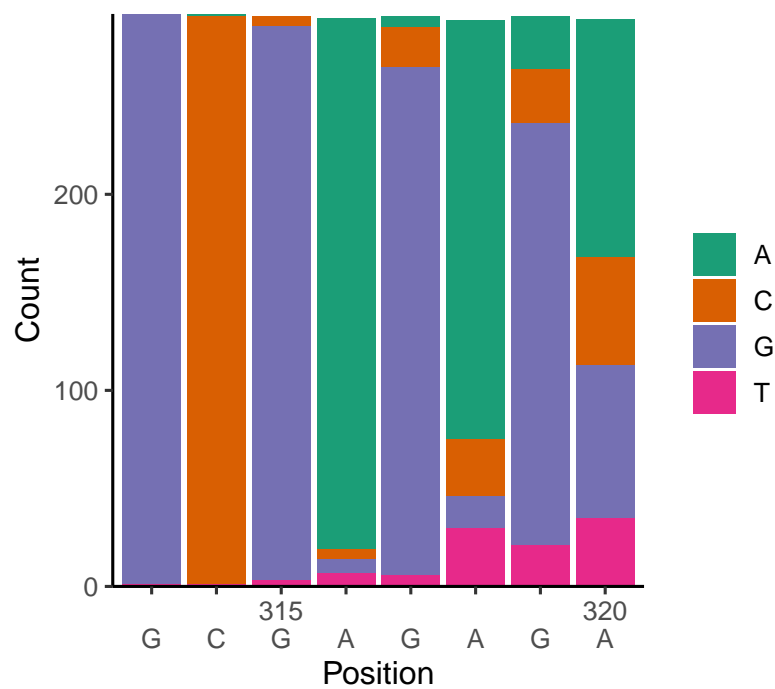
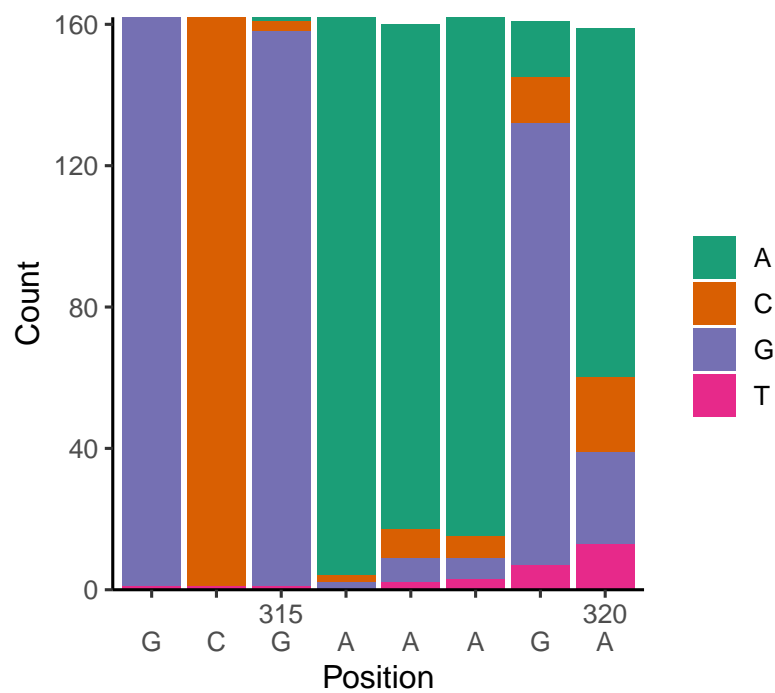


