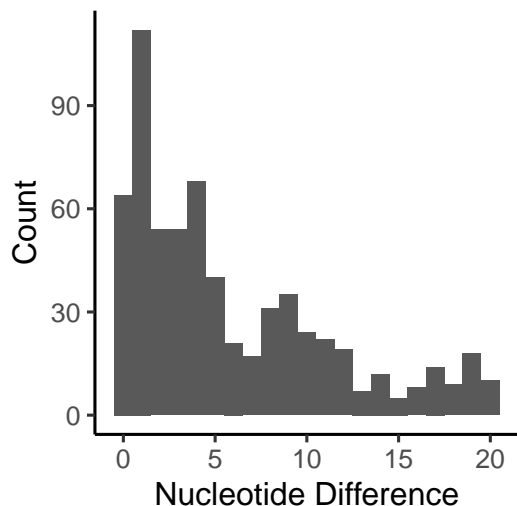


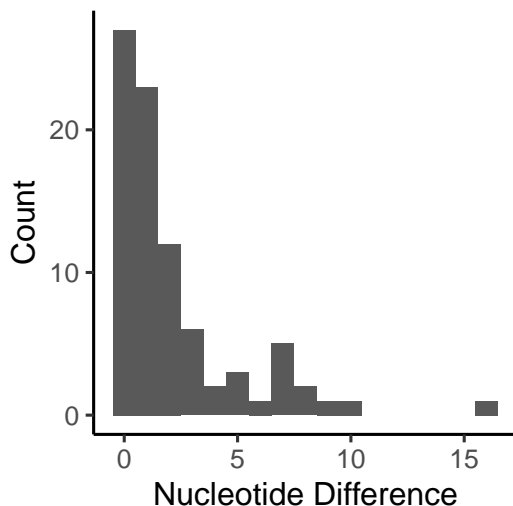
IGHV1-60*01_S7602

762 sequences assigned
64 (8.4%) exact matches, in which:
34 unique CDR3
5 unique J



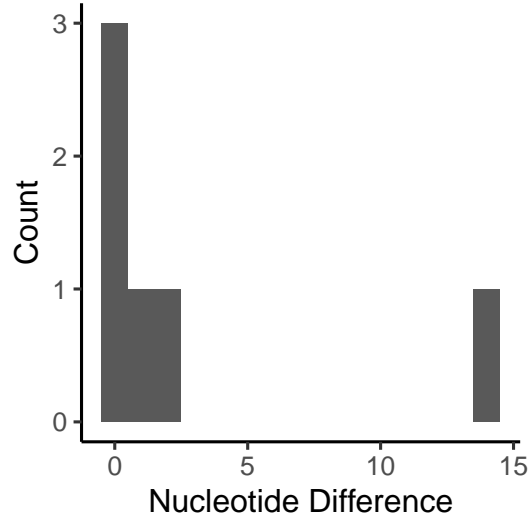
IGHV1-138*01_S2054

84 sequences assigned
27 (32.1%) exact matches, in which:
14 unique CDR3
4 unique J



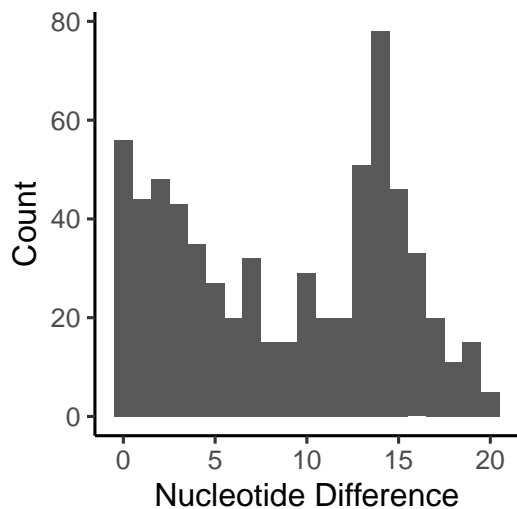
IGHV1-170*01_S3055

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



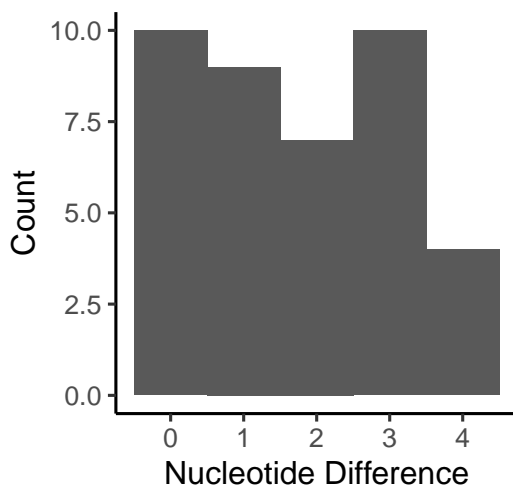
IGHV1-60*01_S7772

716 sequences assigned
56 (7.8%) exact matches, in which:
27 unique CDR3
4 unique J



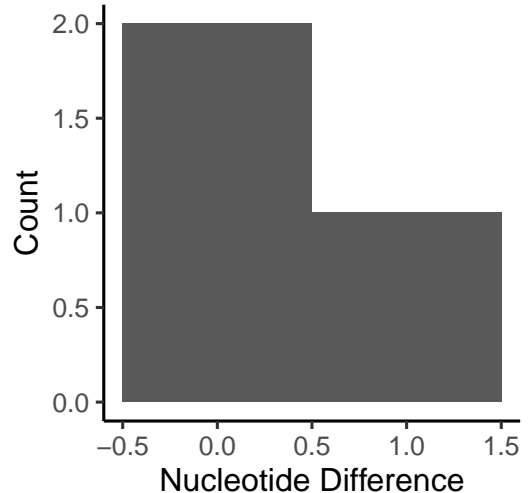
IGHV1-138*01_S4144

40 sequences assigned
10 (25%) exact matches, in which:
7 unique CDR3
3 unique J



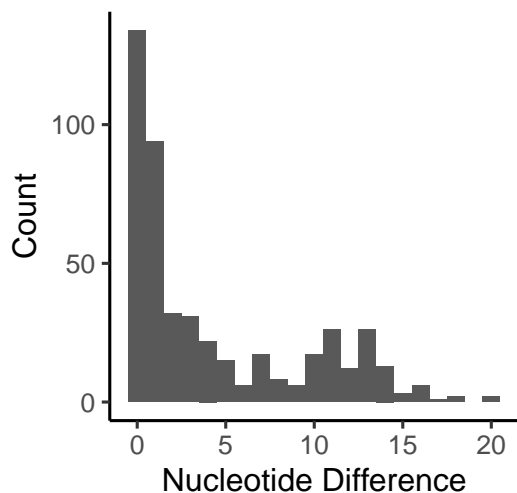
IGHV1-193*01_S6037

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



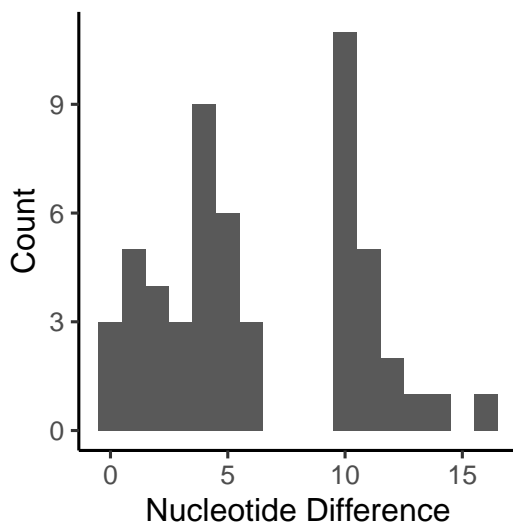
IGHV1-84*01_S9366

490 sequences assigned
134 (27.3%) exact matches, in which:
40 unique CDR3
6 unique J



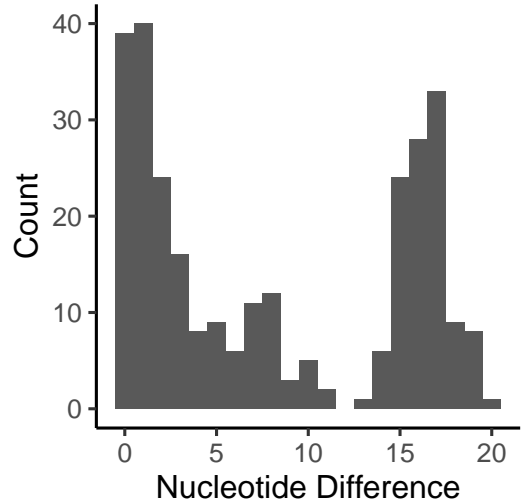
IGHV1-138*01_S9603

56 sequences assigned
3 (5.4%) exact matches, in which:
2 unique CDR3
2 unique J



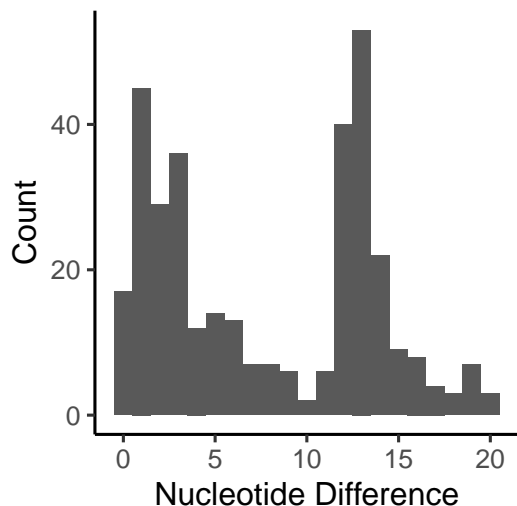
IGHV1-NL_2*01_S3568

329 sequences assigned
39 (11.9%) exact matches, in which:
15 unique CDR3
3 unique J



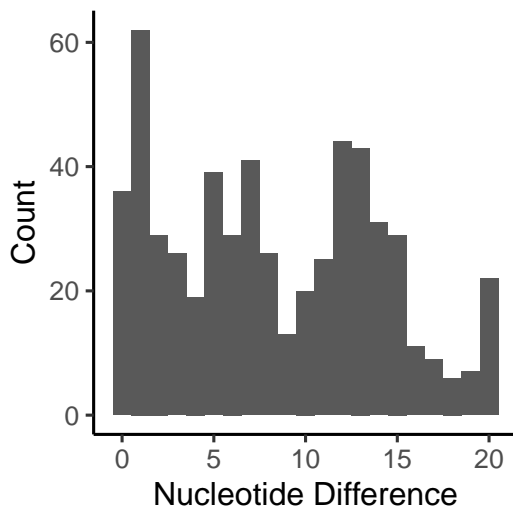
IGHV2-7*02_S1732

350 sequences assigned
17 (4.9%) exact matches, in which:
14 unique CDR3
2 unique J



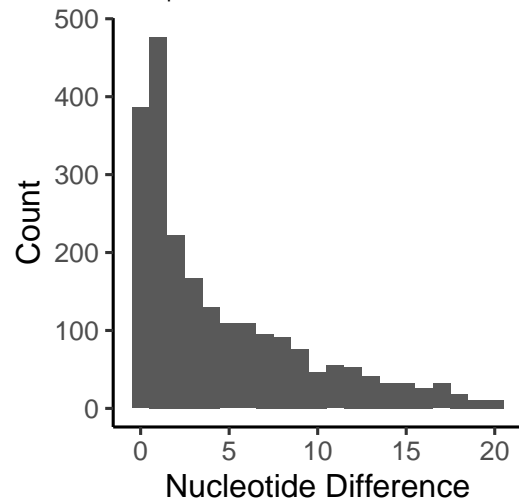
IGHV2-69*01_S2332

623 sequences assigned
36 (5.8%) exact matches, in which:
17 unique CDR3
5 unique J



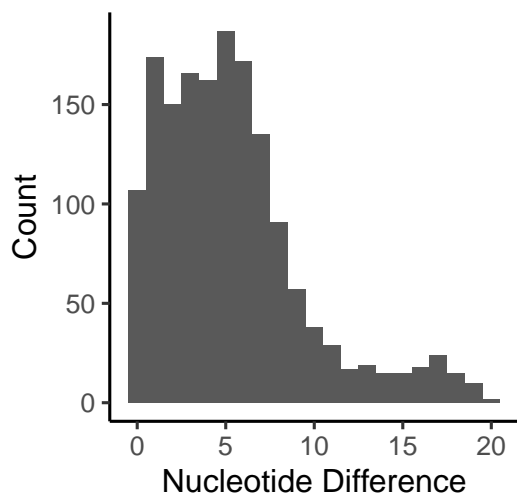
IGHV2-173*01_S2781

2260 sequences assigned
386 (17.1%) exact matches, in which:
165 unique CDR3
7 unique J



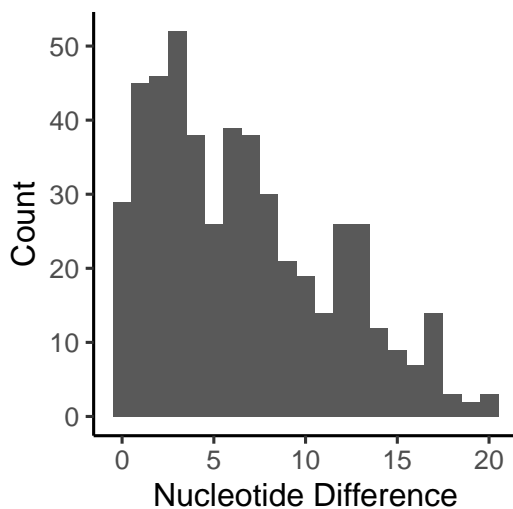
IGHV2-7*02_S4285

1623 sequences assigned
107 (6.6%) exact matches, in which:
54 unique CDR3
5 unique J



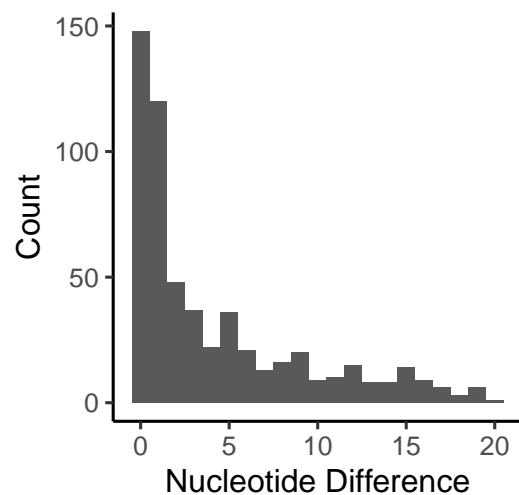
IGHV2-69*01_S2931

511 sequences assigned
29 (5.7%) exact matches, in which:
11 unique CDR3
5 unique J



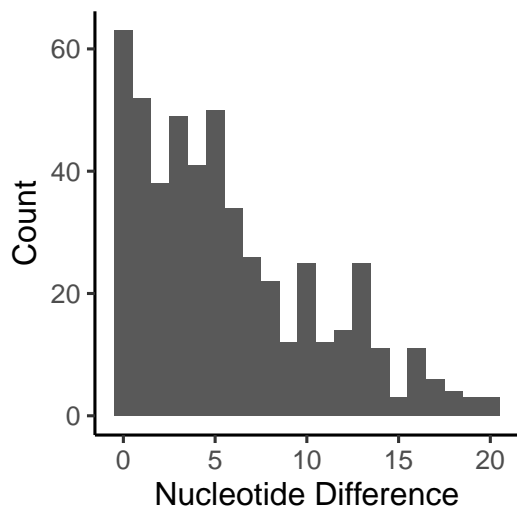
IGHV2-173*01_T210G_C

579 sequences assigned
148 (25.6%) exact matches, in which:
102 unique CDR3
7 unique J



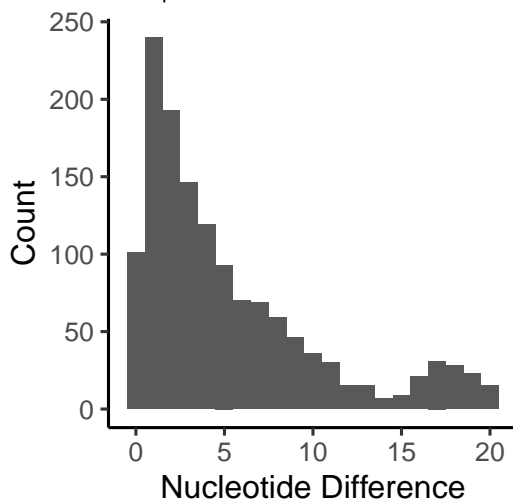
IGHV2-7*02_S4285_G285

511 sequences assigned
63 (12.3%) exact matches, in which:
54 unique CDR3
5 unique J



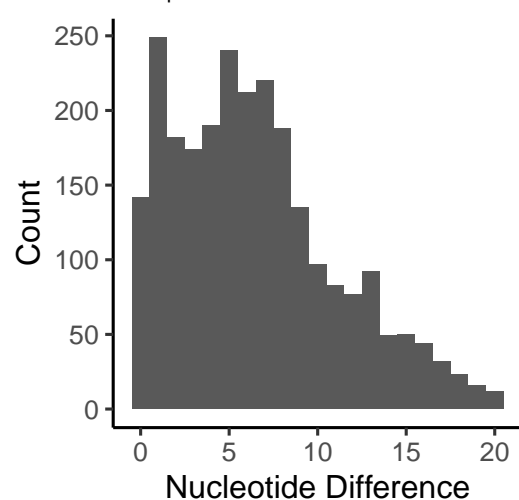
IGHV2-118*01_S4531

1417 sequences assigned
101 (7.1%) exact matches, in which:
44 unique CDR3
6 unique J



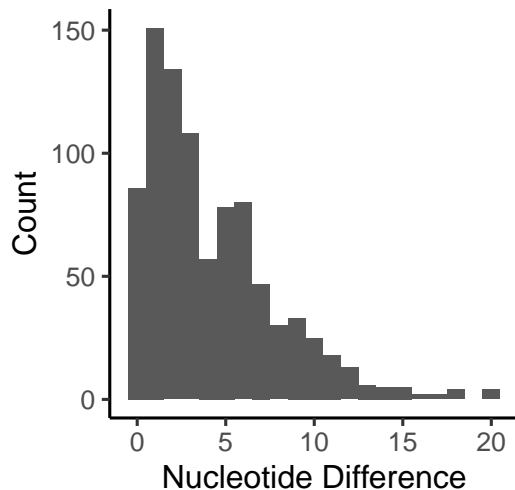
IGHV2-NL_1*01_S2133

2601 sequences assigned
142 (5.5%) exact matches, in which:
65 unique CDR3
7 unique J



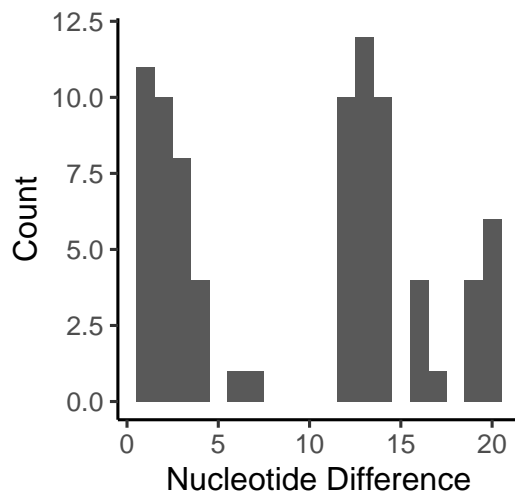
IGHV2–NL_2*01_S2193

954 sequences assigned
86 (9%) exact matches, in which:
23 unique CDR3
5 unique J



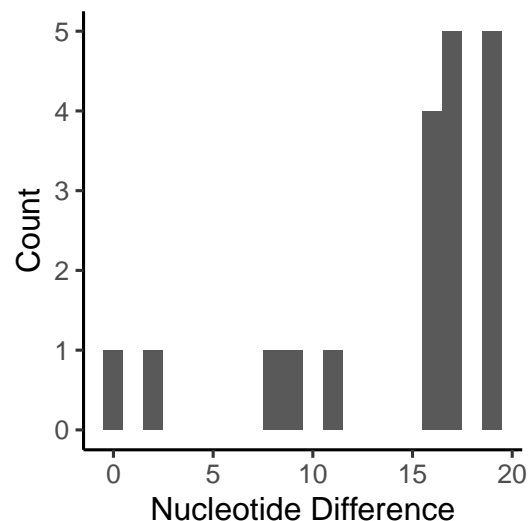
IGHV3–5*01_S4091

87 sequences assigned
No exact matches.



