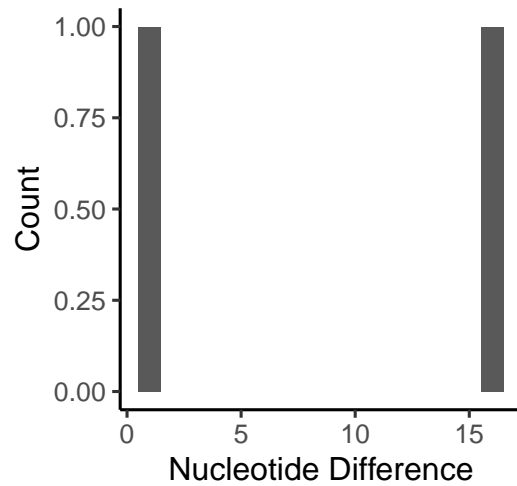


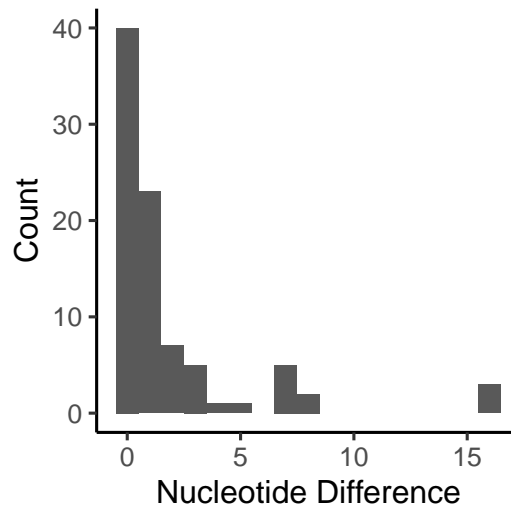
IGHV1-60*01_S7772

2 sequences assigned
No exact matches.



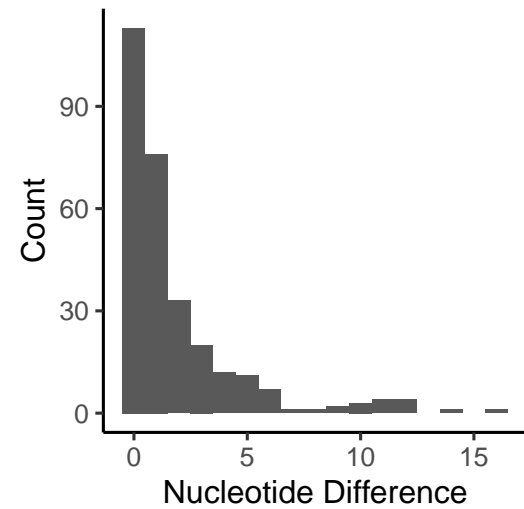
IGHV1-105*01_S7247

104 sequences assigned
40 (38.5%) exact matches, in which:
21 unique CDR3
4 unique J



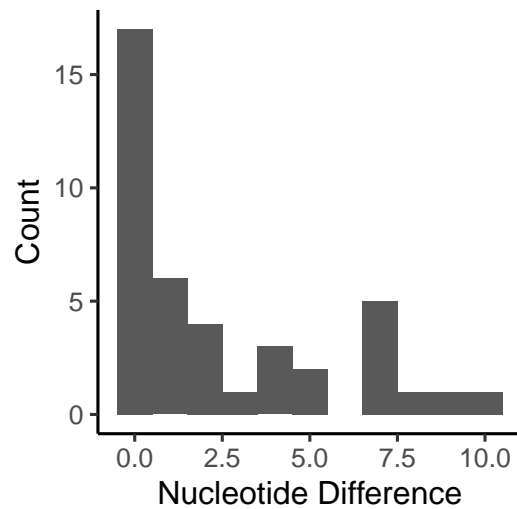
IGHV1-138*01_S2121

289 sequences assigned
113 (39.1%) exact matches, in which:
96 unique CDR3
7 unique J



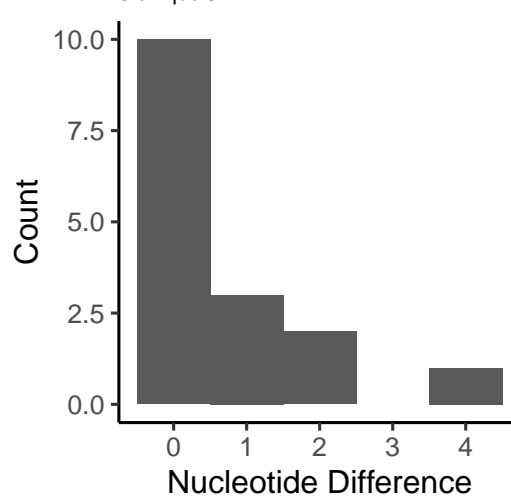
IGHV1-84*01_S0302

42 sequences assigned
17 (40.5%) exact matches, in which:
7 unique CDR3
4 unique J



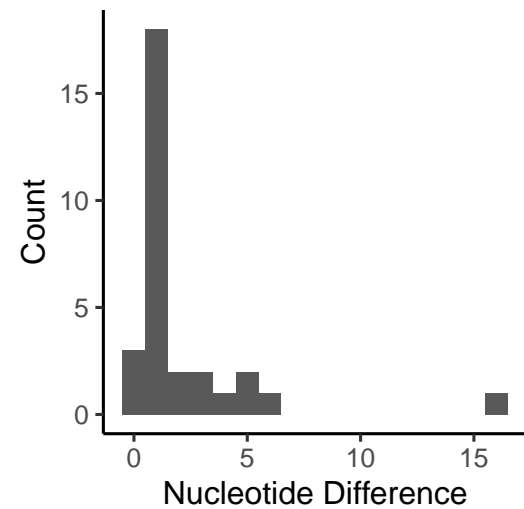
IGHV1-124*01_S1287

16 sequences assigned
10 (62.5%) exact matches, in which:
6 unique CDR3
3 unique J



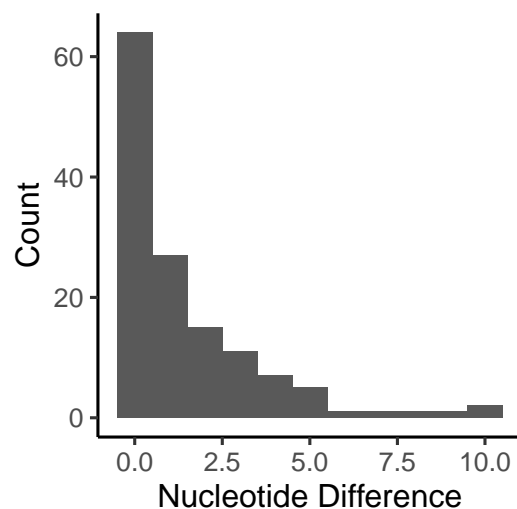
IGHV1-170*01_S3055

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



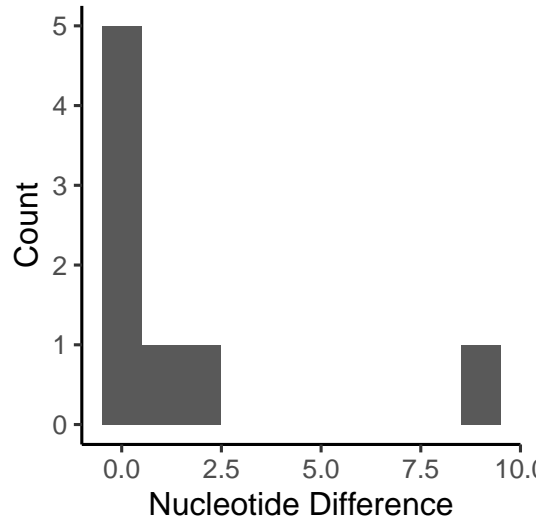
IGHV1-84*01_S9762

136 sequences assigned
64 (47.1%) exact matches, in which:
32 unique CDR3
5 unique J



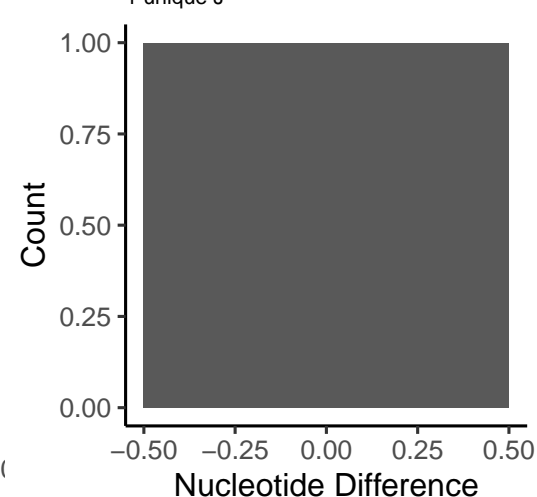
IGHV1-124*01_S5161

8 sequences assigned
5 (62.5%) exact matches, in which:
5 unique CDR3
3 unique J



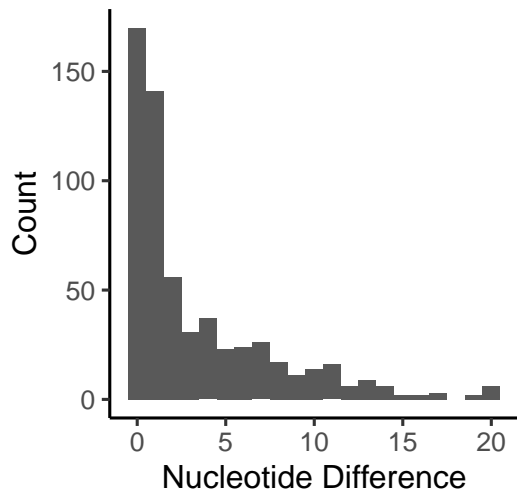
IGHV1-193*01_S6037

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



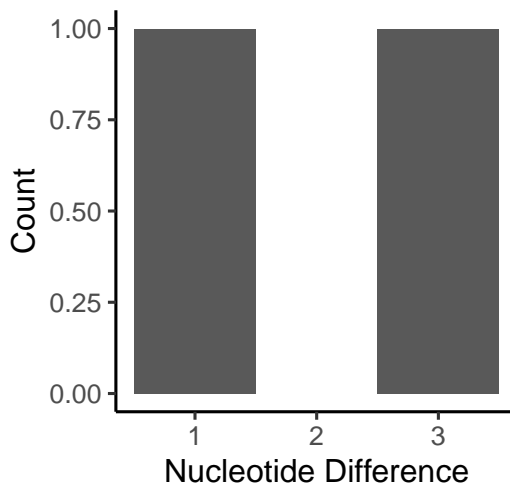
IGHV1–NL_1*01_S2052

619 sequences assigned
170 (27.5%) exact matches, in which:
112 unique CDR3
7 unique J



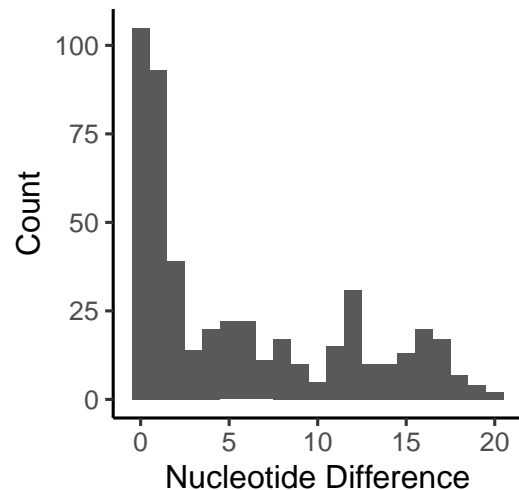
IGHV2–7*02_S4285

2 sequences assigned
No exact matches.



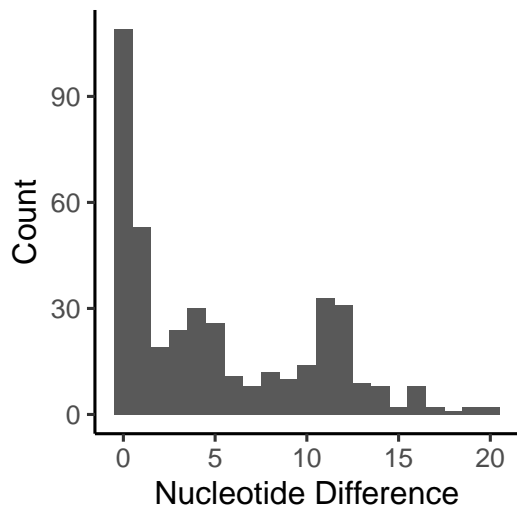
IGHV2–118*01_S3831

561 sequences assigned
105 (18.7%) exact matches, in which:
72 unique CDR3
7 unique J



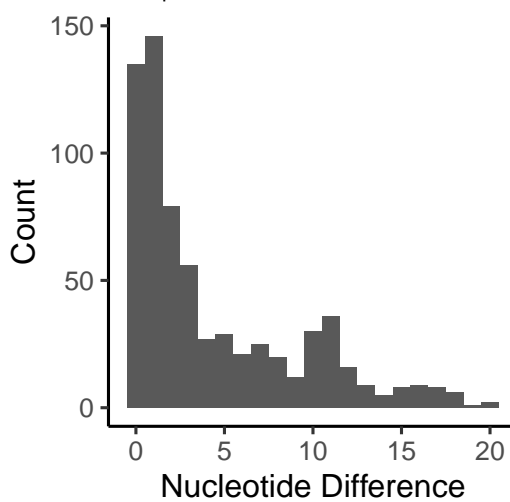
IGHV1–NL_2*01_S1719

510 sequences assigned
109 (21.4%) exact matches, in which:
55 unique CDR3
5 unique J



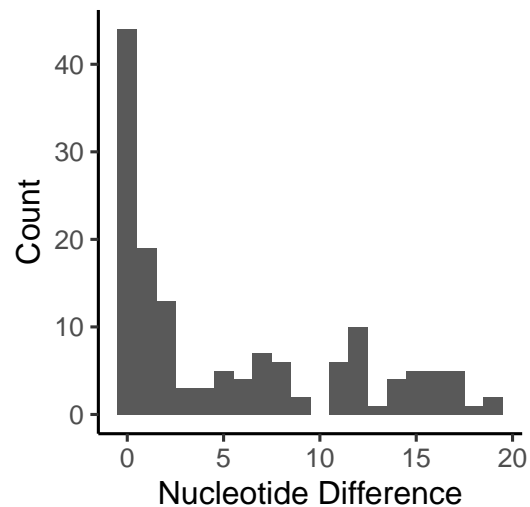
IGHV2–69*01_S2332

734 sequences assigned
135 (18.4%) exact matches, in which:
84 unique CDR3
7 unique J



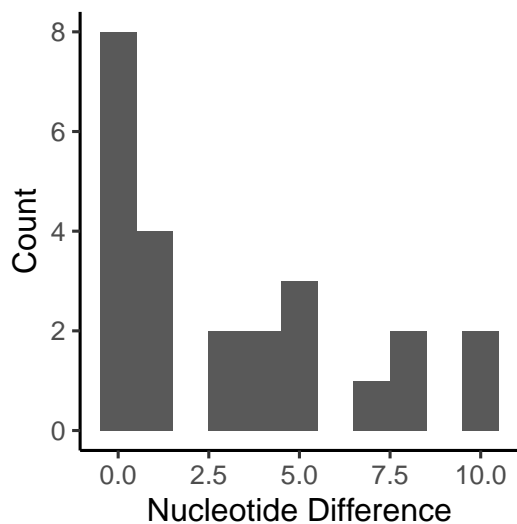
IGHV2–118*01_S3831_G2

146 sequences assigned
44 (30.1%) exact matches, in which:
36 unique CDR3
5 unique J



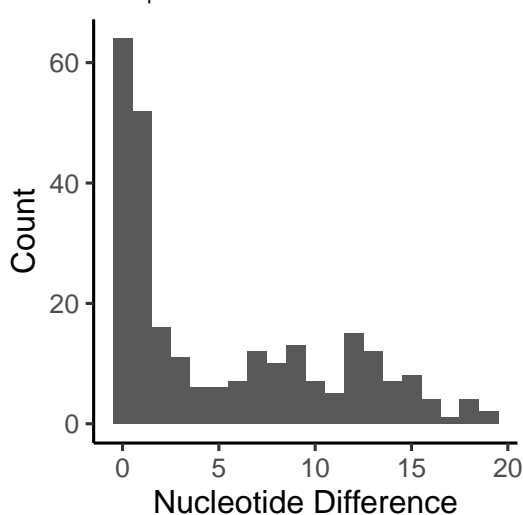
IGHV2–7*02_S4078

24 sequences assigned
8 (33.3%) exact matches, in which:
8 unique CDR3
4 unique J



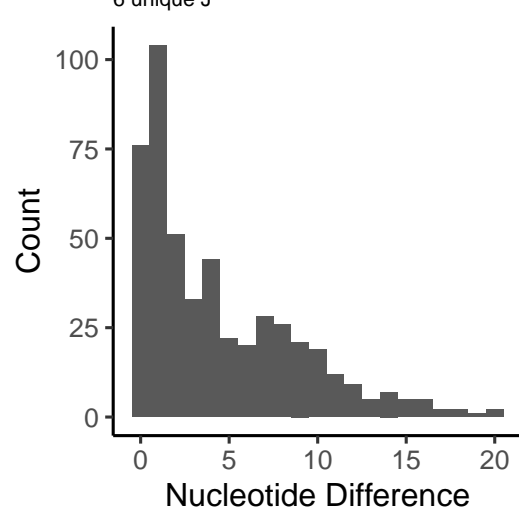
IGHV2–69*01_S7150

273 sequences assigned
64 (23.4%) exact matches, in which:
38 unique CDR3
7 unique J



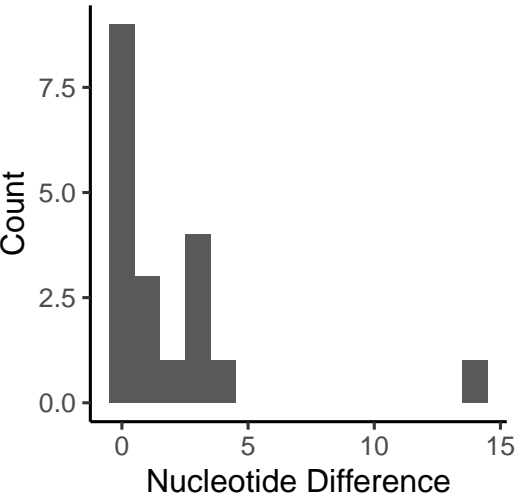
IGHV2–118*01_S8501

501 sequences assigned
76 (15.2%) exact matches, in which:
53 unique CDR3
6 unique J



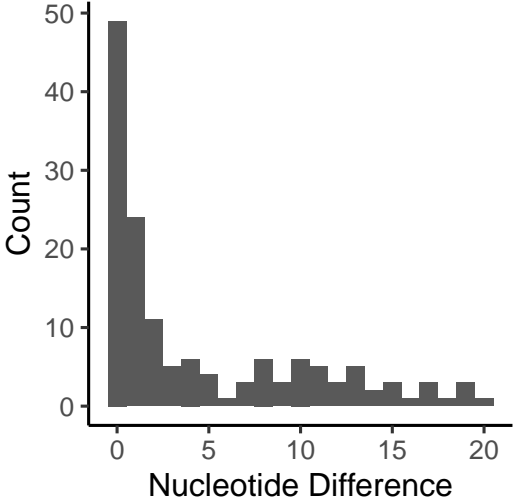
IGHV2-173*01_S2781

19 sequences assigned
9 (47.4%) exact matches, in which:
9 unique CDR3
6 unique J



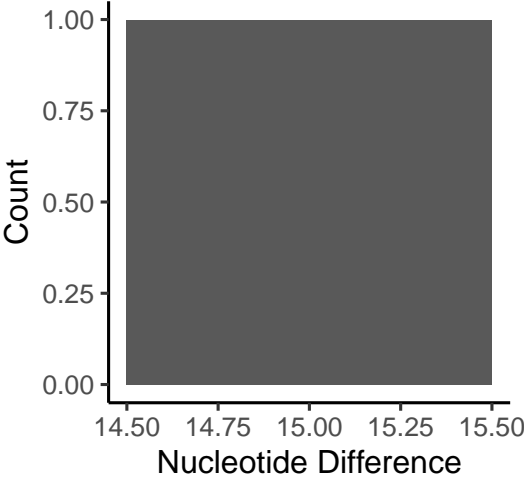
IGHV2-NL_1*01_S3296_C0000T

145 sequences assigned
49 (33.8%) exact matches, in which:
43 unique CDR3
6 unique J



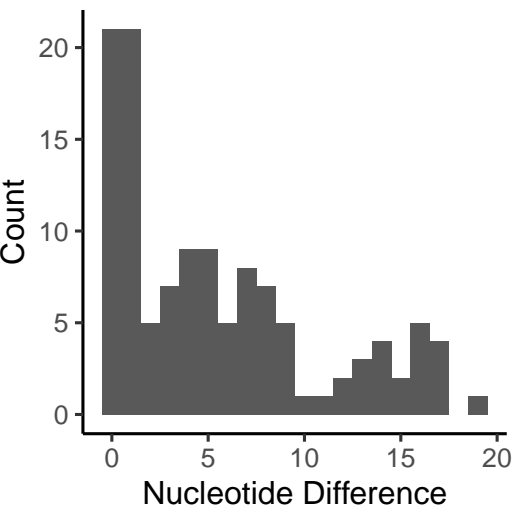
IGHV3-28*01_S7540

1 sequences assigned
No exact matches.



