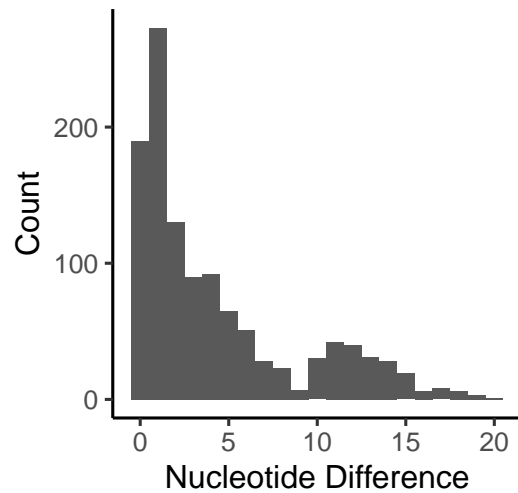


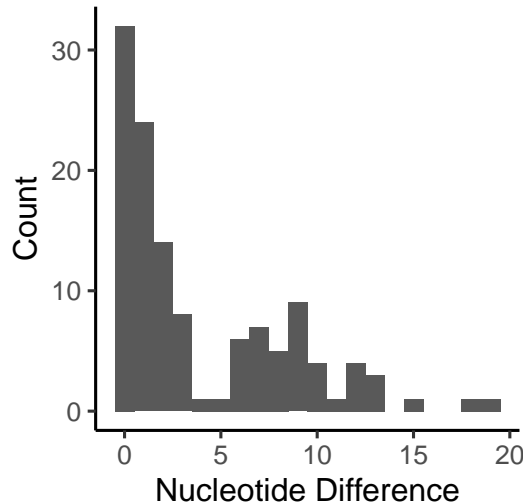
IGHV1-60*01_S7772

1235 sequences assigned
190 (15.4%) exact matches, in which:
81 unique CDR3
7 unique J



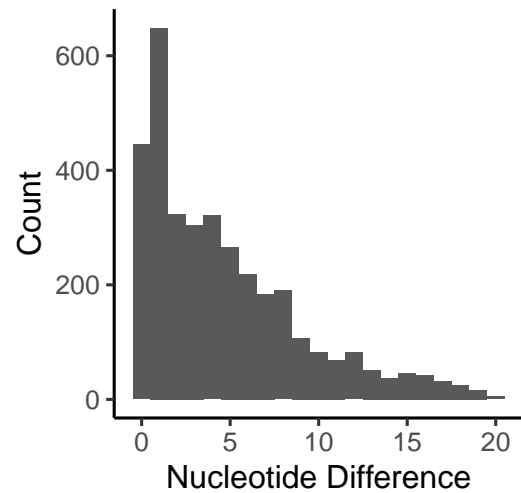
IGHV1-124*01_S1765

137 sequences assigned
32 (23.4%) exact matches, in which:
16 unique CDR3
5 unique J



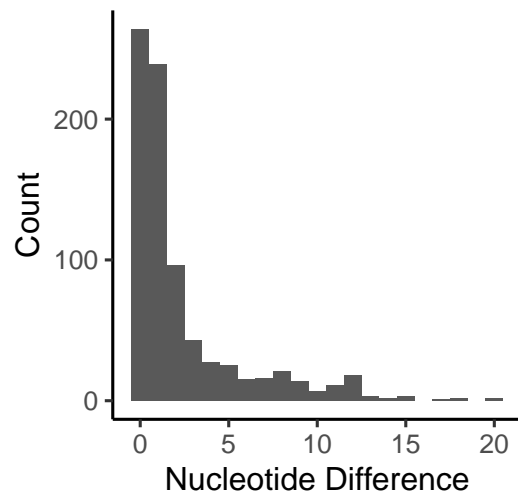
IGHV2-7*02_S4285

3543 sequences assigned
445 (12.6%) exact matches, in which:
192 unique CDR3
7 unique J



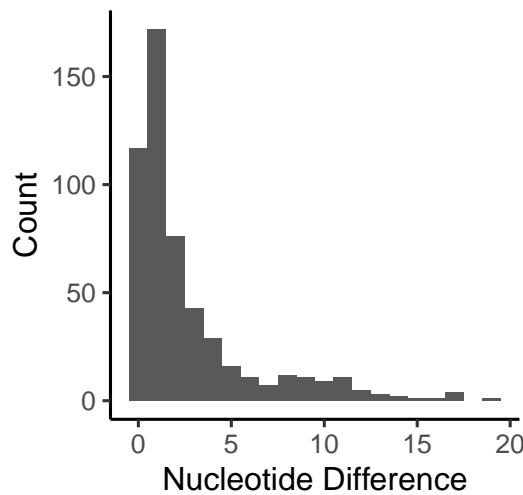
IGHV1-84*01_S4663

813 sequences assigned
264 (32.5%) exact matches, in which:
80 unique CDR3
7 unique J



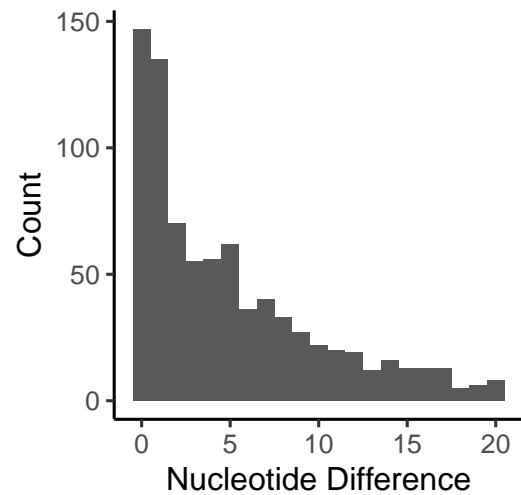
IGHV1-138*01_S3445

533 sequences assigned
117 (22%) exact matches, in which:
63 unique CDR3
7 unique J



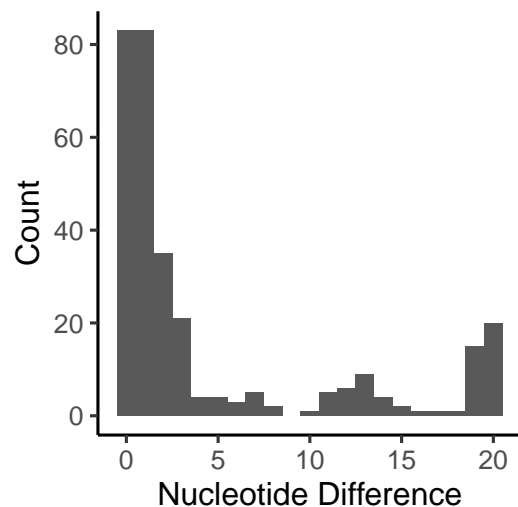
IGHV2-7*02_S4285_G28

816 sequences assigned
147 (18%) exact matches, in which:
107 unique CDR3
7 unique J



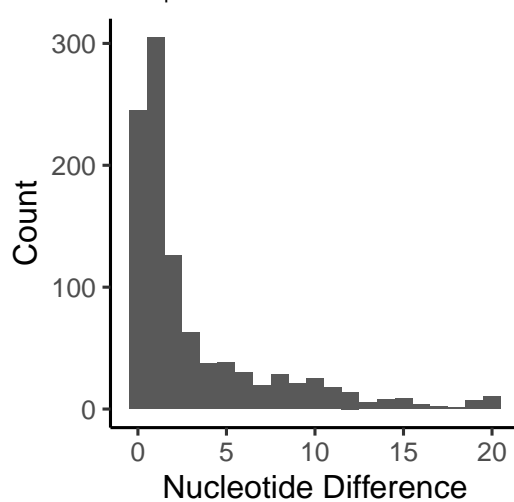
IGHV1-84*01_S9366

408 sequences assigned
83 (20.3%) exact matches, in which:
35 unique CDR3
6 unique J



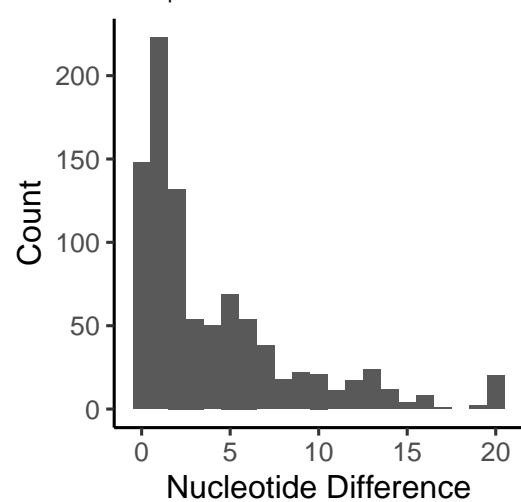
IGHV1-NL_1*01_S2052

1048 sequences assigned
245 (23.4%) exact matches, in which:
105 unique CDR3
7 unique J



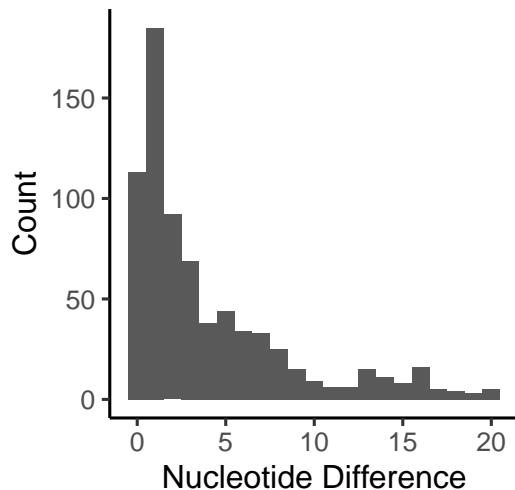
IGHV2-69*01_S2332

1025 sequences assigned
148 (14.4%) exact matches, in which:
49 unique CDR3
7 unique J



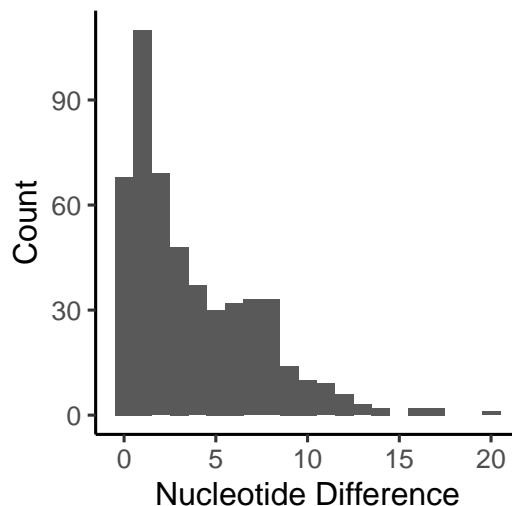
IGHV2-69*01_S2408

793 sequences assigned
113 (14.2%) exact matches, in which:
37 unique CDR3
6 unique J



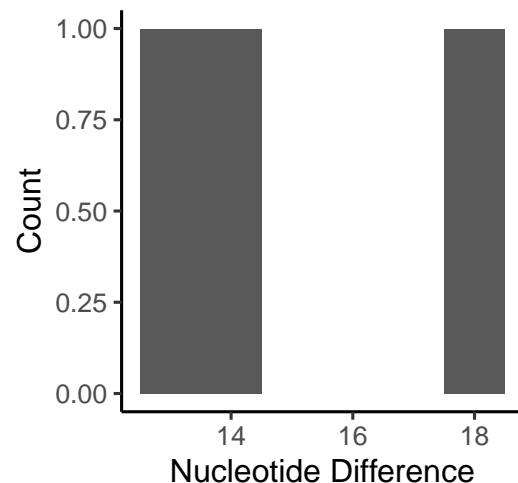
IGHV2-118*01_S2768

512 sequences assigned
68 (13.3%) exact matches, in which:
21 unique CDR3
4 unique J



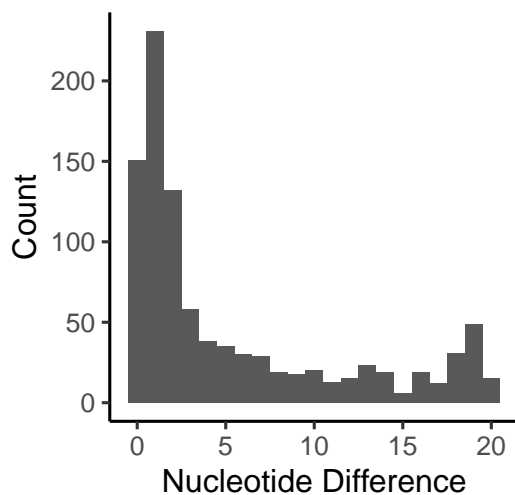
IGHV2-173*01_S9930

3 sequences assigned
No exact matches.



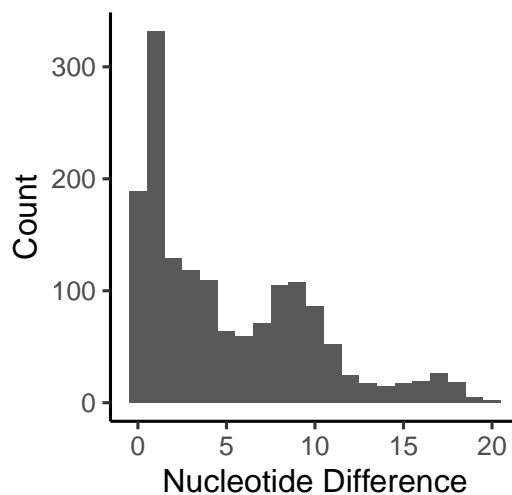
IGHV2-69*01_S5121

998 sequences assigned
151 (15.1%) exact matches, in which:
54 unique CDR3
6 unique J



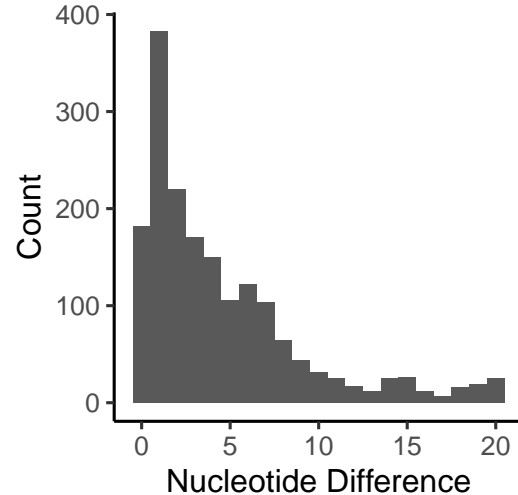
IGHV2-118*01_S6364

1631 sequences assigned
189 (11.6%) exact matches, in which:
72 unique CDR3
6 unique J



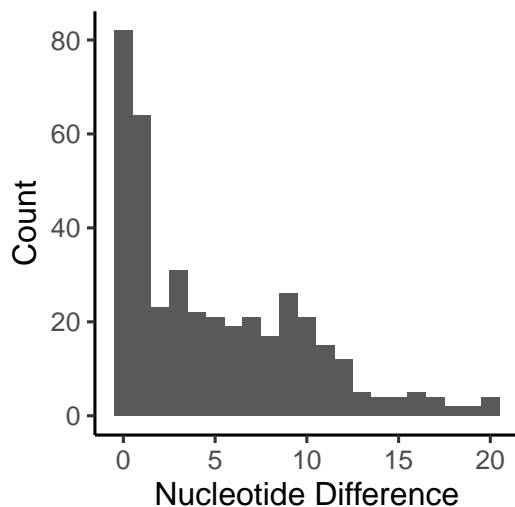
IGHV2-NL_1*01_S7874

1847 sequences assigned
182 (9.9%) exact matches, in which:
70 unique CDR3
8 unique J



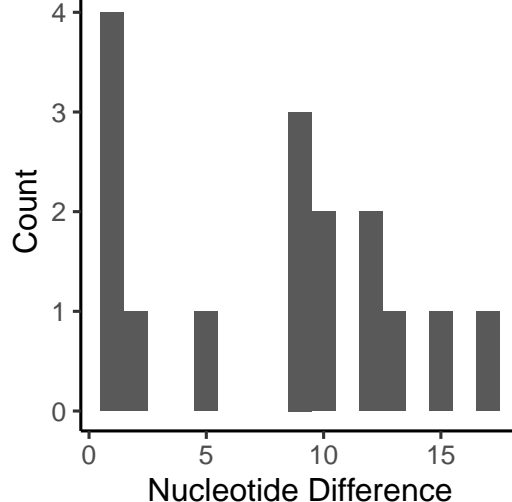
IGHV2-118*01_A267G_A:

414 sequences assigned
82 (19.8%) exact matches, in which:
54 unique CDR3
6 unique J



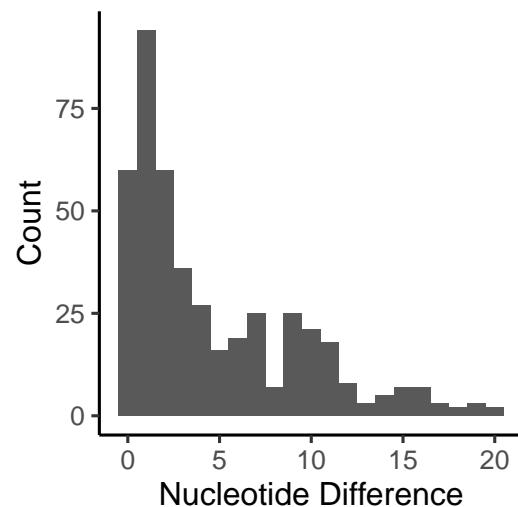
IGHV2-173*01_S2781

17 sequences assigned
No exact matches.