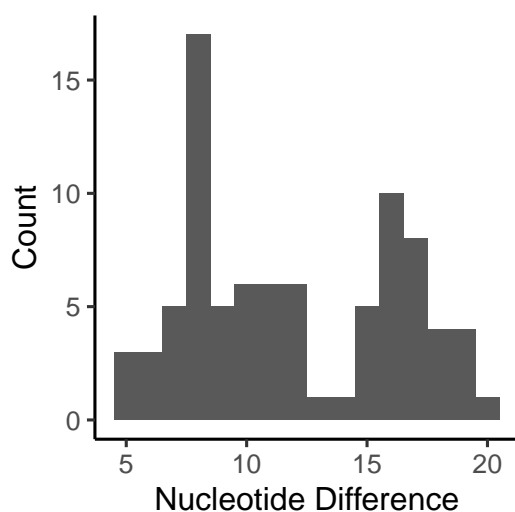
IGHV3–28*01_S5419

22 sequences assigned
1 (4.5%) exact matches, in which:
1 unique CDR3
1 unique J



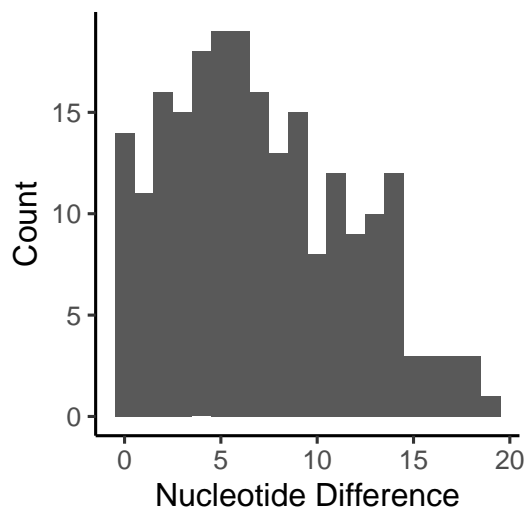
IGHV3–5*01_S0969

143 sequences assigned
No exact matches.



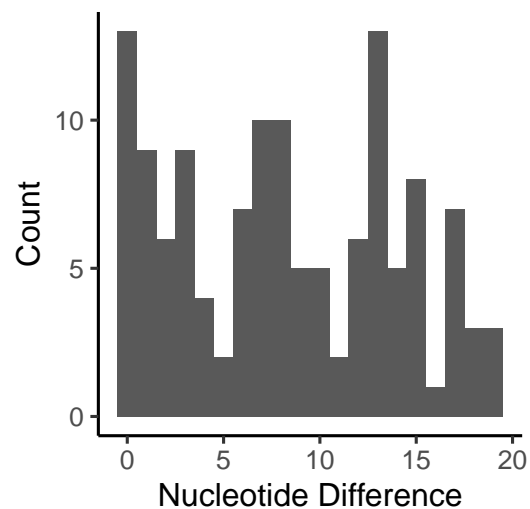
IGHV3–9*01_S0778

252 sequences assigned
14 (5.6%) exact matches, in which:
10 unique CDR3
4 unique J



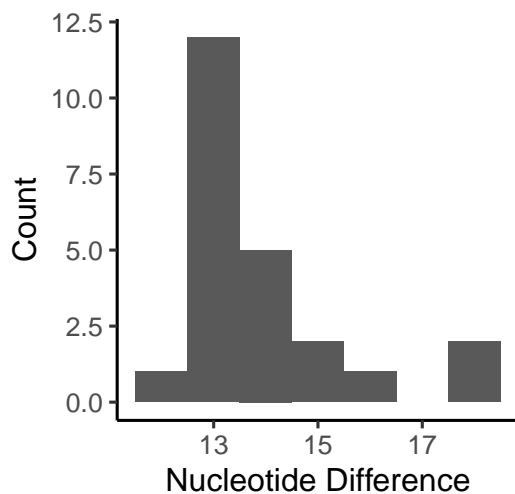
IGHV3–28*01_S7540

142 sequences assigned
13 (9.2%) exact matches, in which:
9 unique CDR3
3 unique J



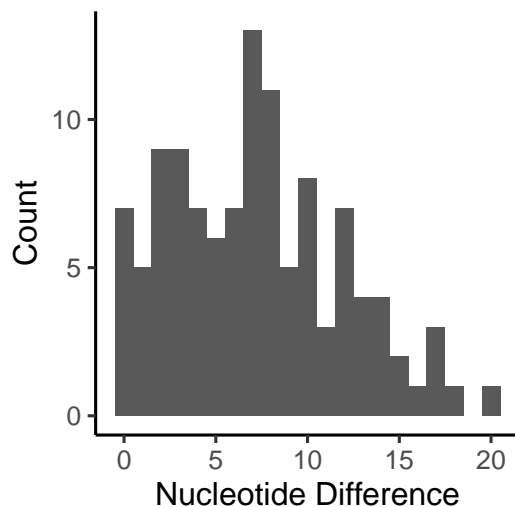
IGHV3–5*01_S2703

24 sequences assigned
No exact matches.



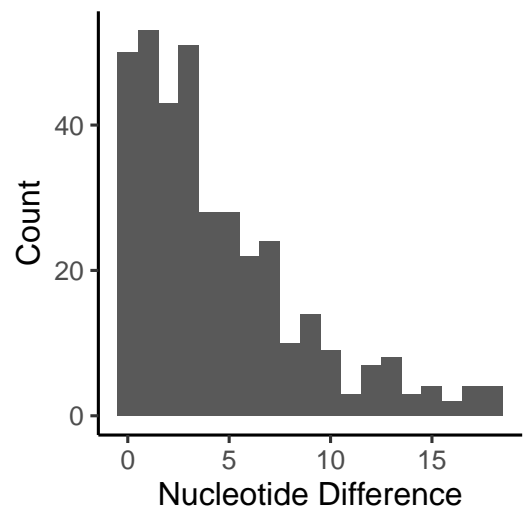
IGHV3–9*01_S8777

119 sequences assigned
7 (5.9%) exact matches, in which:
4 unique CDR3
1 unique J



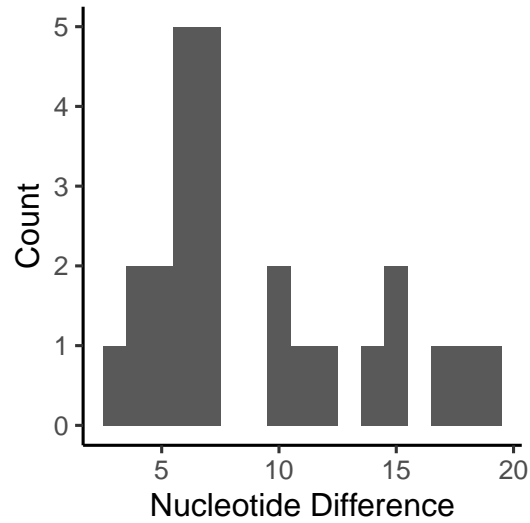
IGHV3–36*01_S5206

376 sequences assigned
50 (13.3%) exact matches, in which:
36 unique CDR3
5 unique J



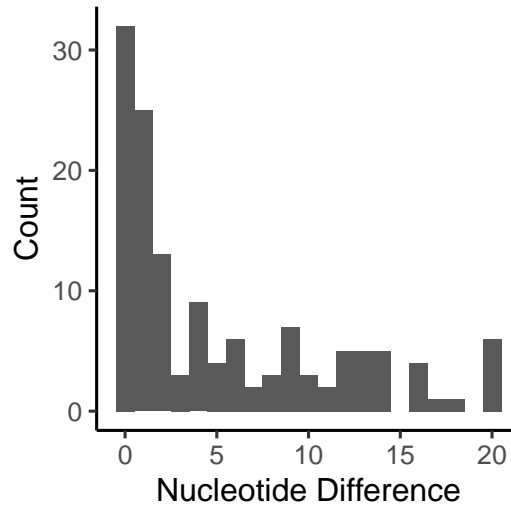
IGHV3-37*01_S6630

30 sequences assigned
No exact matches.



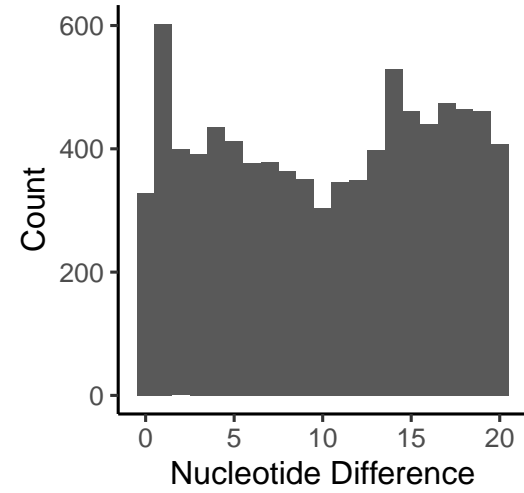
IGHV3-73*02_S0085

145 sequences assigned
32 (22.1%) exact matches, in which:
16 unique CDR3
4 unique J



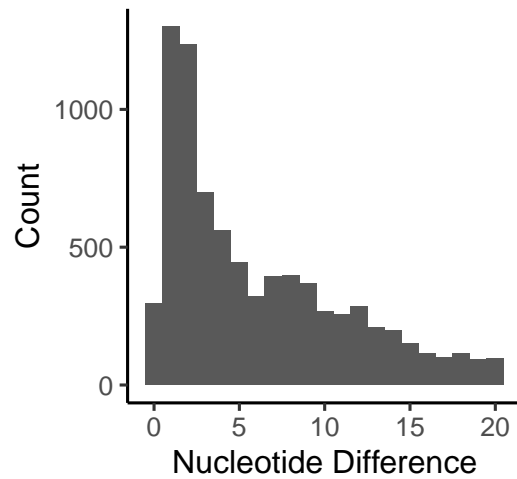
IGHV3-88*02_S7590

11745 sequences assigned
328 (2.8%) exact matches, in which:
166 unique CDR3
8 unique J



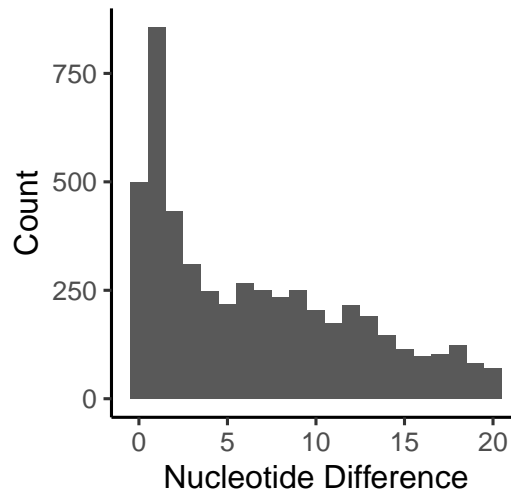
IGHV3-50*01_S1879

8306 sequences assigned
297 (3.6%) exact matches, in which:
159 unique CDR3
7 unique J



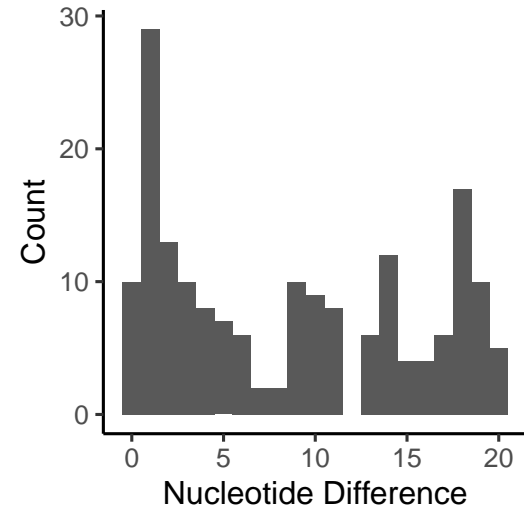
IGHV3-76*01_S0794

5550 sequences assigned
500 (9%) exact matches, in which:
255 unique CDR3
7 unique J



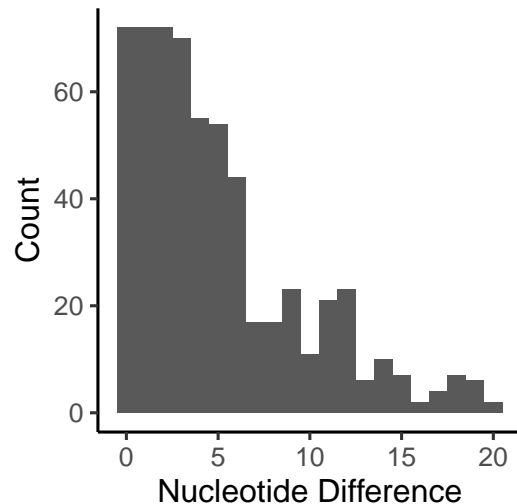
IGHV3-100*01_S2822

205 sequences assigned
10 (4.9%) exact matches, in which:
5 unique CDR3
2 unique J



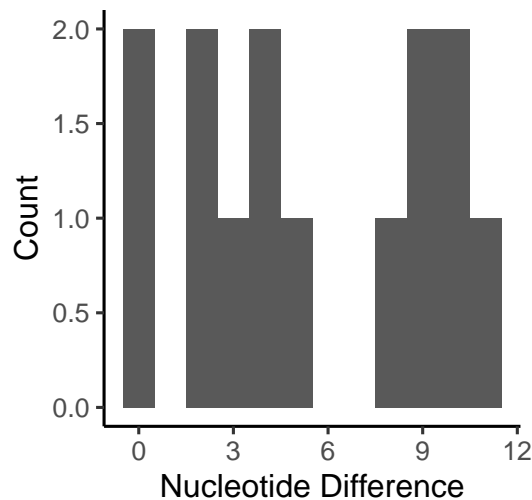
IGHV3-53*01_S4071

616 sequences assigned
72 (11.7%) exact matches, in which:
30 unique CDR3
4 unique J



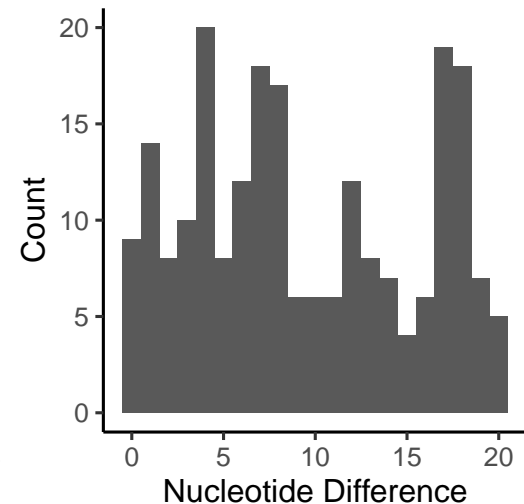
IGHV3-83*02_S9518

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



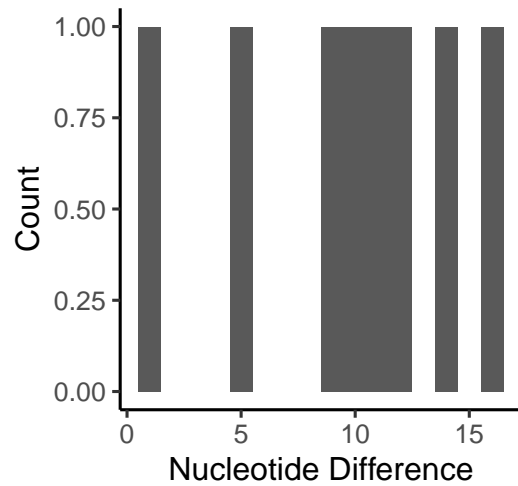
IGHV3-100*01_S4375

256 sequences assigned
9 (3.5%) exact matches, in which:
6 unique CDR3
3 unique J



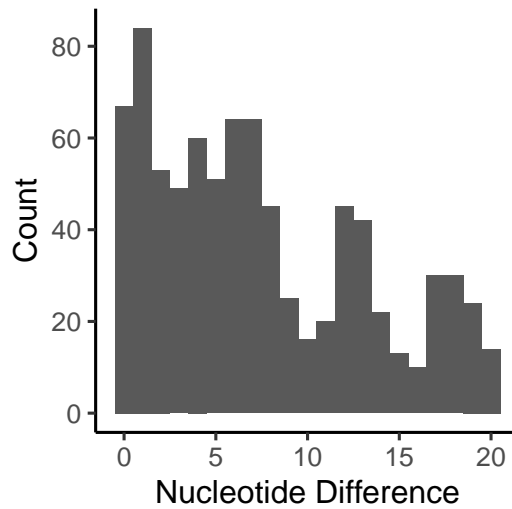
IGHV3-103*01_S2756

9 sequences assigned
No exact matches.



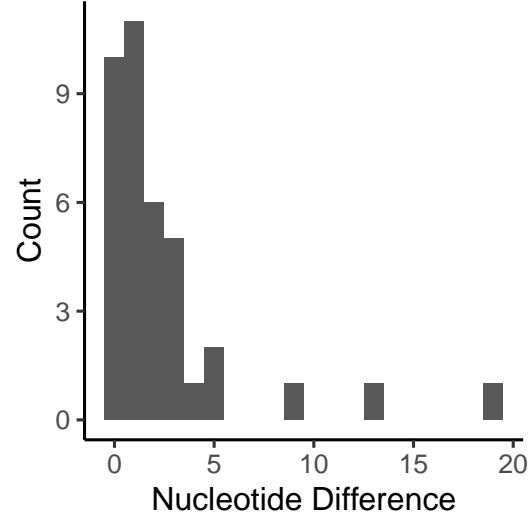
IGHV3-122*01_S2730

879 sequences assigned
67 (7.6%) exact matches, in which:
29 unique CDR3
5 unique J



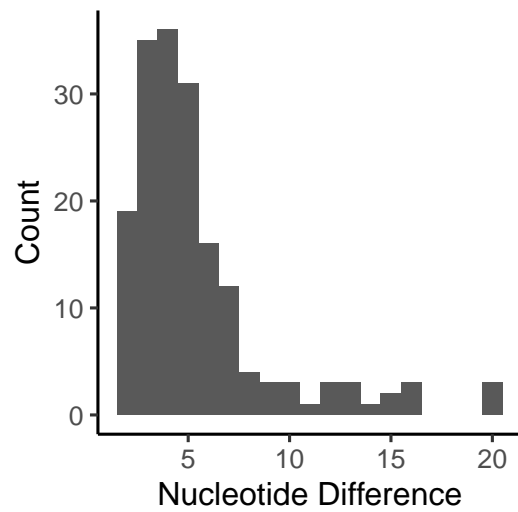
IGHV3-141*01_S2525

40 sequences assigned
10 (25%) exact matches, in which:
5 unique CDR3
3 unique J



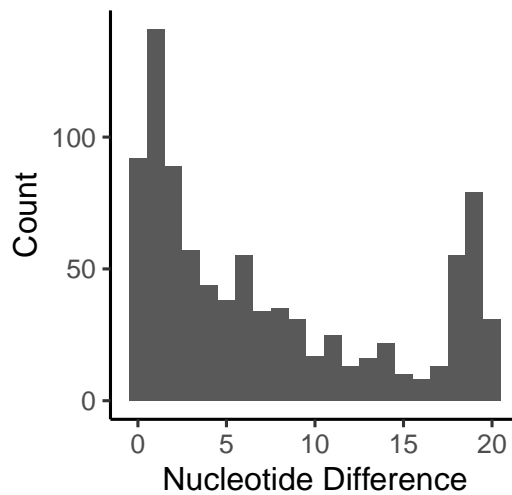
IGHV3-119*01_S9769

178 sequences assigned
No exact matches.



