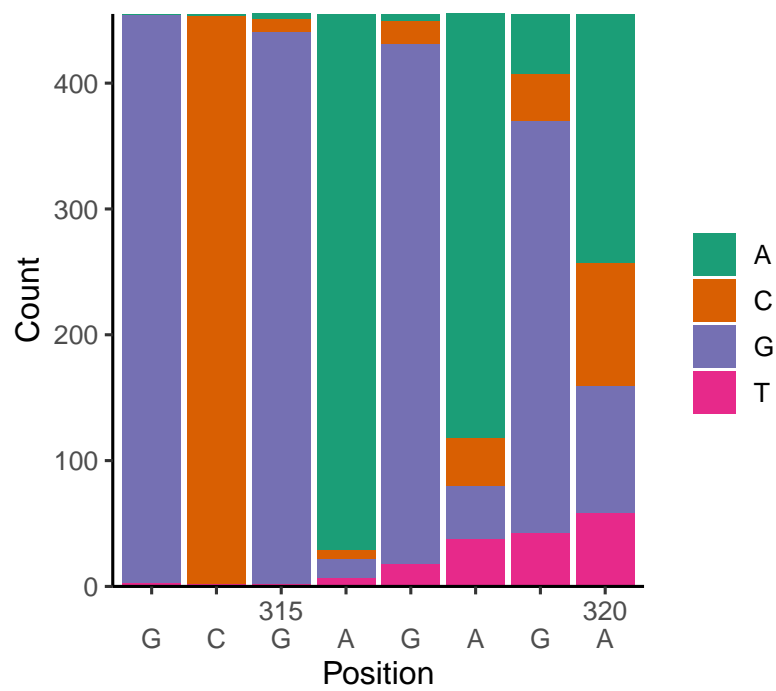
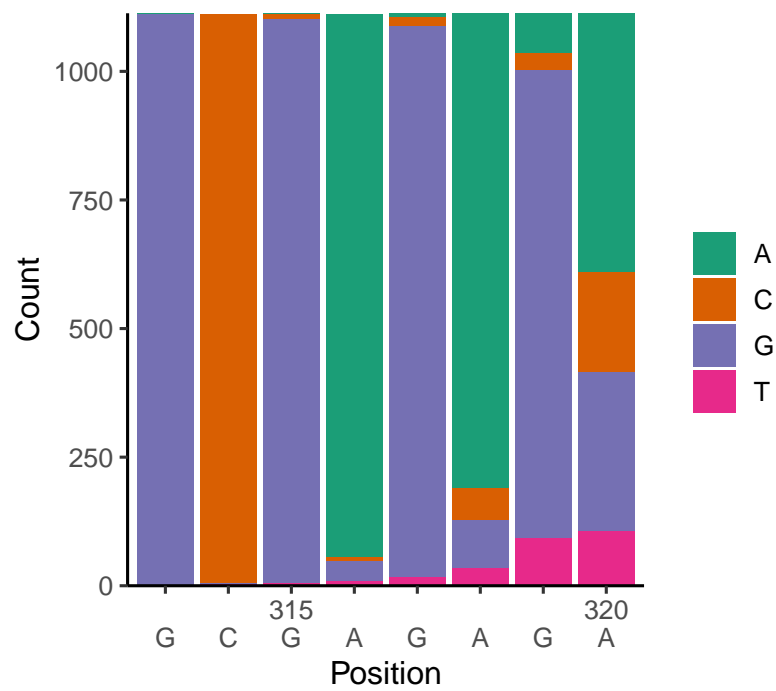