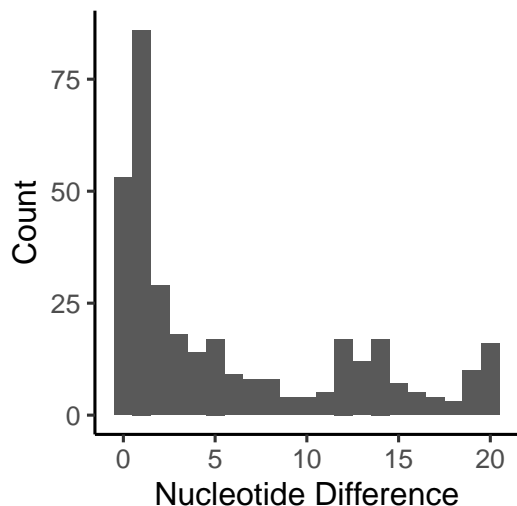
IGHV2-NL_2*01_S2193

454 sequences assigned
60 (13.2%) exact matches, in which:
23 unique CDR3
6 unique J



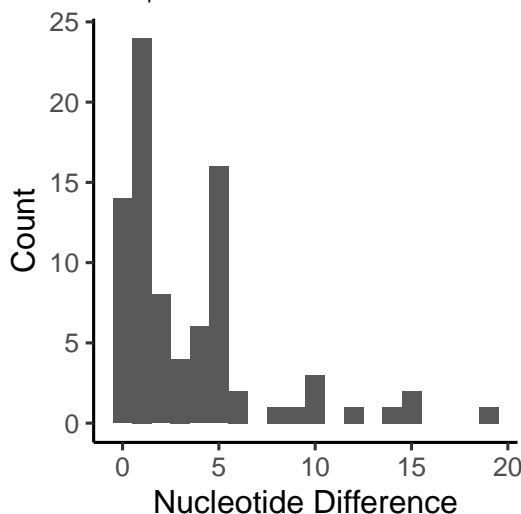
IGHV3-5*01_S4091

427 sequences assigned
53 (12.4%) exact matches, in which:
19 unique CDR3
5 unique J



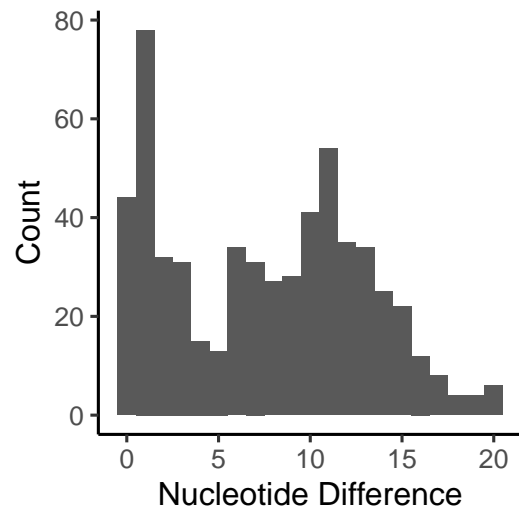
IGHV3-28*01_S7540

123 sequences assigned
14 (11.4%) exact matches, in which:
5 unique CDR3
3 unique J



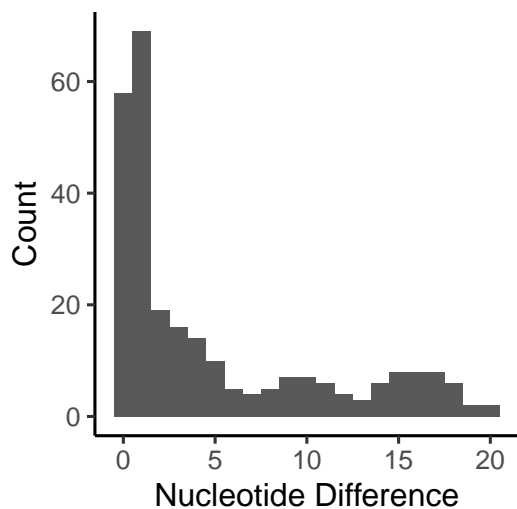
IGHV3-37*01_S6325

604 sequences assigned
44 (7.3%) exact matches, in which:
22 unique CDR3
3 unique J



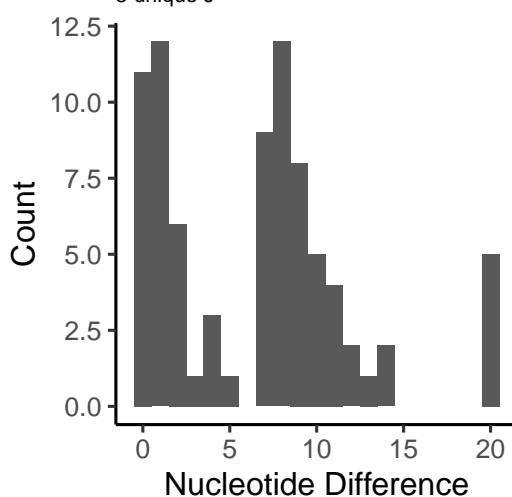
IGHV3-9*01_S8777

273 sequences assigned
58 (21.2%) exact matches, in which:
35 unique CDR3
6 unique J



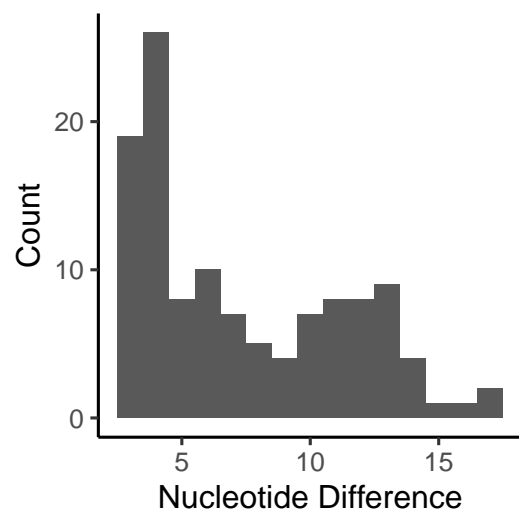
IGHV3-28*01_S8684

87 sequences assigned
11 (12.6%) exact matches, in which:
10 unique CDR3
5 unique J



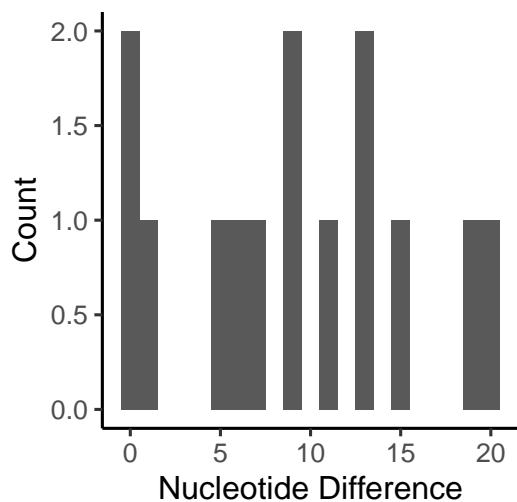
IGHV3-37*01_S6630

154 sequences assigned
No exact matches.



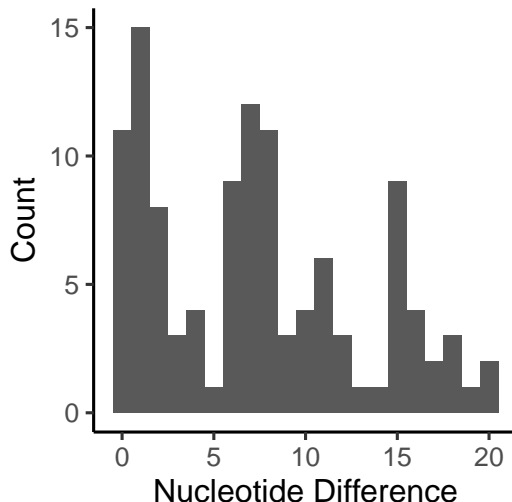
IGHV3-28*01_S3792

17 sequences assigned
2 (11.8%) exact matches, in which:
2 unique CDR3
2 unique J



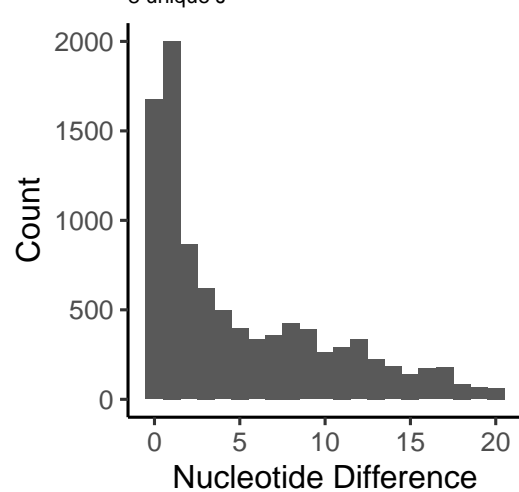
IGHV3-36*01_S6650

129 sequences assigned
11 (8.5%) exact matches, in which:
8 unique CDR3
2 unique J



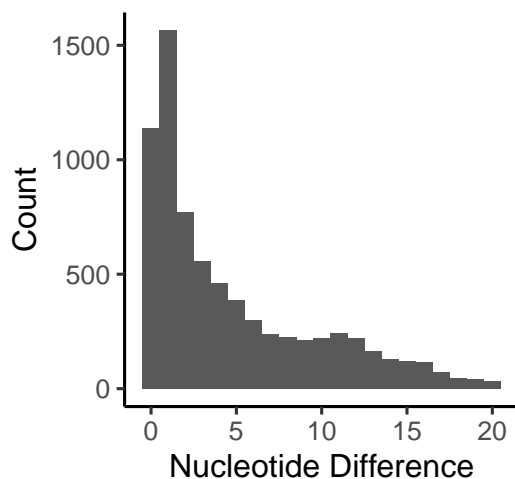
IGHV3-50*01_S1524

9897 sequences assigned
1676 (16.9%) exact matches, in which:
848 unique CDR3
8 unique J



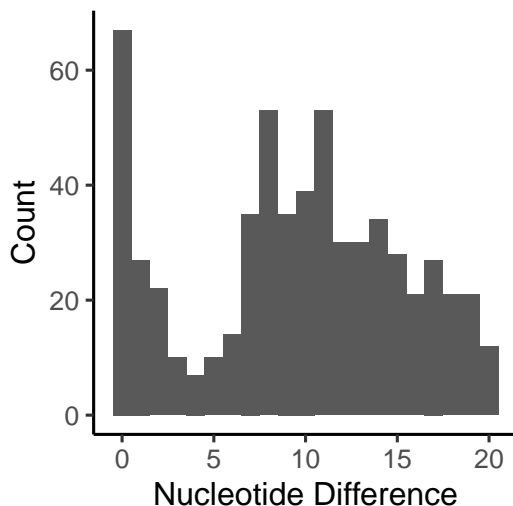
IGHV3-50*01_S1879

7537 sequences assigned
1138 (15.1%) exact matches, in which:
604 unique CDR3
8 unique J



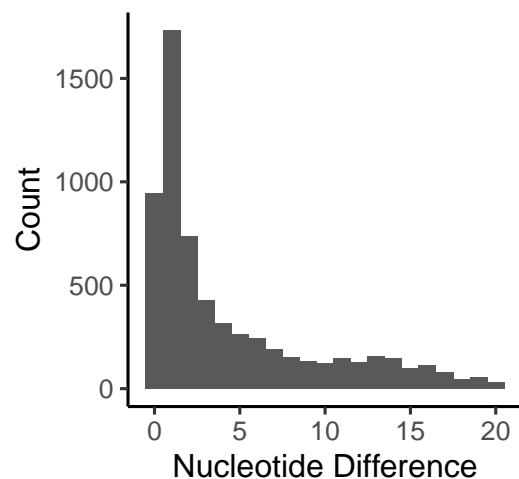
IGHV3-73*01_S6942

621 sequences assigned
67 (10.8%) exact matches, in which:
37 unique CDR3
7 unique J



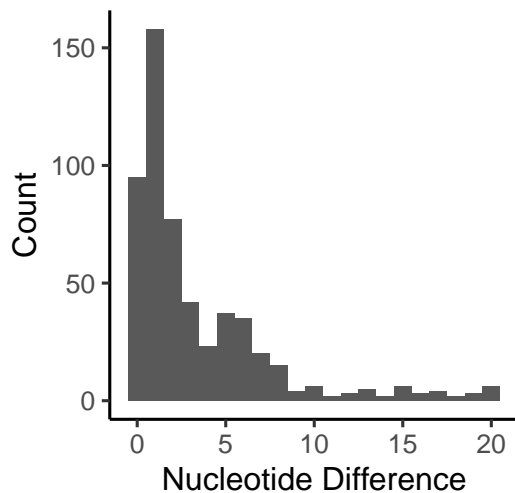
IGHV3-76*02_S4190

6496 sequences assigned
947 (14.6%) exact matches, in which:
456 unique CDR3
8 unique J



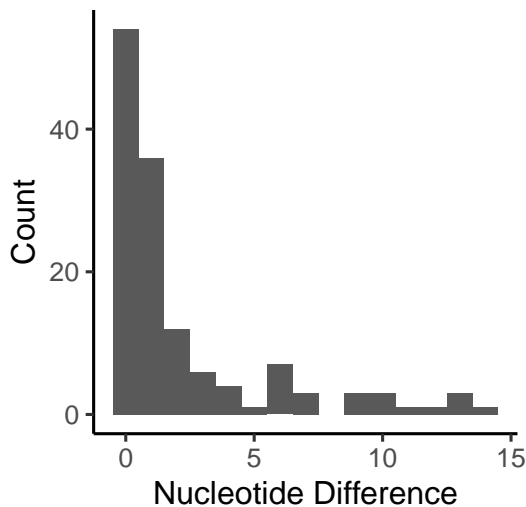
IGHV3-52*02_S4550

555 sequences assigned
95 (17.1%) exact matches, in which:
40 unique CDR3
4 unique J



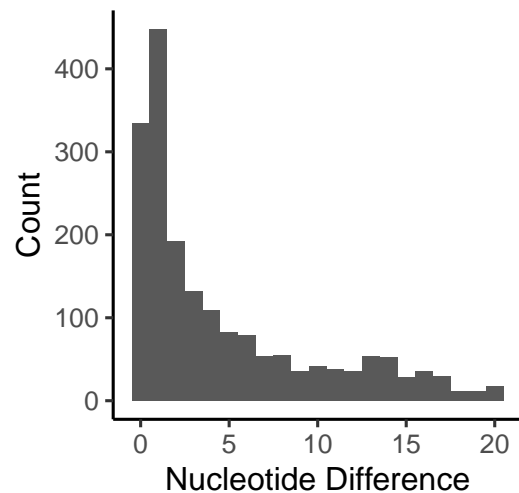
IGHV3-73*02_S5005

138 sequences assigned
54 (39.1%) exact matches, in which:
31 unique CDR3
6 unique J



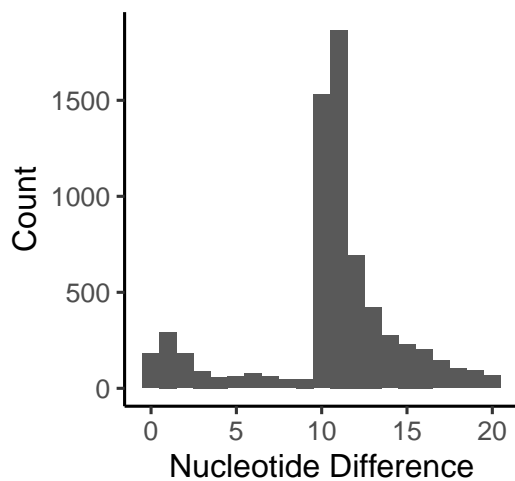
IGHV3-76*02_S4190_A2

1946 sequences assigned
335 (17.2%) exact matches, in which:
242 unique CDR3
8 unique J



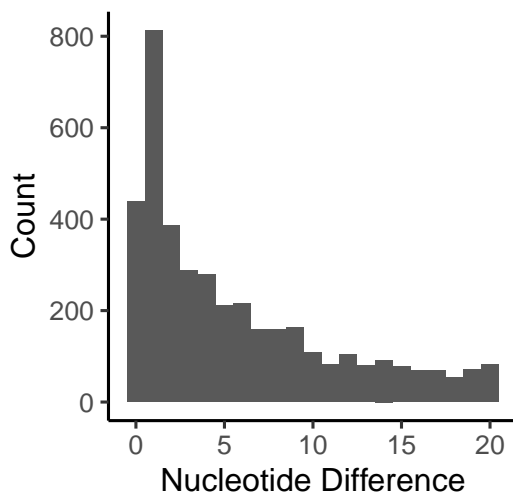
IGHV3-53*01_S7463

7036 sequences assigned
182 (2.6%) exact matches, in which:
82 unique CDR3
6 unique J



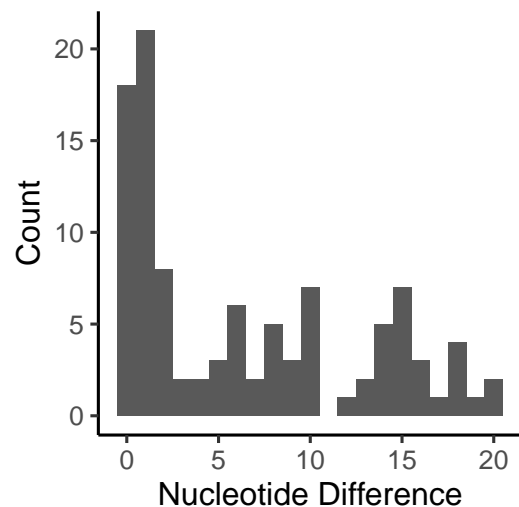
IGHV3-76*01_S4285

4400 sequences assigned
438 (10%) exact matches, in which:
228 unique CDR3
7 unique J



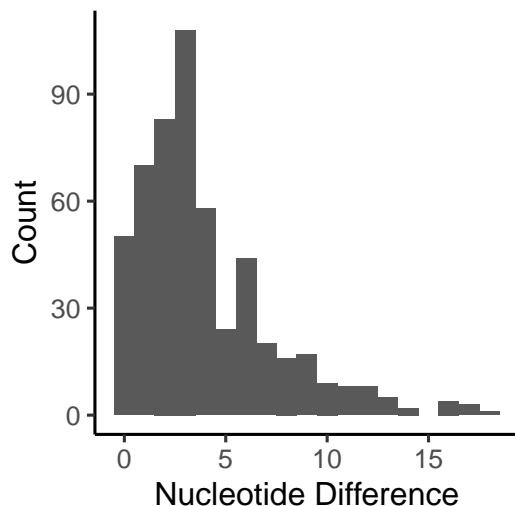
IGHV3-83*01_S5932

110 sequences assigned
18 (16.4%) exact matches, in which:
13 unique CDR3
3 unique J



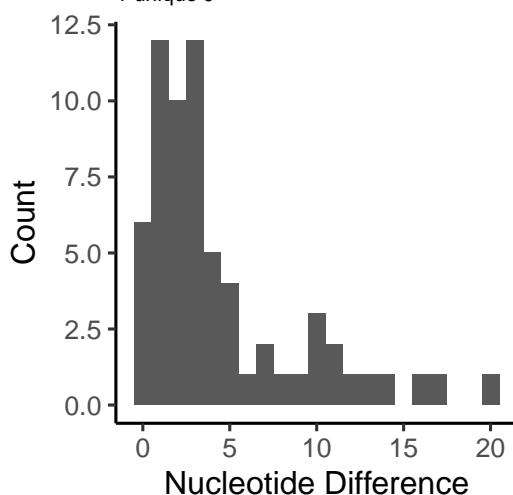
IGHV3-87*01_S6311

536 sequences assigned
50 (9.3%) exact matches, in which:
22 unique CDR3
2 unique J



