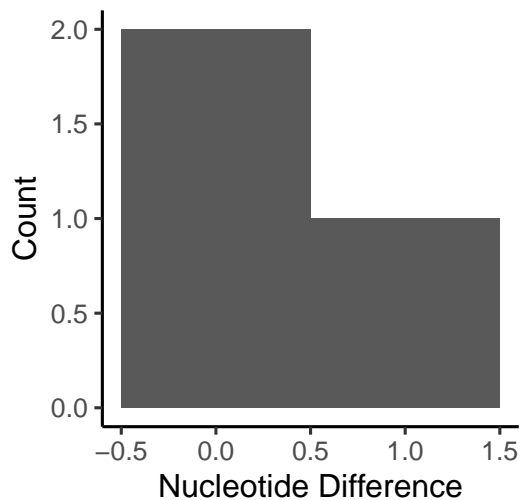


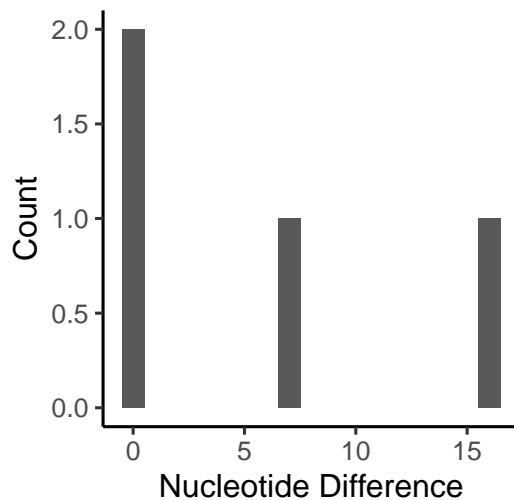
IGHV1-60*01_S7772

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



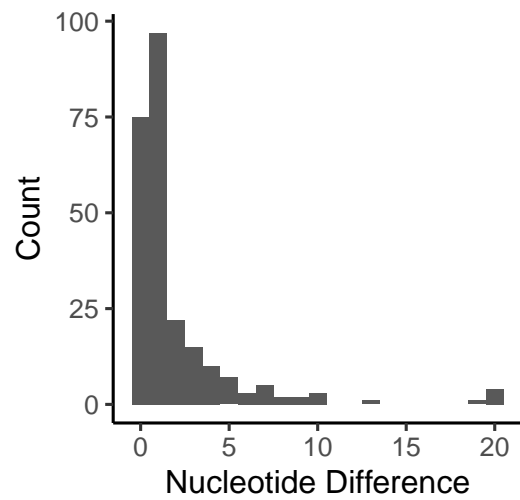
IGHV1-105*01_S7247

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



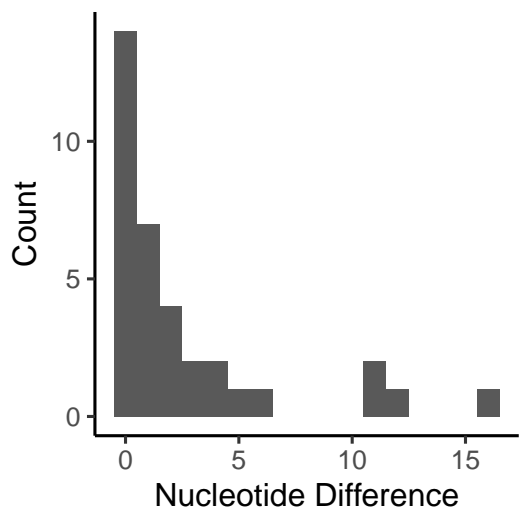
IGHV1-138*01_S8860

253 sequences assigned
75 (29.6%) exact matches, in which:
56 unique CDR3
7 unique J



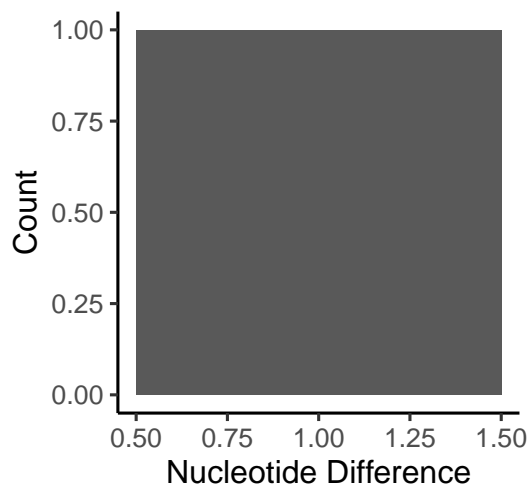
IGHV1-84*01_S0302

35 sequences assigned
14 (40%) exact matches, in which:
7 unique CDR3
5 unique J



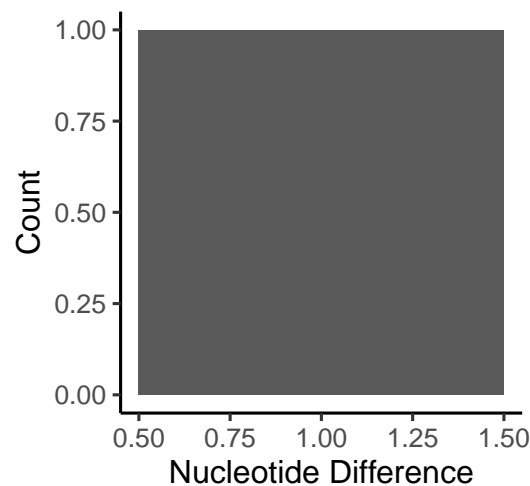
IGHV1-105*01_S9006

388 sequences assigned
No exact matches.



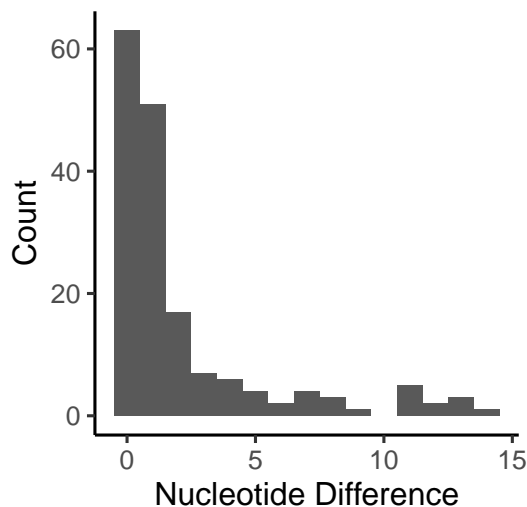
IGHV1-170*01_S3055

1 sequences assigned
No exact matches.



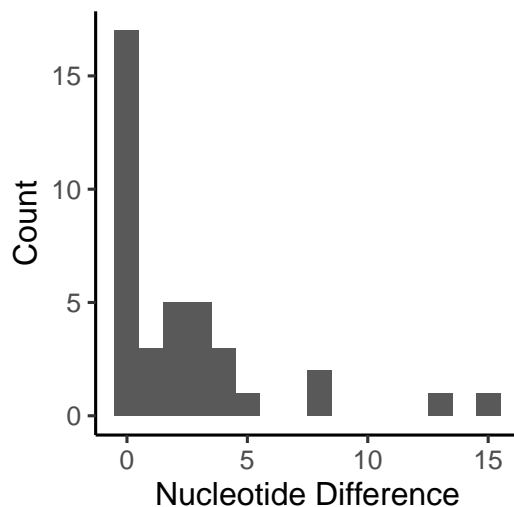
IGHV1-84*01_S9762

170 sequences assigned
63 (37.1%) exact matches, in which:
23 unique CDR3
6 unique J



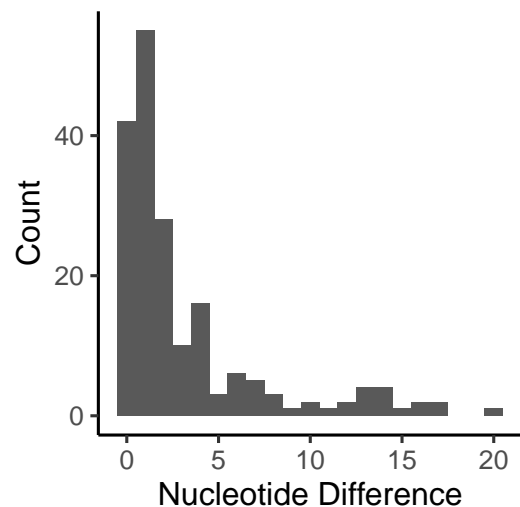
IGHV1-124*01_S6748

38 sequences assigned
17 (44.7%) exact matches, in which:
9 unique CDR3
4 unique J



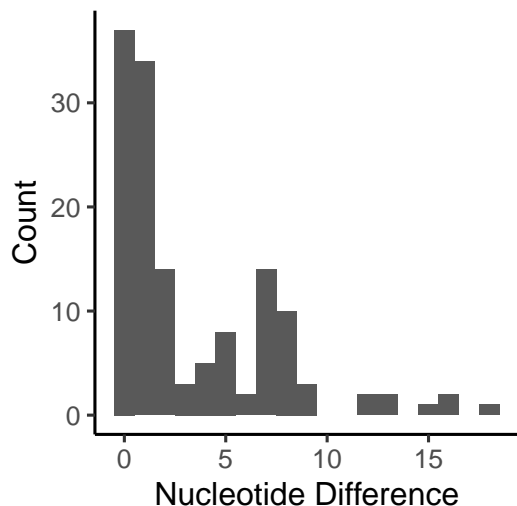
IGHV1-NL_1*01_S8759

190 sequences assigned
42 (22.1%) exact matches, in which:
24 unique CDR3
6 unique J



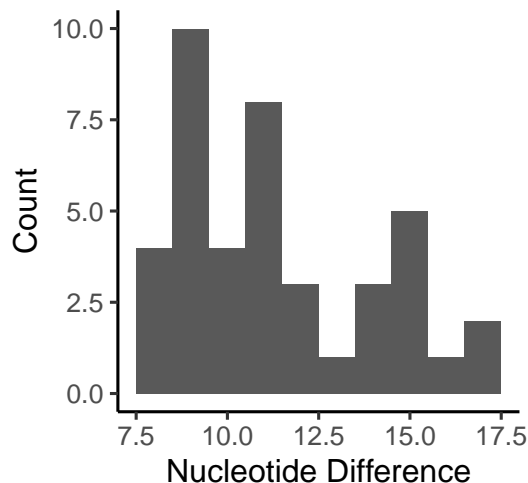
IGHV1–NL_2*01_S2809

139 sequences assigned
37 (26.6%) exact matches, in which:
18 unique CDR3
6 unique J



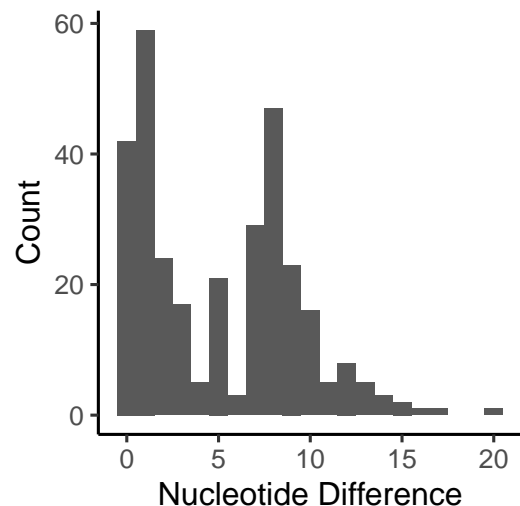
IGHV1–NL_2*01_S8362

42 sequences assigned
No exact matches.



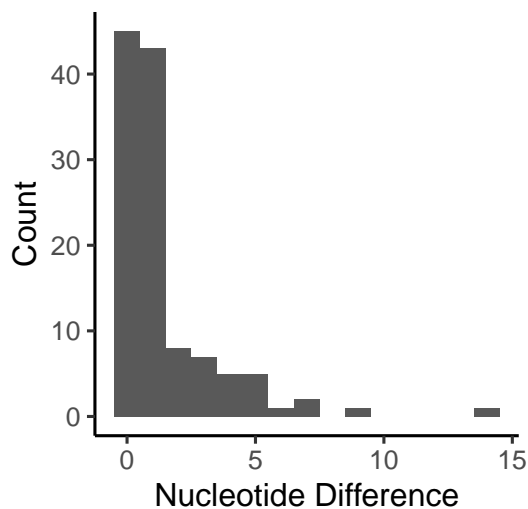
IGHV2–69*01_S5706

318 sequences assigned
42 (13.2%) exact matches, in which:
26 unique CDR3
4 unique J



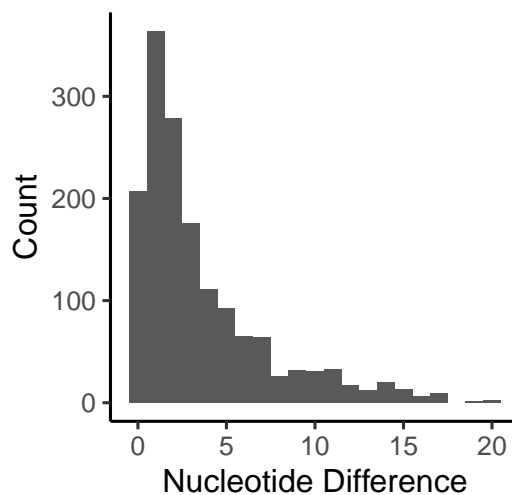
IGHV1–NL_2*01_S3013

132 sequences assigned
45 (34.1%) exact matches, in which:
17 unique CDR3
6 unique J



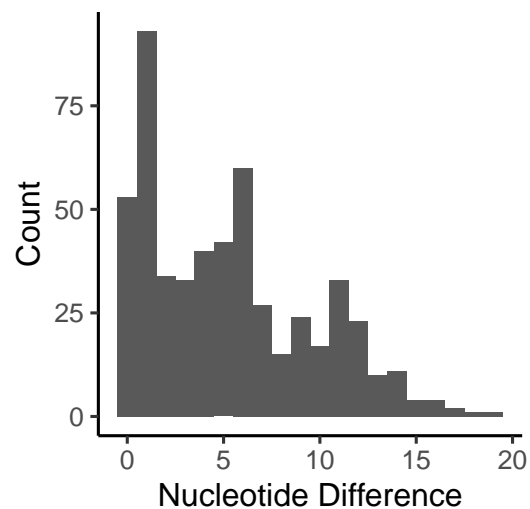
IGHV2–7*02_S4285

1570 sequences assigned
207 (13.2%) exact matches, in which:
117 unique CDR3
7 unique J



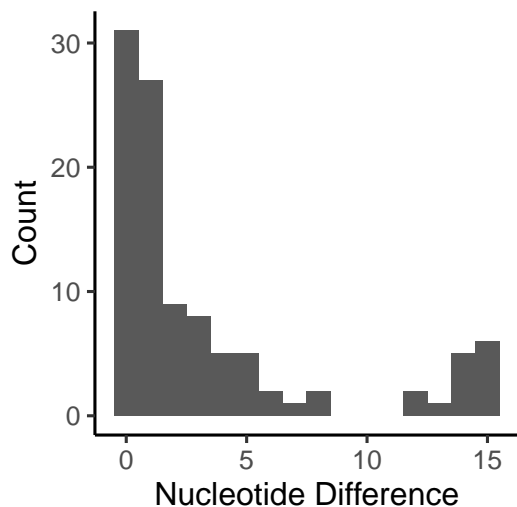
IGHV2–118*01_S2477

534 sequences assigned
53 (9.9%) exact matches, in which:
26 unique CDR3
5 unique J



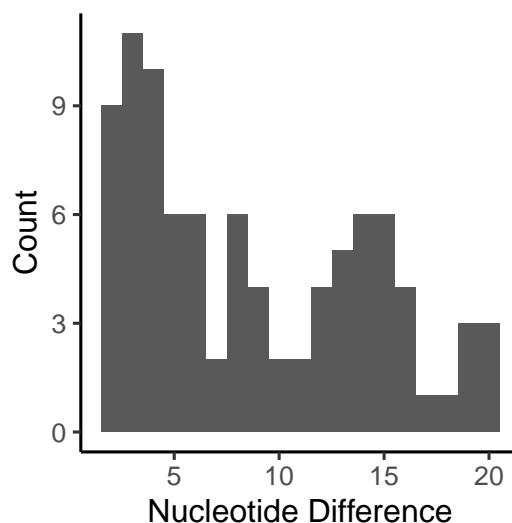
IGHV1–NL_2*01_S5862

120 sequences assigned
31 (25.8%) exact matches, in which:
15 unique CDR3
6 unique J



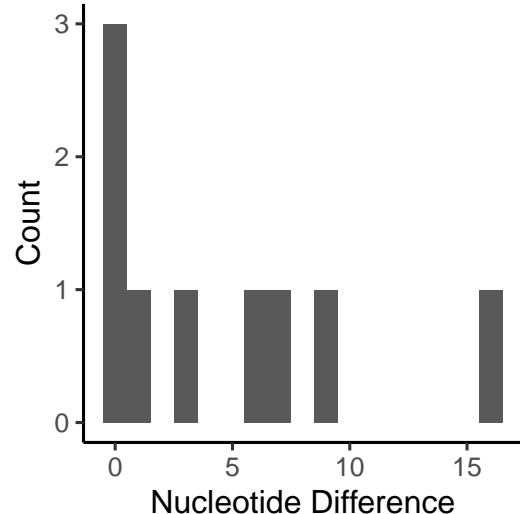
IGHV2–69*01_S4929

95 sequences assigned
No exact matches.