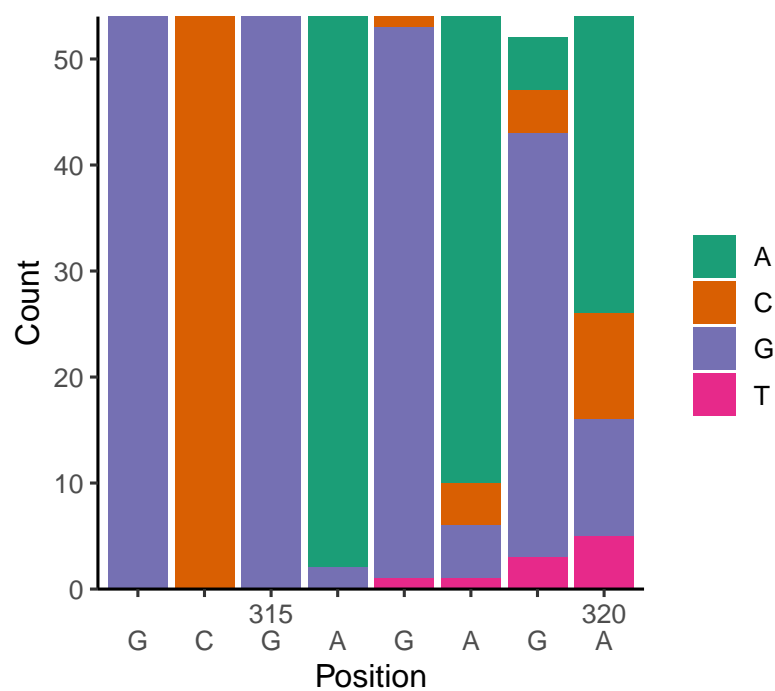
Gene IGHV1-69*04_A163G



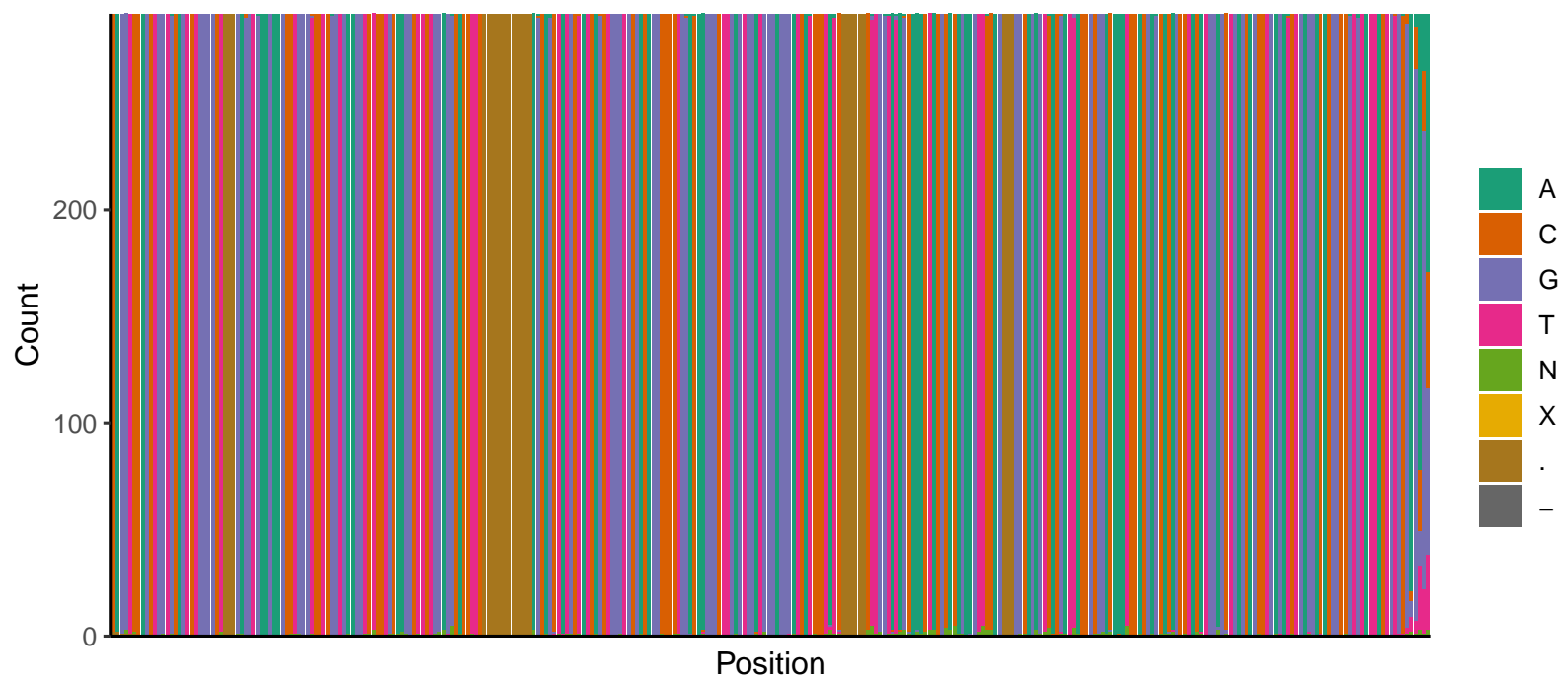
Gene IGHV3-30*02_G49A



Gene IGHV4-4*07_A70G



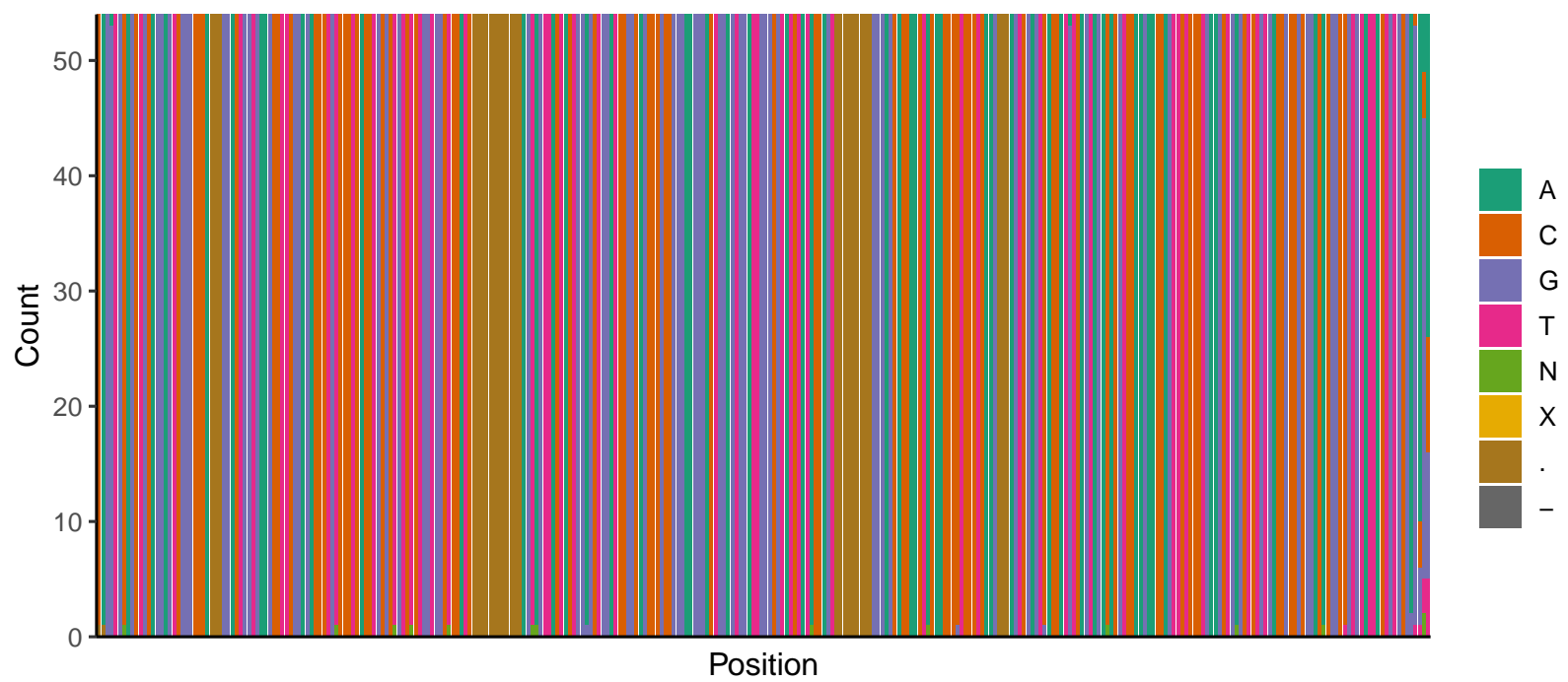
Gene IGHV1-69*04_A163G



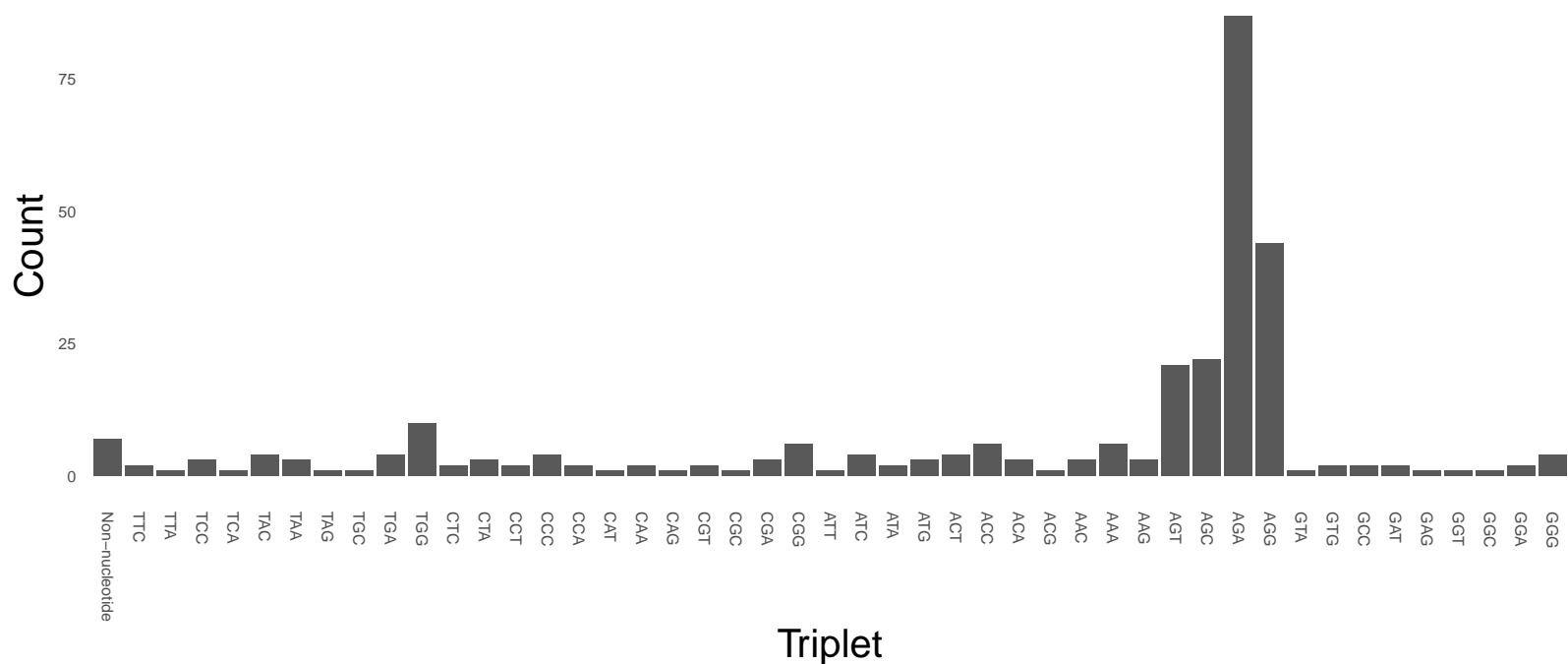
Gene IGHV3-30*02_G49A



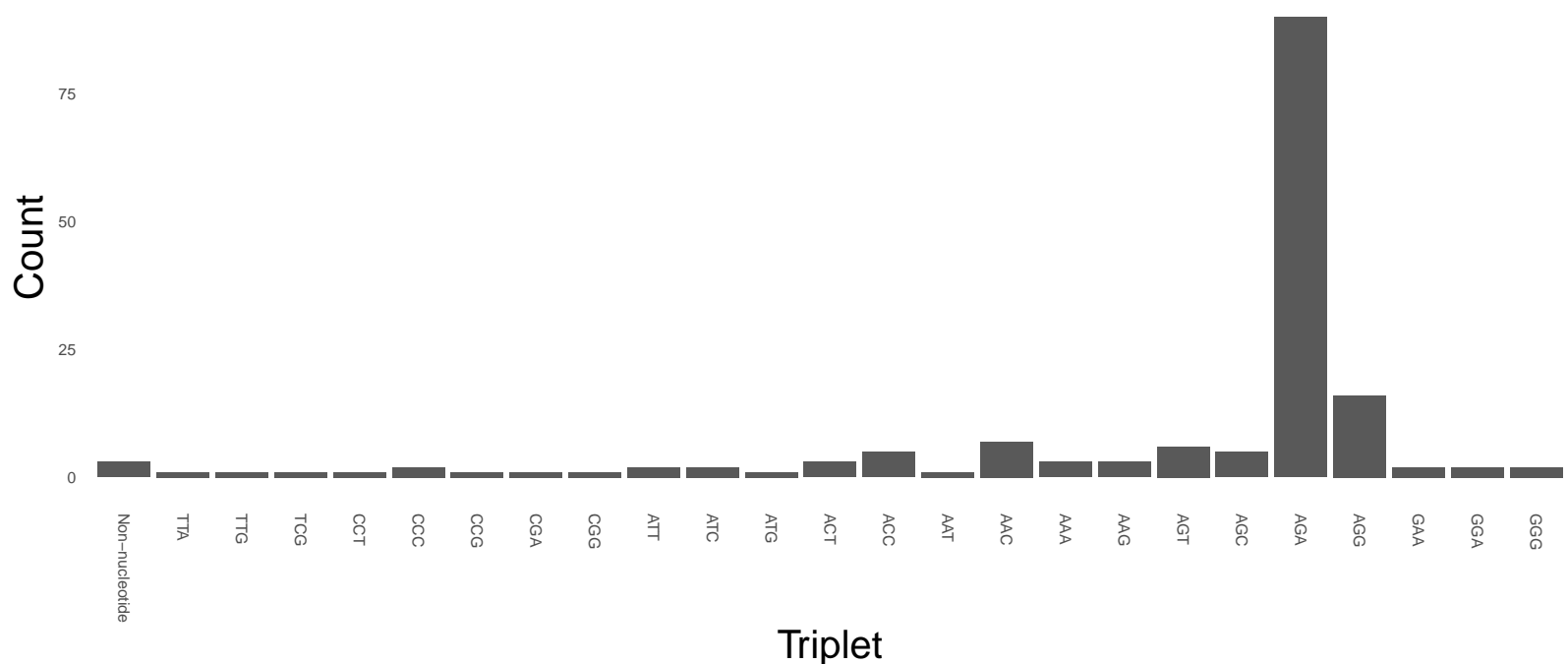
Gene IGHV4-4*07_A70G



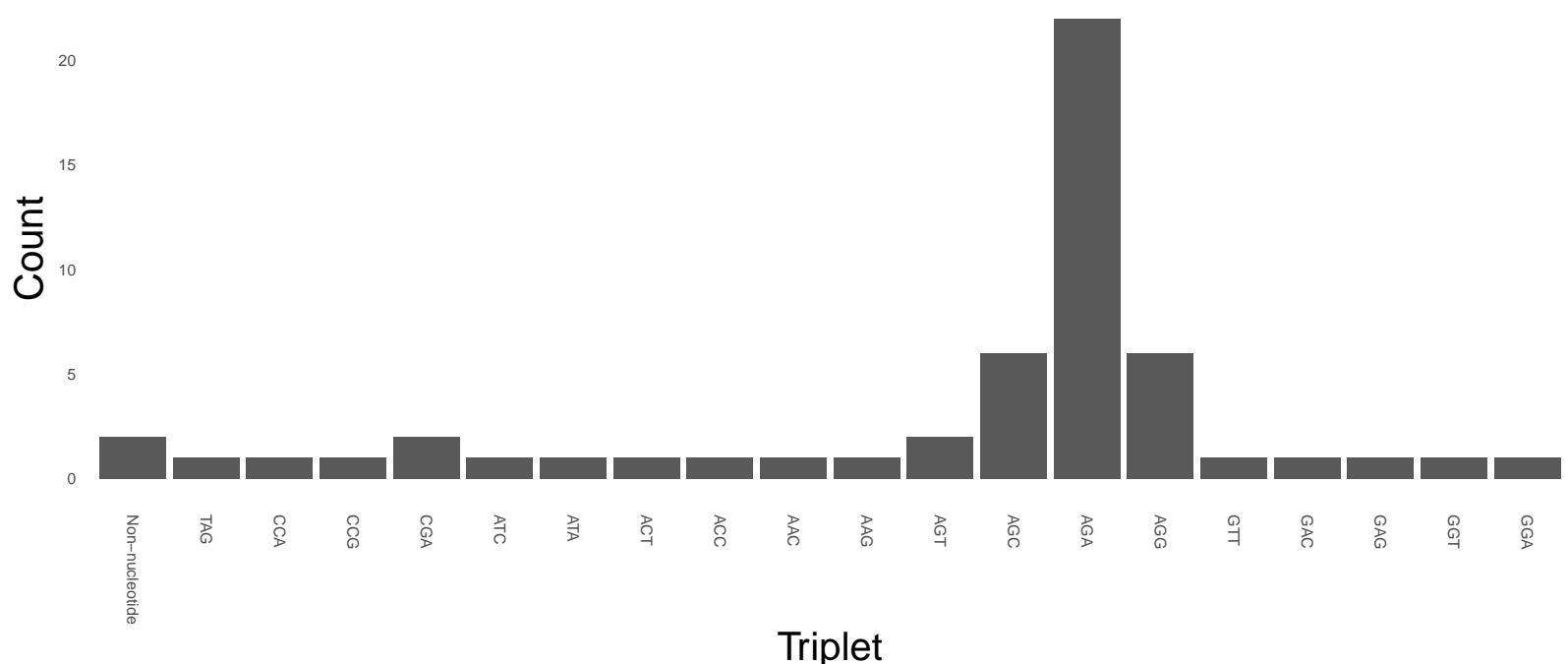
IGHV1–69*04_A163G– Final 3 nucleotides as a triplet



IGHV3–30*02_G49A– Final 3 nucleotides as a triplet

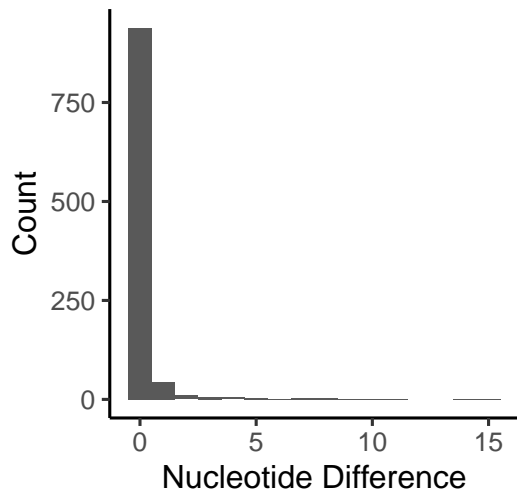


IGHV4–4*07_A70G– Final 3 nucleotides as a triplet



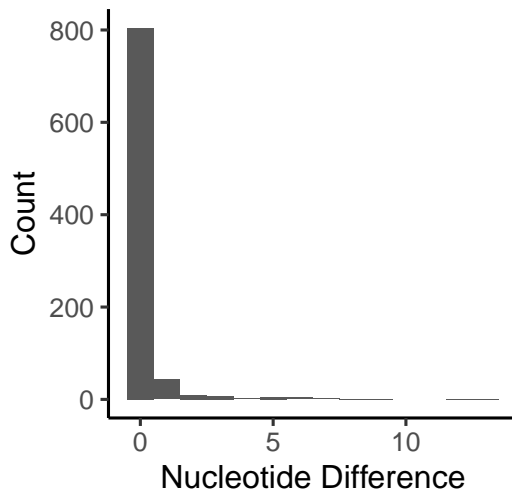
IGHV1–2*02

1023 sequences assigned
939 (91.8%) exact matches, in which:
939 unique CDR3
6 unique J



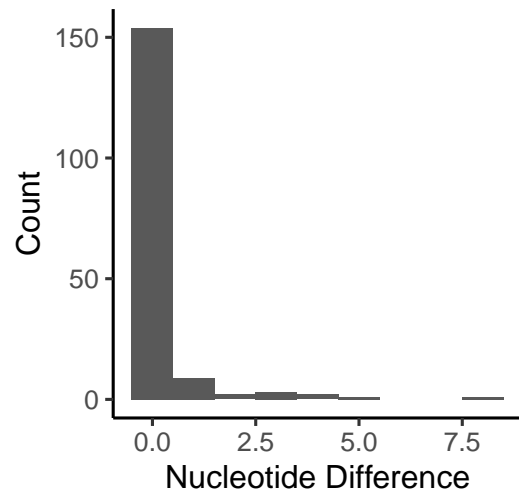