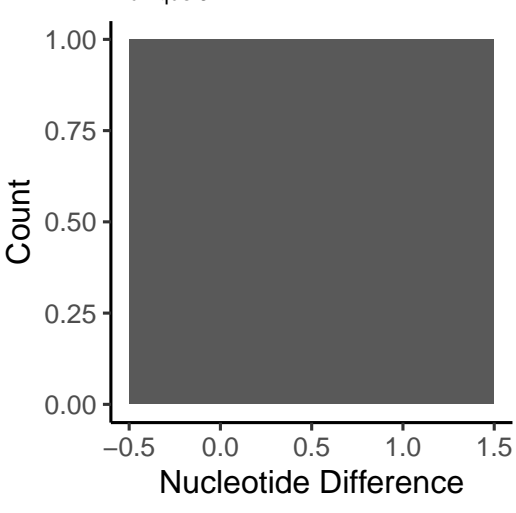
IGHV2-NL_1*01_S2488

122 sequences assigned
21 (17.2%) exact matches, in which:
11 unique CDR3
4 unique J



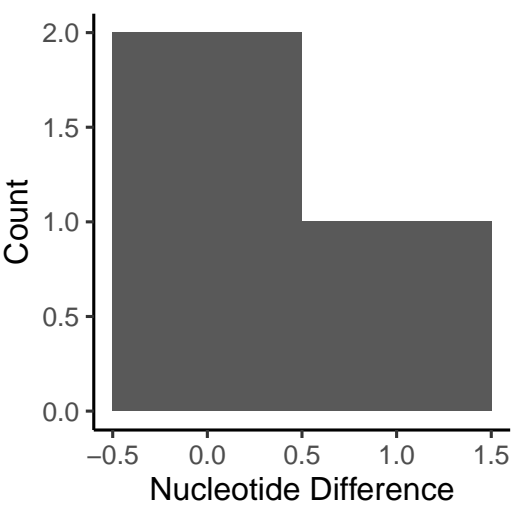
IGHV2-NL_2*01_S2193

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



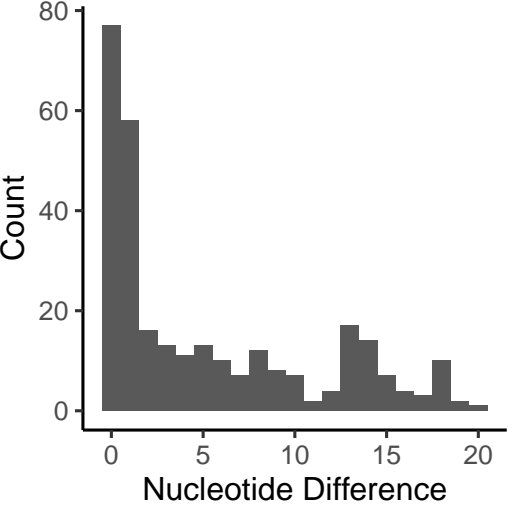
IGHV3-34*01_S4677

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



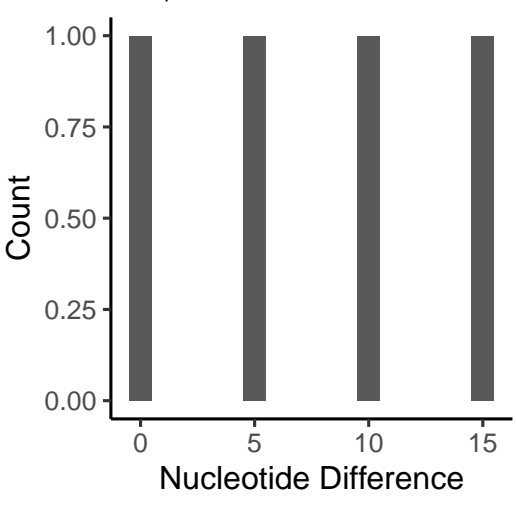
IGHV2-NL_1*01_S3296

317 sequences assigned
77 (24.3%) exact matches, in which:
54 unique CDR3
7 unique J



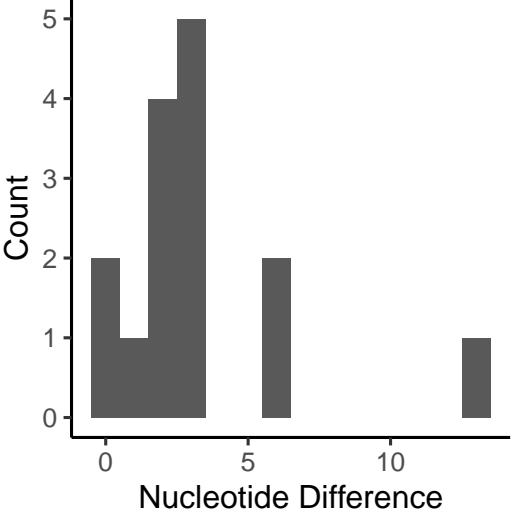
IGHV3-9*01_S1378

4 sequences assigned
1 (25%) exact matches, in which:
1 unique CDR3
1 unique J



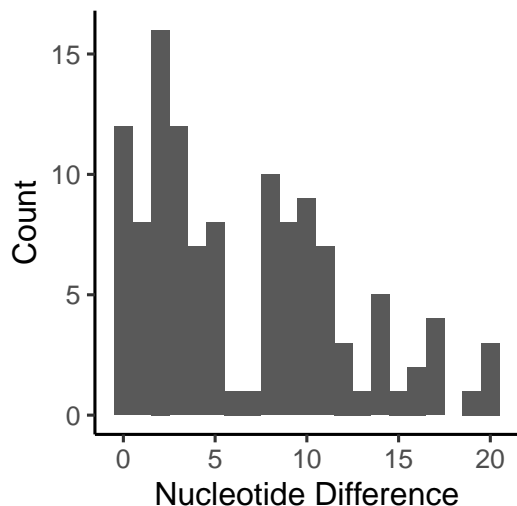
IGHV3-34*02_S0219

15 sequences assigned
2 (13.3%) exact matches, in which:
1 unique CDR3
0 unique J



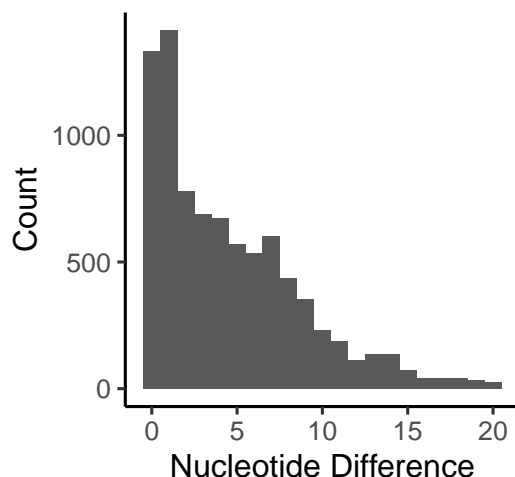
IGHV3-36*01_S5206

124 sequences assigned
12 (9.7%) exact matches, in which:
11 unique CDR3
4 unique J



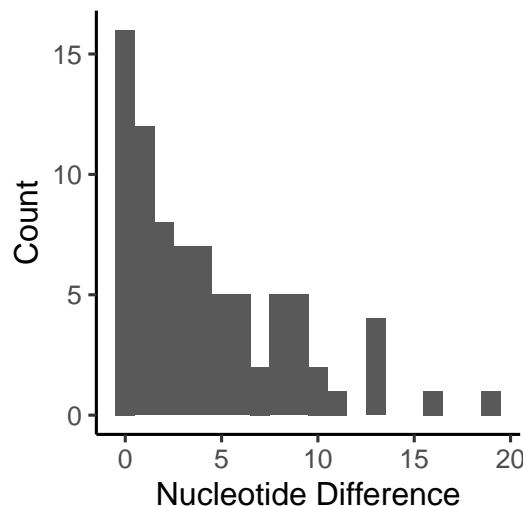
IGHV3-50*01_S1879

8609 sequences assigned
1331 (15.5%) exact matches, in which:
900 unique CDR3
11 unique J



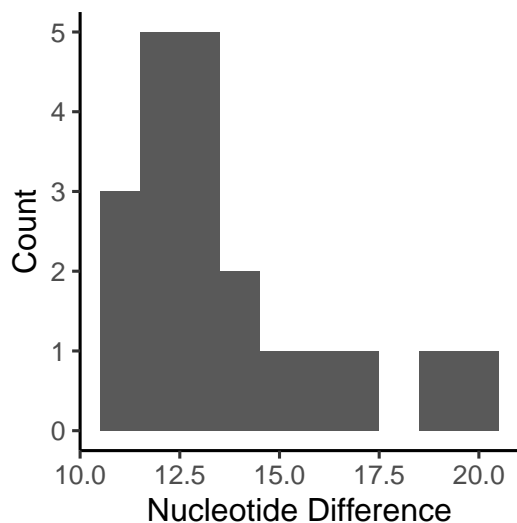
IGHV3-73*01_S5345

82 sequences assigned
16 (19.5%) exact matches, in which:
13 unique CDR3
6 unique J



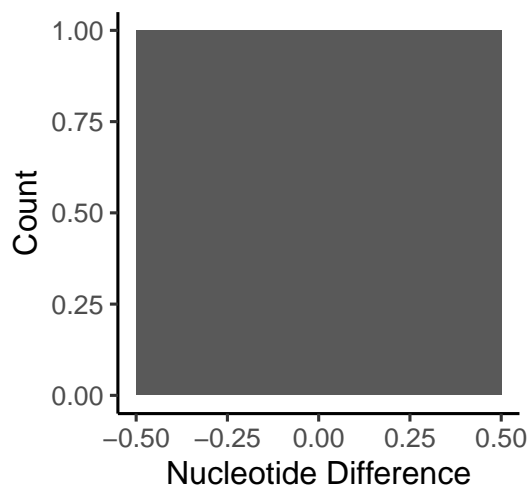
IGHV3-37*01_S0586

43 sequences assigned
No exact matches.



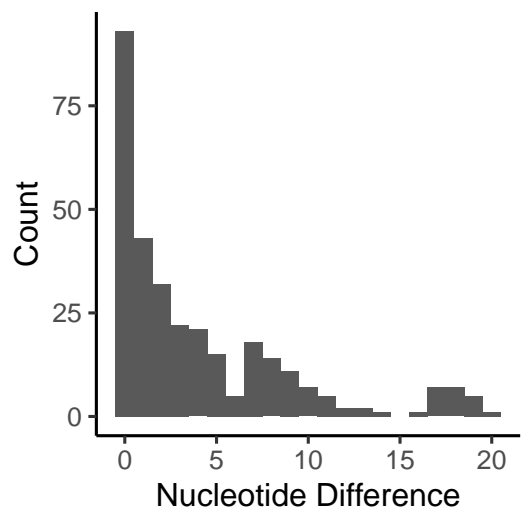
IGHV3-52*02_S4550

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



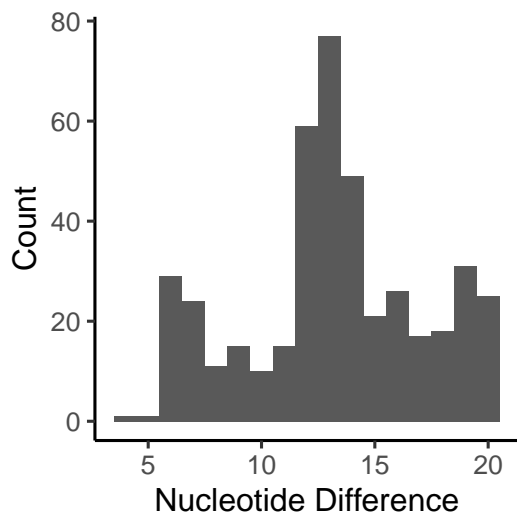
IGHV3-73*02_S5005

318 sequences assigned
93 (29.2%) exact matches, in which:
57 unique CDR3
8 unique J



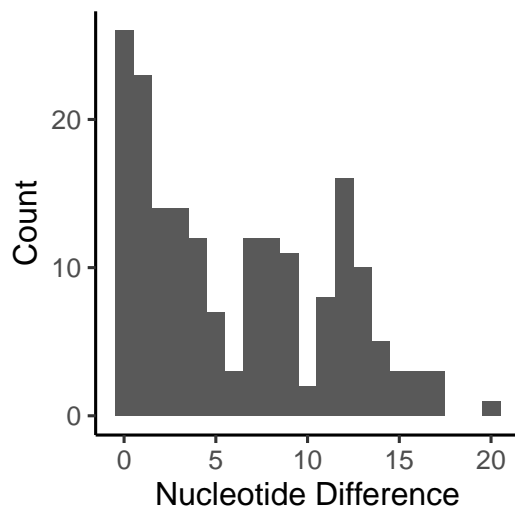
IGHV3-37*01_S4016

525 sequences assigned
No exact matches.



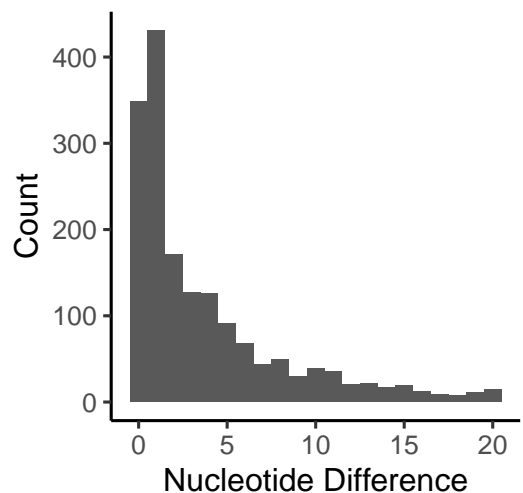
IGHV3-53*01_S5918

209 sequences assigned
26 (12.4%) exact matches, in which:
18 unique CDR3
6 unique J



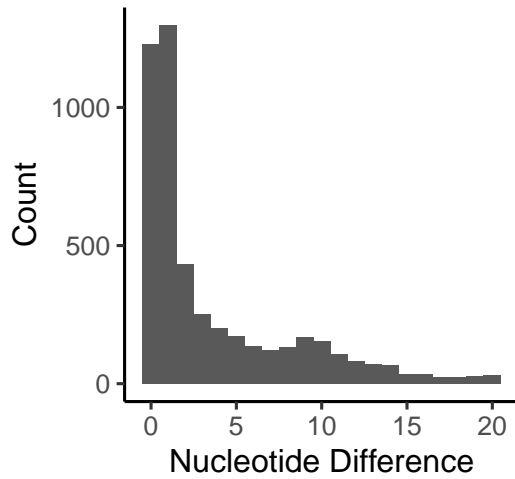
IGHV3-76*02_S2453

2007 sequences assigned
348 (17.3%) exact matches, in which:
232 unique CDR3
8 unique J



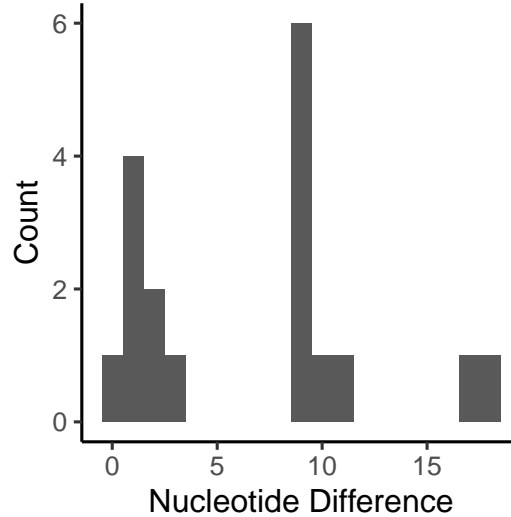
IGHV3-76*02_S4190

5175 sequences assigned
1228 (23.7%) exact matches, in which:
826 unique CDR3
10 unique J



