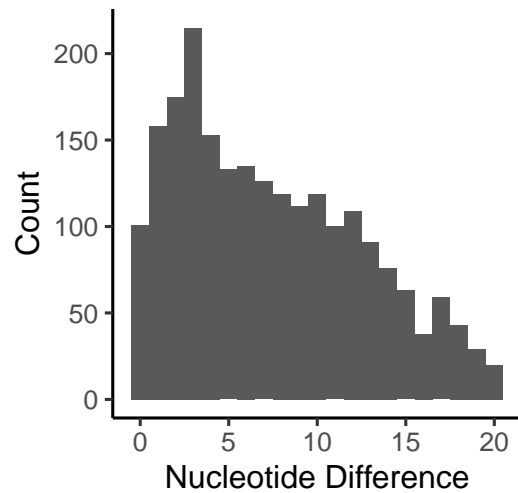


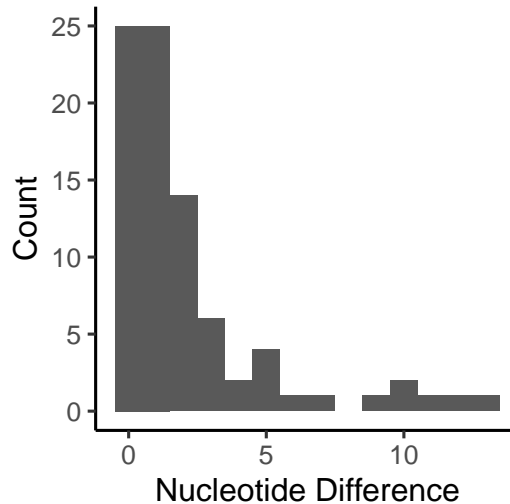
IGHV1-60*01_S7772

2353 sequences assigned
101 (4.3%) exact matches, in which:
50 unique CDR3
5 unique J



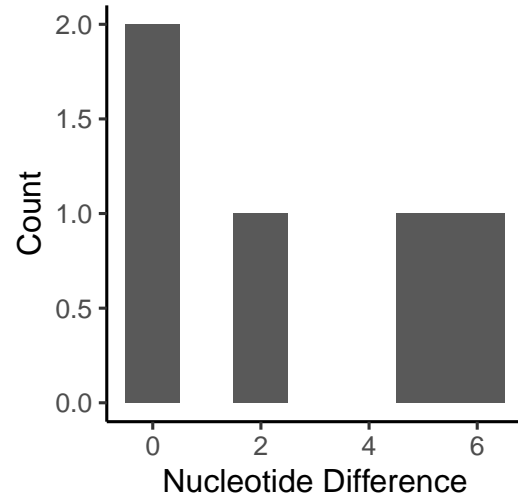
IGHV1-124*01_S1765

84 sequences assigned
25 (29.8%) exact matches, in which:
12 unique CDR3
5 unique J



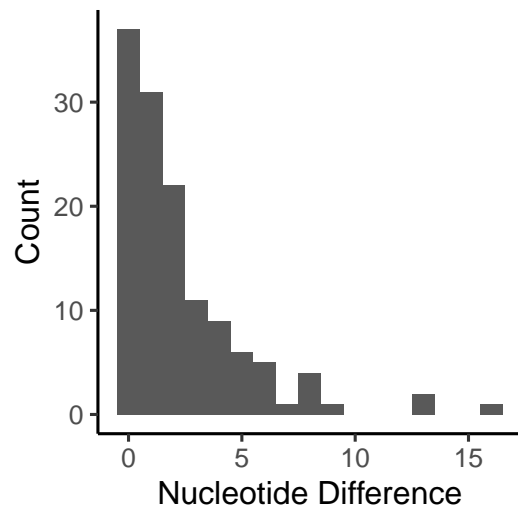
IGHV1-170*01_S3055

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



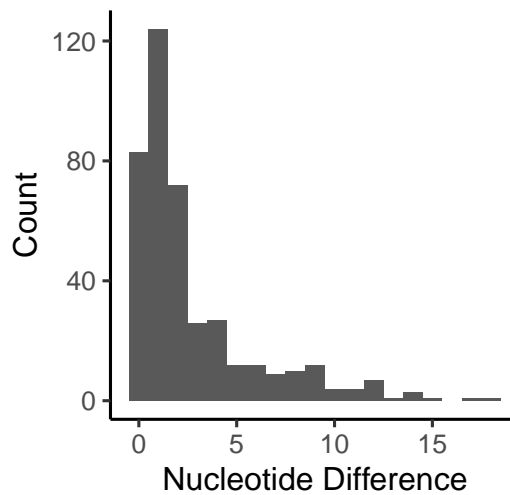
IGHV1-84*01_S0302

131 sequences assigned
37 (28.2%) exact matches, in which:
12 unique CDR3
5 unique J



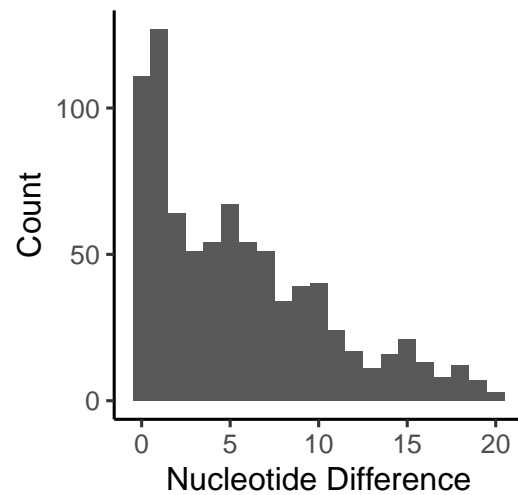
IGHV1-138*01_S2054

419 sequences assigned
83 (19.8%) exact matches, in which:
56 unique CDR3
6 unique J



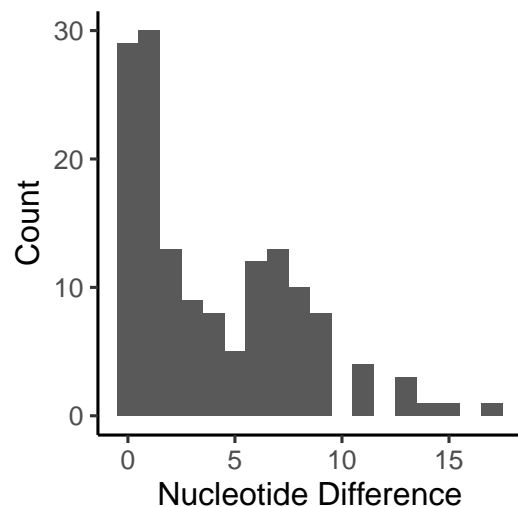
IGHV1-NL_1*01_S2052

834 sequences assigned
111 (13.3%) exact matches, in which:
55 unique CDR3
5 unique J



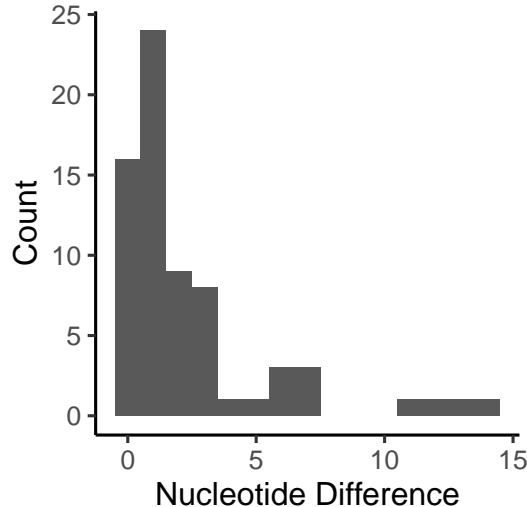
IGHV1-84*01_S5842

147 sequences assigned
29 (19.7%) exact matches, in which:
10 unique CDR3
4 unique J



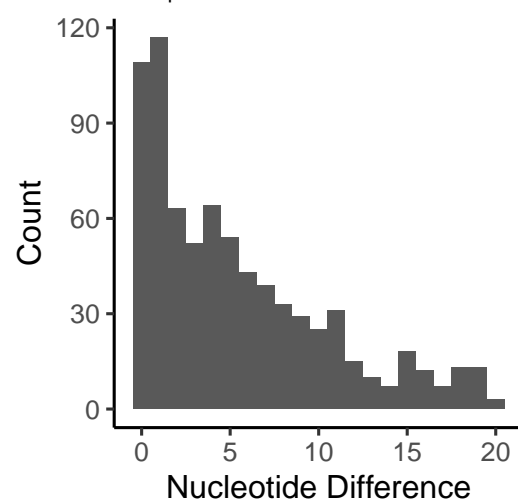
IGHV1-138*01_S9115

69 sequences assigned
16 (23.2%) exact matches, in which:
9 unique CDR3
5 unique J



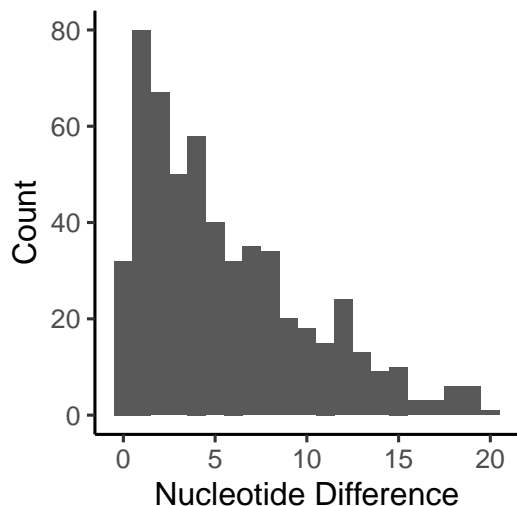
IGHV1-NL_2*01_S5959

848 sequences assigned
109 (12.9%) exact matches, in which:
39 unique CDR3
6 unique J



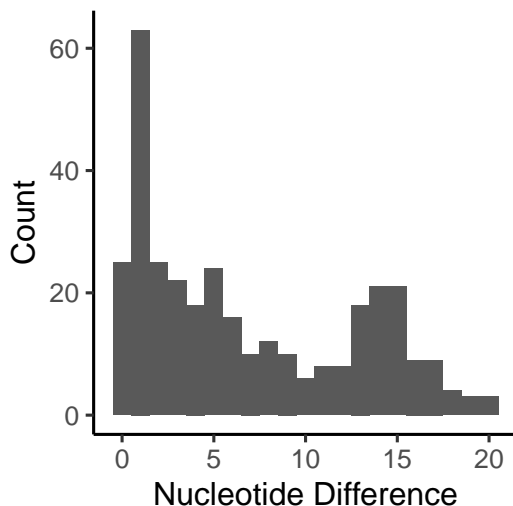
IGHV2-7*02_S1732

574 sequences assigned
32 (5.6%) exact matches, in which:
21 unique CDR3
4 unique J



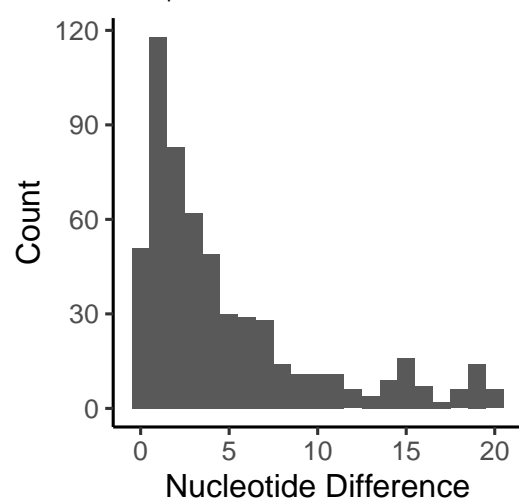
IGHV2-69*01_S5121

356 sequences assigned
25 (7%) exact matches, in which:
11 unique CDR3
4 unique J