IGHV1–18*01

882 sequences assigned
805 (91.3%) exact matches, in which:
803 unique CDR3
6 unique J



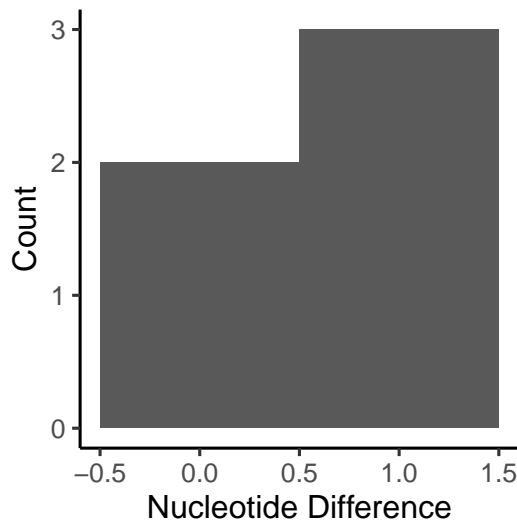
IGHV1–46*01

172 sequences assigned
154 (89.5%) exact matches, in which:
154 unique CDR3
6 unique J



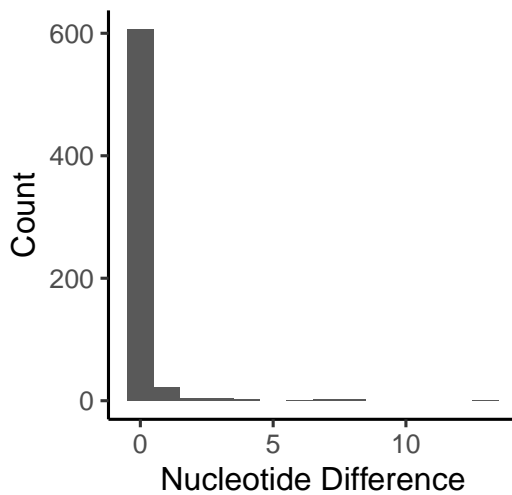
IGHV1–3*02

5 sequences assigned
2 (40%) exact matches, in which:
2 unique CDR3
2 unique J



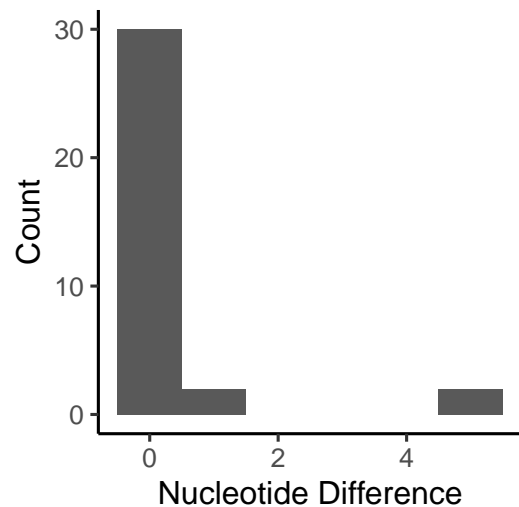
IGHV1–24*01

647 sequences assigned
607 (93.8%) exact matches, in which:
606 unique CDR3
6 unique J



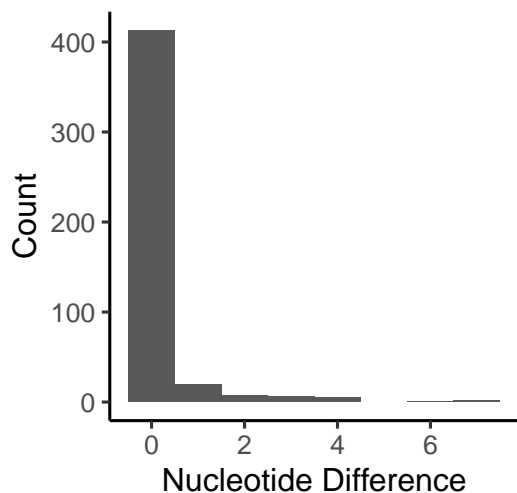
IGHV1–58*02

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



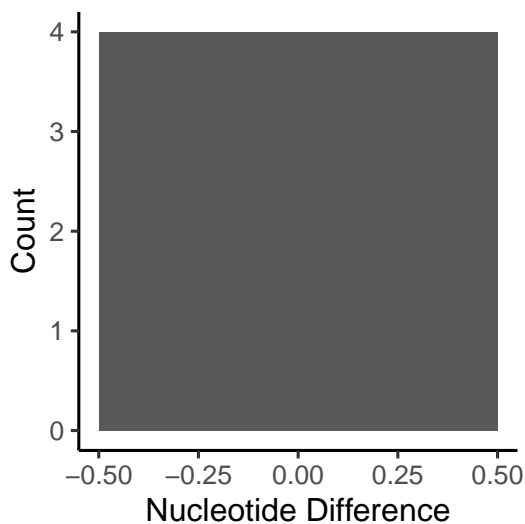
IGHV1–8*01

453 sequences assigned
413 (91.2%) exact matches, in which:
413 unique CDR3
6 unique J