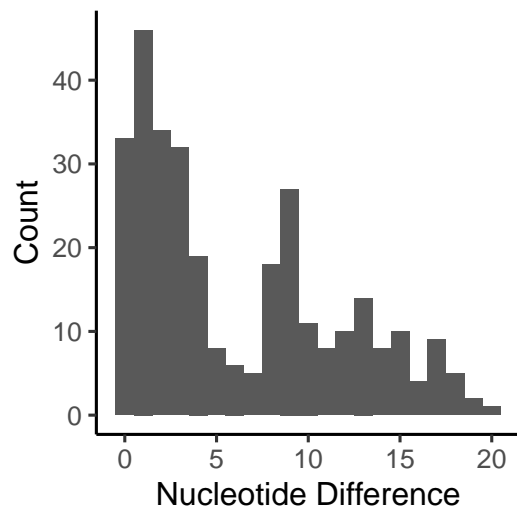
IGHV3-100*01_S4205

66 sequences assigned
6 (9.1%) exact matches, in which:
5 unique CDR3
1 unique J



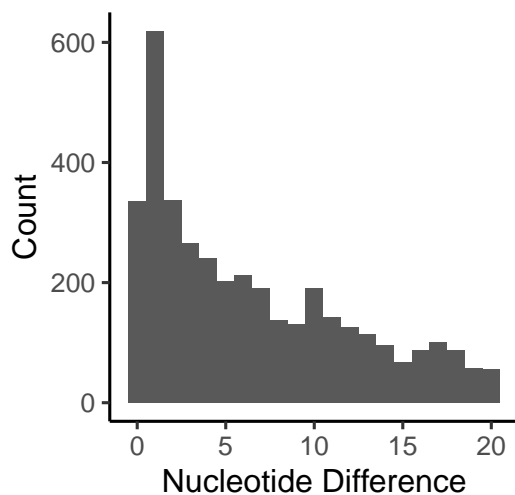
IGHV3-120*01_S4231

318 sequences assigned
33 (10.4%) exact matches, in which:
15 unique CDR3
3 unique J



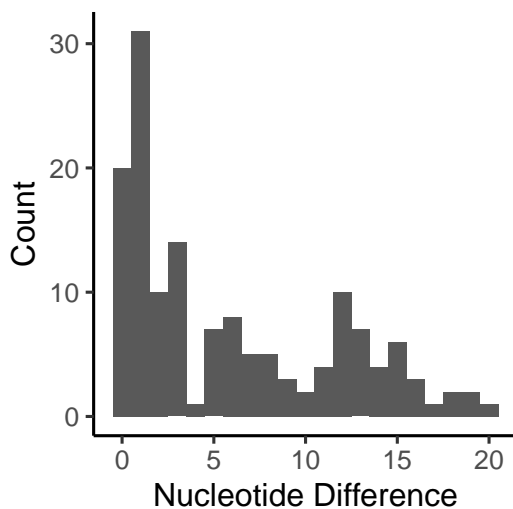
IGHV3-88*01_S9155

4163 sequences assigned
336 (8.1%) exact matches, in which:
147 unique CDR3
8 unique J



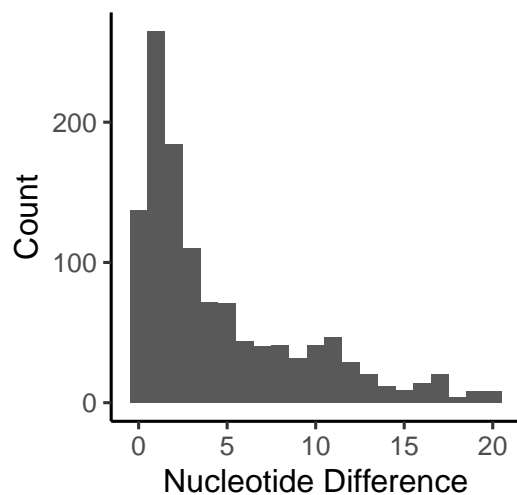
IGHV3-100*01_S4375

192 sequences assigned
20 (10.4%) exact matches, in which:
13 unique CDR3
4 unique J



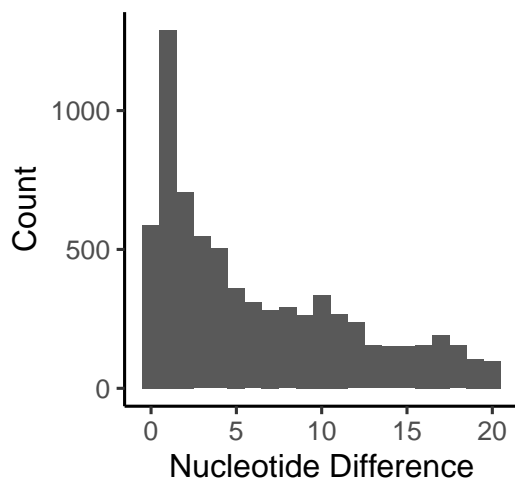
IGHV3-122*01_S2709

1243 sequences assigned
137 (11%) exact matches, in which:
57 unique CDR3
7 unique J



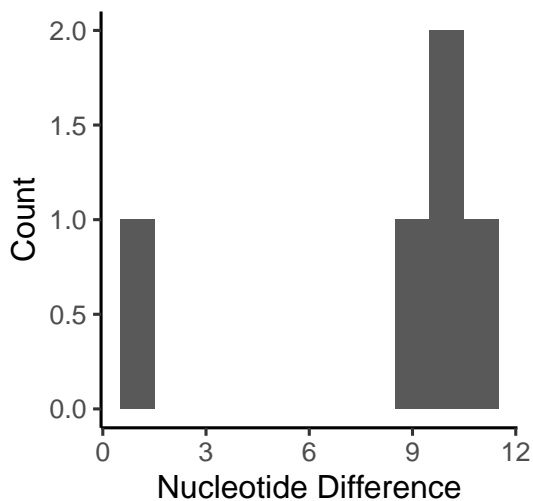
IGHV3-88*01_S9470

8211 sequences assigned
589 (7.2%) exact matches, in which:
217 unique CDR3
8 unique J



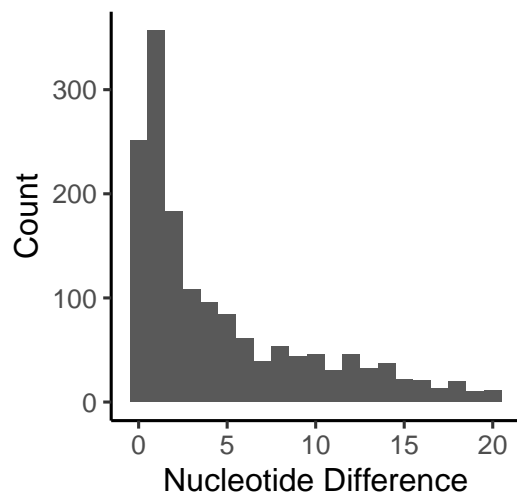
IGHV3-103*01_S2756

34 sequences assigned
No exact matches.



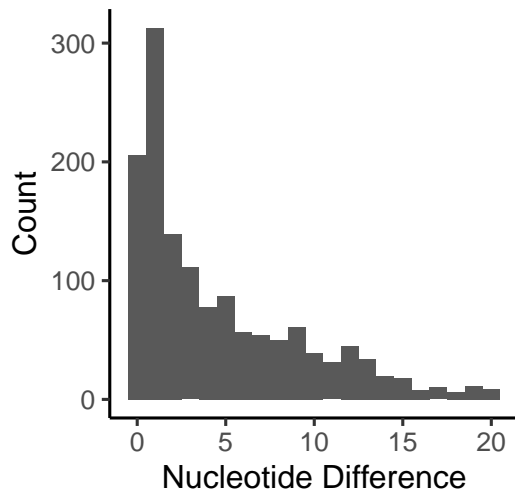
IGHV3-122*01_S5299

1659 sequences assigned
251 (15.1%) exact matches, in which:
105 unique CDR3
7 unique J



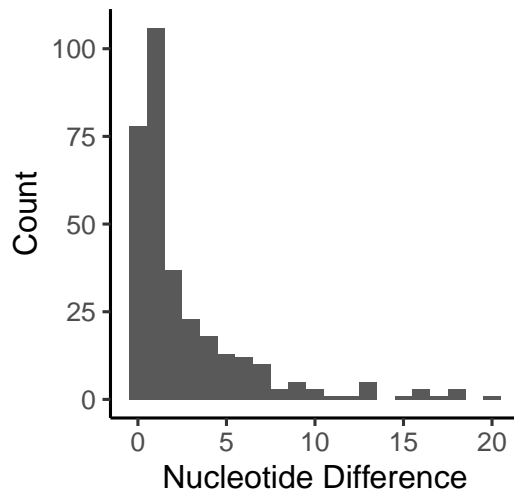
IGHV3-127*01_S5510

1423 sequences assigned
206 (14.5%) exact matches, in which:
93 unique CDR3
7 unique J



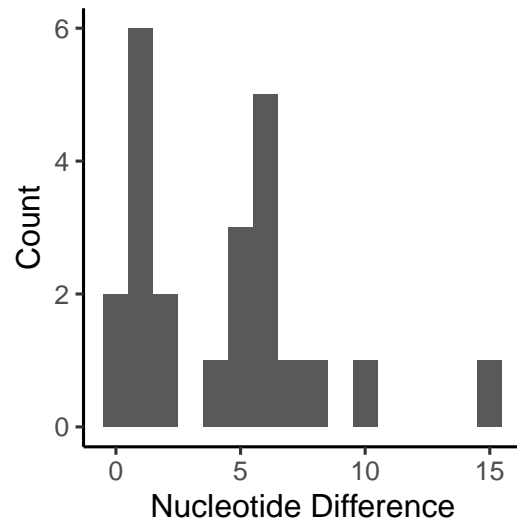
IGHV3-141*01_S3493

328 sequences assigned
78 (23.8%) exact matches, in which:
46 unique CDR3
7 unique J



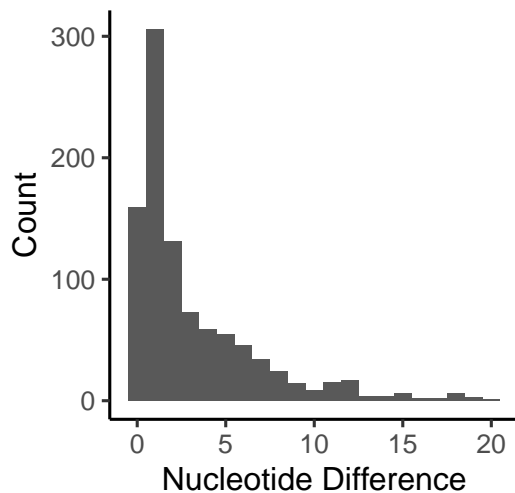
IGHV3-143*01_S1151

24 sequences assigned
2 (8.3%) exact matches, in which:
1 unique CDR3
1 unique J



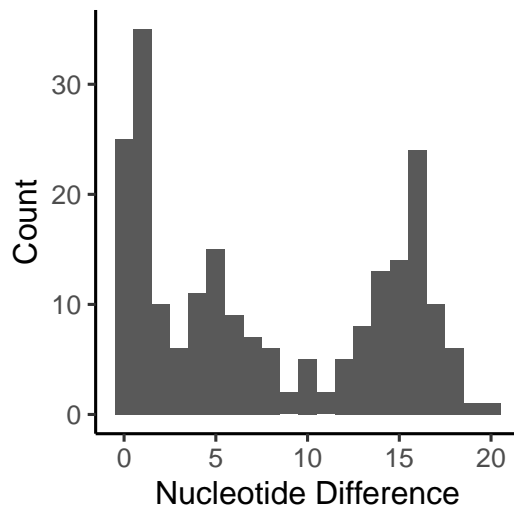
IGHV3-128*02_S1569

984 sequences assigned
159 (16.2%) exact matches, in which:
67 unique CDR3
5 unique J



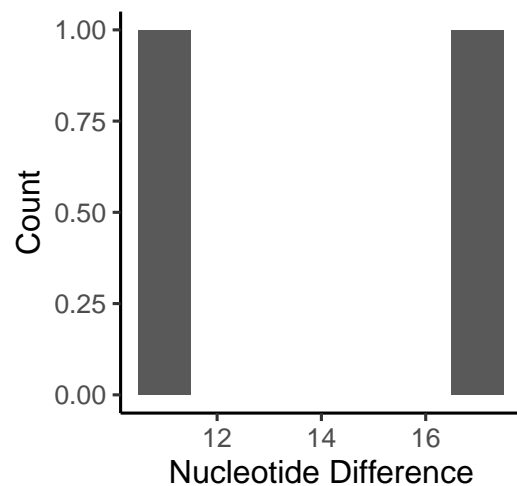
IGHV3-141*01_S6168

225 sequences assigned
25 (11.1%) exact matches, in which:
18 unique CDR3
4 unique J



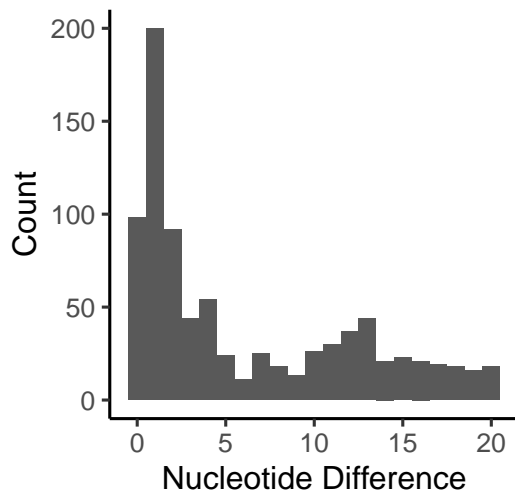
IGHV3-152*01_S1133

3 sequences assigned
No exact matches.



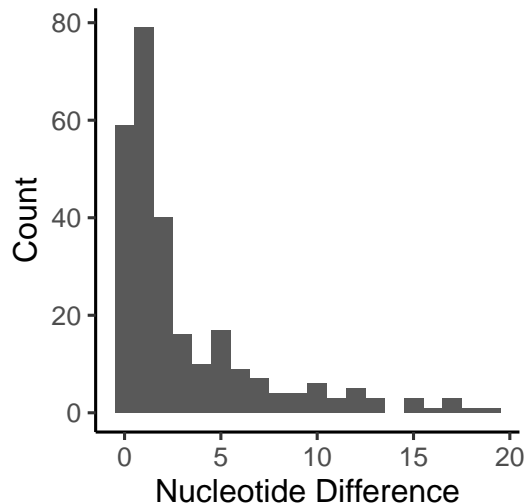
IGHV3-128*02_S6299

939 sequences assigned
98 (10.4%) exact matches, in which:
47 unique CDR3
6 unique J



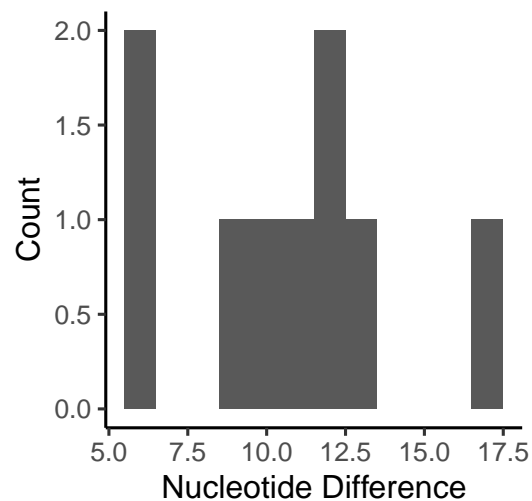
IGHV3-141*02_S2868

275 sequences assigned
59 (21.5%) exact matches, in which:
37 unique CDR3
4 unique J



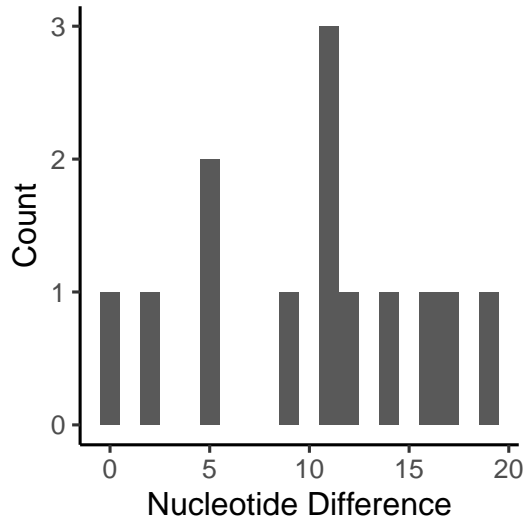
IGHV3-152*01_S5891

10 sequences assigned
No exact matches.



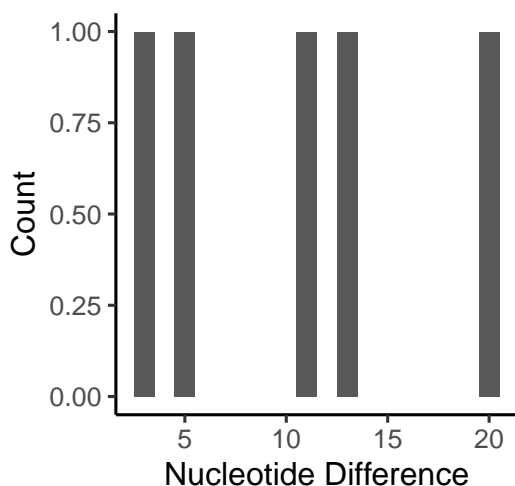
IGHV3–152*01_S7388

15 sequences assigned
1 (6.7%) exact matches, in which:
1 unique CDR3
1 unique J



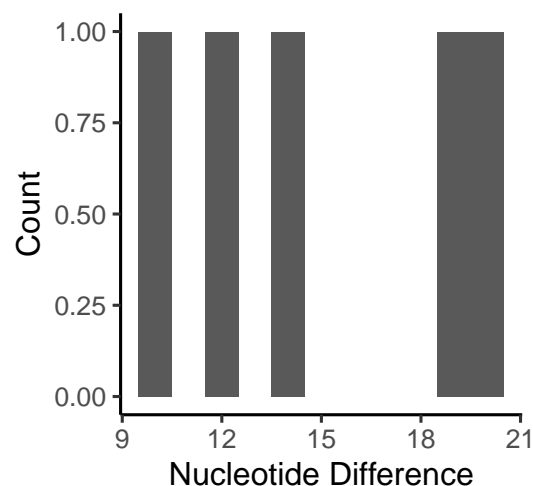
IGHV3–175*01_S1248

6 sequences assigned
No exact matches.



