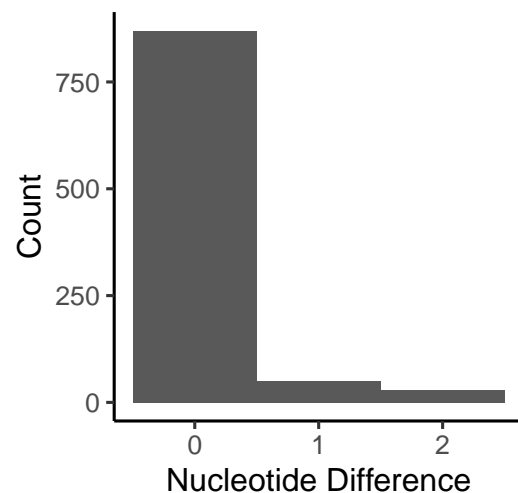
IGHV4-4*02_03

712 sequences assigned
639 (89.7%) exact matches, in which:
620 unique CDR3
7 unique J



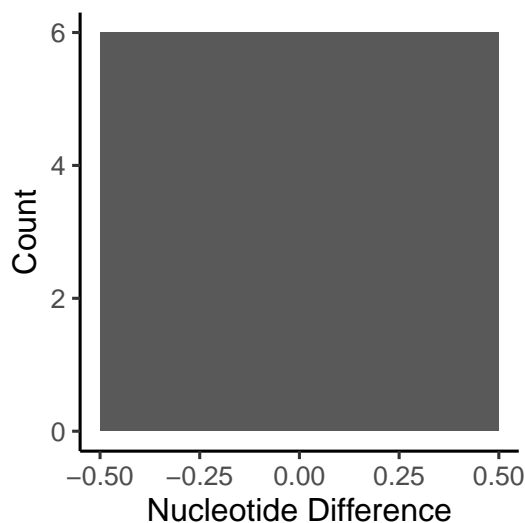
IGHV4-30-4*01

950 sequences assigned
870 (91.6%) exact matches, in which:
849 unique CDR3
7 unique J



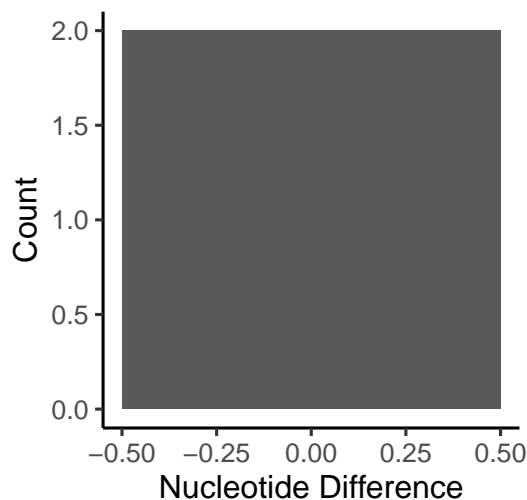
IGHV3-64D*06

6 sequences assigned
6 (100%) exact matches, in which:
6 unique CDR3
4 unique J



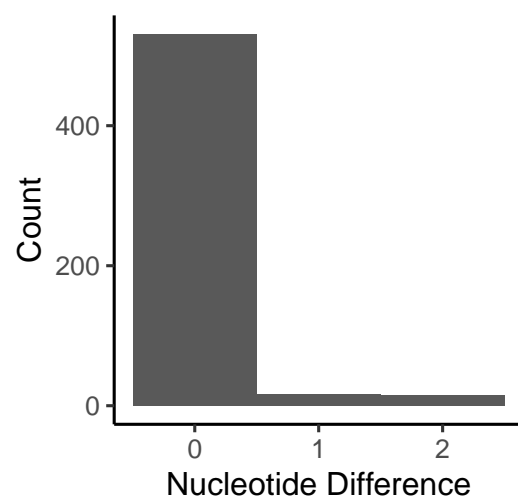
IGHV4-28*03

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



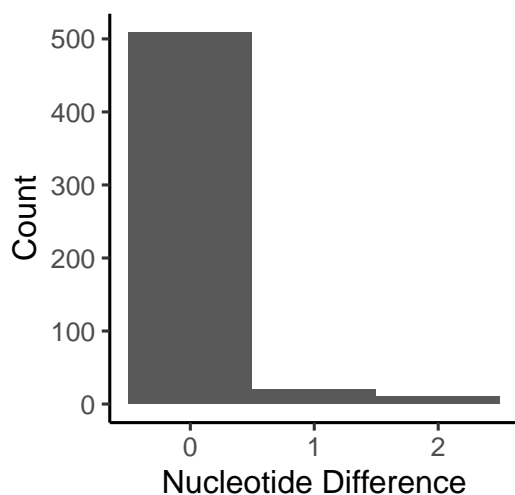
IGHV4-30-2*01

563 sequences assigned
531 (94.3%) exact matches, in which:
506 unique CDR3
7 unique J