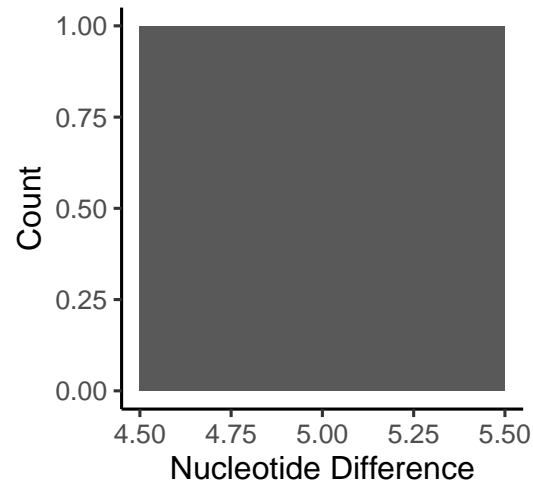
IGHV3-127*01_S7059

992 sequences assigned
92 (9.3%) exact matches, in which:
41 unique CDR3
6 unique J



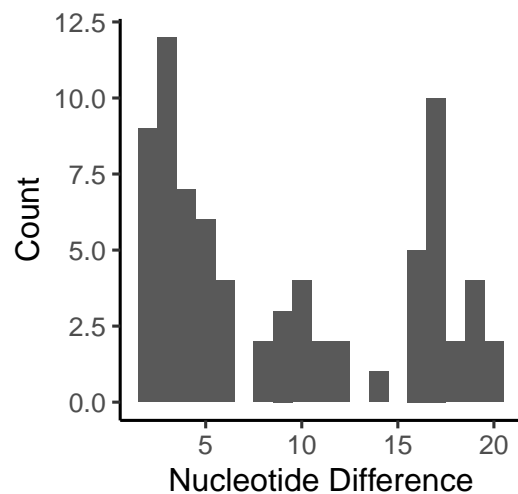
IGHV3-141*01_S5053

1 sequences assigned
No exact matches.



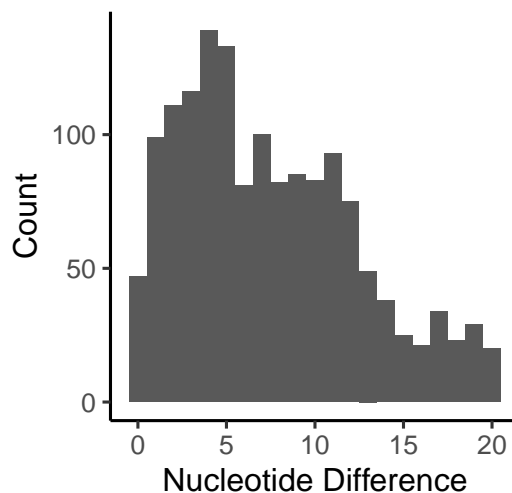
IGHV3-120*01_S4231

86 sequences assigned
No exact matches.



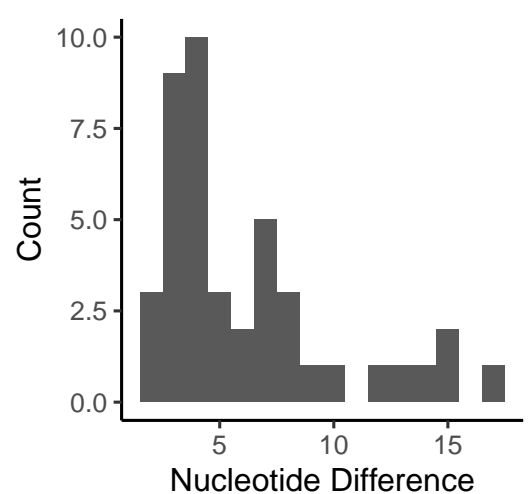
IGHV3-128*02_S0204

1797 sequences assigned
47 (2.6%) exact matches, in which:
23 unique CDR3
7 unique J



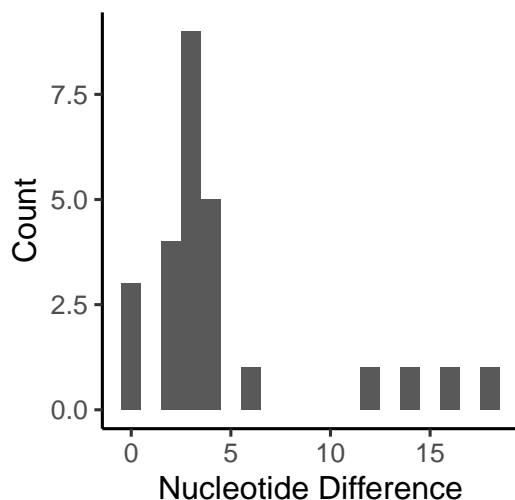
IGHV3-141*01_S6168

50 sequences assigned
No exact matches.



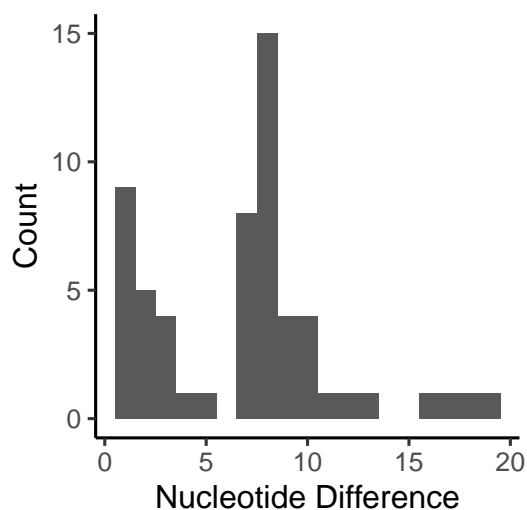
IGHV3–141*01_S8690

26 sequences assigned
3 (11.5%) exact matches, in which:
2 unique CDR3
2 unique J



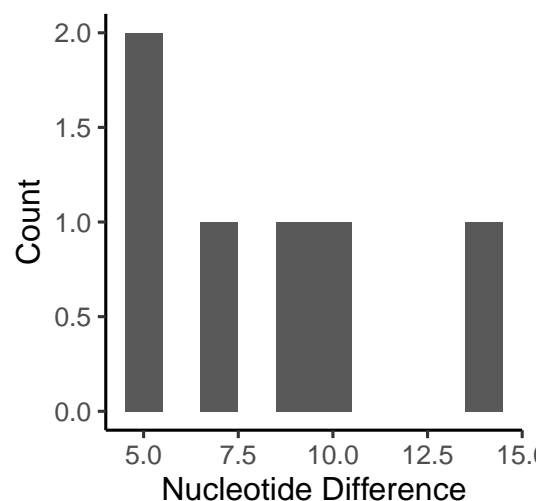
IGHV3–172*01_S1597

58 sequences assigned
No exact matches.



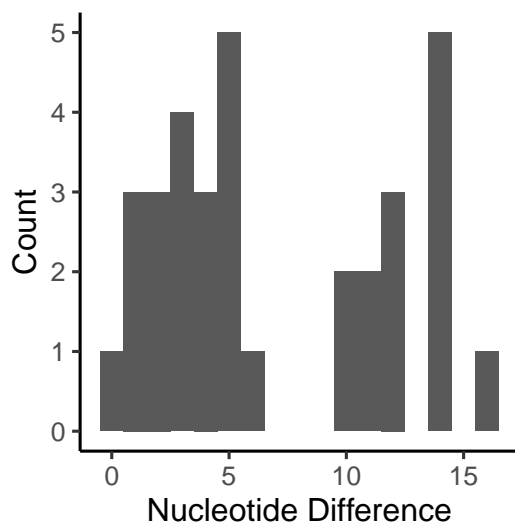
IGHV3–175*01_S1248

7 sequences assigned
No exact matches.



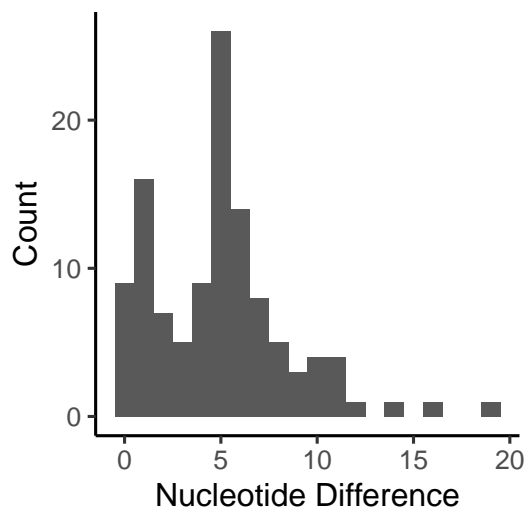
IGHV3–143*01_S1151

57 sequences assigned
1 (1.8%) exact matches, in which:
1 unique CDR3
1 unique J



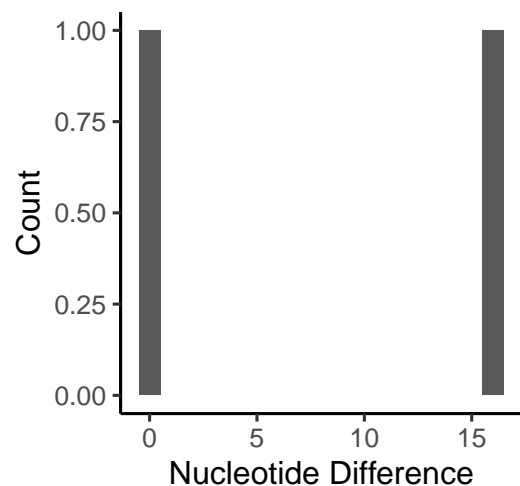
IGHV3–172*01_S8488

117 sequences assigned
9 (7.7%) exact matches, in which:
4 unique CDR3
3 unique J



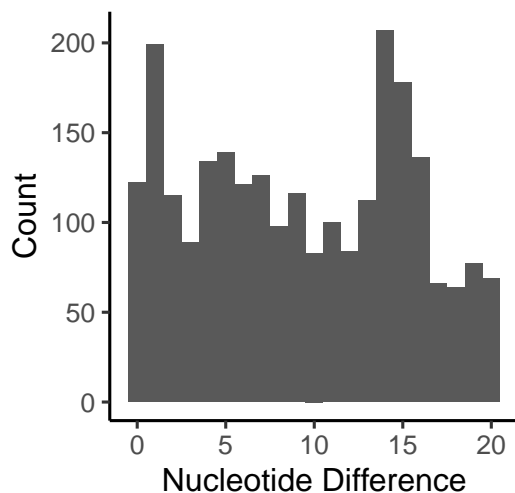
IGHV3–177*01_S4102

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



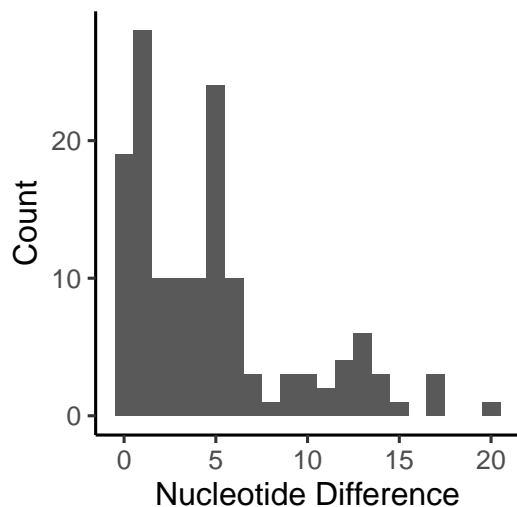
IGHV3–152*01_S7388

2785 sequences assigned
122 (4.4%) exact matches, in which:
69 unique CDR3
6 unique J



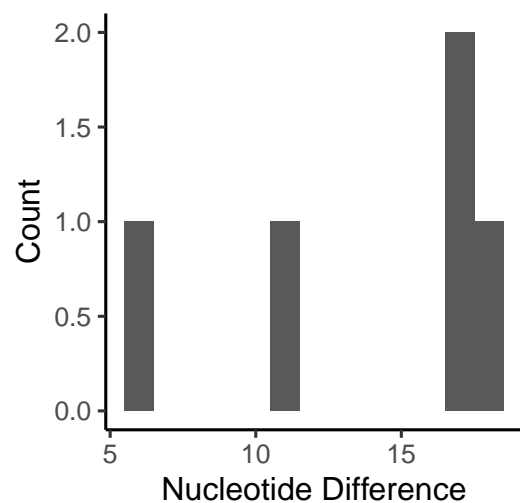
IGHV3–172*01_S8824

144 sequences assigned
19 (13.2%) exact matches, in which:
7 unique CDR3
3 unique J



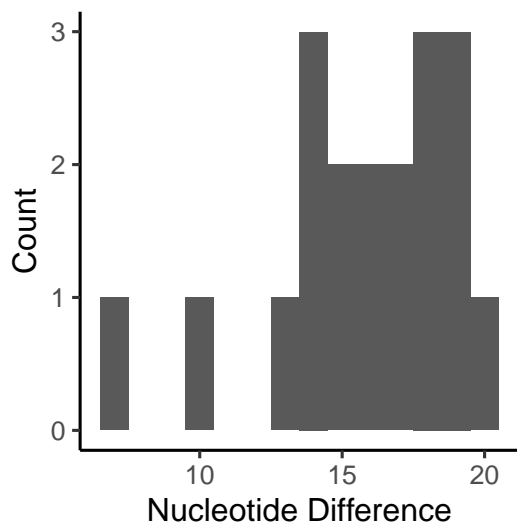
IGHV3–177*01_S5369

7 sequences assigned
No exact matches.



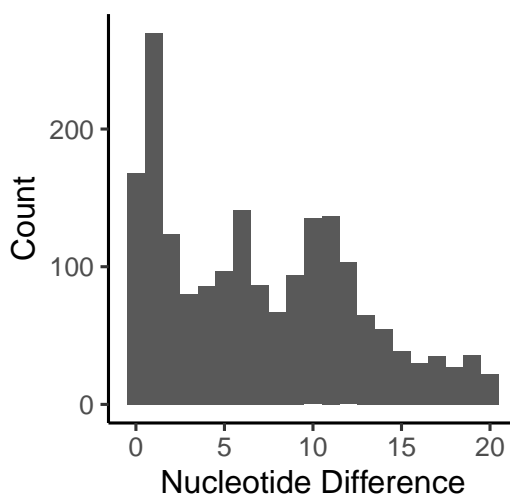
IGHV3-177*01_S6408

23 sequences assigned
No exact matches.



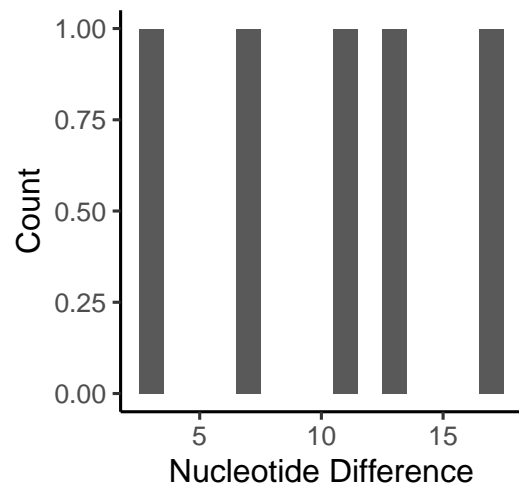
IGHV3-187*01_S2144

2126 sequences assigned
168 (7.9%) exact matches, in which:
72 unique CDR3
8 unique J



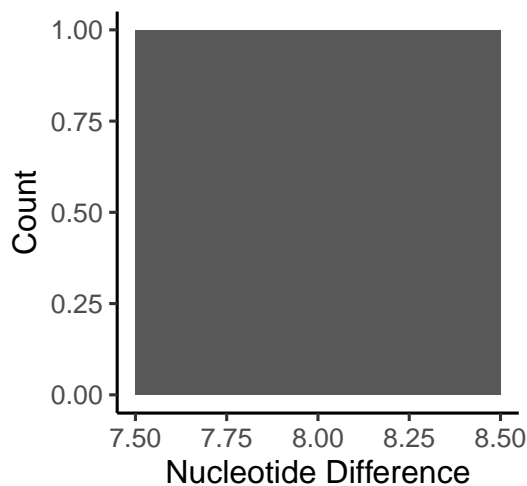
IGHV3-NL_10*02_S1970

7 sequences assigned
No exact matches.



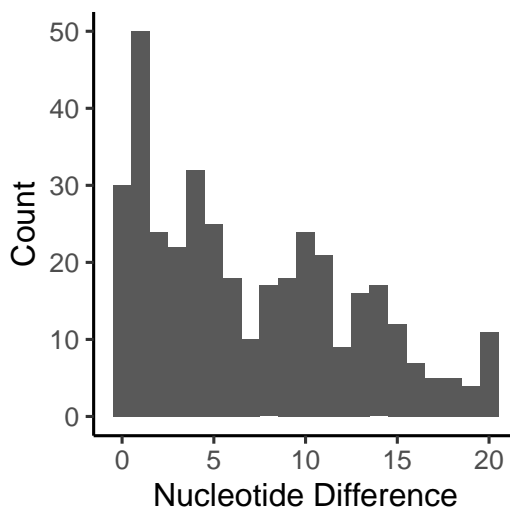
IGHV3-177*01_S8409

2 sequences assigned
No exact matches.



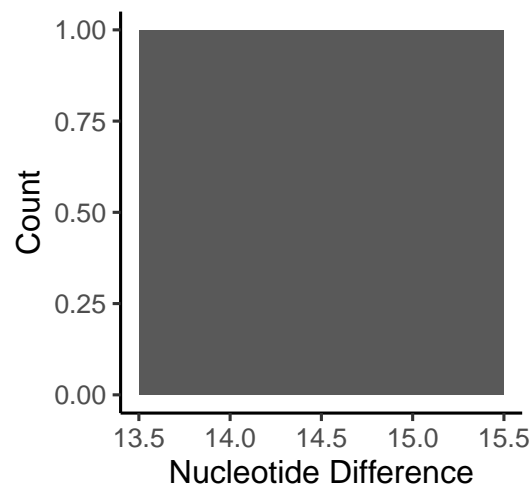
IGHV3-187*01_S4220

405 sequences assigned
30 (7.4%) exact matches, in which:
19 unique CDR3
4 unique J



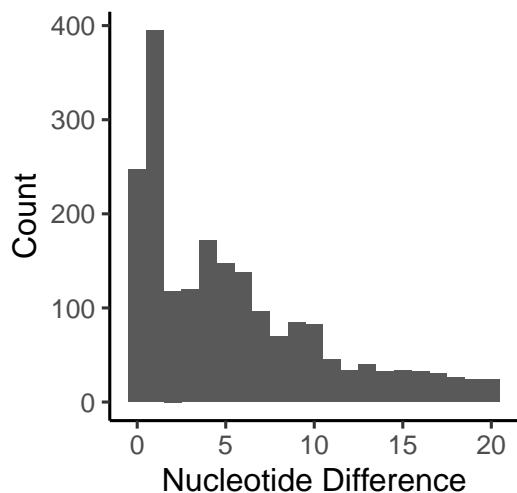
IGHV3-NL_10*02_S2212

2 sequences assigned
No exact matches.