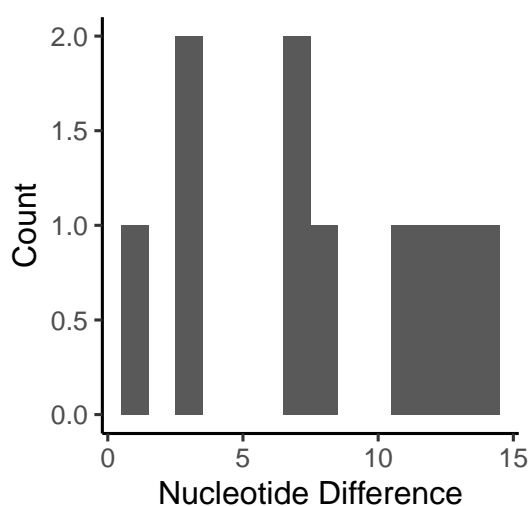
IGHV3–177*01_S5369

5 sequences assigned
No exact matches.



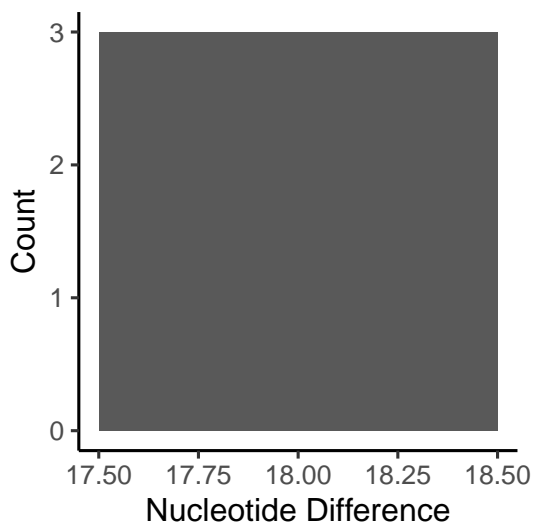
IGHV3–172*01_S1597

10 sequences assigned
No exact matches.



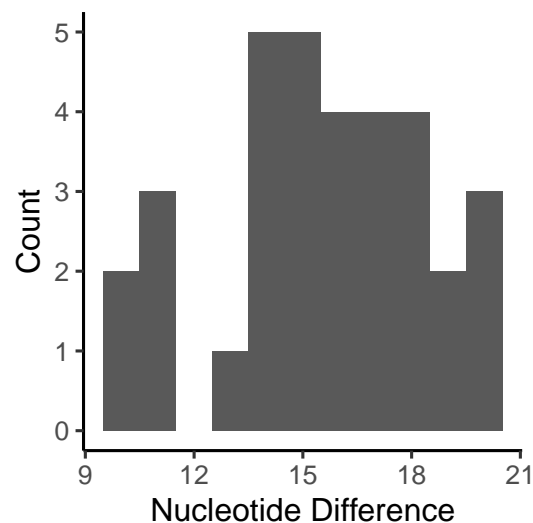
IGHV3–177*01_S1591

21 sequences assigned
No exact matches.



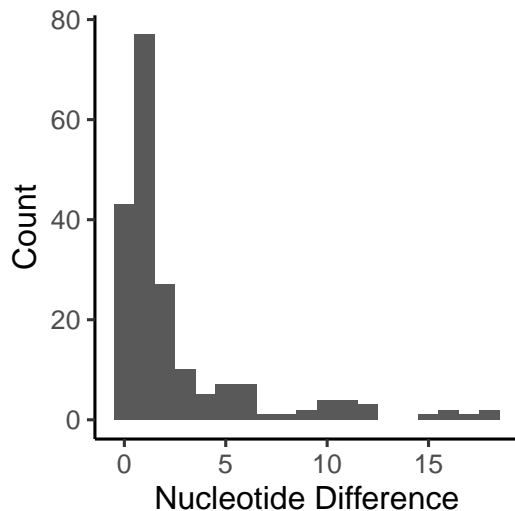
IGHV3–177*01_S6408

55 sequences assigned
No exact matches.



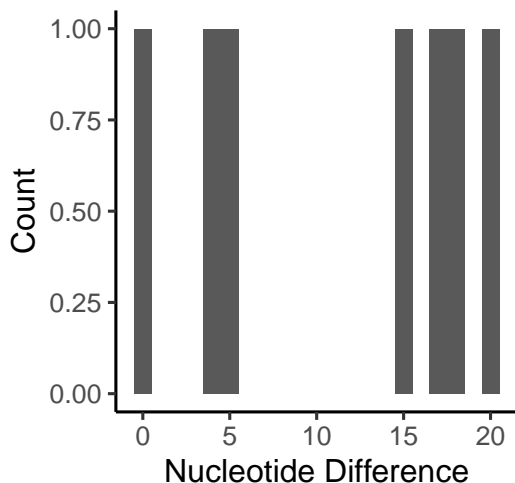
IGHV3–172*01_S8824

200 sequences assigned
43 (21.5%) exact matches, in which:
19 unique CDR3
4 unique J



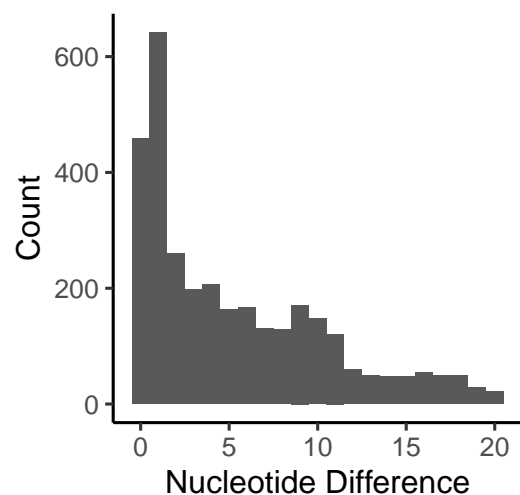
IGHV3–177*01_S4102

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



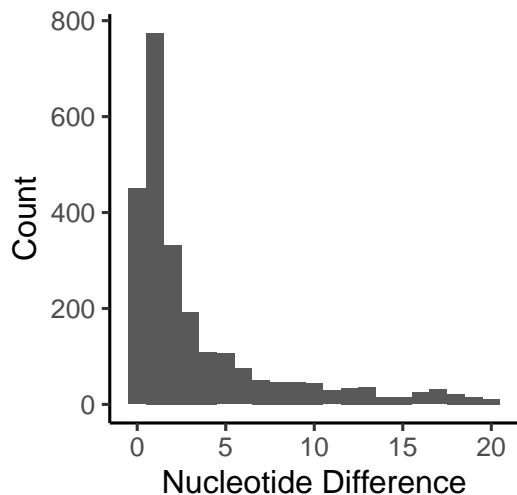
IGHV3–187*01_S2144

3356 sequences assigned
459 (13.7%) exact matches, in which:
202 unique CDR3
7 unique J



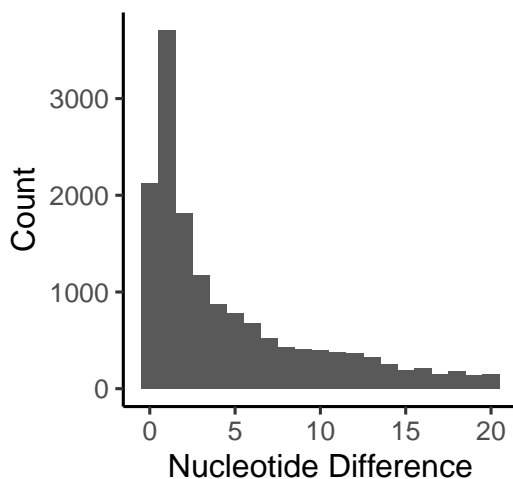
IGHV3-187*01_S4259

2515 sequences assigned
450 (17.9%) exact matches, in which:
210 unique CDR3
7 unique J



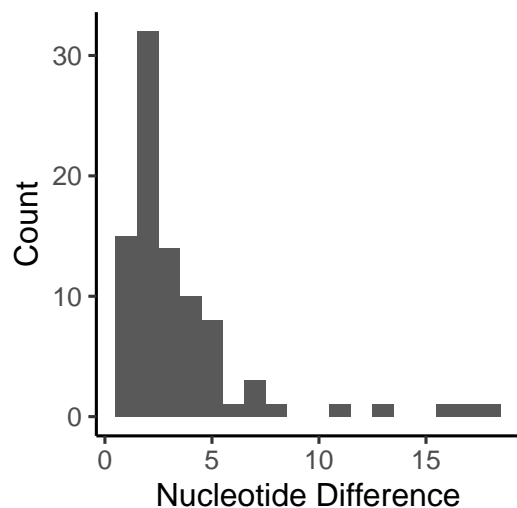
IGHV3-NL_11*01_S268

16075 sequences assigned
2126 (13.2%) exact matches, in which:
1012 unique CDR3
8 unique J



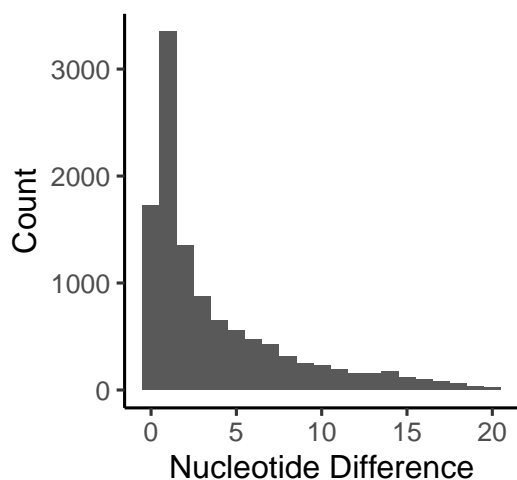
IGHV3-NL_13*01_S3940

89 sequences assigned
No exact matches.



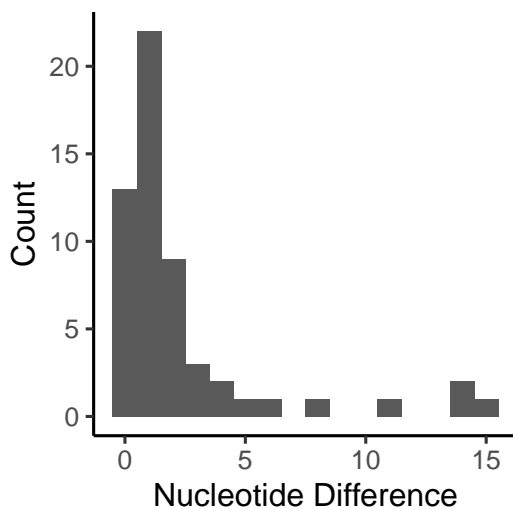
IGHV3-NL_1*01_S9854

12129 sequences assigned
1724 (14.2%) exact matches, in which:
800 unique CDR3
8 unique J



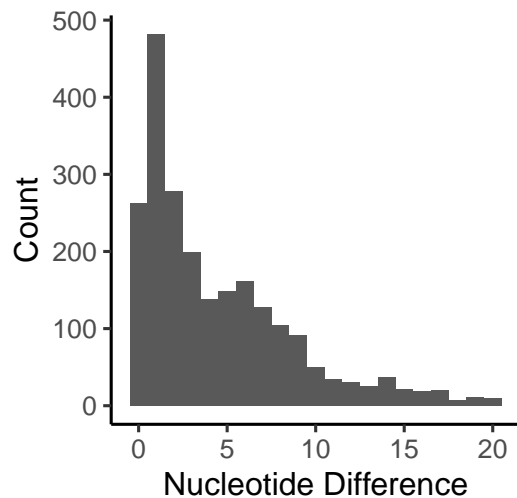
IGHV3-NL_12*02_S5864

56 sequences assigned
13 (23.2%) exact matches, in which:
8 unique CDR3
3 unique J



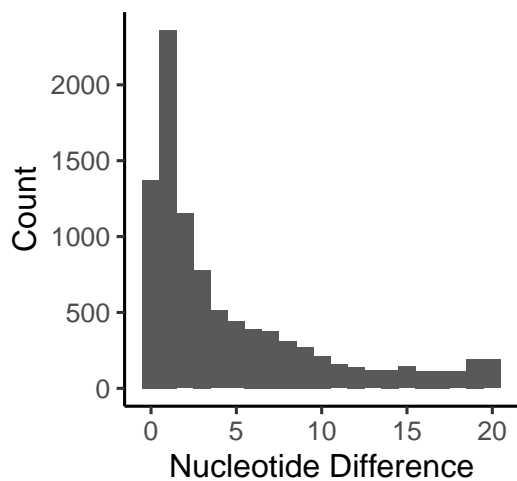
IGHV3-NL_14*01_S0218

2307 sequences assigned
263 (11.4%) exact matches, in which:
139 unique CDR3
7 unique J



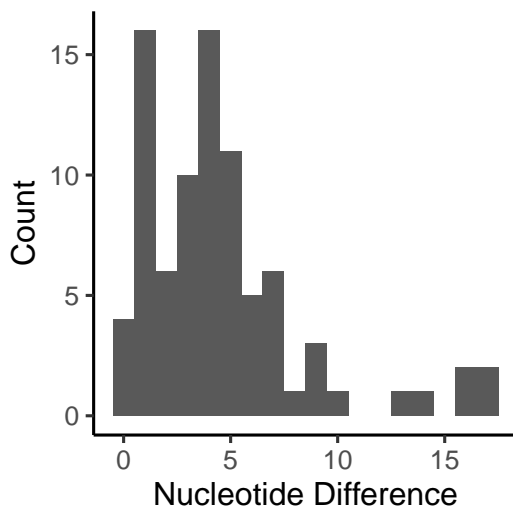
IGHV3-NL_10*02_S197

10526 sequences assigned
1371 (13%) exact matches, in which:
636 unique CDR3
7 unique J



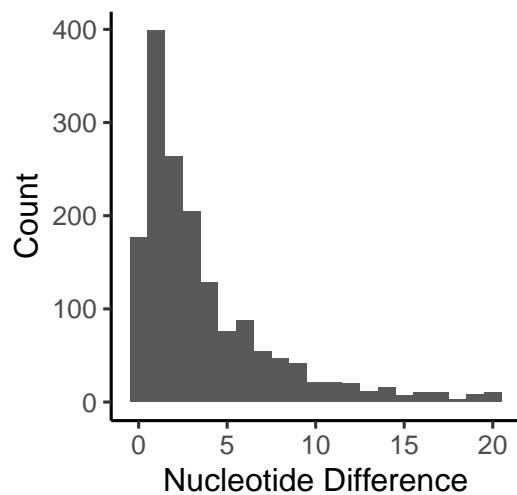
IGHV3-NL_13*01_S2791

85 sequences assigned
4 (4.7%) exact matches, in which:
2 unique CDR3
1 unique J



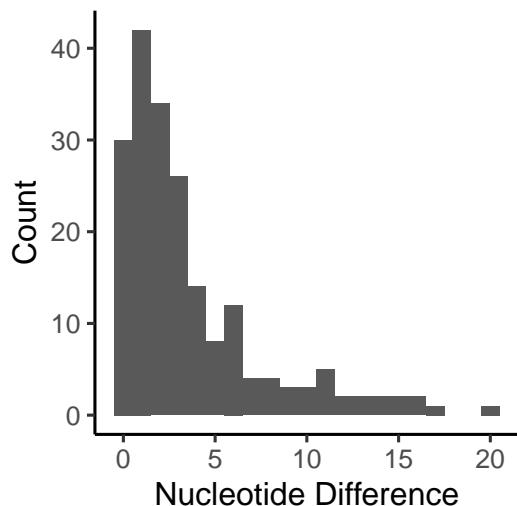
IGHV3-NL_15*01_S7302

1644 sequences assigned
177 (10.8%) exact matches, in which:
88 unique CDR3
7 unique J



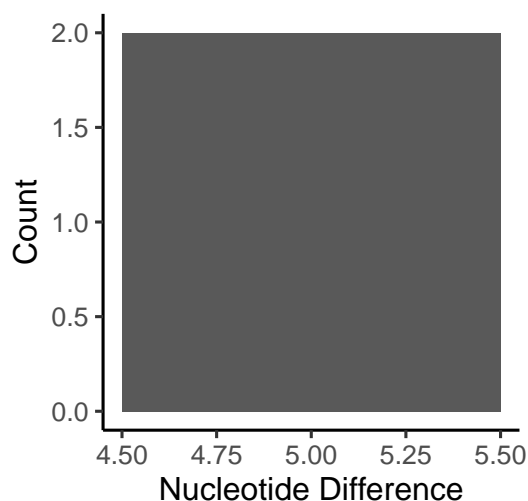
IGHV3–NL_16*01_S5133

200 sequences assigned
30 (15%) exact matches, in which:
19 unique CDR3
2 unique J



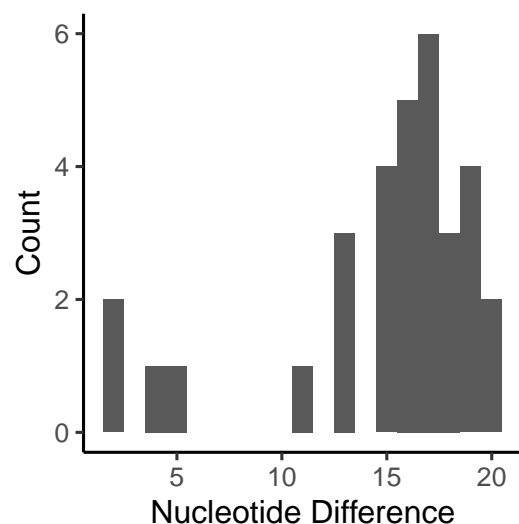
IGHV3–NL_18*01_S6383

2 sequences assigned
No exact matches.



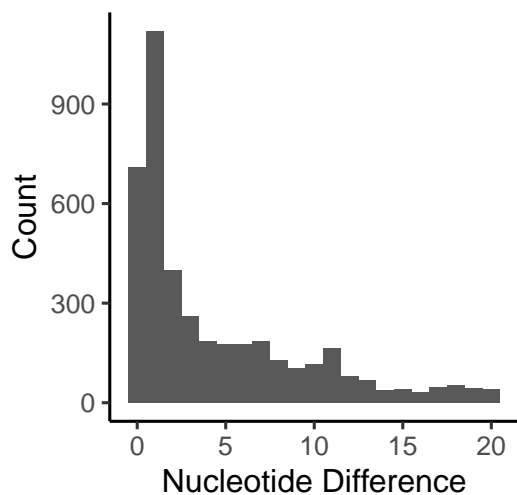
IGHV3–NL_4*01_S9067

56 sequences assigned
No exact matches.