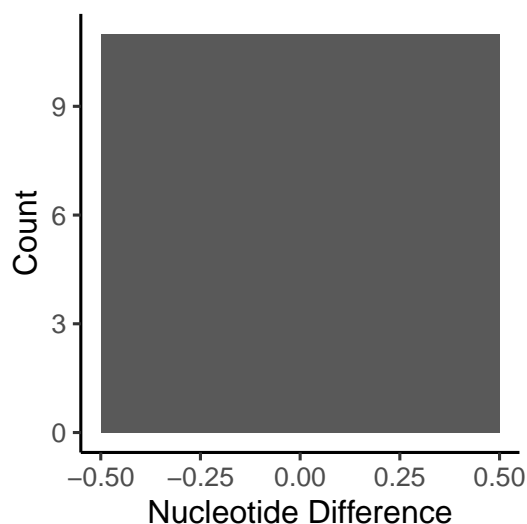
IGHV4-4*07

539 sequences assigned
509 (94.4%) exact matches, in which:
482 unique CDR3
6 unique J



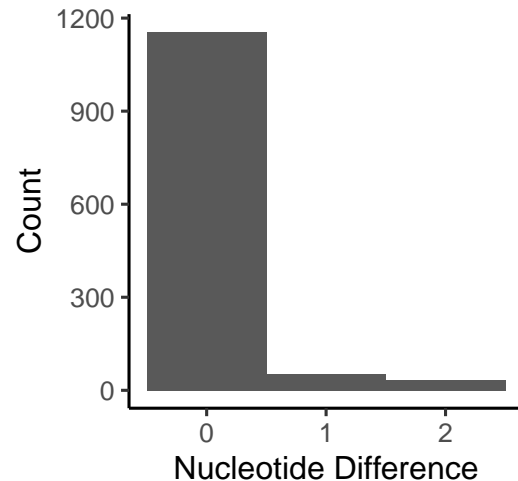
IGHV4-28*01_07

11 sequences assigned
11 (100%) exact matches, in which:
9 unique CDR3
3 unique J



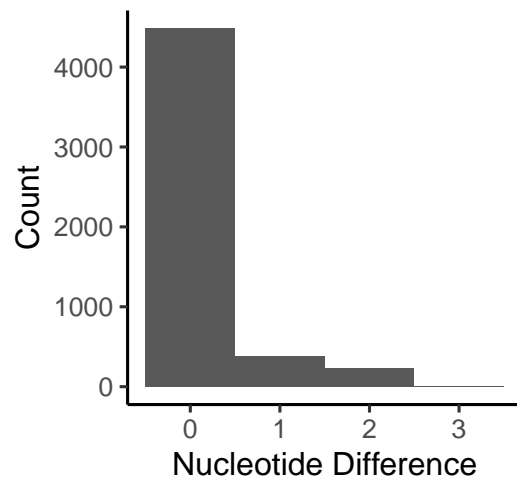
IGHV4-31*02

1242 sequences assigned
1155 (93%) exact matches, in which:
1124 unique CDR3
7 unique J



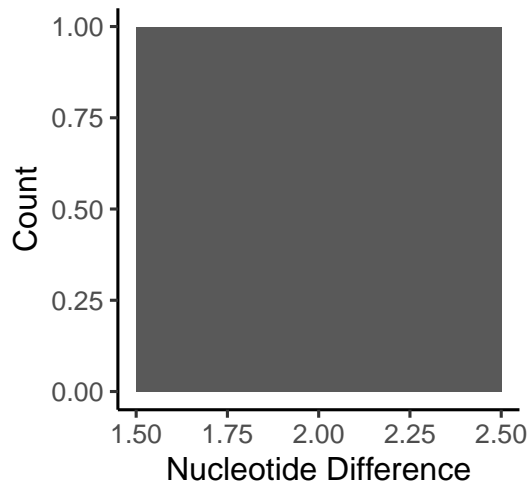
IGHV4-34*01_02

5088 sequences assigned
4484 (88.1%) exact matches, in which:
4272 unique CDR3
7 unique J