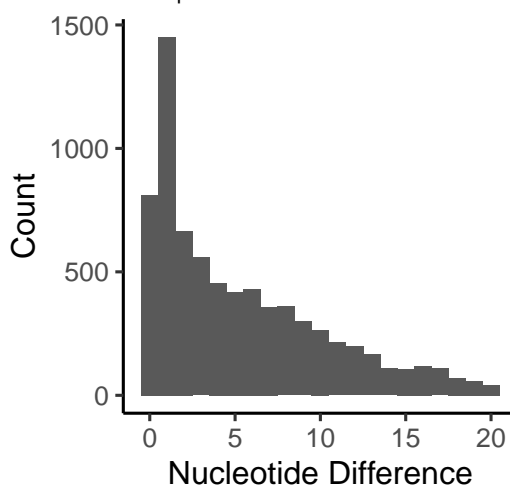
IGHV3-187*01_S1387

2084 sequences assigned
247 (11.9%) exact matches, in which:
128 unique CDR3
7 unique J



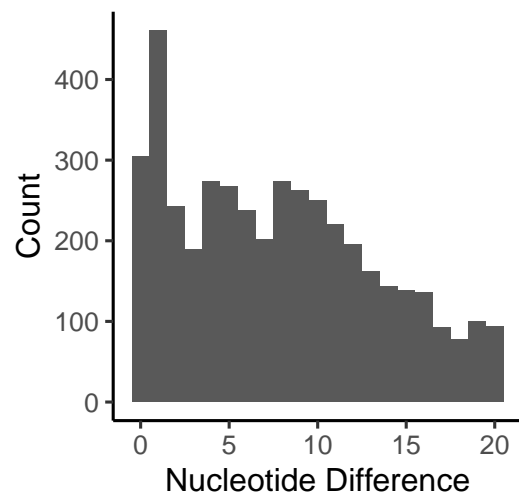
IGHV3-NL_1*01_S9854

7584 sequences assigned
810 (10.7%) exact matches, in which:
400 unique CDR3
7 unique J



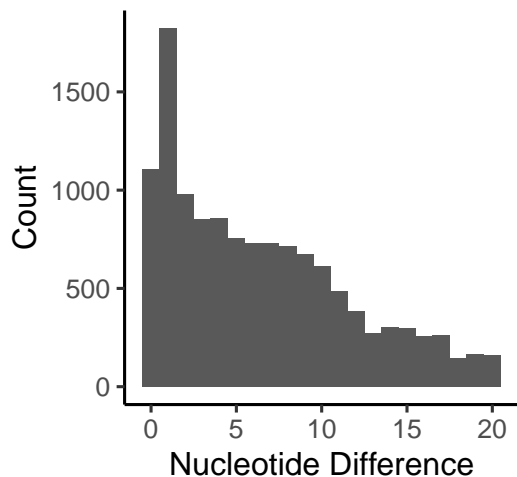
IGHV3-NL_11*01_S3736

4908 sequences assigned
305 (6.2%) exact matches, in which:
166 unique CDR3
7 unique J



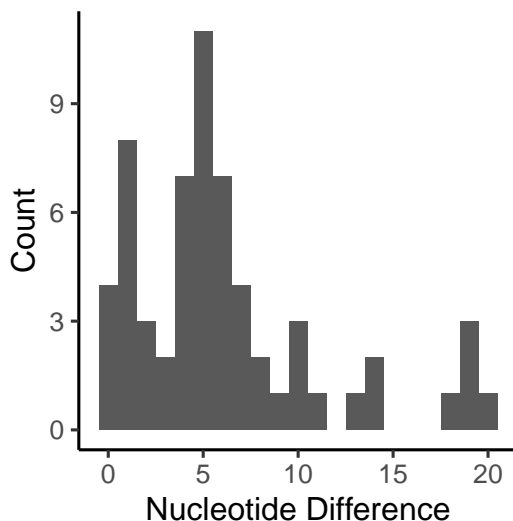
IGHV3-NL_11*01_S839

13271 sequences assigned
1109 (8.4%) exact matches, in which:
632 unique CDR3
8 unique J



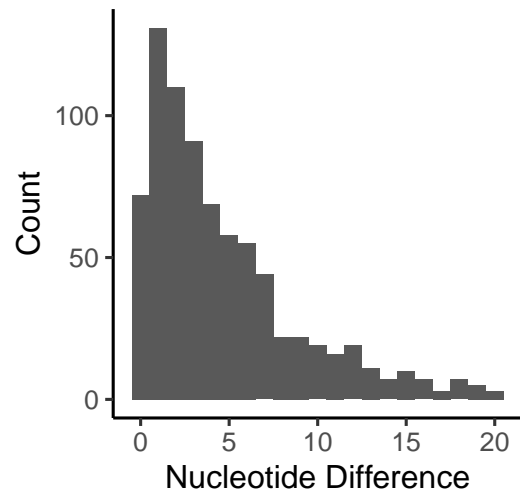
IGHV3-NL_12*02_S6994

66 sequences assigned
4 (6.1%) exact matches, in which:
2 unique CDR3
2 unique J



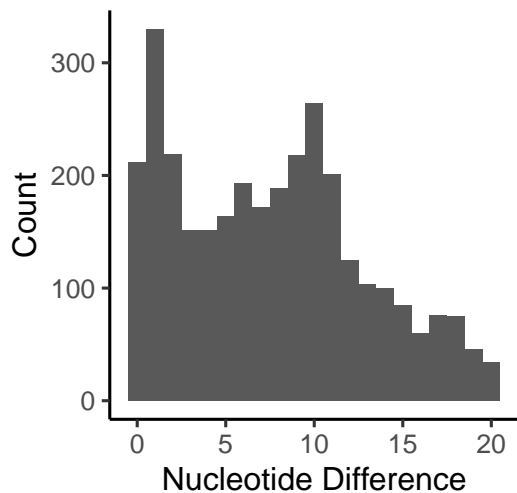
IGHV3-NL_14*01_S8830

864 sequences assigned
72 (8.3%) exact matches, in which:
45 unique CDR3
6 unique J



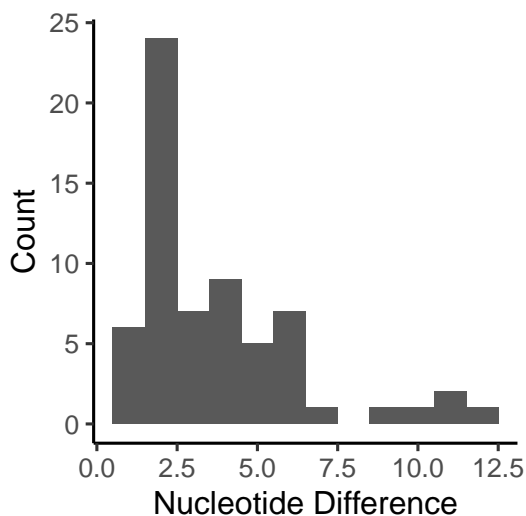
IGHV3-NL_11*02_S2668

3302 sequences assigned
212 (6.4%) exact matches, in which:
126 unique CDR3
5 unique J



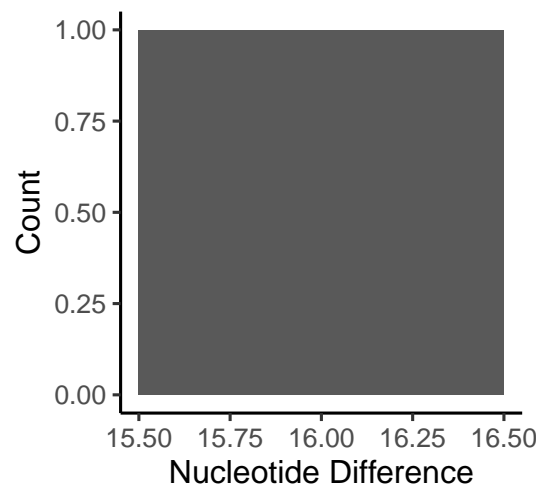
IGHV3-NL_13*01_S2791

68 sequences assigned
No exact matches.



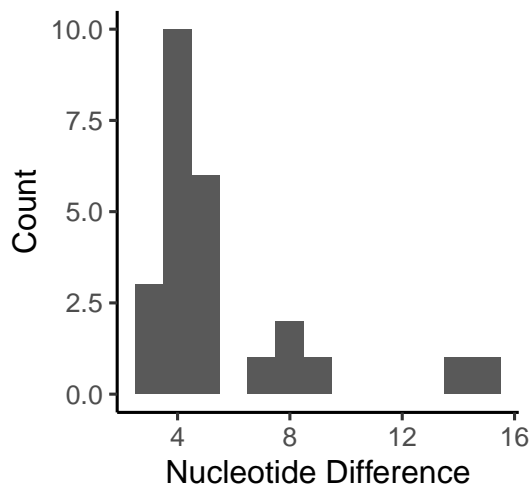
IGHV3-NL_15*01_S7302

4 sequences assigned
No exact matches.



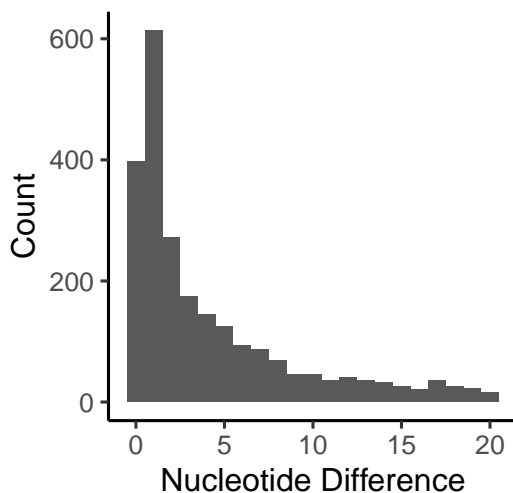
IGHV3-NL_12*02_S2468

25 sequences assigned
No exact matches.



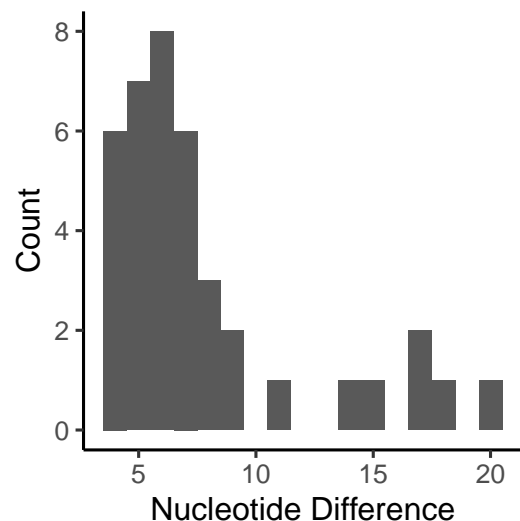
IGHV3-NL_14*01_S4949

2428 sequences assigned
398 (16.4%) exact matches, in which:
232 unique CDR3
7 unique J



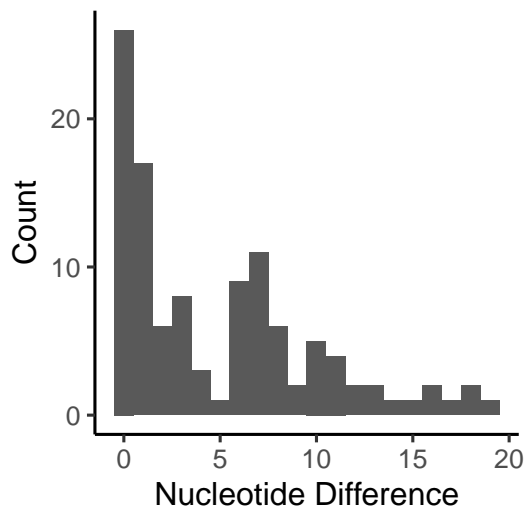
IGHV3-NL_16*01_S5133

39 sequences assigned
No exact matches.



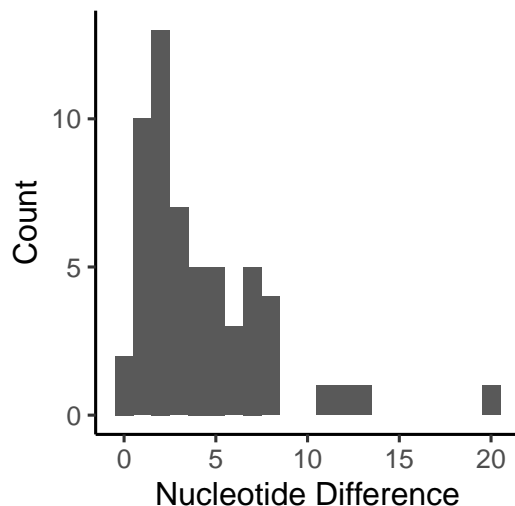
IGHV3–NL_16*01_S8234

113 sequences assigned
26 (23%) exact matches, in which:
16 unique CDR3
3 unique J



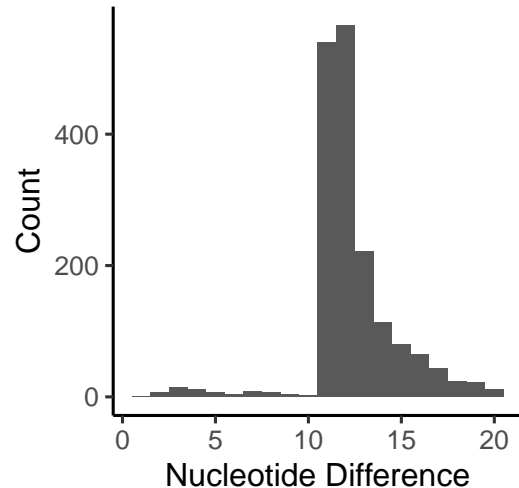
IGHV3–NL_18*01_S6383

58 sequences assigned
2 (3.4%) exact matches, in which:
2 unique CDR3
2 unique J



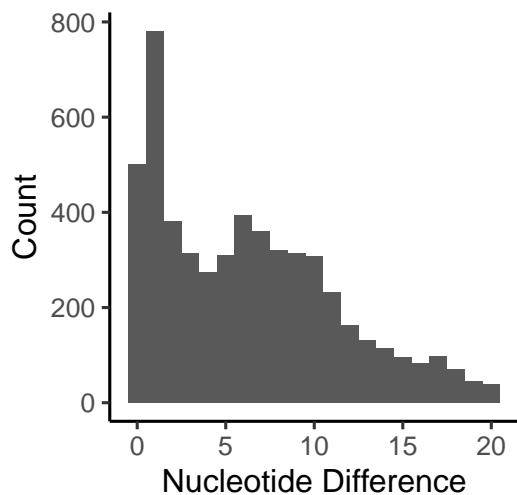
IGHV3–NL_4*01_S6405

1815 sequences assigned
No exact matches.



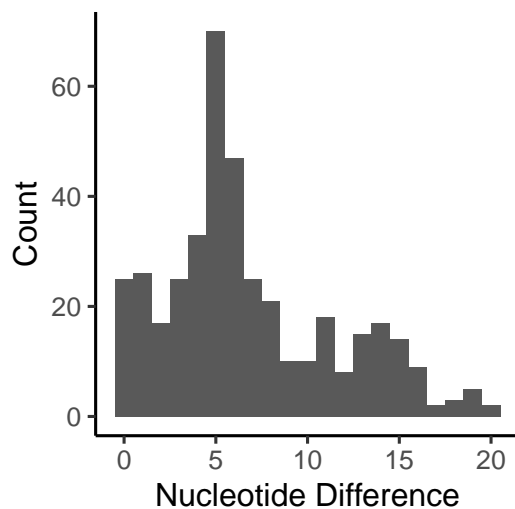
IGHV3–NL_17*01_S4250

5890 sequences assigned
501 (8.5%) exact matches, in which:
229 unique CDR3
6 unique J



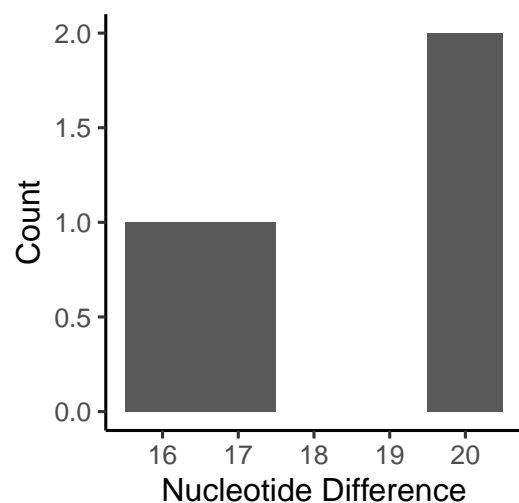
IGHV3–NL_19*01_S7515

413 sequences assigned
25 (6.1%) exact matches, in which:
17 unique CDR3
3 unique J



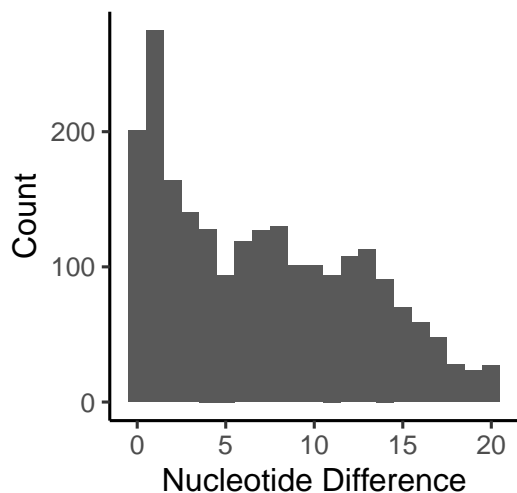
IGHV3–NL_5*01_S8361

7 sequences assigned
No exact matches.