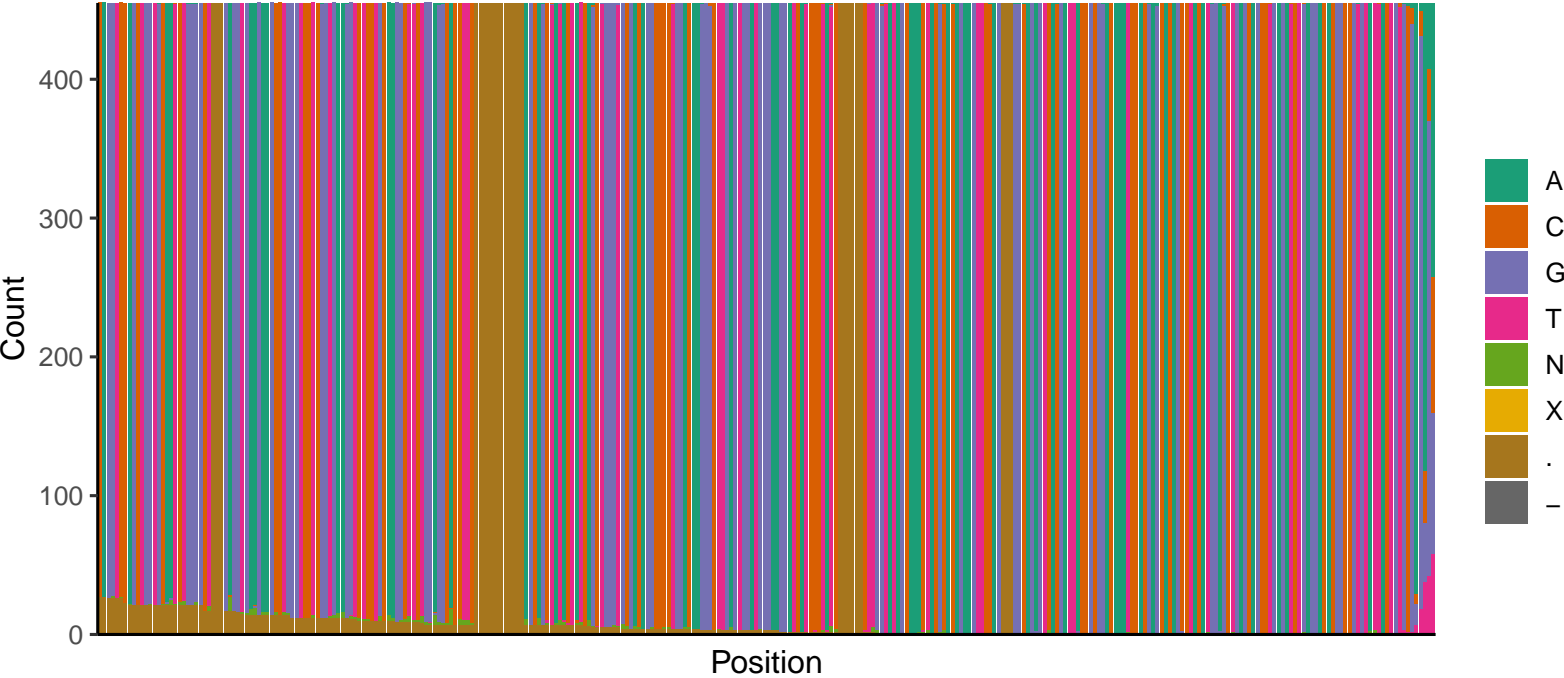
Gene IGHV1-69*08_C191T



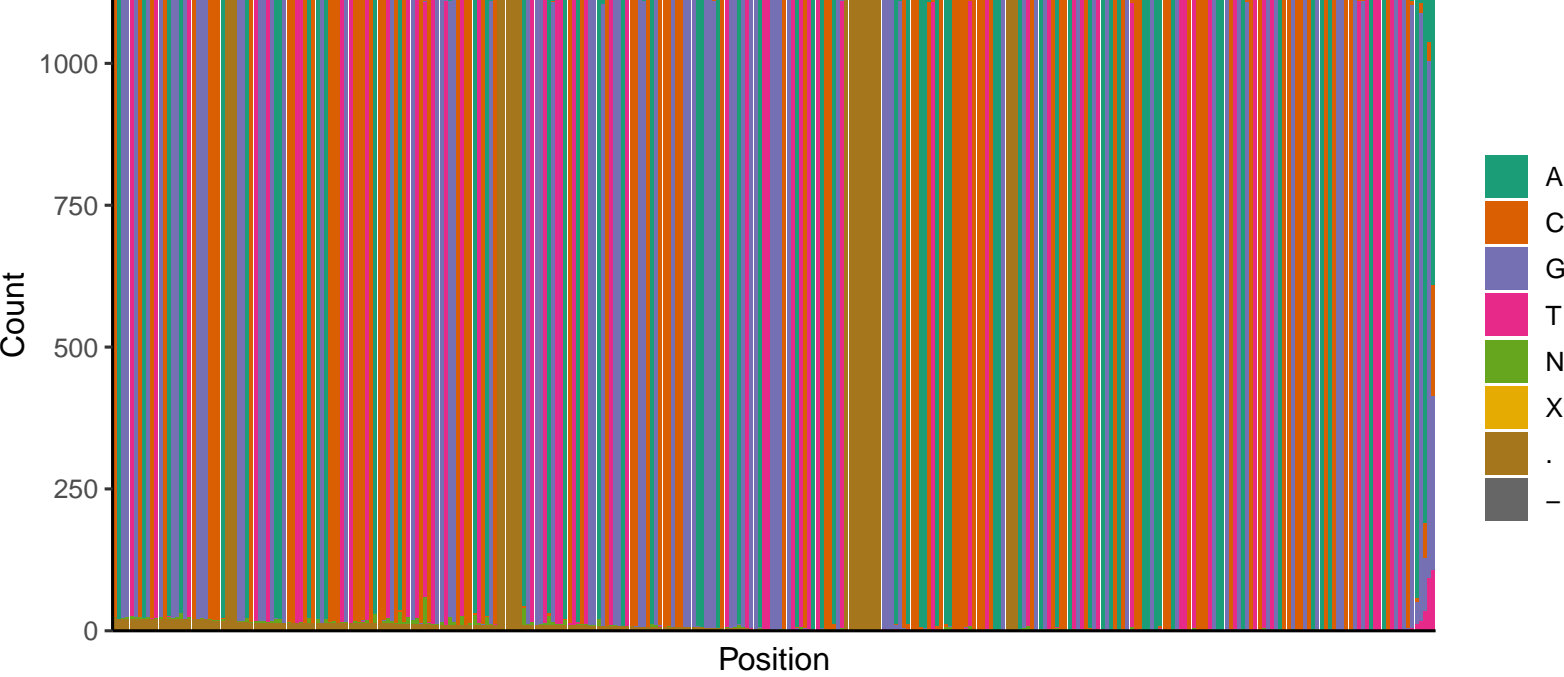
Gene IGHV4-61*02_A234G



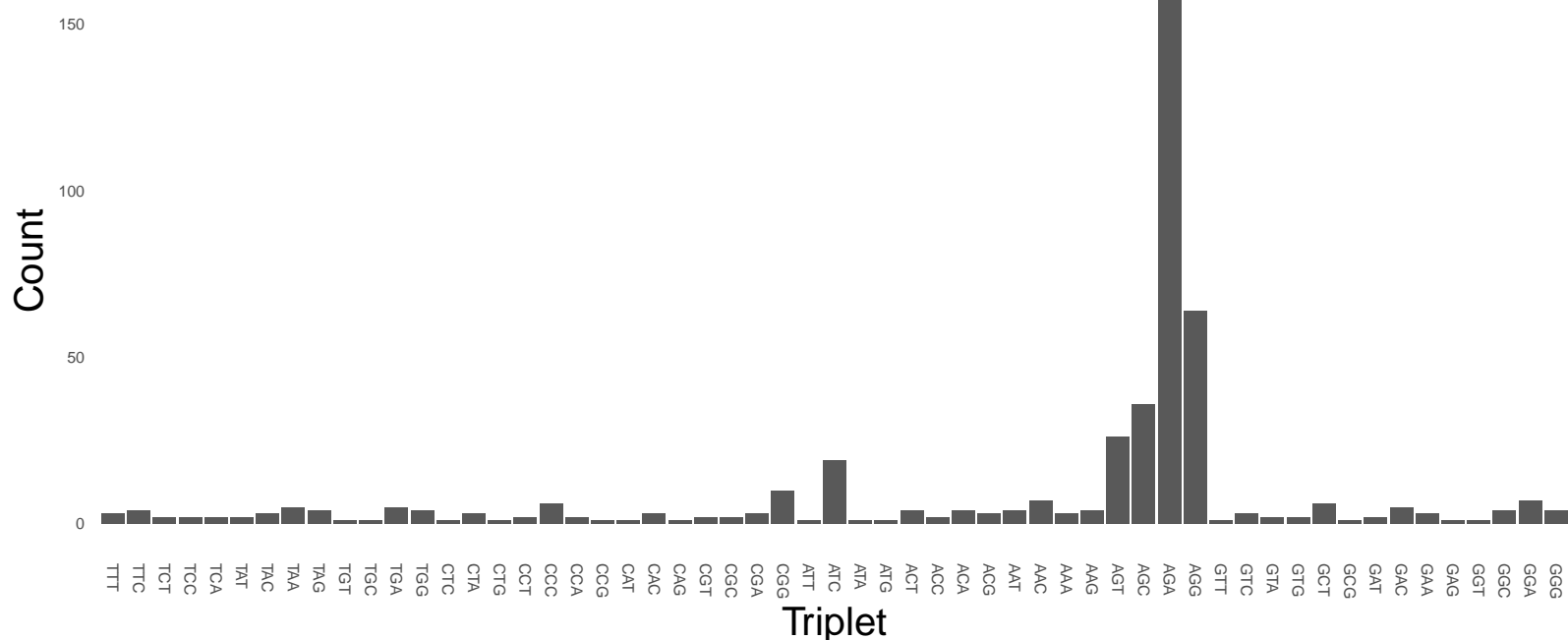
Gene IGHV1-69*08_C191T



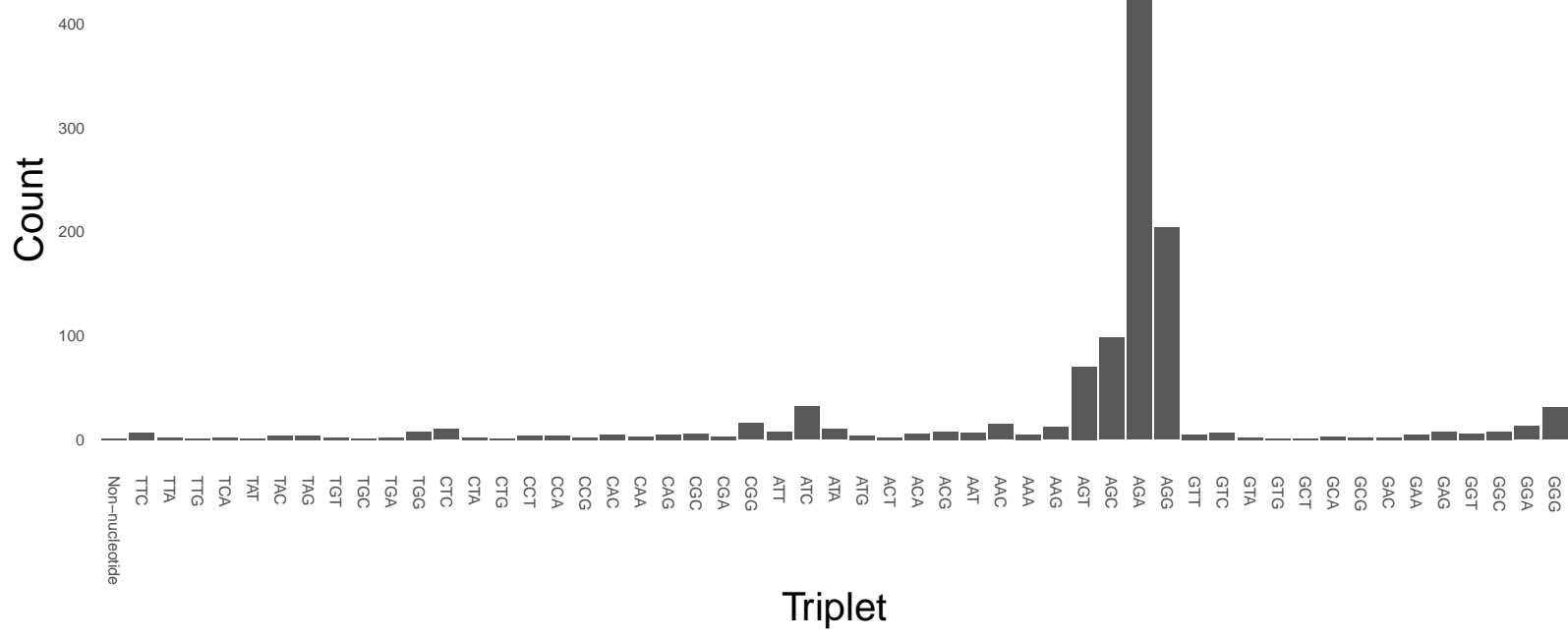
Gene IGHV4-61*02_A234G



IGHV1–69*08_C191T– Final 3 nucleotides as a triplet

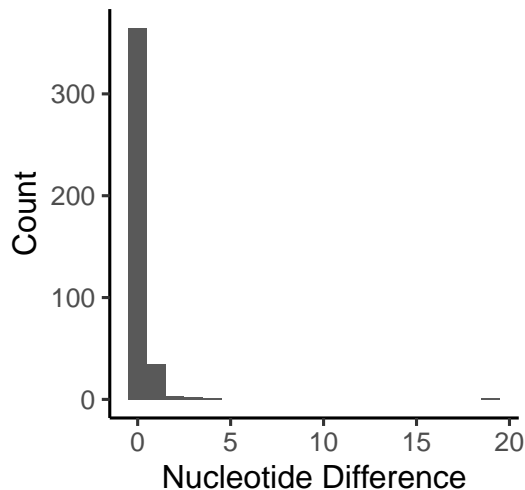


IGHV4–61*02_A234G– Final 3 nucleotides as a triplet



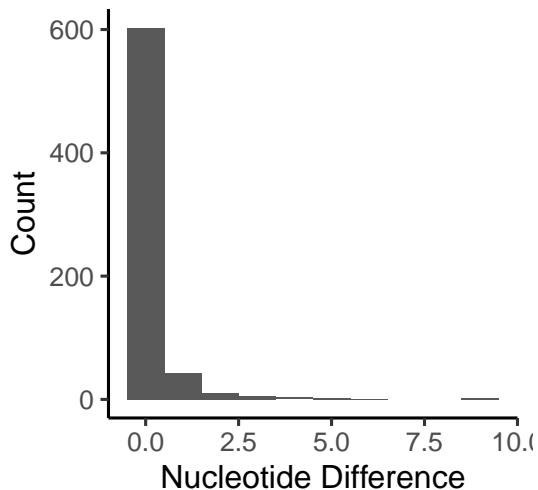
IGHV1-2*04

408 sequences assigned
365 (89.5%) exact matches, in which:
350 unique CDR3
6 unique J



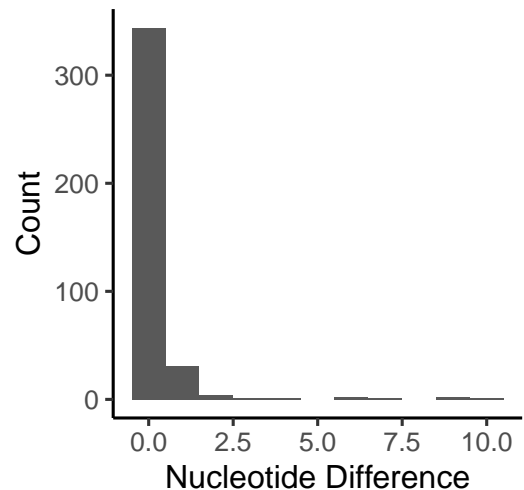
IGHV1-18*01

670 sequences assigned
603 (90%) exact matches, in which:
585 unique CDR3
6 unique J