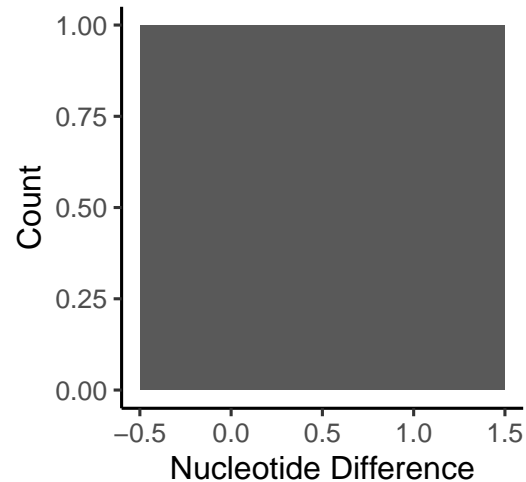
IGHV4-59*02

1 sequences assigned
No exact matches.



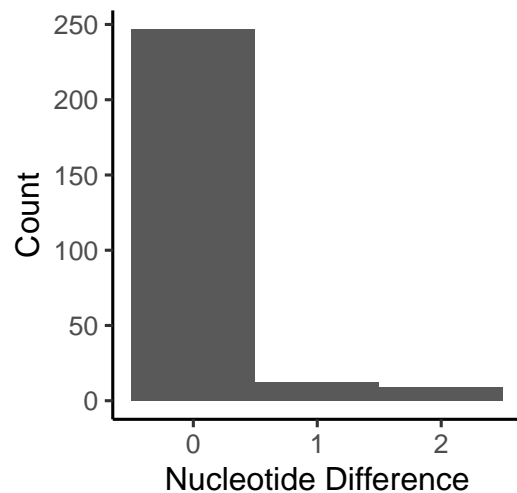
IGHV4-59*11

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



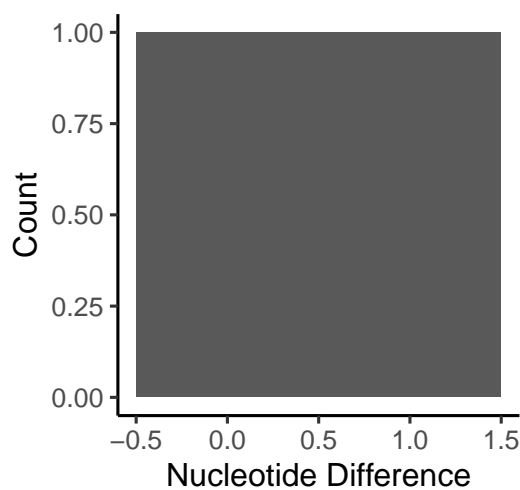
IGHV4-38-2*01

268 sequences assigned
247 (92.2%) exact matches, in which:
244 unique CDR3
5 unique J



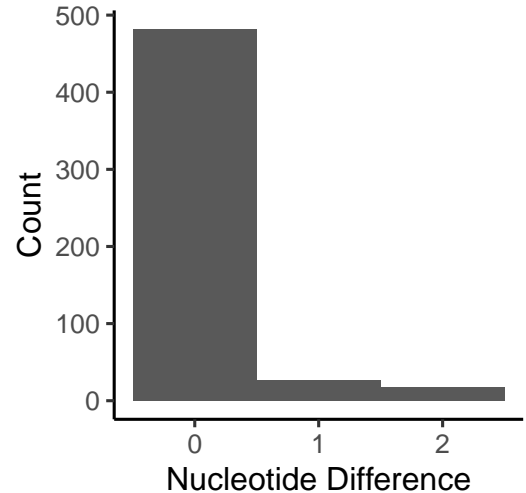
IGHV4-59*08

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



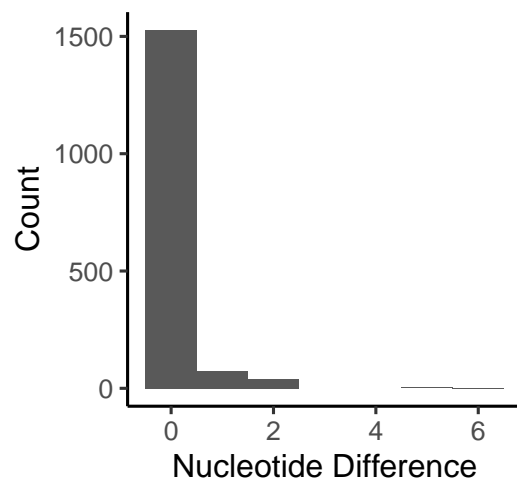
IGHV4-61*01

527 sequences assigned
482 (91.5%) exact matches, in which:
475 unique CDR3
7 unique J