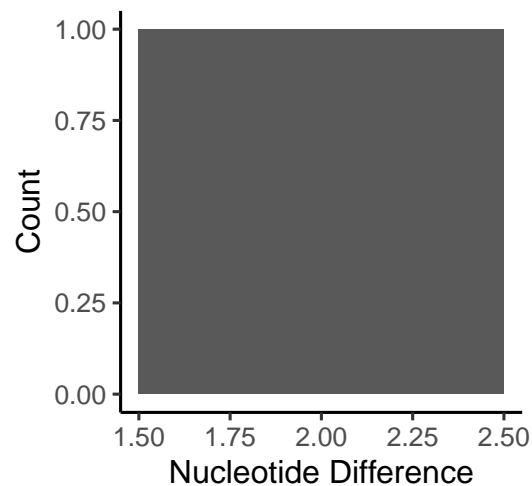
IGHV1–45*02

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



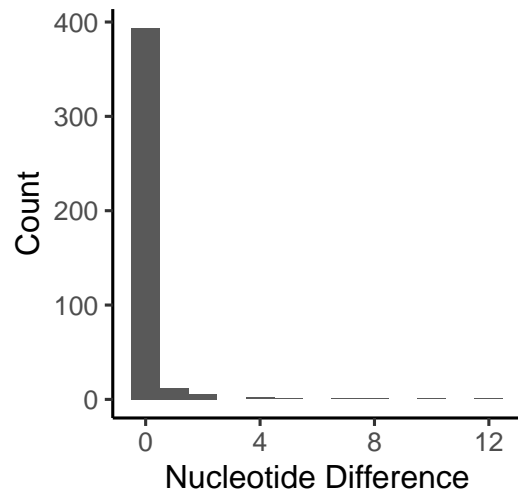
IGHV1–68*02

1 sequences assigned
No exact matches.



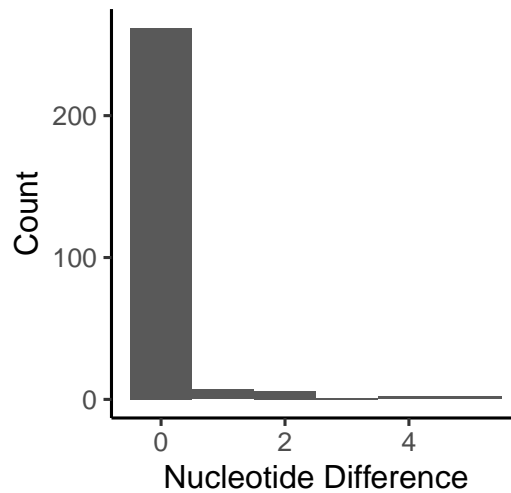
IGHV1–69*04

419 sequences assigned
394 (94%) exact matches, in which:
393 unique CDR3
6 unique J



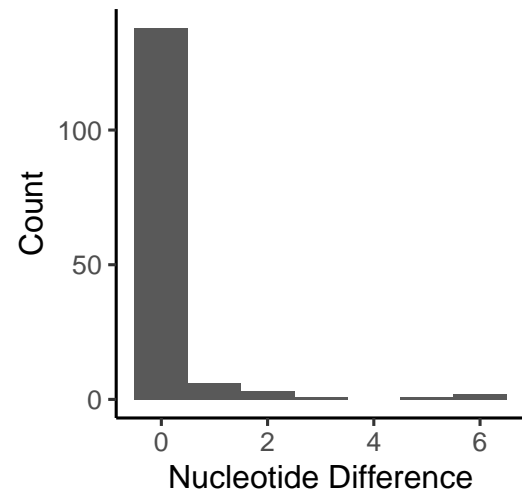
IGHV2–5*02

280 sequences assigned
262 (93.6%) exact matches, in which:
262 unique CDR3
6 unique J



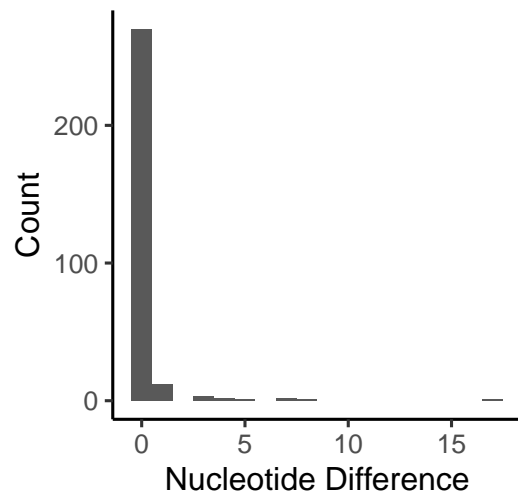
IGHV2–70*15

151 sequences assigned
138 (91.4%) exact matches, in which:
138 unique CDR3
4 unique J



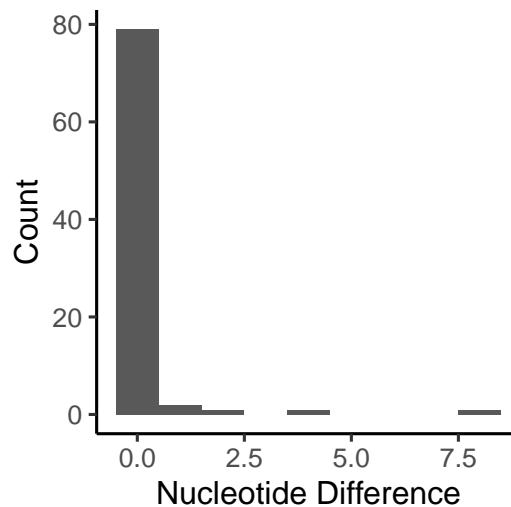
IGHV1–69*04_A163G

292 sequences assigned
270 (92.5%) exact matches, in which:
270 unique CDR3
6 unique J



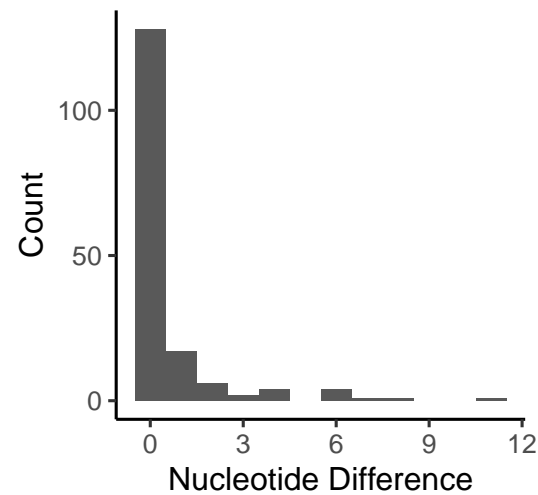
IGHV2–26*01

84 sequences assigned
79 (94%) exact matches, in which:
79 unique CDR3
5 unique J



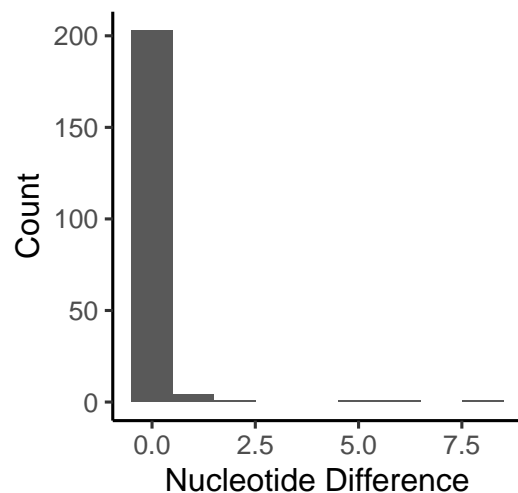
IGHV3–7*01

164 sequences assigned
128 (78%) exact matches, in which:
128 unique CDR3
6 unique J



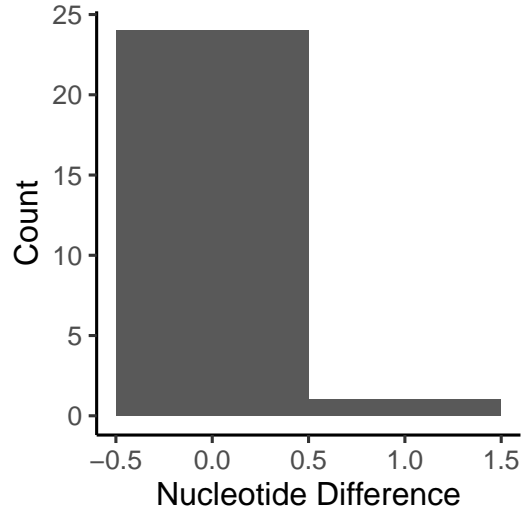
IGHV2–5*01

211 sequences assigned
203 (96.2%) exact matches, in which:
203 unique CDR3
6 unique J



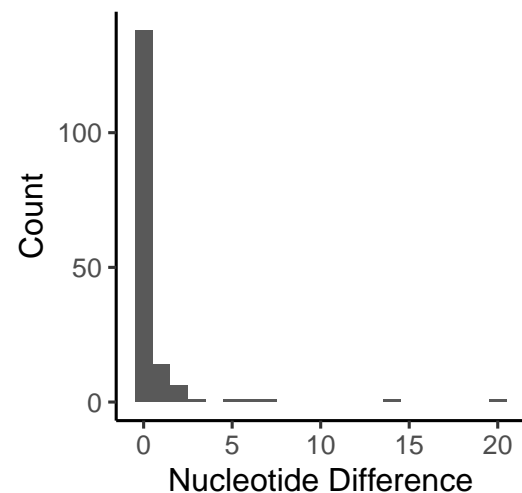
IGHV2–26*02

25 sequences assigned
24 (96%) exact matches, in which:
24 unique CDR3
6 unique J