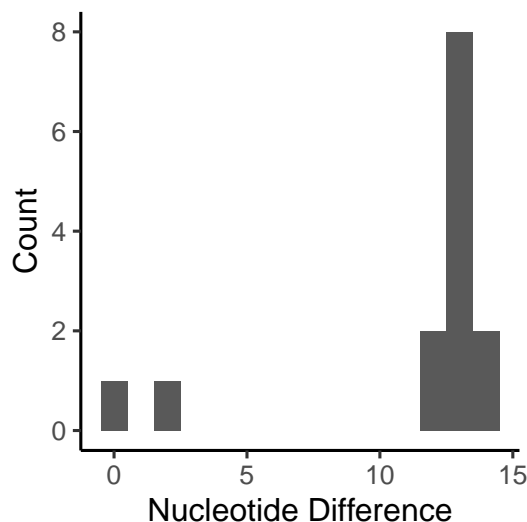
IGHV3–NL_17*01_S9589

2498 sequences assigned
201 (8%) exact matches, in which:
89 unique CDR3
6 unique J



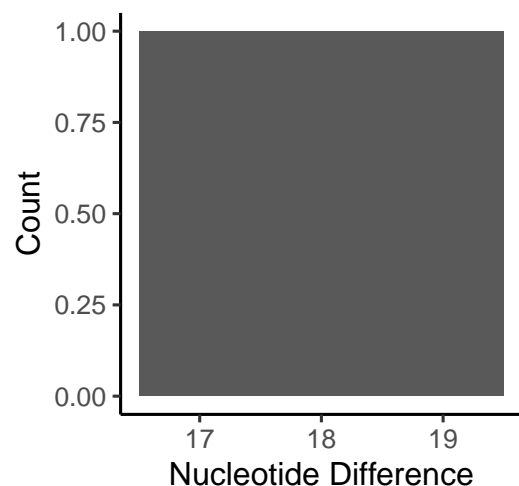
IGHV3–NL_2*01_S1693

17 sequences assigned
1 (5.9%) exact matches, in which:
1 unique CDR3
1 unique J



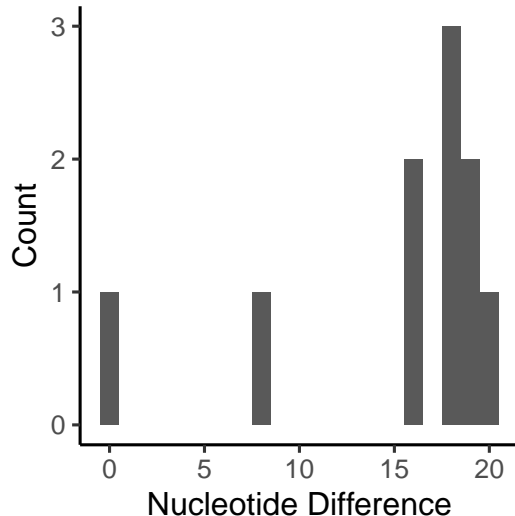
IGHV3–NL_6*02_S7808

8 sequences assigned
No exact matches.



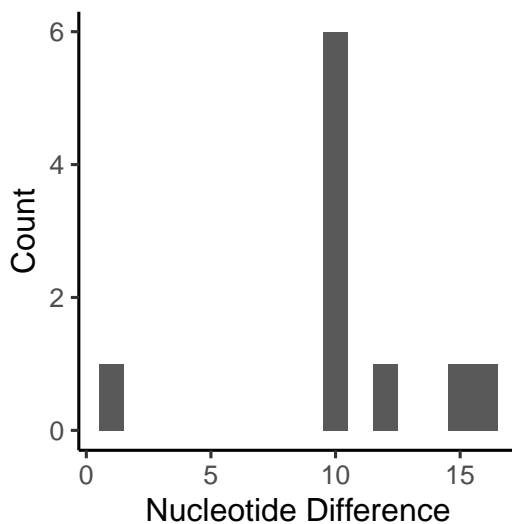
IGHV3–NL_7*01_S0199

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



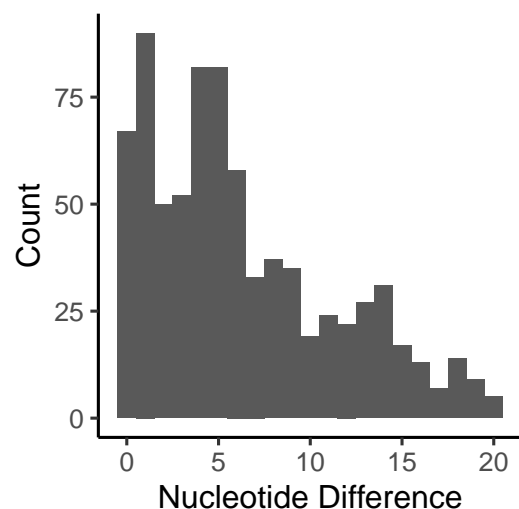
IGHV3–NL_9*01_S6098

14 sequences assigned
No exact matches.



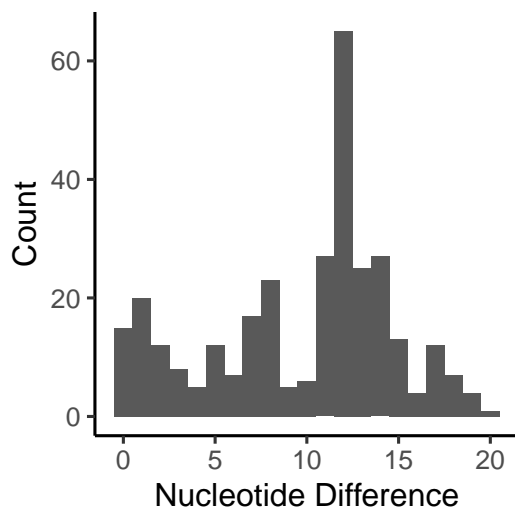
IGHV4–93*01_S1164

822 sequences assigned
67 (8.2%) exact matches, in which:
41 unique CDR3
6 unique J



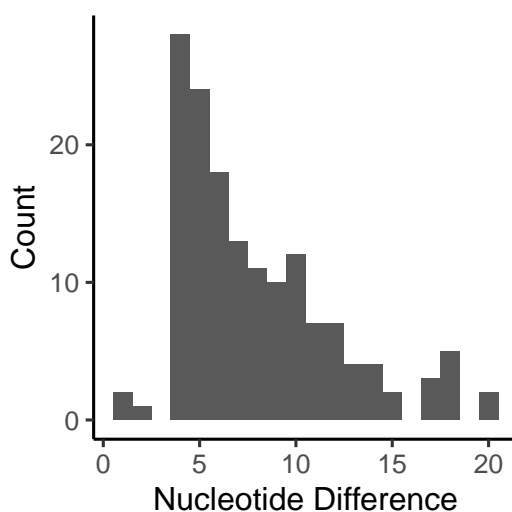
IGHV3–NL_8*01_S7474

379 sequences assigned
15 (4%) exact matches, in which:
10 unique CDR3
3 unique J



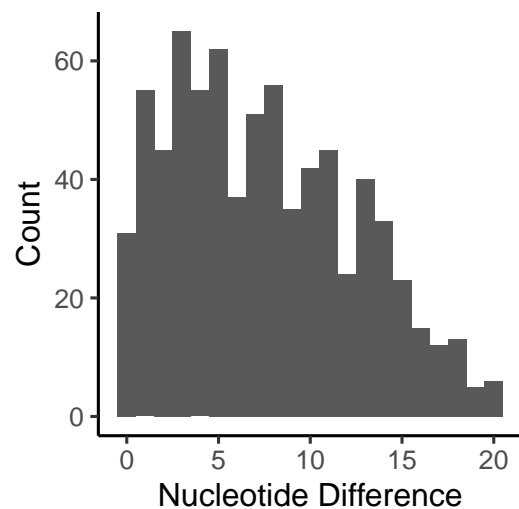
IGHV4–79*02_S9501

166 sequences assigned
No exact matches.



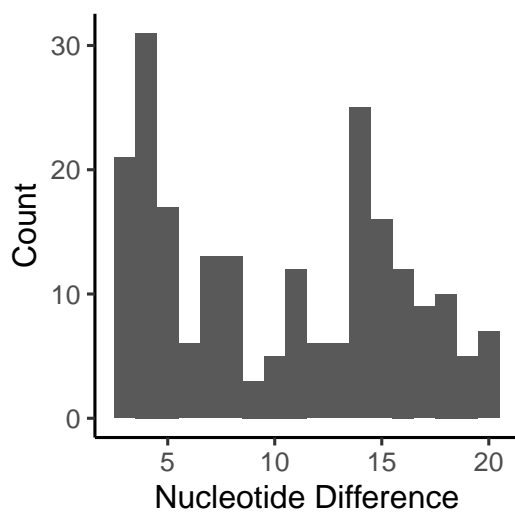
IGHV4–117*01_C87T_A88

776 sequences assigned
31 (4%) exact matches, in which:
24 unique CDR3
4 unique J



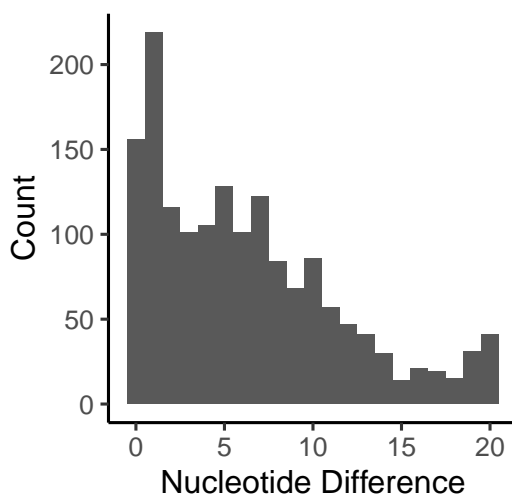
IGHV3–NL_8*01_S7860

244 sequences assigned
No exact matches.



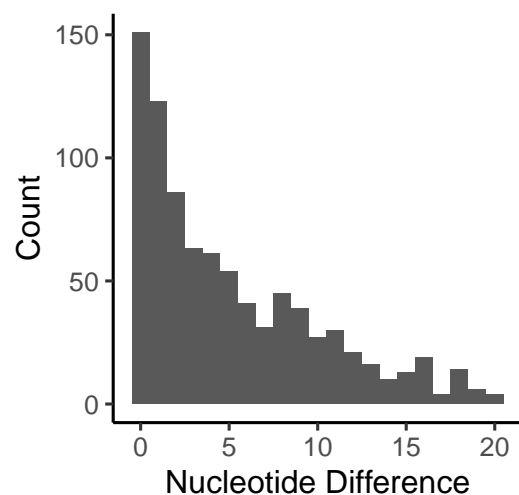
IGHV4–93*01_S0054

1777 sequences assigned
156 (8.8%) exact matches, in which:
100 unique CDR3
7 unique J



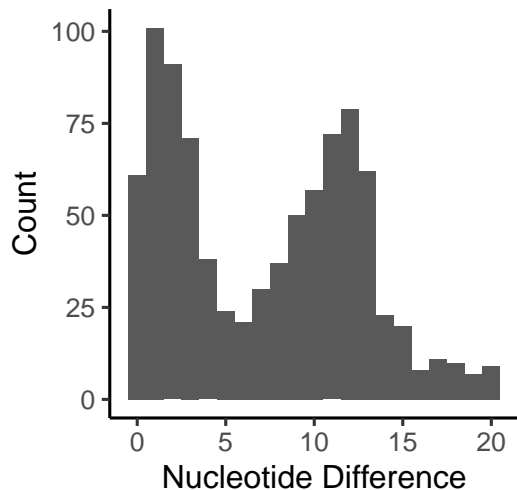
IGHV4–117*01_S0312

898 sequences assigned
151 (16.8%) exact matches, in which:
130 unique CDR3
7 unique J



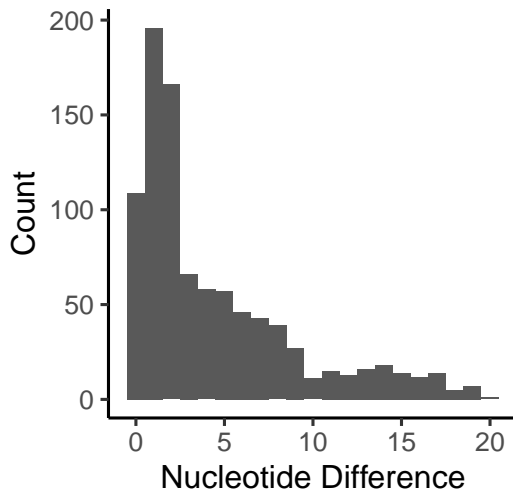
IGHV4-144*01_S3064

901 sequences assigned
61 (6.8%) exact matches, in which:
47 unique CDR3
6 unique J



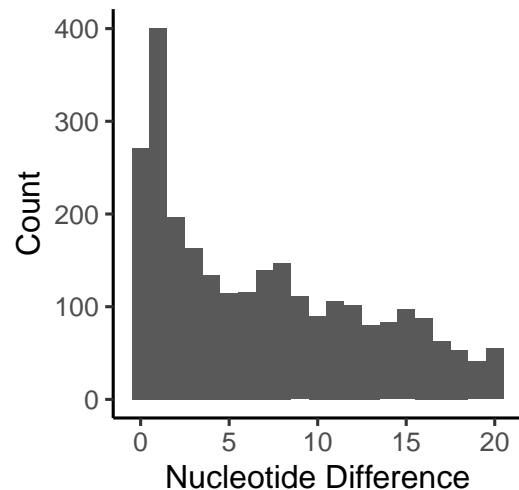
IGHV4-144*01_S8596

1008 sequences assigned
109 (10.8%) exact matches, in which:
84 unique CDR3
8 unique J



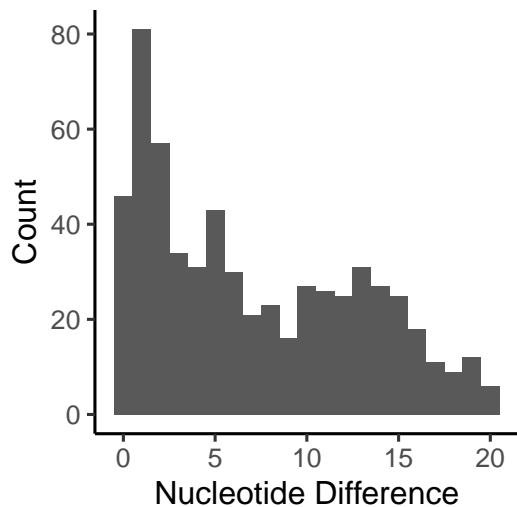
IGHV4-149*01_S5300

3028 sequences assigned
271 (8.9%) exact matches, in which:
192 unique CDR3
6 unique J



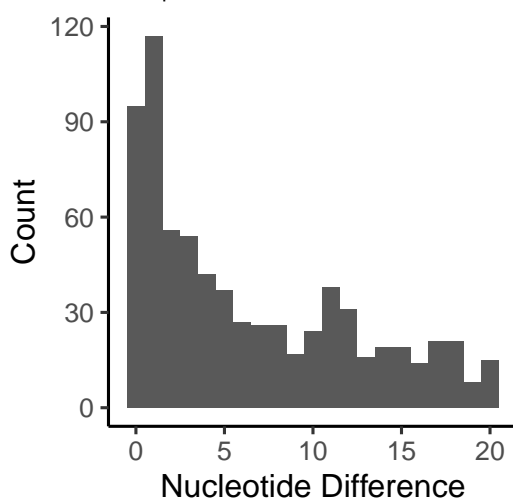
IGHV4-144*01_S3113

647 sequences assigned
46 (7.1%) exact matches, in which:
33 unique CDR3
6 unique J



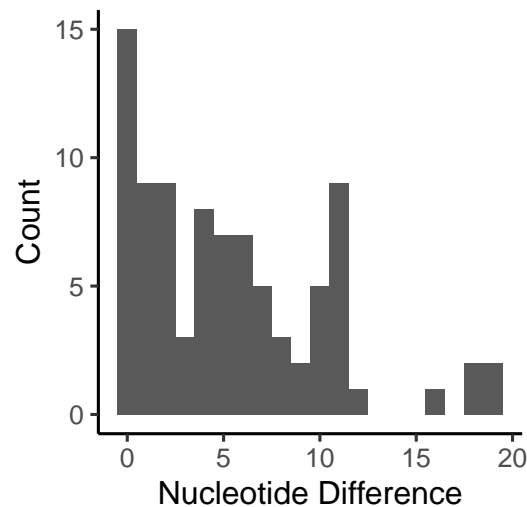
IGHV4-149*01_S1430

872 sequences assigned
95 (10.9%) exact matches, in which:
54 unique CDR3
5 unique J



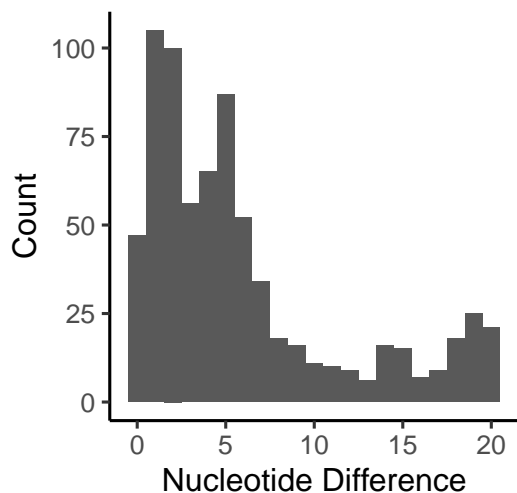
IGHV4-150*01_S2067

96 sequences assigned
15 (15.6%) exact matches, in which:
11 unique CDR3
3 unique J



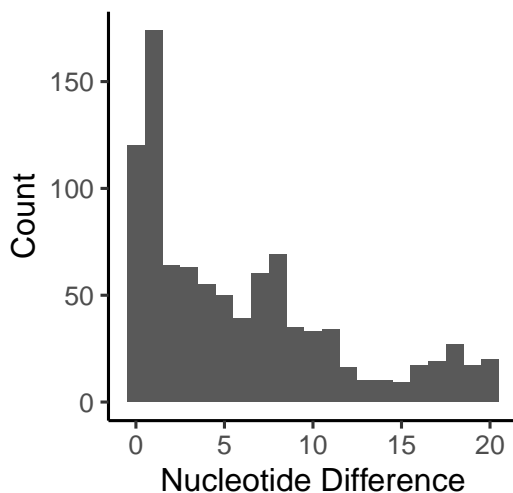
IGHV4-144*01_S5374

777 sequences assigned
47 (6%) exact matches, in which:
31 unique CDR3
6 unique J



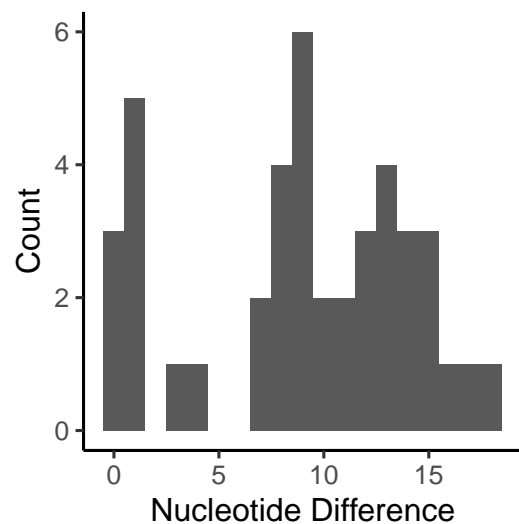
IGHV4-149*01_S2001

1145 sequences assigned
120 (10.5%) exact matches, in which:
78 unique CDR3
5 unique J