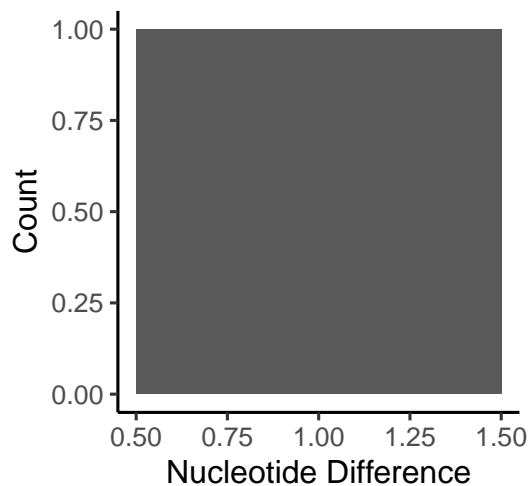
IGHV4-39*07

1645 sequences assigned
1527 (92.8%) exact matches, in which:
1450 unique CDR3
6 unique J



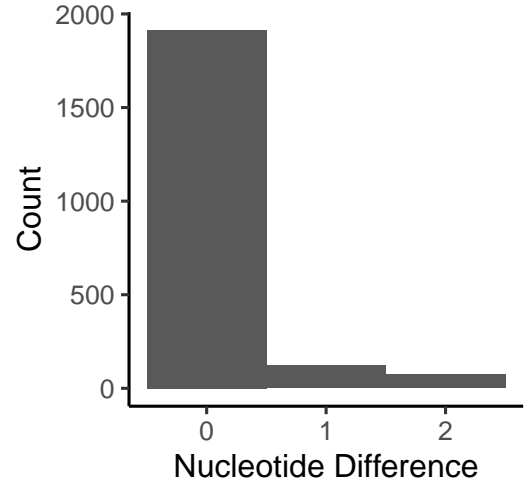
IGHV4-59*10

1 sequences assigned
No exact matches.



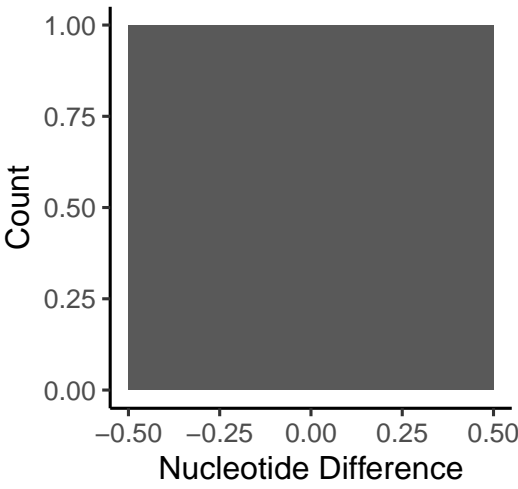
IGHV4-61*02

2109 sequences assigned
1914 (90.8%) exact matches, in which:
1833 unique CDR3
6 unique J



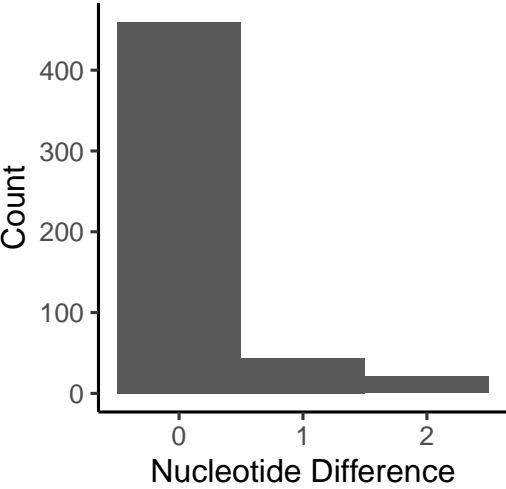
IGHV5-51*07

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



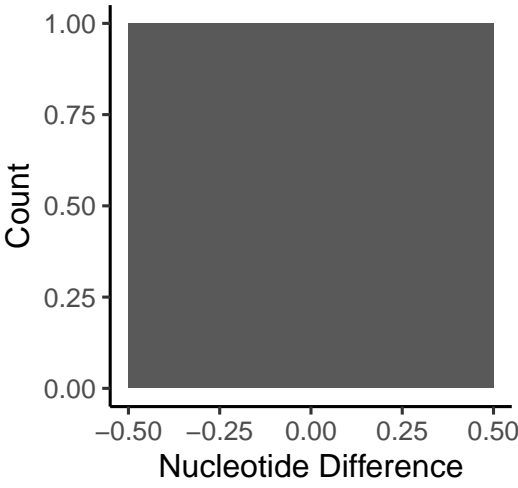
IGHV7-4-1*02

525 sequences assigned
460 (87.6%) exact matches, in which:
453 unique CDR3
7 unique J