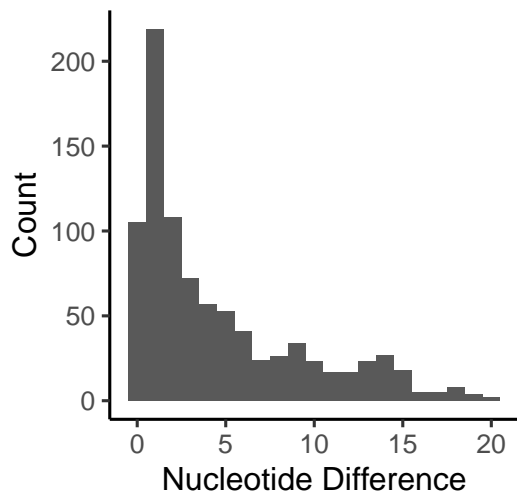
IGHV2-118*01_S6364

580 sequences assigned
51 (8.8%) exact matches, in which:
31 unique CDR3
5 unique J



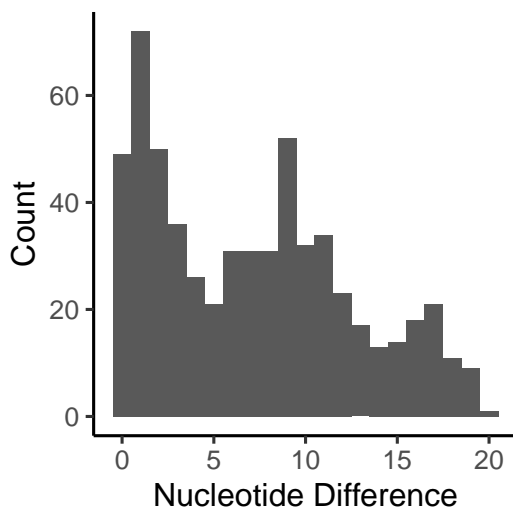
IGHV2-7*02_S3534

916 sequences assigned
105 (11.5%) exact matches, in which:
49 unique CDR3
5 unique J



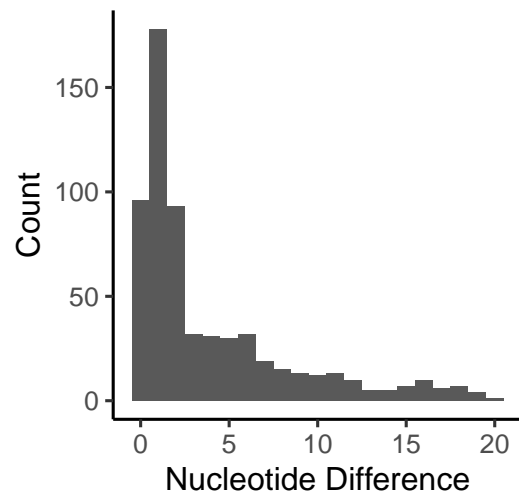
IGHV2-69*02_S0779

623 sequences assigned
49 (7.9%) exact matches, in which:
24 unique CDR3
5 unique J



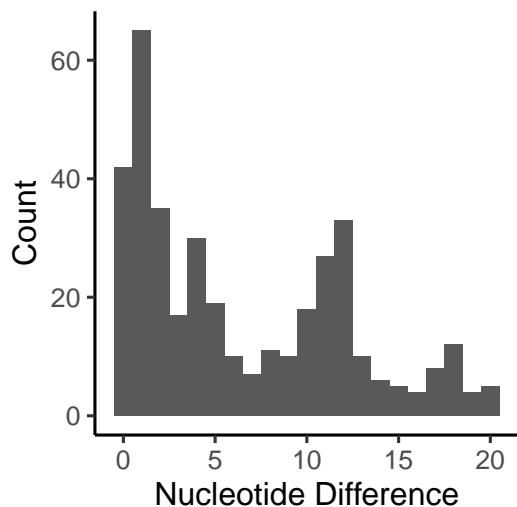
IGHV2-173*01_S9930

628 sequences assigned
96 (15.3%) exact matches, in which:
53 unique CDR3
5 unique J



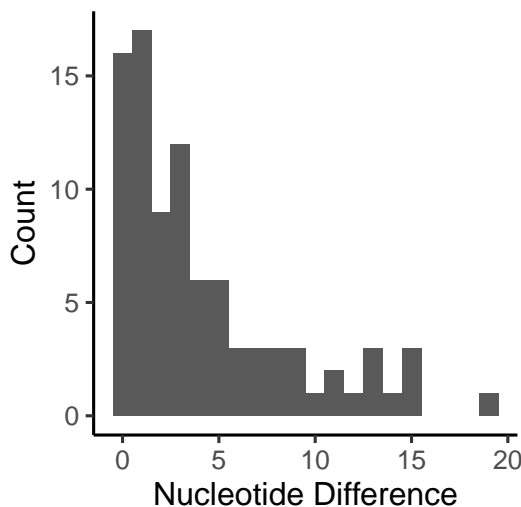
IGHV2-69*01_S4797

387 sequences assigned
42 (10.9%) exact matches, in which:
24 unique CDR3
5 unique J



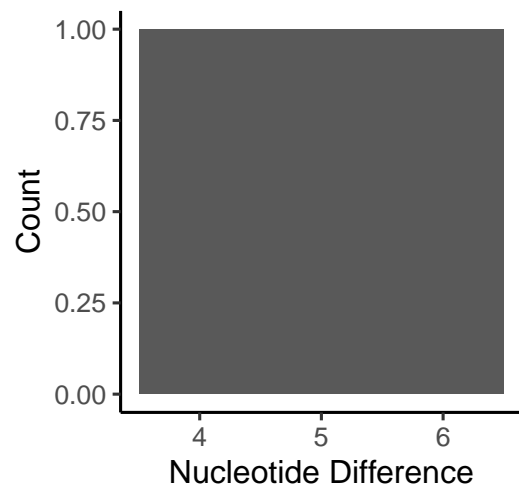
IGHV2-118*01_A267G_A^{CTCT}

92 sequences assigned
16 (17.4%) exact matches, in which:
13 unique CDR3
5 unique J



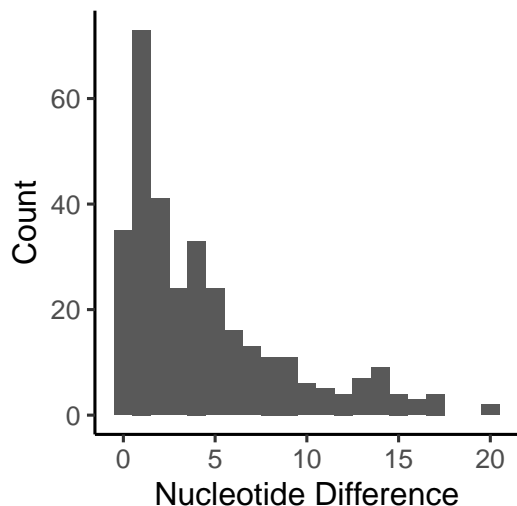
IGHV2-NL_1*01_S2488

5 sequences assigned
No exact matches.



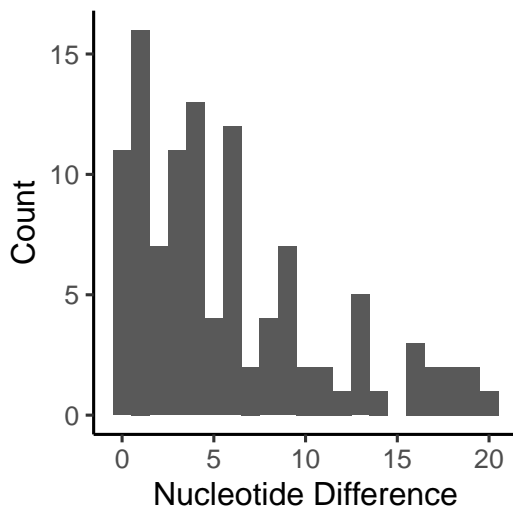
IGHV2–NL_2*01_S8873

331 sequences assigned
35 (10.6%) exact matches, in which:
18 unique CDR3
4 unique J



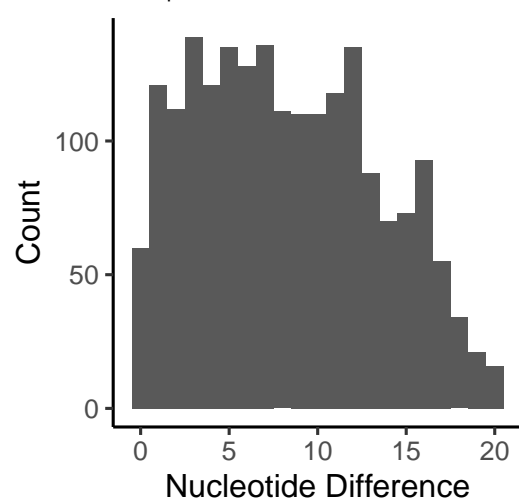
IGHV3–28*01_S0096

111 sequences assigned
11 (9.9%) exact matches, in which:
9 unique CDR3
4 unique J



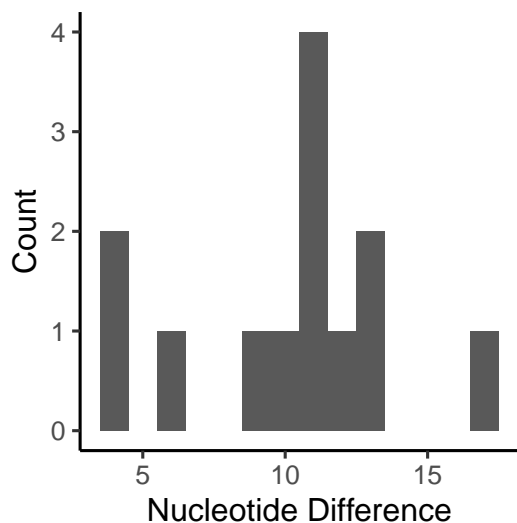
IGHV3–37*01_S9699

2150 sequences assigned
60 (2.8%) exact matches, in which:
36 unique CDR3
4 unique J



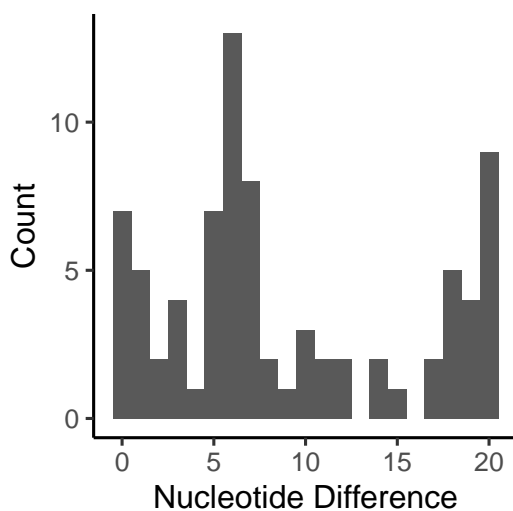
IGHV3–5*01_S0969

53 sequences assigned
No exact matches.