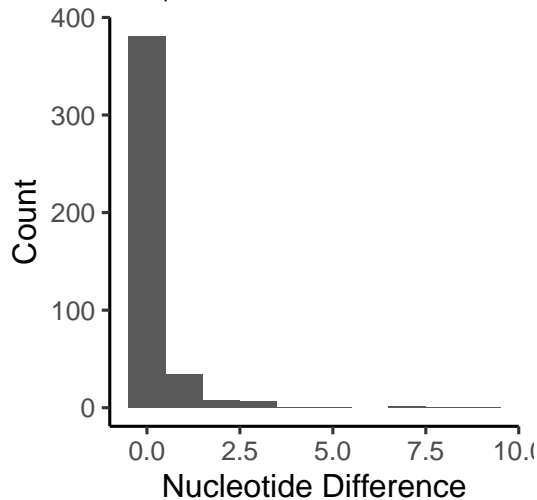
IGHV1-46*01

387 sequences assigned
344 (88.9%) exact matches, in which:
327 unique CDR3
6 unique J



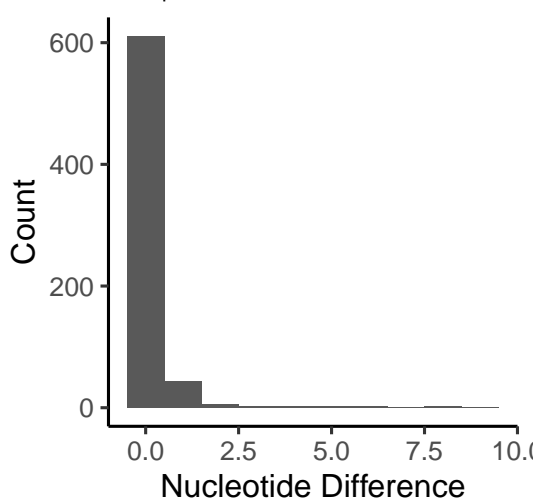
IGHV1-3*01

436 sequences assigned
381 (87.4%) exact matches, in which:
366 unique CDR3
6 unique J



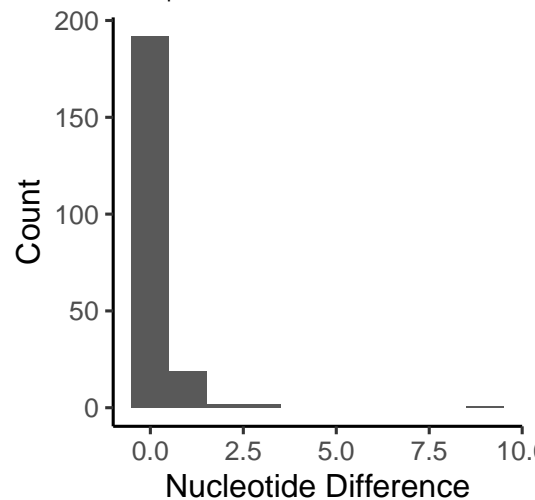
IGHV1-18*04

675 sequences assigned
611 (90.5%) exact matches, in which:
589 unique CDR3
6 unique J



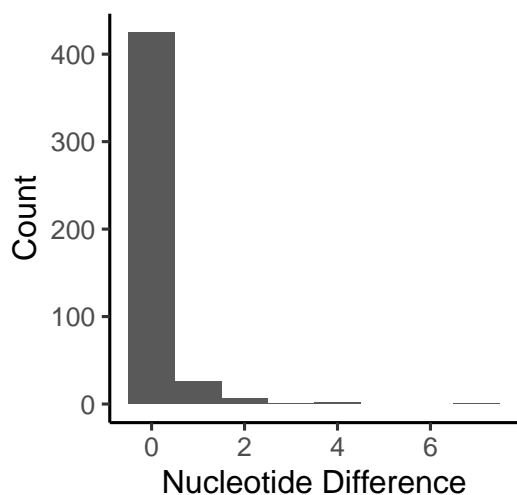
IGHV1-46*03

216 sequences assigned
192 (88.9%) exact matches, in which:
187 unique CDR3
6 unique J



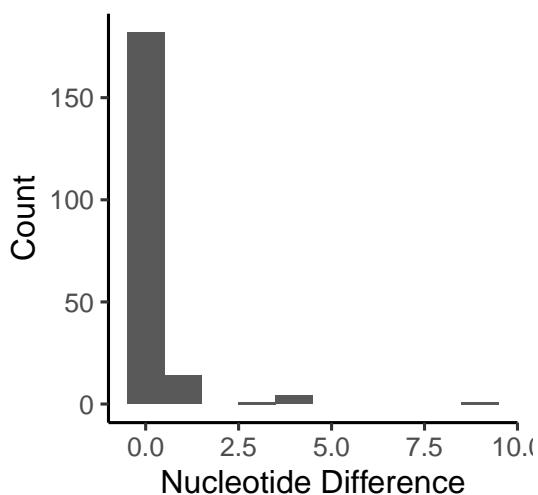
IGHV1-8*01

461 sequences assigned
425 (92.2%) exact matches, in which:
401 unique CDR3
6 unique J



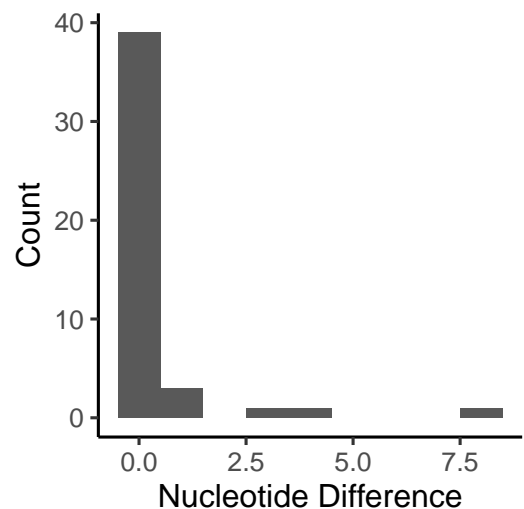
IGHV1-24*01

202 sequences assigned
182 (90.1%) exact matches, in which:
175 unique CDR3
6 unique J



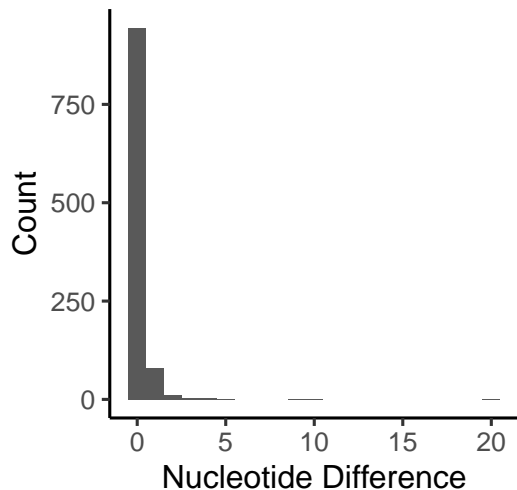
IGHV1-58*02

45 sequences assigned
39 (86.7%) exact matches, in which:
37 unique CDR3
6 unique J



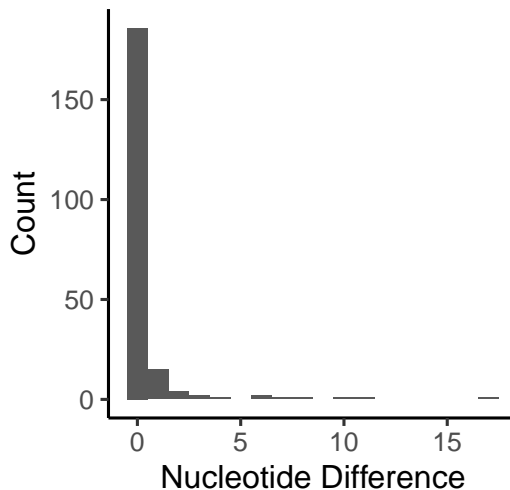
IGHV1–69*01

1048 sequences assigned
945 (90.2%) exact matches, in which:
891 unique CDR3
6 unique J



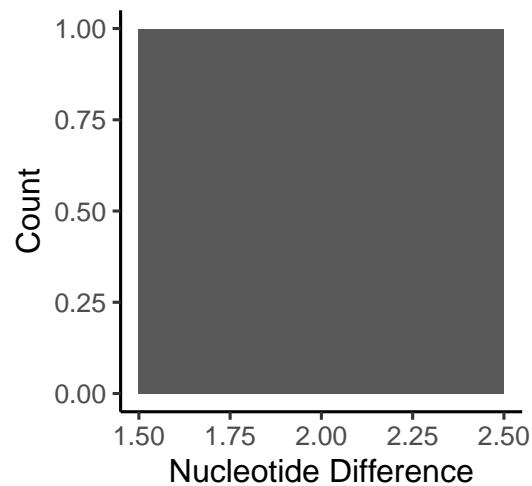
IGHV2–5*02

215 sequences assigned
186 (86.5%) exact matches, in which:
175 unique CDR3
6 unique J



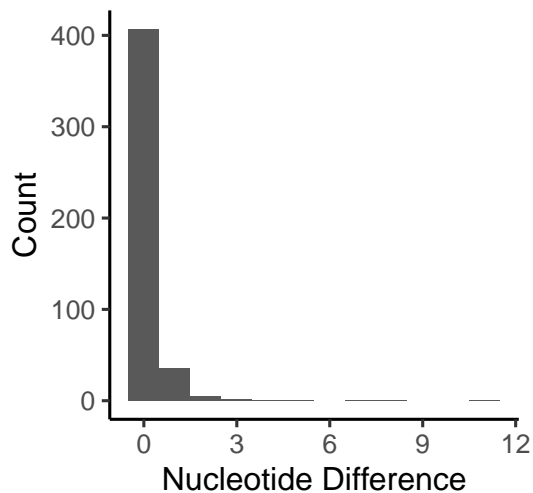
IGHV2–70D*14

1 sequences assigned
No exact matches.