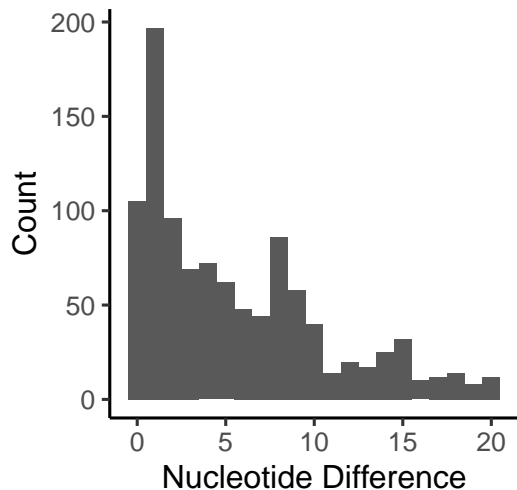
IGHV2–173*01_S2781

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



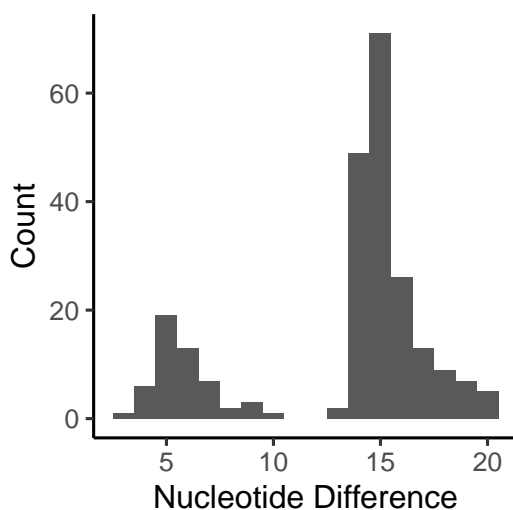
IGHV2–NL_1*01_S9848

1149 sequences assigned
105 (9.1%) exact matches, in which:
71 unique CDR3
7 unique J



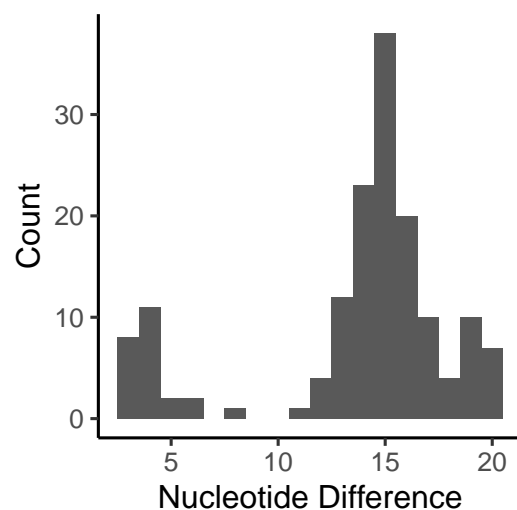
IGHV3–28*01_S7540

247 sequences assigned
No exact matches.



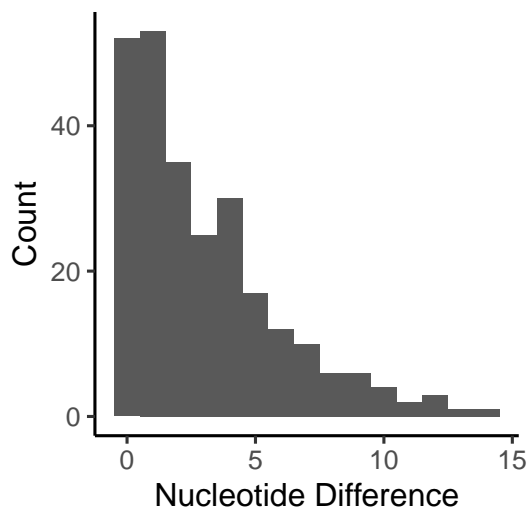
IGHV3–37*01_S0586

288 sequences assigned
No exact matches.



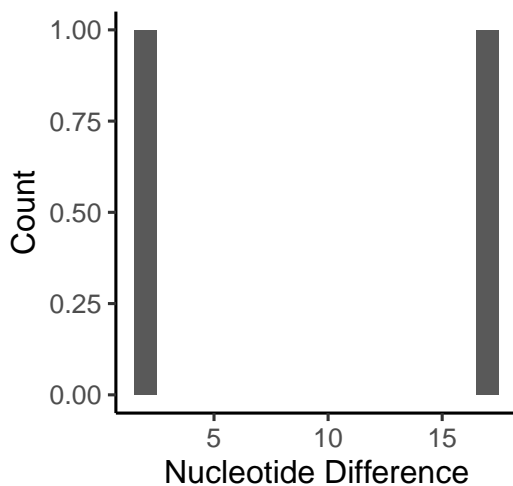
IGHV2–NL_2*01_S2193

268 sequences assigned
52 (19.4%) exact matches, in which:
24 unique CDR3
5 unique J



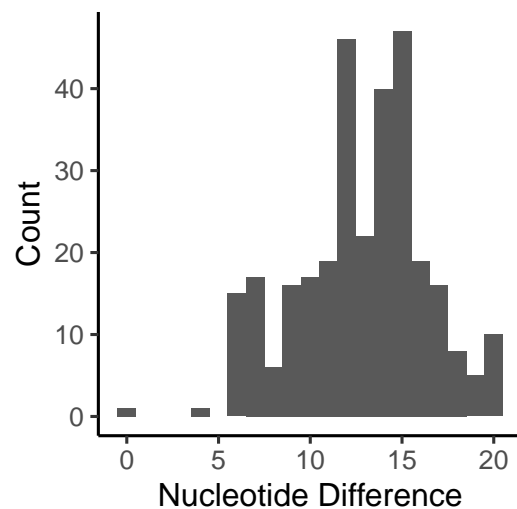
IGHV3–34*02_S0219

2 sequences assigned
No exact matches.



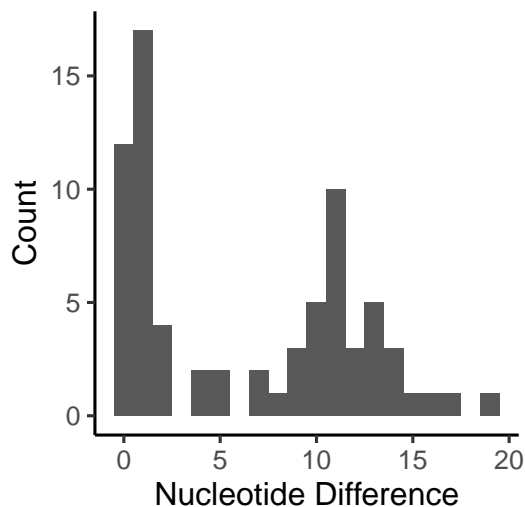
IGHV3–37*01_S4016

400 sequences assigned
1 (0.2%) exact matches, in which:
1 unique CDR3
1 unique J



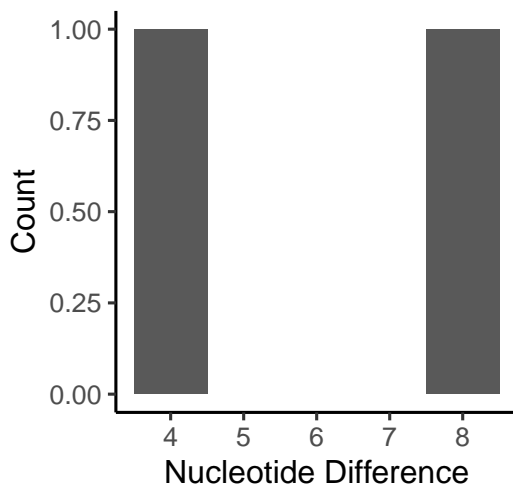
IGHV3–28*01_S3617

114 sequences assigned
12 (10.5%) exact matches, in which:
7 unique CDR3
2 unique J



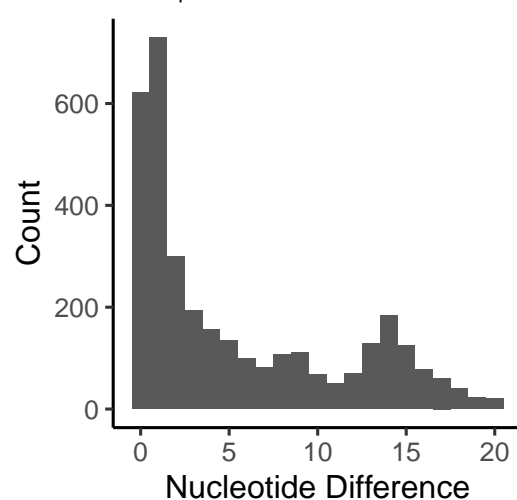
IGHV3–36*01_S5206

2 sequences assigned
No exact matches.



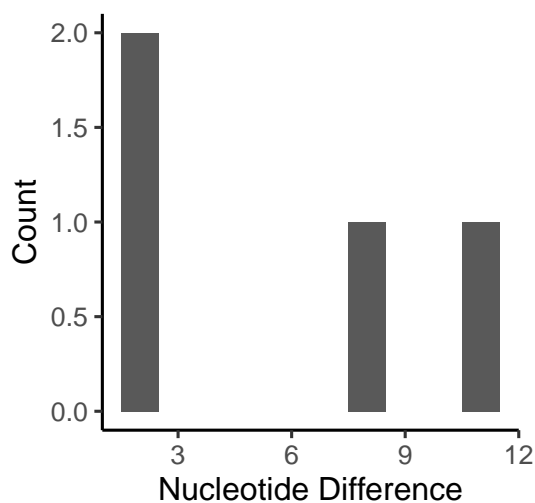
IGHV3–50*01_S1879

3464 sequences assigned
621 (17.9%) exact matches, in which:
389 unique CDR3
10 unique J



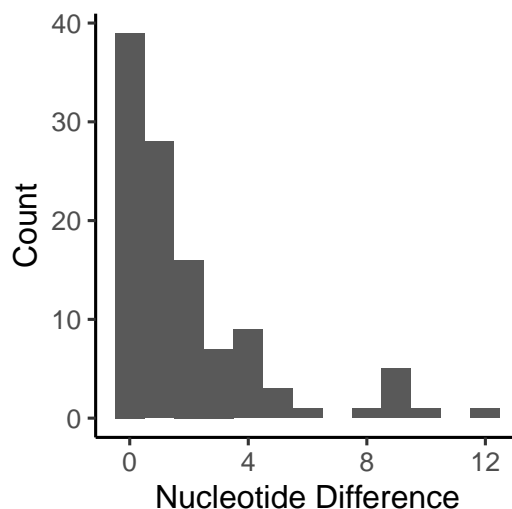
IGHV3-53*01_S5918

4 sequences assigned
No exact matches.



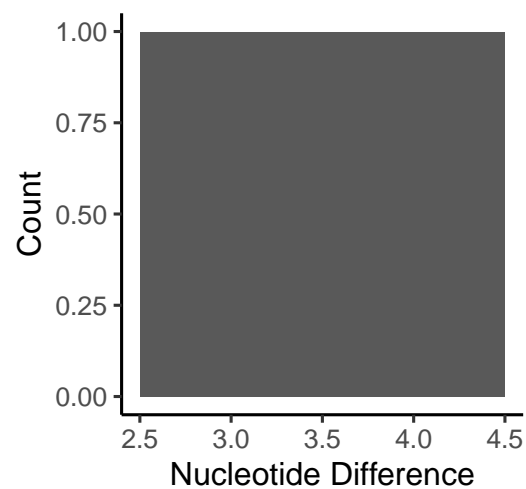
IGHV3-73*01_S9948

122 sequences assigned
39 (32%) exact matches, in which:
20 unique CDR3
5 unique J



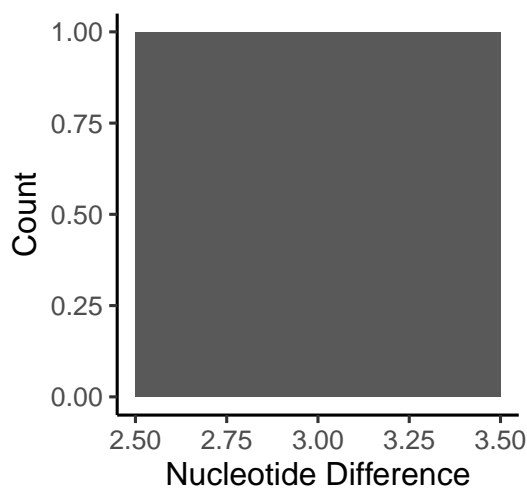
IGHV3-87*01_S2131

2 sequences assigned
No exact matches.



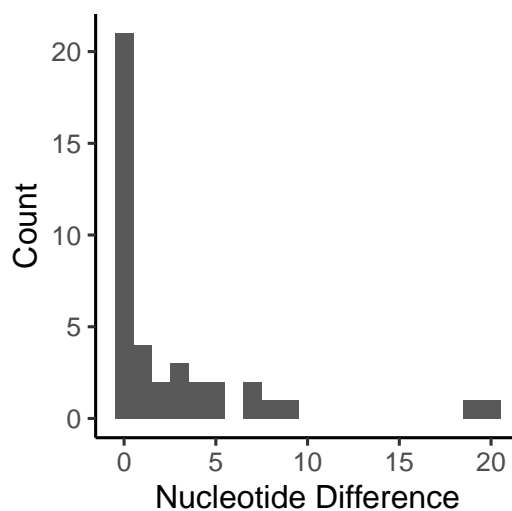
IGHV3-53*01_S6933

1 sequences assigned
No exact matches.



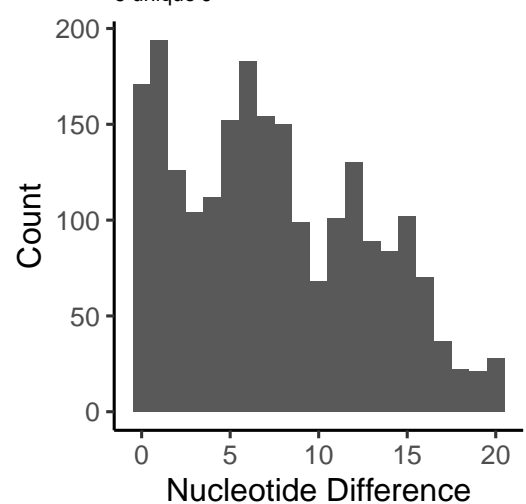
IGHV3-76*02_S2453

49 sequences assigned
21 (42.9%) exact matches, in which:
21 unique CDR3
6 unique J



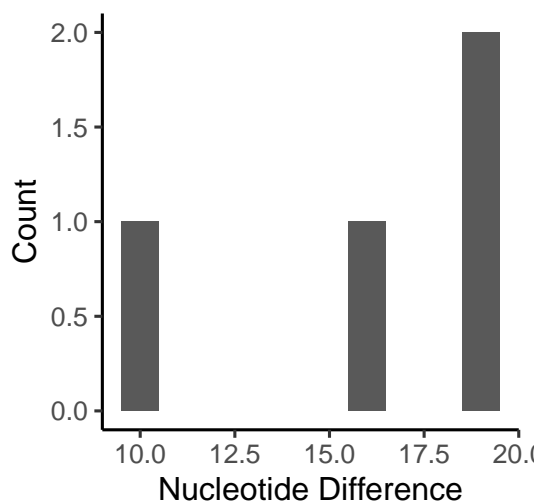
IGHV3-88*02_S7350

2296 sequences assigned
171 (7.4%) exact matches, in which:
108 unique CDR3
6 unique J



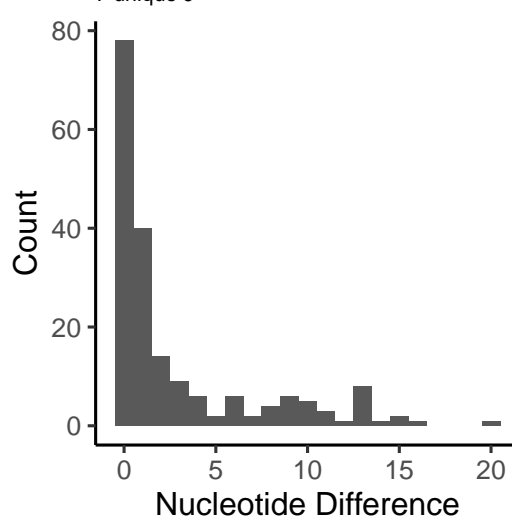
IGHV3-53*01_S8913

11 sequences assigned
No exact matches.



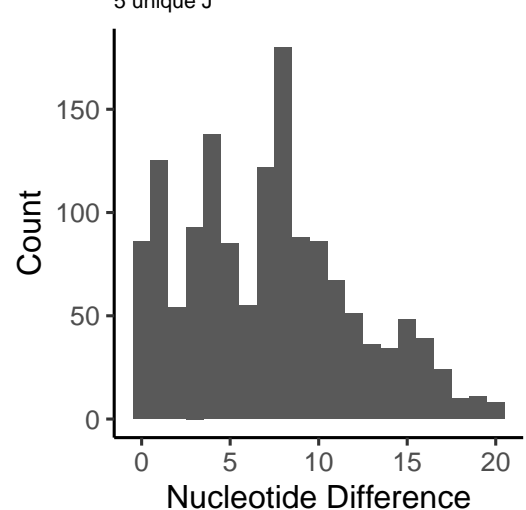
IGHV3-76*02_S4190

201 sequences assigned
78 (38.8%) exact matches, in which:
77 unique CDR3
7 unique J



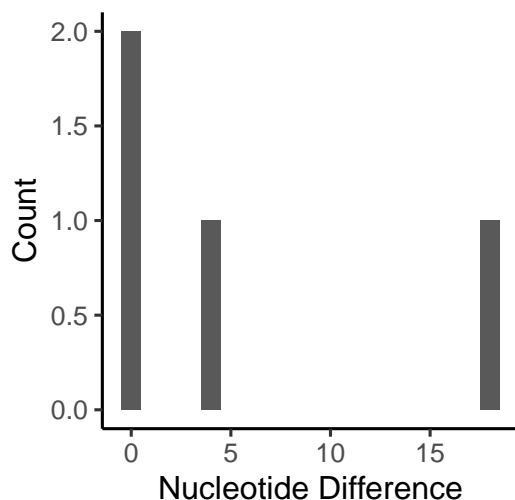
IGHV3-88*02_S9033

1574 sequences assigned
86 (5.5%) exact matches, in which:
52 unique CDR3
5 unique J



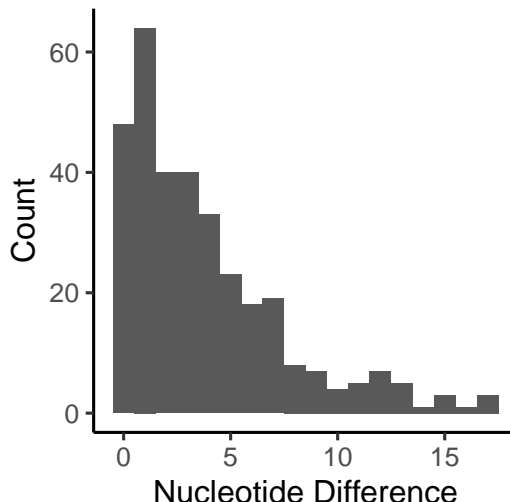
IGHV3-94*01_S3427

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



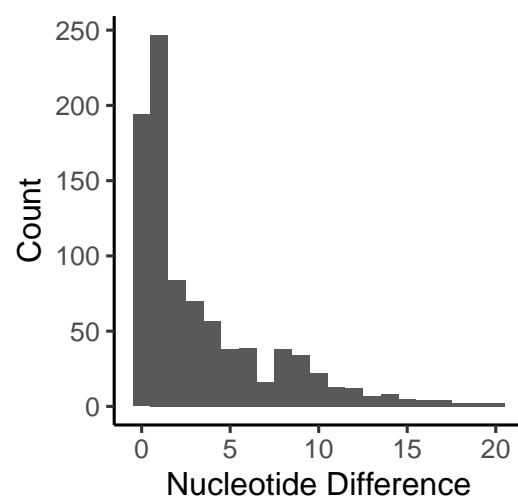
IGHV3-122*01_S1788

333 sequences assigned
48 (14.4%) exact matches, in which:
26 unique CDR3
7 unique J