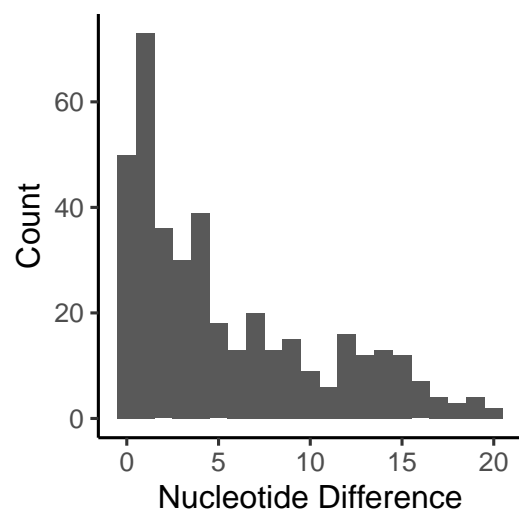
IGHV3–28*01_S7540

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



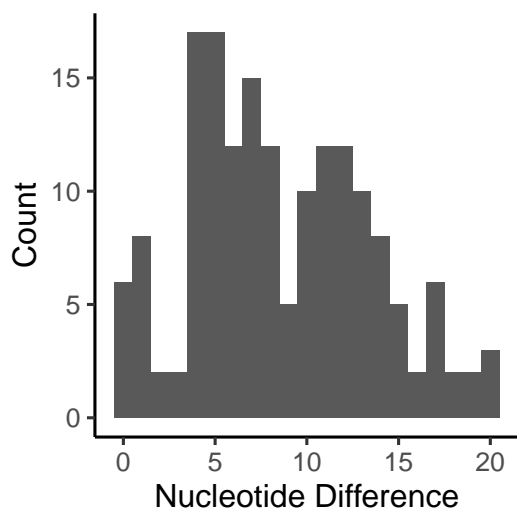
IGHV3–50*01_S3548

408 sequences assigned
50 (12.3%) exact matches, in which:
31 unique CDR3
5 unique J



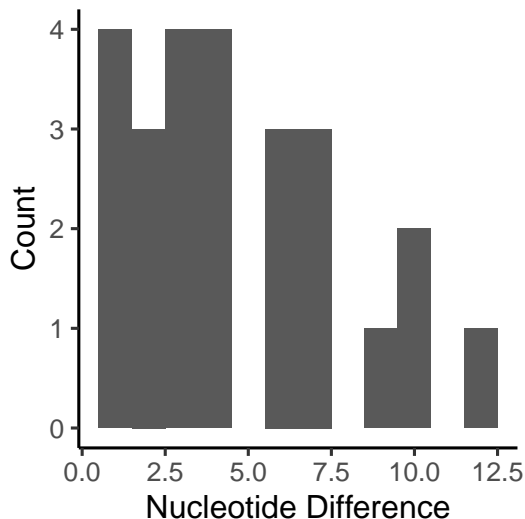
IGHV3–9*01_S5797

174 sequences assigned
6 (3.4%) exact matches, in which:
4 unique CDR3
1 unique J



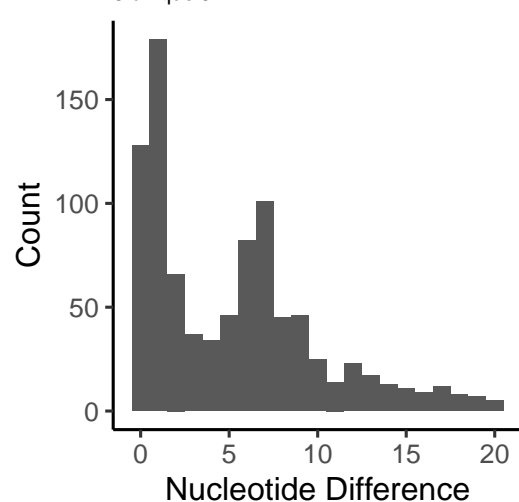
IGHV3–36*01_S6650

25 sequences assigned
No exact matches.



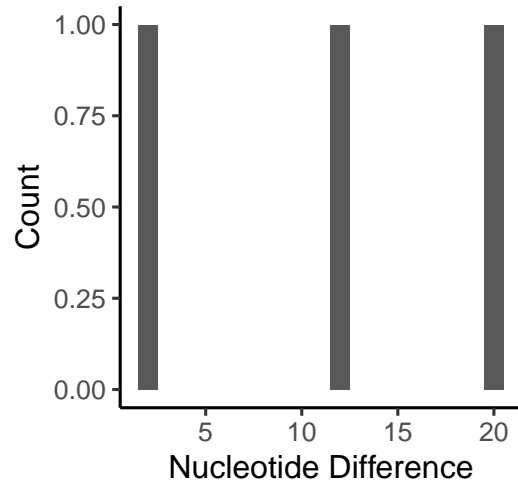
IGHV3–50*01_S9079

934 sequences assigned
128 (13.7%) exact matches, in which:
73 unique CDR3
5 unique J



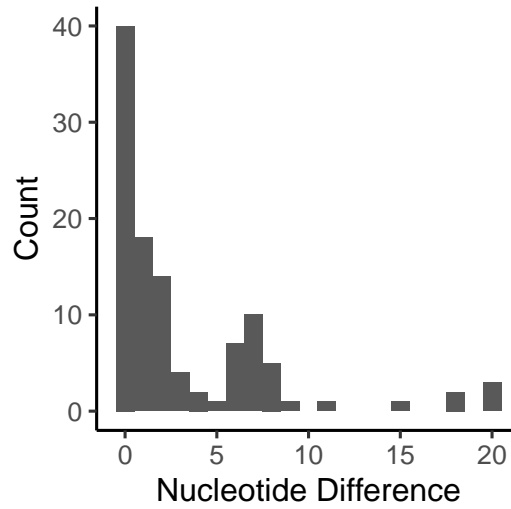
IGHV3-52*02_S4550

4 sequences assigned
No exact matches.



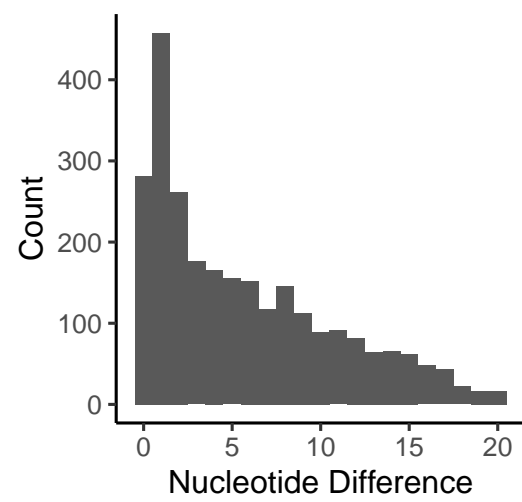
IGHV3-73*01_S3636

112 sequences assigned
40 (35.7%) exact matches, in which:
26 unique CDR3
4 unique J



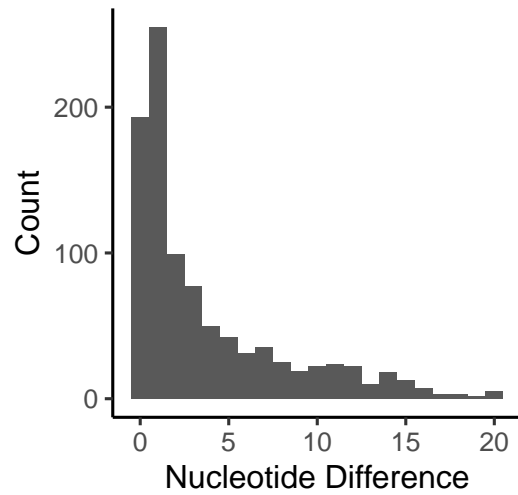
IGHV3-76*02_S4190

2729 sequences assigned
281 (10.3%) exact matches, in which:
171 unique CDR3
6 unique J



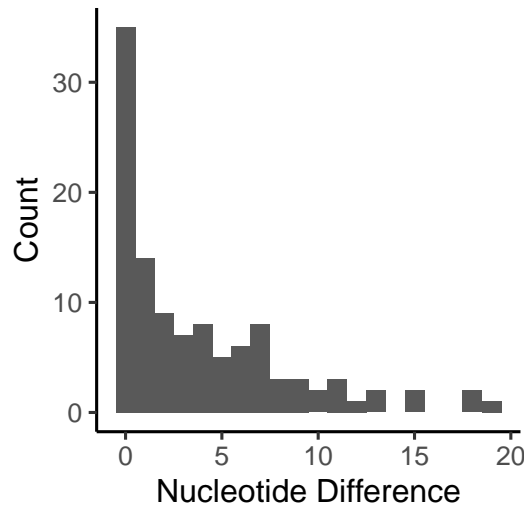
IGHV3-53*01_S3027

967 sequences assigned
193 (20%) exact matches, in which:
124 unique CDR3
5 unique J



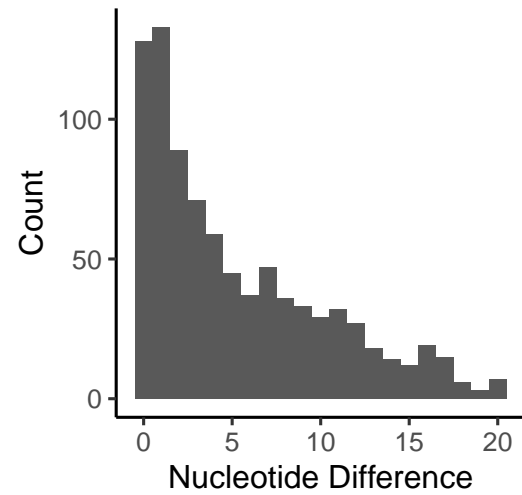
IGHV3-73*02_S5005

111 sequences assigned
35 (31.5%) exact matches, in which:
23 unique CDR3
5 unique J



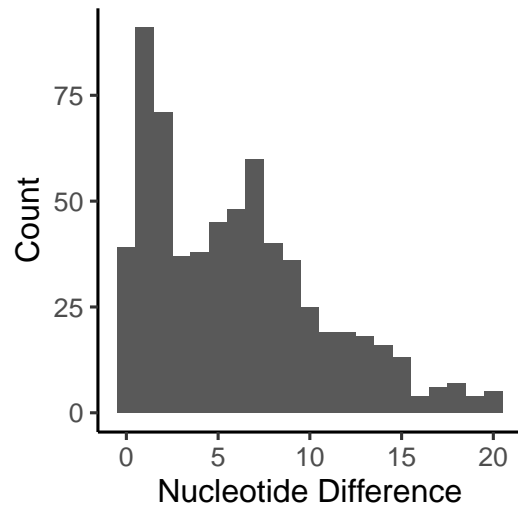
IGHV3-76*02_S4190_A2

893 sequences assigned
128 (14.3%) exact matches, in which:
104 unique CDR3
6 unique J



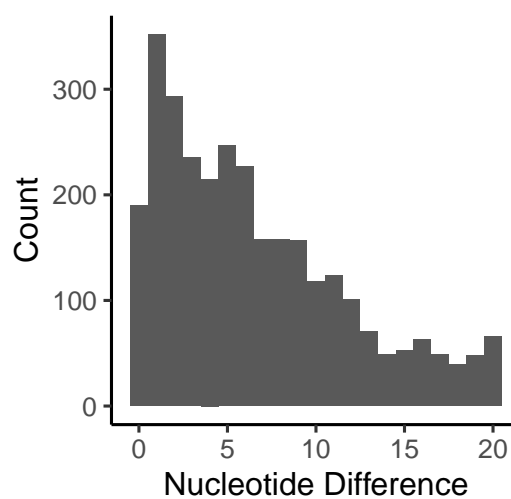
IGHV3-53*01_S8116

655 sequences assigned
39 (6%) exact matches, in which:
27 unique CDR3
5 unique J



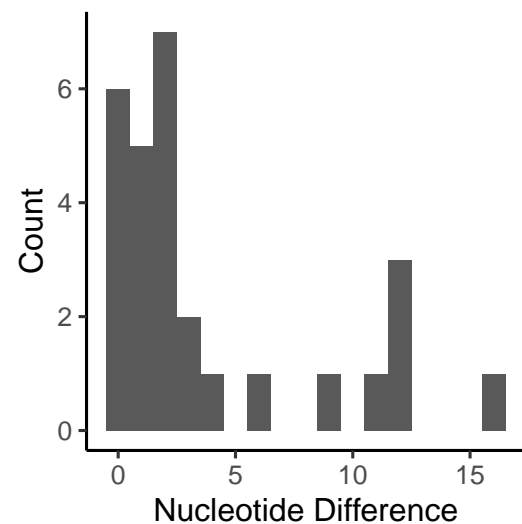
IGHV3-76*01_S4285

3319 sequences assigned
190 (5.7%) exact matches, in which:
108 unique CDR3
5 unique J