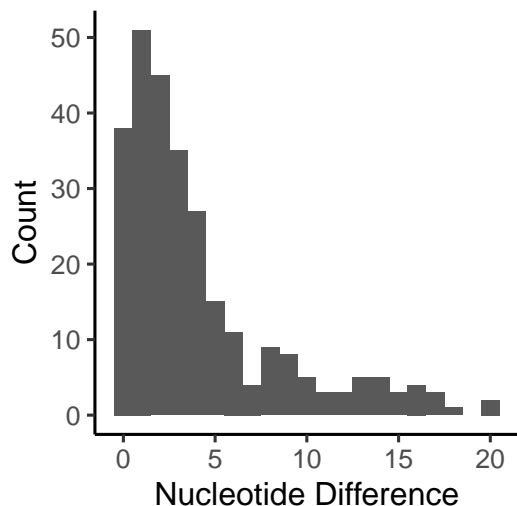
IGHV4-150*01_S5542

47 sequences assigned
3 (6.4%) exact matches, in which:
2 unique CDR3
1 unique J



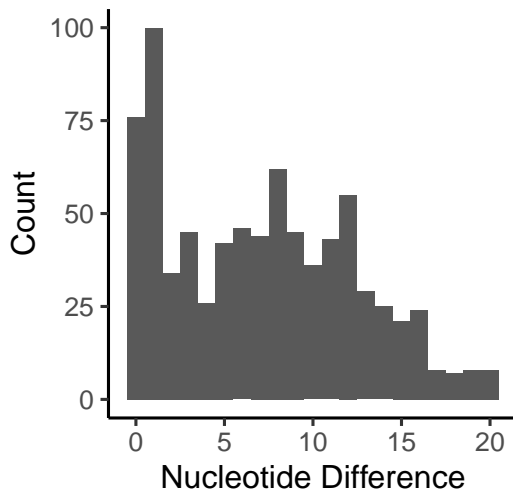
IGHV4-150*01_S6885

285 sequences assigned
38 (13.3%) exact matches, in which:
28 unique CDR3
7 unique J



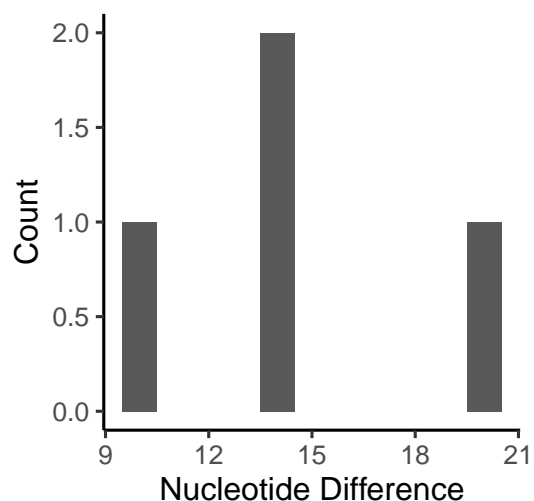
IGHV4-NL_1*01_S0477

855 sequences assigned
76 (8.9%) exact matches, in which:
50 unique CDR3
6 unique J



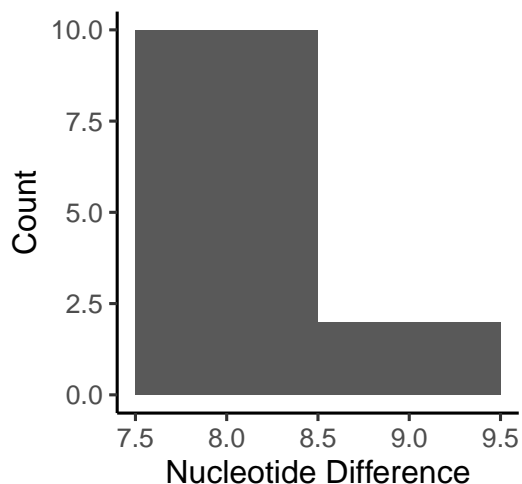
IGHV4-NL_10*01_S7684

4 sequences assigned
No exact matches.



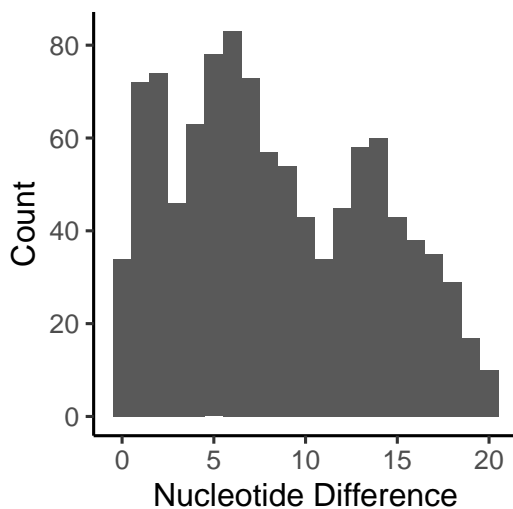
IGHV4-174*02_S3984

13 sequences assigned
No exact matches.



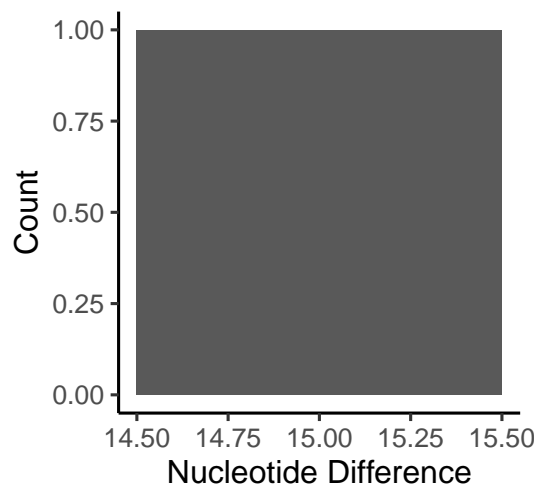
IGHV4-NL_1*02_S4188

1151 sequences assigned
34 (3%) exact matches, in which:
27 unique CDR3
6 unique J



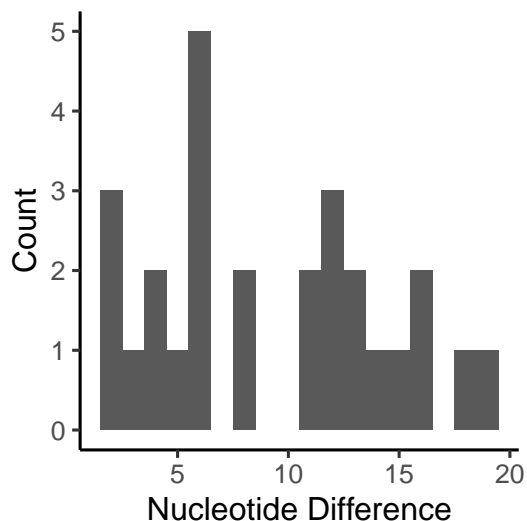
IGHV4-NL_10*02_S9348

1 sequences assigned
No exact matches.



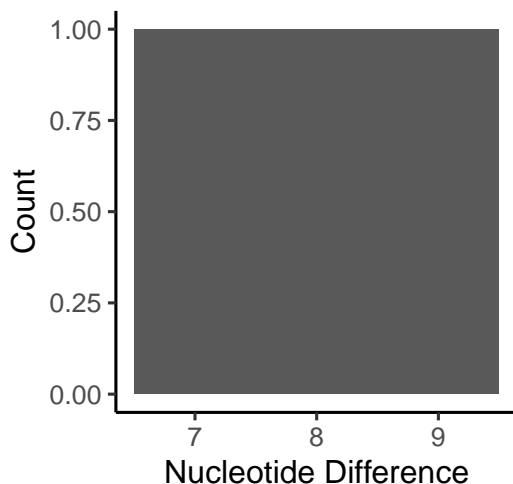
IGHV4-174*02_S5400

29 sequences assigned
No exact matches.



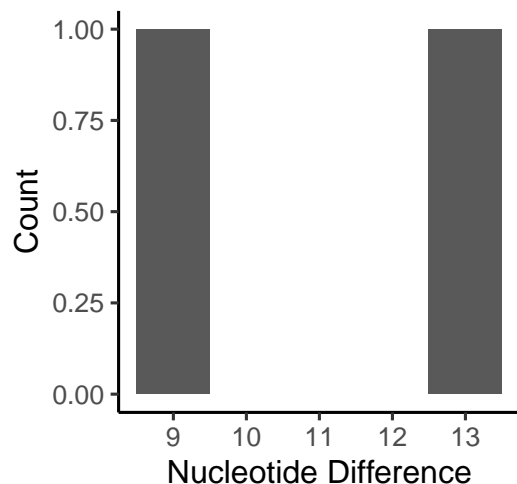
IGHV4-NL_10*01_S6744

3 sequences assigned
No exact matches.



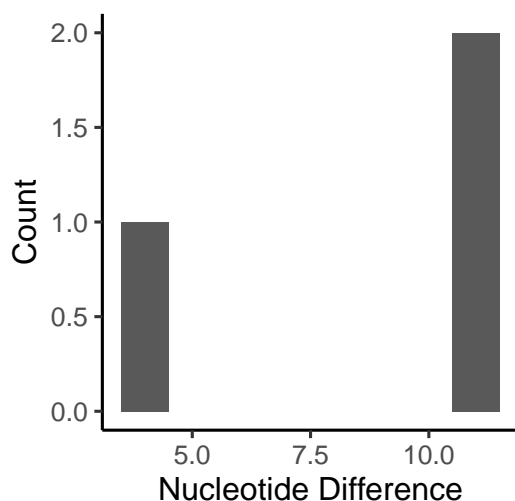
IGHV4-NL_11*01_S5570

5 sequences assigned
No exact matches.



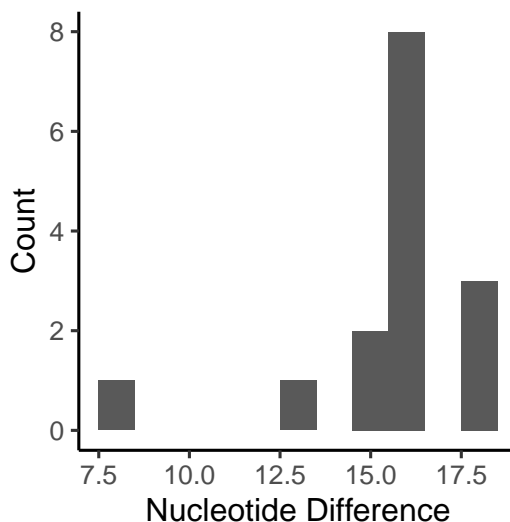
IGHV4–NL_12*01_S5174

3 sequences assigned
No exact matches.



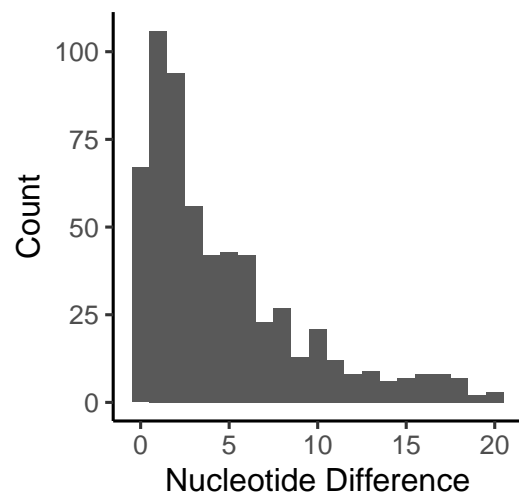
IGHV4–NL_17*01_S0904

20 sequences assigned
No exact matches.



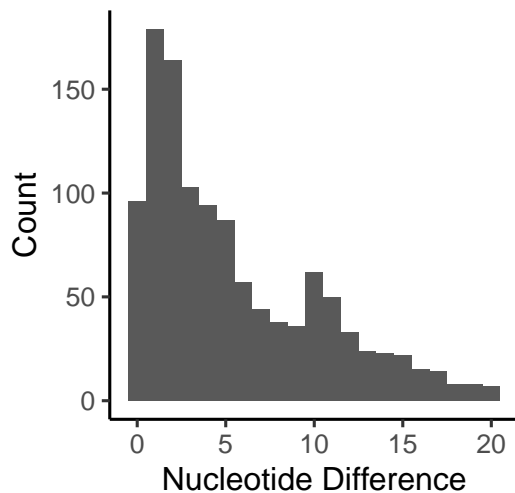
IGHV4–NL_20*01_S6889

638 sequences assigned
67 (10.5%) exact matches, in which:
55 unique CDR3
7 unique J



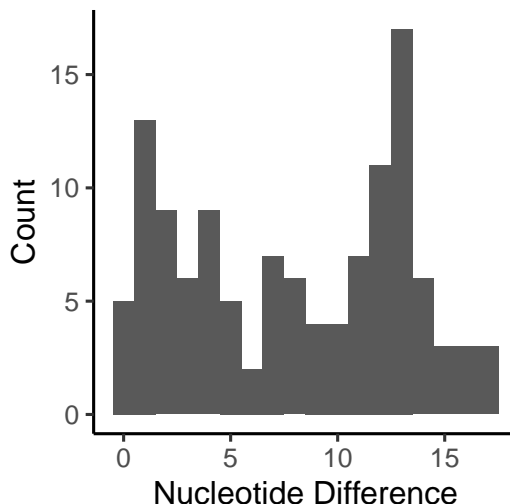
IGHV4–NL_13*01_S9744

1208 sequences assigned
96 (7.9%) exact matches, in which:
76 unique CDR3
7 unique J



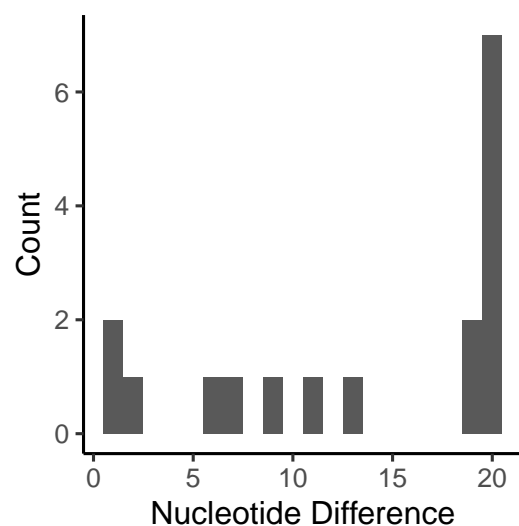
IGHV4–NL_19*01_S1944

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



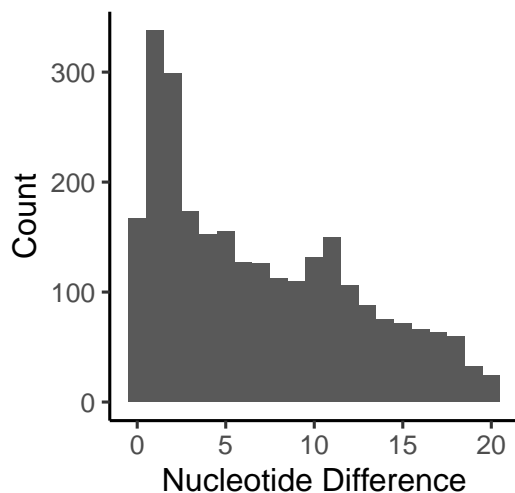
IGHV4–NL_21*01_S0138

66 sequences assigned
No exact matches.



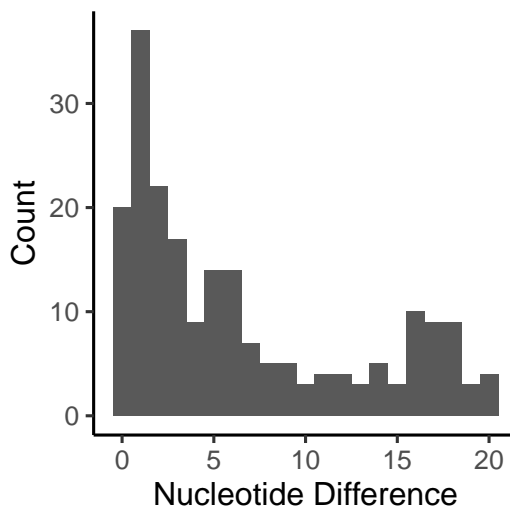
IGHV4–NL_16*01_S2138

2814 sequences assigned
167 (5.9%) exact matches, in which:
137 unique CDR3
7 unique J



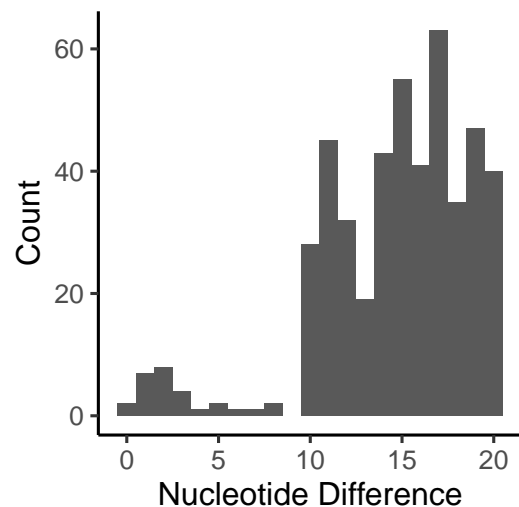
IGHV4–NL_20*01_S6186

232 sequences assigned
20 (8.6%) exact matches, in which:
13 unique CDR3
5 unique J



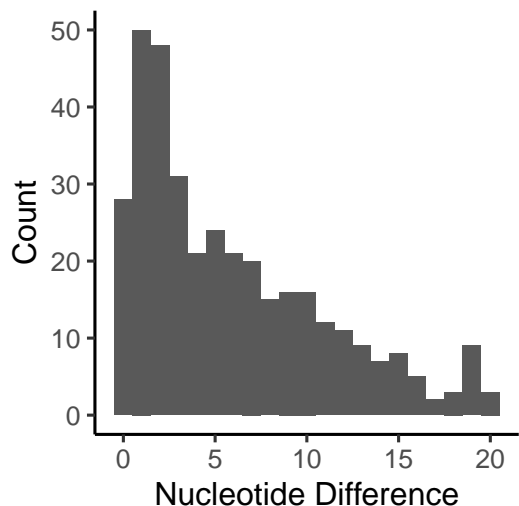
IGHV4–NL_21*01_S1118

659 sequences assigned
2 (0.3%) exact matches, in which:
1 unique CDR3
1 unique J



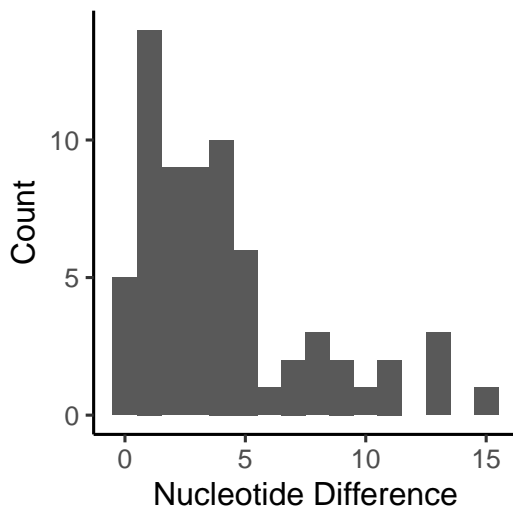
IGHV4–NL_22*01_S2393

378 sequences assigned
28 (7.4%) exact matches, in which:
20 unique CDR3
4 unique J



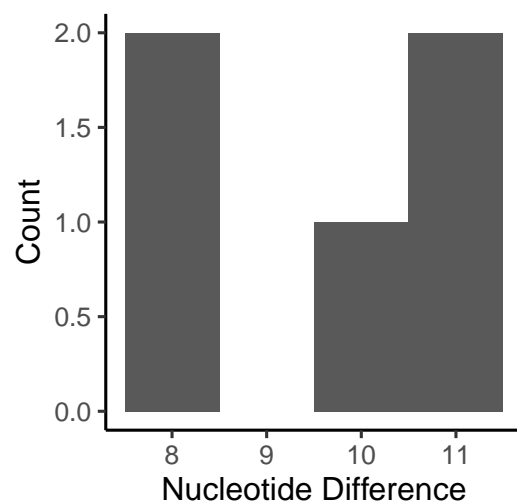
IGHV4–NL_24*01_S5697

68 sequences assigned
5 (7.4%) exact matches, in which:
4 unique CDR3
1 unique J



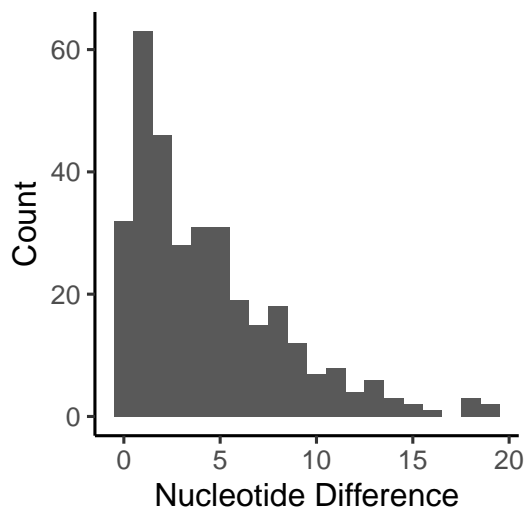
IGHV4–NL_26*01_S2261

5 sequences assigned
No exact matches.