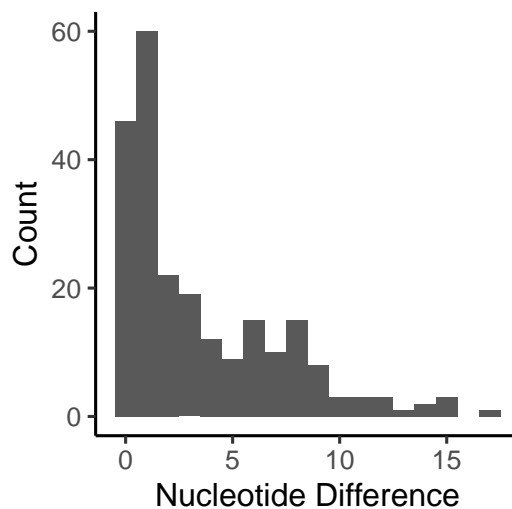
IGHV3–NL_17*01_S4250

4370 sequences assigned
709 (16.2%) exact matches, in which:
332 unique CDR3
6 unique J



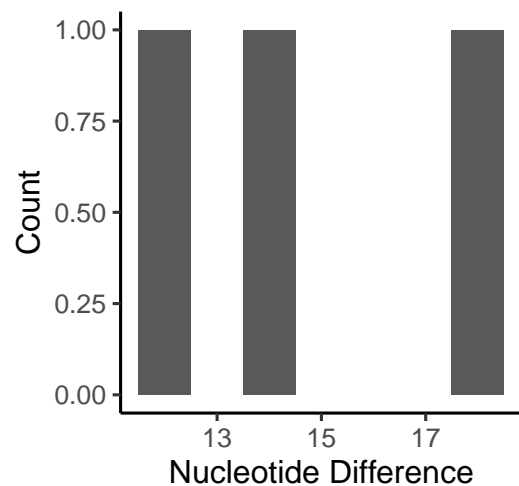
IGHV3–NL_19*01_S5168

242 sequences assigned
46 (19%) exact matches, in which:
23 unique CDR3
4 unique J



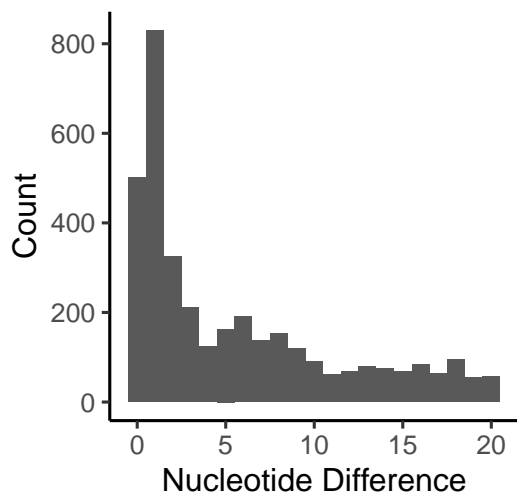
IGHV3–NL_5*01_S8361

4 sequences assigned
No exact matches.



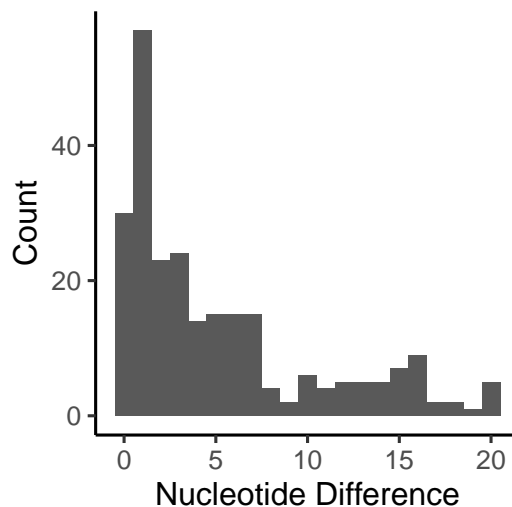
IGHV3–NL_17*01_S5770

4154 sequences assigned
501 (12.1%) exact matches, in which:
224 unique CDR3
6 unique J



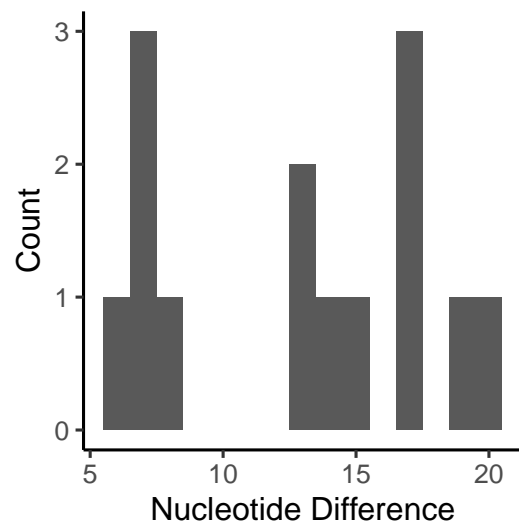
IGHV3–NL_2*01_S3900

255 sequences assigned
30 (11.8%) exact matches, in which:
18 unique CDR3
7 unique J



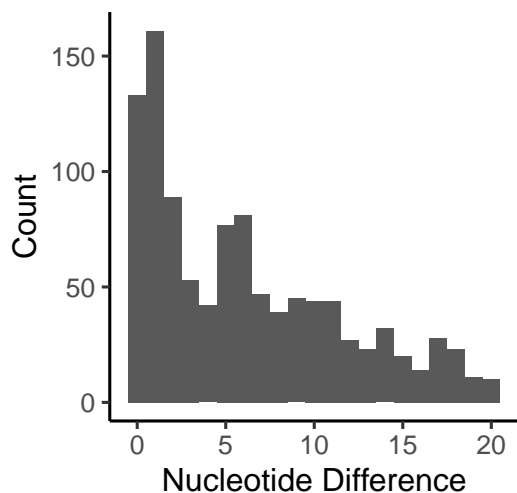
IGHV3–NL_7*01_S0199

18 sequences assigned
No exact matches.



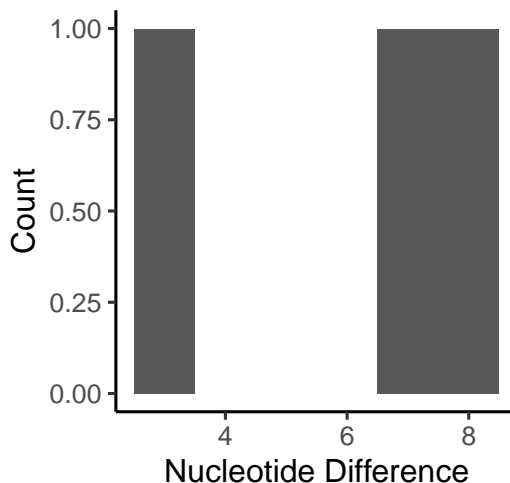
IGHV3–NL_8*01_S7474

1191 sequences assigned
133 (11.2%) exact matches, in which:
65 unique CDR3
4 unique J



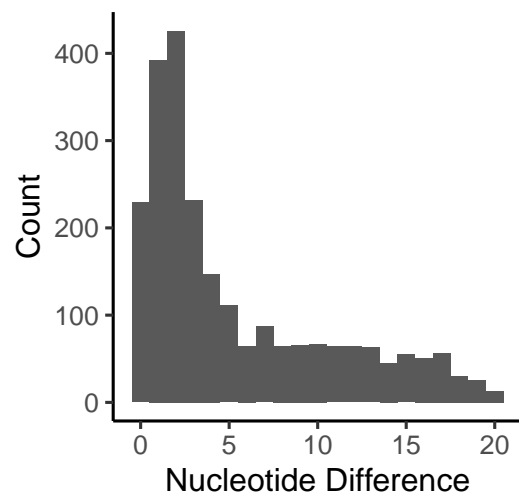
IGHV4–79*01_S1478

8 sequences assigned
No exact matches.



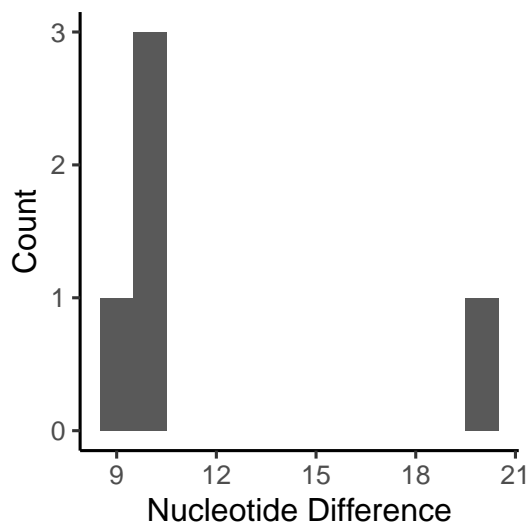
IGHV4–93*01_S5203

2453 sequences assigned
229 (9.3%) exact matches, in which:
150 unique CDR3
7 unique J



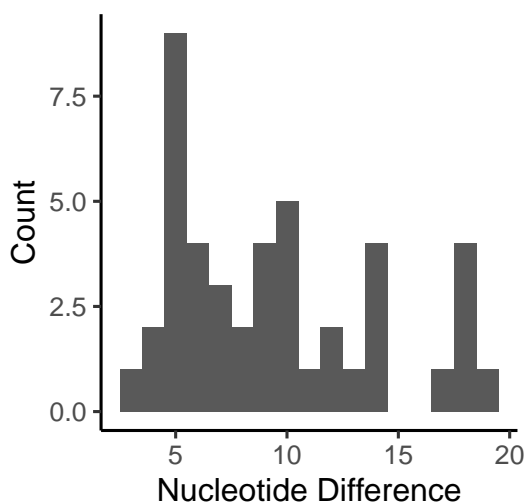
IGHV3–NL_9*01_S6098

11 sequences assigned
No exact matches.



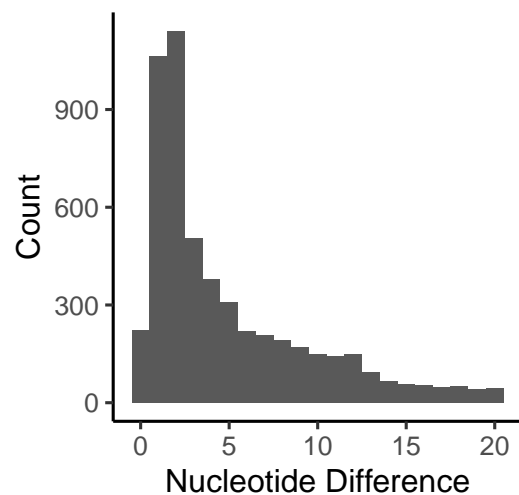
IGHV4–79*02_S9501

66 sequences assigned
No exact matches.



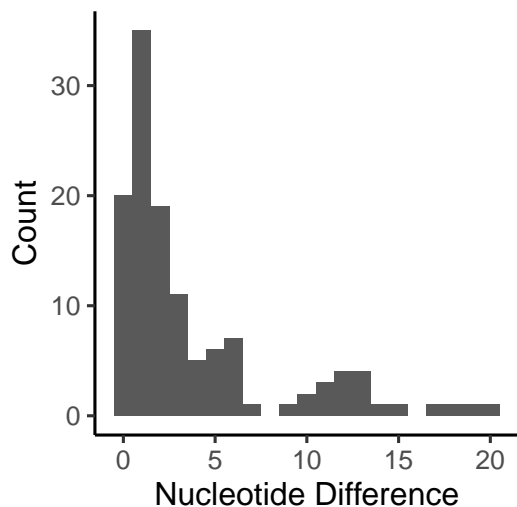
IGHV4–117*01_S0312

5626 sequences assigned
223 (4%) exact matches, in which:
149 unique CDR3
7 unique J



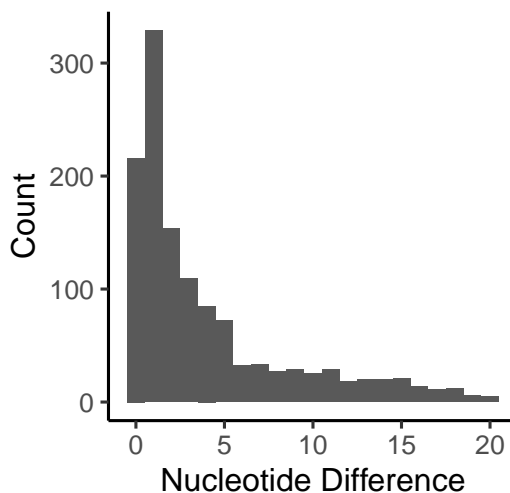
IGHV4–67*02_S6848

125 sequences assigned
20 (16%) exact matches, in which:
15 unique CDR3
5 unique J



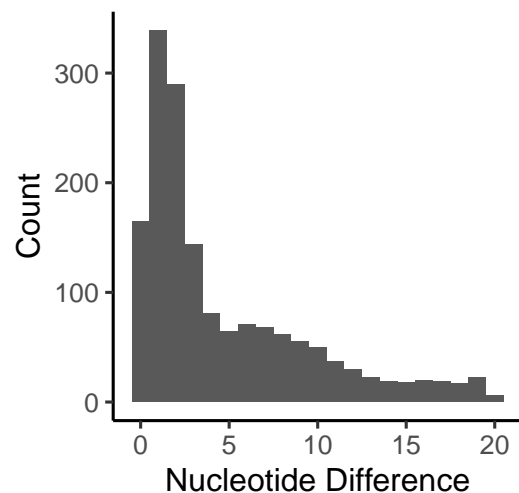
IGHV4–93*01_S0054

1292 sequences assigned
216 (16.7%) exact matches, in which:
119 unique CDR3
7 unique J



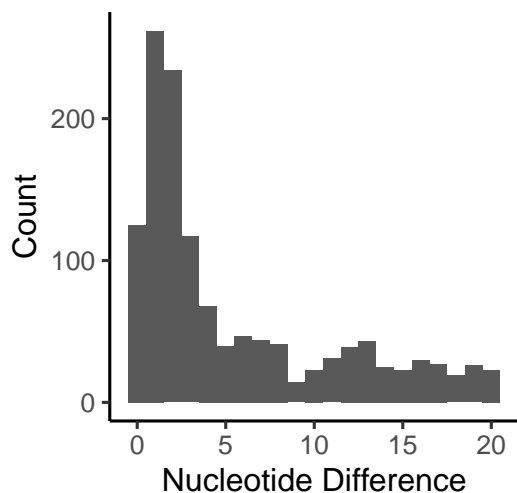
IGHV4–117*01_S0992

1650 sequences assigned
165 (10%) exact matches, in which:
128 unique CDR3
7 unique J



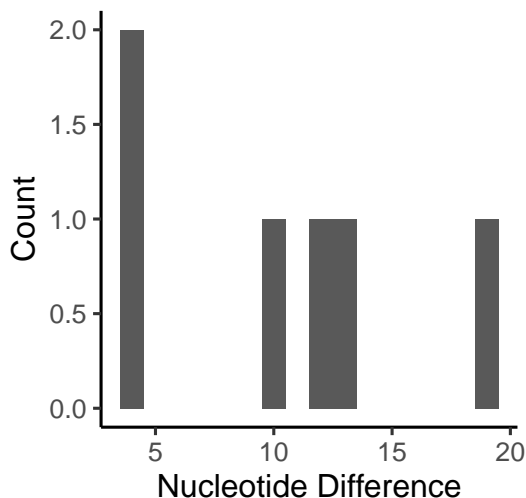
IGHV4-144*01_S8596

1977 sequences assigned
125 (6.3%) exact matches, in which:
85 unique CDR3
7 unique J



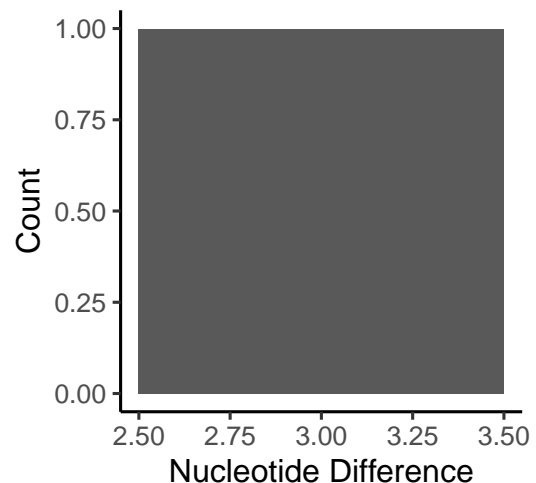
IGHV4-174*02_S5400

29 sequences assigned
No exact matches.



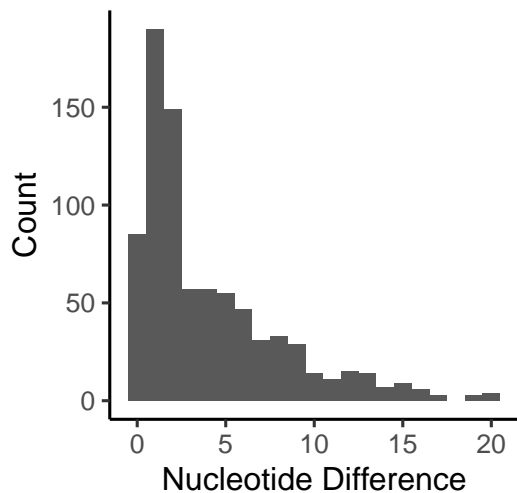
IGHV4-NL_10*01_S0458

1 sequences assigned
No exact matches.