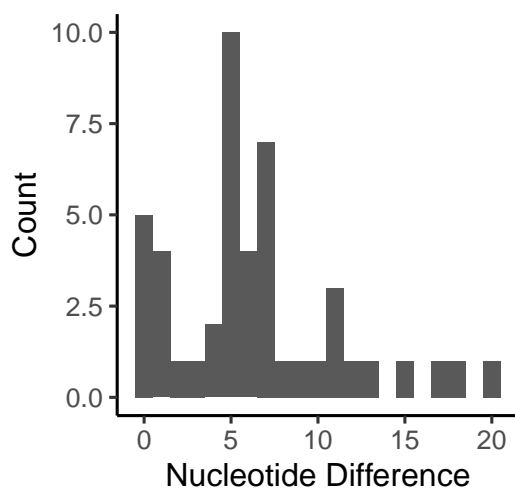
IGHV3-127*01_S8342

903 sequences assigned
194 (21.5%) exact matches, in which:
113 unique CDR3
7 unique J



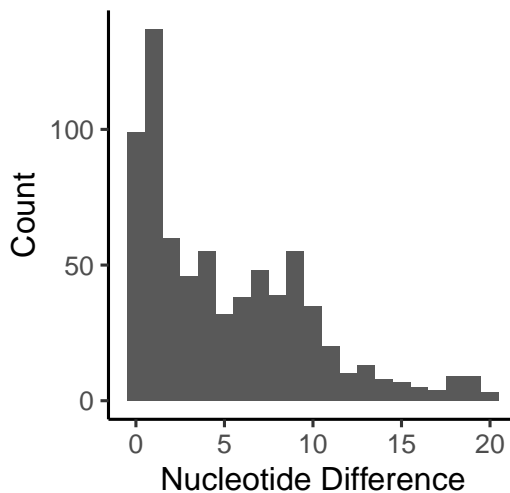
IGHV3-100*01_S4375

87 sequences assigned
5 (5.7%) exact matches, in which:
3 unique CDR3
1 unique J



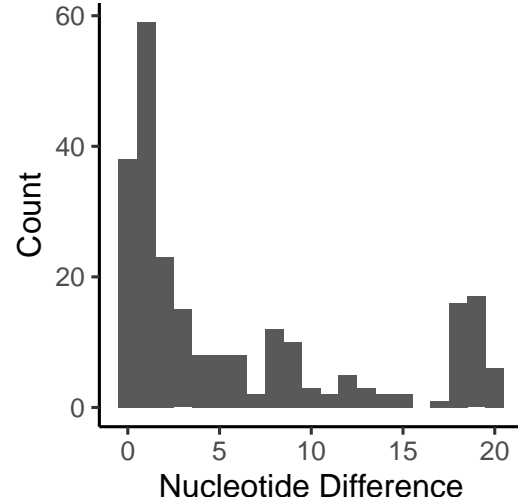
IGHV3-122*01_S8388

742 sequences assigned
99 (13.3%) exact matches, in which:
58 unique CDR3
9 unique J



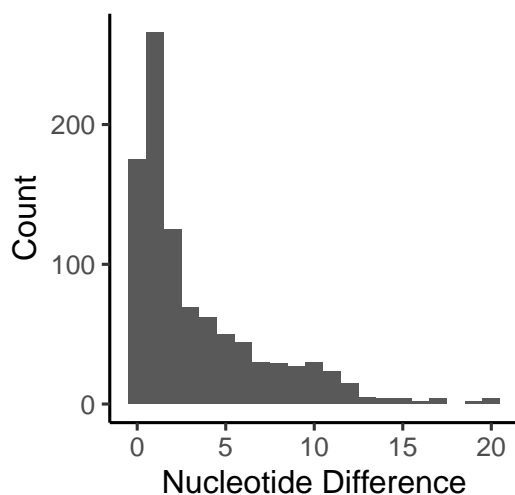
IGHV3-127*01_S9220

259 sequences assigned
38 (14.7%) exact matches, in which:
21 unique CDR3
3 unique J



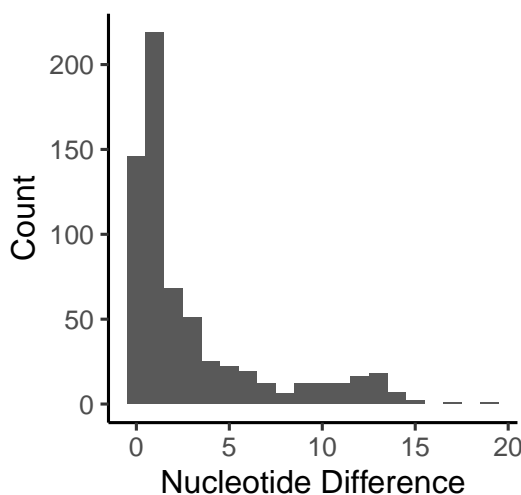
IGHV3-103*01_S1165

981 sequences assigned
175 (17.8%) exact matches, in which:
110 unique CDR3
9 unique J



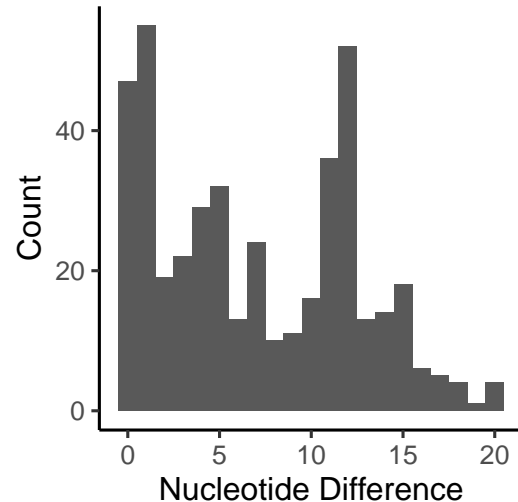
IGHV3-127*01_S1513

657 sequences assigned
146 (22.2%) exact matches, in which:
79 unique CDR3
7 unique J



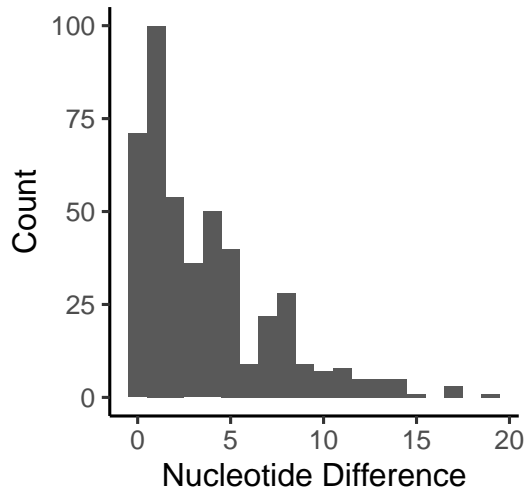
IGHV3-128*01_S3347

449 sequences assigned
47 (10.5%) exact matches, in which:
25 unique CDR3
5 unique J



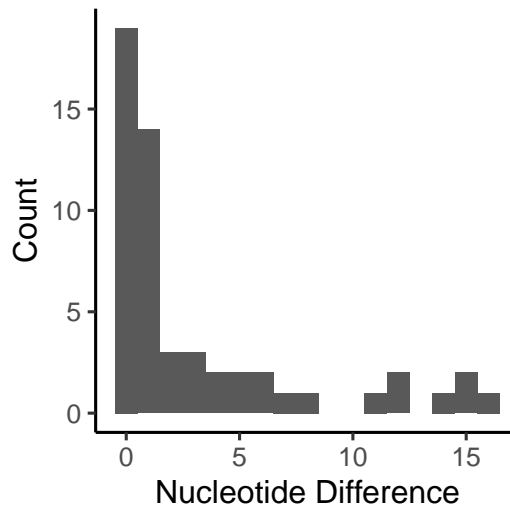
IGHV3-128*02_S4192

459 sequences assigned
71 (15.5%) exact matches, in which:
39 unique CDR3
7 unique J



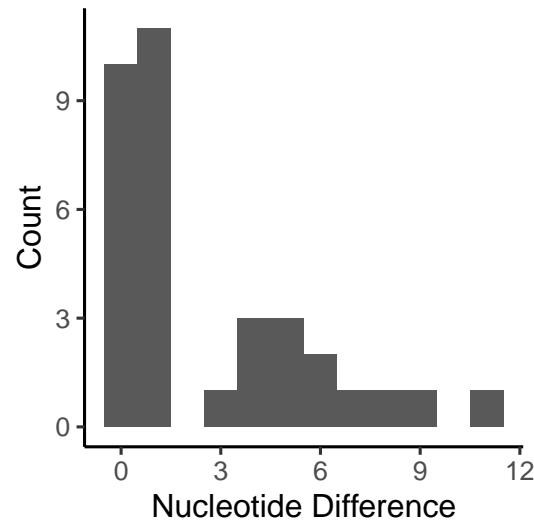
IGHV3-141*02_S7574

58 sequences assigned
19 (32.8%) exact matches, in which:
12 unique CDR3
5 unique J



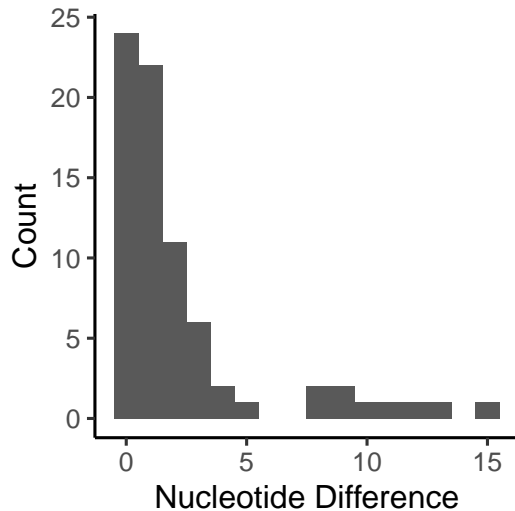
IGHV3-172*01_S8488

35 sequences assigned
10 (28.6%) exact matches, in which:
7 unique CDR3
4 unique J



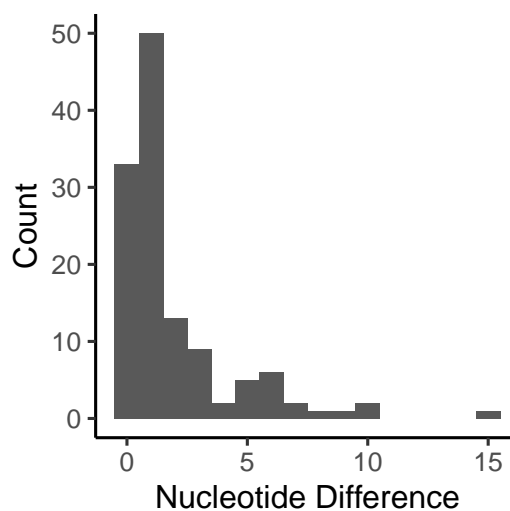
IGHV3-141*01_S4264

75 sequences assigned
24 (32%) exact matches, in which:
18 unique CDR3
5 unique J



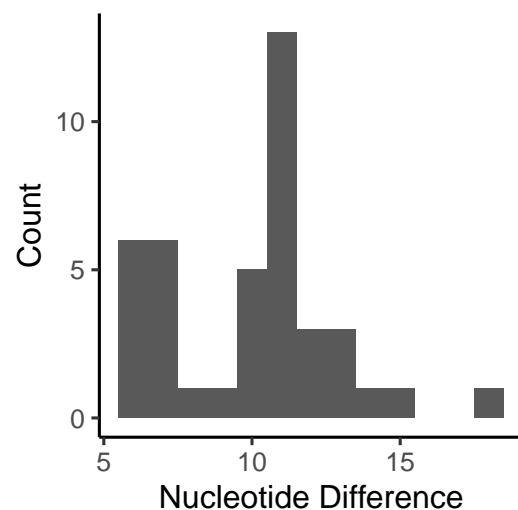
IGHV3-172*01_S0294

128 sequences assigned
33 (25.8%) exact matches, in which:
23 unique CDR3
5 unique J



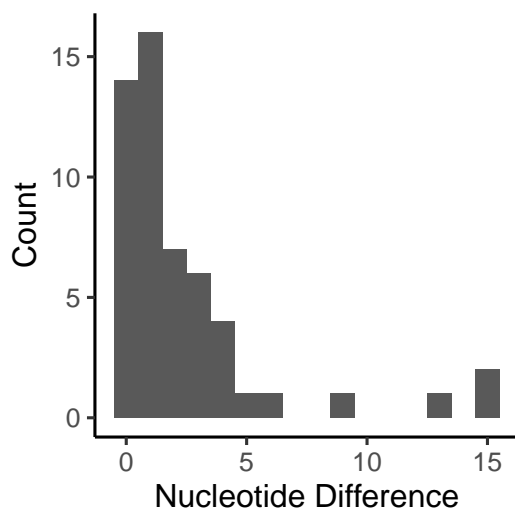
IGHV3-177*01_S2755

47 sequences assigned
No exact matches.



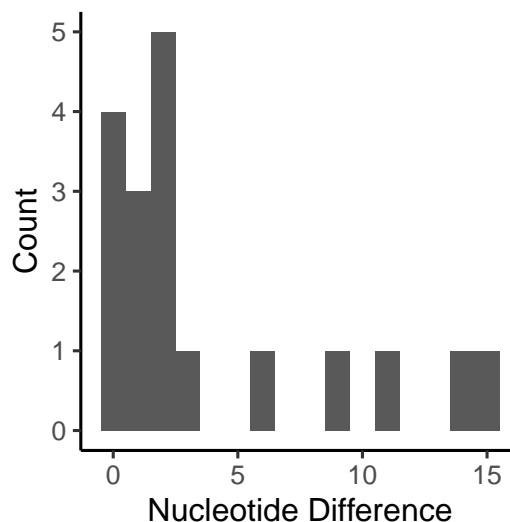
IGHV3-141*02_S2271

53 sequences assigned
14 (26.4%) exact matches, in which:
7 unique CDR3
5 unique J



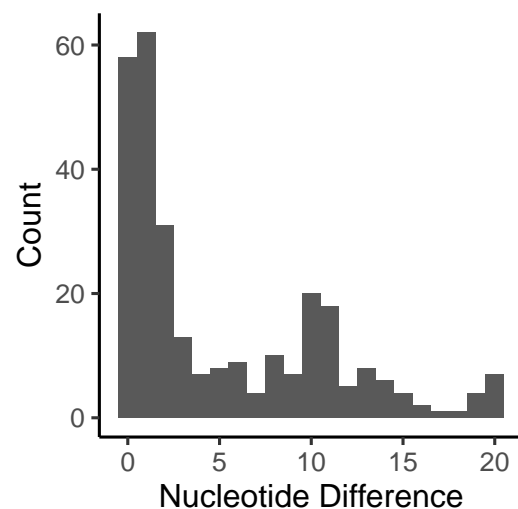
IGHV3-172*01_S1597

18 sequences assigned
4 (22.2%) exact matches, in which:
1 unique CDR3
1 unique J



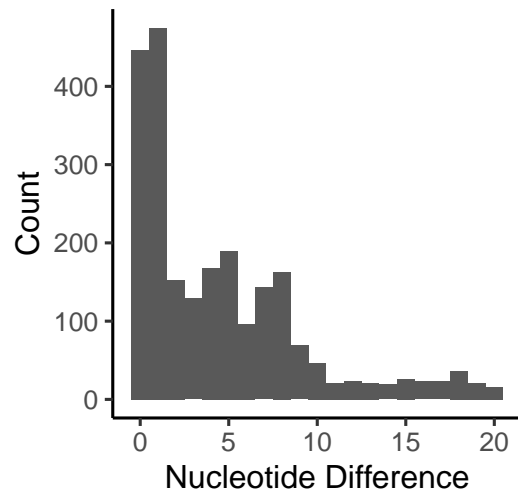
IGHV3-177*01_S8409

381 sequences assigned
58 (15.2%) exact matches, in which:
43 unique CDR3
7 unique J



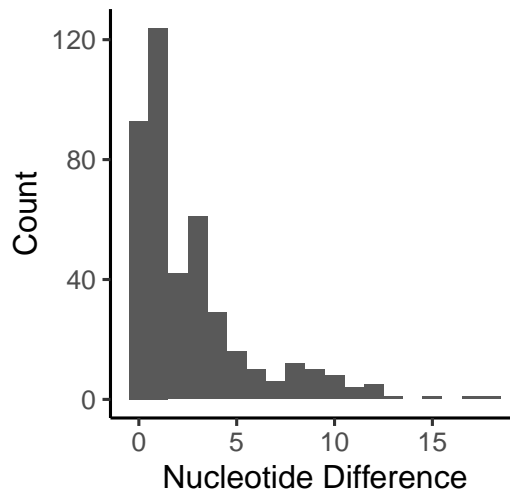
IGHV3-187*01_S3225

2478 sequences assigned
446 (18%) exact matches, in which:
292 unique CDR3
7 unique J



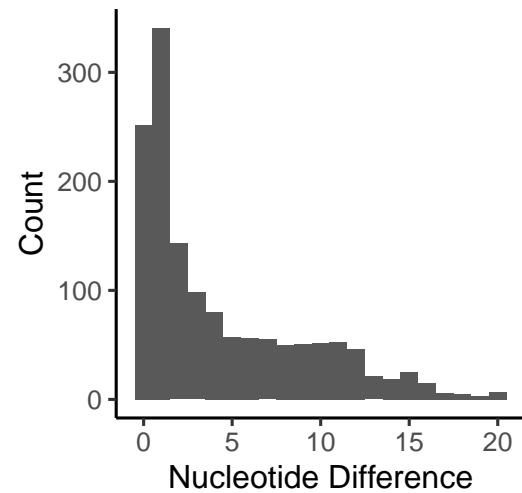
IGHV3-NL_1*01_S4906

434 sequences assigned
93 (21.4%) exact matches, in which:
45 unique CDR3
8 unique J