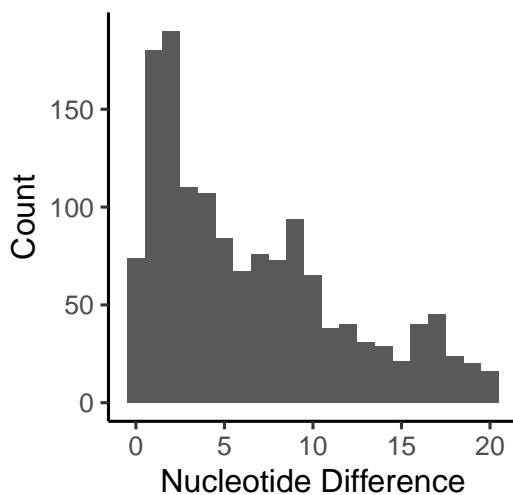
IGHV4–NL_22*01_S9255

340 sequences assigned
32 (9.4%) exact matches, in which:
28 unique CDR3
6 unique J



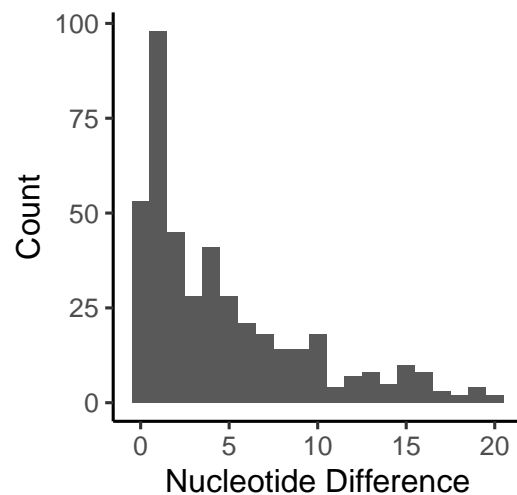
IGHV4–NL_25*01_S6960

1520 sequences assigned
74 (4.9%) exact matches, in which:
60 unique CDR3
7 unique J



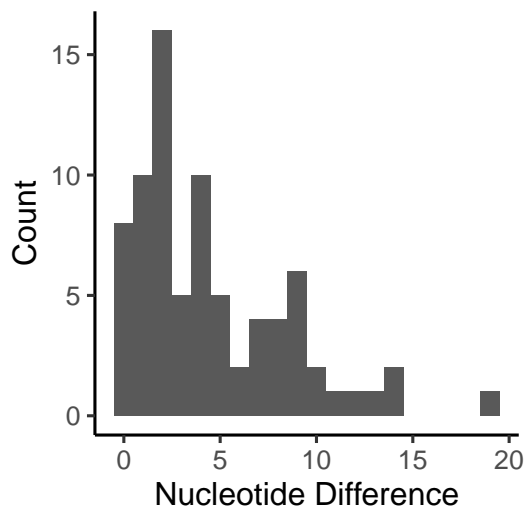
IGHV4–NL_27*01_S0673

445 sequences assigned
53 (11.9%) exact matches, in which:
37 unique CDR3
5 unique J



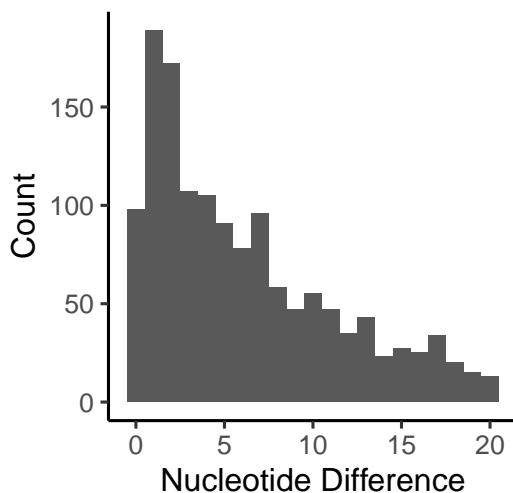
IGHV4–NL_24*01_S2784

81 sequences assigned
8 (9.9%) exact matches, in which:
7 unique CDR3
2 unique J



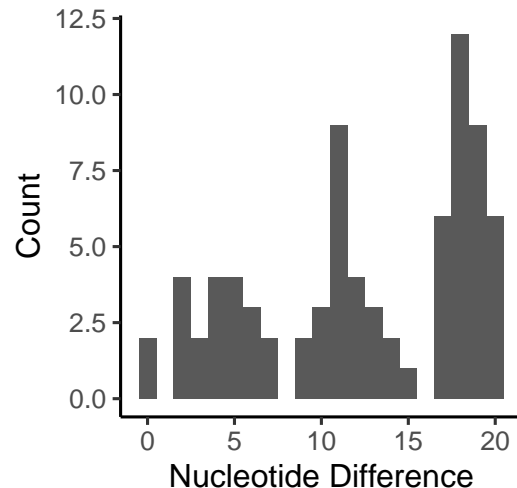
IGHV4–NL_25*01_S9478

1521 sequences assigned
98 (6.4%) exact matches, in which:
70 unique CDR3
6 unique J



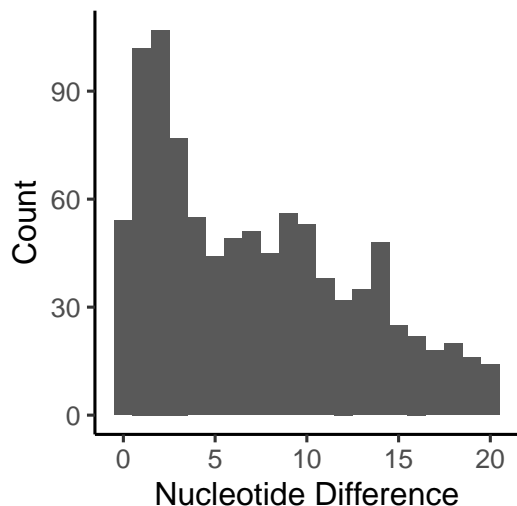
IGHV4–NL_27*01_S743

104 sequences assigned
2 (1.9%) exact matches, in which:
2 unique CDR3
1 unique J



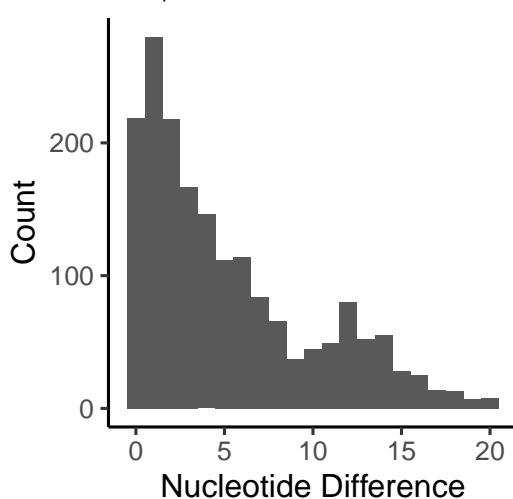
IGHV4–NL_28*01_S1050

1020 sequences assigned
54 (5.3%) exact matches, in which:
40 unique CDR3
7 unique J



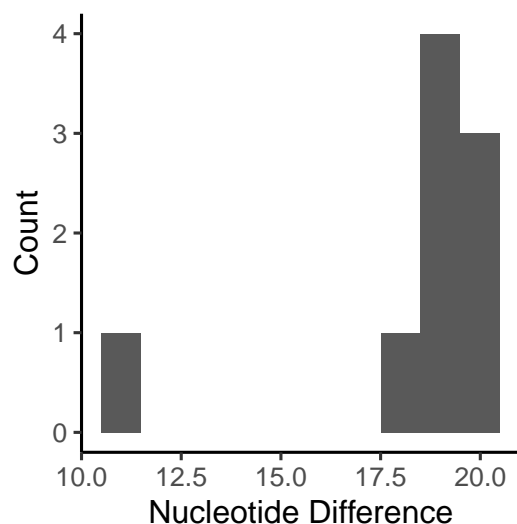
IGHV4–NL_31*01_S7693

1901 sequences assigned
219 (11.5%) exact matches, in which:
158 unique CDR3
7 unique J



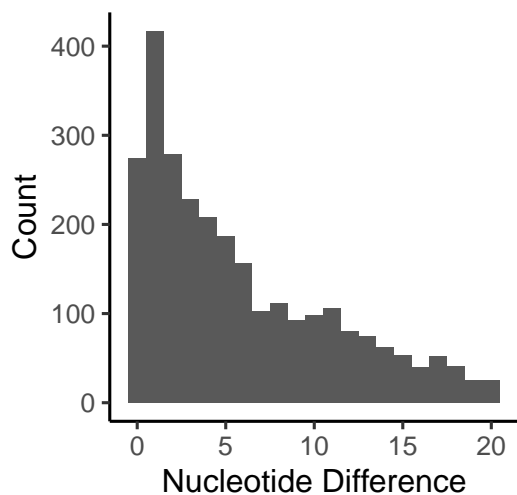
IGHV4–NL_34*01_S4637

12 sequences assigned
No exact matches.



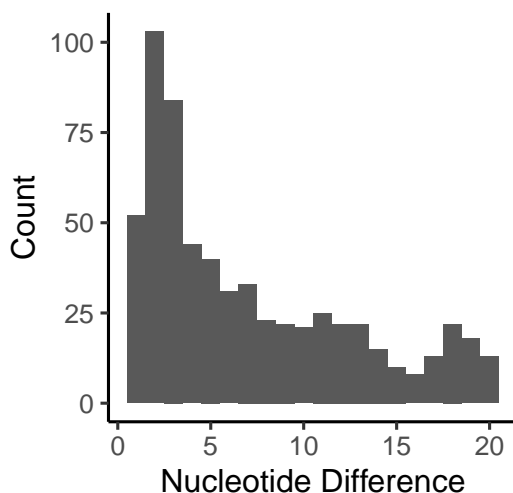
IGHV4–NL_29*01_S1425

3010 sequences assigned
274 (9.1%) exact matches, in which:
181 unique CDR3
7 unique J



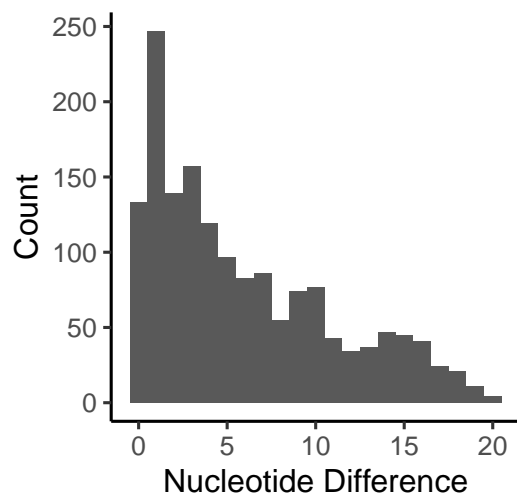
IGHV4–NL_33*01_S1148

741 sequences assigned
No exact matches.



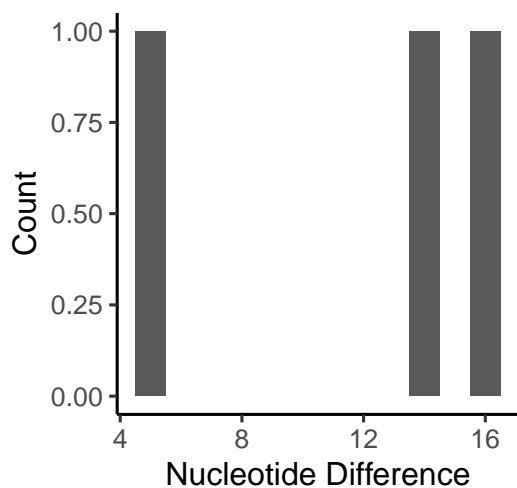
IGHV4–NL_36*01_S7873

1684 sequences assigned
133 (7.9%) exact matches, in which:
95 unique CDR3
7 unique J



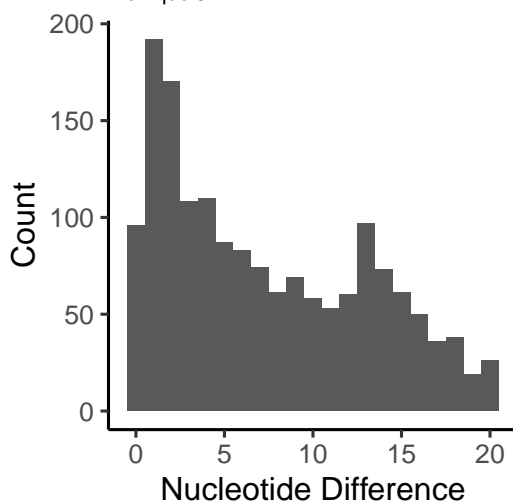
IGHV4–NL_3*01_S7576

3 sequences assigned
No exact matches.



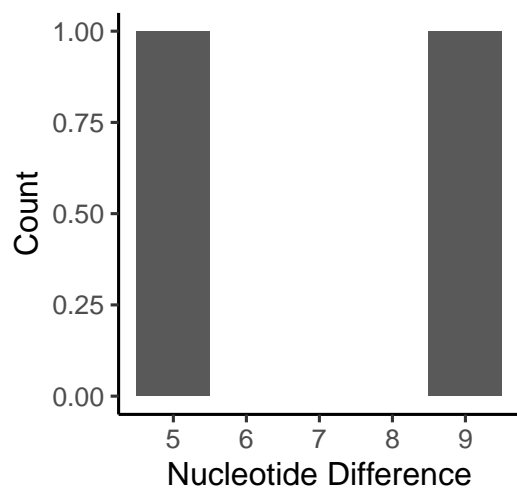
IGHV4–NL_33*01_S2532

1758 sequences assigned
96 (5.5%) exact matches, in which:
82 unique CDR3
7 unique J



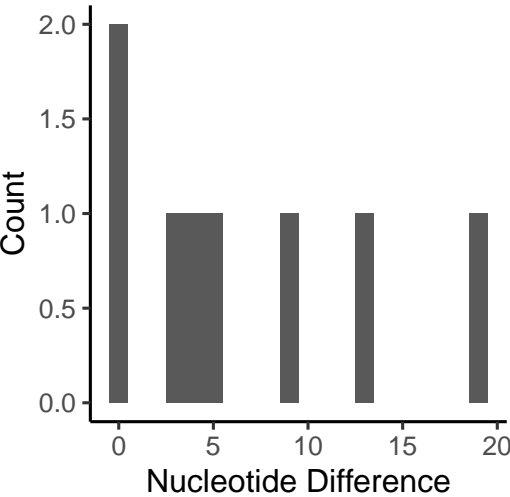
IGHV4–NL_38*01_S2187

3 sequences assigned
No exact matches.



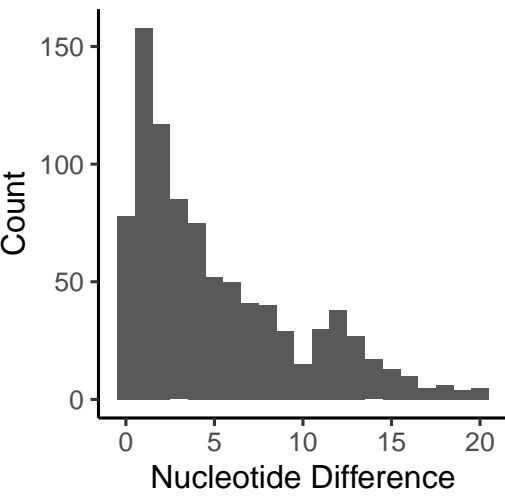
IGHV4-NL_38*01_S8437

8 sequences assigned
2 (25%) exact matches, in which:
2 unique CDR3
1 unique J



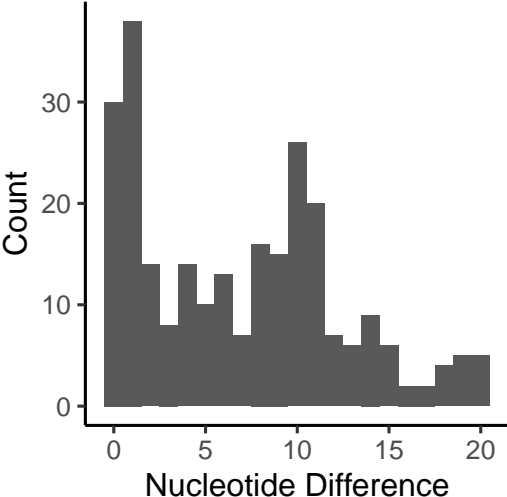
IGHV4-NL_40*01_S5093

935 sequences assigned
78 (8.3%) exact matches, in which:
55 unique CDR3
6 unique J



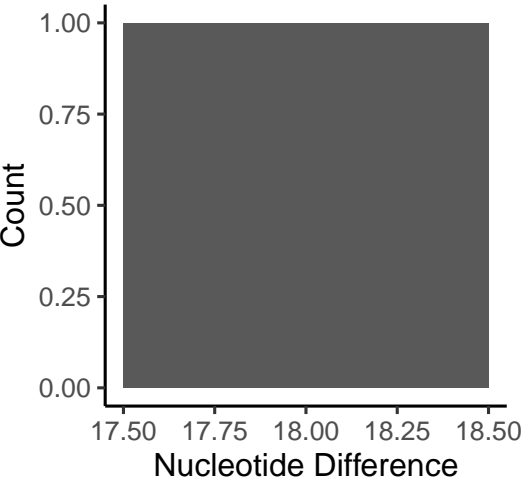
IGHV4-NL_5*01_S5158

278 sequences assigned
30 (10.8%) exact matches, in which:
20 unique CDR3
6 unique J



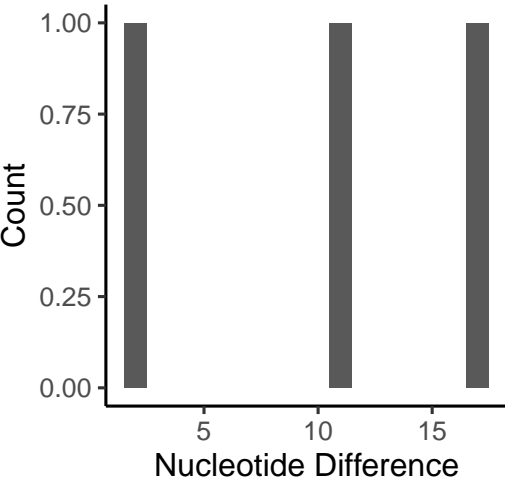
IGHV4-NL_4*01_S5211

1 sequences assigned
No exact matches.