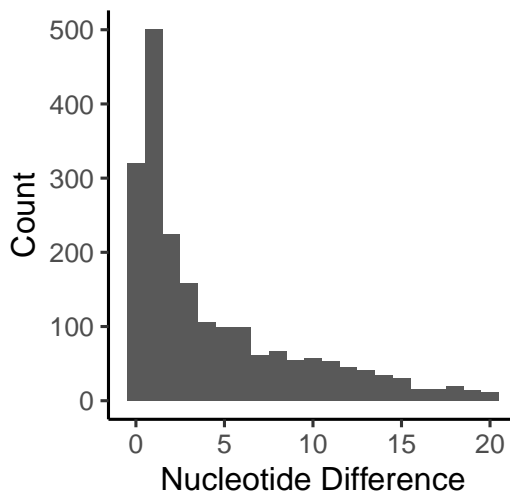
IGHV4-149*02_S6878

835 sequences assigned
85 (10.2%) exact matches, in which:
59 unique CDR3
5 unique J



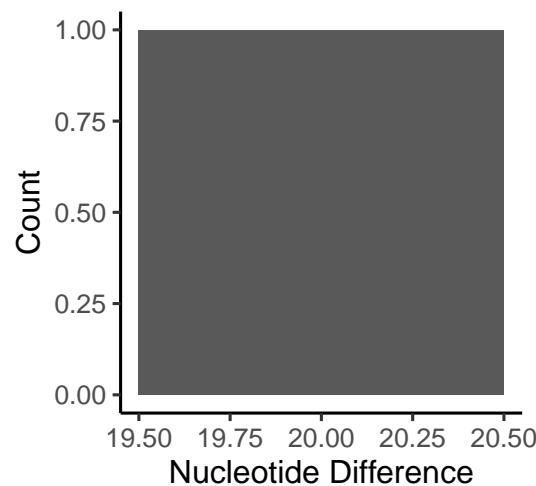
IGHV4-NL_1*01_S1593

2123 sequences assigned
320 (15.1%) exact matches, in which:
187 unique CDR3
7 unique J



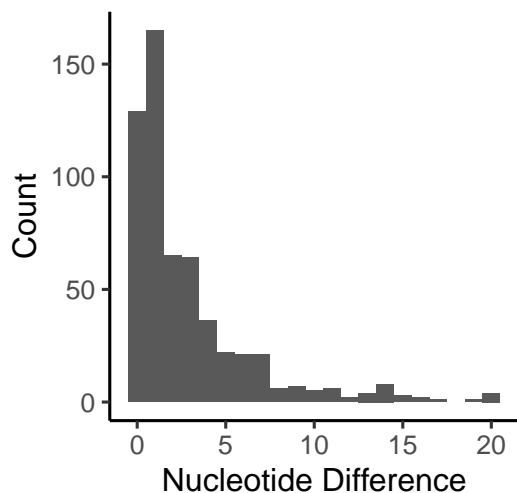
IGHV4-NL_10*01_S6744

1 sequences assigned
No exact matches.



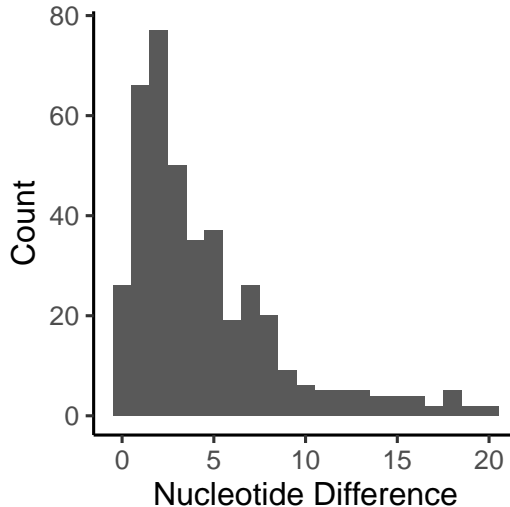
IGHV4-150*01_S6885

581 sequences assigned
129 (22.2%) exact matches, in which:
80 unique CDR3
7 unique J



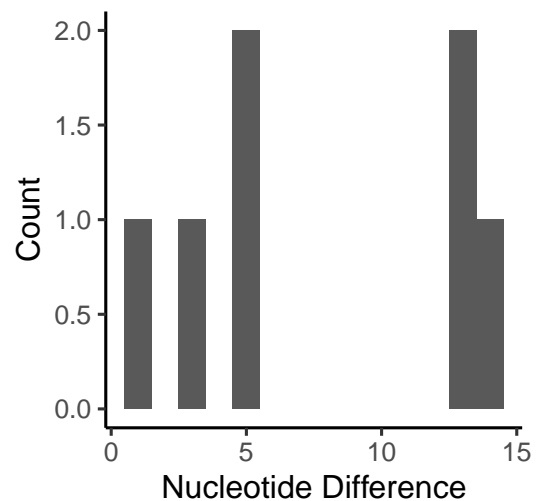
IGHV4-NL_1*02_S1702

412 sequences assigned
26 (6.3%) exact matches, in which:
20 unique CDR3
3 unique J



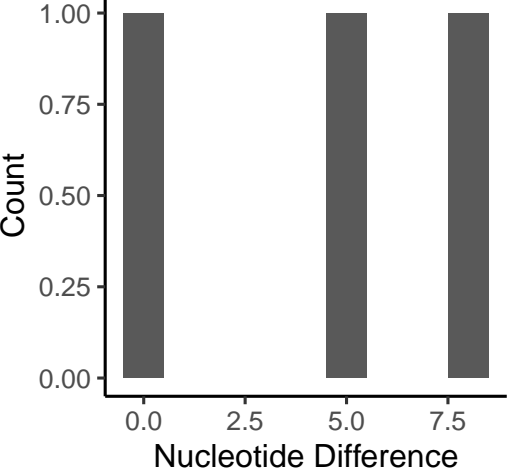
IGHV4-NL_11*01_S0325

7 sequences assigned
No exact matches.



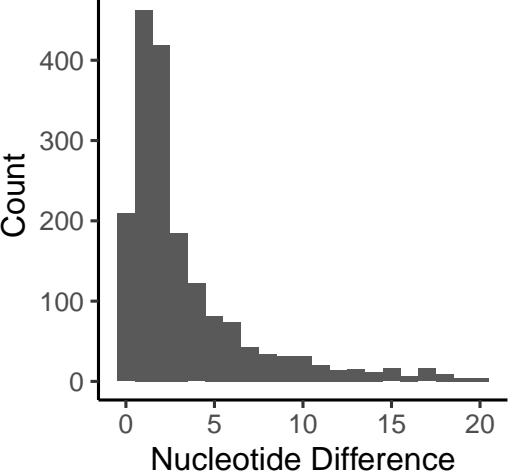
IGHV4-NL_11*01_S9942

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



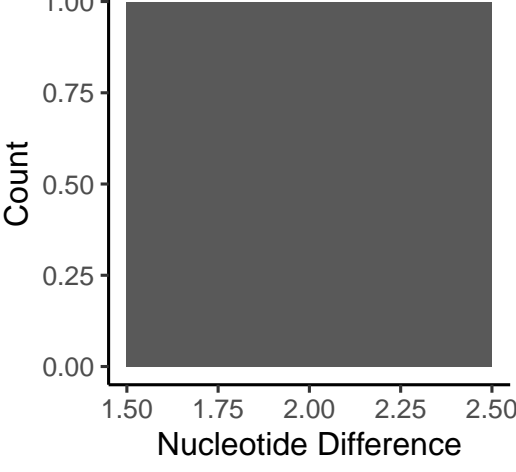
IGHV4-NL_13*01_S9744

1861 sequences assigned
209 (11.2%) exact matches, in which:
160 unique CDR3
8 unique J



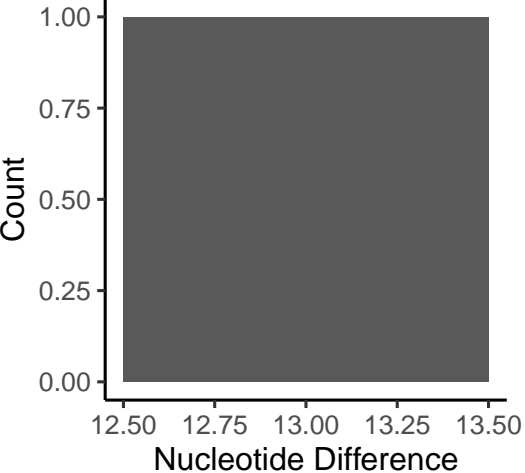
IGHV4-NL_16*01_S3062

1 sequences assigned
No exact matches.



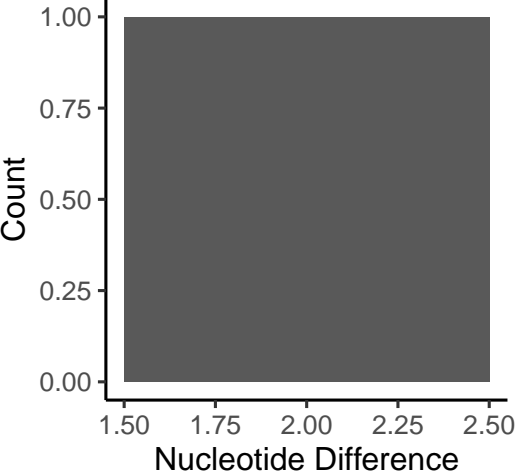
IGHV4-NL_12*01_S5174

52 sequences assigned
No exact matches.



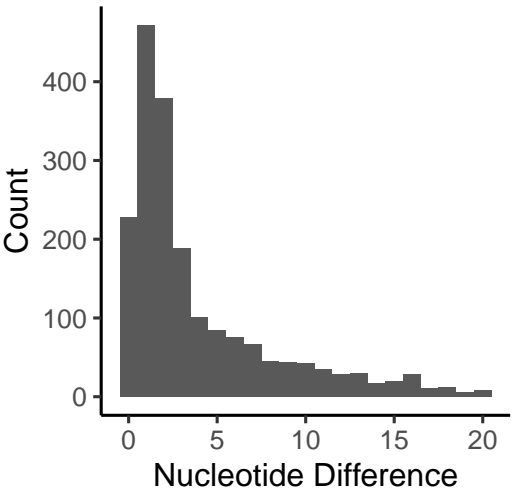
IGHV4-NL_15*01_S5717

2 sequences assigned
No exact matches.



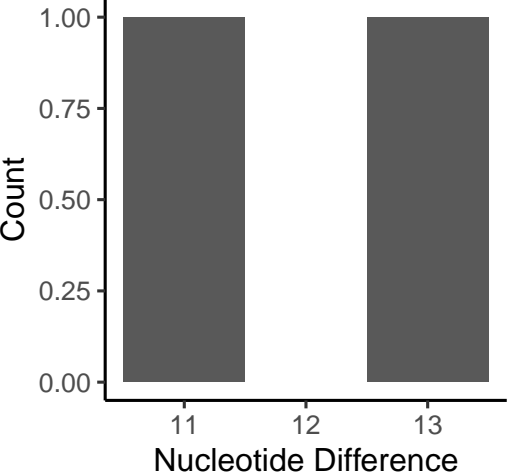
IGHV4-NL_17*01_S0936

1973 sequences assigned
228 (11.6%) exact matches, in which:
160 unique CDR3
7 unique J



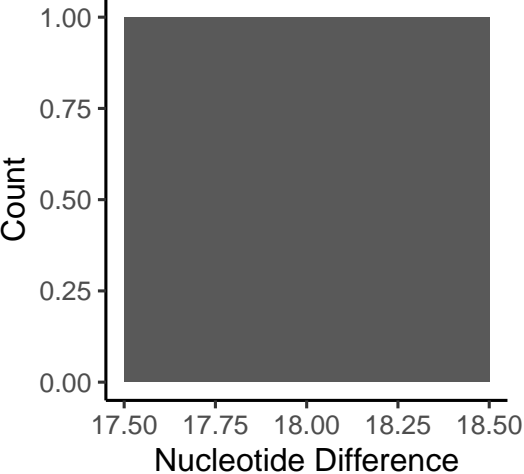
IGHV4-NL_12*01_S8068

2 sequences assigned
No exact matches.



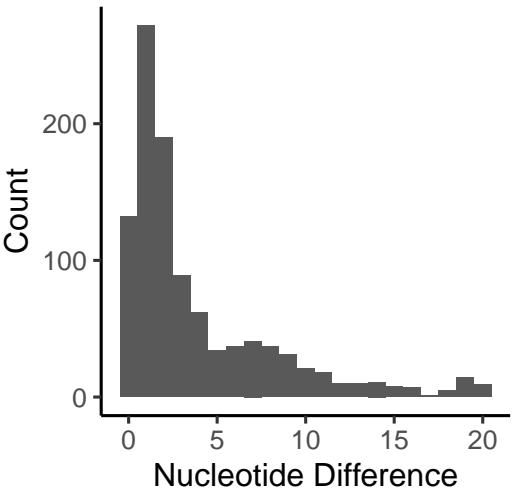
IGHV4-NL_16*01_S2138

1 sequences assigned
No exact matches.



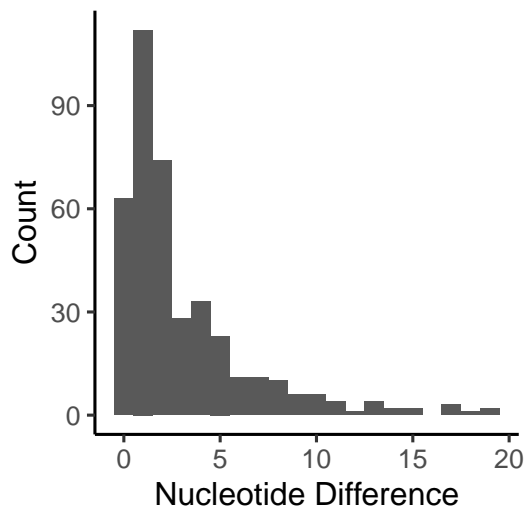
IGHV4-NL_17*01_S4004

1104 sequences assigned
132 (12%) exact matches, in which:
101 unique CDR3
7 unique J



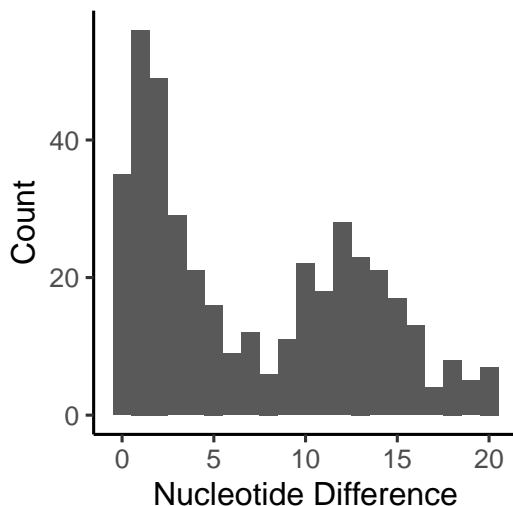
IGHV4–NL_17*01_S6727

414 sequences assigned
63 (15.2%) exact matches, in which:
49 unique CDR3
6 unique J



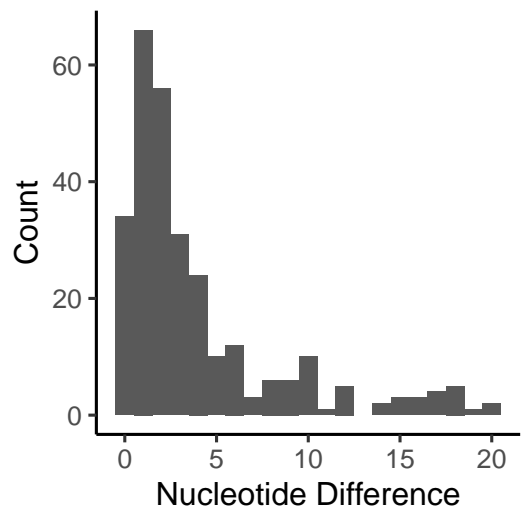
IGHV4–NL_21*01_S6308

460 sequences assigned
35 (7.6%) exact matches, in which:
24 unique CDR3
6 unique J



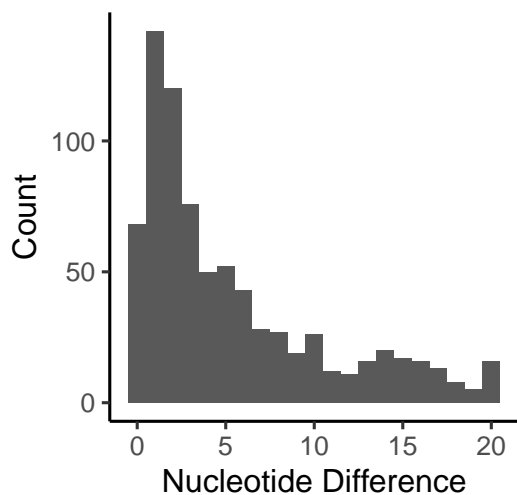
IGHV4–NL_24*01_S5697

290 sequences assigned
34 (11.7%) exact matches, in which:
26 unique CDR3
6 unique J



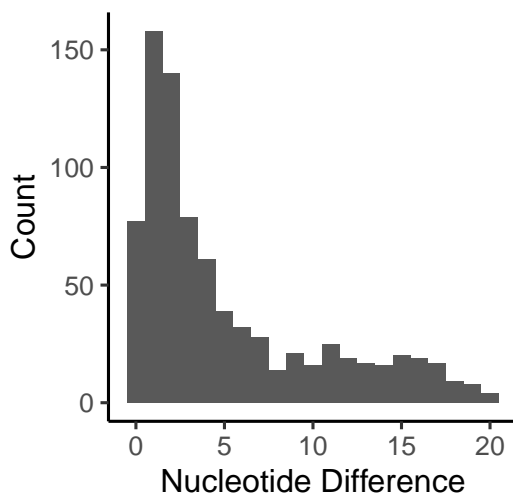
IGHV4–NL_20*01_S6186

871 sequences assigned
68 (7.8%) exact matches, in which:
54 unique CDR3
7 unique J



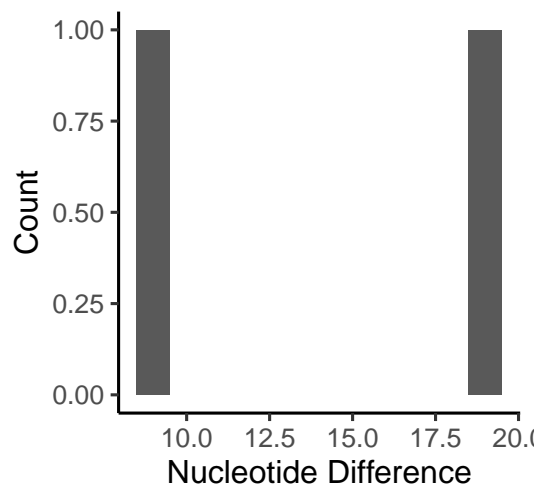
IGHV4–NL_22*01_S6977

892 sequences assigned
77 (8.6%) exact matches, in which:
58 unique CDR3
6 unique J



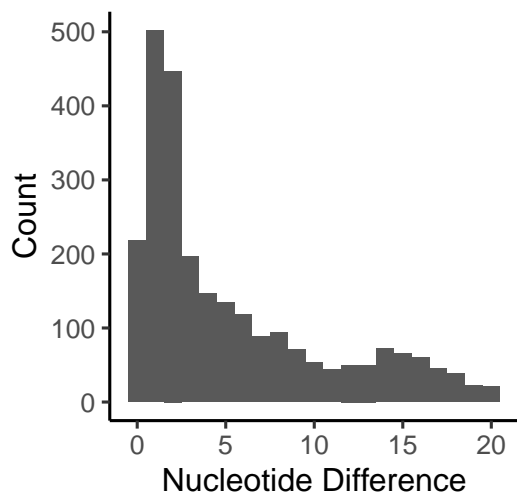
IGHV4–NL_25*01_S6960

2 sequences assigned
No exact matches.