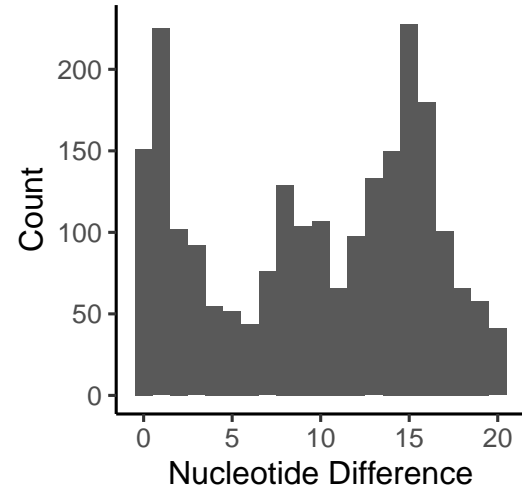
IGHV3-83*02_S1476

18 sequences assigned
1 (5.6%) exact matches, in which:
1 unique CDR3
1 unique J



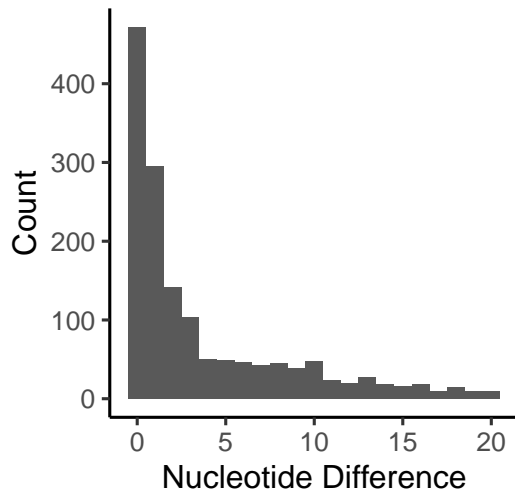
IGHV3-88*02_S9033

2441 sequences assigned
151 (6.2%) exact matches, in which:
98 unique CDR3
7 unique J



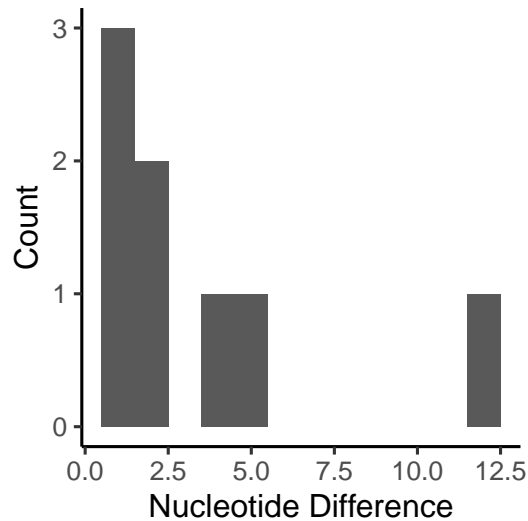
IGHV3-76*02_S4190_A2

1586 sequences assigned
472 (29.8%) exact matches, in which:
426 unique CDR3
8 unique J



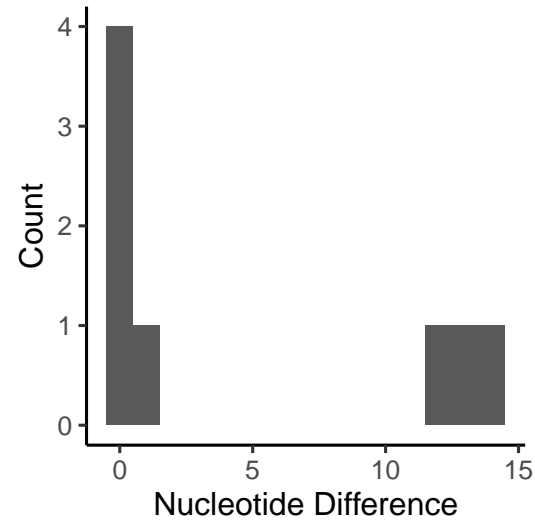
IGHV3-87*01_S5669

8 sequences assigned
No exact matches.



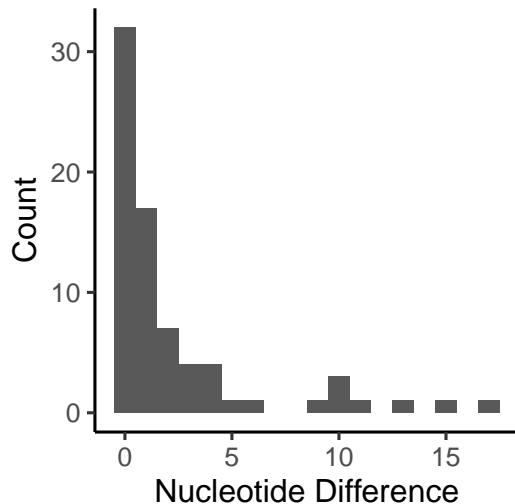
IGHV3-94*01_S3427

10 sequences assigned
4 (40%) exact matches, in which:
4 unique CDR3
3 unique J



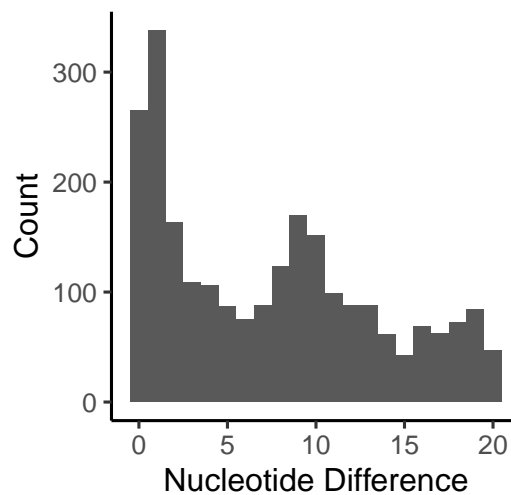
IGHV3-83*01_S5932

74 sequences assigned
32 (43.2%) exact matches, in which:
27 unique CDR3
6 unique J



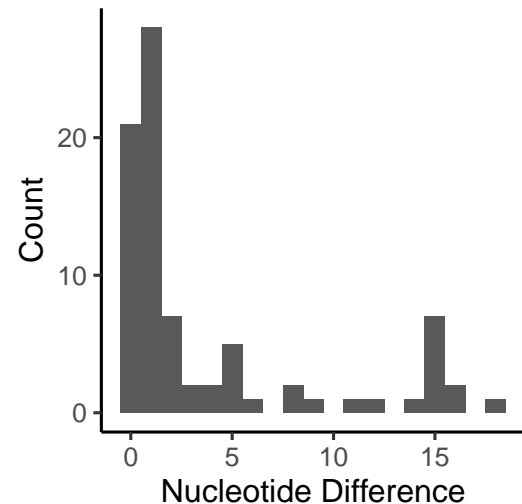
IGHV3-88*01_S3750

2582 sequences assigned
265 (10.3%) exact matches, in which:
170 unique CDR3
7 unique J



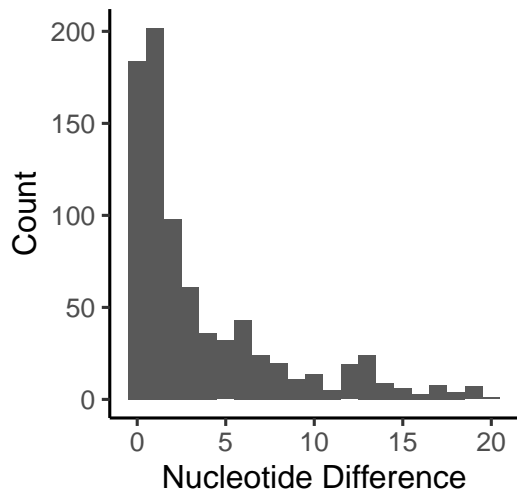
IGHV3-100*01_S8697

114 sequences assigned
21 (18.4%) exact matches, in which:
14 unique CDR3
5 unique J



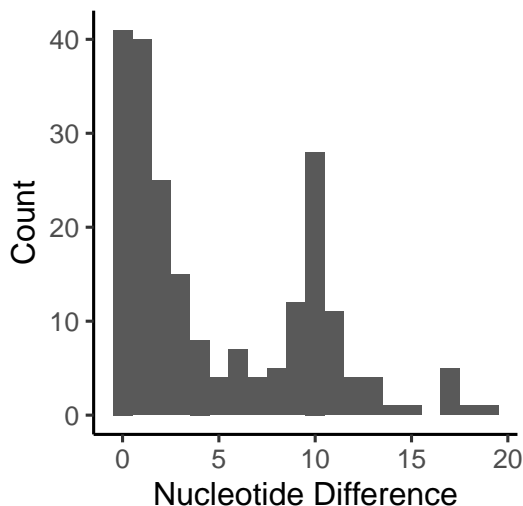
IGHV3-103*01_S0760

828 sequences assigned
184 (22.2%) exact matches, in which:
112 unique CDR3
8 unique J



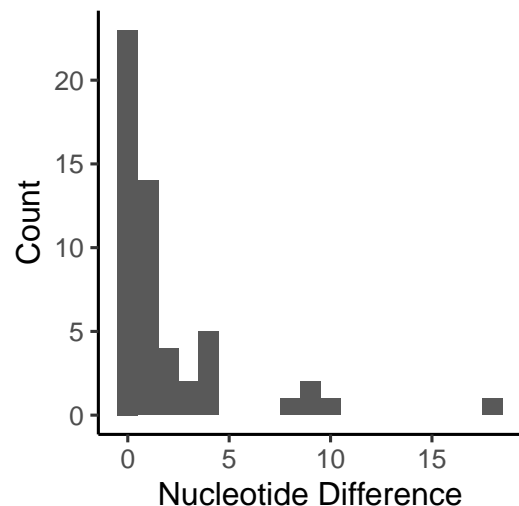
IGHV3-127*01_S6769

217 sequences assigned
41 (18.9%) exact matches, in which:
24 unique CDR3
6 unique J



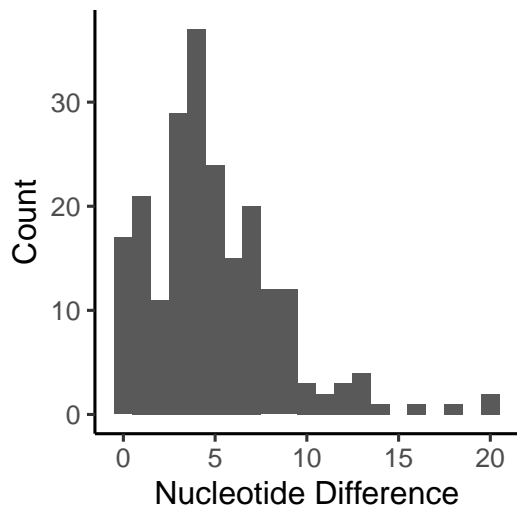
IGHV3-141*01_S4264

54 sequences assigned
23 (42.6%) exact matches, in which:
12 unique CDR3
6 unique J



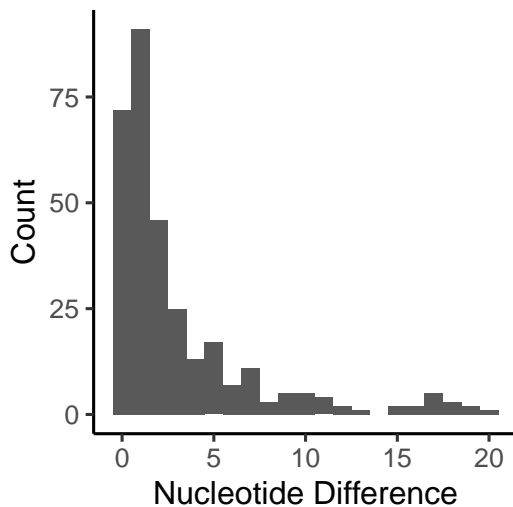
IGHV3-120*01_S7674

217 sequences assigned
17 (7.8%) exact matches, in which:
14 unique CDR3
2 unique J



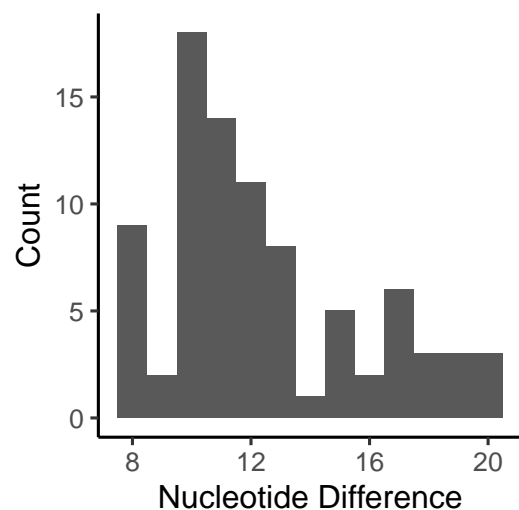
IGHV3-128*02_S0832

344 sequences assigned
72 (20.9%) exact matches, in which:
43 unique CDR3
6 unique J



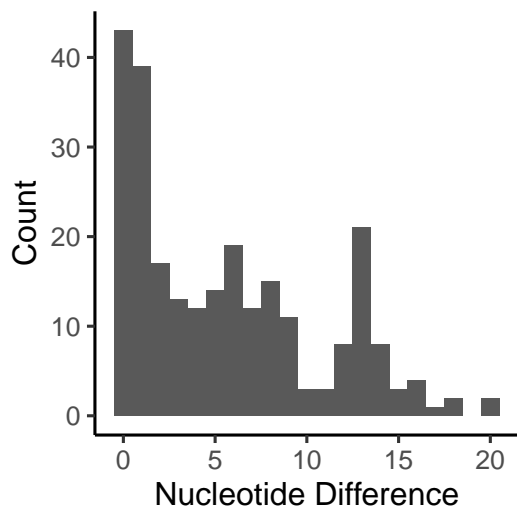
IGHV3-141*02_S6589

93 sequences assigned
No exact matches.



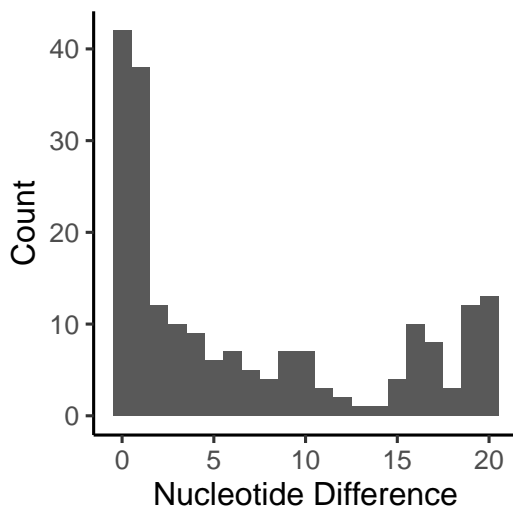
IGHV3-122*01_S2290

298 sequences assigned
43 (14.4%) exact matches, in which:
30 unique CDR3
6 unique J



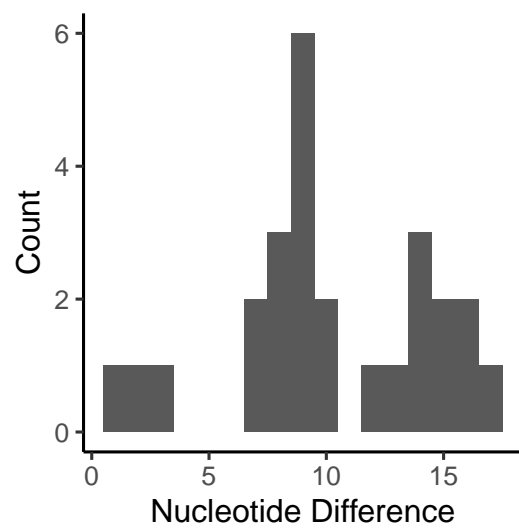
IGHV3-128*02_S6042

251 sequences assigned
42 (16.7%) exact matches, in which:
25 unique CDR3
7 unique J



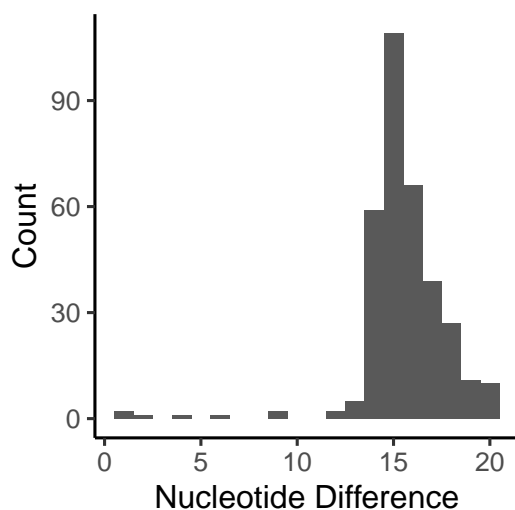
IGHV3-152*01_S8754

107 sequences assigned
No exact matches.



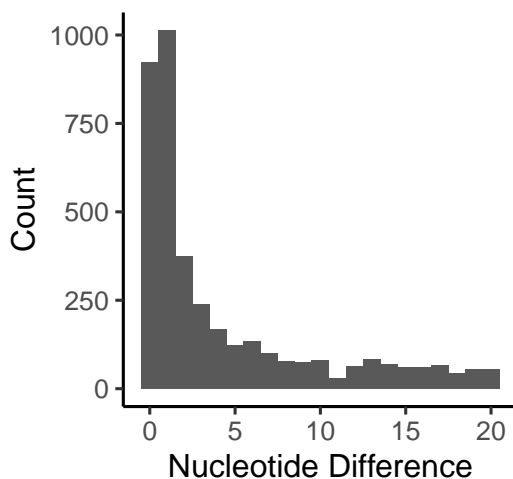
IGHV3-172*01_S1597

354 sequences assigned
No exact matches.