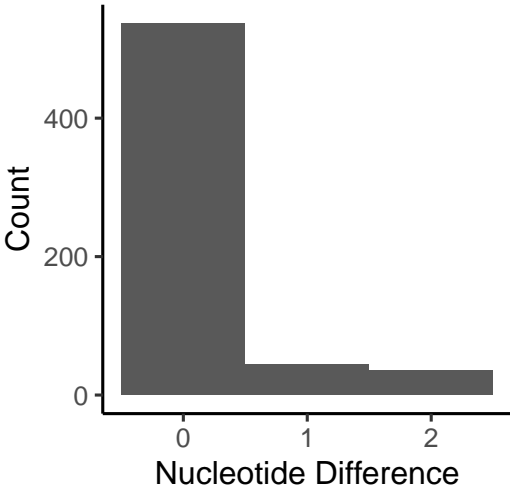
IGHV5-51*01_03

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

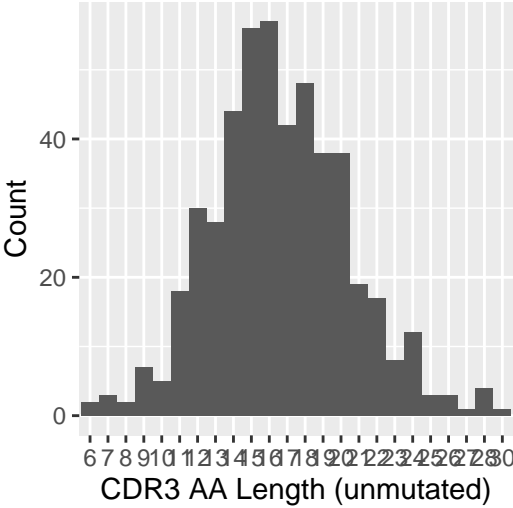


IGHV6-1*01_02

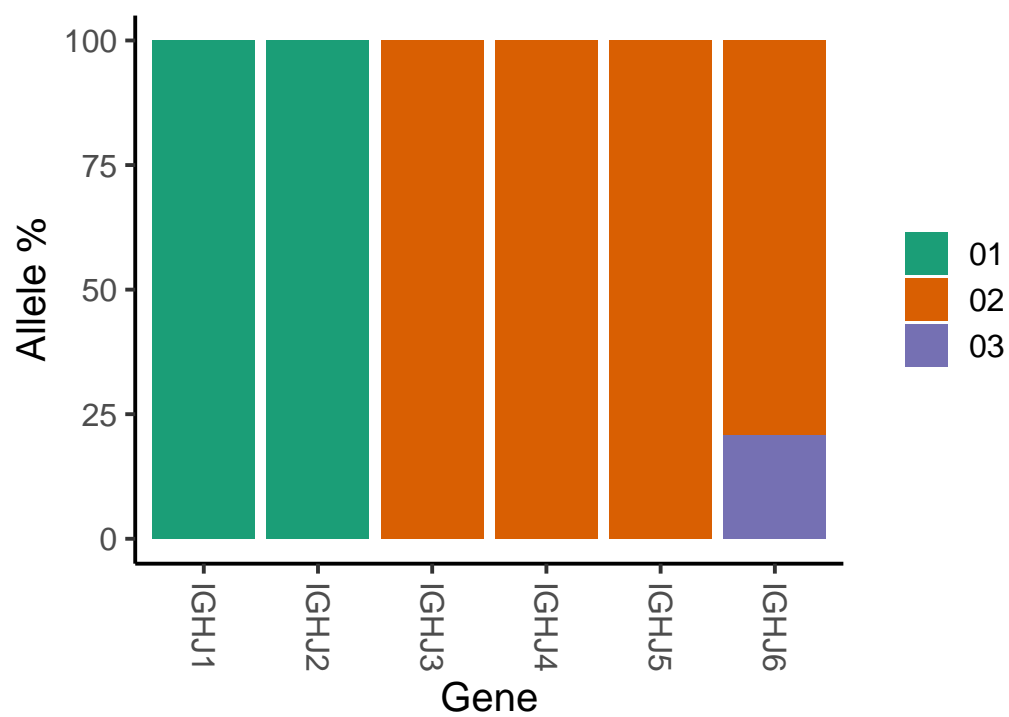
616 sequences assigned
537 (87.2%) exact matches, in which:
509 unique CDR3
7 unique J



IGHV1-69*17_G163A



Allele Usage



[illegible]