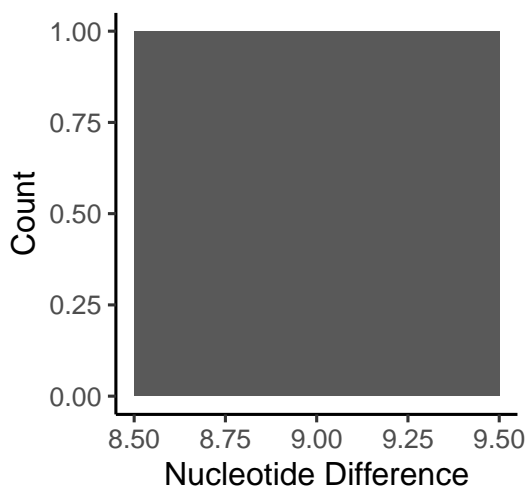
IGHV4–NL_21*01_S0138

2672 sequences assigned
218 (8.2%) exact matches, in which:
159 unique CDR3
8 unique J



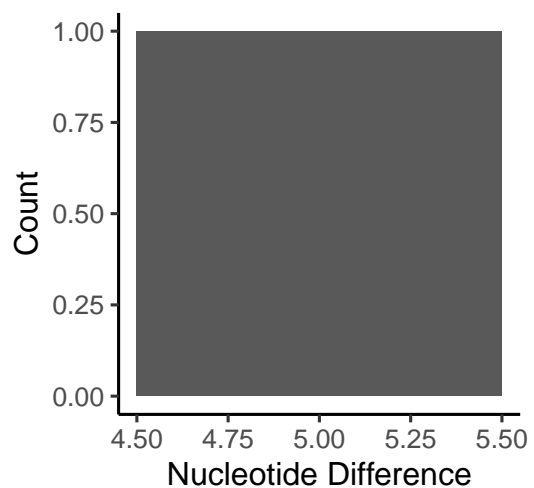
IGHV4–NL_23*01_S1296

5 sequences assigned
No exact matches.



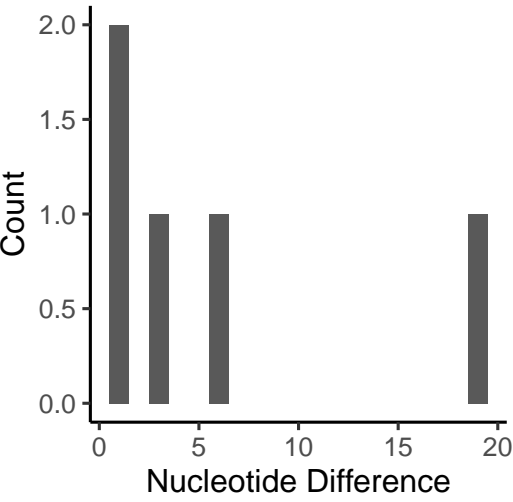
IGHV4–NL_25*01_S8389

2 sequences assigned
No exact matches.



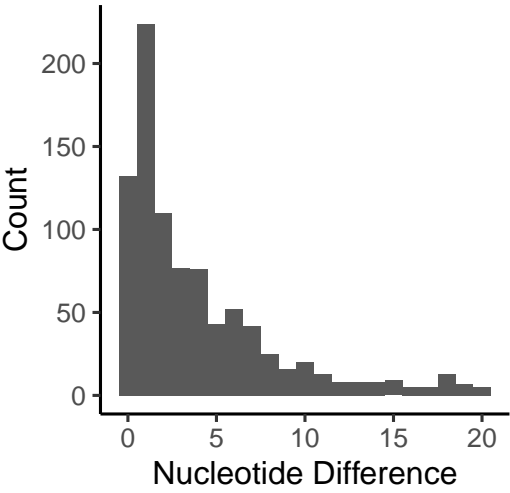
IGHV4-NL_25*01_S9478

7 sequences assigned
No exact matches.



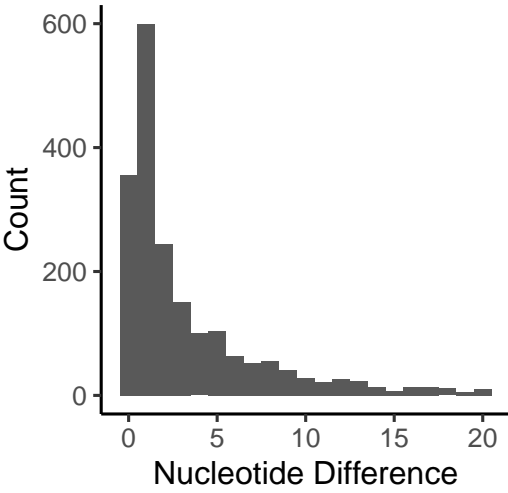
IGHV4-NL_27*01_S0673

962 sequences assigned
132 (13.7%) exact matches, in which:
89 unique CDR3
7 unique J



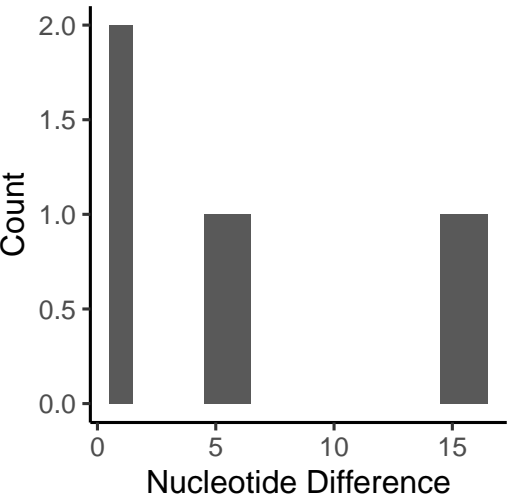
IGHV4-NL_29*01_S9610

2031 sequences assigned
356 (17.5%) exact matches, in which:
219 unique CDR3
8 unique J



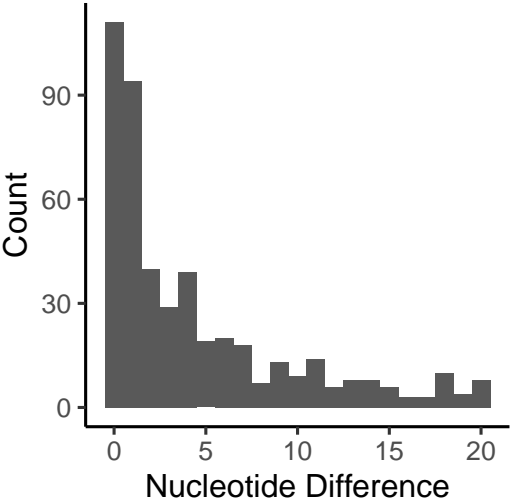
IGHV4-NL_25*01_S9955

6 sequences assigned
No exact matches.



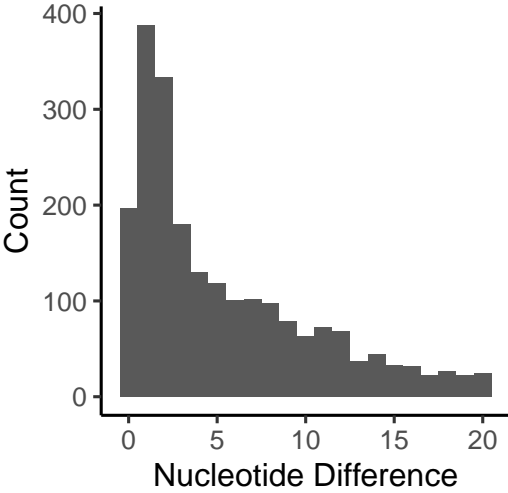
IGHV4-NL_28*01_S2610

513 sequences assigned
111 (21.6%) exact matches, in which:
83 unique CDR3
7 unique J



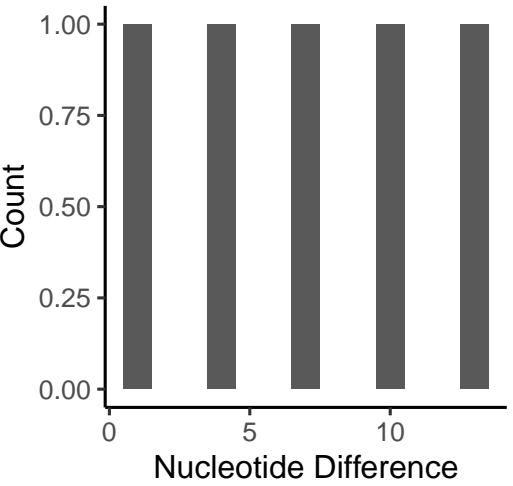
IGHV4-NL_3*01_S7576

2360 sequences assigned
197 (8.3%) exact matches, in which:
141 unique CDR3
7 unique J



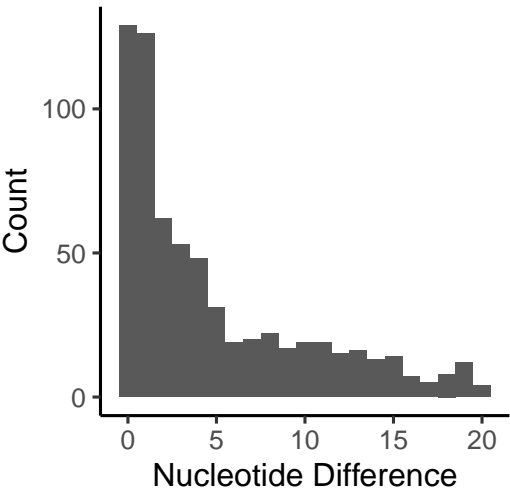
IGHV4-NL_26*01_S226

9 sequences assigned
No exact matches.



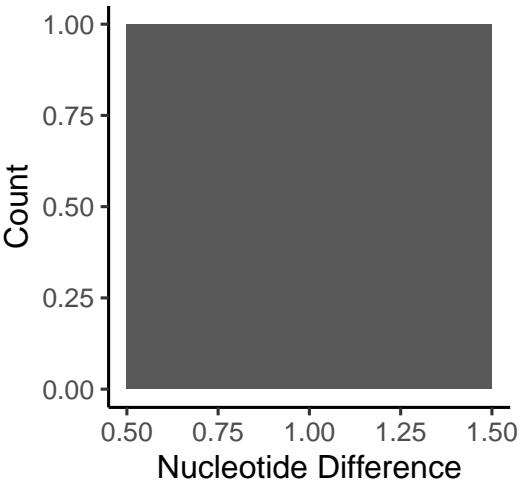
IGHV4-NL_28*01_S2610

726 sequences assigned
129 (17.8%) exact matches, in which:
96 unique CDR3
7 unique J



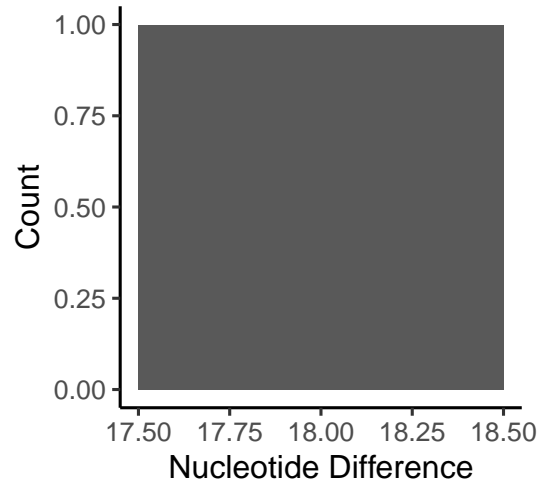
IGHV4-NL_31*01_S7693

1 sequences assigned
No exact matches.



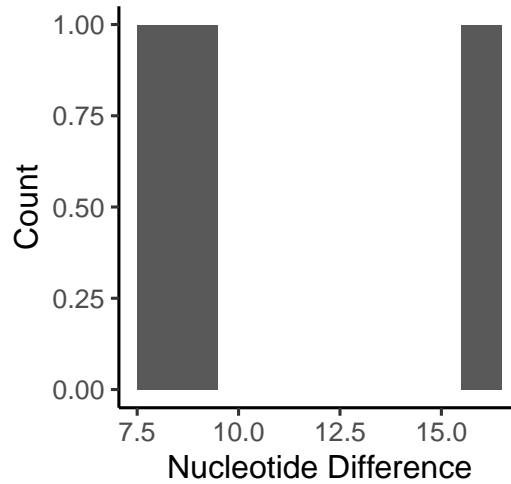
IGHV4-NL_32*01_S3033

2 sequences assigned
No exact matches.



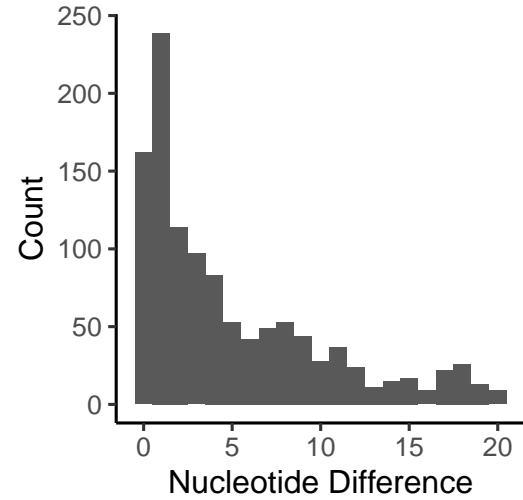
IGHV4-NL_33*01_S4377

4 sequences assigned
No exact matches.



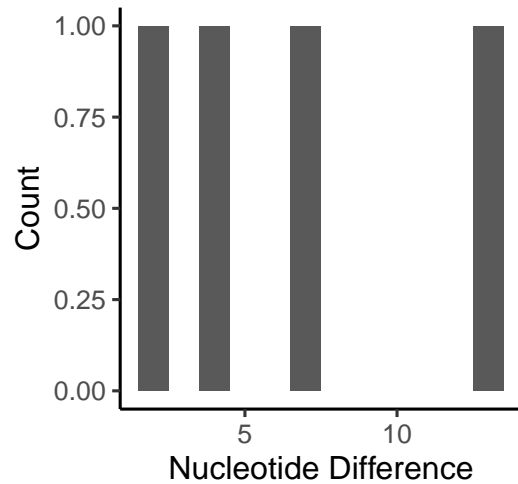
IGHV4-NL_36*01_S0936

1176 sequences assigned
162 (13.8%) exact matches, in which:
87 unique CDR3
7 unique J



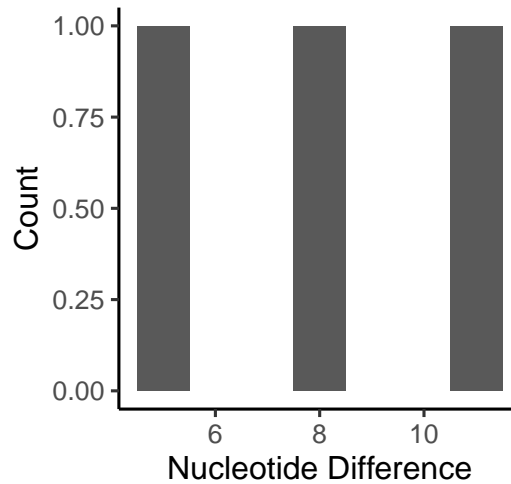
IGHV4-NL_33*01_S2532

5 sequences assigned
No exact matches.



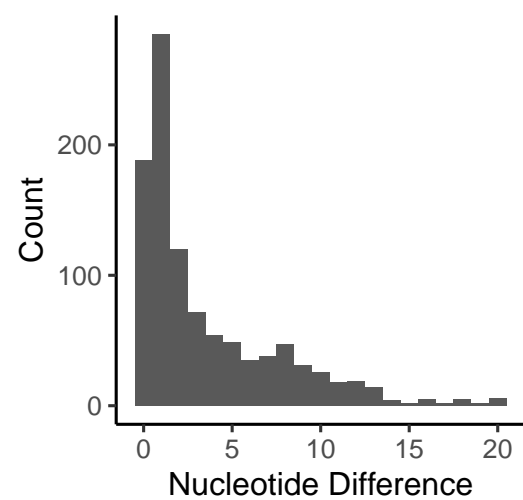
IGHV4-NL_33*01_S4467

19 sequences assigned
No exact matches.



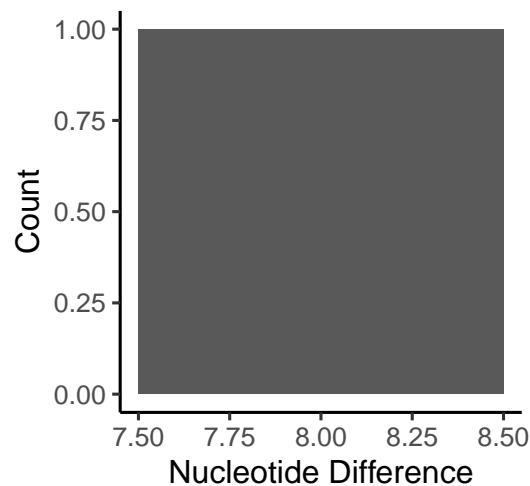
IGHV4-NL_36*01_S5319

1065 sequences assigned
188 (17.7%) exact matches, in which:
114 unique CDR3
8 unique J



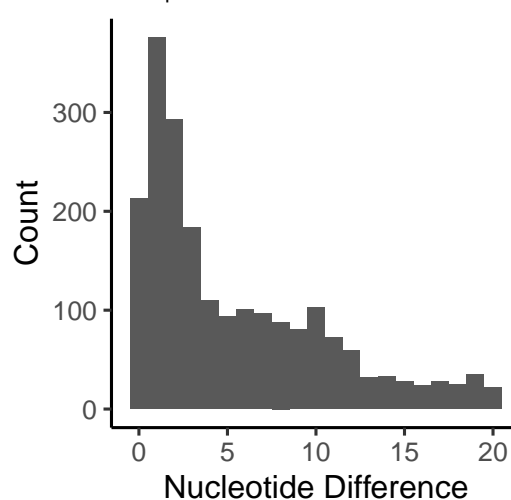
IGHV4-NL_33*01_S4143

1 sequences assigned
No exact matches.