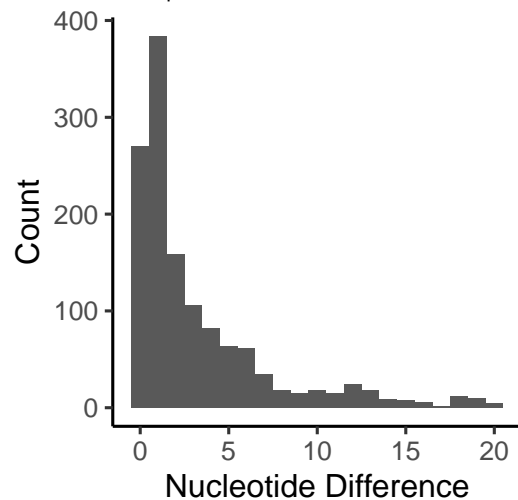
IGHV3-NL_11*01_S5714

1690 sequences assigned
252 (14.9%) exact matches, in which:
167 unique CDR3
8 unique J



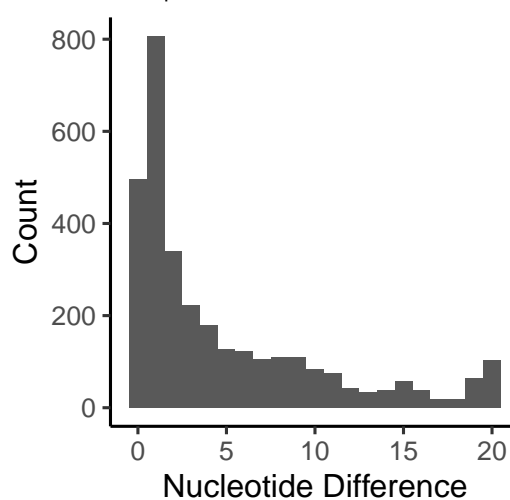
IGHV3-NL_1*01_S3947

1341 sequences assigned
270 (20.1%) exact matches, in which:
154 unique CDR3
7 unique J



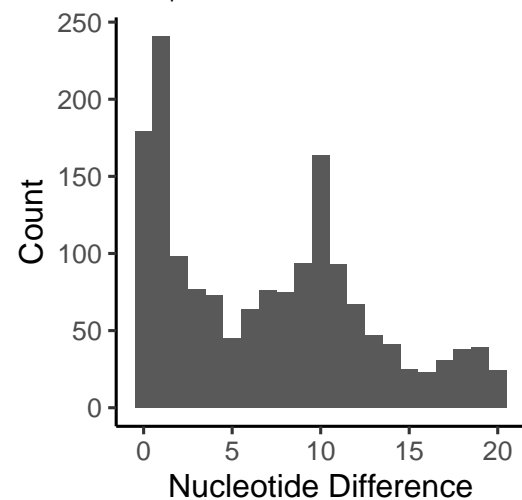
IGHV3-NL_10*02_S2212

3339 sequences assigned
496 (14.9%) exact matches, in which:
305 unique CDR3
8 unique J



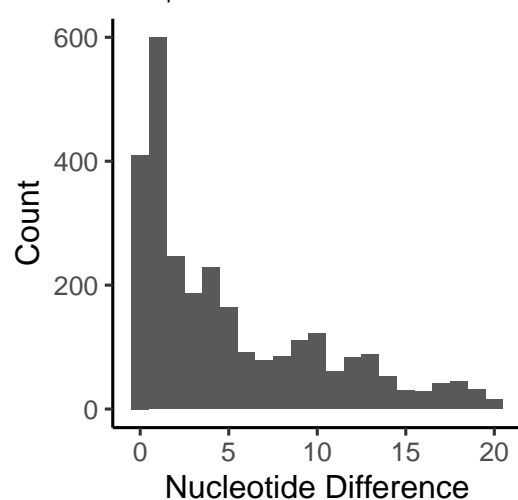
IGHV3-NL_11*01_S7399

1692 sequences assigned
179 (10.6%) exact matches, in which:
110 unique CDR3
6 unique J



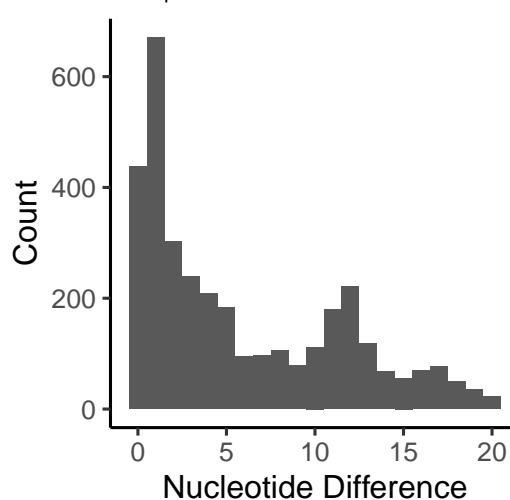
IGHV3-NL_1*01_S4590

2973 sequences assigned
410 (13.8%) exact matches, in which:
216 unique CDR3
8 unique J



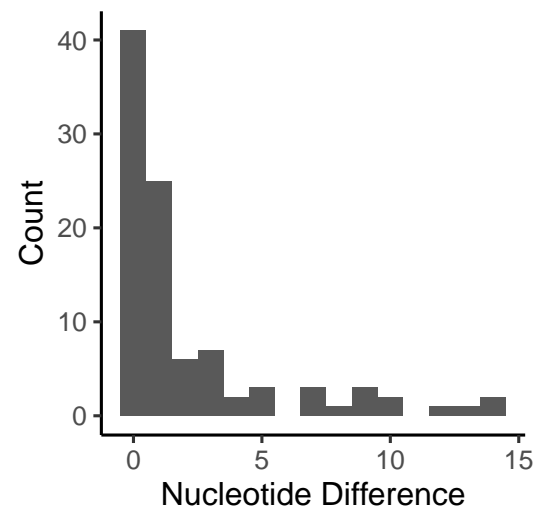
IGHV3-NL_10*02_S8522

3560 sequences assigned
438 (12.3%) exact matches, in which:
251 unique CDR3
7 unique J



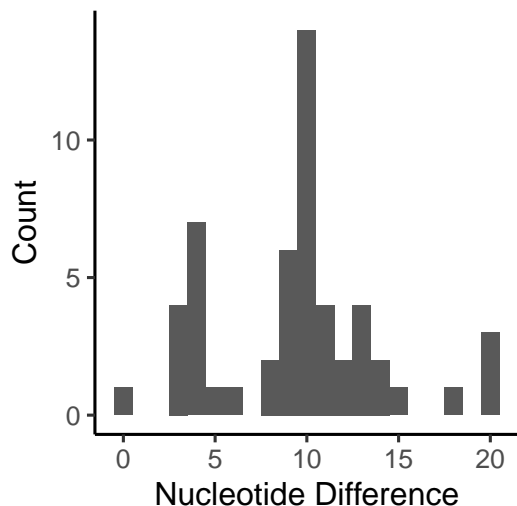
IGHV3-NL_12*02_S5358

97 sequences assigned
41 (42.3%) exact matches, in which:
25 unique CDR3
4 unique J



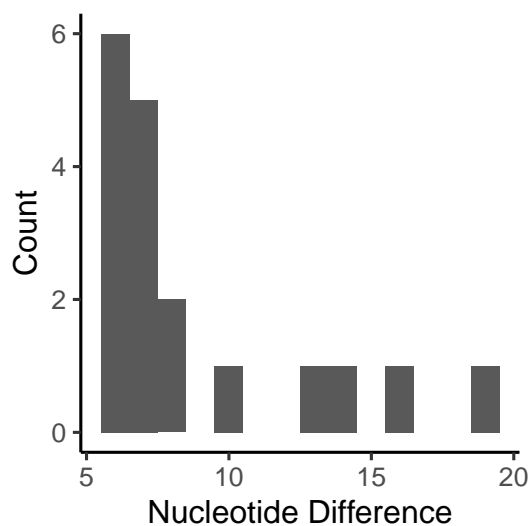
IGHV3-NL_13*01_S6424

81 sequences assigned
1 (1.2%) exact matches, in which:
1 unique CDR3
1 unique J



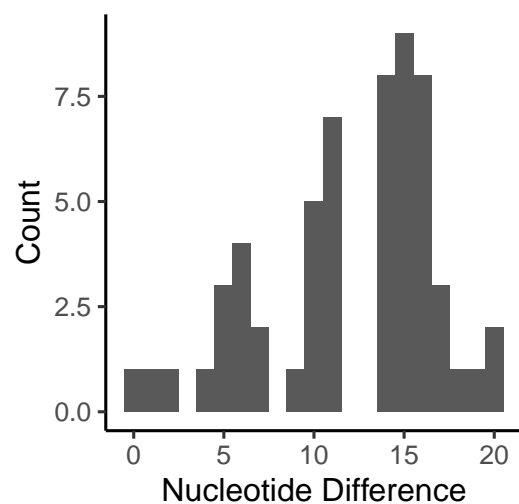
IGHV3-NL_16*01_S7825

18 sequences assigned
No exact matches.



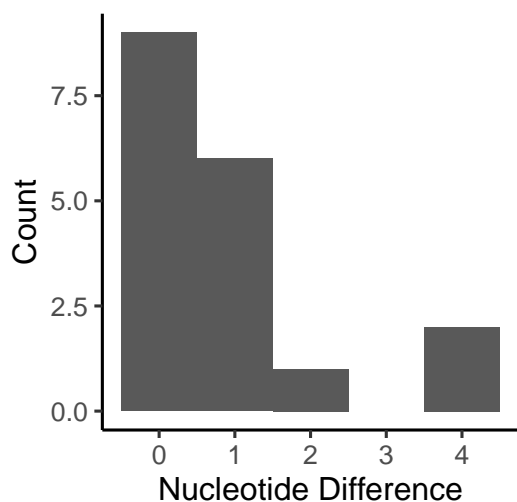
IGHV3-NL_18*01_S3886

72 sequences assigned
1 (1.4%) exact matches, in which:
1 unique CDR3
1 unique J



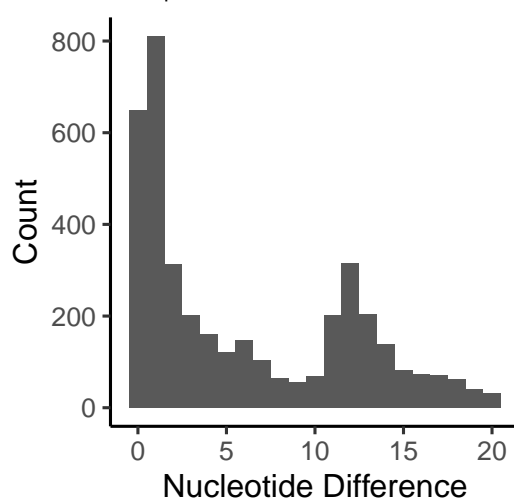
IGHV3-NL_14*01_S6089

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



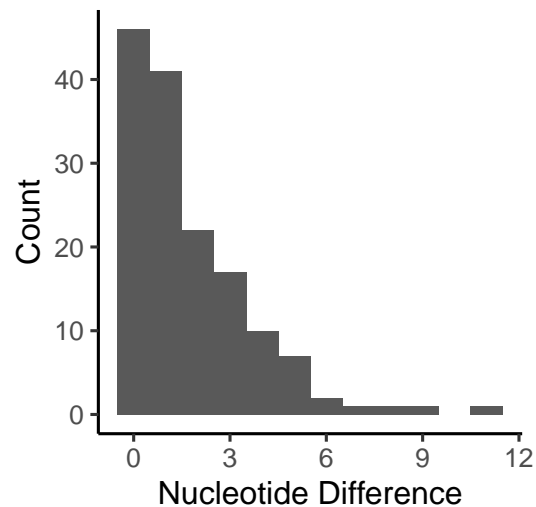
IGHV3-NL_17*01_S4250

4124 sequences assigned
650 (15.8%) exact matches, in which:
408 unique CDR3
8 unique J



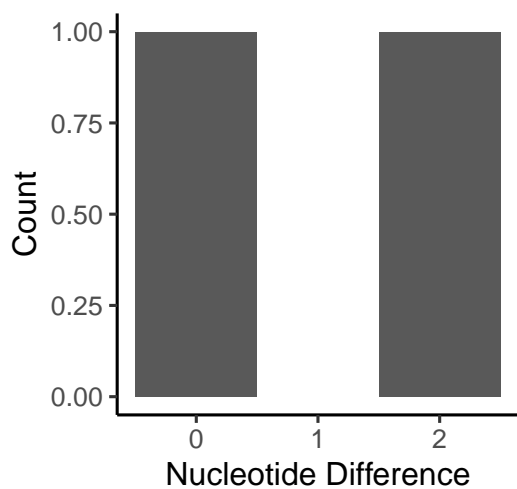
IGHV3-NL_18*01_S6383

149 sequences assigned
46 (30.9%) exact matches, in which:
36 unique CDR3
6 unique J



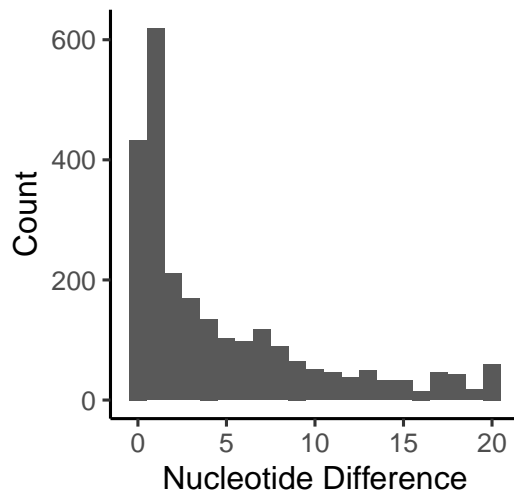
IGHV3-NL_14*01_S9823

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



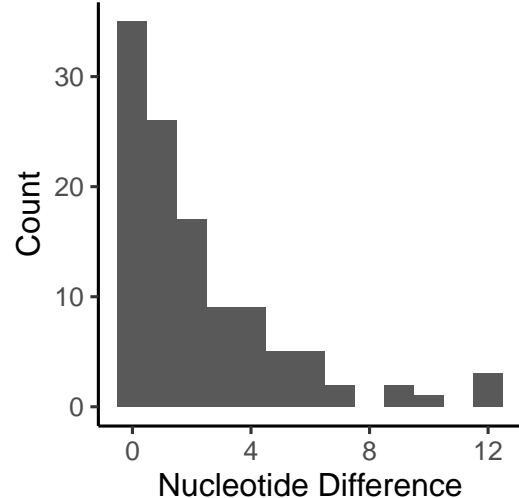
IGHV3-NL_17*01_S8569

2735 sequences assigned
433 (15.8%) exact matches, in which:
244 unique CDR3
8 unique J



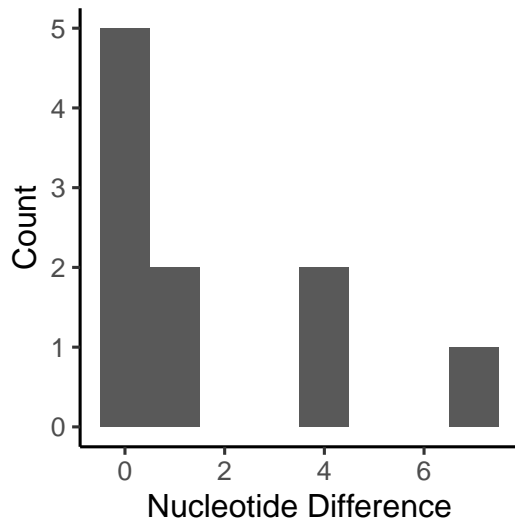
IGHV3-NL_19*01_S4096

116 sequences assigned
35 (30.2%) exact matches, in which:
27 unique CDR3
8 unique J



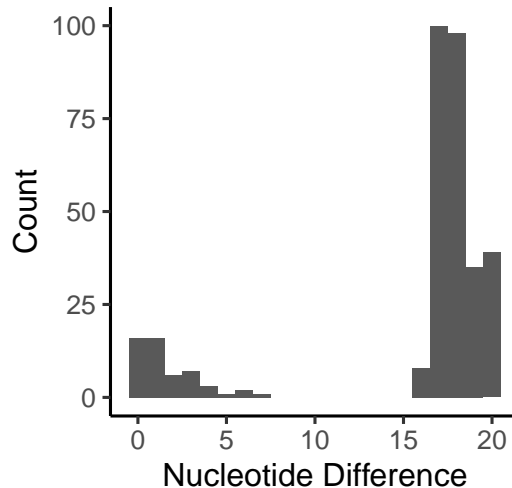
IGHV3–NL_2*01_S8114

11 sequences assigned
5 (45.5%) exact matches, in which:
4 unique CDR3
4 unique J



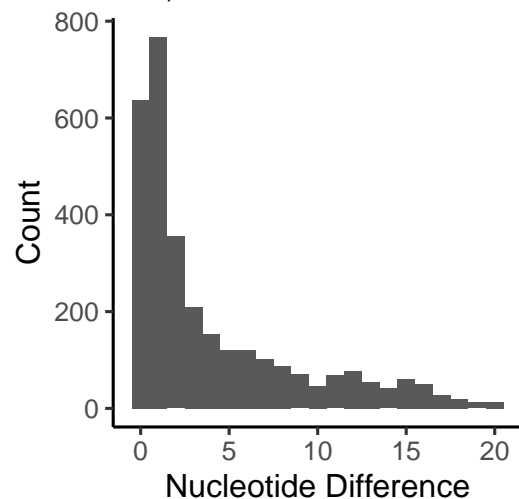
IGHV3–NL_8*01_S1198

462 sequences assigned
16 (3.5%) exact matches, in which:
7 unique CDR3
2 unique J



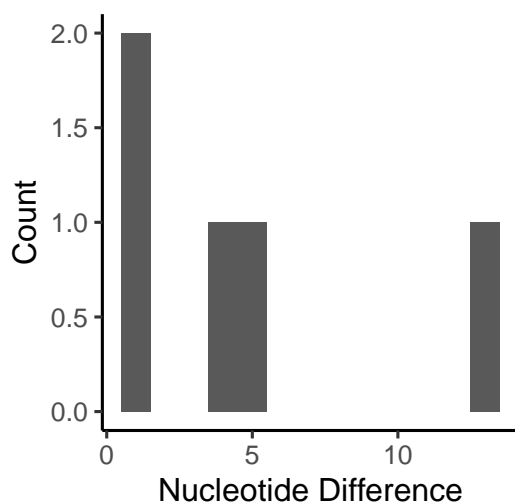
IGHV4–67*02_S1312

3187 sequences assigned
638 (20%) exact matches, in which:
436 unique CDR3
9 unique J



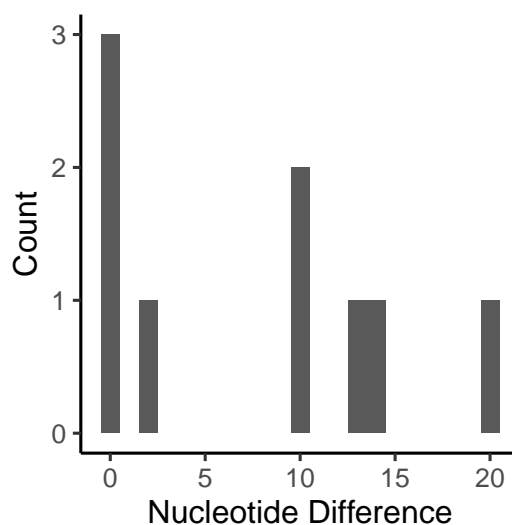
IGHV3–NL_5*01_S3315

5 sequences assigned
No exact matches.