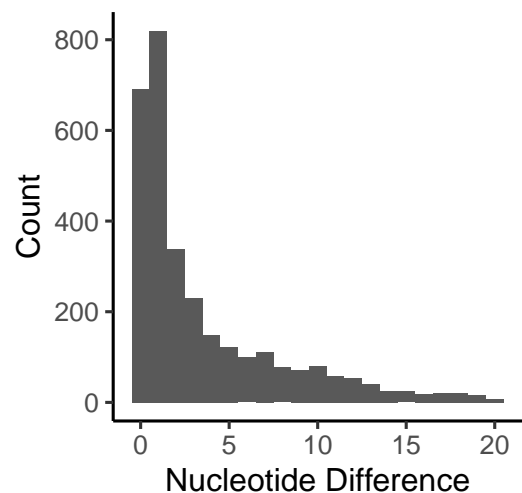
IGHV3-187*01_S3225

4448 sequences assigned
924 (20.8%) exact matches, in which:
597 unique CDR3
8 unique J



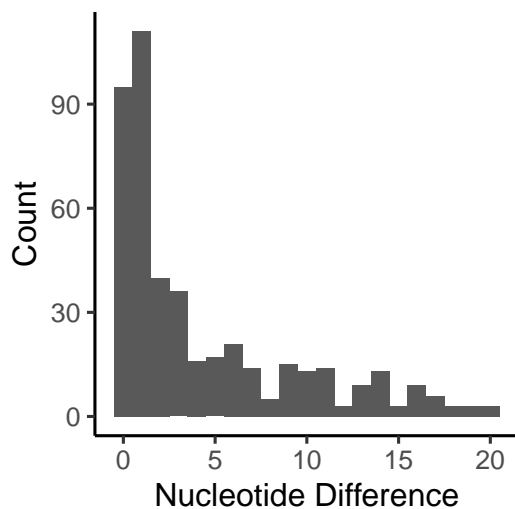
IGHV3-NL_1*01_S9891

3254 sequences assigned
692 (21.3%) exact matches, in which:
419 unique CDR3
10 unique J



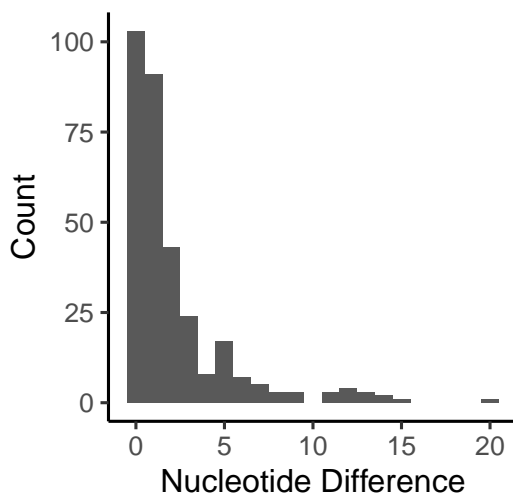
IGHV3-172*01_S2175

480 sequences assigned
95 (19.8%) exact matches, in which:
64 unique CDR3
7 unique J



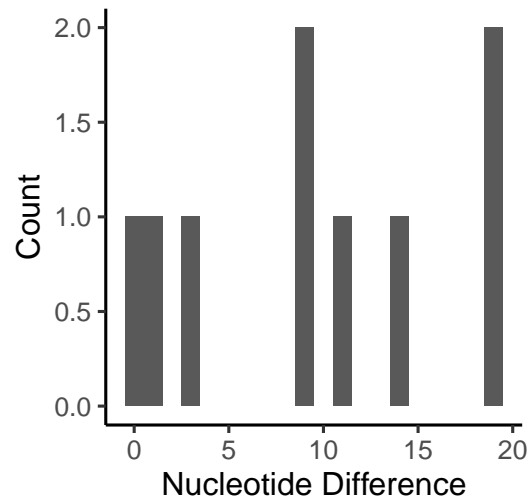
IGHV3-NL_1*01_S1581

457 sequences assigned
103 (22.5%) exact matches, in which:
70 unique CDR3
6 unique J



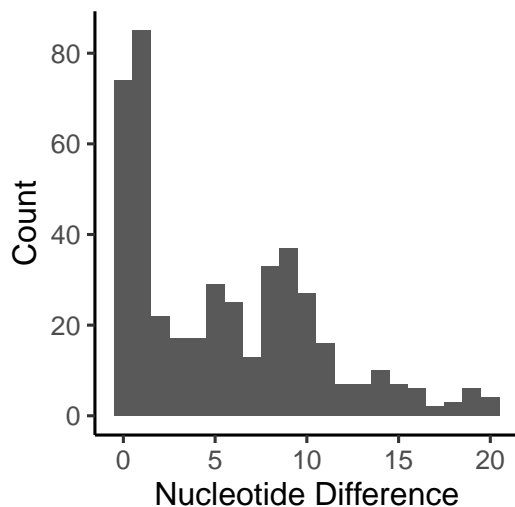
IGHV3-NL_10*02_S2212

9 sequences assigned
1 (11.1%) exact matches, in which:
1 unique CDR3
1 unique J



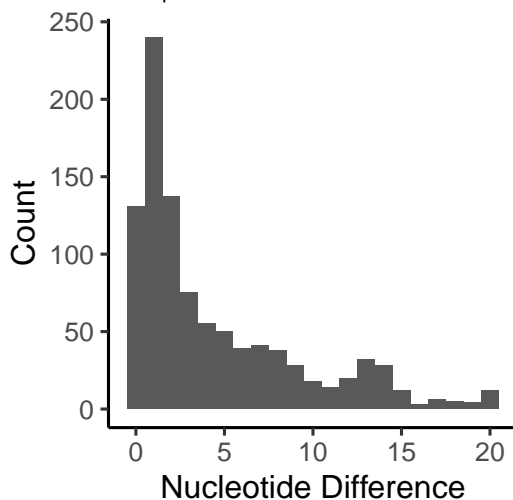
IGHV3-177*01_S8409

463 sequences assigned
74 (16%) exact matches, in which:
51 unique CDR3
9 unique J



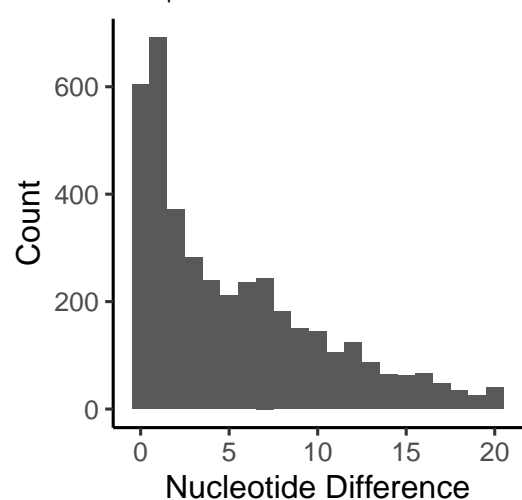
IGHV3-NL_1*01_S1780

1088 sequences assigned
131 (12%) exact matches, in which:
82 unique CDR3
7 unique J



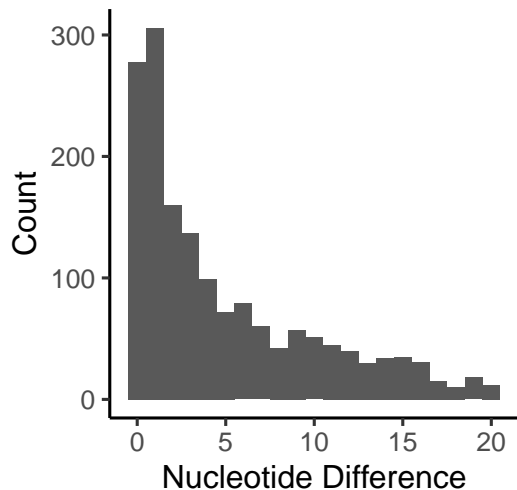
IGHV3-NL_11*01_S4619

4656 sequences assigned
605 (13%) exact matches, in which:
423 unique CDR3
8 unique J



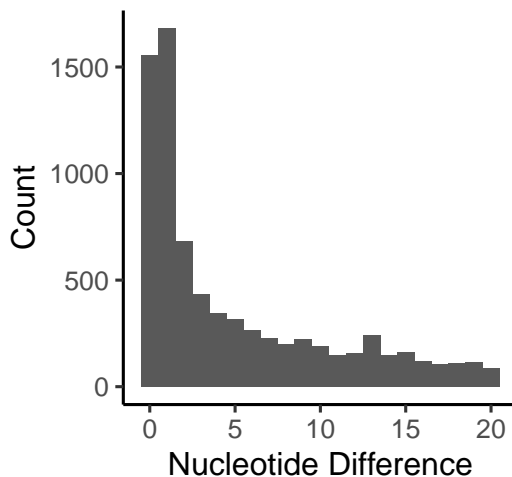
IGHV3–NL_11*01_S5714

1698 sequences assigned
278 (16.4%) exact matches, in which:
187 unique CDR3
8 unique J



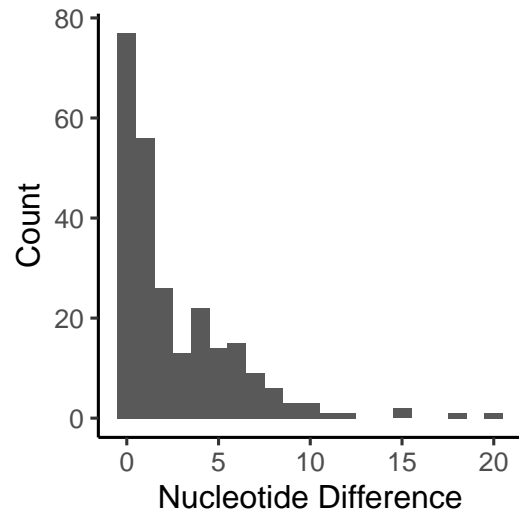
IGHV3–NL_17*01_S425

8092 sequences assigned
1557 (19.2%) exact matches, in which:
1004 unique CDR3
10 unique J



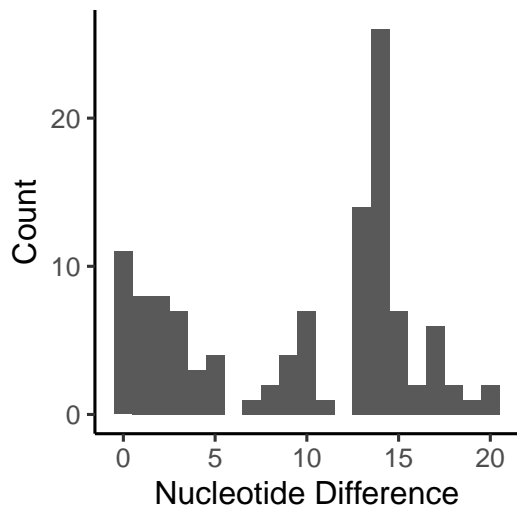
IGHV3–NL_19*01_S9475

268 sequences assigned
77 (28.7%) exact matches, in which:
60 unique CDR3
7 unique J



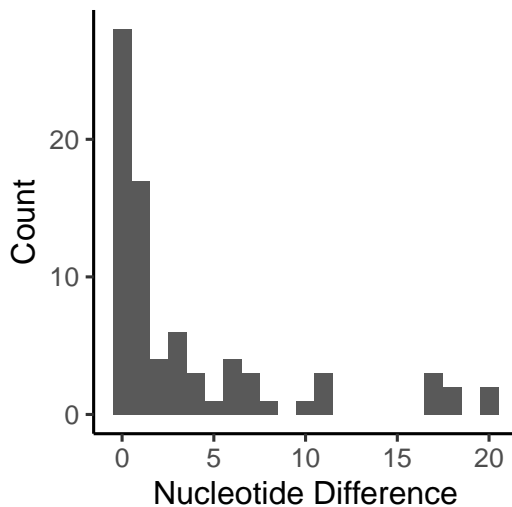
IGHV3–NL_13*01_S6424

126 sequences assigned
11 (8.7%) exact matches, in which:
6 unique CDR3
2 unique J



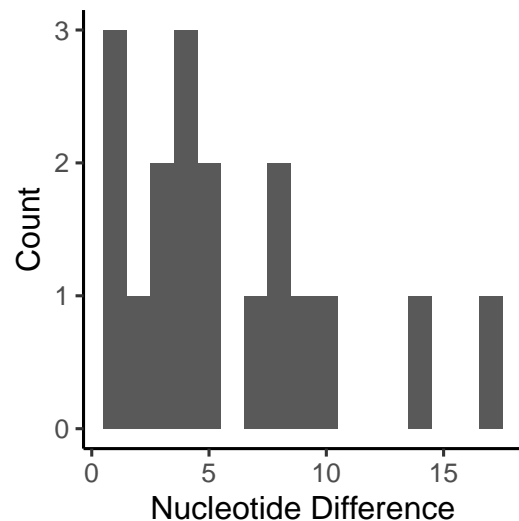
IGHV3–NL_18*01_S3886

82 sequences assigned
28 (34.1%) exact matches, in which:
22 unique CDR3
5 unique J



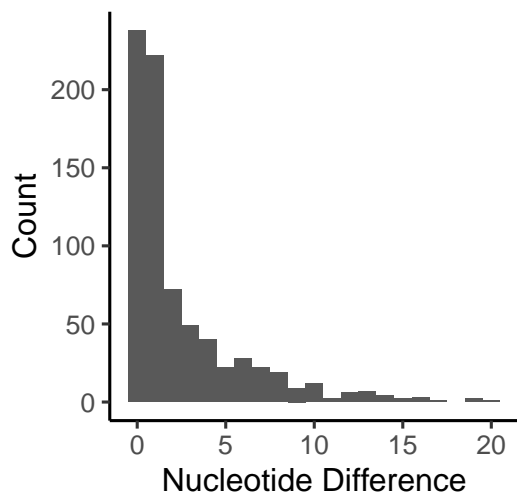
IGHV3–NL_2*01_S6231

19 sequences assigned
No exact matches.



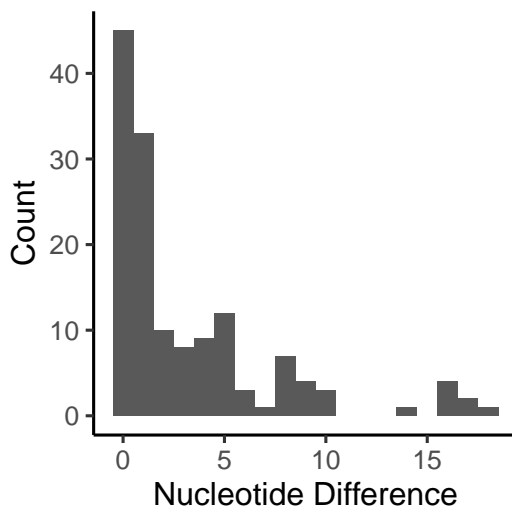
IGHV3–NL_14*01_S6089

780 sequences assigned
238 (30.5%) exact matches, in which:
157 unique CDR3
8 unique J



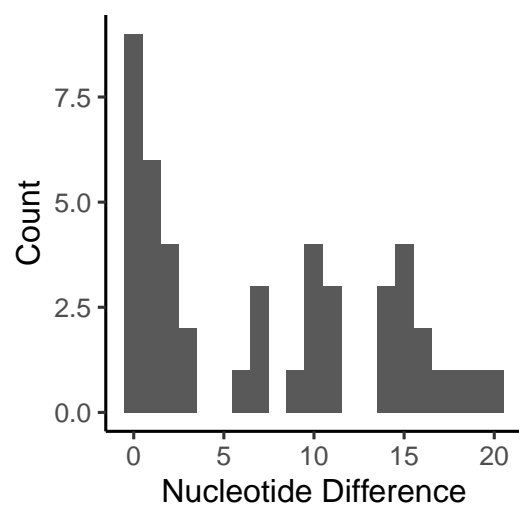
IGHV3–NL_19*01_S4096

145 sequences assigned
45 (31%) exact matches, in which:
39 unique CDR3
6 unique J



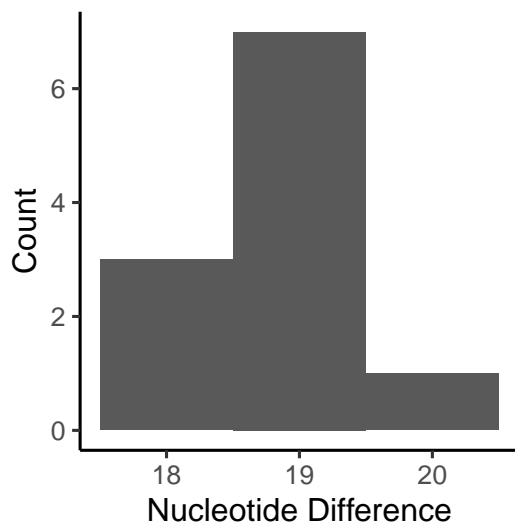
IGHV3–NL_2*01_S8114

47 sequences assigned
9 (19.1%) exact matches, in which:
6 unique CDR3
4 unique J



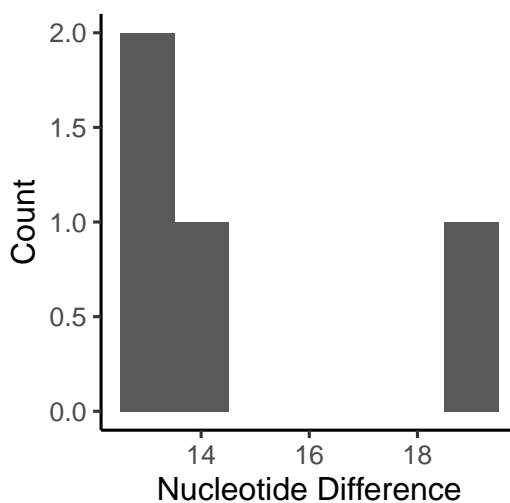
IGHV3–NL_3*02_S6269

14 sequences assigned
No exact matches.



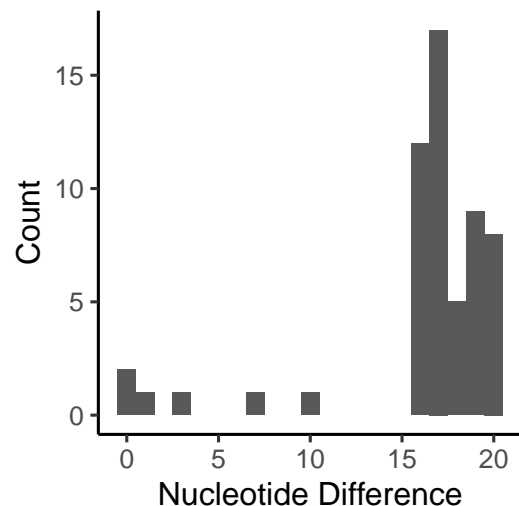
IGHV3–NL_5*01_S7761

6 sequences assigned
No exact matches.



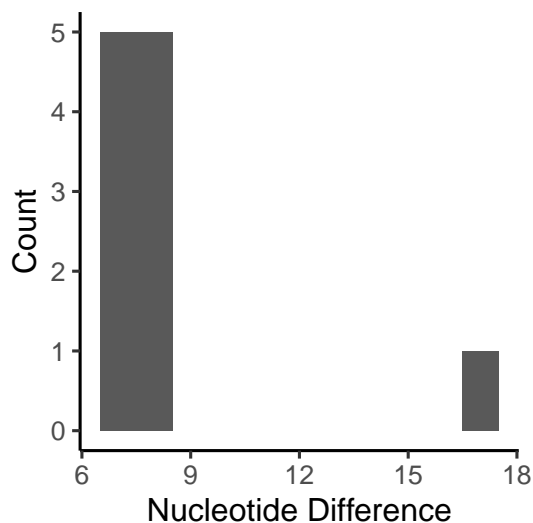
IGHV3–NL_8*01_S9584

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



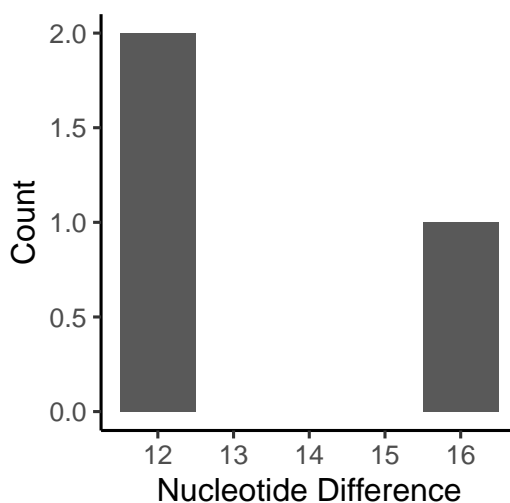
IGHV3–NL_4*01_S9635

13 sequences assigned
No exact matches.