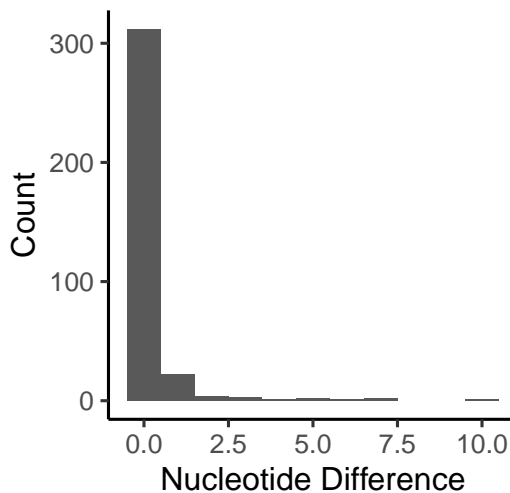
IGHV1–69*08_C191T

455 sequences assigned
407 (89.5%) exact matches, in which:
382 unique CDR3
6 unique J



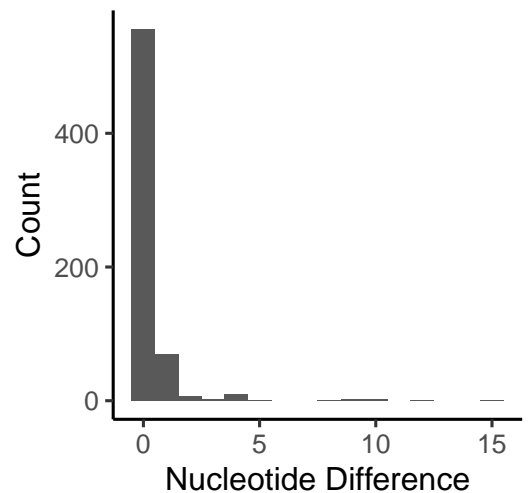
IGHV2–26*01

348 sequences assigned
312 (89.7%) exact matches, in which:
301 unique CDR3
5 unique J



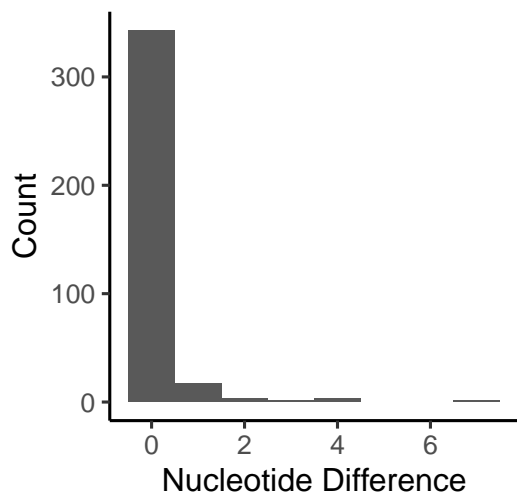
IGHV3–7*01

653 sequences assigned
556 (85.1%) exact matches, in which:
522 unique CDR3
6 unique J



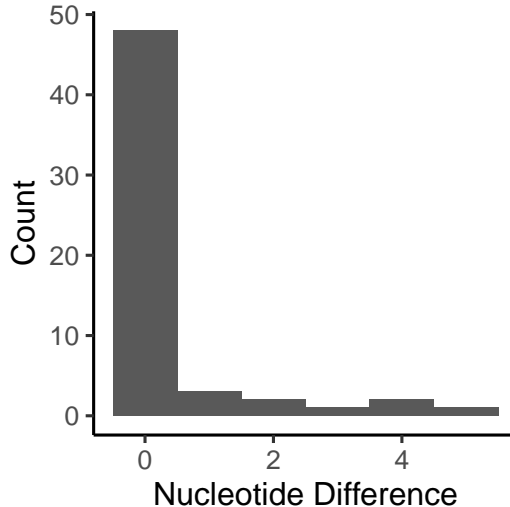
IGHV2–5*01

368 sequences assigned
343 (93.2%) exact matches, in which:
332 unique CDR3
6 unique J



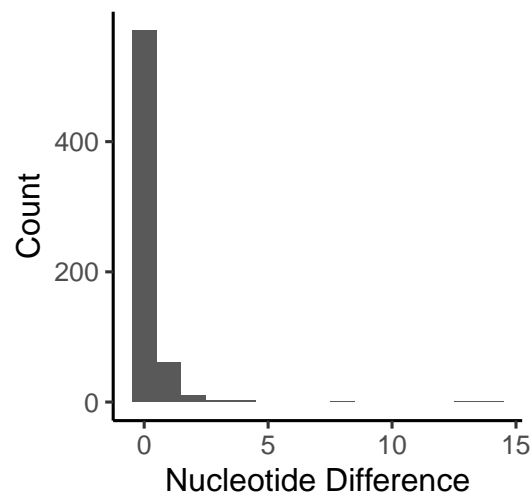
IGHV2–70*01

57 sequences assigned
48 (84.2%) exact matches, in which:
48 unique CDR3
4 unique J



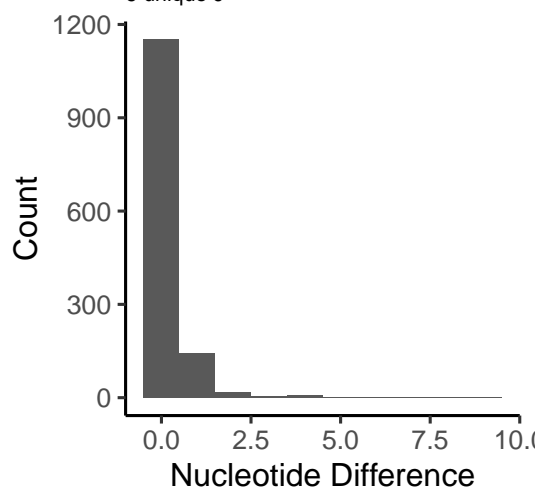
IGHV3–7*03

650 sequences assigned
571 (87.8%) exact matches, in which:
533 unique CDR3
6 unique J



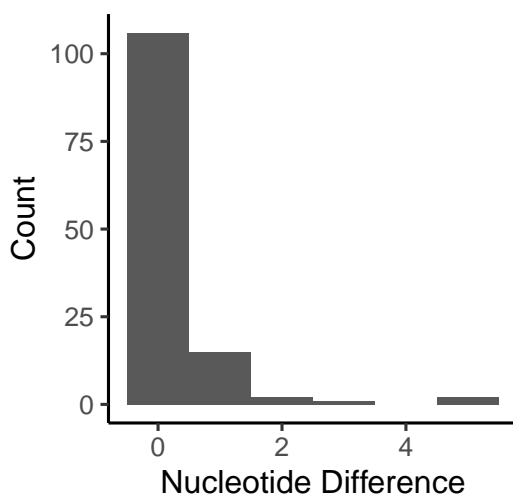
IGHV3-9*01

1339 sequences assigned
1152 (86%) exact matches, in which:
1044 unique CDR3
6 unique J



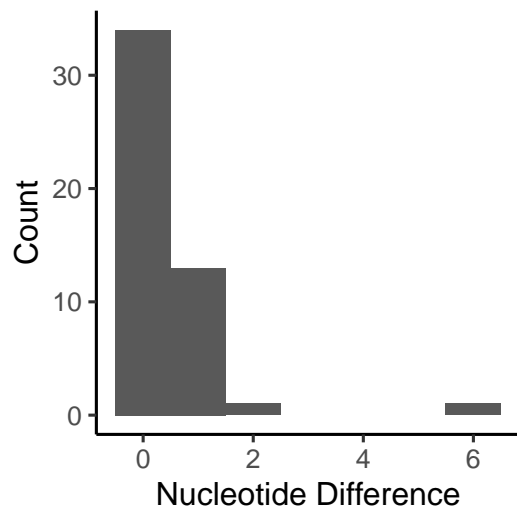
IGHV3-13*01

126 sequences assigned
106 (84.1%) exact matches, in which:
103 unique CDR3
6 unique J



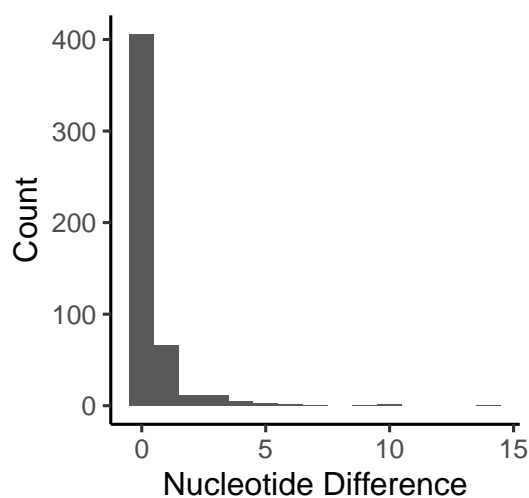
IGHV3-20*01

49 sequences assigned
34 (69.4%) exact matches, in which:
32 unique CDR3
6 unique J



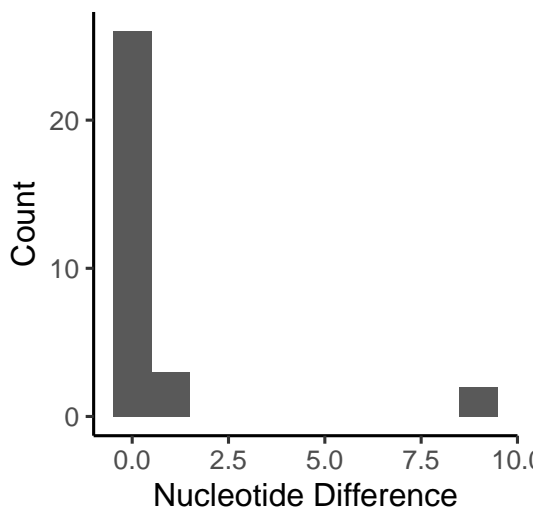
IGHV3-11*01

511 sequences assigned
406 (79.5%) exact matches, in which:
382 unique CDR3
6 unique J



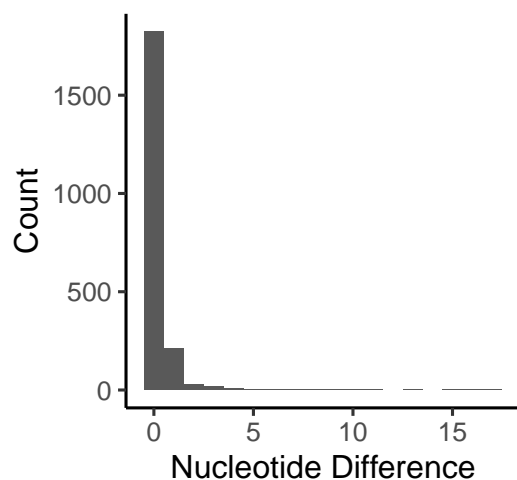
IGHV3-13*05

31 sequences assigned
26 (83.9%) exact matches, in which:
24 unique CDR3
5 unique J