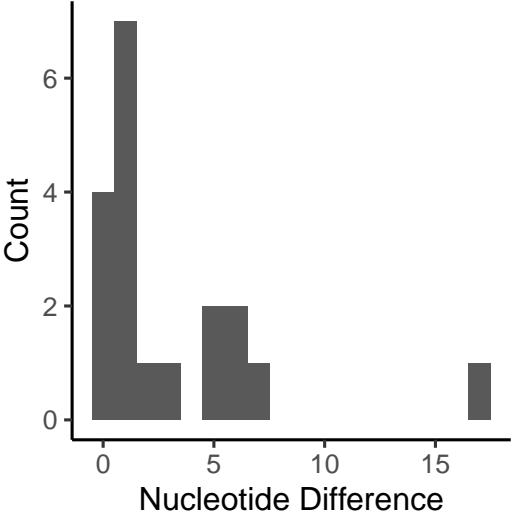
IGHV3-83*01_S5932

28 sequences assigned
6 (21.4%) exact matches, in which:
6 unique CDR3
3 unique J



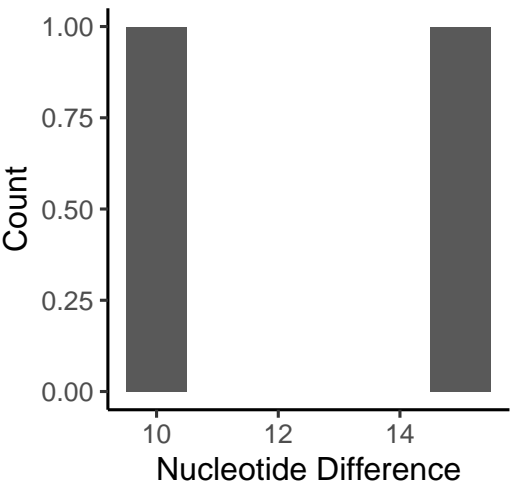
IGHV3-83*02_S9518

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



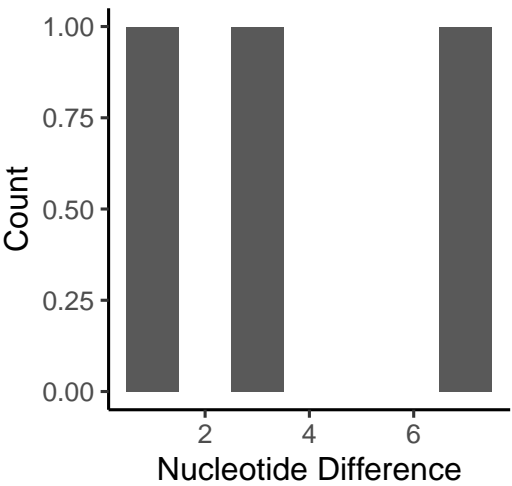
IGHV3-94*01_S7982

2 sequences assigned
No exact matches.



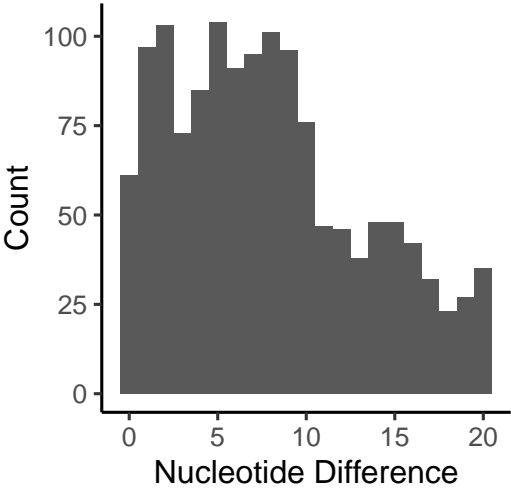
IGHV3-103*01_S2756

3 sequences assigned
No exact matches.



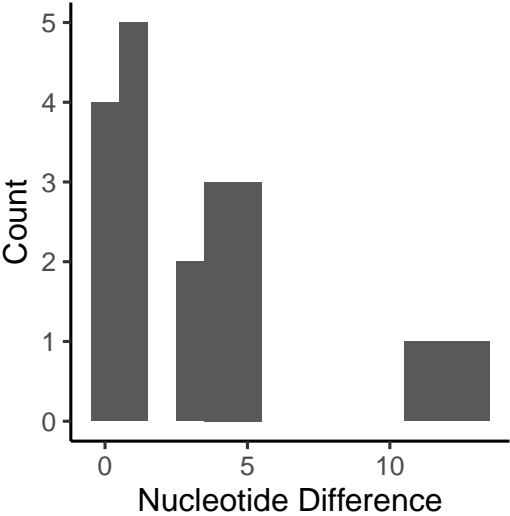
IGHV3-88*02_S1355

1505 sequences assigned
61 (4.1%) exact matches, in which:
35 unique CDR3
5 unique J



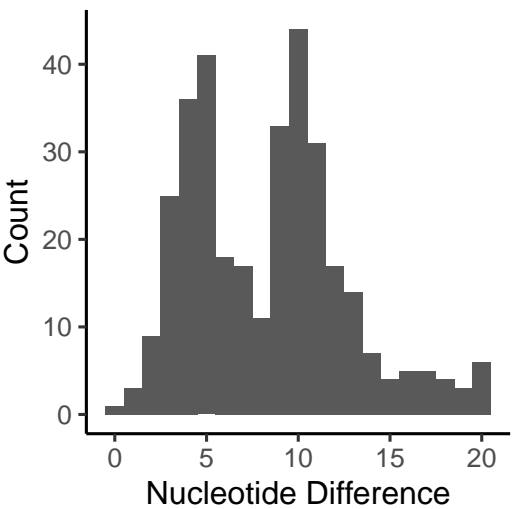
IGHV3-100*01_S4205

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



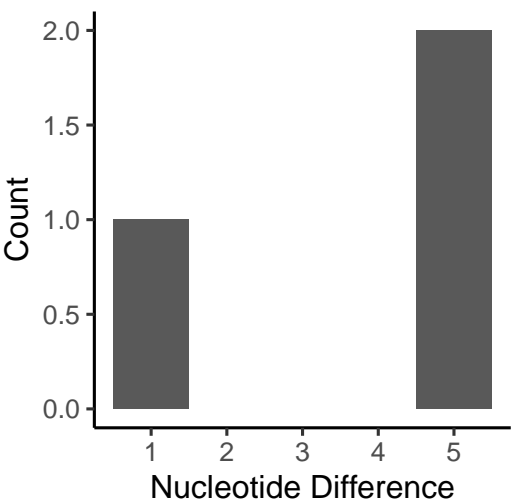
IGHV3-120*01_S4231

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



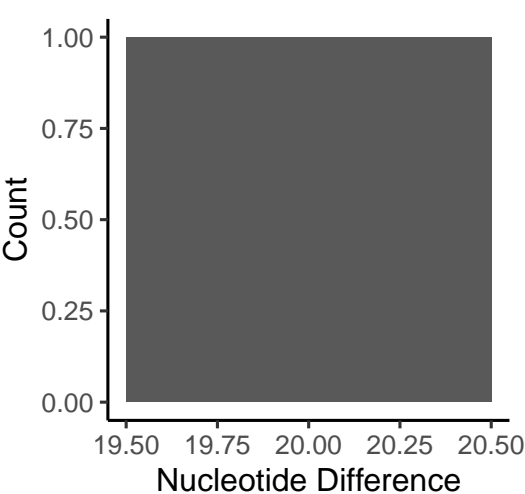
IGHV3-94*01_S4458

5 sequences assigned
No exact matches.



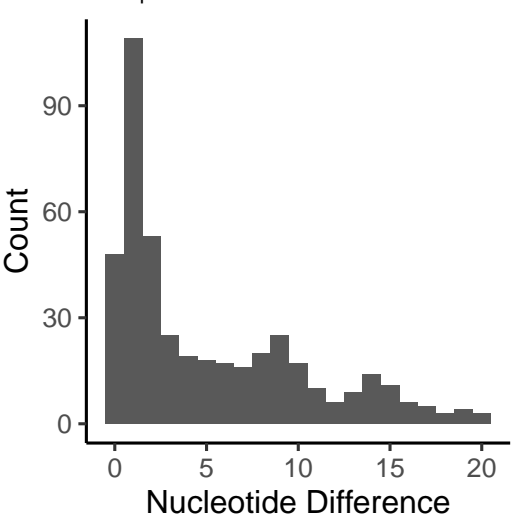
IGHV3-100*01_S4375

18 sequences assigned
No exact matches.



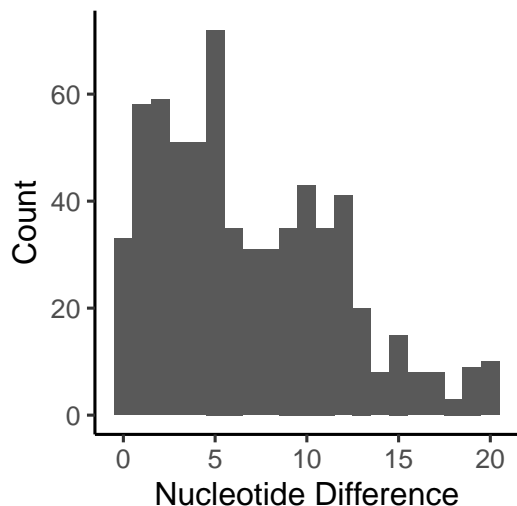
IGHV3-122*01_S5299

441 sequences assigned
48 (10.9%) exact matches, in which:
28 unique CDR3
4 unique J



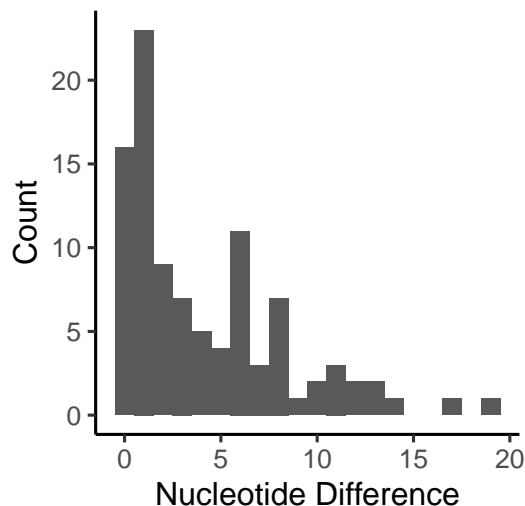
IGHV3-127*01_S5510

677 sequences assigned
33 (4.9%) exact matches, in which:
21 unique CDR3
4 unique J



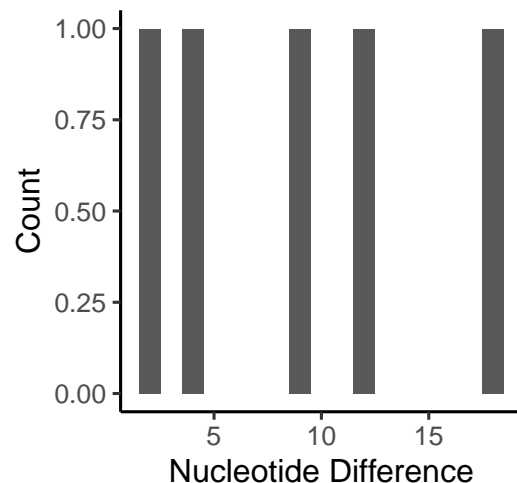
IGHV3-141*01_S3493

99 sequences assigned
16 (16.2%) exact matches, in which:
13 unique CDR3
3 unique J



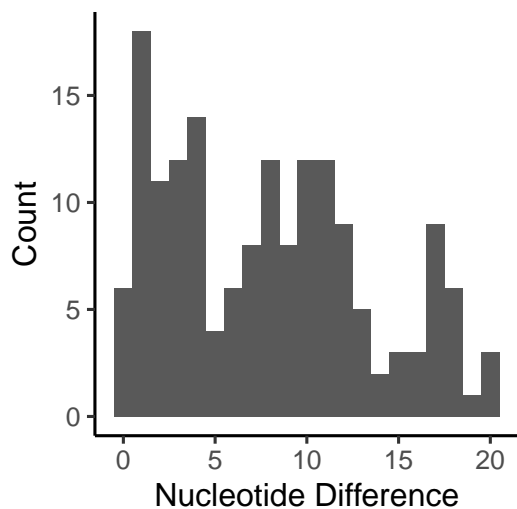
IGHV3-152*01_S5891

7 sequences assigned
No exact matches.