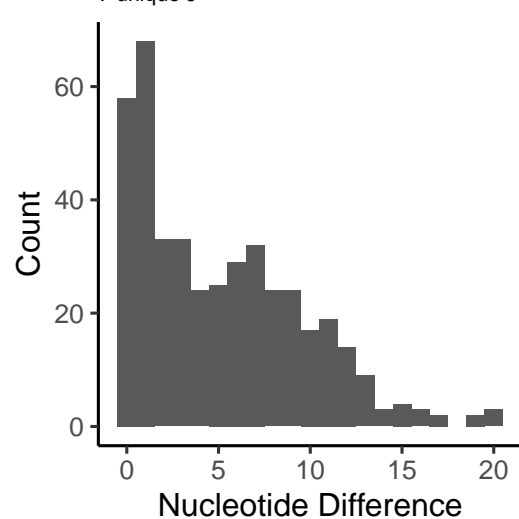
IGHV3–NL_9*01_S1652

16 sequences assigned
3 (18.8%) exact matches, in which:
3 unique CDR3
2 unique J



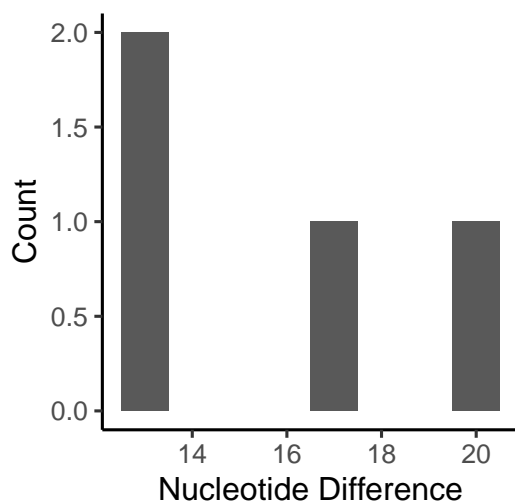
IGHV4–93*01_S1335

451 sequences assigned
58 (12.9%) exact matches, in which:
35 unique CDR3
7 unique J



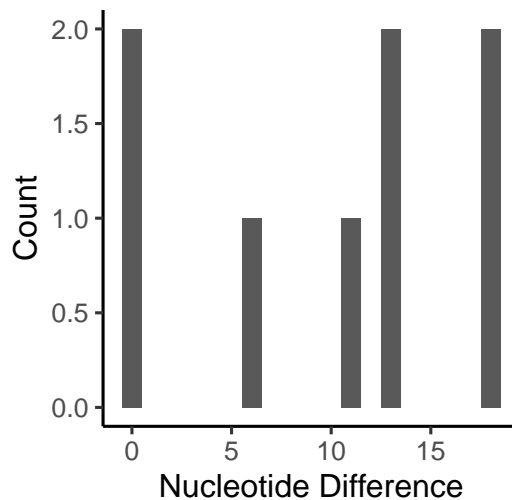
IGHV3–NL_5*01_S7761

4 sequences assigned
No exact matches.



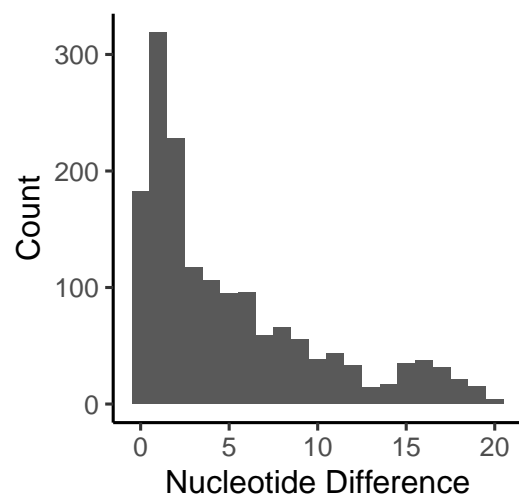
IGHV3–NL_9*01_S6098

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



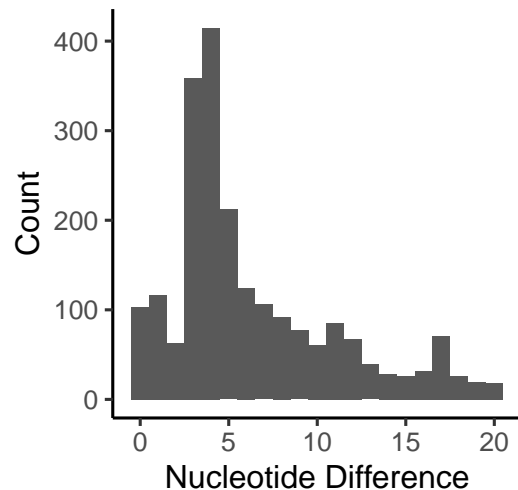
IGHV4–93*01_S5203

1683 sequences assigned
182 (10.8%) exact matches, in which:
132 unique CDR3
8 unique J



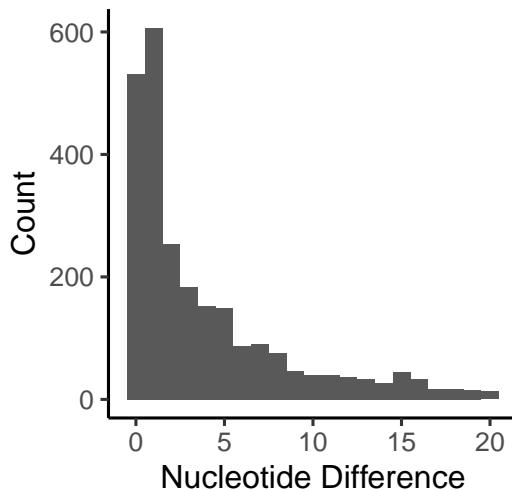
IGHV4-117*01_S4901

2287 sequences assigned
103 (4.5%) exact matches, in which:
68 unique CDR3
7 unique J



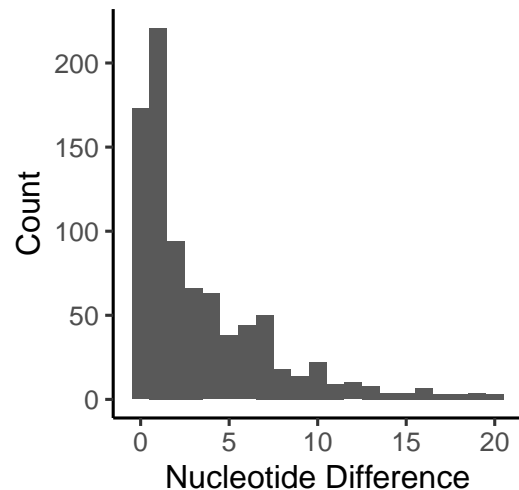
IGHV4-149*01_S4098

2553 sequences assigned
531 (20.8%) exact matches, in which:
383 unique CDR3
9 unique J



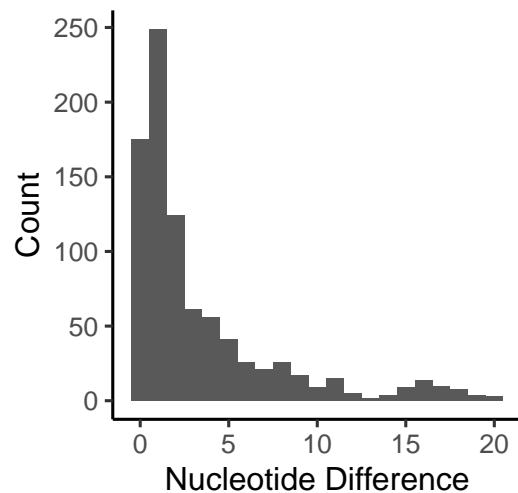
IGHV4-174*02_S9172

927 sequences assigned
173 (18.7%) exact matches, in which:
114 unique CDR3
8 unique J



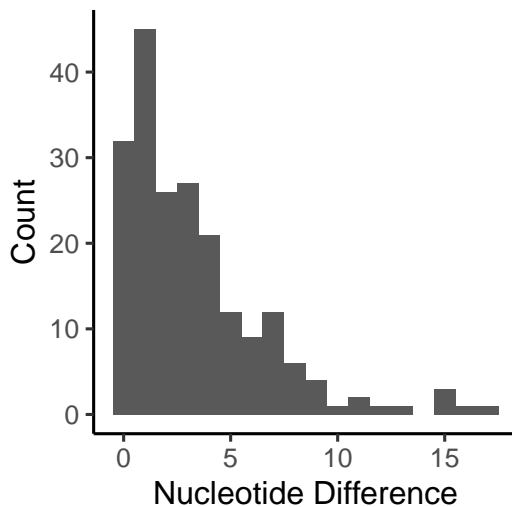
IGHV4-144*01_S3577

904 sequences assigned
175 (19.4%) exact matches, in which:
116 unique CDR3
7 unique J



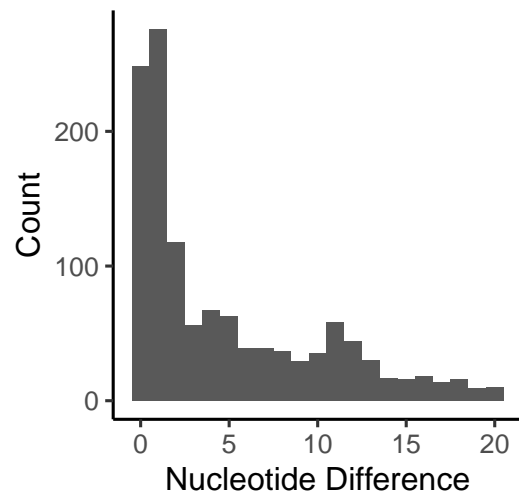
IGHV4-150*01_S6287

205 sequences assigned
32 (15.6%) exact matches, in which:
21 unique CDR3
3 unique J



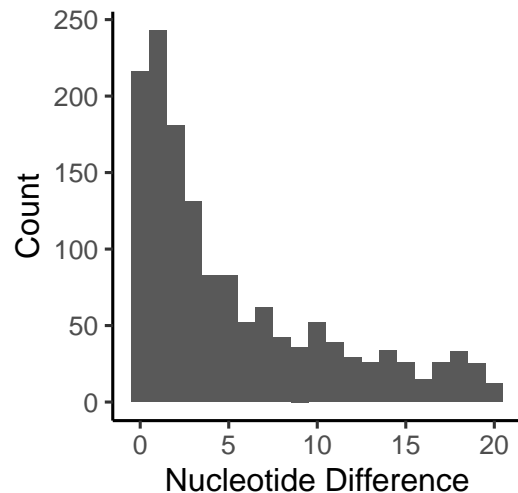
IGHV4-NL_1*01_S3619

1470 sequences assigned
248 (16.9%) exact matches, in which:
178 unique CDR3
8 unique J



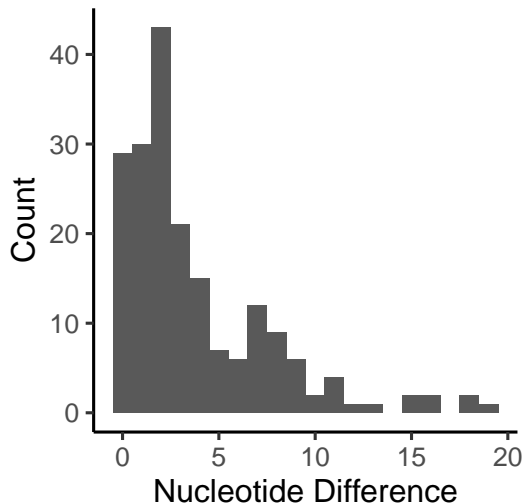
IGHV4-149*01_S0794

1748 sequences assigned
216 (12.4%) exact matches, in which:
160 unique CDR3
9 unique J



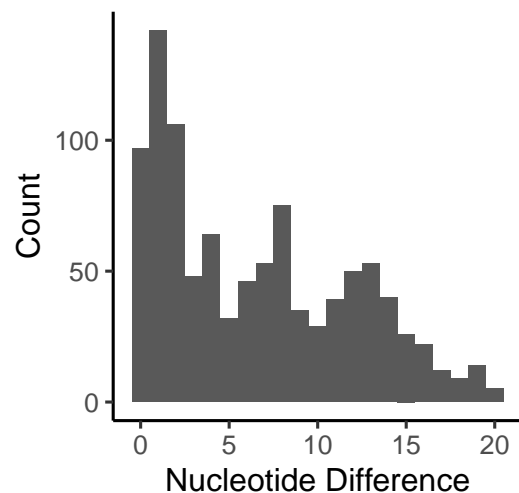
IGHV4-150*01_S8107

198 sequences assigned
29 (14.6%) exact matches, in which:
19 unique CDR3
6 unique J



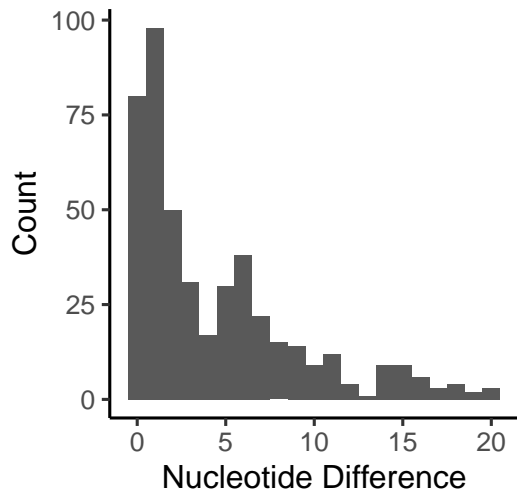
IGHV4-NL_1*01_S4823

1027 sequences assigned
97 (9.4%) exact matches, in which:
64 unique CDR3
7 unique J



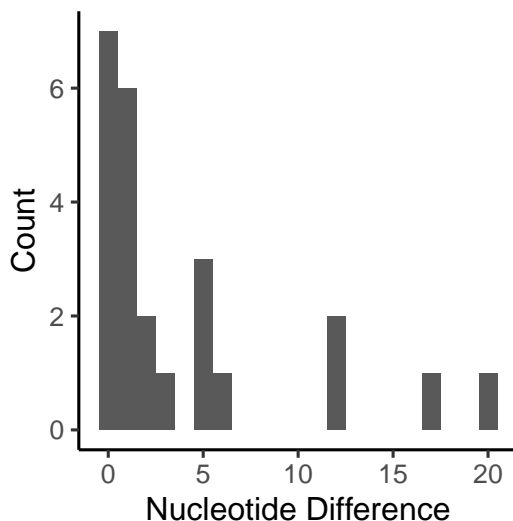
IGHV4-NL_1*01_S7386

484 sequences assigned
80 (16.5%) exact matches, in which:
54 unique CDR3
7 unique J



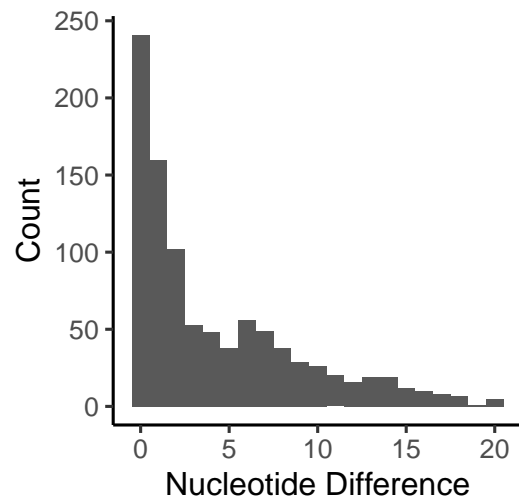
IGHV4-NL_12*01_S6478

24 sequences assigned
7 (29.2%) exact matches, in which:
7 unique CDR3
3 unique J



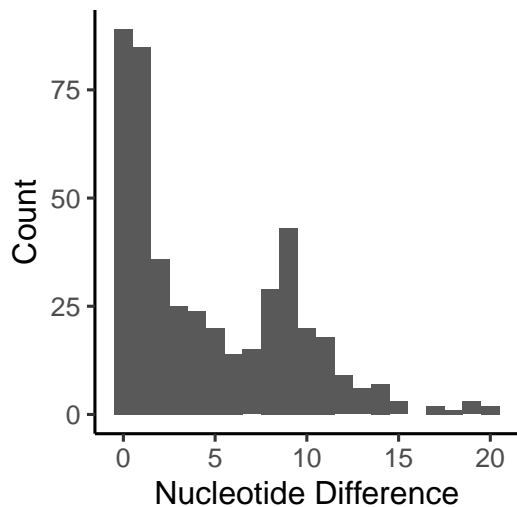
IGHV4-NL_14*01_S3059

1005 sequences assigned
241 (24%) exact matches, in which:
194 unique CDR3
8 unique J