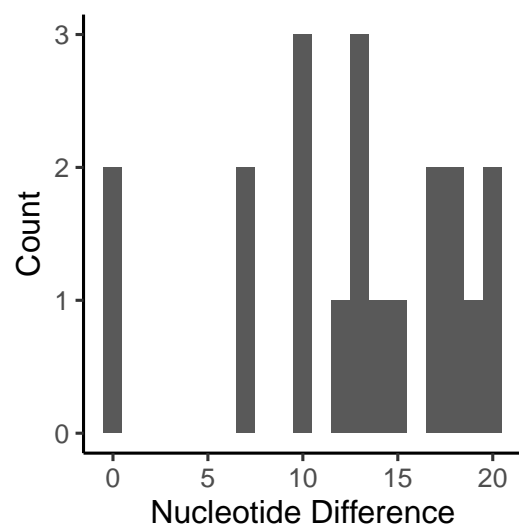
IGHV3–NL_6*02_S6474

3 sequences assigned
No exact matches.



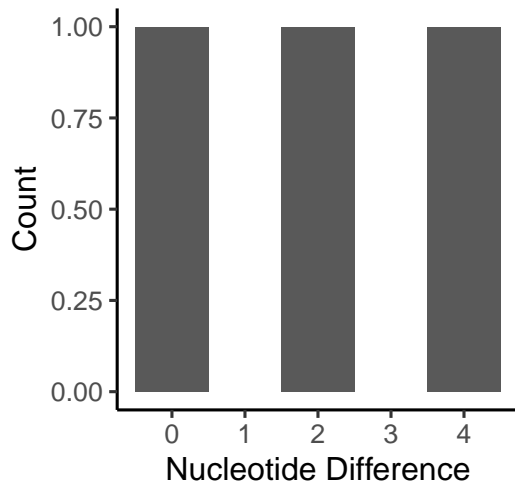
IGHV3–NL_9*01_S6098

33 sequences assigned
2 (6.1%) exact matches, in which:
2 unique CDR3
1 unique J



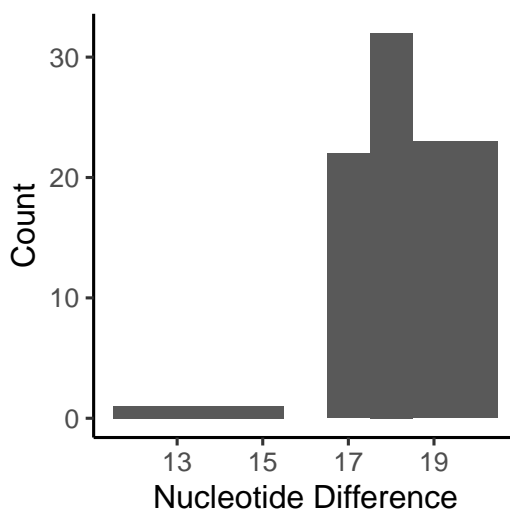
IGHV3–NL_5*01_S3315

3 sequences assigned
1 (33.3%) exact matches, in which:
1 unique CDR3
1 unique J



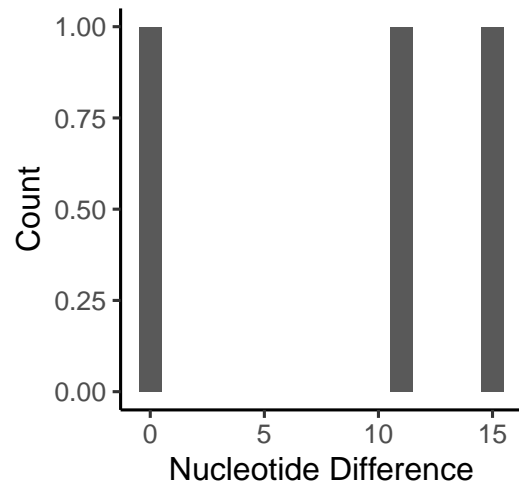
IGHV3–NL_8*01_S7474

183 sequences assigned
No exact matches.



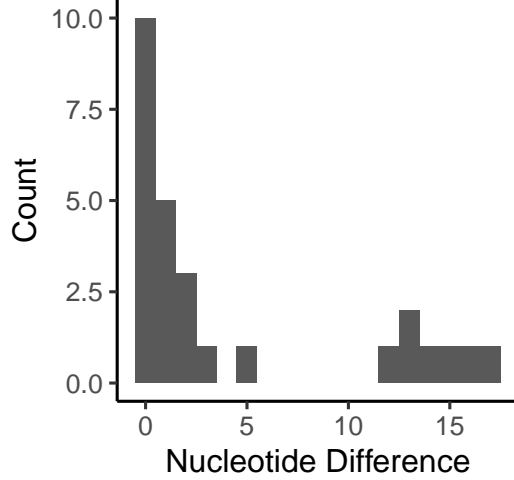
IGHV4–67*02_S1312

4 sequences assigned
1 (25%) exact matches, in which:
1 unique CDR3
0 unique J



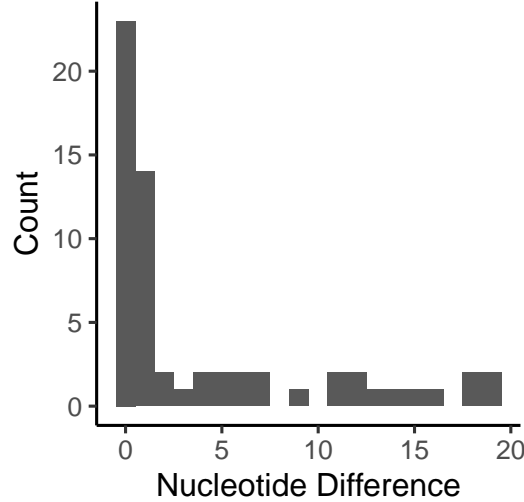
IGHV4-67*02_S4494

34 sequences assigned
10 (29.4%) exact matches, in which:
10 unique CDR3
6 unique J



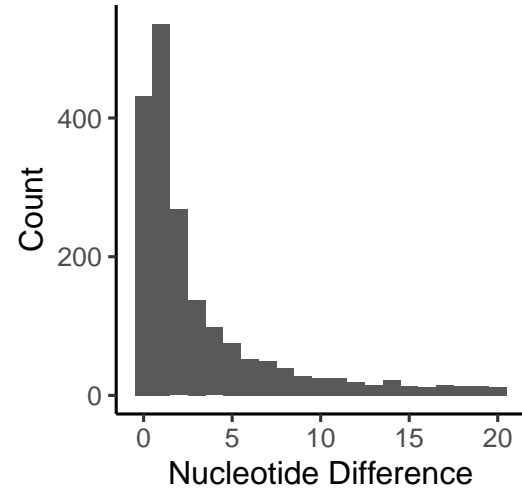
IGHV4-117*01_S4901

90 sequences assigned
23 (25.6%) exact matches, in which:
19 unique CDR3
6 unique J



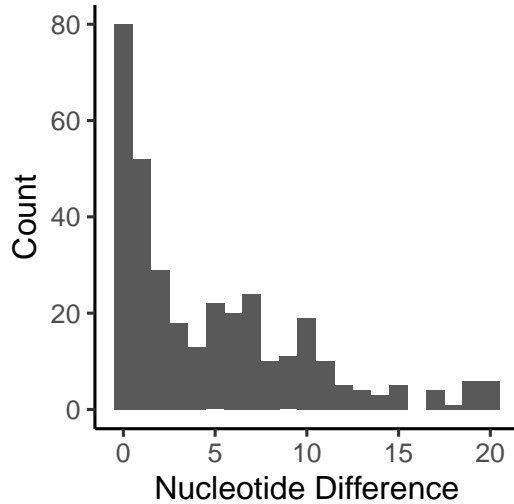
IGHV4-144*01_S5374

2009 sequences assigned
432 (21.5%) exact matches, in which:
332 unique CDR3
8 unique J



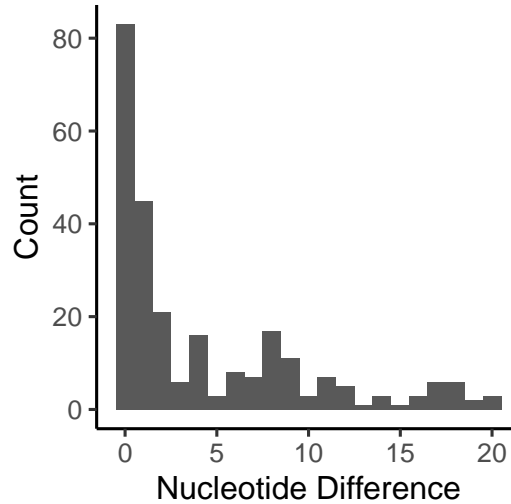
IGHV4-93*01_S1335

364 sequences assigned
80 (22%) exact matches, in which:
66 unique CDR3
7 unique J



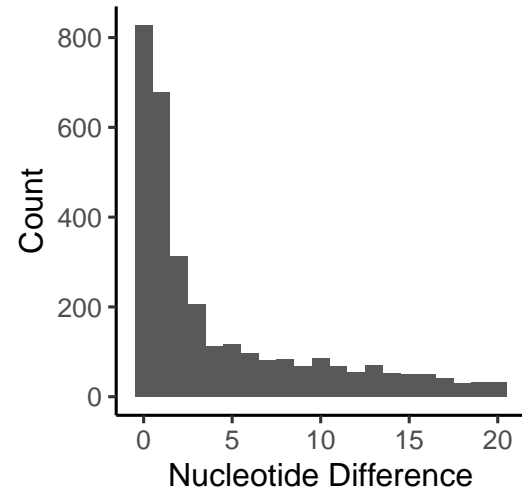
IGHV4-117*01_S5847

268 sequences assigned
83 (31%) exact matches, in which:
66 unique CDR3
7 unique J



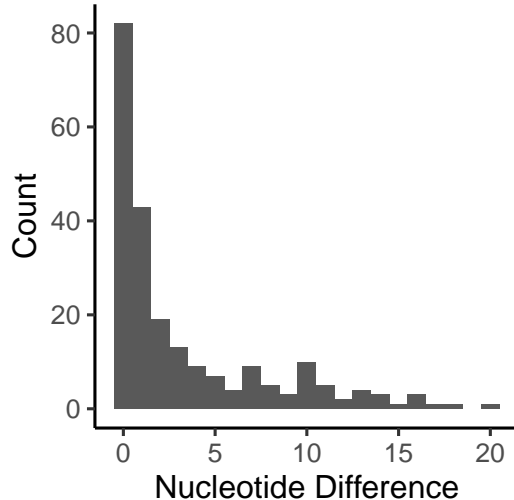
IGHV4-149*01_S4098

3501 sequences assigned
828 (23.7%) exact matches, in which:
637 unique CDR3
9 unique J



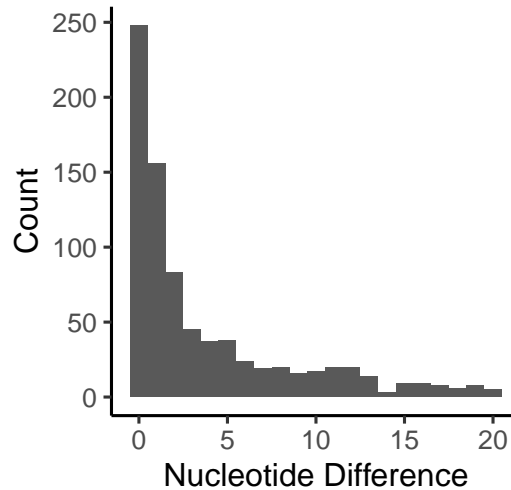
IGHV4-117*01_S0217

231 sequences assigned
82 (35.5%) exact matches, in which:
67 unique CDR3
8 unique J



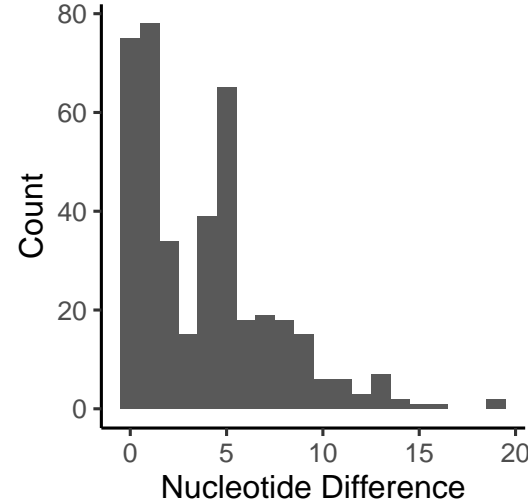
IGHV4-144*01_S3008

864 sequences assigned
248 (28.7%) exact matches, in which:
209 unique CDR3
10 unique J



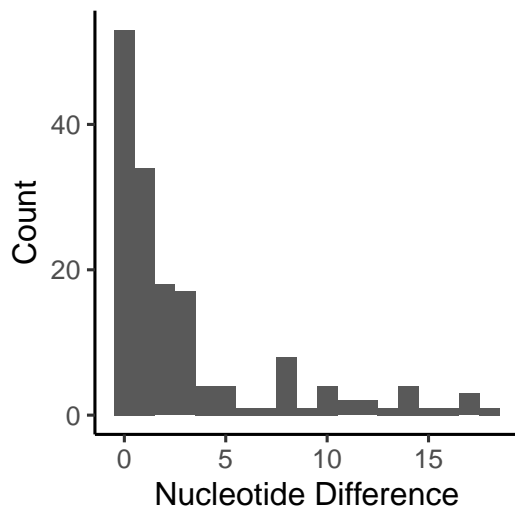
IGHV4-150*01_S0749

419 sequences assigned
75 (17.9%) exact matches, in which:
64 unique CDR3
8 unique J



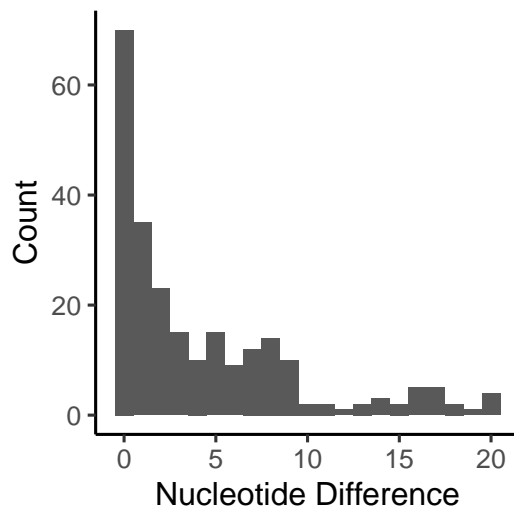
IGHV4-150*01_S6287

163 sequences assigned
53 (32.5%) exact matches, in which:
38 unique CDR3
4 unique J



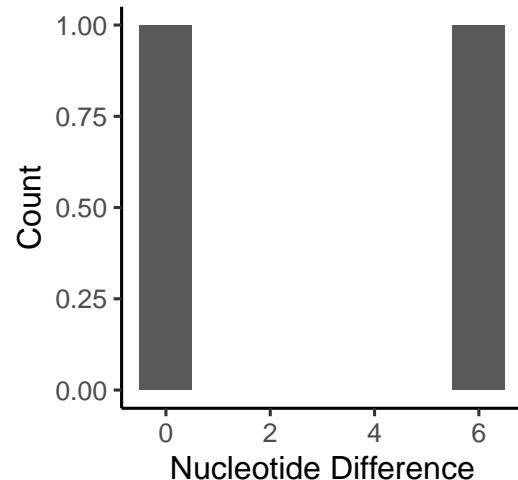
IGHV4-NL_1*01_S0857

267 sequences assigned
70 (26.2%) exact matches, in which:
57 unique CDR3
8 unique J



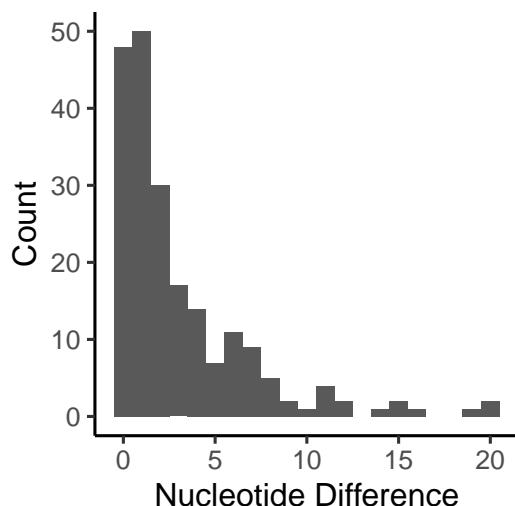
IGHV4-NL_10*01_S8809

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



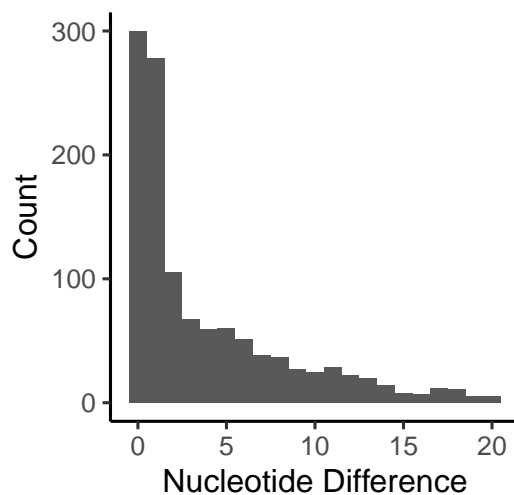
IGHV4-150*01_S8107

221 sequences assigned
48 (21.7%) exact matches, in which:
39 unique CDR3
7 unique J



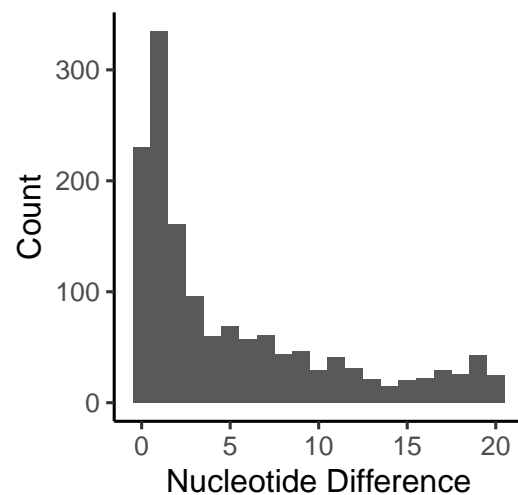
IGHV4-NL_1*01_S5208

1217 sequences assigned
300 (24.7%) exact matches, in which:
231 unique CDR3
10 unique J