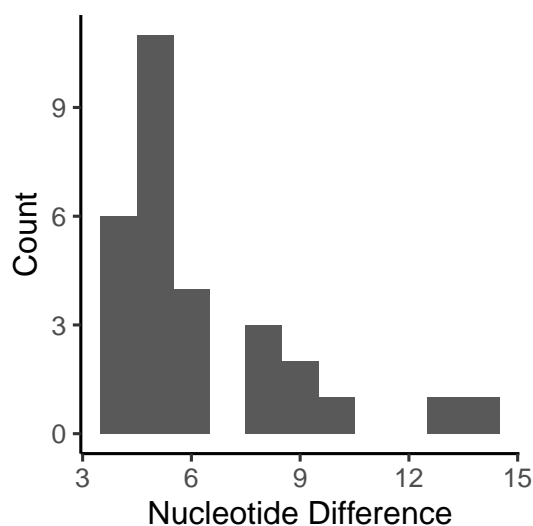
IGHV3-128*02_S0204

183 sequences assigned
6 (3.3%) exact matches, in which:
4 unique CDR3
2 unique J



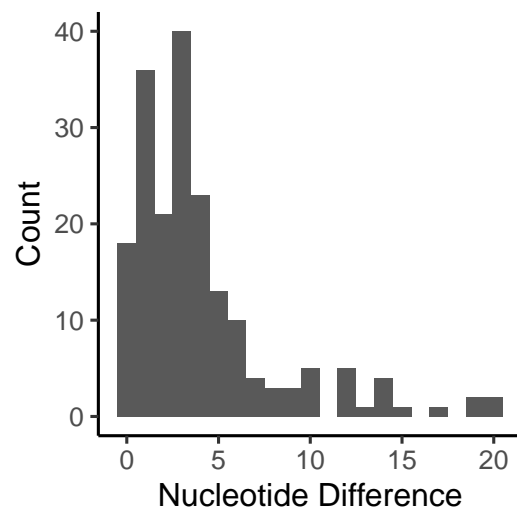
IGHV3-141*02_S2868

30 sequences assigned
No exact matches.



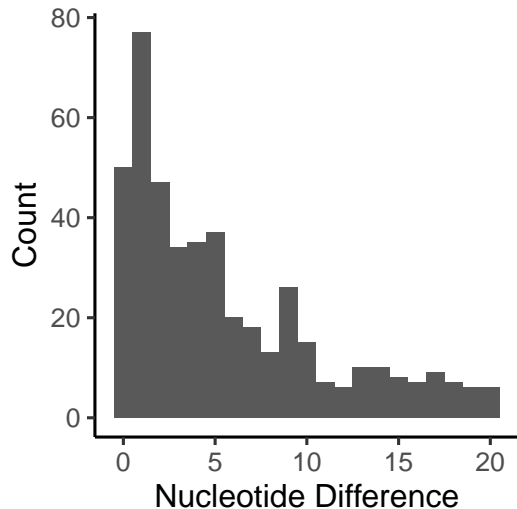
IGHV3-172*01_S0577

195 sequences assigned
18 (9.2%) exact matches, in which:
13 unique CDR3
3 unique J



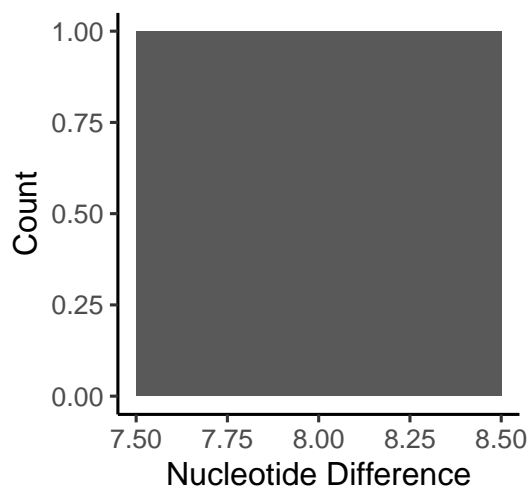
IGHV3-128*02_S2156

491 sequences assigned
50 (10.2%) exact matches, in which:
36 unique CDR3
4 unique J



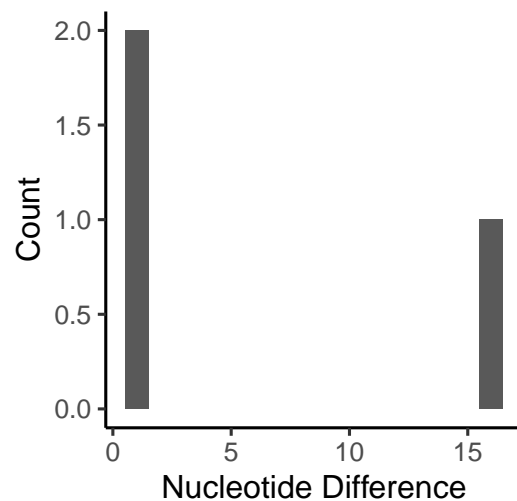
IGHV3-152*01_S1340

1 sequences assigned
No exact matches.



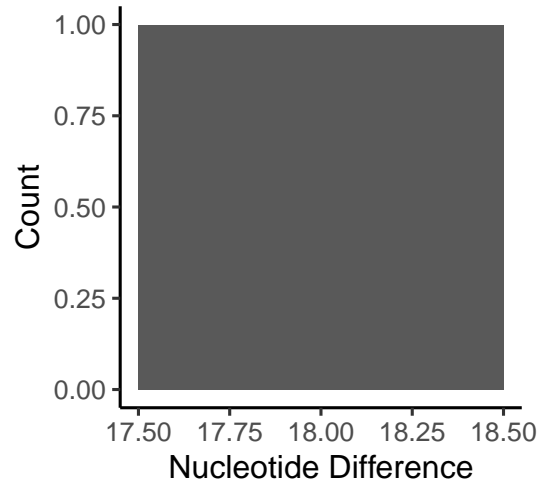
IGHV3-175*01_S1614

3 sequences assigned
No exact matches.



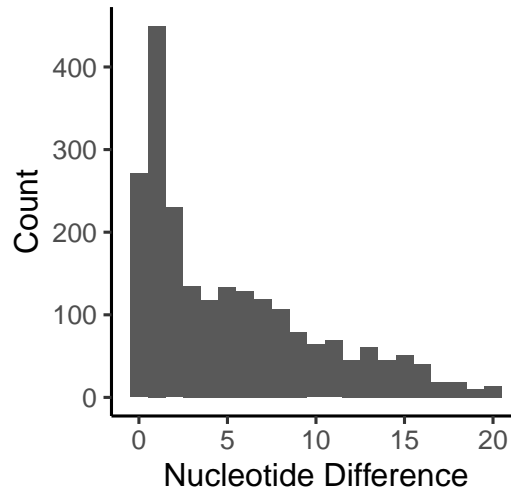
IGHV3-177*01_S1591

1 sequences assigned
No exact matches.



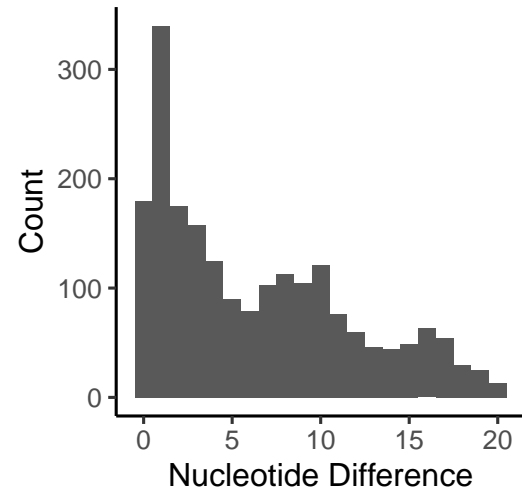
IGHV3-NL_1*01_S4331

2482 sequences assigned
271 (10.9%) exact matches, in which:
149 unique CDR3
8 unique J



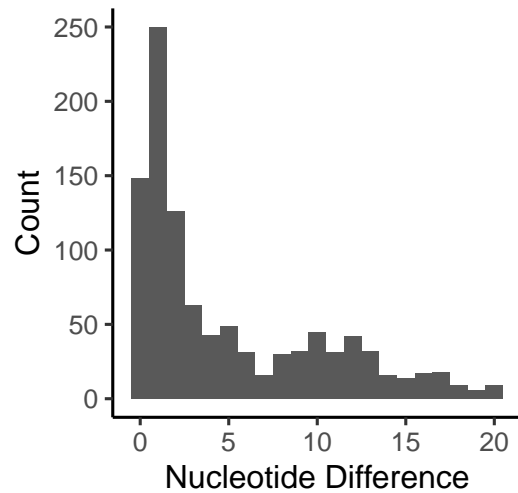
IGHV3-NL_11*01_S5714

2242 sequences assigned
180 (8%) exact matches, in which:
112 unique CDR3
5 unique J



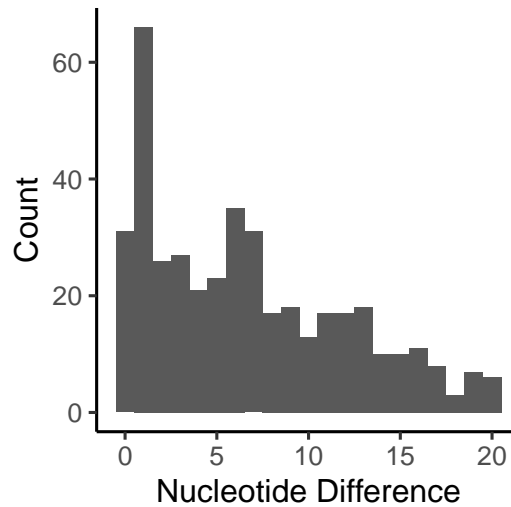
IGHV3-187*01_S1133

1106 sequences assigned
148 (13.4%) exact matches, in which:
87 unique CDR3
5 unique J



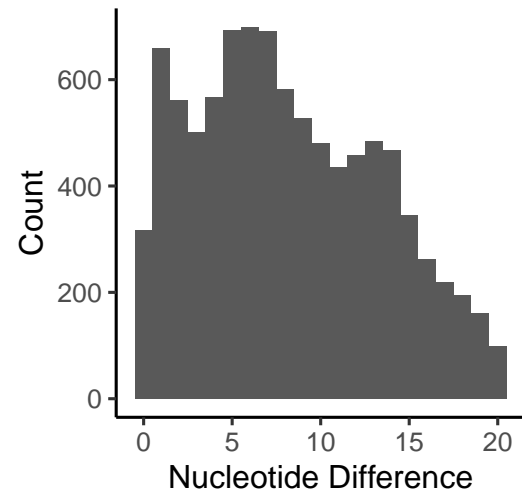
IGHV3-NL_1*01_S9422

471 sequences assigned
31 (6.6%) exact matches, in which:
24 unique CDR3
6 unique J