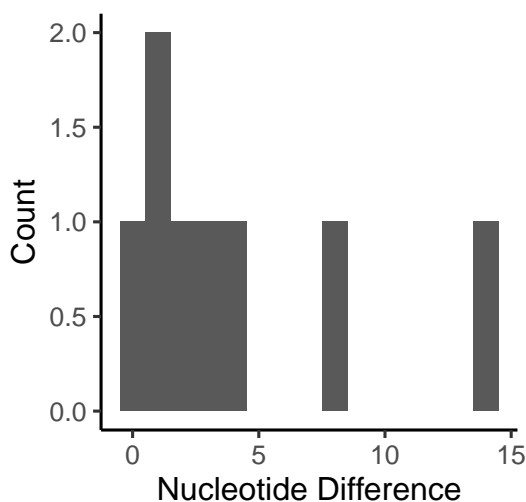
IGHV4-NL_1*02_S9133

453 sequences assigned
89 (19.6%) exact matches, in which:
54 unique CDR3
6 unique J



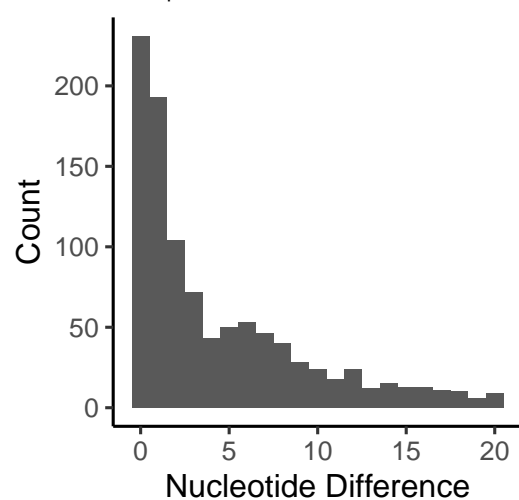
IGHV4-NL_12*01_S7070

8 sequences assigned
1 (12.5%) exact matches, in which:
1 unique CDR3
1 unique J



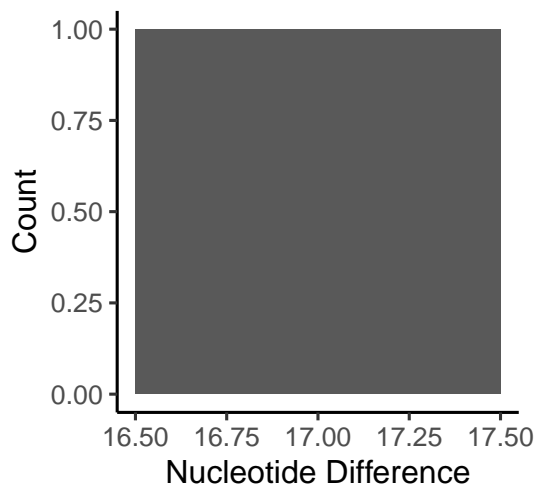
IGHV4-NL_14*01_S3059

1061 sequences assigned
231 (21.8%) exact matches, in which:
199 unique CDR3
8 unique J



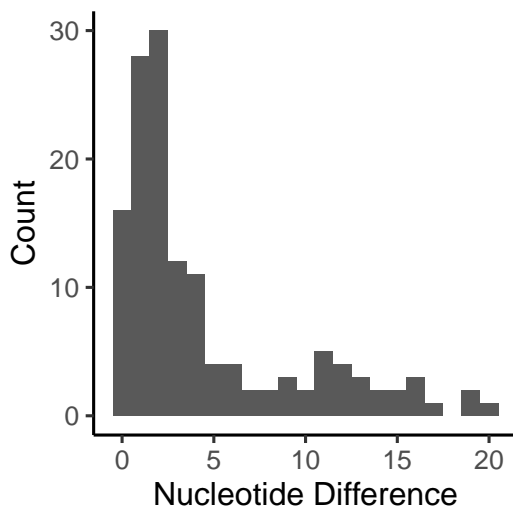
IGHV4-NL_10*01_S4164

2 sequences assigned
No exact matches.



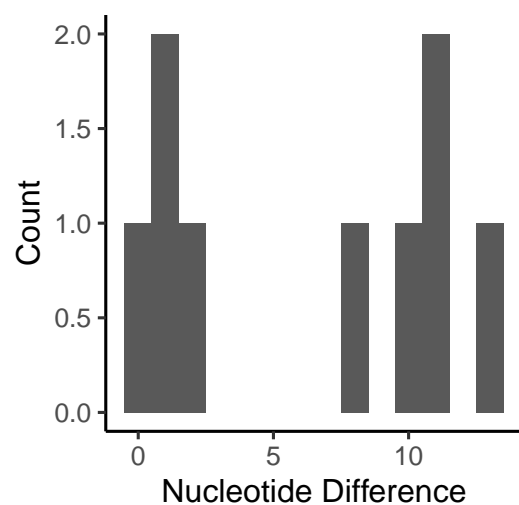
IGHV4-NL_13*01_S6521

138 sequences assigned
16 (11.6%) exact matches, in which:
14 unique CDR3
4 unique J



IGHV4-NL_16*01_S2138

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



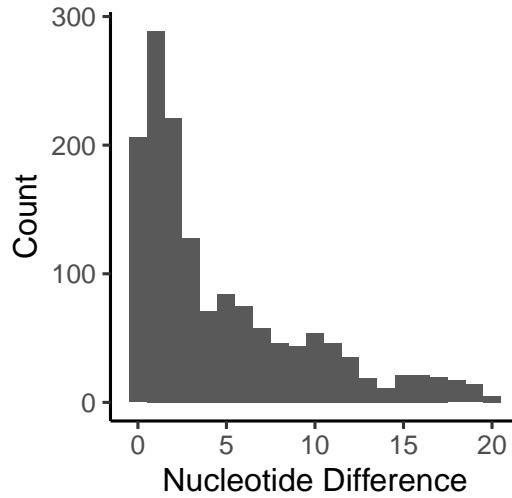
IGHV4-NL_17*01_S9085

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



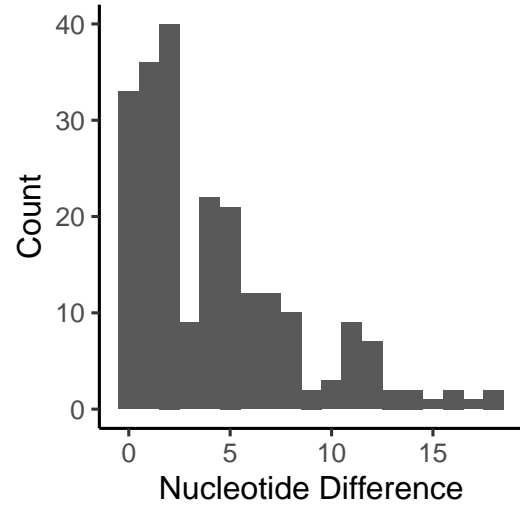
IGHV4-NL_21*01_S0138

1572 sequences assigned
206 (13.1%) exact matches, in which:
159 unique CDR3
7 unique J



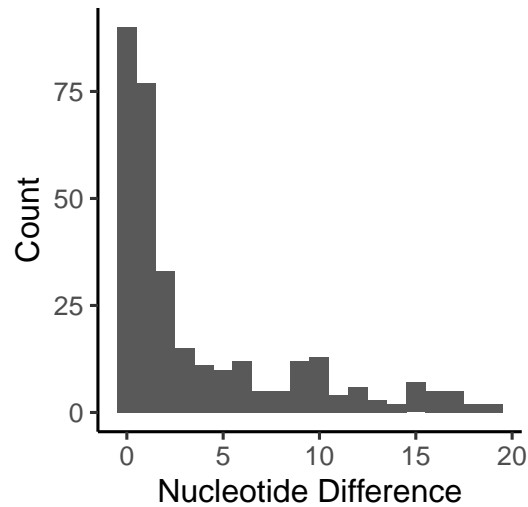
IGHV4-NL_22*01_S9255

230 sequences assigned
33 (14.3%) exact matches, in which:
25 unique CDR3
6 unique J



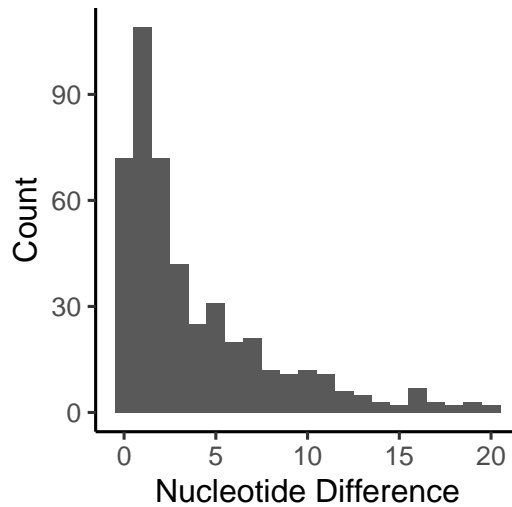
IGHV4-NL_18*01_S0143

323 sequences assigned
90 (27.9%) exact matches, in which:
64 unique CDR3
6 unique J



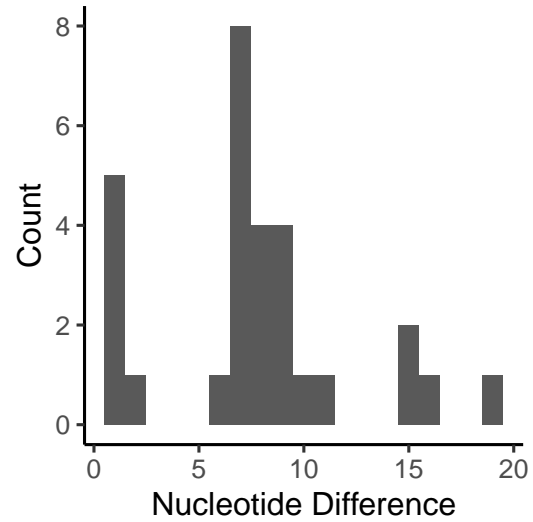
IGHV4-NL_22*01_S2393

487 sequences assigned
72 (14.8%) exact matches, in which:
61 unique CDR3
6 unique J



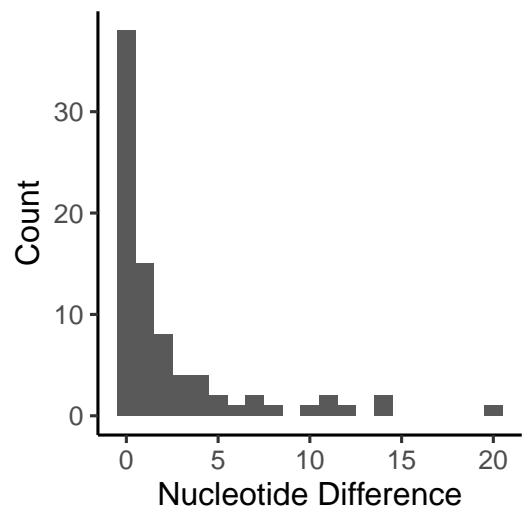
IGHV4-NL_24*01_S0522

30 sequences assigned
No exact matches.



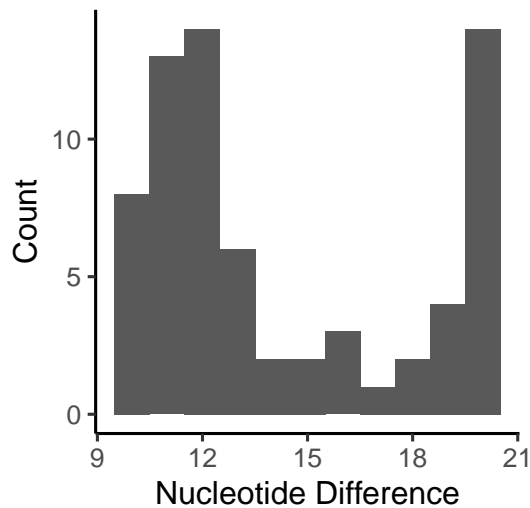
IGHV4-NL_2*01_S1268

83 sequences assigned
38 (45.8%) exact matches, in which:
29 unique CDR3
5 unique J



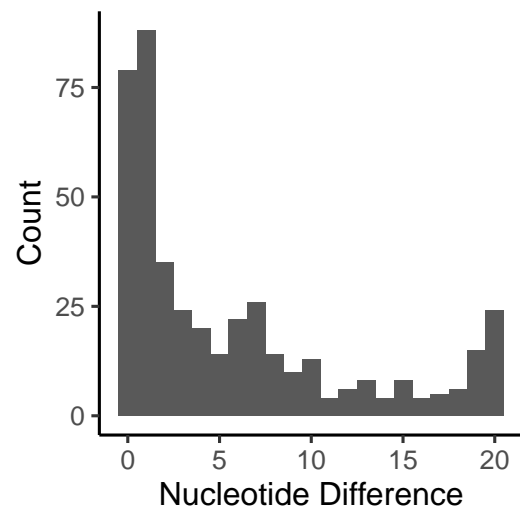
IGHV4-NL_22*01_S2464

91 sequences assigned
No exact matches.



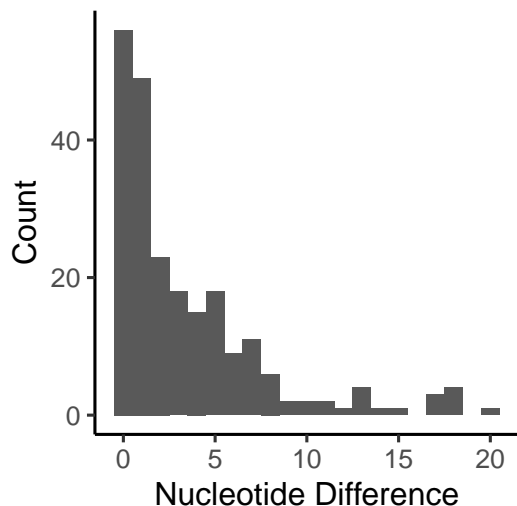
IGHV4-NL_27*01_S6960

475 sequences assigned
79 (16.6%) exact matches, in which:
57 unique CDR3
6 unique J



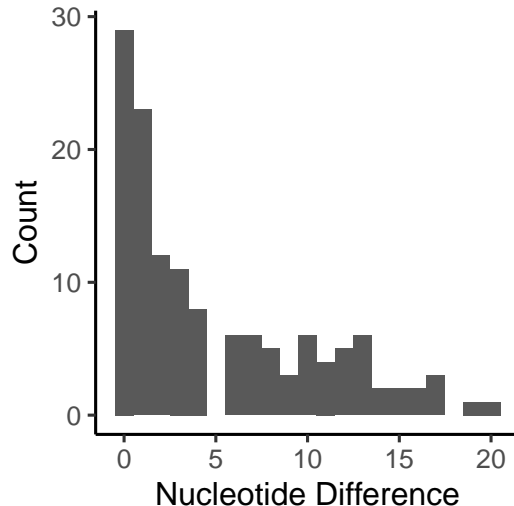
IGHV4–NL_28*01_S2610

253 sequences assigned
56 (22.1%) exact matches, in which:
41 unique CDR3
7 unique J



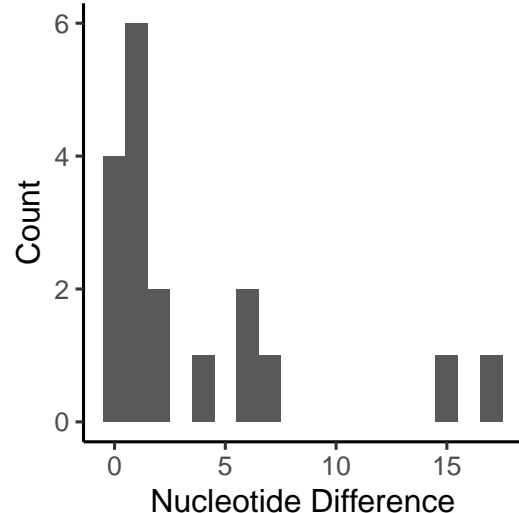
IGHV4–NL_28*01_S6567_

150 sequences assigned
29 (19.3%) exact matches, in which:
26 unique CDR3
6 unique J



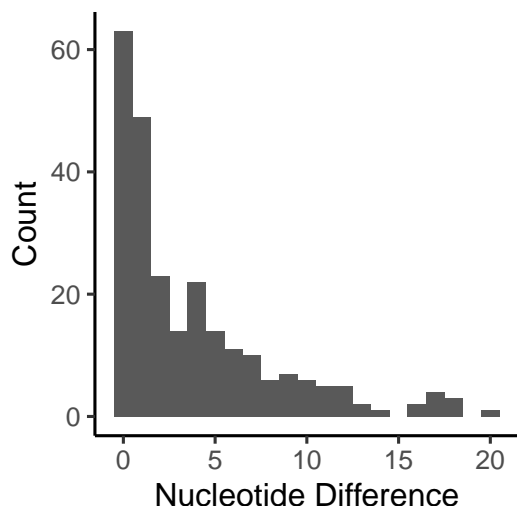
IGHV4–NL_3*01_S3122

25 sequences assigned
4 (16%) exact matches, in which:
4 unique CDR3
3 unique J



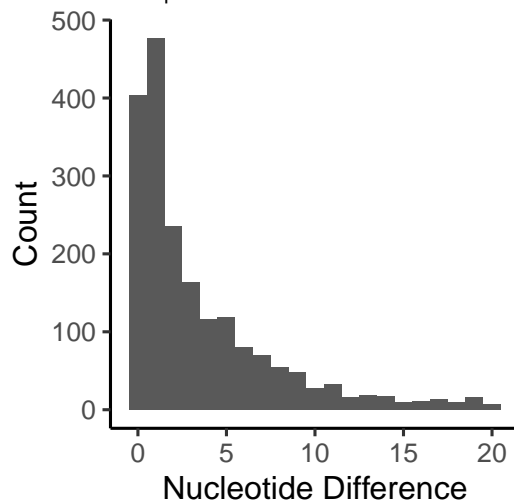
IGHV4–NL_28*01_S2610_

272 sequences assigned
63 (23.2%) exact matches, in which:
55 unique CDR3
7 unique J



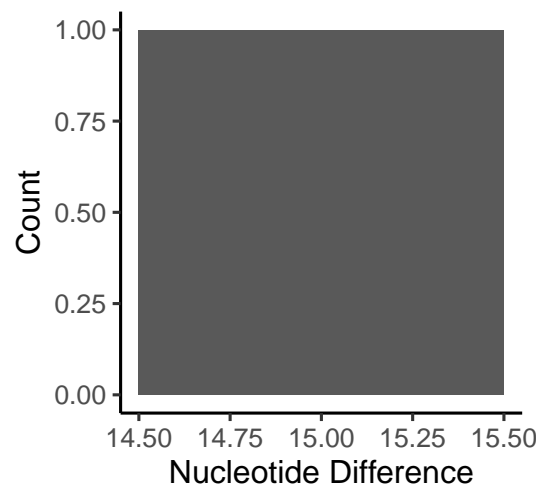
IGHV4–NL_29*01_S1436

2044 sequences assigned
404 (19.8%) exact matches, in which:
279 unique CDR3
8 unique J



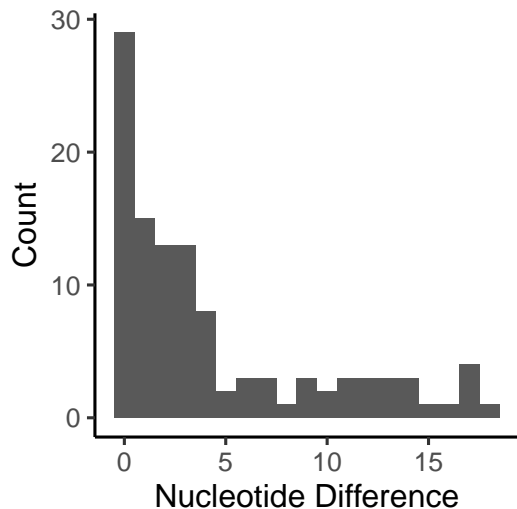
IGHV4–NL_30*01_S1240

1 sequences assigned
No exact matches.