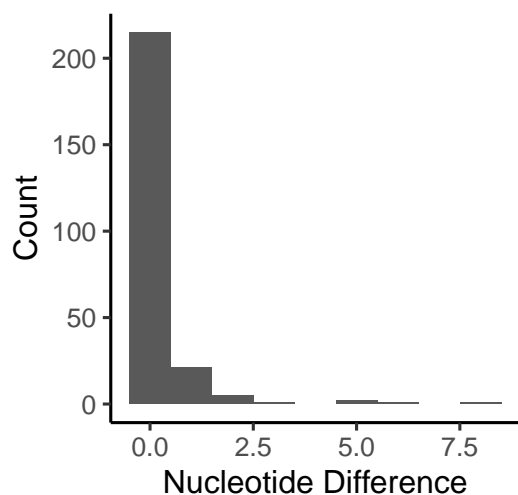
IGHV3-21*01

2120 sequences assigned
1823 (86%) exact matches, in which:
1684 unique CDR3
6 unique J



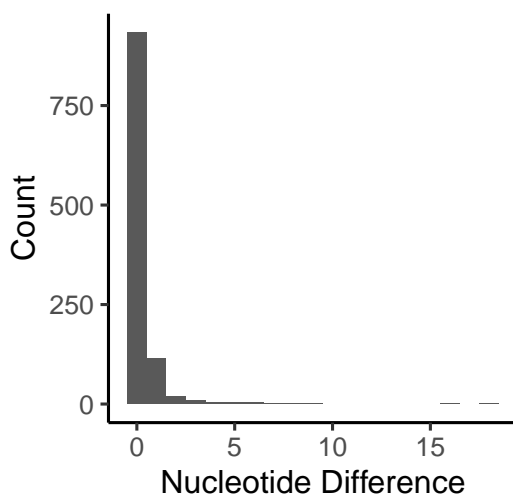
IGHV3-11*06

246 sequences assigned
215 (87.4%) exact matches, in which:
197 unique CDR3
6 unique J



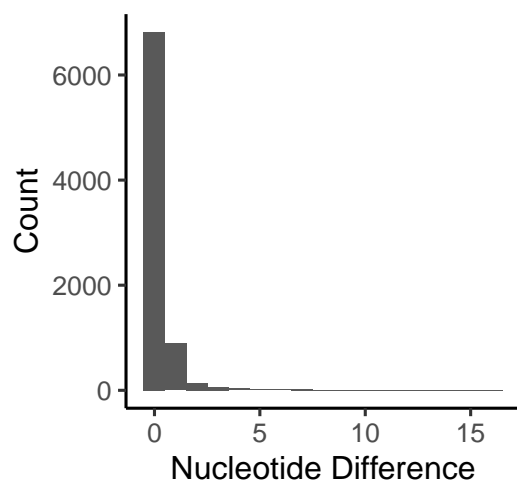
IGHV3-15*01

1099 sequences assigned
934 (85%) exact matches, in which:
868 unique CDR3
6 unique J



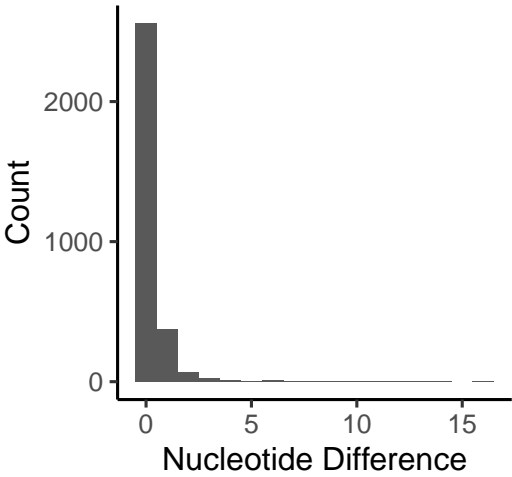
IGHV3-23*01

8035 sequences assigned
6817 (84.8%) exact matches, in which:
6305 unique CDR3
6 unique J



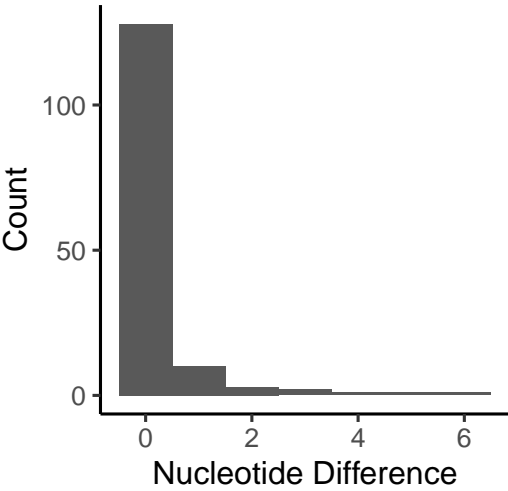
IGHV3-30-3*01

3072 sequences assigned
2558 (83.3%) exact matches, in which:
2365 unique CDR3
6 unique J



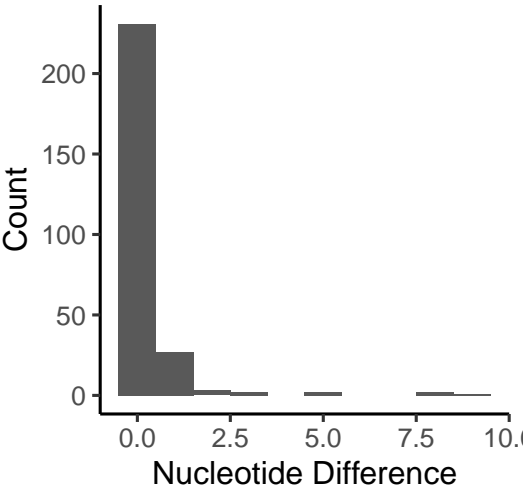
IGHV3-43*01

146 sequences assigned
128 (87.7%) exact matches, in which:
120 unique CDR3
5 unique J



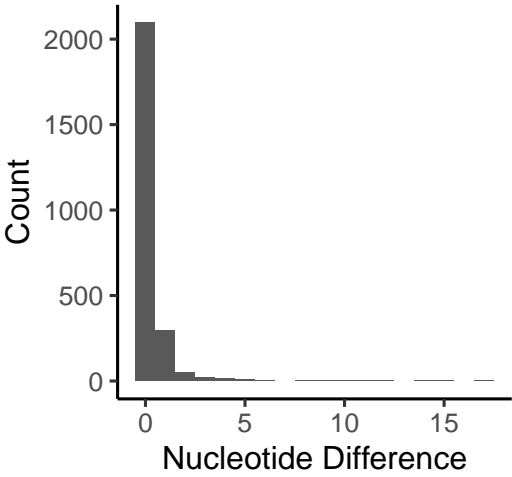
IGHV3-49*03

268 sequences assigned
231 (86.2%) exact matches, in which:
215 unique CDR3
6 unique J



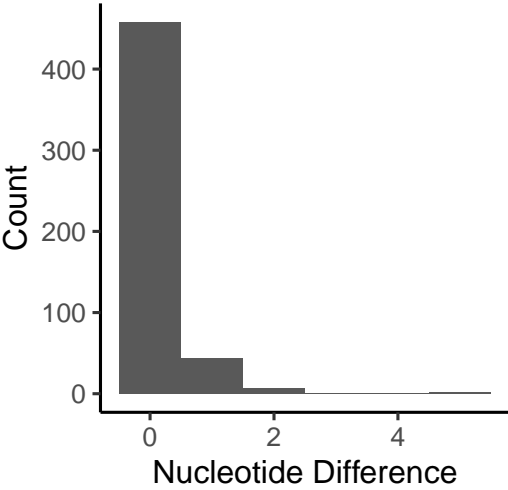
IGHV3-30*18

2511 sequences assigned
2096 (83.5%) exact matches, in which:
1959 unique CDR3
6 unique J



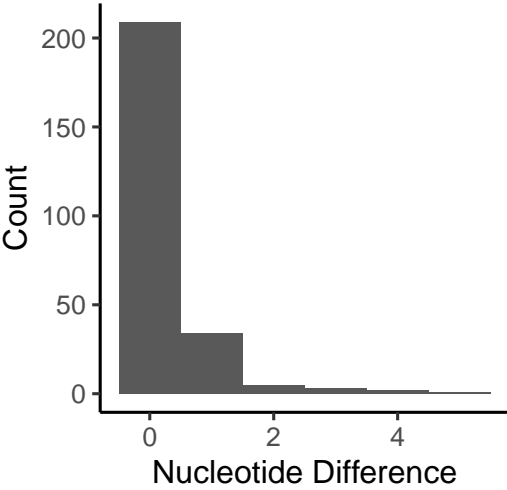
IGHV3-48*01

513 sequences assigned
458 (89.3%) exact matches, in which:
432 unique CDR3
6 unique J



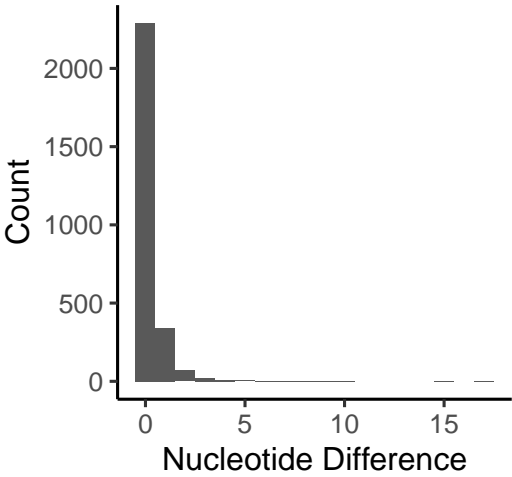
IGHV3-49*05

254 sequences assigned
209 (82.3%) exact matches, in which:
199 unique CDR3
5 unique J