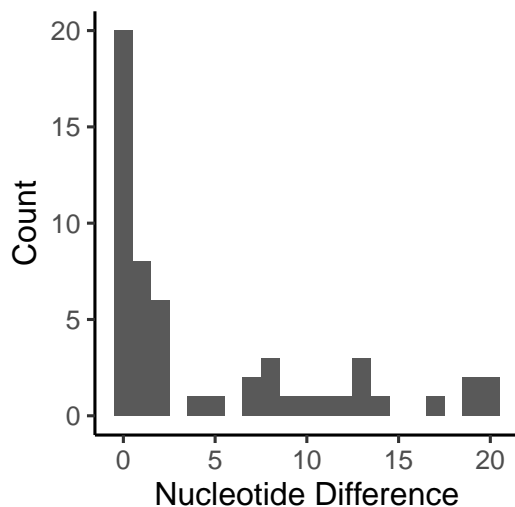
IGHV4-NL_12*01_S6478

1643 sequences assigned
230 (14%) exact matches, in which:
185 unique CDR3
8 unique J



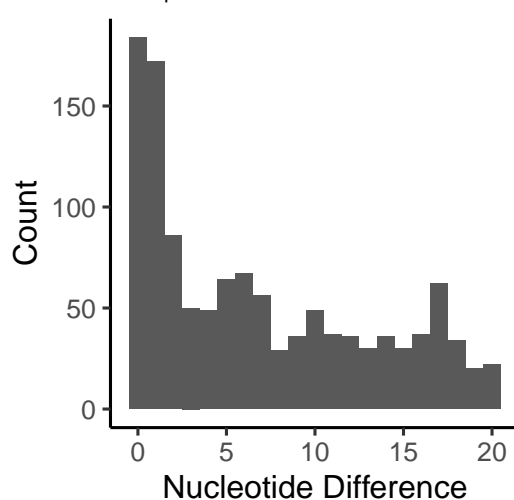
IGHV4-174*02_S2437

54 sequences assigned
20 (37%) exact matches, in which:
16 unique CDR3
6 unique J



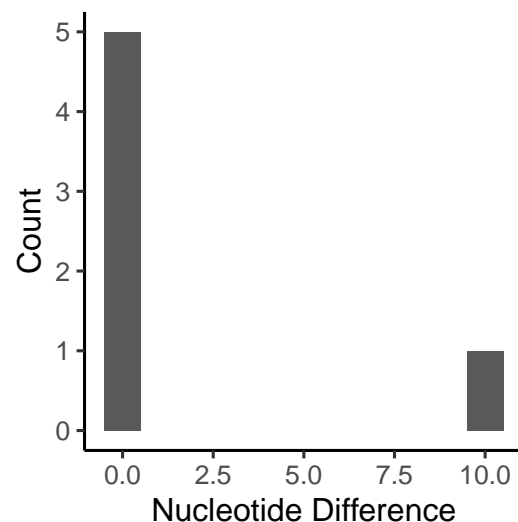
IGHV4-NL_1*01_S9026

1256 sequences assigned
184 (14.6%) exact matches, in which:
137 unique CDR3
8 unique J



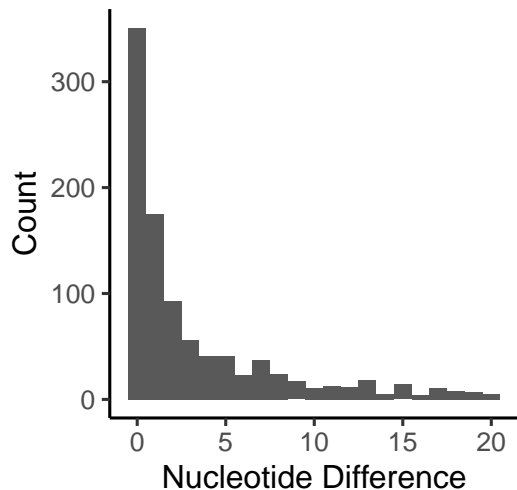
IGHV4-NL_13*01_S4123

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



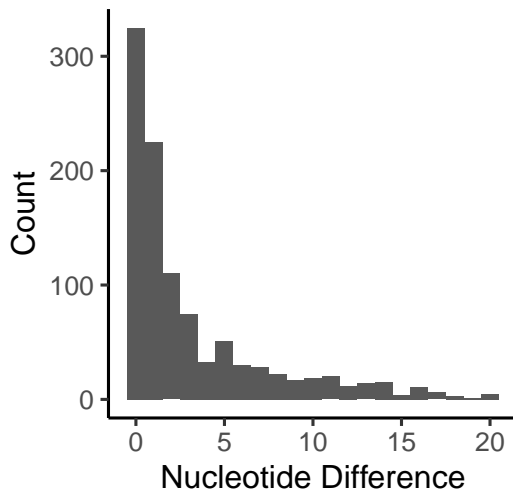
IGHV4–NL_14*01_S3059

1066 sequences assigned
351 (32.9%) exact matches, in which:
286 unique CDR3
8 unique J



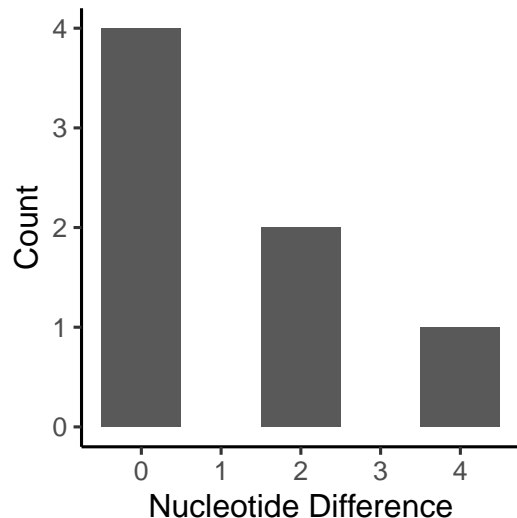
IGHV4–NL_14*01_S5312

1083 sequences assigned
325 (30%) exact matches, in which:
277 unique CDR3
10 unique J



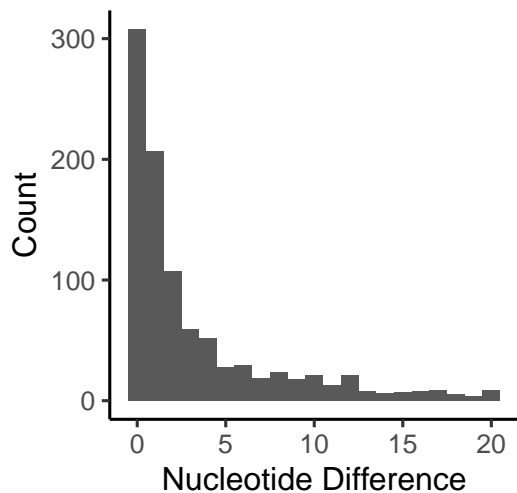
IGHV4–NL_17*01_S4099

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



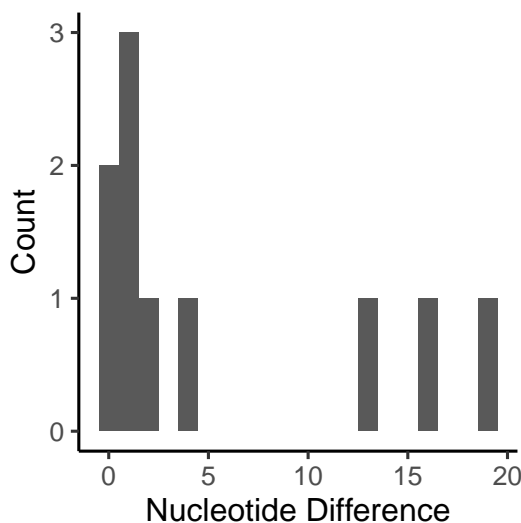
IGHV4–NL_14*01_S3059

1062 sequences assigned
308 (29%) exact matches, in which:
278 unique CDR3
7 unique J



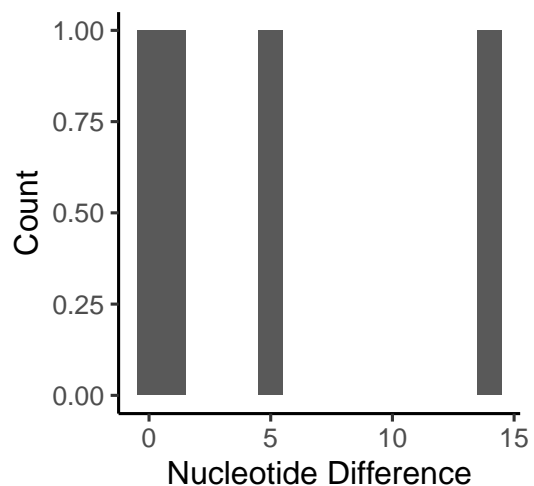
IGHV4–NL_16*01_S2138

11 sequences assigned
2 (18.2%) exact matches, in which:
2 unique CDR3
1 unique J



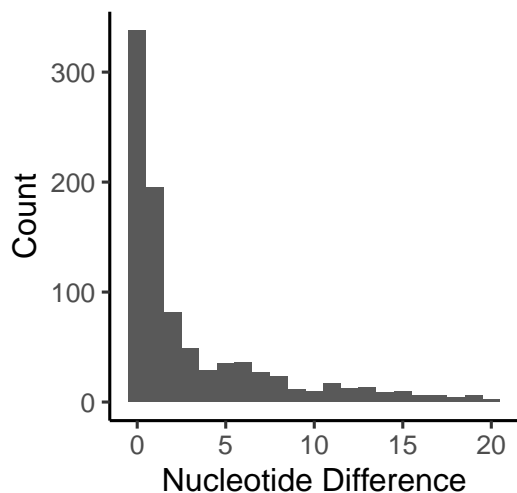
IGHV4–NL_17*01_S9085

4 sequences assigned
1 (25%) exact matches, in which:
1 unique CDR3
1 unique J



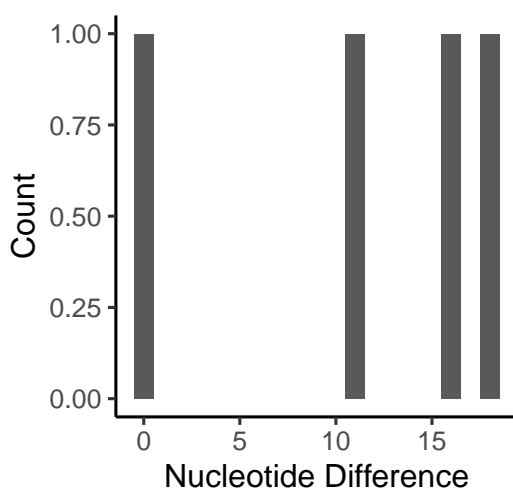
IGHV4–NL_14*01_S5312

969 sequences assigned
338 (34.9%) exact matches, in which:
269 unique CDR3
9 unique J



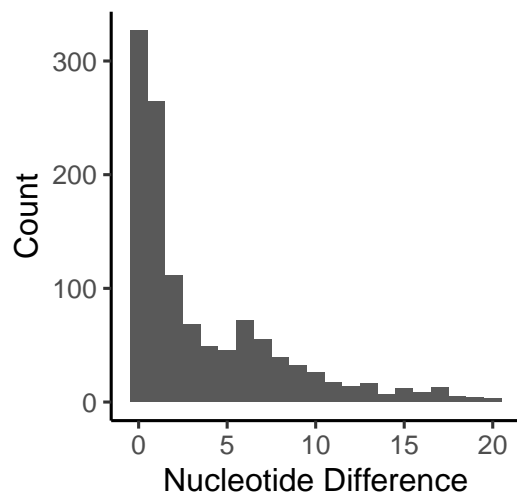
IGHV4–NL_16*01_S2324

4 sequences assigned
1 (25%) exact matches, in which:
1 unique CDR3
1 unique J



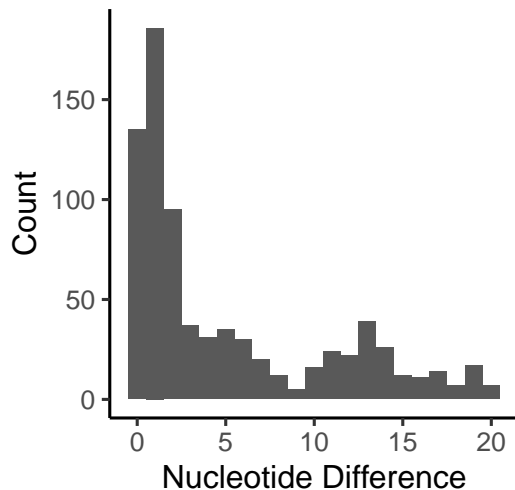
IGHV4–NL_18*01_S0143

1234 sequences assigned
327 (26.5%) exact matches, in which:
260 unique CDR3
8 unique J



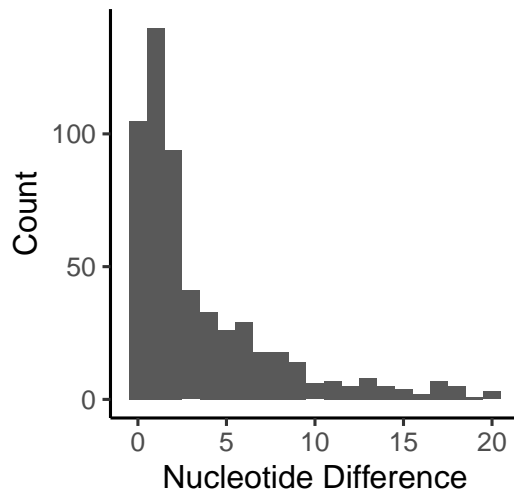
IGHV4–NL_21*01_S4478

1423 sequences assigned
135 (9.5%) exact matches, in which:
107 unique CDR3
7 unique J



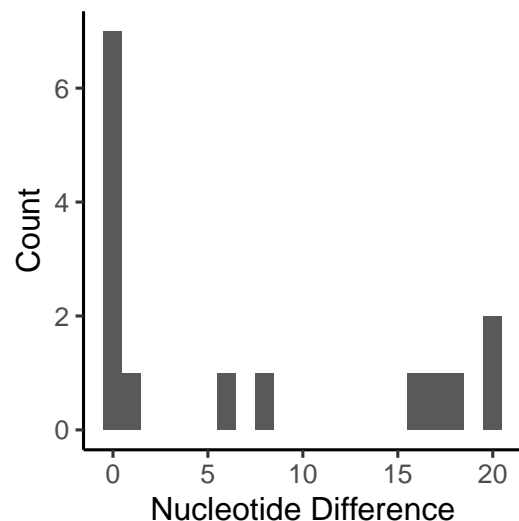
IGHV4–NL_22*01_S2393

605 sequences assigned
105 (17.4%) exact matches, in which:
85 unique CDR3
7 unique J



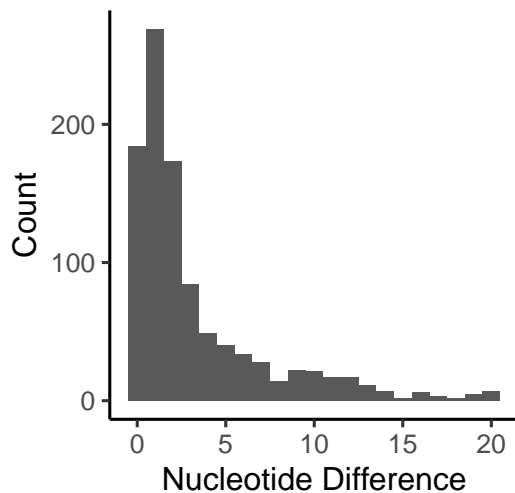
IGHV4–NL_27*01_S1767

16 sequences assigned
7 (43.8%) exact matches, in which:
7 unique CDR3
3 unique J



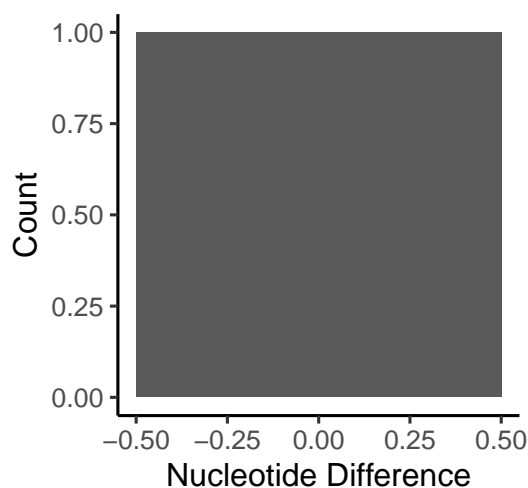
IGHV4–NL_21*01_S6392

1221 sequences assigned
184 (15.1%) exact matches, in which:
146 unique CDR3
10 unique J



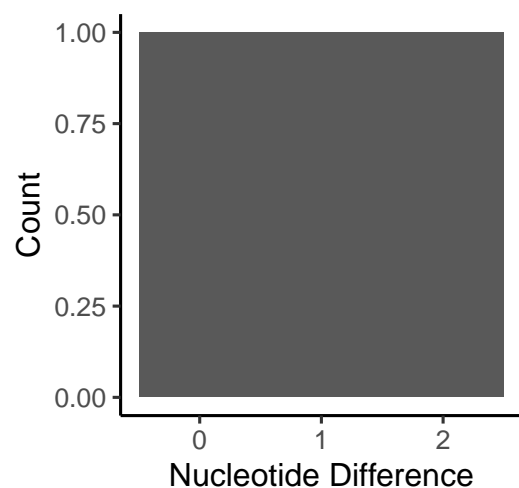
IGHV4–NL_23*01_S3043

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



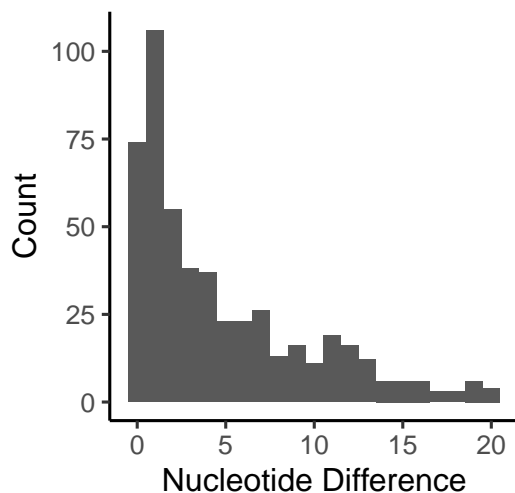
IGHV4–NL_27*01_S6960

3 sequences assigned
1 (33.3%) exact matches, in which:
1 unique CDR3
1 unique J



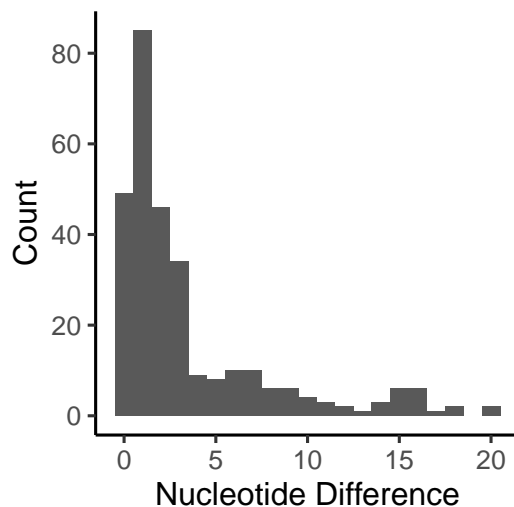
IGHV4–NL_22*01_S0411

641 sequences assigned
74 (11.5%) exact matches, in which:
60 unique CDR3
6 unique J