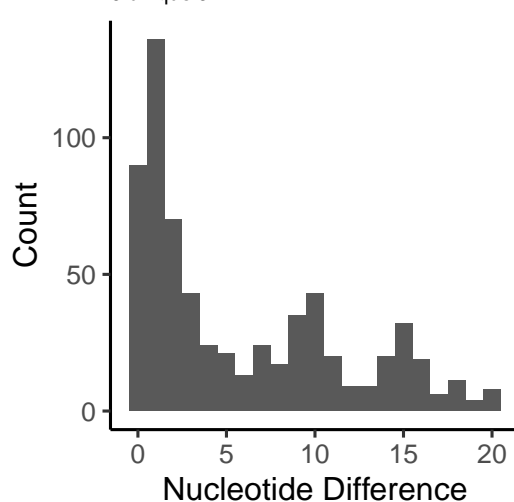
IGHV4–NL_28*01_S6567

118 sequences assigned
29 (24.6%) exact matches, in which:
23 unique CDR3
6 unique J



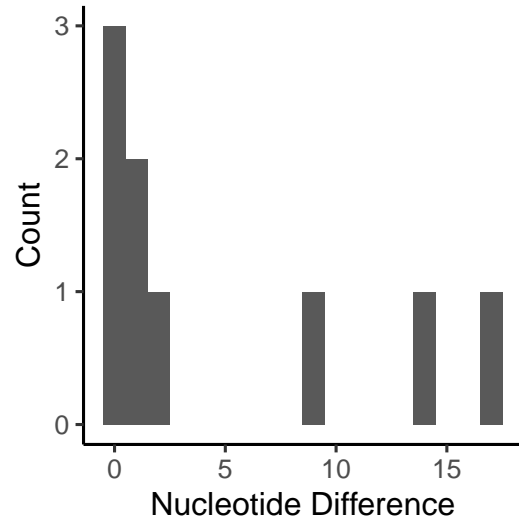
IGHV4–NL_29*01_S7793

752 sequences assigned
90 (12%) exact matches, in which:
65 unique CDR3
9 unique J



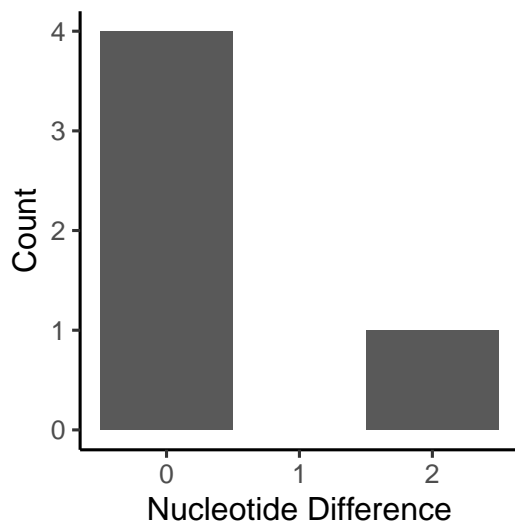
IGHV4–NL_31*01_S7693

11 sequences assigned
3 (27.3%) exact matches, in which:
3 unique CDR3
2 unique J



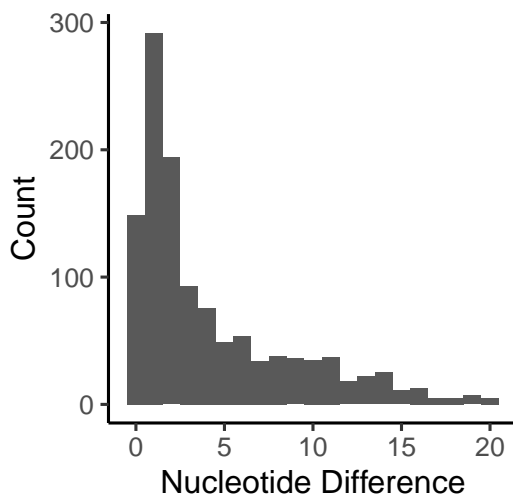
IGHV4-NL_32*01_S0782

5 sequences assigned
4 (80%) exact matches, in which:
4 unique CDR3
3 unique J



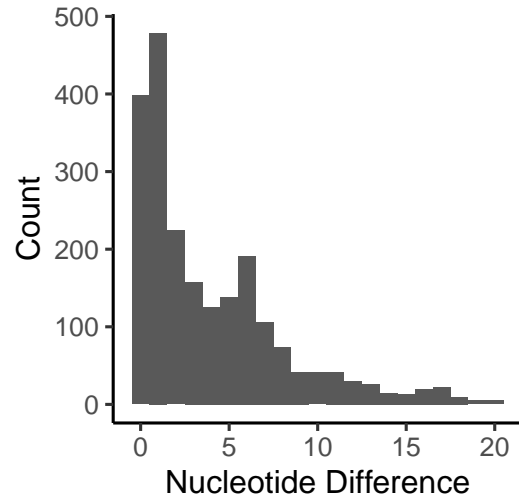
IGHV4-NL_36*01_S4591

1278 sequences assigned
149 (11.7%) exact matches, in which:
103 unique CDR3
7 unique J



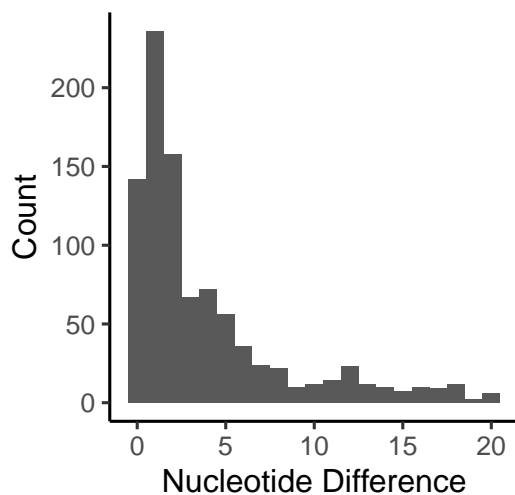
IGHV4-NL_36*01_S8200

2224 sequences assigned
398 (17.9%) exact matches, in which:
277 unique CDR3
9 unique J



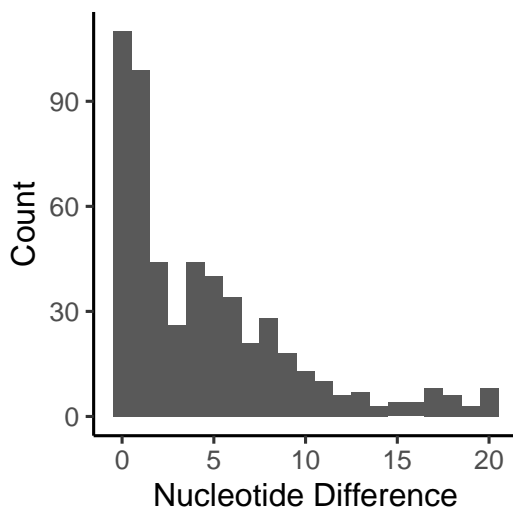
IGHV4-NL_33*01_S9588

996 sequences assigned
142 (14.3%) exact matches, in which:
101 unique CDR3
7 unique J



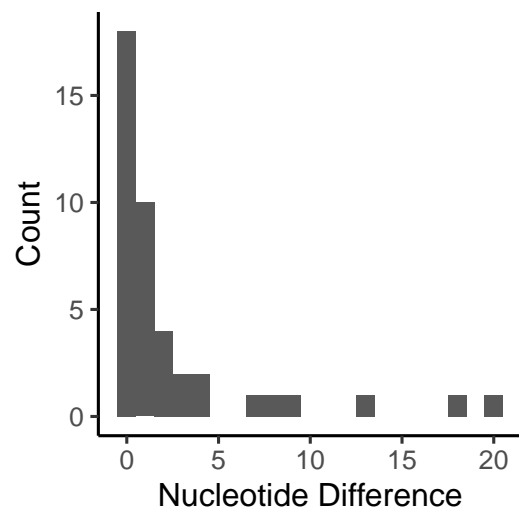
IGHV4-NL_36*01_S5000

565 sequences assigned
110 (19.5%) exact matches, in which:
86 unique CDR3
7 unique J



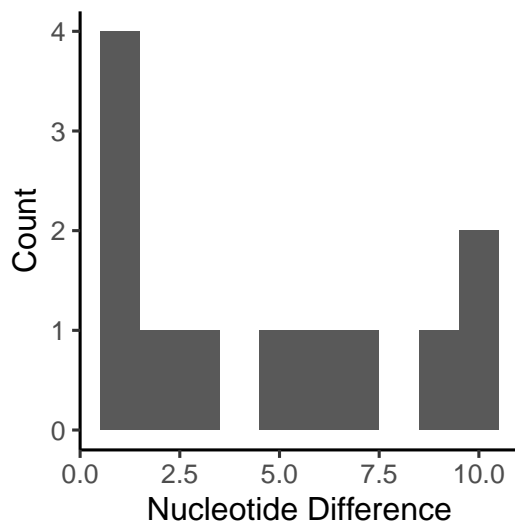
IGHV4-NL_37*01_S0997

43 sequences assigned
18 (41.9%) exact matches, in which:
18 unique CDR3
5 unique J



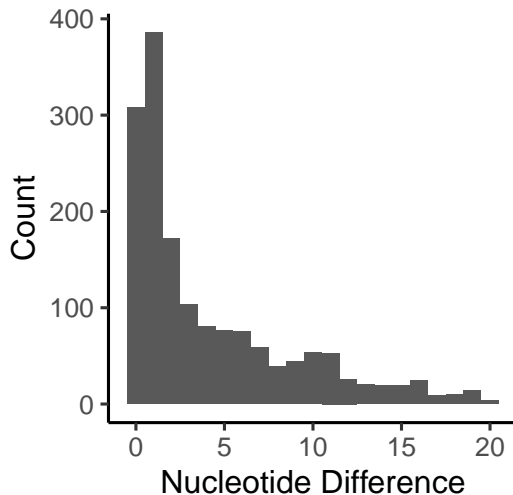
IGHV4-NL_35*01_S9510

20 sequences assigned
No exact matches.



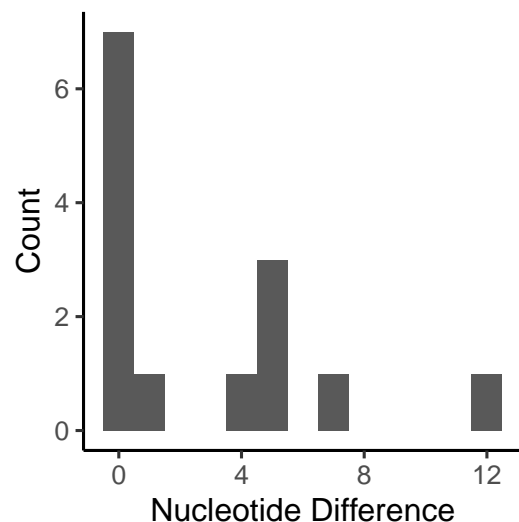
IGHV4-NL_36*01_S7647

1640 sequences assigned
308 (18.8%) exact matches, in which:
212 unique CDR3
9 unique J



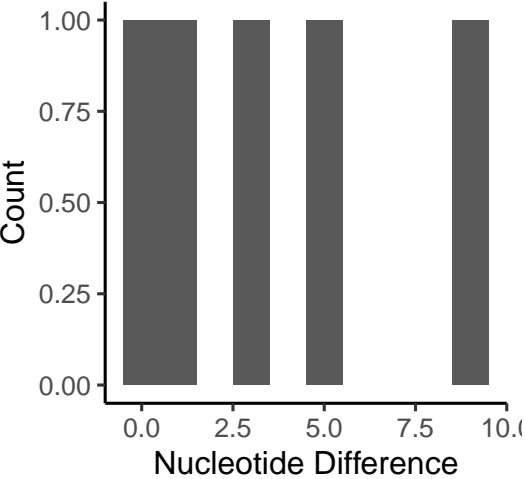
IGHV4-NL_38*01_S9225

14 sequences assigned
7 (50%) exact matches, in which:
6 unique CDR3
4 unique J



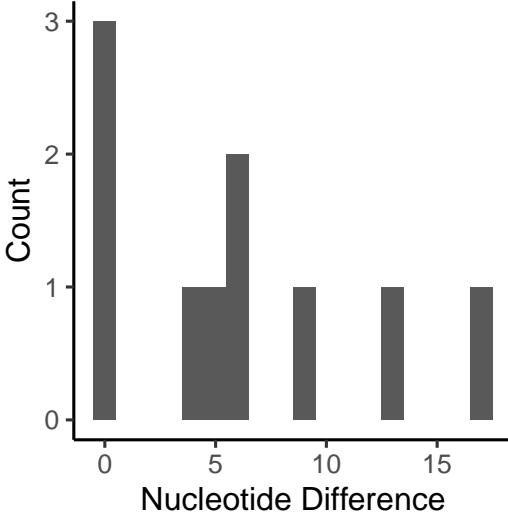
IGHV4-NL_39*01_S0397

7 sequences assigned
1 (14.3%) exact matches, in which:
1 unique CDR3
1 unique J



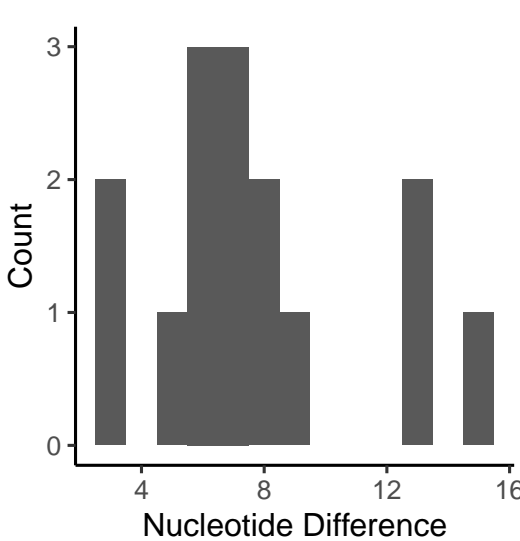
IGHV4-NL_42*01_S1512

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



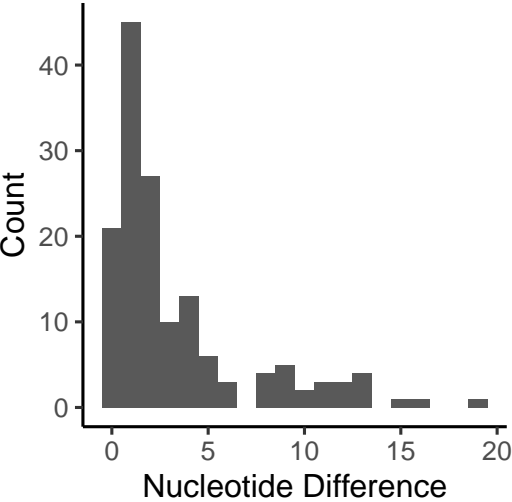
IGHV4-NL_5*01_S6337

16 sequences assigned
No exact matches.



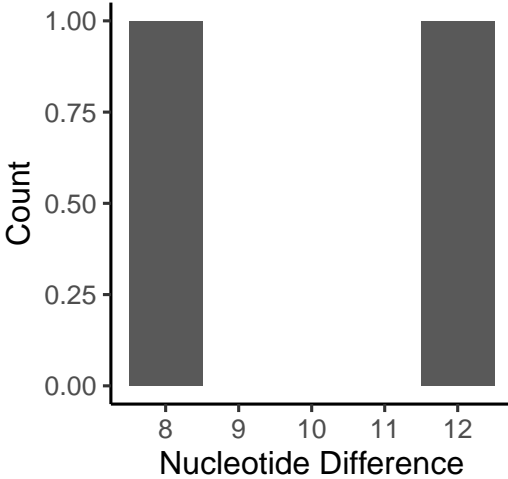
IGHV4-NL_4*01_S8866

175 sequences assigned
21 (12%) exact matches, in which:
17 unique CDR3
5 unique J



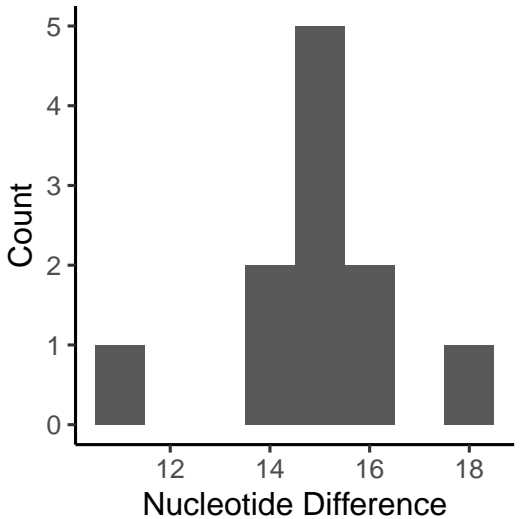
IGHV4-NL_42*01_S2425

2 sequences assigned
No exact matches.