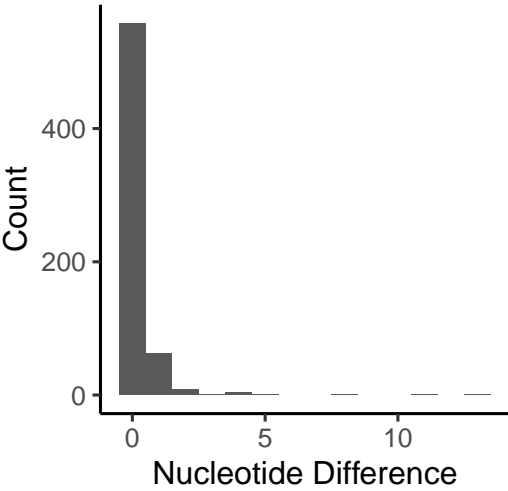
IGHV3-33*01

2754 sequences assigned
2290 (83.2%) exact matches, in which:
2108 unique CDR3
6 unique J



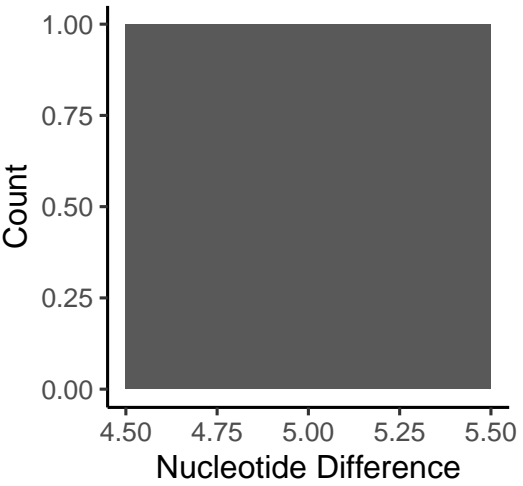
IGHV3-48*02

638 sequences assigned
558 (87.5%) exact matches, in which:
535 unique CDR3
6 unique J



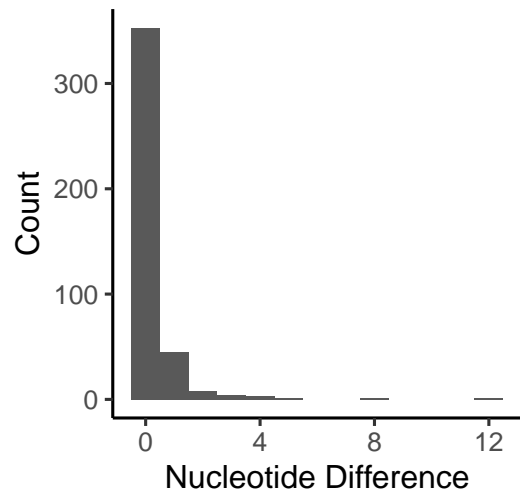
IGHV3-52*01

1 sequences assigned
No exact matches.



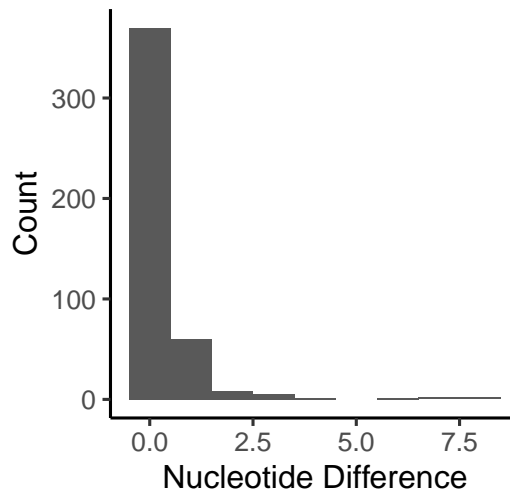
IGHV3–53*01

416 sequences assigned
353 (84.9%) exact matches, in which:
336 unique CDR3
6 unique J



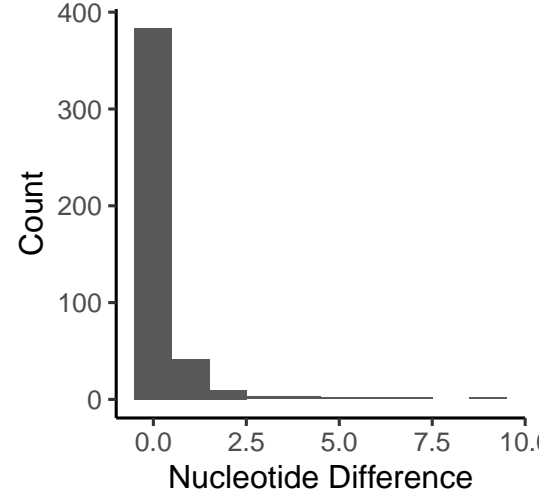
IGHV3–66*02

449 sequences assigned
370 (82.4%) exact matches, in which:
341 unique CDR3
6 unique J



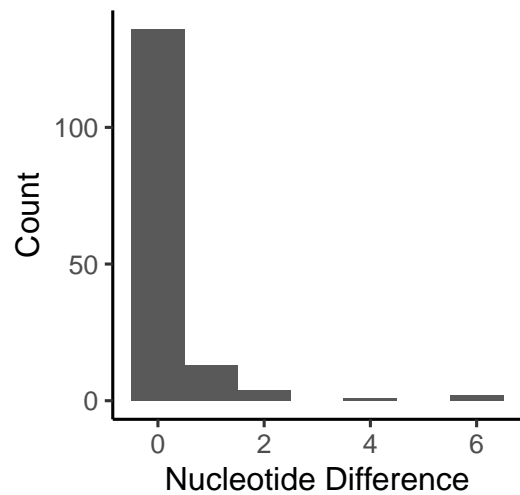
IGHV3–74*01

450 sequences assigned
384 (85.3%) exact matches, in which:
372 unique CDR3
6 unique J



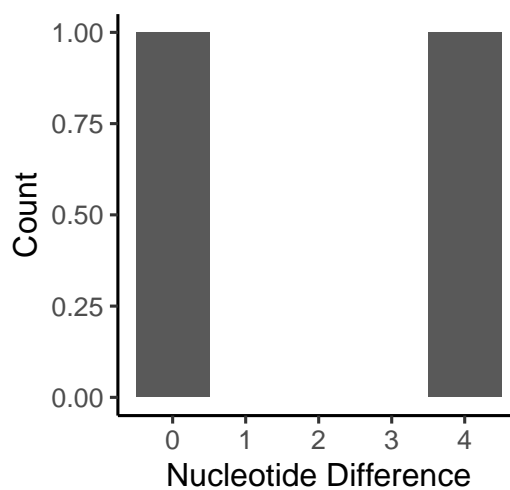
IGHV3–53*02

156 sequences assigned
136 (87.2%) exact matches, in which:
128 unique CDR3
6 unique J



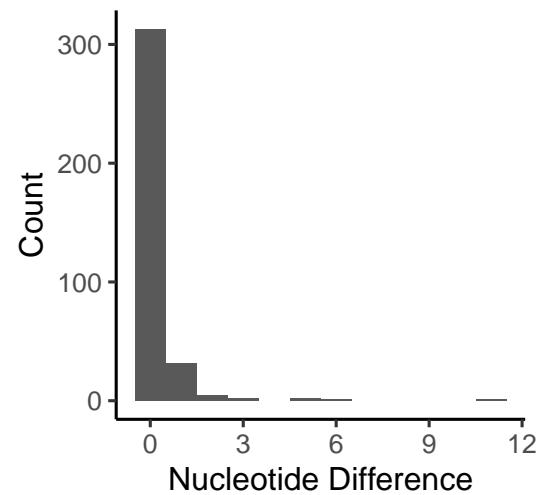
IGHV3–69–1*01

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



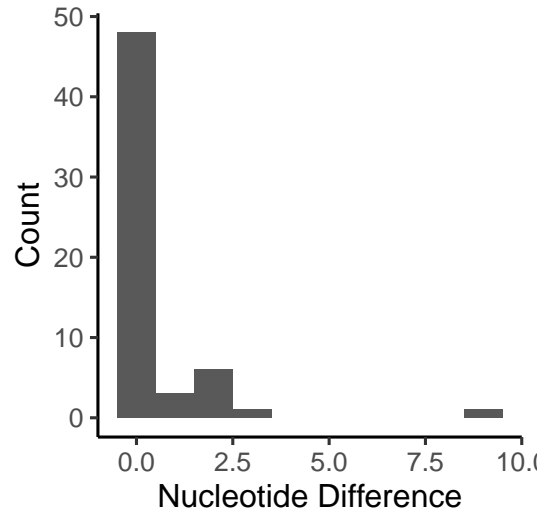
IGHV3–64D*06

356 sequences assigned
313 (87.9%) exact matches, in which:
282 unique CDR3
6 unique J



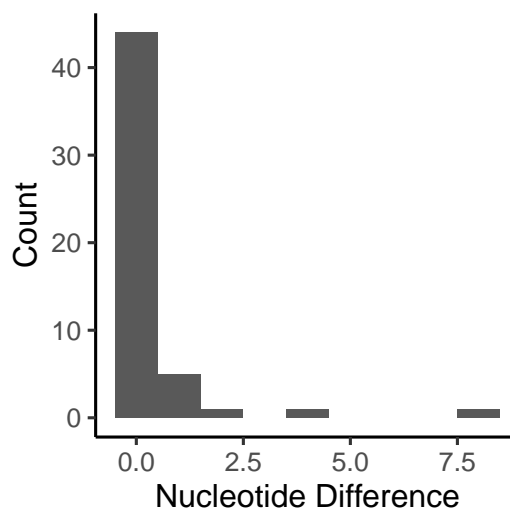
IGHV3–64*01

59 sequences assigned
48 (81.4%) exact matches, in which:
47 unique CDR3
6 unique J