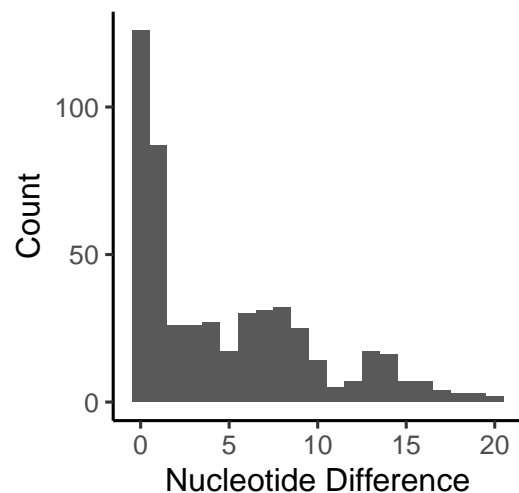
IGHV4–NL_24*01_S0522

302 sequences assigned
49 (16.2%) exact matches, in which:
40 unique CDR3
6 unique J



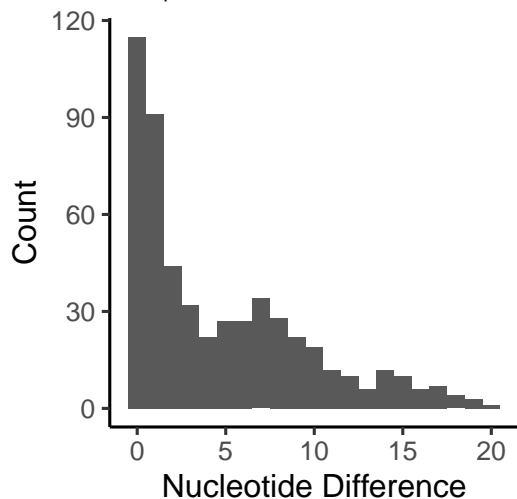
IGHV4–NL_28*01_S1039

637 sequences assigned
126 (19.8%) exact matches, in which:
102 unique CDR3
8 unique J



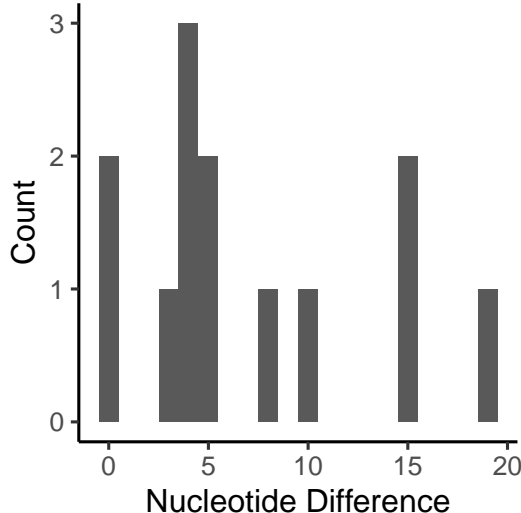
IGHV4–NL_28*01_S1039

626 sequences assigned
115 (18.4%) exact matches, in which:
95 unique CDR3
8 unique J



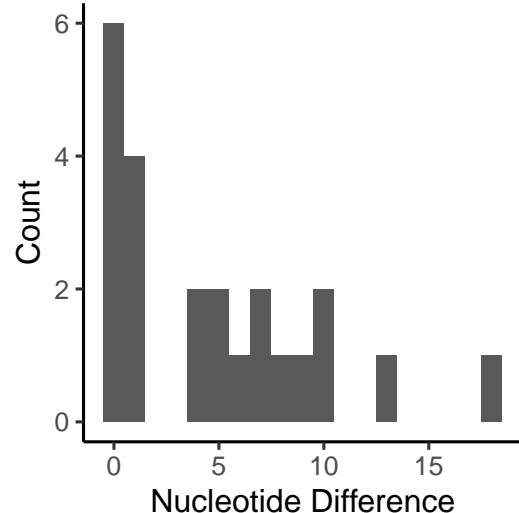
IGHV4–NL_31*01_S7693

14 sequences assigned
2 (14.3%) exact matches, in which:
2 unique CDR3
2 unique J



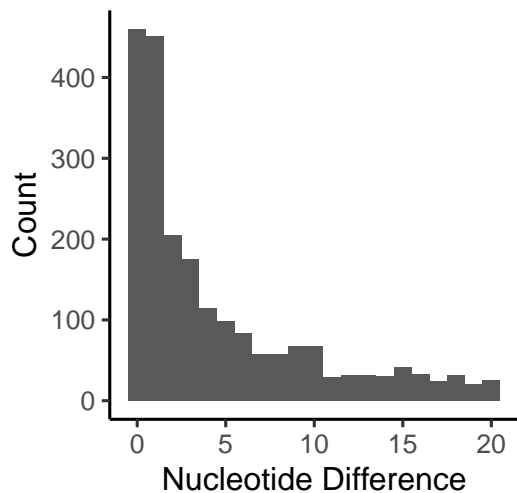
IGHV4–NL_33*01_S4287

27 sequences assigned
6 (22.2%) exact matches, in which:
6 unique CDR3
3 unique J



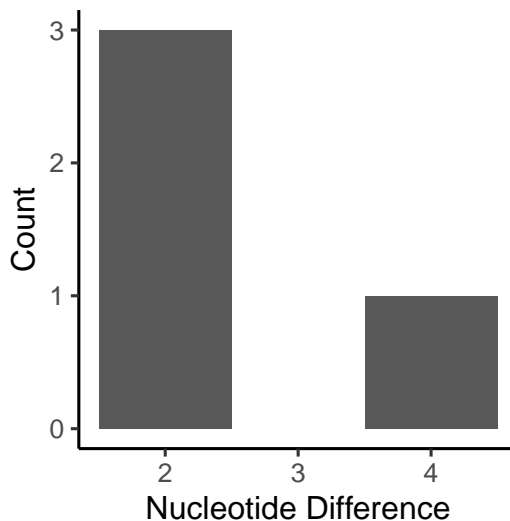
IGHV4–NL_29*01_S3761

2222 sequences assigned
460 (20.7%) exact matches, in which:
343 unique CDR3
9 unique J



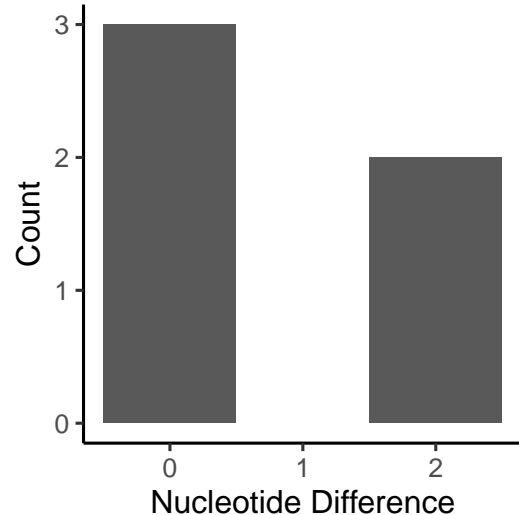
IGHV4–NL_31*01_S8320

4 sequences assigned
No exact matches.



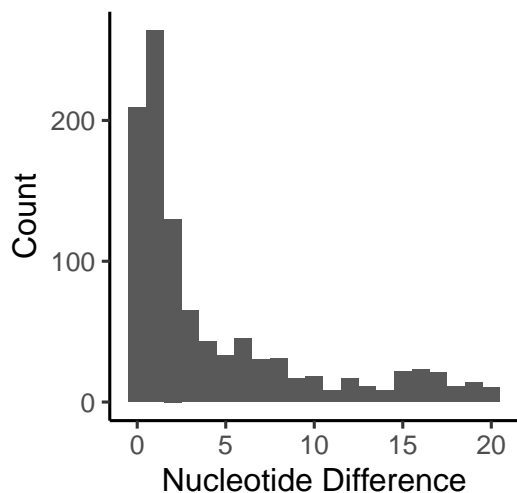
IGHV4–NL_33*01_S9588

5 sequences assigned
3 (60%) exact matches, in which:
3 unique CDR3
2 unique J



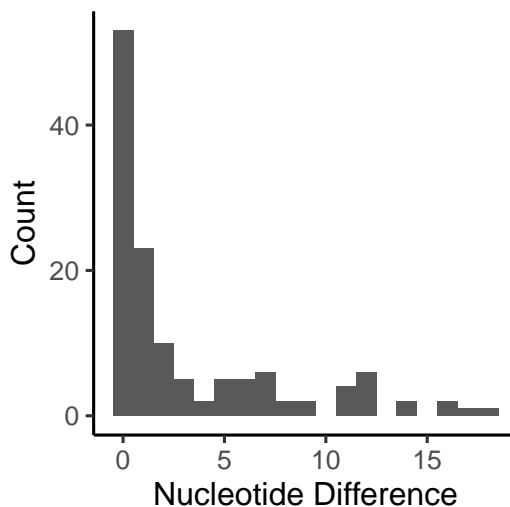
IGHV4–NL_3*01_S3122

1494 sequences assigned
209 (14%) exact matches, in which:
163 unique CDR3
8 unique J



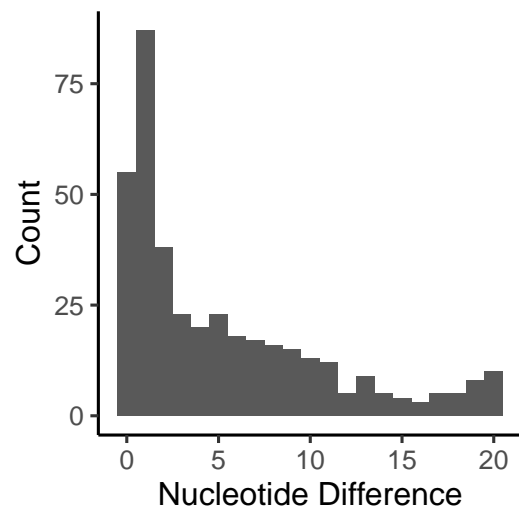
IGHV4–NL_32*01_S0782

137 sequences assigned
53 (38.7%) exact matches, in which:
47 unique CDR3
5 unique J



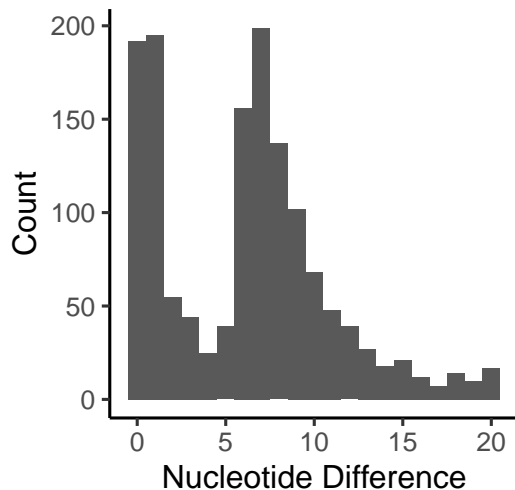
IGHV4–NL_35*01_S9510

700 sequences assigned
55 (7.9%) exact matches, in which:
47 unique CDR3
5 unique J



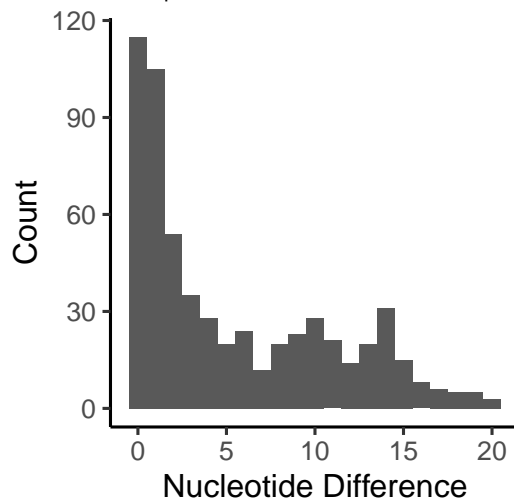
IGHV4–NL_36*01_S0936

1523 sequences assigned
192 (12.6%) exact matches, in which:
145 unique CDR3
8 unique J



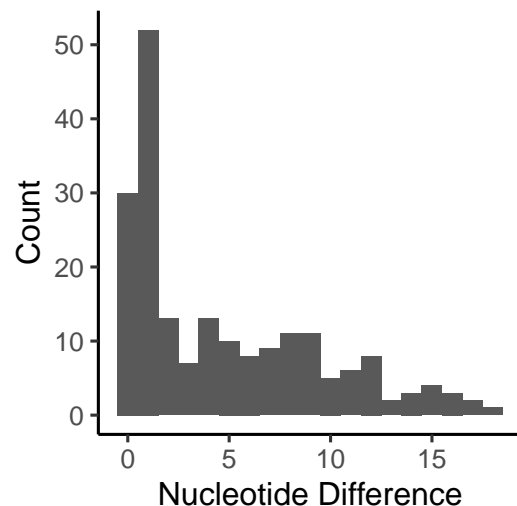
IGHV4–NL_36*01_S5938

636 sequences assigned
115 (18.1%) exact matches, in which:
90 unique CDR3
7 unique J



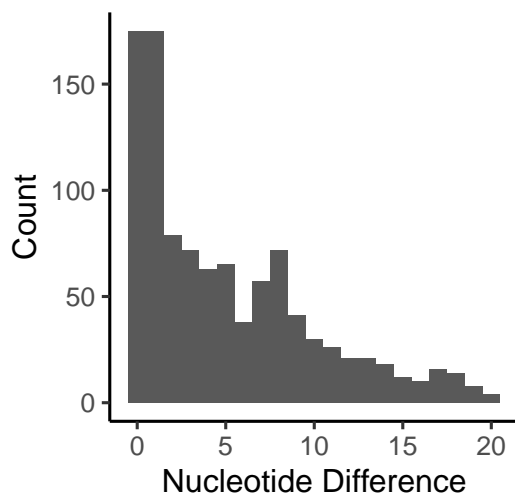
IGHV4–NL_39*01_S0397

225 sequences assigned
30 (13.3%) exact matches, in which:
27 unique CDR3
7 unique J



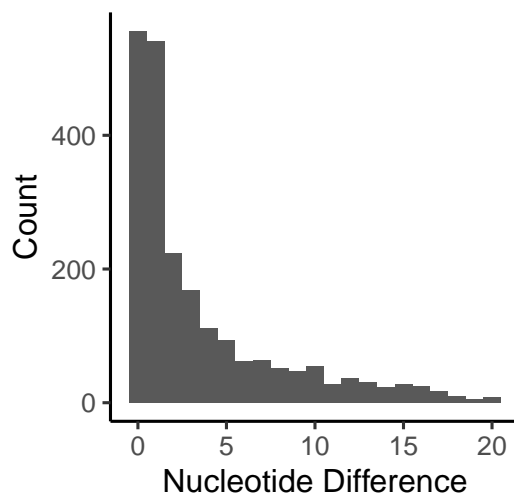
IGHV4–NL_36*01_S3597

1207 sequences assigned
175 (14.5%) exact matches, in which:
132 unique CDR3
7 unique J



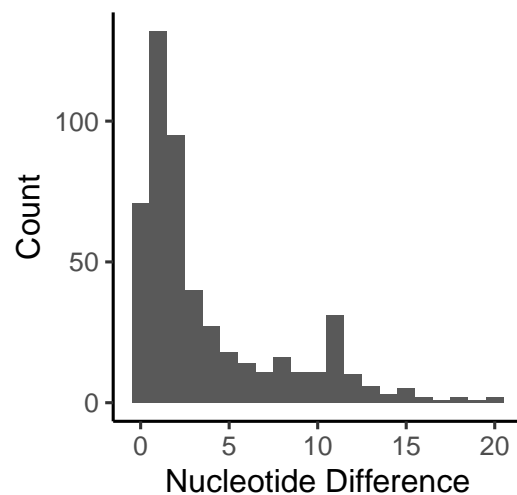
IGHV4–NL_37*01_S0997

2313 sequences assigned
556 (24%) exact matches, in which:
415 unique CDR3
9 unique J



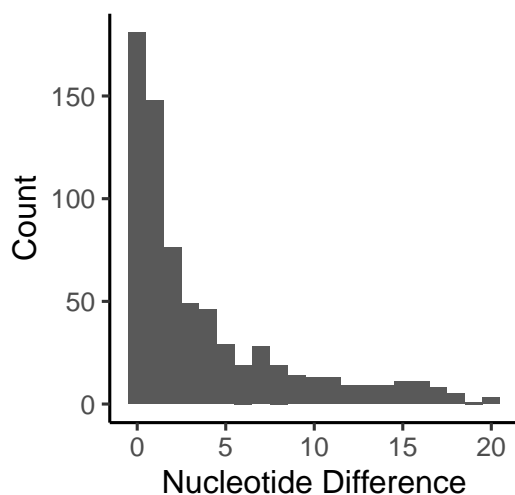
IGHV4–NL_4*01_S8866

523 sequences assigned
71 (13.6%) exact matches, in which:
63 unique CDR3
9 unique J



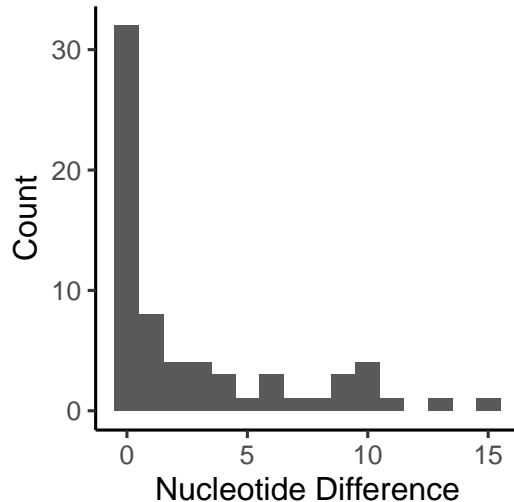
IGHV4–NL_36*01_S5000

756 sequences assigned
181 (23.9%) exact matches, in which:
140 unique CDR3
9 unique J



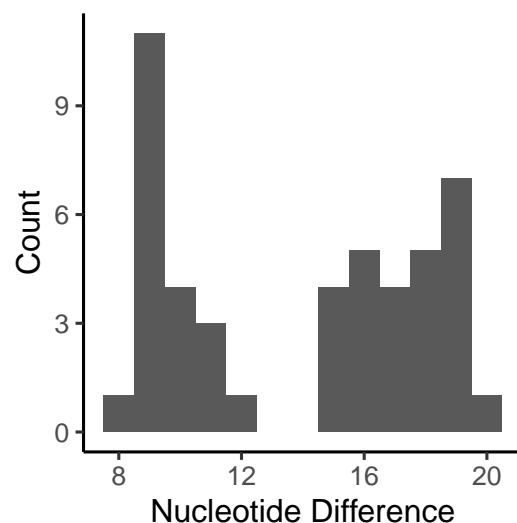
IGHV4–NL_38*01_S9225

83 sequences assigned
32 (38.6%) exact matches, in which:
32 unique CDR3
6 unique J



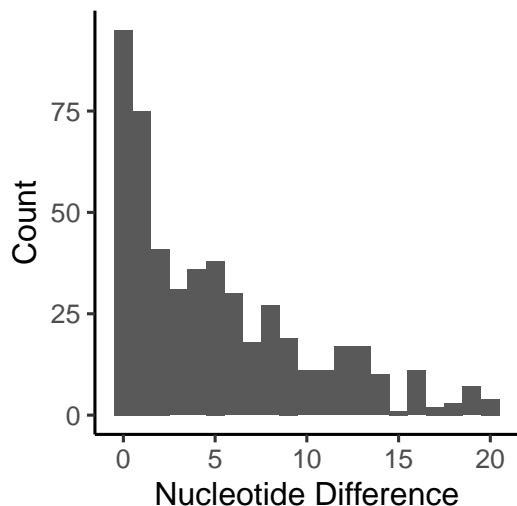
IGHV4–NL_41*01_S6928

60 sequences assigned
No exact matches.