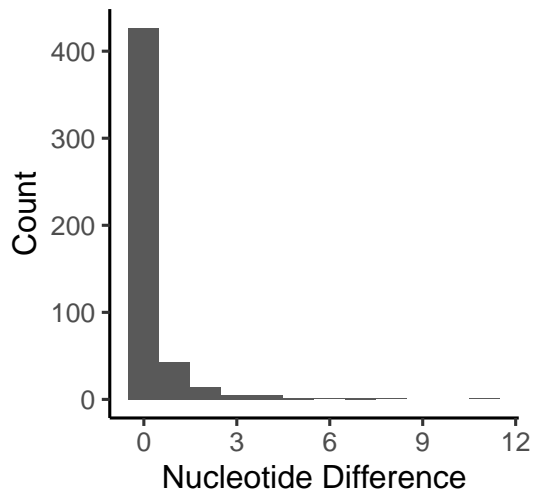
IGHV3–7*03

164 sequences assigned
138 (84.1%) exact matches, in which:
138 unique CDR3
6 unique J



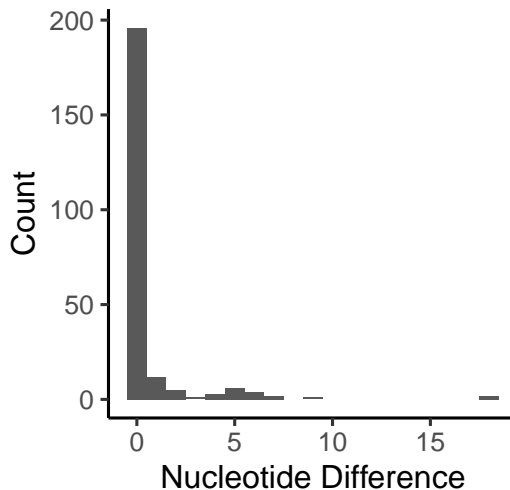
IGHV3-9*01

501 sequences assigned
427 (85.2%) exact matches, in which:
427 unique CDR3
6 unique J



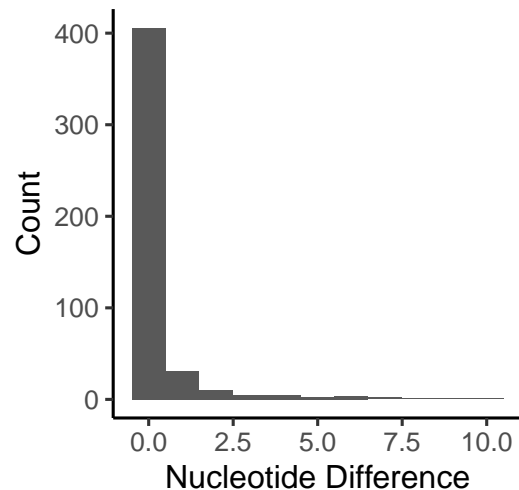
IGHV3-15*01

232 sequences assigned
196 (84.5%) exact matches, in which:
195 unique CDR3
6 unique J



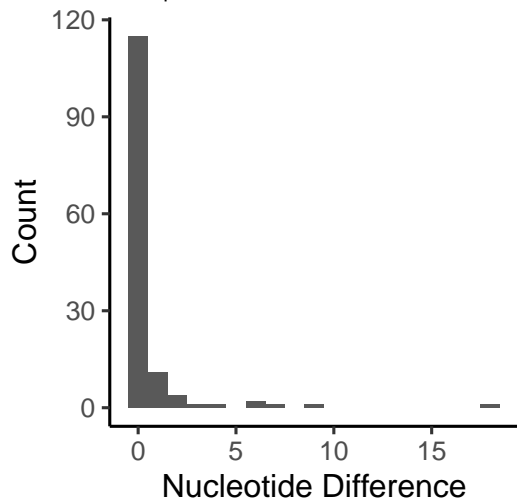
IGHV3-21*01

470 sequences assigned
406 (86.4%) exact matches, in which:
406 unique CDR3
6 unique J



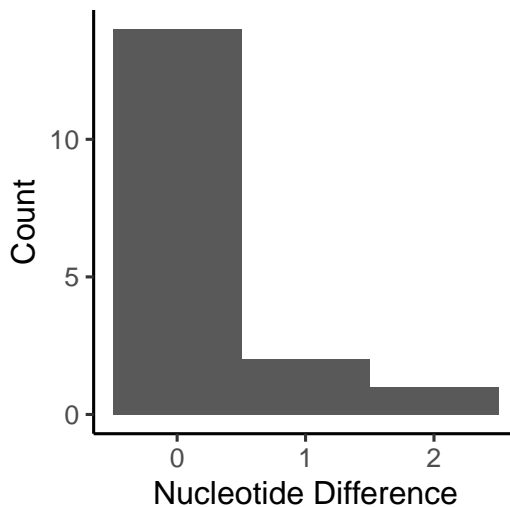
IGHV3-11*01

137 sequences assigned
115 (83.9%) exact matches, in which:
115 unique CDR3
5 unique J



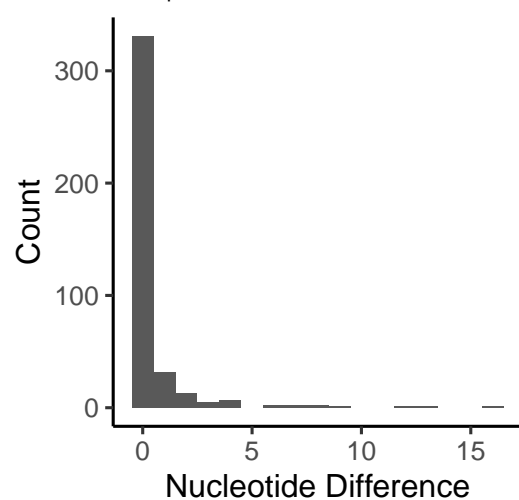
IGHV3-20*01

17 sequences assigned
14 (82.4%) exact matches, in which:
14 unique CDR3
5 unique J



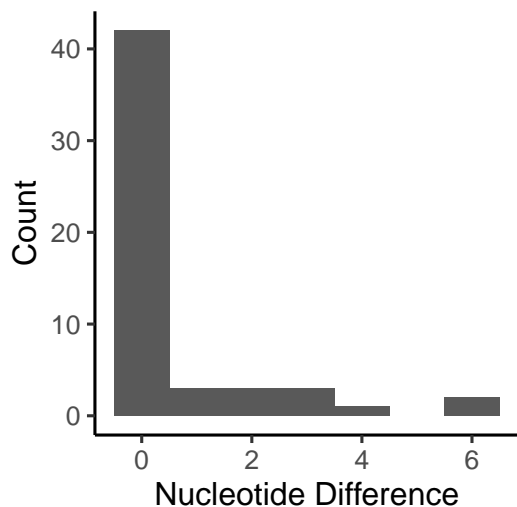
IGHV3-23*01

400 sequences assigned
331 (82.8%) exact matches, in which:
330 unique CDR3
6 unique J



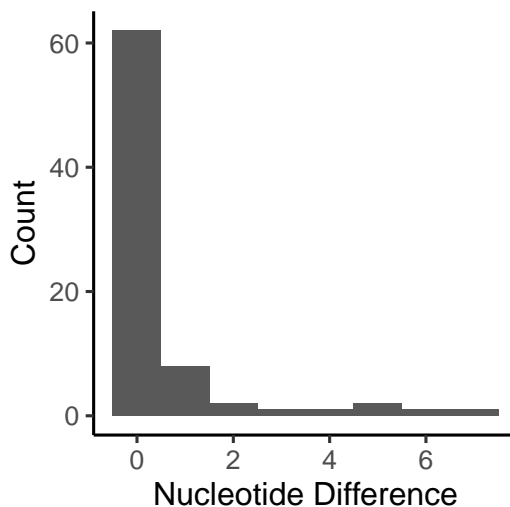
IGHV3-13*01

54 sequences assigned
42 (77.8%) exact matches, in which:
42 unique CDR3
5 unique J



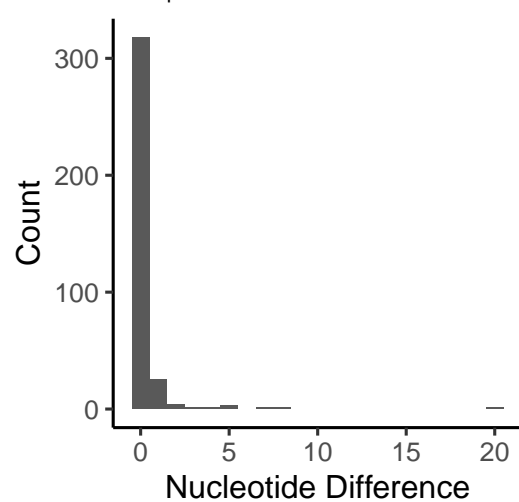
IGHV3-20*04

78 sequences assigned
62 (79.5%) exact matches, in which:
62 unique CDR3
6 unique J



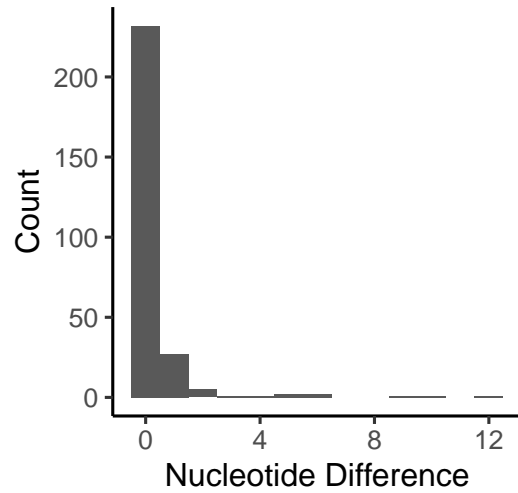
IGHV3-30*02

355 sequences assigned
318 (89.6%) exact matches, in which:
317 unique CDR3
6 unique J



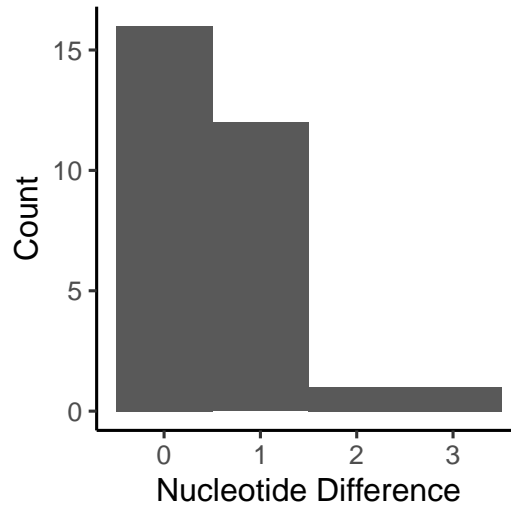
IGHV3–30*04

273 sequences assigned
232 (85%) exact matches, in which:
232 unique CDR3
6 unique J