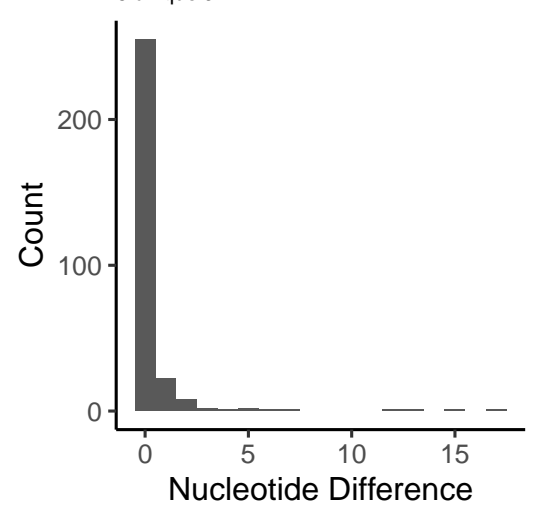
IGHV3–72*01

52 sequences assigned
44 (84.6%) exact matches, in which:
40 unique CDR3
5 unique J



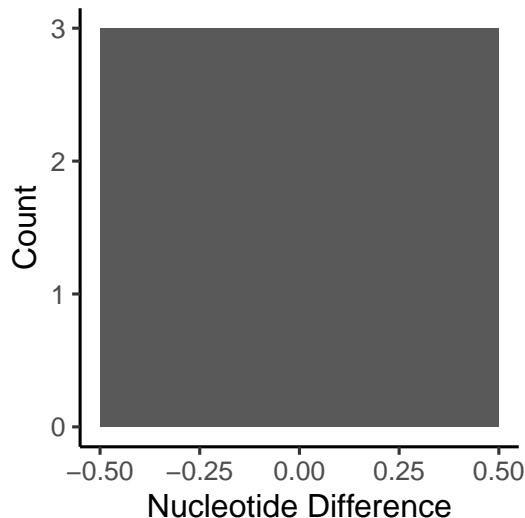
IGHV4–4*02

296 sequences assigned
255 (86.1%) exact matches, in which:
251 unique CDR3
6 unique J



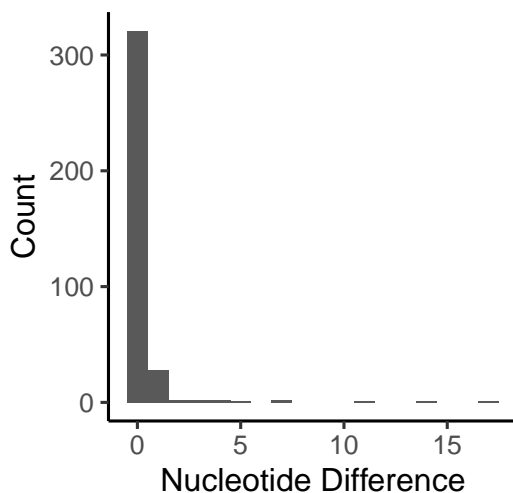
IGHV4-28*01

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



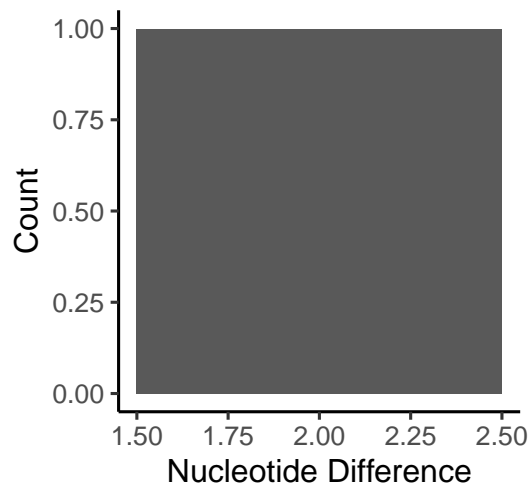
IGHV4-30-2*01

361 sequences assigned
321 (88.9%) exact matches, in which:
311 unique CDR3
6 unique J



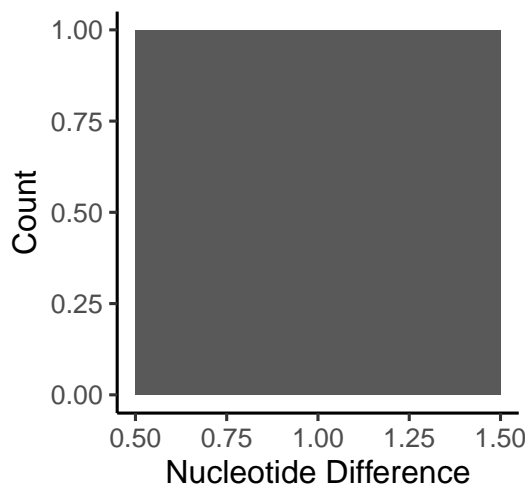
IGHV4-38-2*02

1 sequences assigned
No exact matches.



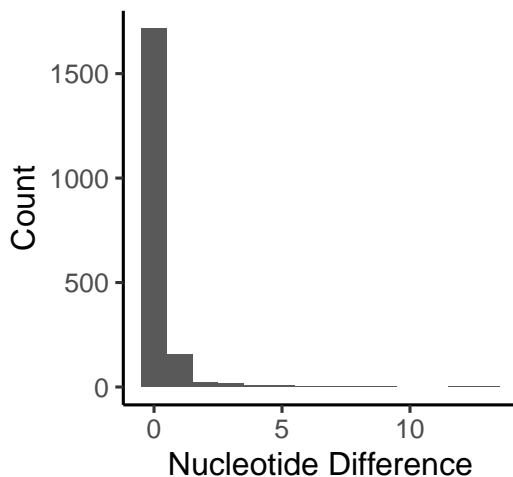
IGHV4-28*04

1 sequences assigned
No exact matches.



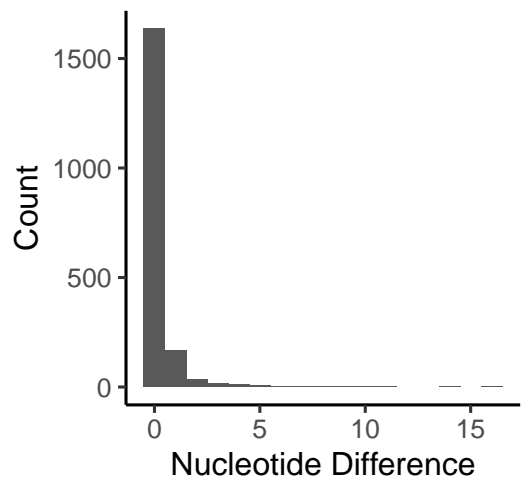
IGHV4-31*03

1939 sequences assigned
1715 (88.4%) exact matches, in which:
1638 unique CDR3
6 unique J



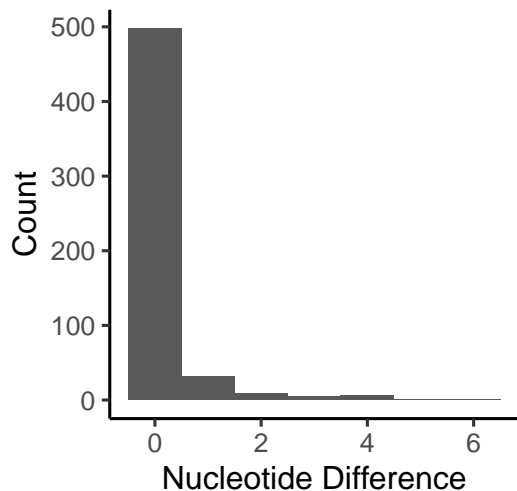
IGHV4-39*01

1885 sequences assigned
1636 (86.8%) exact matches, in which:
1550 unique CDR3
6 unique J



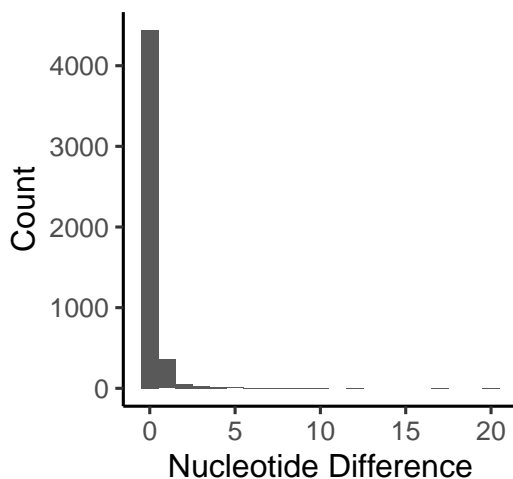
IGHV4-30-4*01

551 sequences assigned
498 (90.4%) exact matches, in which:
476 unique CDR3
6 unique J



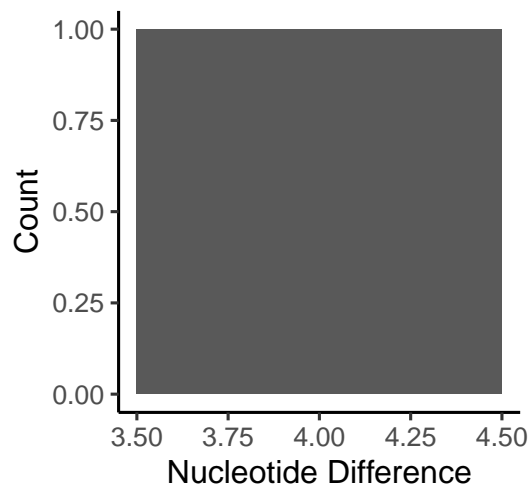
IGHV4-34*01

4933 sequences assigned
4442 (90%) exact matches, in which:
4152 unique CDR3
6 unique J



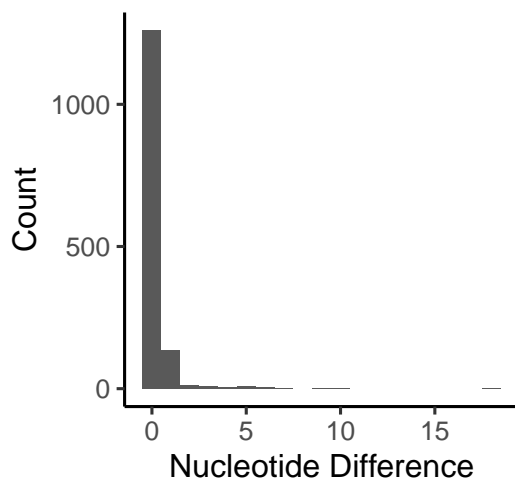
IGHV4-55*08

1 sequences assigned
No exact matches.