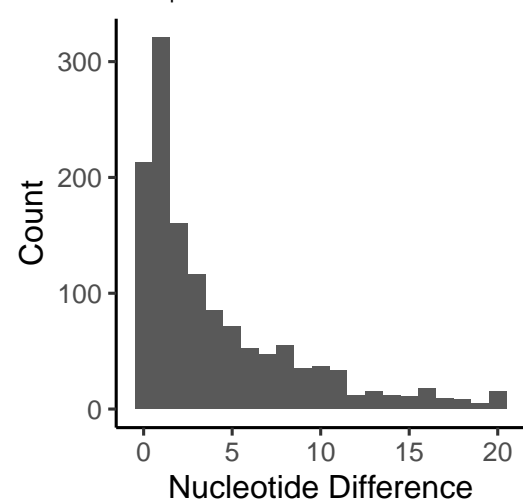
IGHV4-NL_34*01_S4749

2286 sequences assigned
213 (9.3%) exact matches, in which:
157 unique CDR3
8 unique J



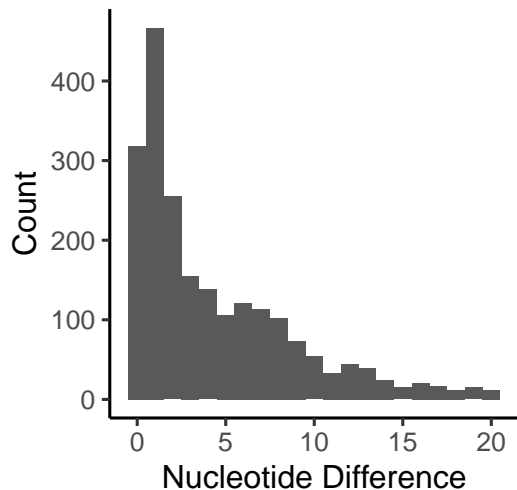
IGHV4-NL_36*01_S5847

1358 sequences assigned
213 (15.7%) exact matches, in which:
143 unique CDR3
8 unique J



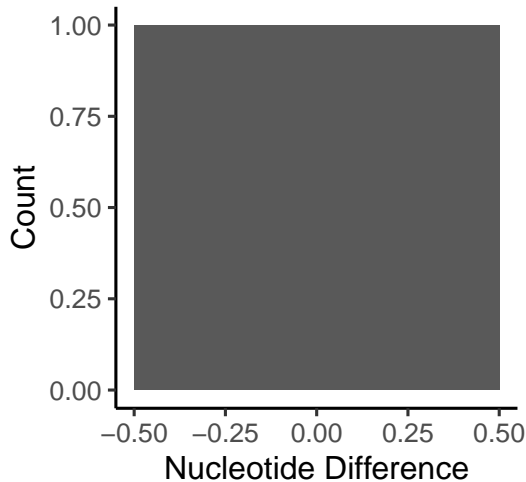
IGHV4–NL_36*01_S9644

2249 sequences assigned
318 (14.1%) exact matches, in which:
197 unique CDR3
7 unique J



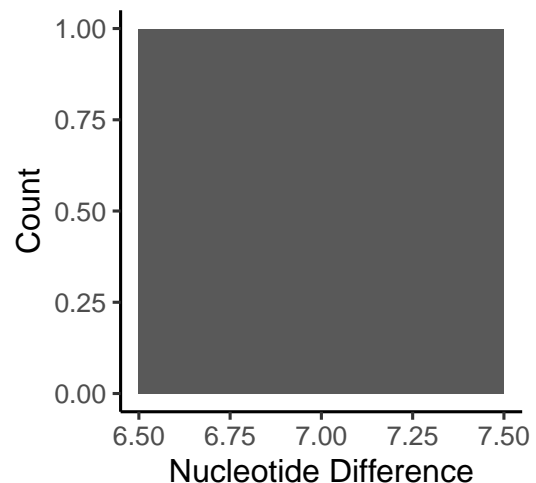
IGHV4–NL_4*01_S5211

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



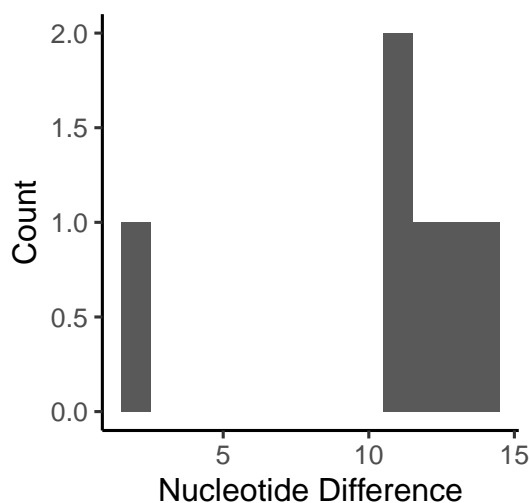
IGHV4–NL_40*01_S6922

1 sequences assigned
No exact matches.



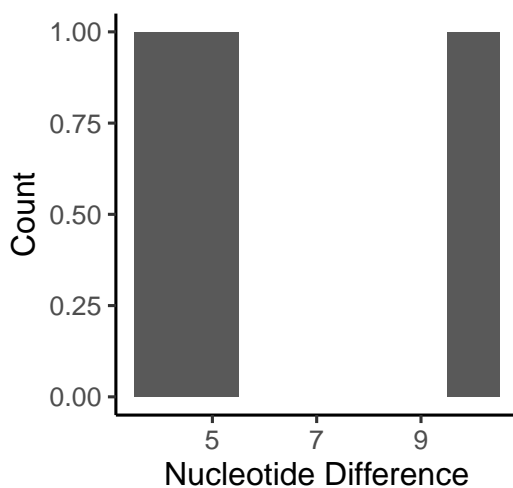
IGHV4–NL_38*01_S2187

8 sequences assigned
No exact matches.



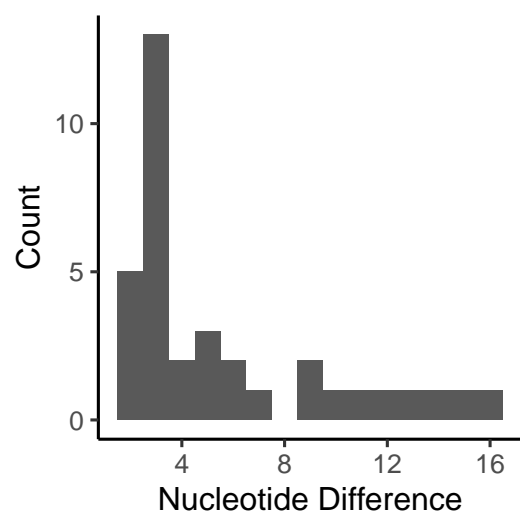
IGHV4–NL_4*01_S8866

3 sequences assigned
No exact matches.



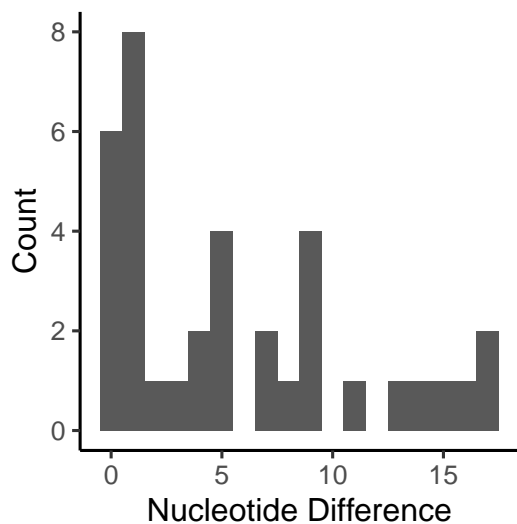
IGHV4–NL_42*01_S3666

36 sequences assigned
No exact matches.



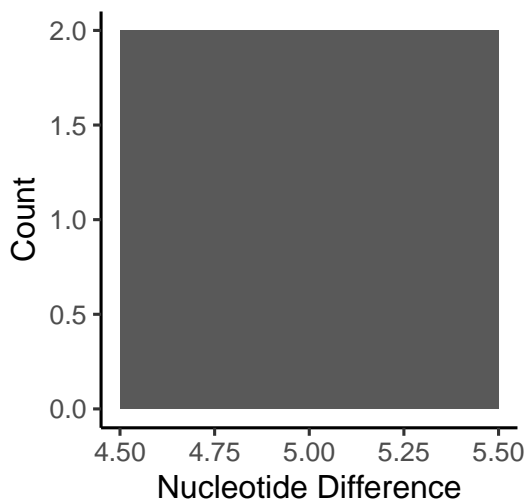
IGHV4–NL_38*01_S8437

42 sequences assigned
6 (14.3%) exact matches, in which:
6 unique CDR3
4 unique J



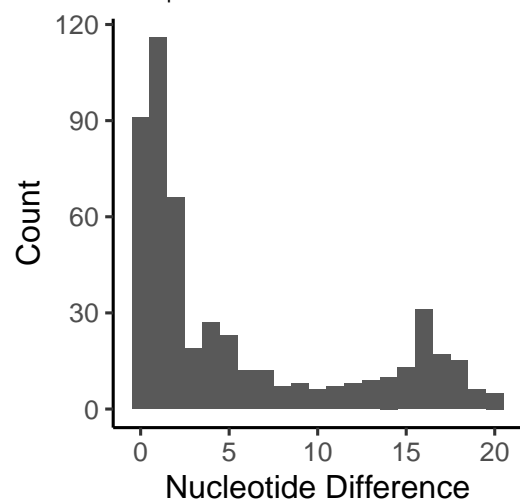
IGHV4–NL_40*01_S0696

2 sequences assigned
No exact matches.



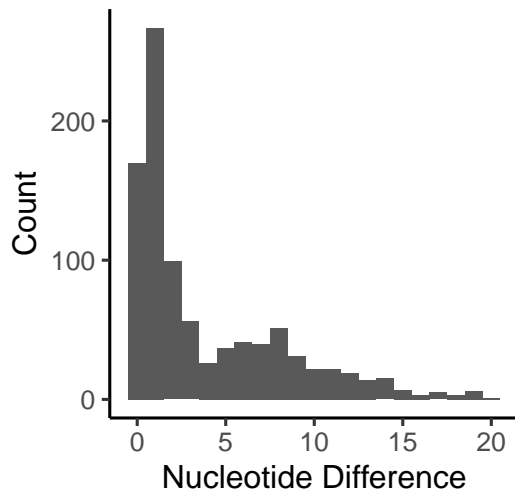
IGHV4–NL_5*01_S5158

543 sequences assigned
91 (16.8%) exact matches, in which:
57 unique CDR3
7 unique J



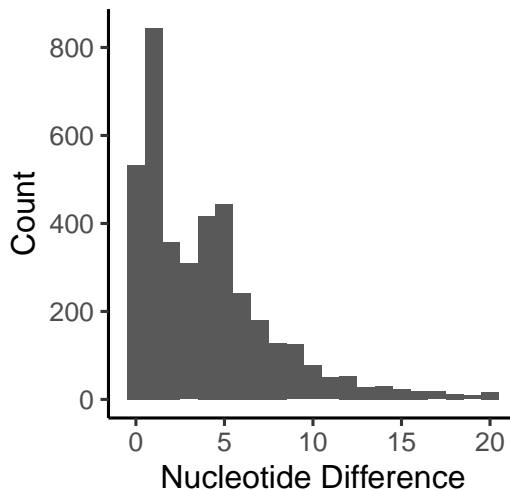
IGHV4–NL_9*01_S1435

954 sequences assigned
170 (17.8%) exact matches, in which:
98 unique CDR3
6 unique J



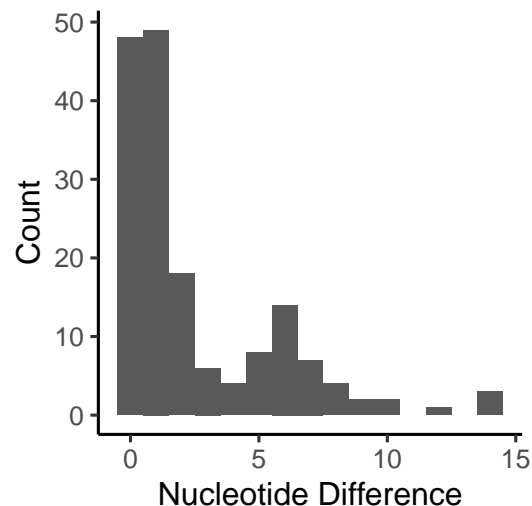
IGHV5–157*01_S5960

4031 sequences assigned
532 (13.2%) exact matches, in which:
211 unique CDR3
7 unique J



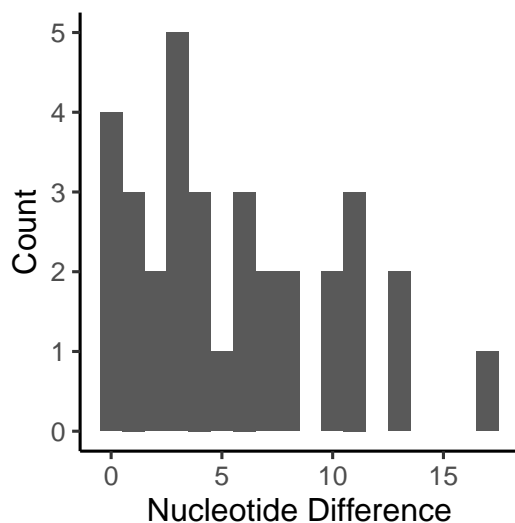
IGHV7–135*01_S9086

168 sequences assigned
48 (28.6%) exact matches, in which:
21 unique CDR3
6 unique J



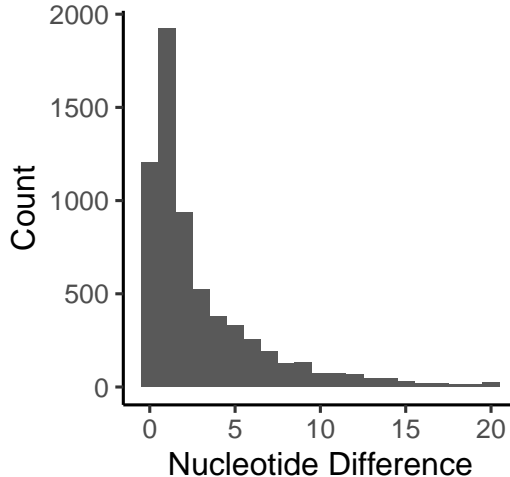
IGHV5–15*01_S4790

34 sequences assigned
4 (11.8%) exact matches, in which:
4 unique CDR3
3 unique J



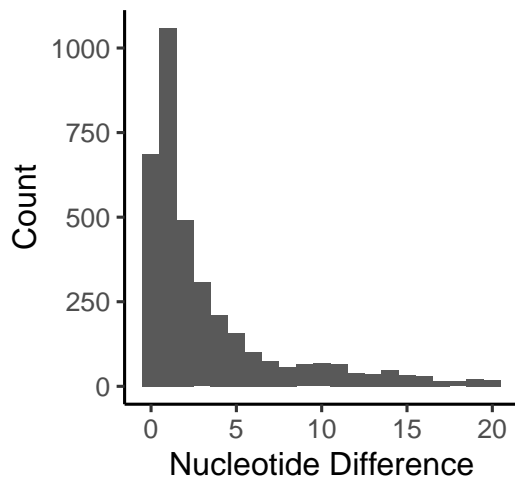
IGHV5–157*01_S6479

6818 sequences assigned
1202 (17.6%) exact matches, in which:
455 unique CDR3
8 unique J



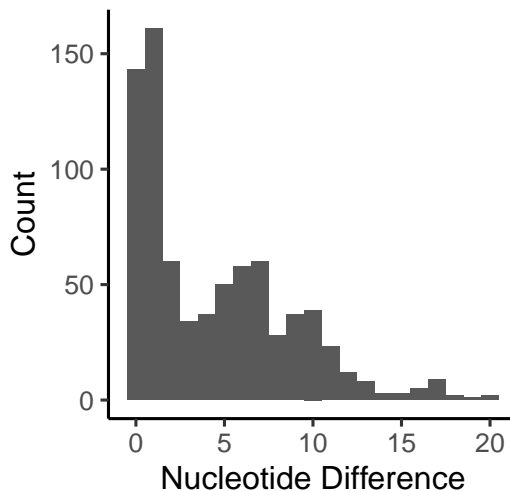
IGHV5–15*01_S6979

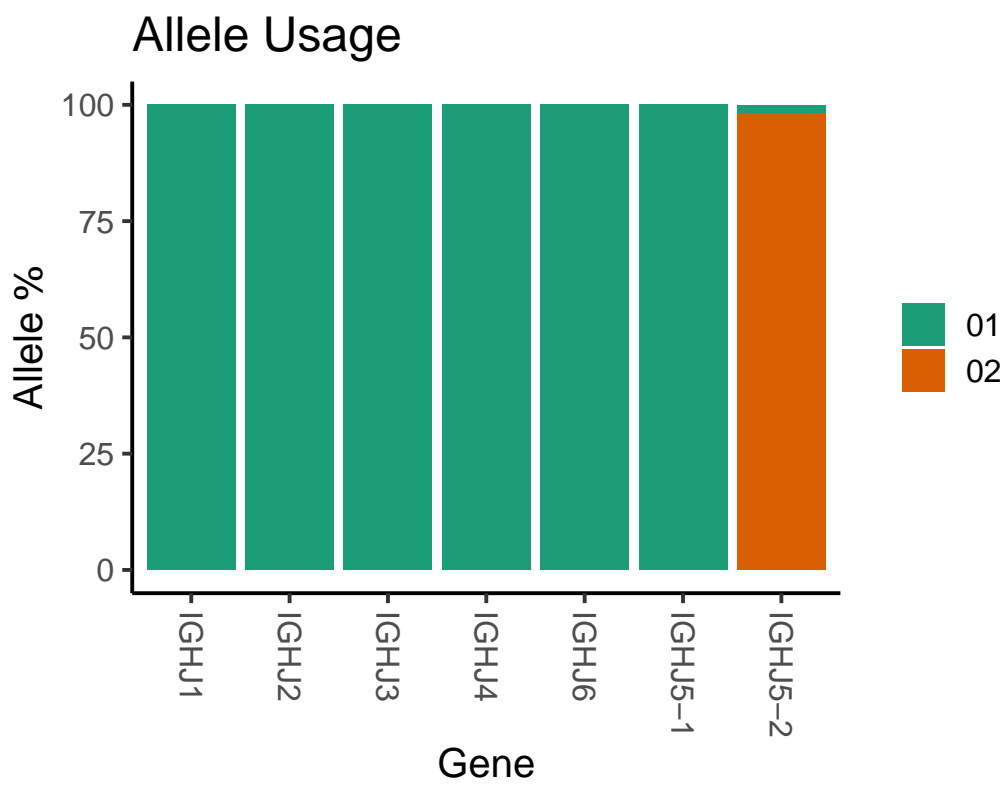
3637 sequences assigned
686 (18.9%) exact matches, in which:
255 unique CDR3
7 unique J



IGHV7–86*01_S9209

784 sequences assigned
143 (18.2%) exact matches, in which:
51 unique CDR3
6 unique J





Warning – no inferred sequences found.