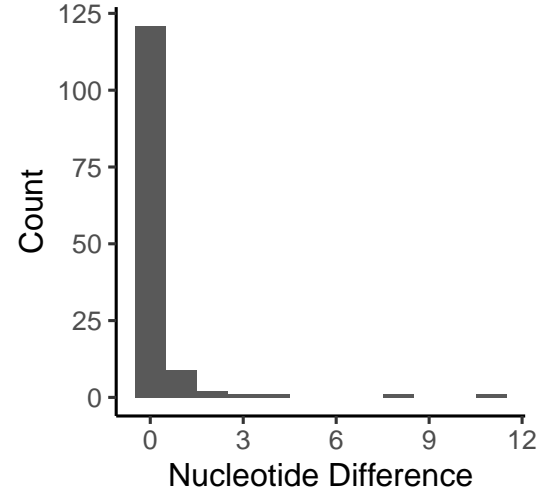
IGHV3–43*01

30 sequences assigned
16 (53.3%) exact matches, in which:
16 unique CDR3
5 unique J



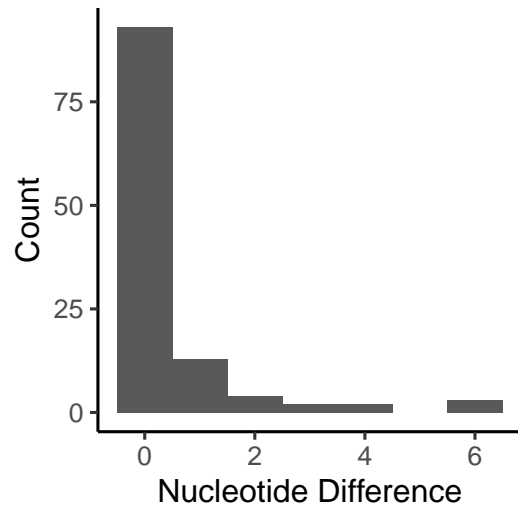
IGHV3–49*03

136 sequences assigned
121 (89%) exact matches, in which:
121 unique CDR3
6 unique J



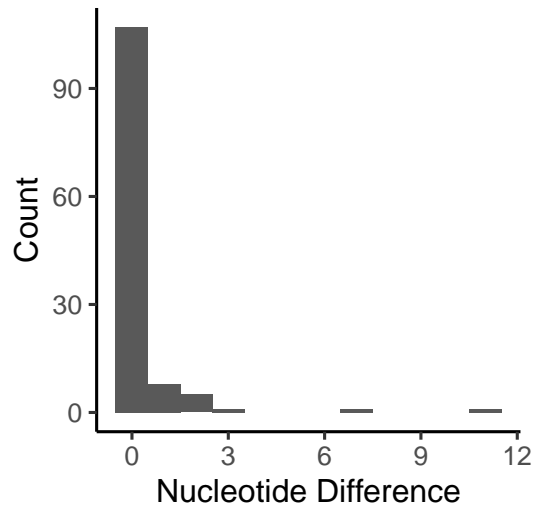
IGHV3–30*18

117 sequences assigned
93 (79.5%) exact matches, in which:
93 unique CDR3
5 unique J



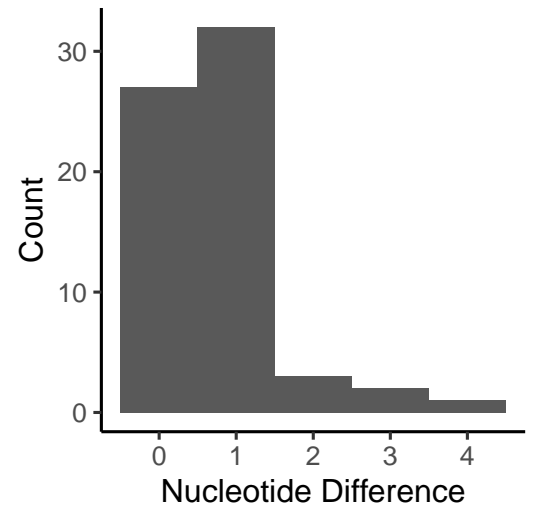
IGHV3–48*01

123 sequences assigned
107 (87%) exact matches, in which:
107 unique CDR3
6 unique J



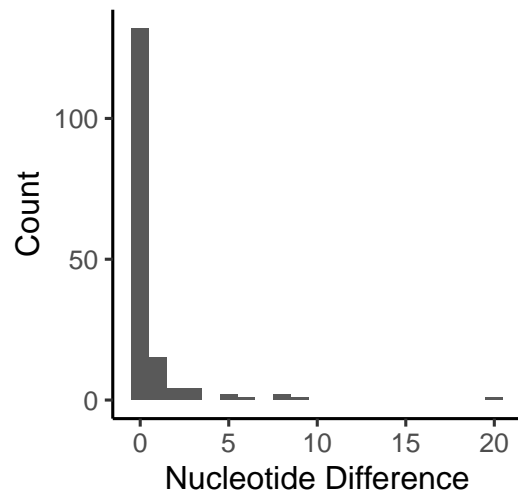
IGHV3–53*04

65 sequences assigned
27 (41.5%) exact matches, in which:
27 unique CDR3
4 unique J



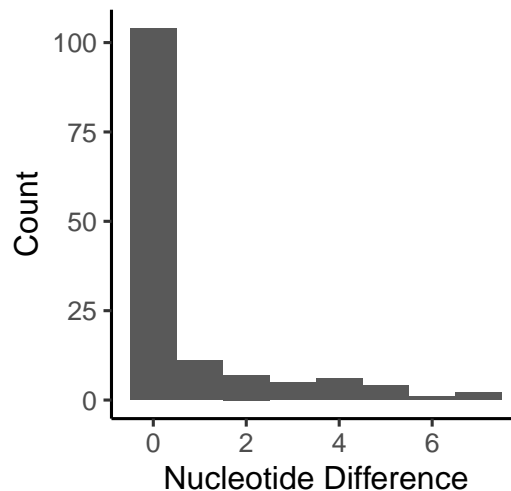
IGHV3–30*02_G49A

162 sequences assigned
132 (81.5%) exact matches, in which:
132 unique CDR3
6 unique J



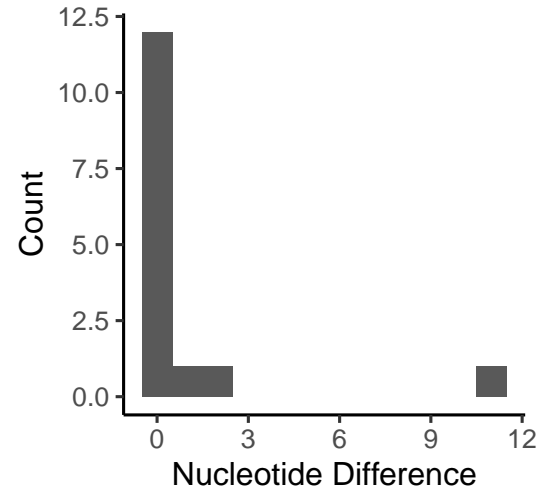
IGHV3–48*04

141 sequences assigned
104 (73.8%) exact matches, in which:
104 unique CDR3
5 unique J



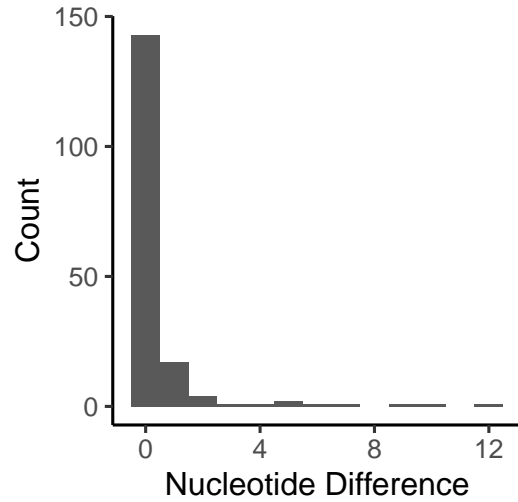
IGHV3–64*01

15 sequences assigned
12 (80%) exact matches, in which:
12 unique CDR3
3 unique J



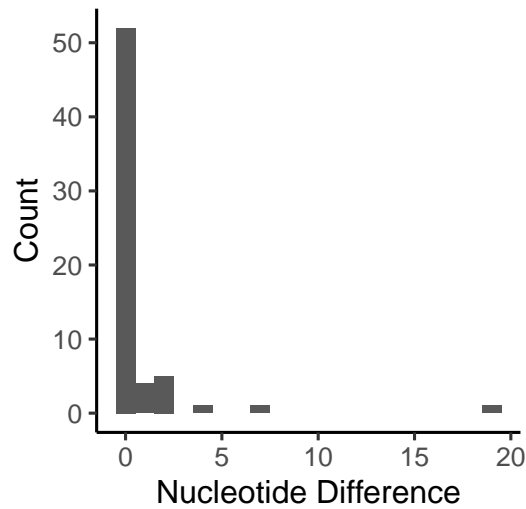
IGHV3-66*01

173 sequences assigned
143 (82.7%) exact matches, in which:
143 unique CDR3
6 unique J



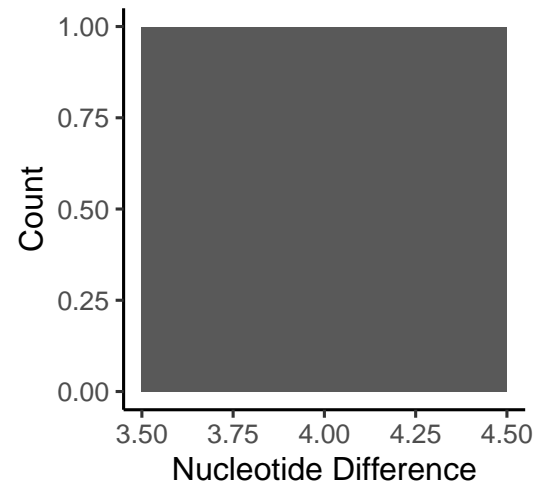
IGHV3-73*01

64 sequences assigned
52 (81.2%) exact matches, in which:
52 unique CDR3
5 unique J



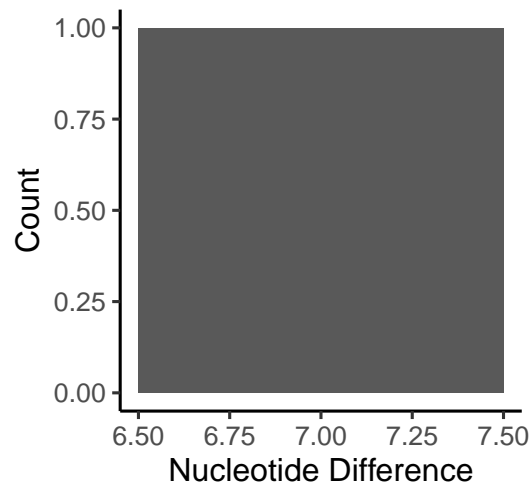
IGHV3-NL1*01

1 sequences assigned
No exact matches.