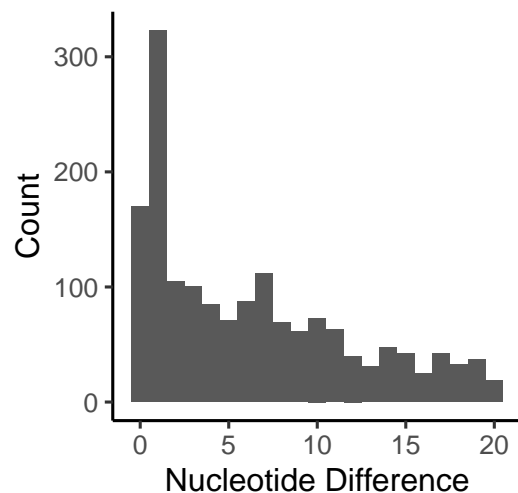
IGHV3-NL_11*01_S8458

9882 sequences assigned
317 (3.2%) exact matches, in which:
184 unique CDR3
5 unique J



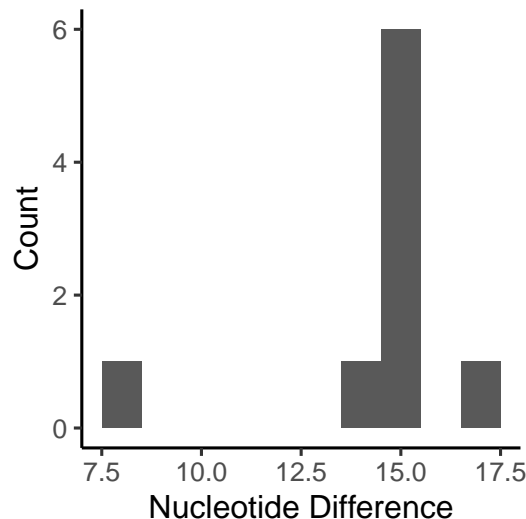
IGHV3-187*01_S4220

1773 sequences assigned
170 (9.6%) exact matches, in which:
102 unique CDR3
6 unique J



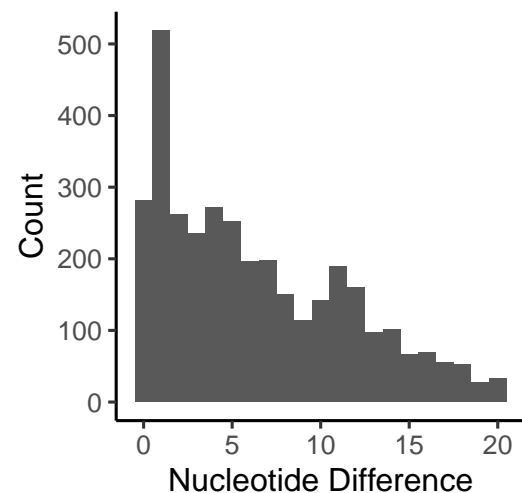
IGHV3-NL_10*02_S2212

9 sequences assigned
No exact matches.



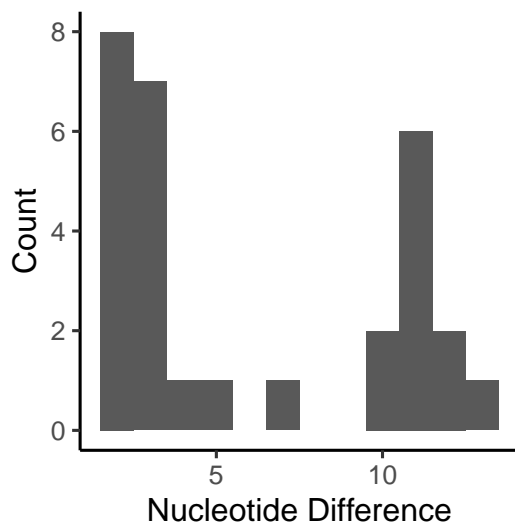
IGHV3-NL_11*01_S9627

3697 sequences assigned
281 (7.6%) exact matches, in which:
165 unique CDR3
5 unique J



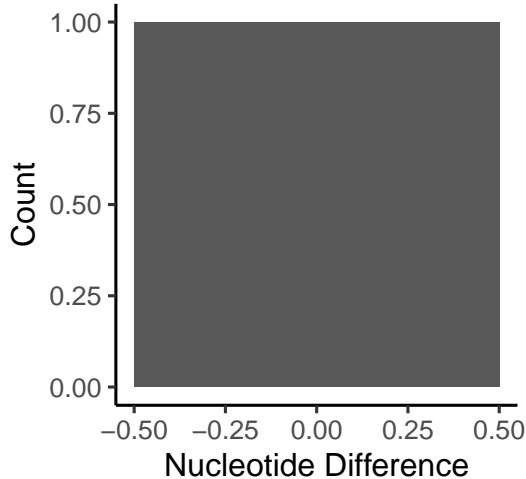
IGHV3-NL_12*02_S5864

30 sequences assigned
No exact matches.



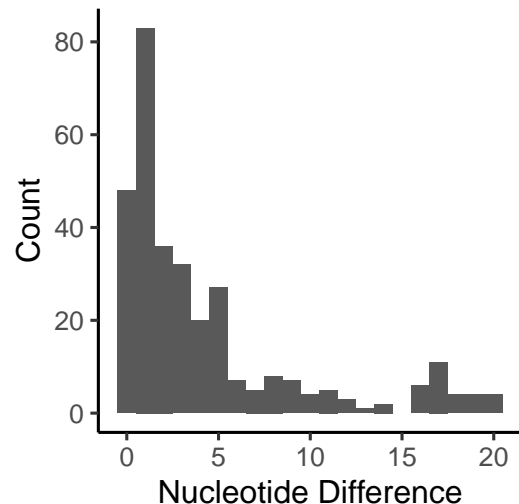
IGHV3-NL_14*01_S1113

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



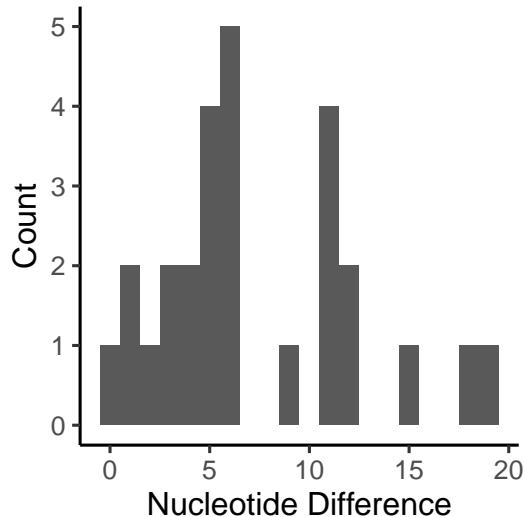
IGHV3-NL_15*01_S5125

325 sequences assigned
48 (14.8%) exact matches, in which:
30 unique CDR3
5 unique J



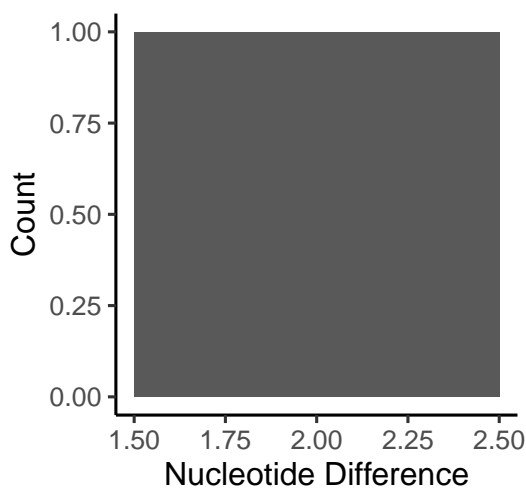
IGHV3-NL_12*02_S6994

27 sequences assigned
1 (3.7%) exact matches, in which:
1 unique CDR3
1 unique J



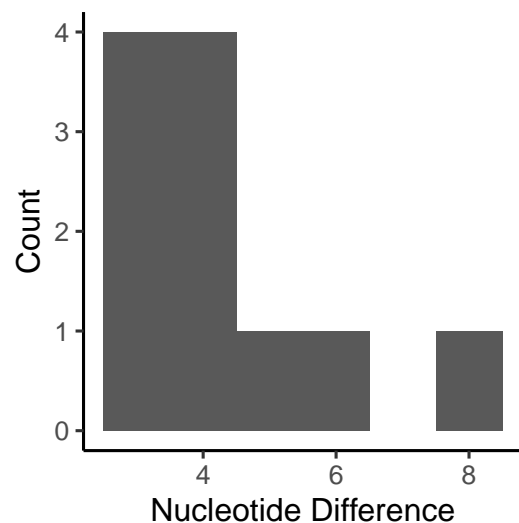
IGHV3-NL_14*01_S9303

1 sequences assigned
No exact matches.



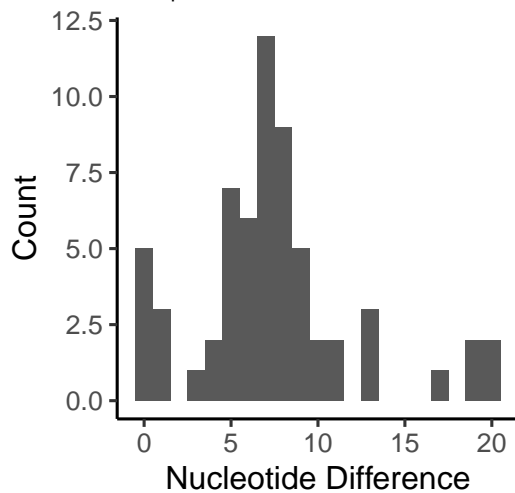
IGHV3-NL_16*01_S8234

11 sequences assigned
No exact matches.