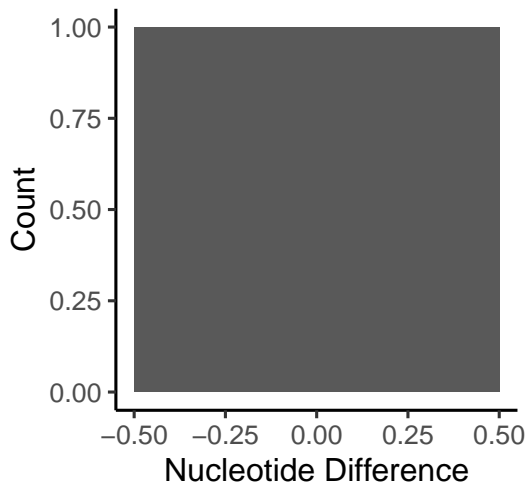
IGHV4–NL_42*01_S1512

519 sequences assigned
95 (18.3%) exact matches, in which:
76 unique CDR3
7 unique J



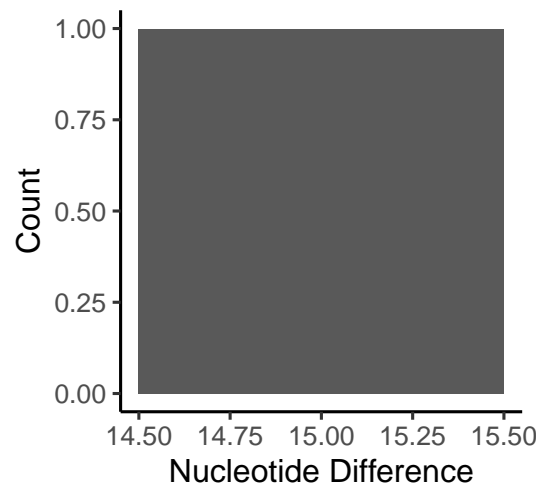
IGHV4–NL_6*01_S2831

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



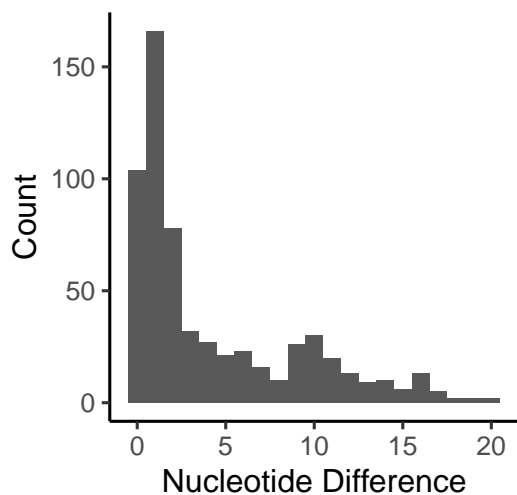
IGHV4–NL_8*02_S1704

1 sequences assigned
No exact matches.



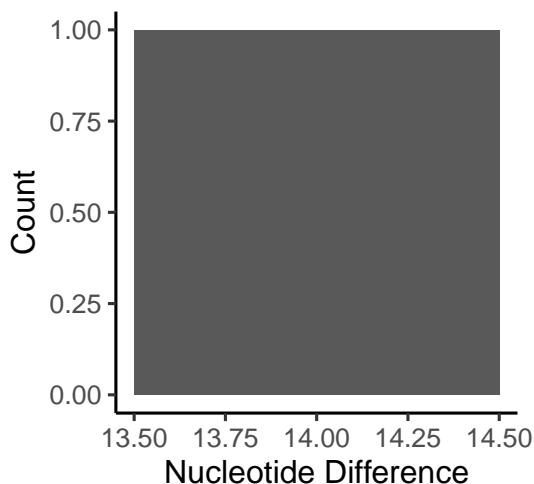
IGHV4–NL_43*01_S3820

636 sequences assigned
104 (16.4%) exact matches, in which:
87 unique CDR3
8 unique J



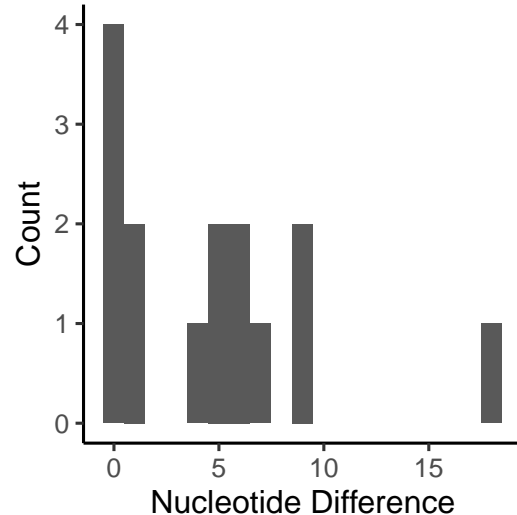
IGHV4–NL_6*01_S3486

1 sequences assigned
No exact matches.



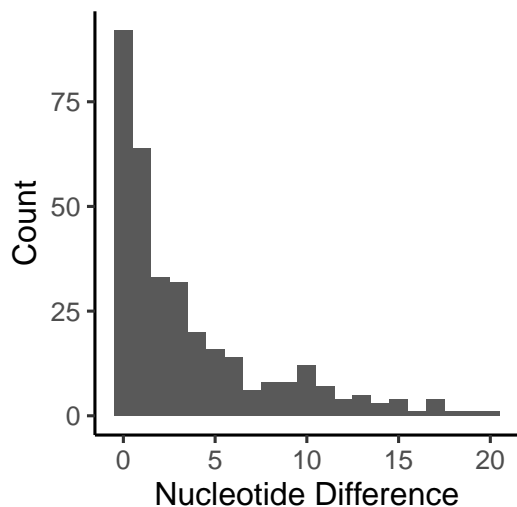
IGHV4–NL_9*01_S2406

19 sequences assigned
4 (21.1%) exact matches, in which:
4 unique CDR3
3 unique J



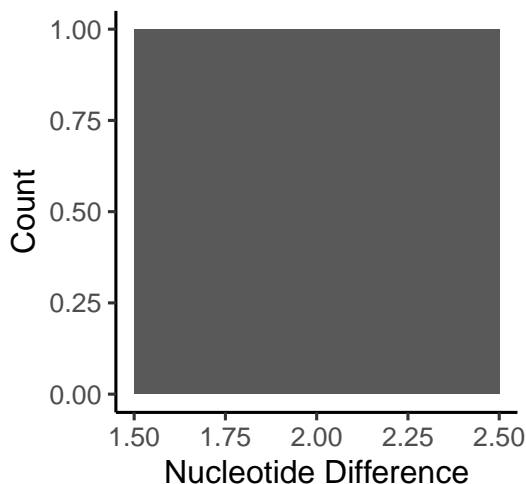
IGHV4–NL_5*01_S9644

341 sequences assigned
92 (27%) exact matches, in which:
74 unique CDR3
6 unique J



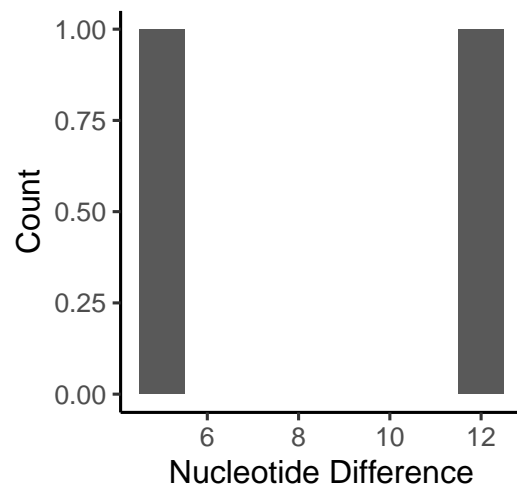
IGHV4–NL_6*01_S4760

1 sequences assigned
No exact matches.



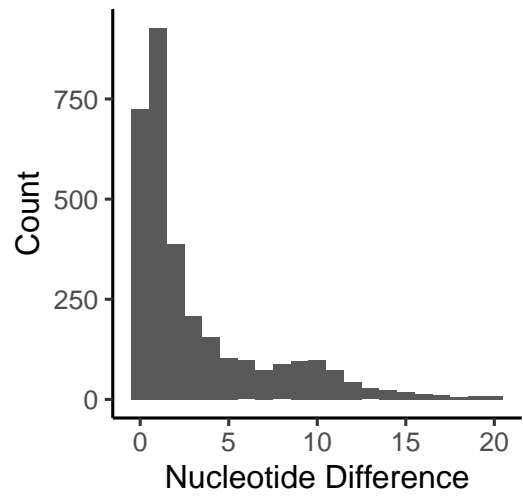
IGHV4–NL_9*01_S7216

2 sequences assigned
No exact matches.



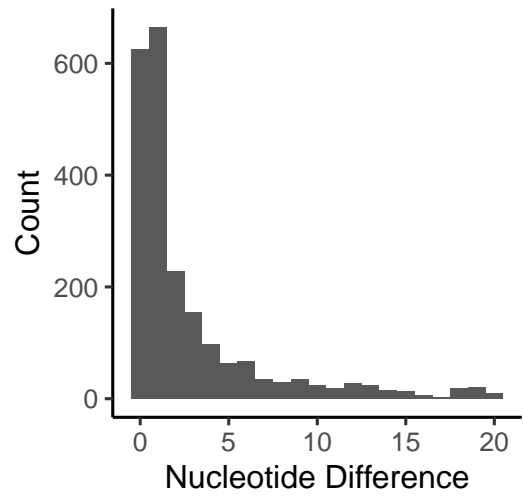
IGHV5-15*01_S0203

3294 sequences assigned
724 (22%) exact matches, in which:
458 unique CDR3
8 unique J



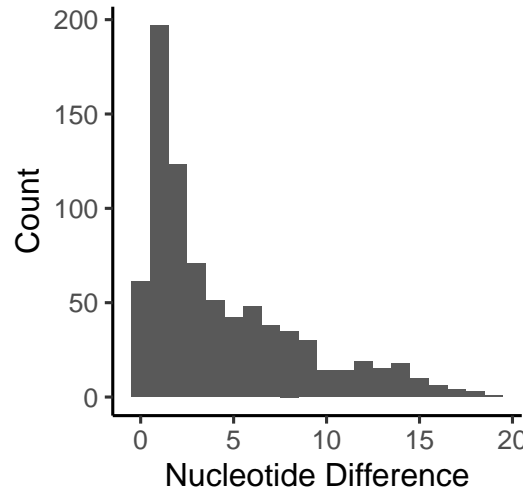
IGHV5-157*01_S5960

2310 sequences assigned
626 (27.1%) exact matches, in which:
324 unique CDR3
11 unique J

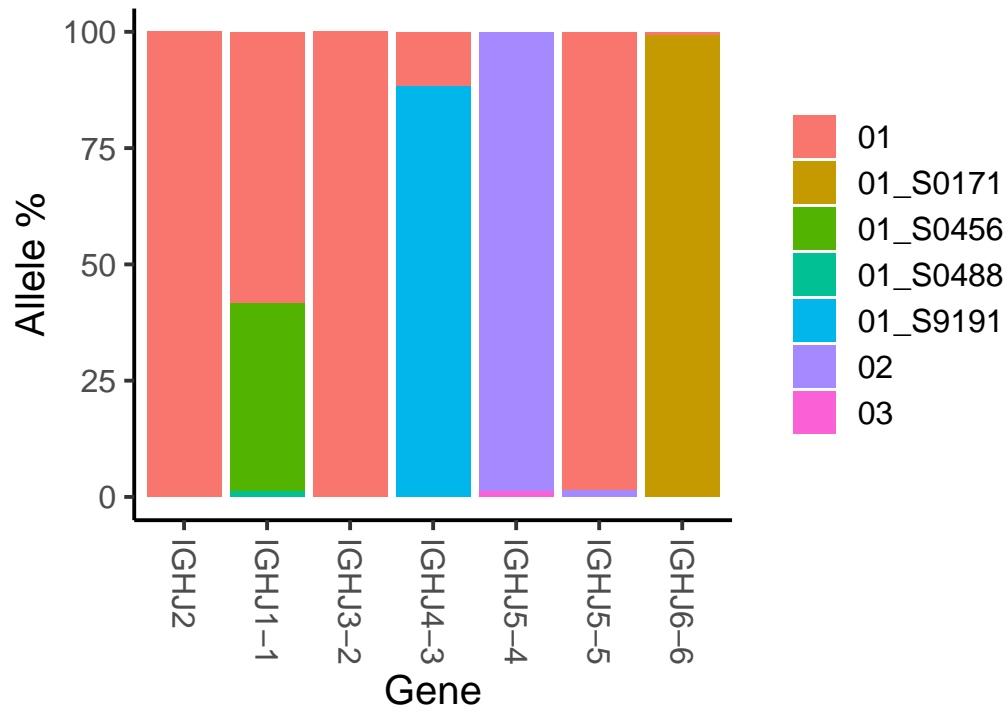


IGHV6-1*02_G283T

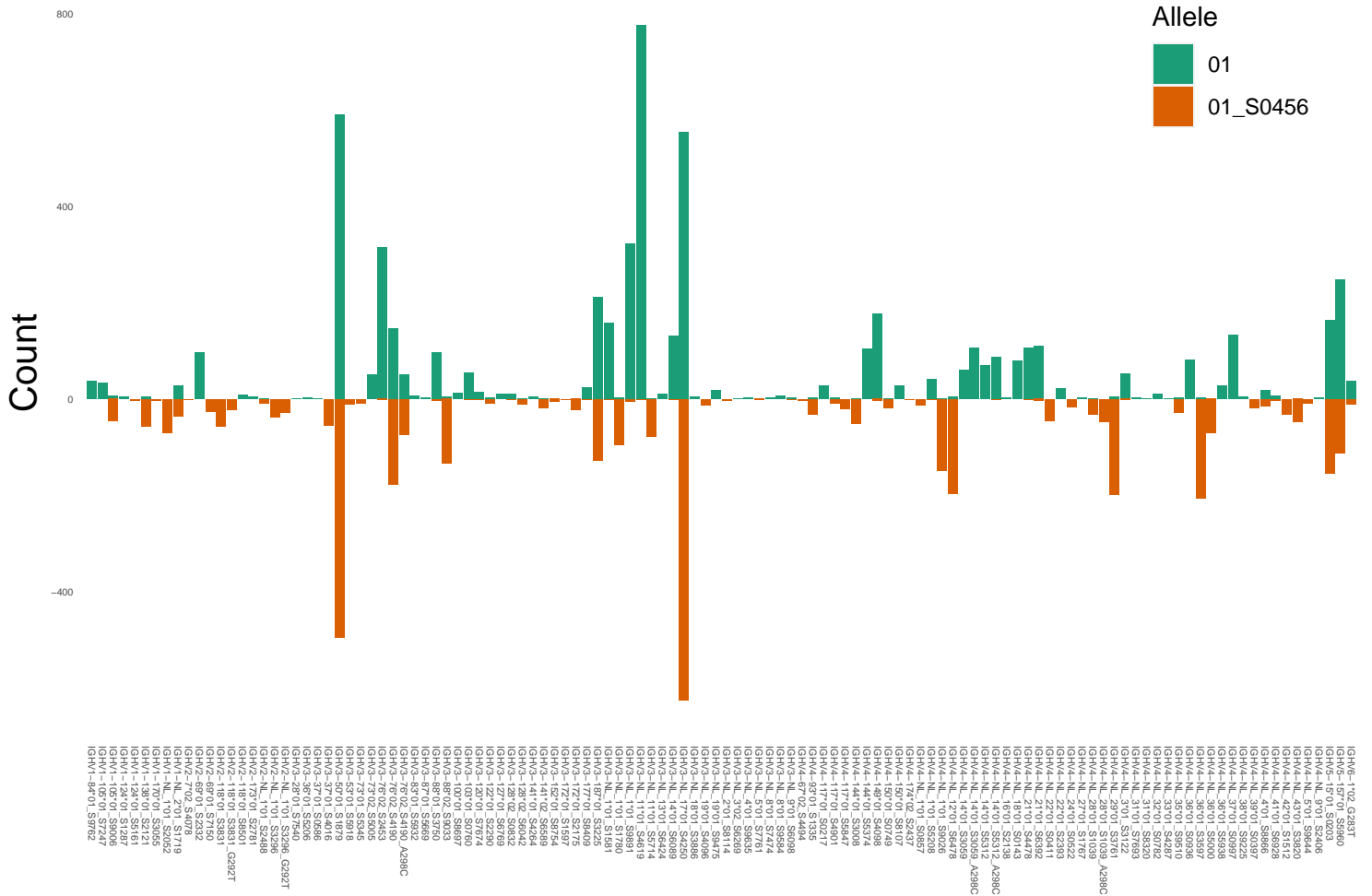
810 sequences assigned
61 (7.5%) exact matches, in which:
55 unique CDR3
8 unique J



Allele Usage



Sequence Count by IGHJ1-1 allele usage



Warning – no inferred sequences found.