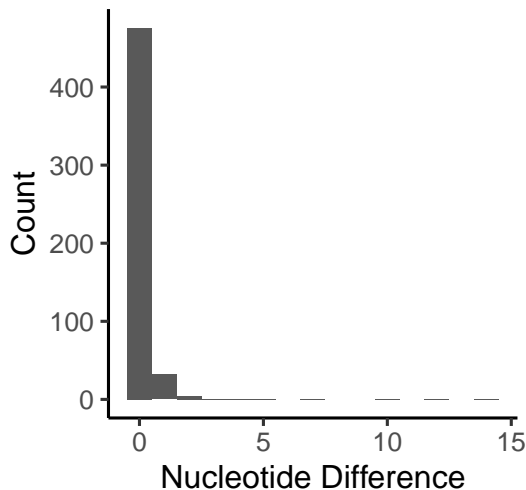
IGHV4–59*01

1438 sequences assigned
1260 (87.6%) exact matches, in which:
1201 unique CDR3
6 unique J



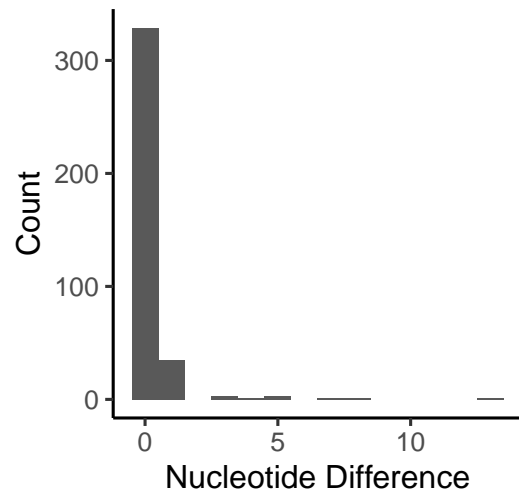
IGHV5–10–1*03

519 sequences assigned
476 (91.7%) exact matches, in which:
455 unique CDR3
6 unique J



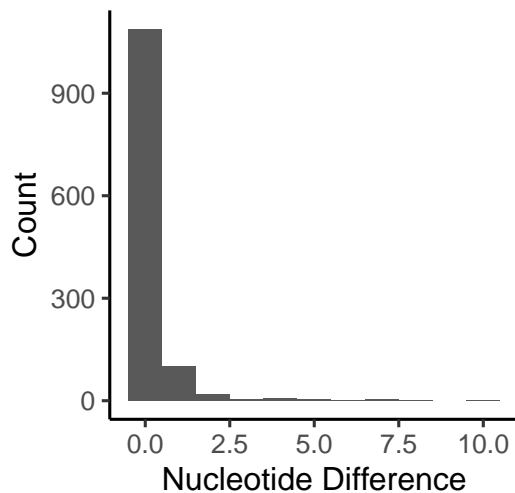
IGHV6–1*01

374 sequences assigned
329 (88%) exact matches, in which:
309 unique CDR3
6 unique J



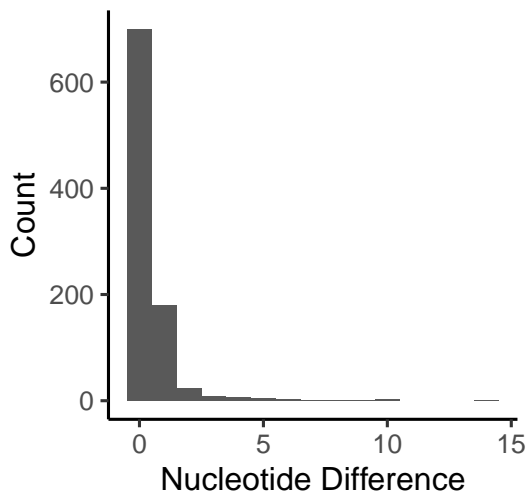
IGHV4–61*02

1228 sequences assigned
1088 (88.6%) exact matches, in which:
1038 unique CDR3
6 unique J



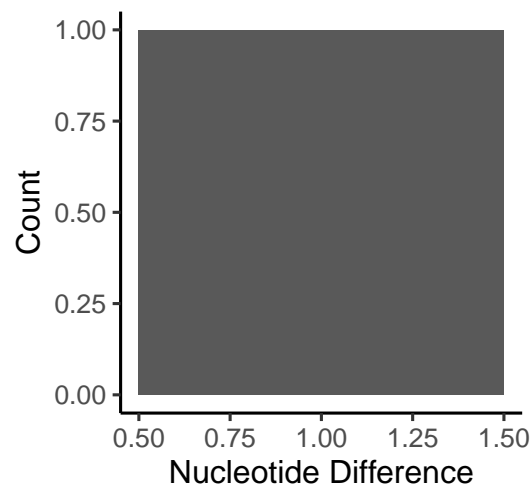
IGHV5–51*01

930 sequences assigned
700 (75.3%) exact matches, in which:
665 unique CDR3
6 unique J



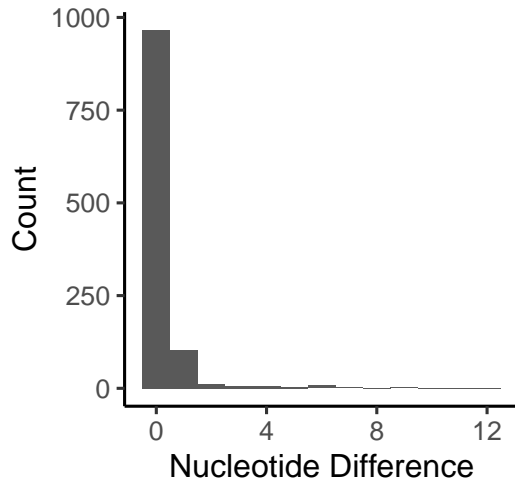
IGHV3/OR16–12*01

1 sequences assigned
No exact matches.



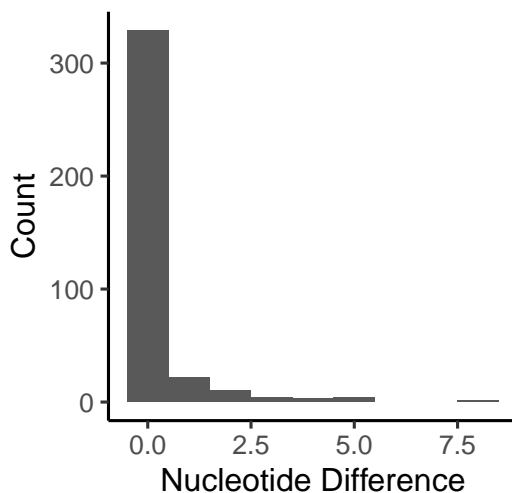
IGHV4–61*02_A234G

1113 sequences assigned
966 (86.8%) exact matches, in which:
917 unique CDR3
6 unique J



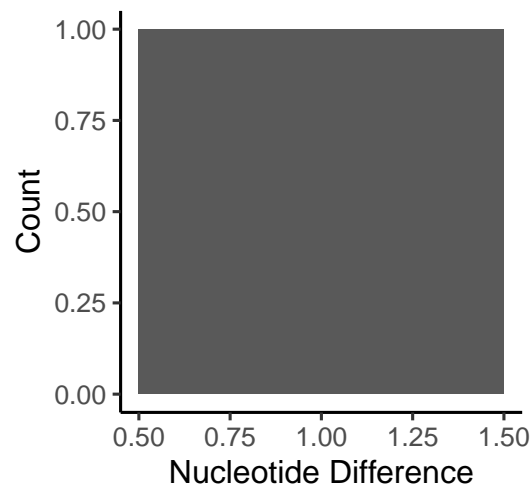
IGHV5–51*03

373 sequences assigned
329 (88.2%) exact matches, in which:
313 unique CDR3
5 unique J



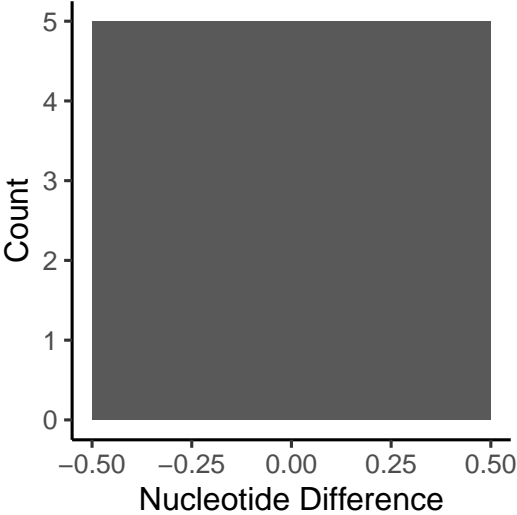
IGHV3/OR16–13*01

1 sequences assigned
No exact matches.

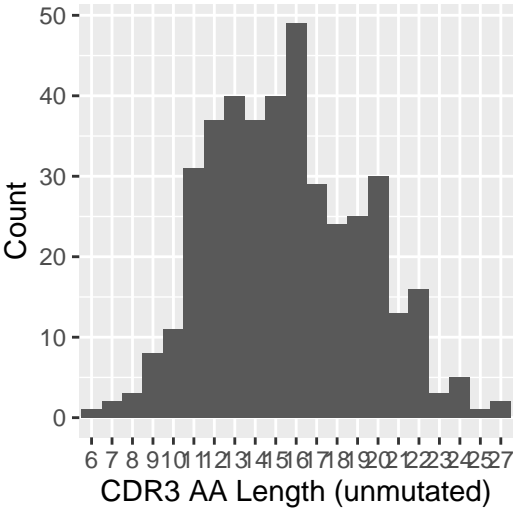


IGHV7-4-1*01

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



IGHV1-69*08_C191T



IGHV4-61*02_A234G