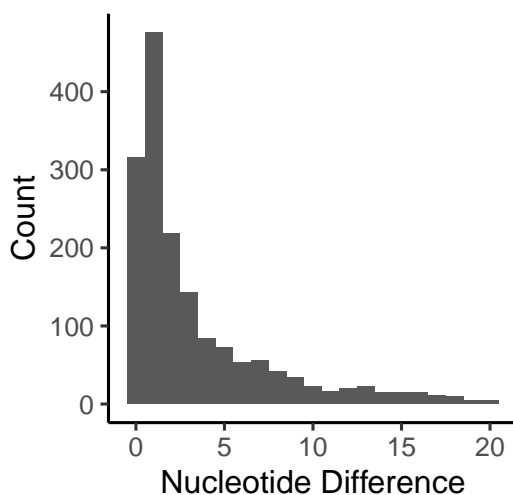
IGHV3-NL_13*01_S2797

70 sequences assigned
5 (7.1%) exact matches, in which:
5 unique CDR3
2 unique J



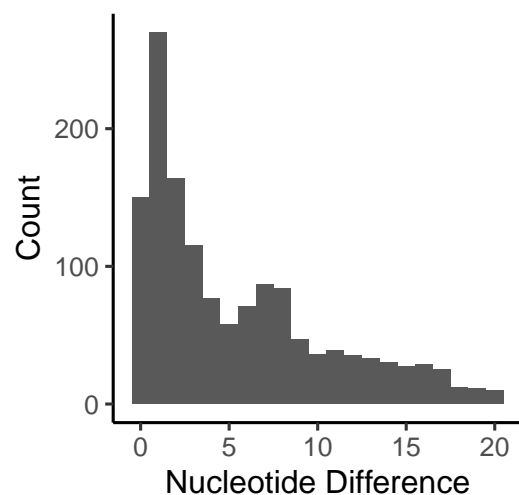
IGHV3-NL_15*01_S3018

1671 sequences assigned
316 (18.9%) exact matches, in which:
212 unique CDR3
5 unique J



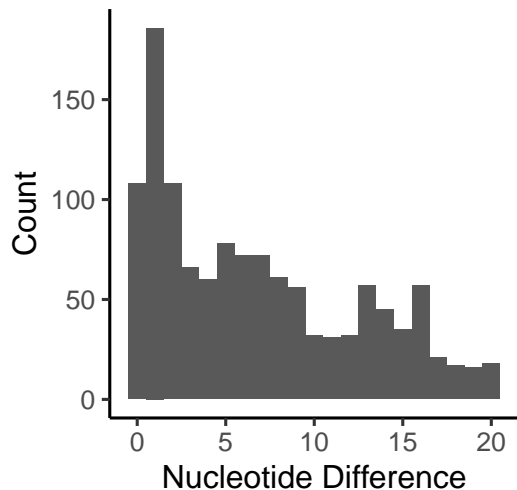
IGHV3-NL_17*01_S5770

1526 sequences assigned
150 (9.8%) exact matches, in which:
86 unique CDR3
5 unique J



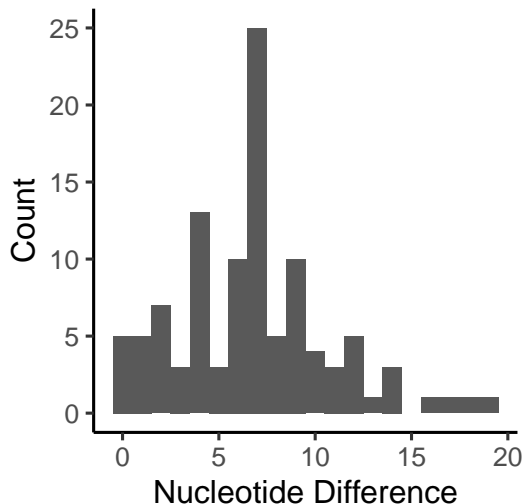
IGHV3–NL_17*01_S6544

1287 sequences assigned
108 (8.4%) exact matches, in which:
64 unique CDR3
6 unique J



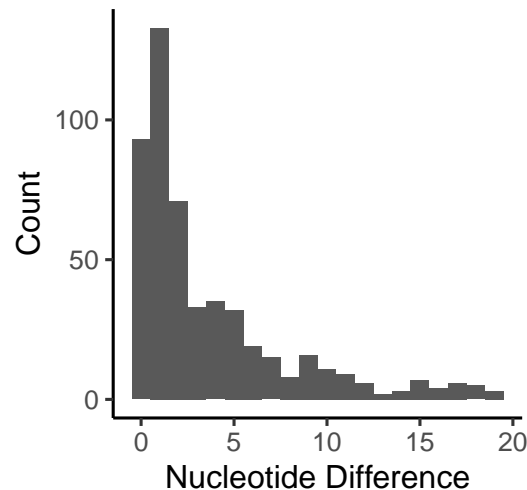
IGHV3–NL_19*01_S9323

107 sequences assigned
5 (4.7%) exact matches, in which:
4 unique CDR3
2 unique J



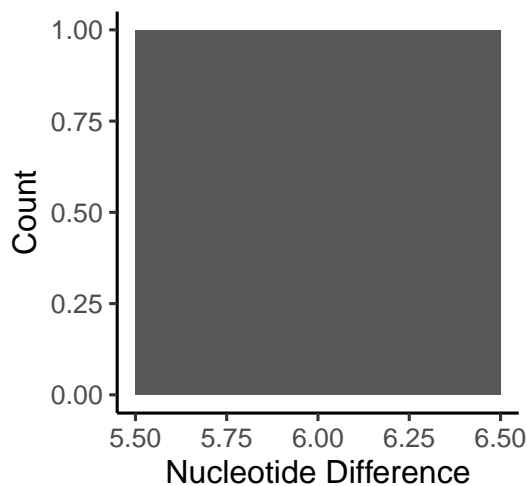
IGHV3–NL_4*01_S9635

518 sequences assigned
93 (18%) exact matches, in which:
64 unique CDR3
5 unique J



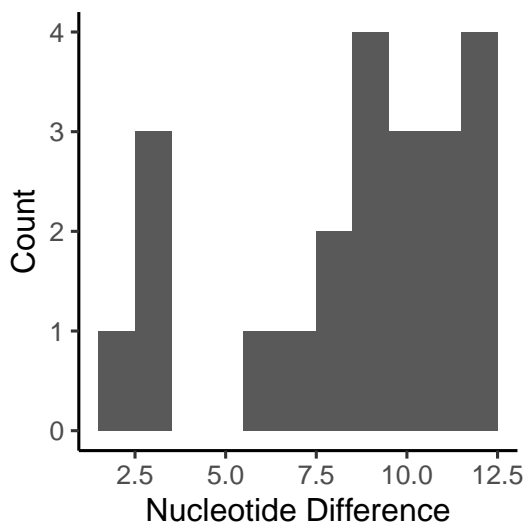
IGHV3–NL_18*01_S7053

1 sequences assigned
No exact matches.



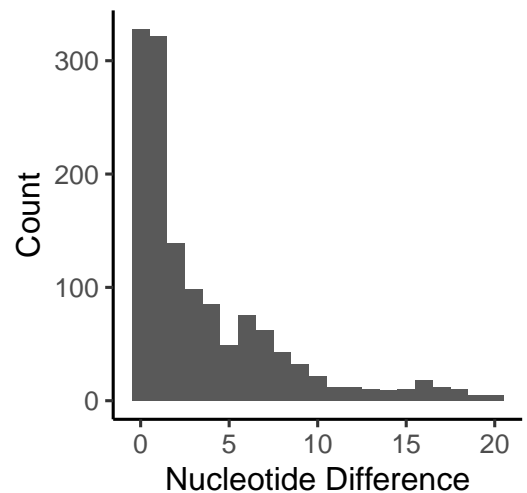
IGHV3–NL_2*01_S1693

26 sequences assigned
No exact matches.



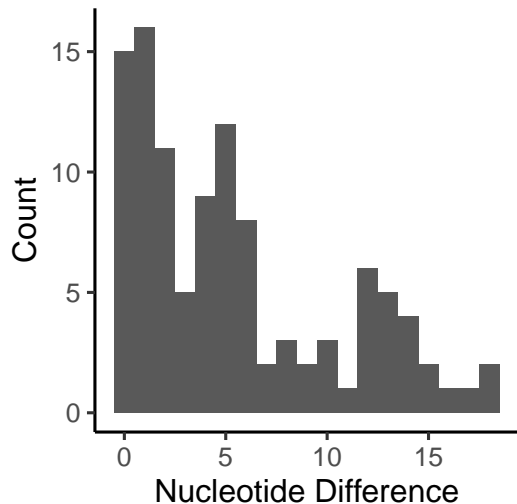
IGHV3–NL_5*01_S8361

1403 sequences assigned
328 (23.4%) exact matches, in which:
123 unique CDR3
5 unique J



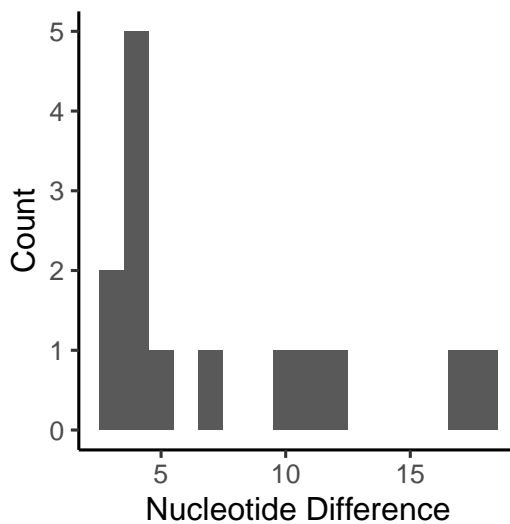
IGHV3–NL_19*01_S4000

110 sequences assigned
15 (13.6%) exact matches, in which:
10 unique CDR3
4 unique J



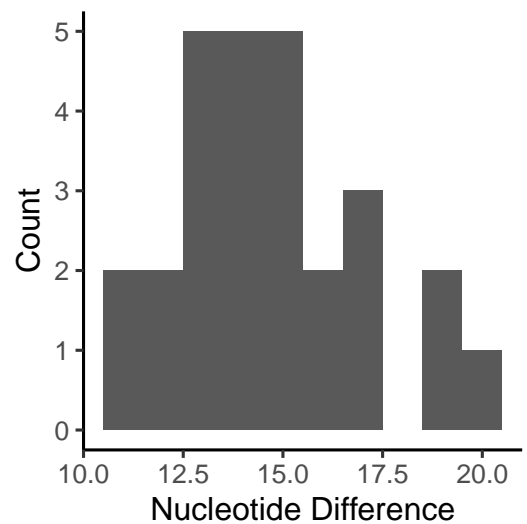
IGHV3–NL_2*01_S3900

14 sequences assigned
No exact matches.



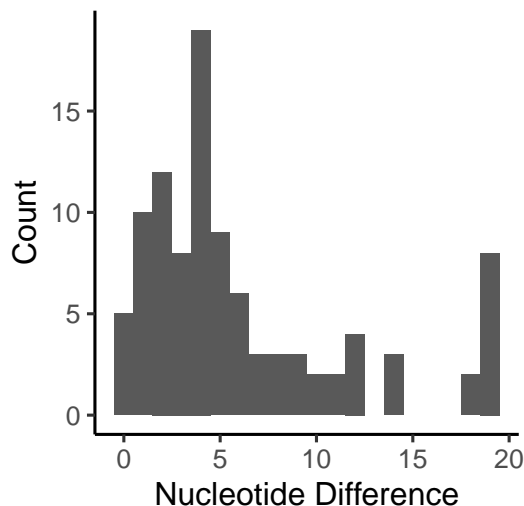
IGHV3–NL_6*02_S7808

66 sequences assigned
No exact matches.



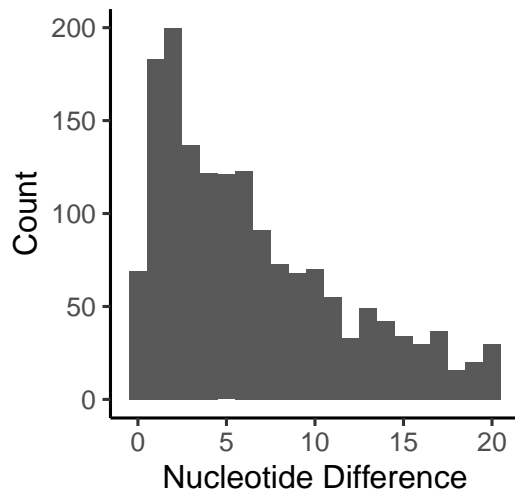
IGHV3–NL_8*01_S7474

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



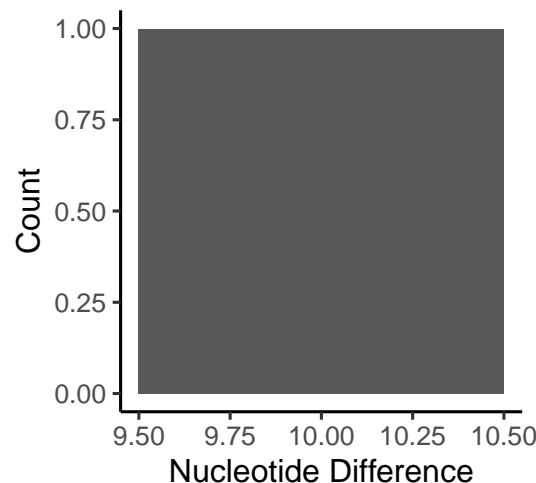
IGHV4–72*01_S1622

1695 sequences assigned
69 (4.1%) exact matches, in which:
52 unique CDR3
5 unique J



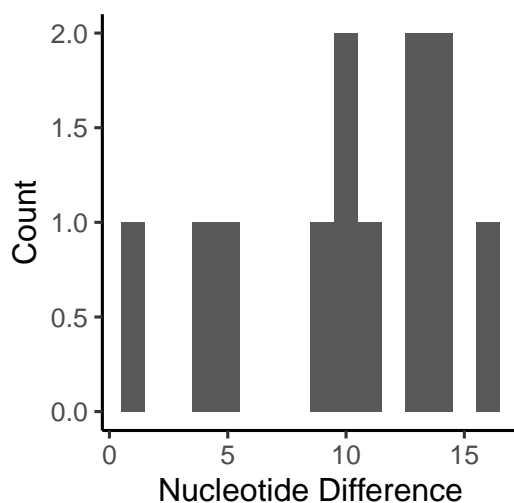
IGHV4–93*01_S0054

1 sequences assigned
No exact matches.