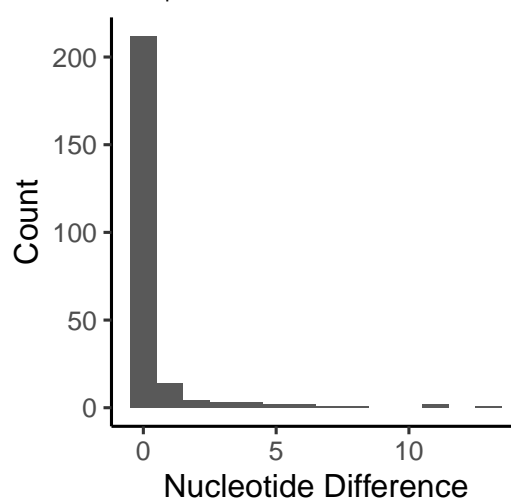
IGHV3-69-1*01

1 sequences assigned
No exact matches.



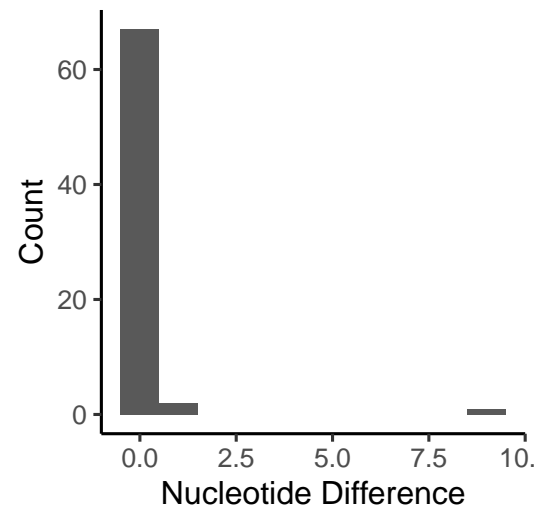
IGHV3-74*01

245 sequences assigned
212 (86.5%) exact matches, in which:
212 unique CDR3
6 unique J



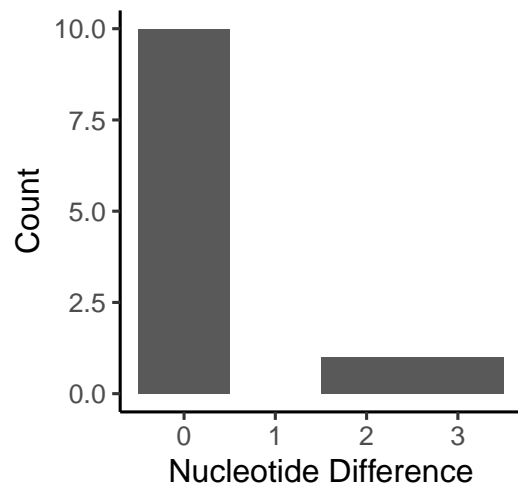
IGHV4-4*07

70 sequences assigned
67 (95.7%) exact matches, in which:
67 unique CDR3
6 unique J



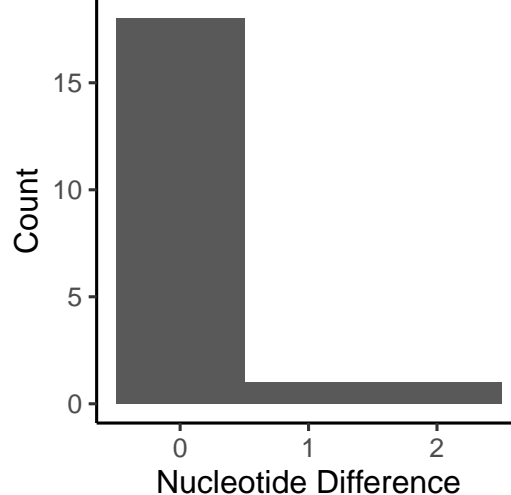
IGHV3-72*01

13 sequences assigned
10 (76.9%) exact matches, in which:
10 unique CDR3
3 unique J



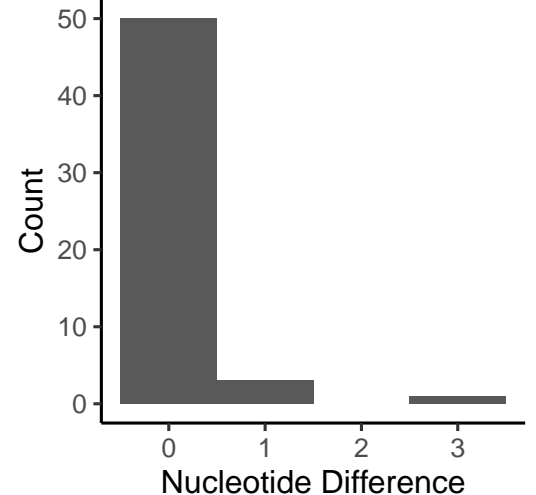
IGHV3-43D*03

20 sequences assigned
18 (90%) exact matches, in which:
18 unique CDR3
3 unique J



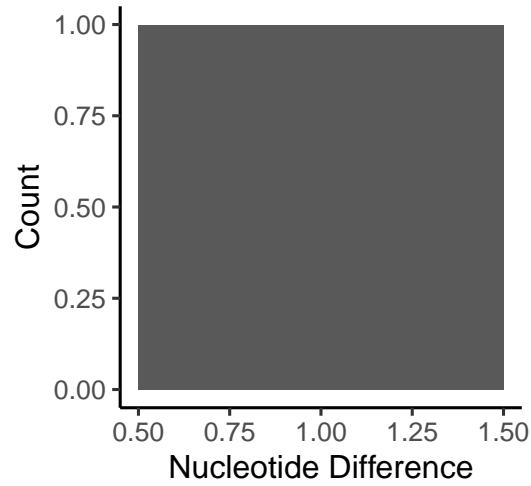
IGHV4-4*07_A70G

54 sequences assigned
50 (92.6%) exact matches, in which:
50 unique CDR3
6 unique J



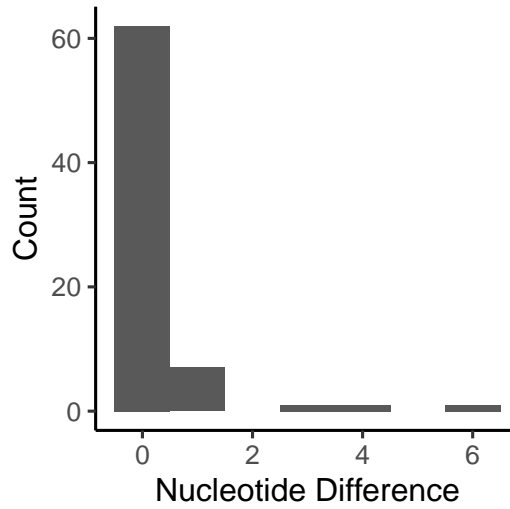
IGHV4-28*06

1 sequences assigned
No exact matches.



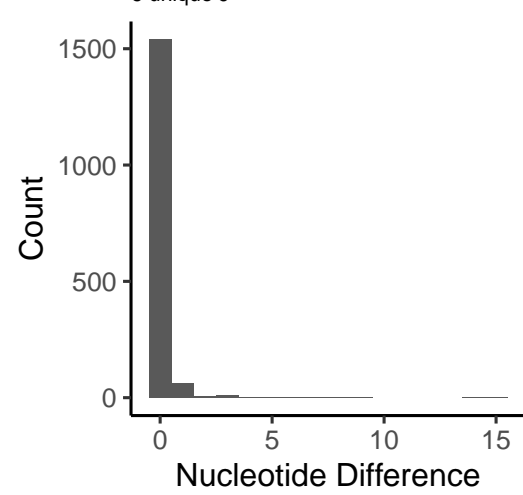
IGHV4-30-4*07

72 sequences assigned
62 (86.1%) exact matches, in which:
62 unique CDR3
5 unique J



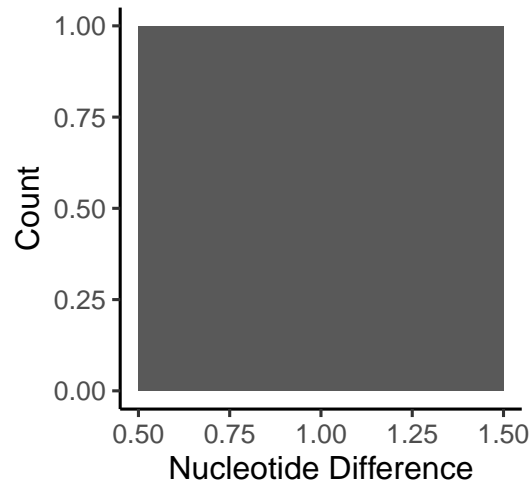
IGHV4-39*07

1637 sequences assigned
1540 (94.1%) exact matches, in which:
1538 unique CDR3
6 unique J



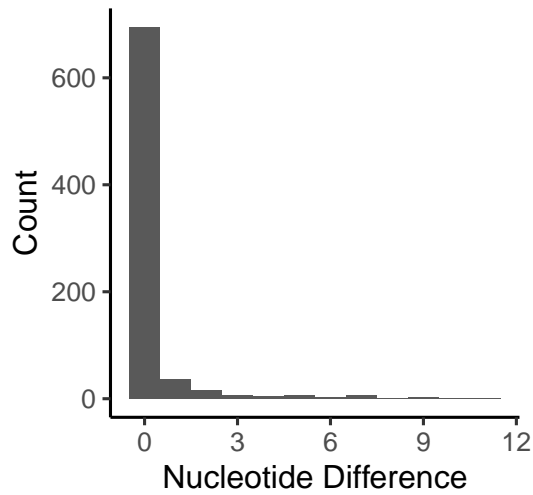
IGHV4-28*07

1 sequences assigned
No exact matches.