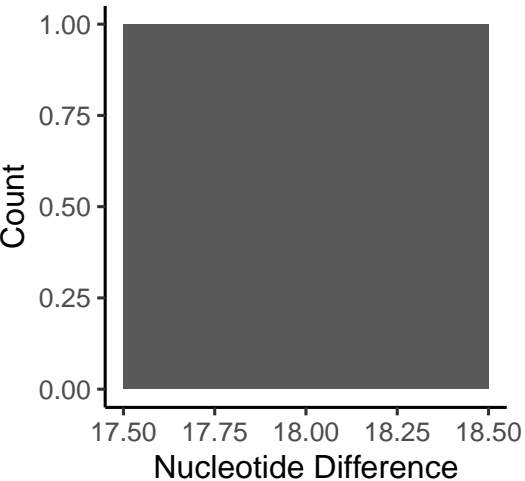
IGHV4-NL_5*01_S8913

52 sequences assigned
No exact matches.



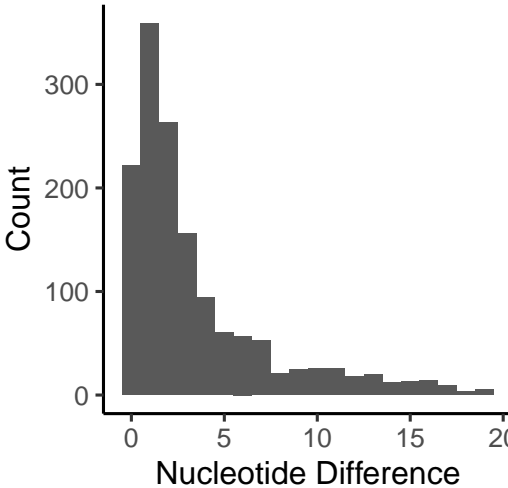
IGHV4-NL_41*01_S6928

2 sequences assigned
No exact matches.



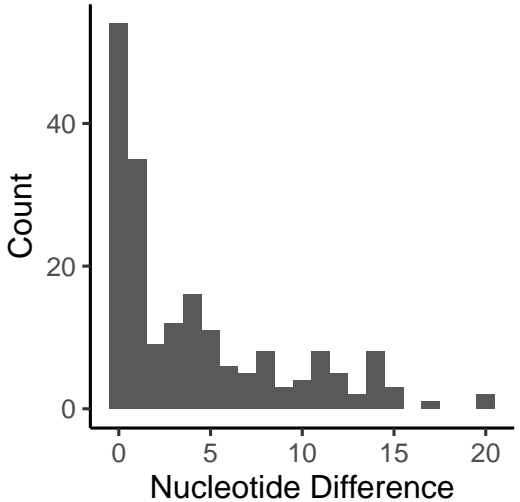
IGHV4-NL_43*01_S1860

1486 sequences assigned
222 (14.9%) exact matches, in which:
154 unique CDR3
7 unique J



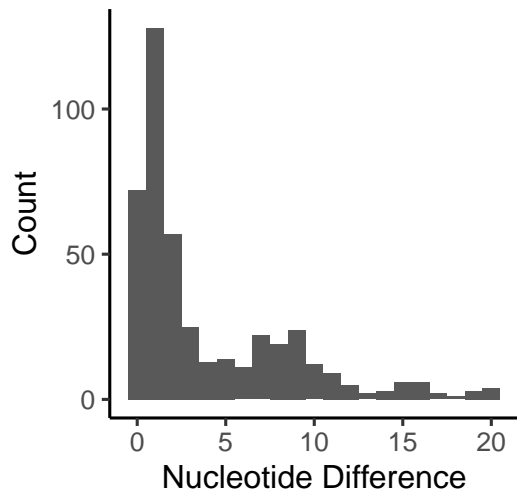
IGHV4-NL_6*01_S1427

196 sequences assigned
54 (27.6%) exact matches, in which:
45 unique CDR3
6 unique J



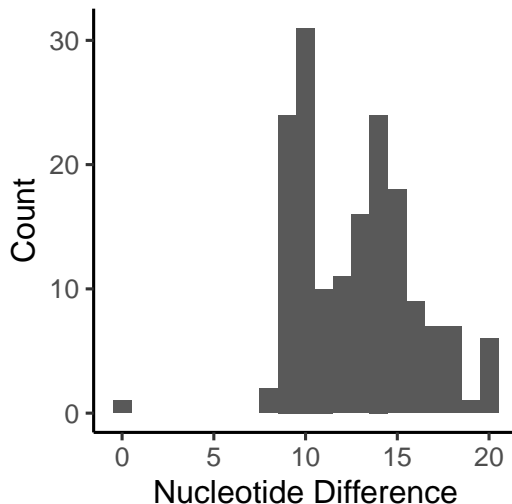
IGHV4–NL_6*01_S4760

481 sequences assigned
72 (15%) exact matches, in which:
46 unique CDR3
8 unique J



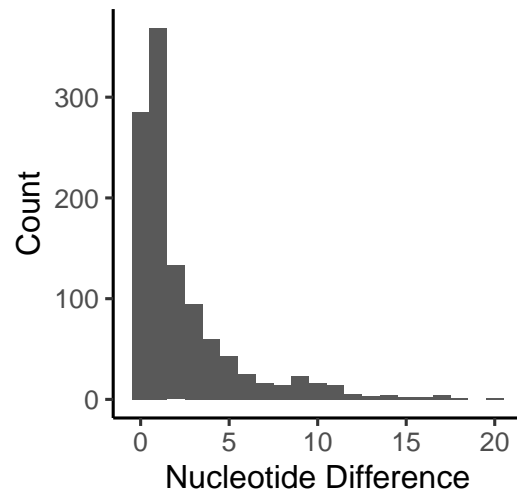
IGHV4–NL_9*01_S2406

178 sequences assigned
1 (0.6%) exact matches, in which:
1 unique CDR3
1 unique J



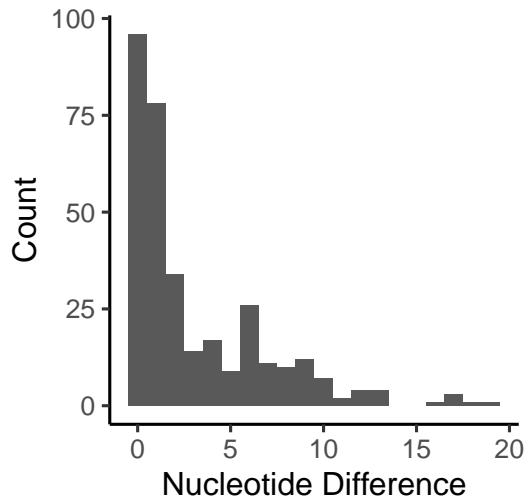
IGHV5–15*01_S0203

1119 sequences assigned
285 (25.5%) exact matches, in which:
191 unique CDR3
7 unique J



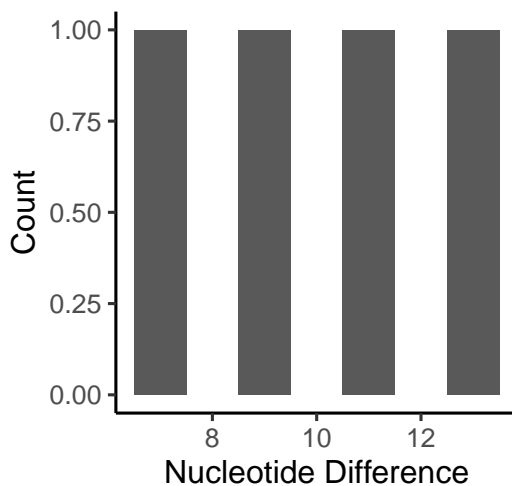
IGHV4–NL_6*01_S6860

351 sequences assigned
96 (27.4%) exact matches, in which:
66 unique CDR3
6 unique J



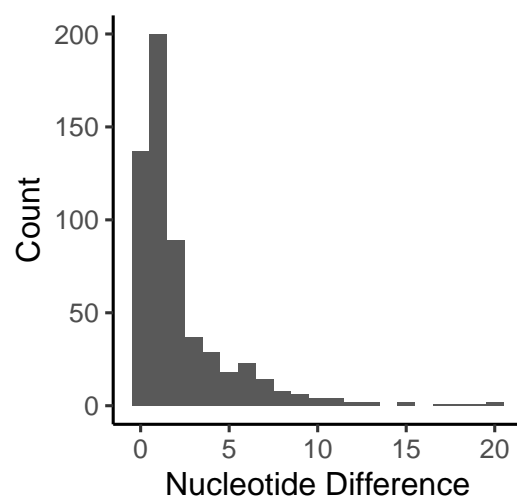
IGHV4–NL_9*01_S4804

5 sequences assigned
No exact matches.



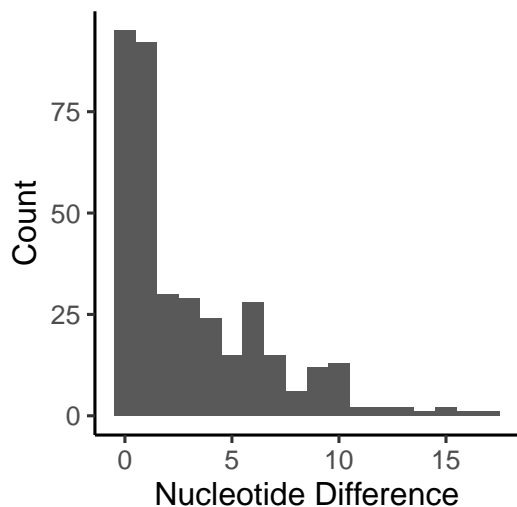
IGHV5–15*01_S5299

616 sequences assigned
137 (22.2%) exact matches, in which:
73 unique CDR3
6 unique J



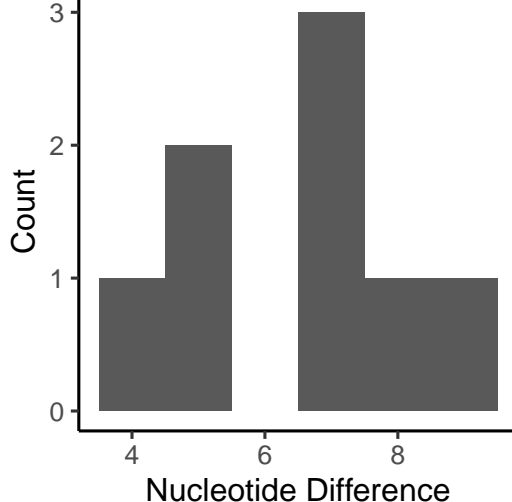
IGHV4–NL_6*01_S6860_1

380 sequences assigned
95 (25%) exact matches, in which:
69 unique CDR3
7 unique J



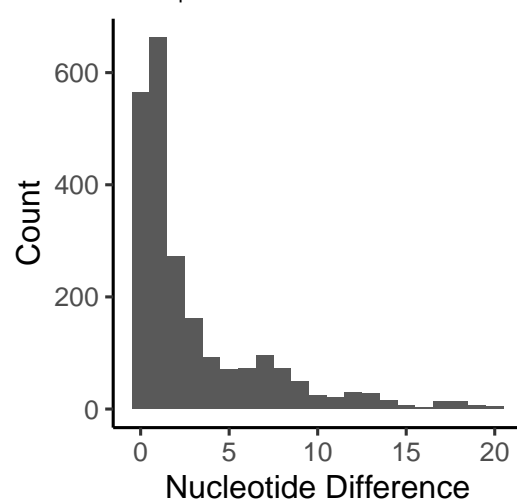
IGHV4–NL_9*02_S2874

10 sequences assigned
No exact matches.



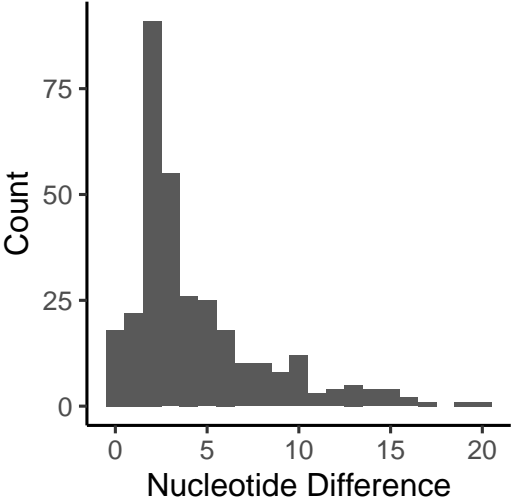
IGHV5–157*01_S5960

2286 sequences assigned
565 (24.7%) exact matches, in which:
295 unique CDR3
10 unique J

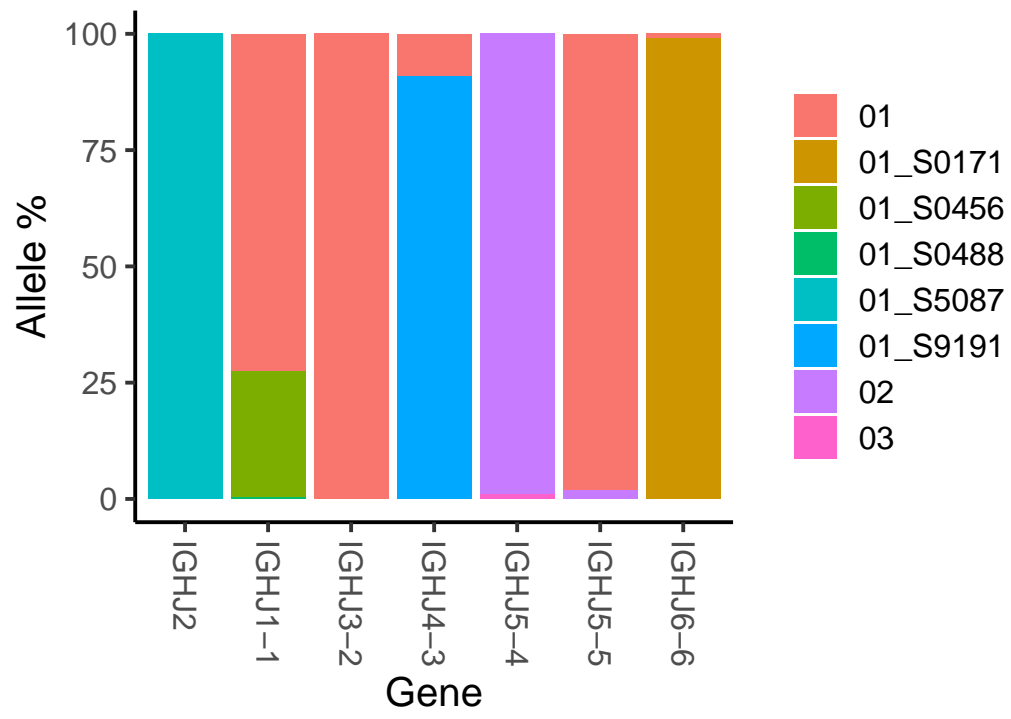


IGHV6-1*01_S5053

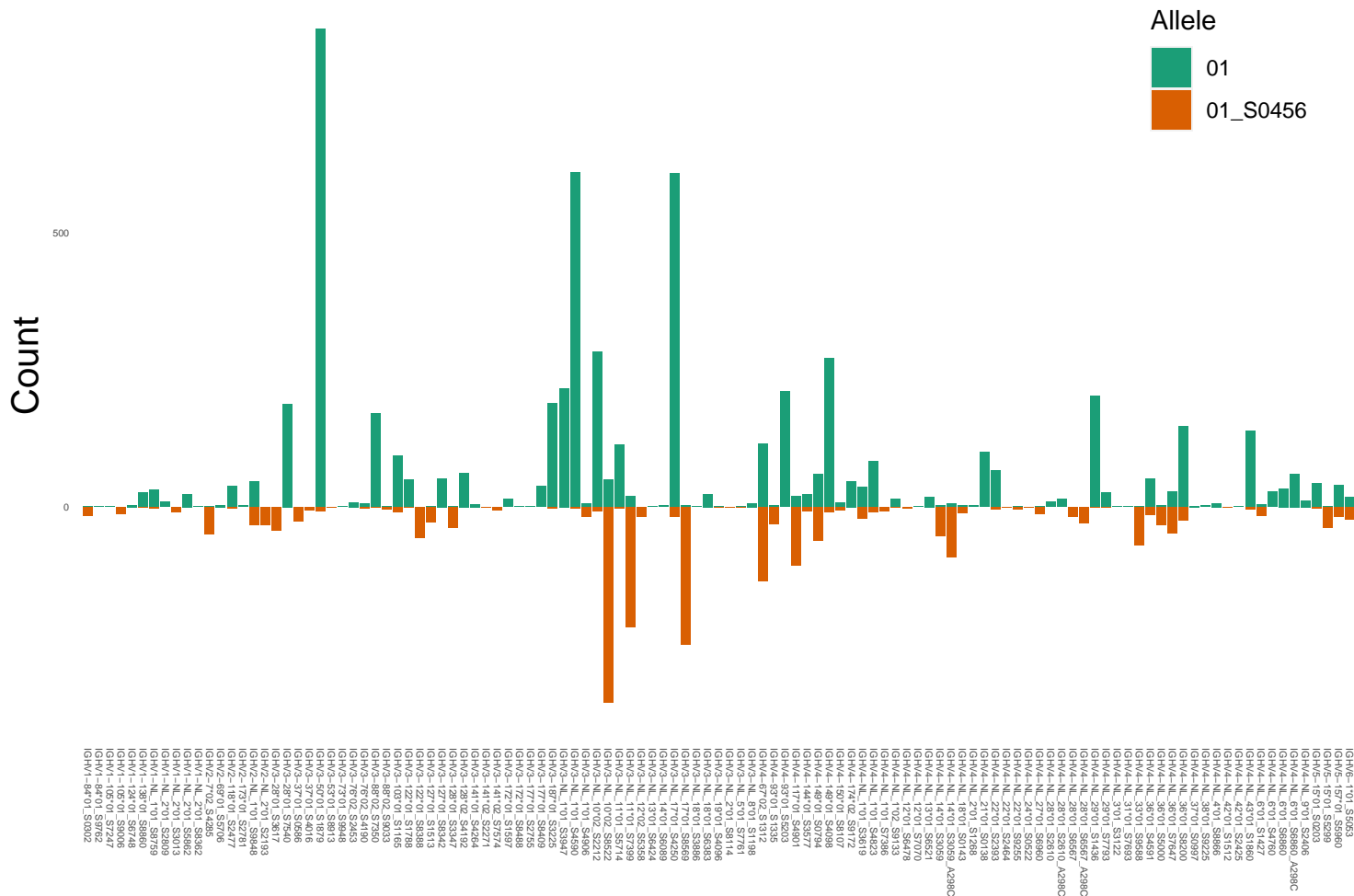
337 sequences assigned
18 (5.3%) exact matches, in which:
8 unique CDR3
3 unique J



Allele Usage



Sequence Count byIGHJ1-1 allele usage



Warning – no inferred sequences found.