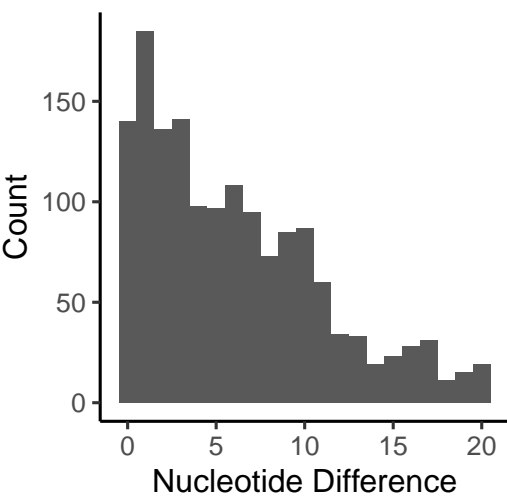
IGHV4-NL_42*01_S3572

3 sequences assigned
No exact matches.



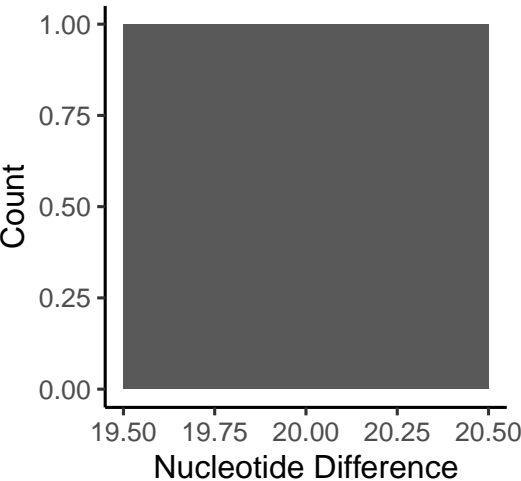
IGHV4-NL_5*01_S6281

1592 sequences assigned
140 (8.8%) exact matches, in which:
102 unique CDR3
7 unique J



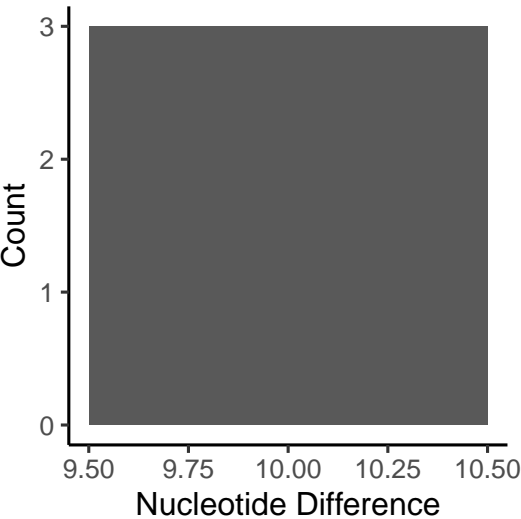
IGHV4-NL_4*01_S8866

2 sequences assigned
No exact matches.



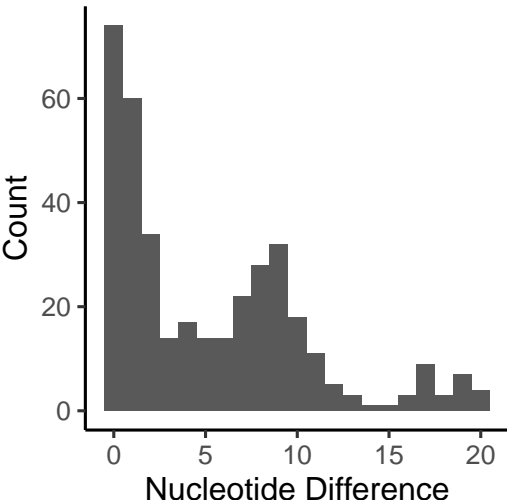
IGHV4-NL_43*01_S4510

4 sequences assigned
No exact matches.



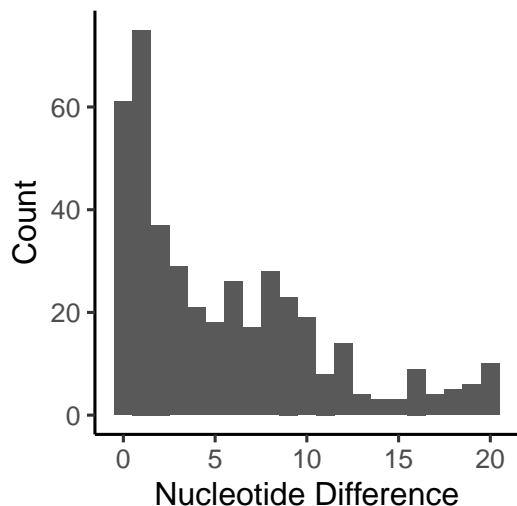
IGHV4-NL_6*01_S1133

382 sequences assigned
74 (19.4%) exact matches, in which:
52 unique CDR3
6 unique J



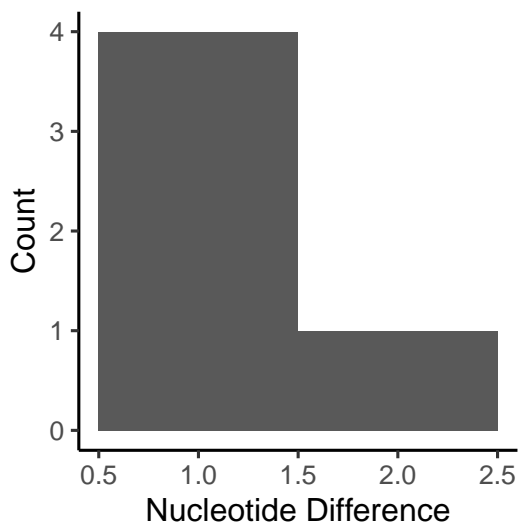
IGHV4–NL_6*01_S1133_1

442 sequences assigned
61 (13.8%) exact matches, in which:
49 unique CDR3
6 unique J



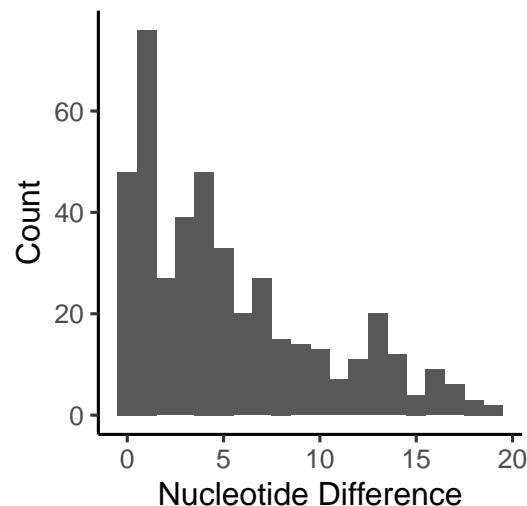
IGHV4–NL_7*02_S0143

5 sequences assigned
No exact matches.



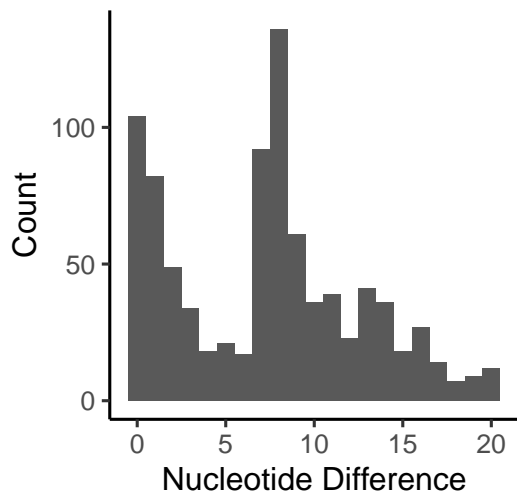
IGHV4–NL_9*01_S4906

443 sequences assigned
48 (10.8%) exact matches, in which:
33 unique CDR3
5 unique J



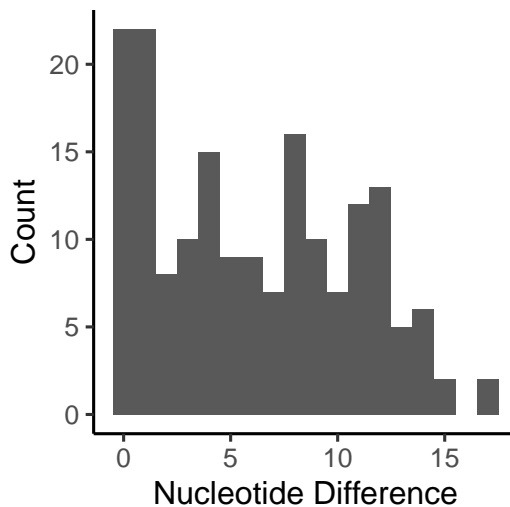
IGHV4–NL_6*01_S5805

966 sequences assigned
104 (10.8%) exact matches, in which:
81 unique CDR3
7 unique J



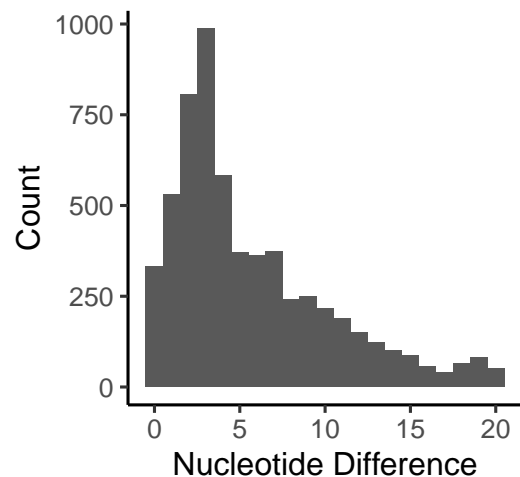
IGHV4–NL_9*01_S2406

181 sequences assigned
22 (12.2%) exact matches, in which:
16 unique CDR3
4 unique J



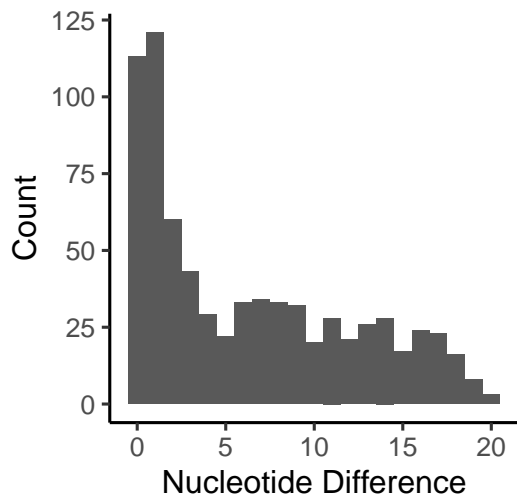
IGHV5–15*01_S8725

6191 sequences assigned
332 (5.4%) exact matches, in which:
147 unique CDR3
5 unique J



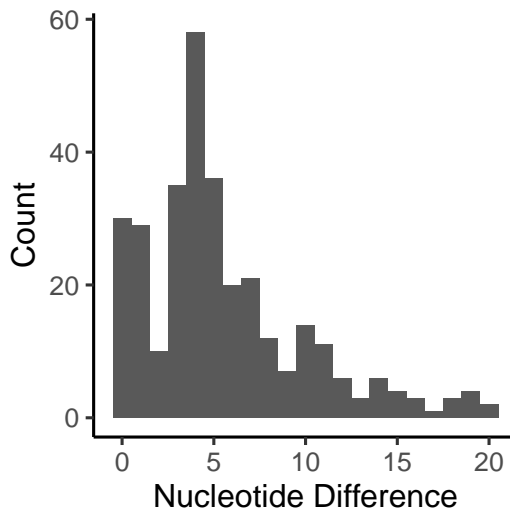
IGHV4–NL_6*01_S5805_1

805 sequences assigned
113 (14%) exact matches, in which:
89 unique CDR3
7 unique J



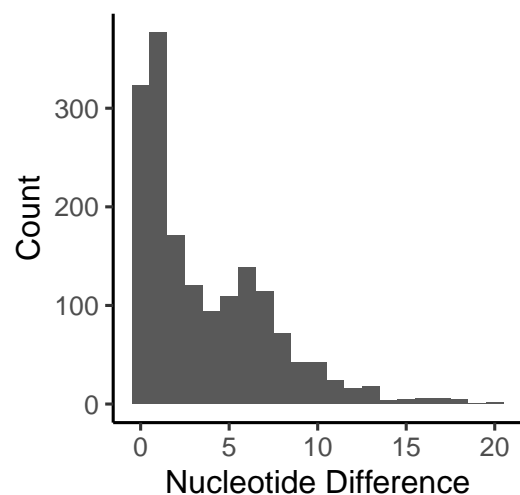
IGHV4–NL_9*01_S4804

325 sequences assigned
30 (9.2%) exact matches, in which:
20 unique CDR3
5 unique J



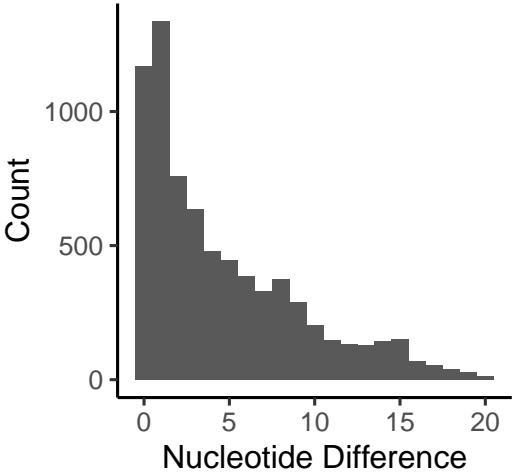
IGHV5–157*01_S5960

1713 sequences assigned
323 (18.9%) exact matches, in which:
118 unique CDR3
7 unique J



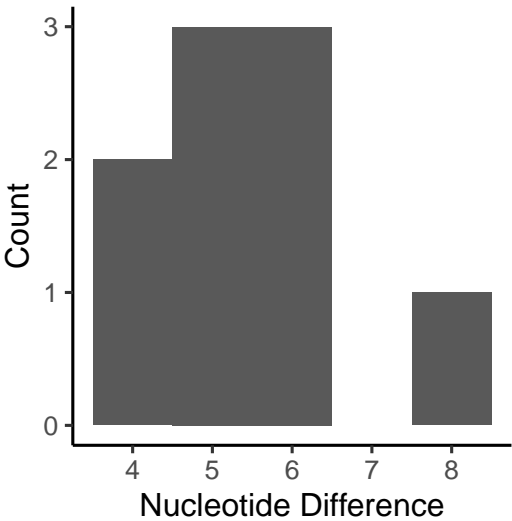
IGHV5-157*02_S7648

7462 sequences assigned
1169 (15.7%) exact matches, in which:
460 unique CDR3
8 unique J



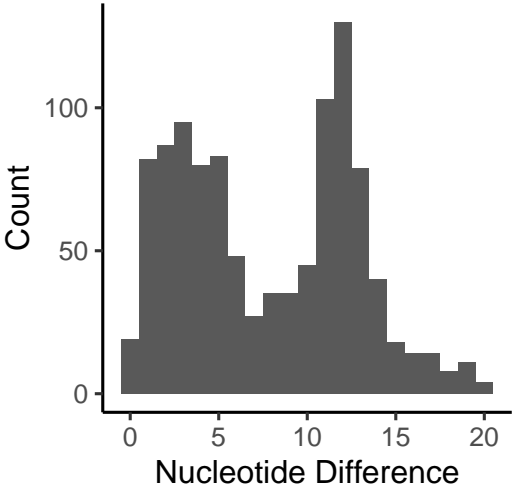
IGHV7-135*01_S9086

9 sequences assigned
No exact matches.



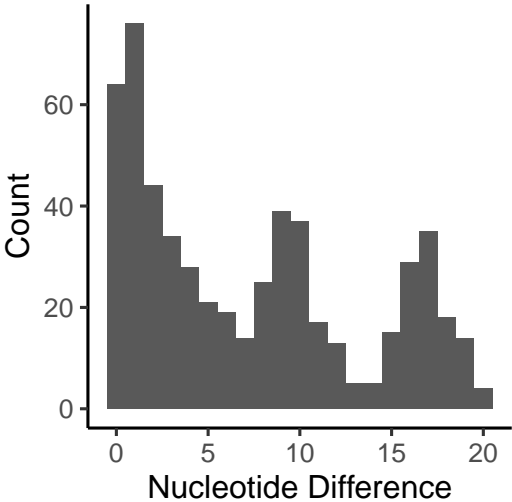
IGHV6-1*02_G280T

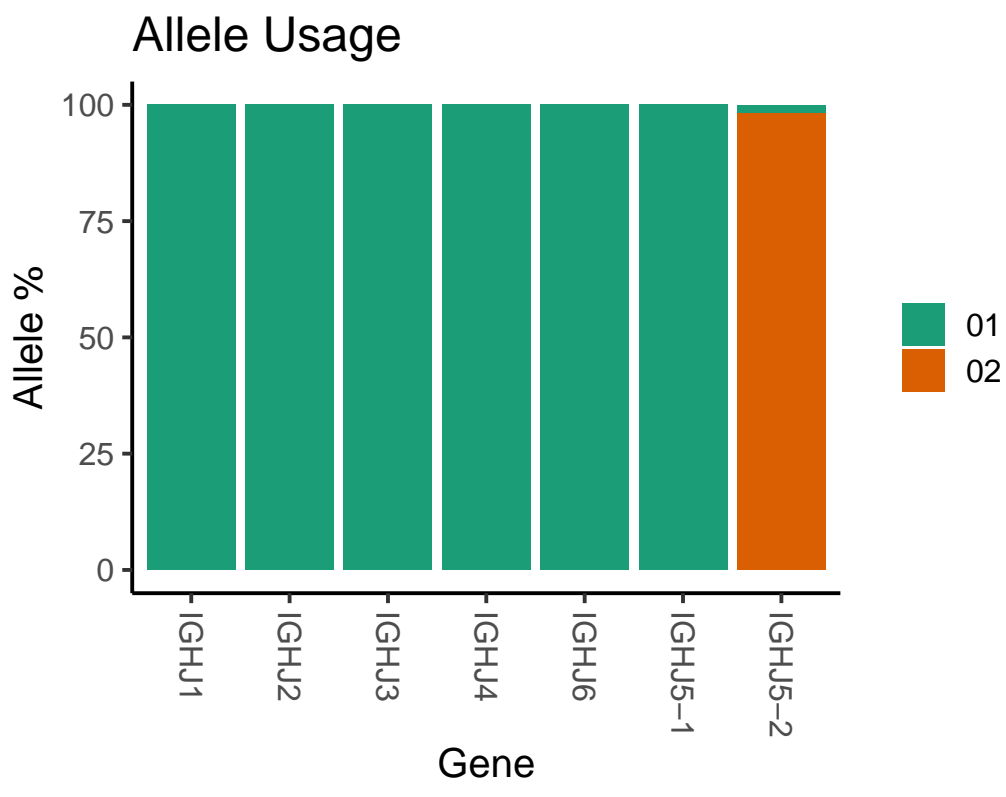
1075 sequences assigned
19 (1.8%) exact matches, in which:
13 unique CDR3
4 unique J



IGHV7-86*01_S0351

574 sequences assigned
64 (11.1%) exact matches, in which:
22 unique CDR3
4 unique J





Warning – no inferred sequences found.