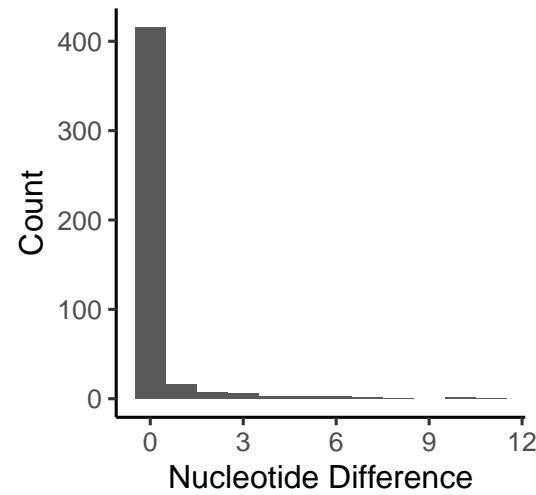
IGHV4-34*01

777 sequences assigned
695 (89.4%) exact matches, in which:
694 unique CDR3
6 unique J



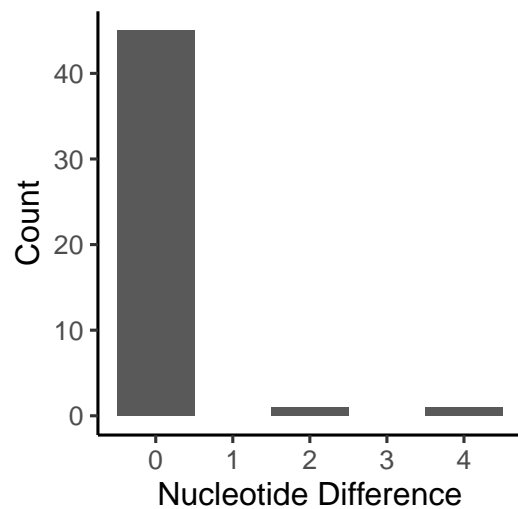
IGHV4-59*01

461 sequences assigned
416 (90.2%) exact matches, in which:
416 unique CDR3
6 unique J



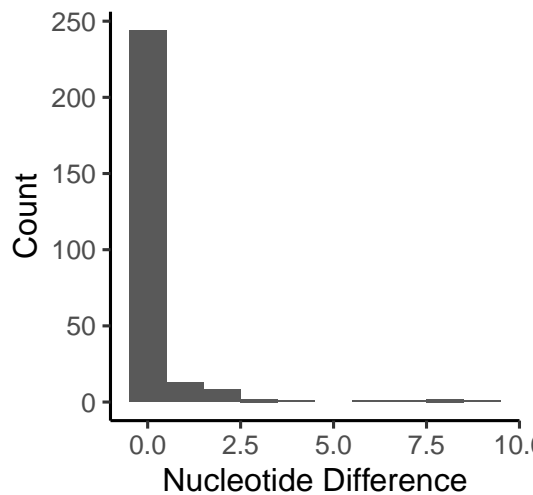
IGHV4-30-2*01

47 sequences assigned
45 (95.7%) exact matches, in which:
45 unique CDR3
4 unique J



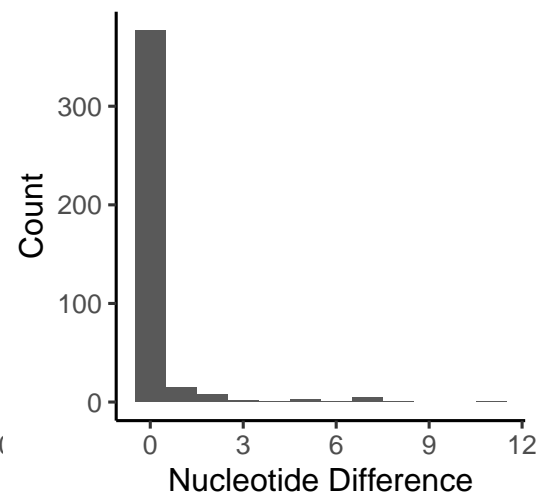
IGHV4-38-2*02

273 sequences assigned
244 (89.4%) exact matches, in which:
243 unique CDR3
6 unique J



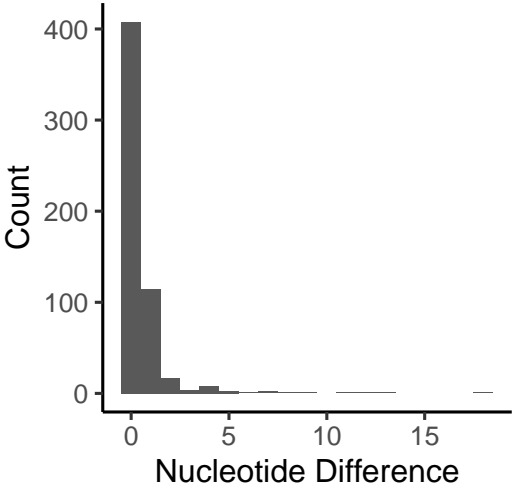
IGHV4-59*08

415 sequences assigned
377 (90.8%) exact matches, in which:
377 unique CDR3
6 unique J



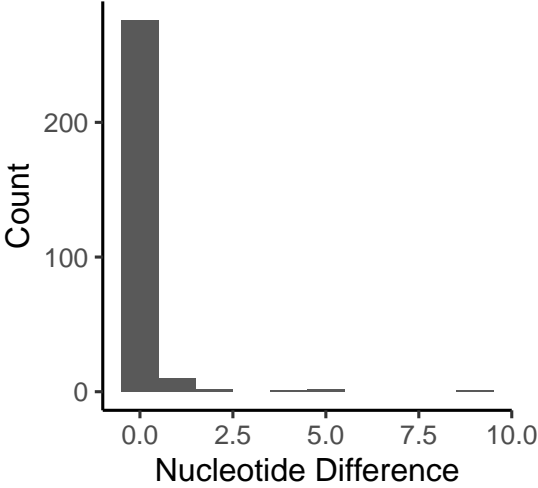
IGHV5–51*01

564 sequences assigned
408 (72.3%) exact matches, in which:
407 unique CDR3
6 unique J



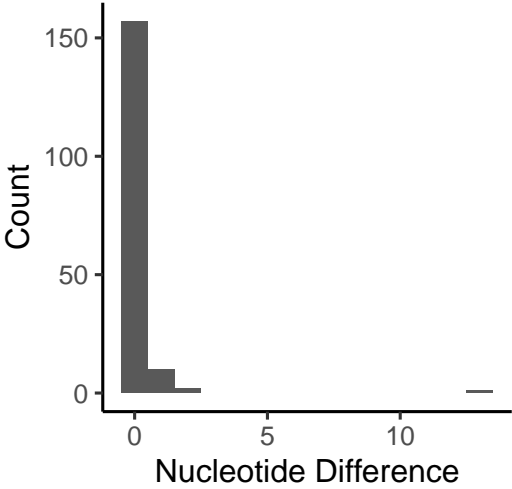
IGHV5–51*03

292 sequences assigned
276 (94.5%) exact matches, in which:
276 unique CDR3
6 unique J

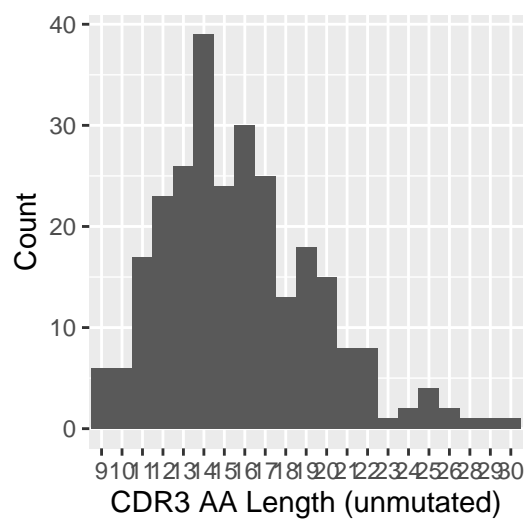


IGHV6–1*01

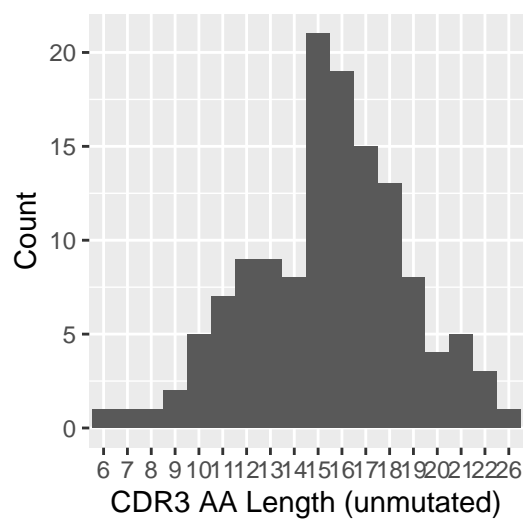
170 sequences assigned
157 (92.4%) exact matches, in which:
156 unique CDR3
6 unique J



IGHV1-69*04_A163G



IGHV3-30*02_G49A



IGHV4-4*07_A70G