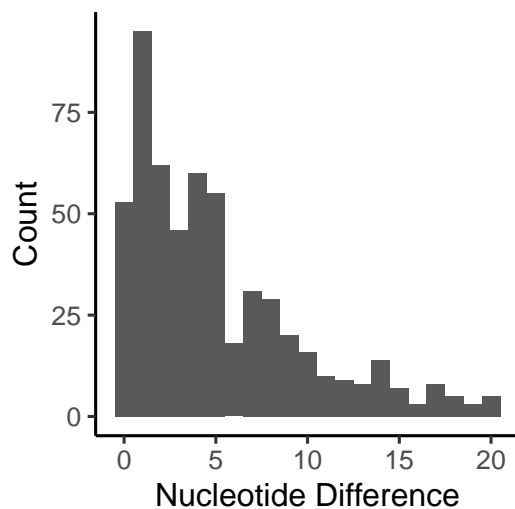
IGHV3–NL_9*01_S6098

13 sequences assigned
No exact matches.



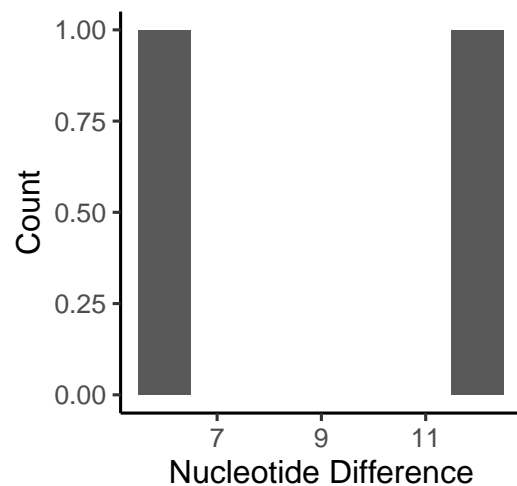
IGHV4–72*01_S2051

592 sequences assigned
53 (9%) exact matches, in which:
40 unique CDR3
5 unique J



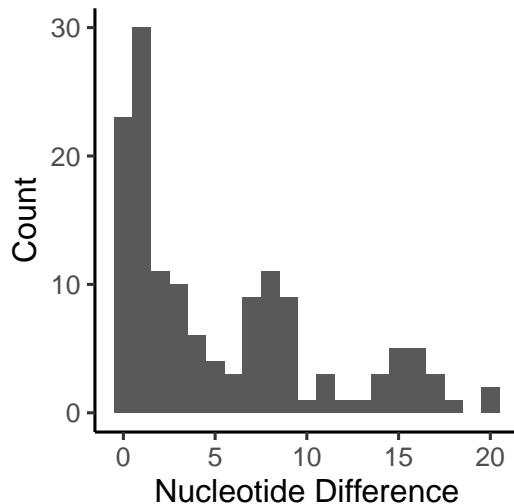
IGHV4–93*01_S0998

2 sequences assigned
No exact matches.



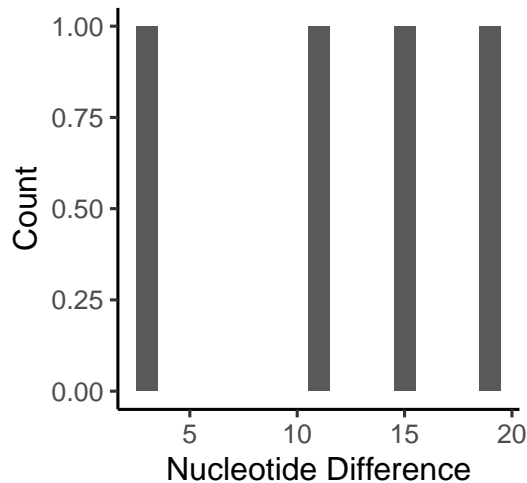
IGHV4–67*02_S6848

166 sequences assigned
23 (13.9%) exact matches, in which:
17 unique CDR3
4 unique J



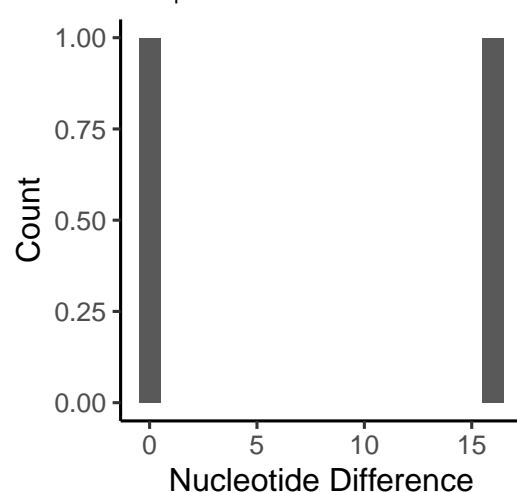
IGHV4–79*02_S9501

9 sequences assigned
No exact matches.



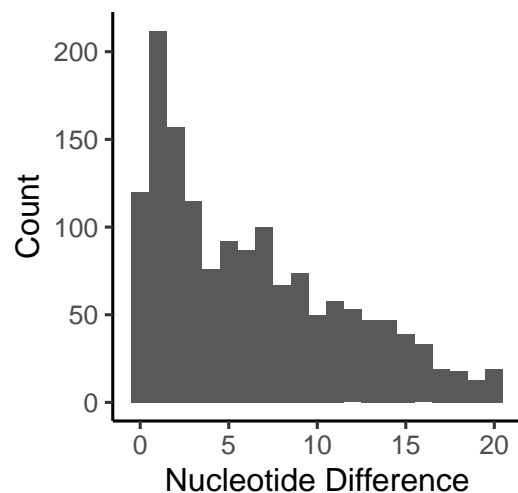
IGHV4–93*01_S5203

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



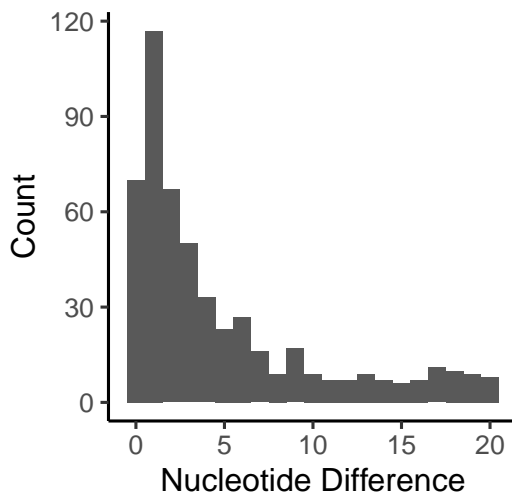
IGHV4-117*01_S0201

1565 sequences assigned
120 (7.7%) exact matches, in which:
103 unique CDR3
5 unique J



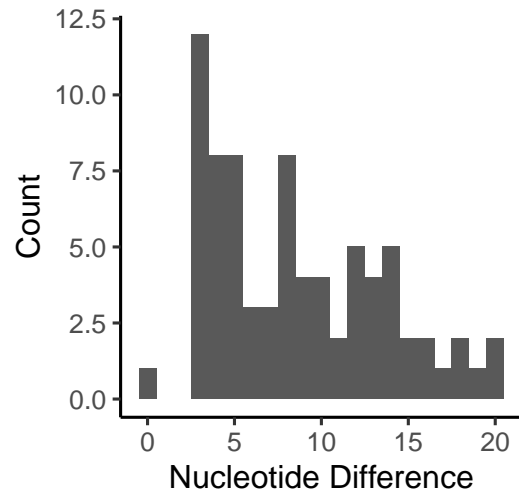
IGHV4-144*01_S7342

594 sequences assigned
70 (11.8%) exact matches, in which:
61 unique CDR3
6 unique J



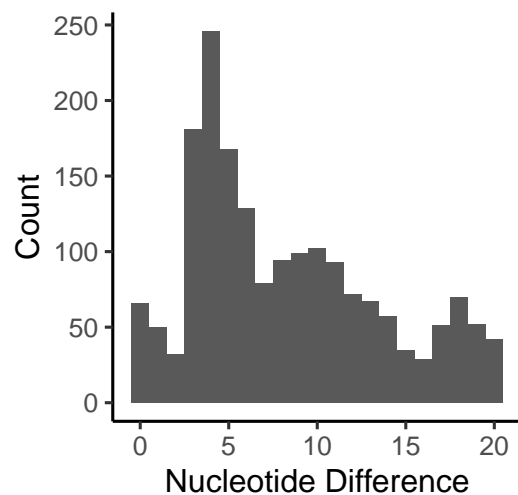
IGHV4-174*02_S5400

143 sequences assigned
1 (0.7%) exact matches, in which:
1 unique CDR3
1 unique J



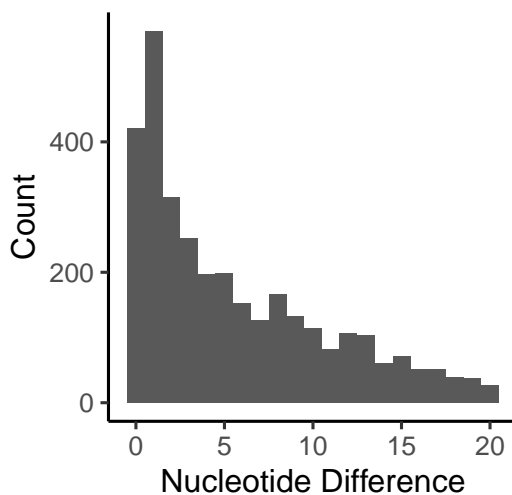
IGHV4-117*01_S5847

1963 sequences assigned
66 (3.4%) exact matches, in which:
52 unique CDR3
5 unique J



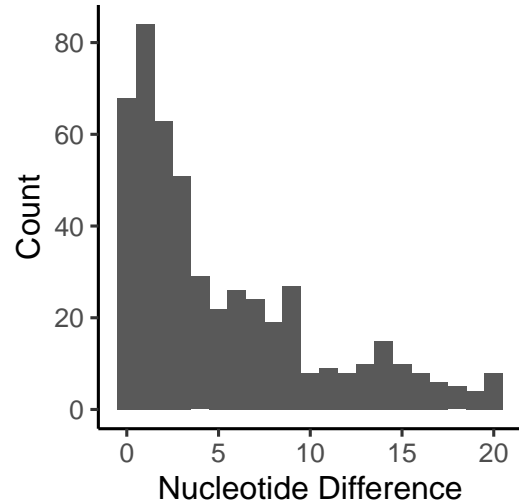
IGHV4-149*01_S0794

3511 sequences assigned
421 (12%) exact matches, in which:
316 unique CDR3
5 unique J



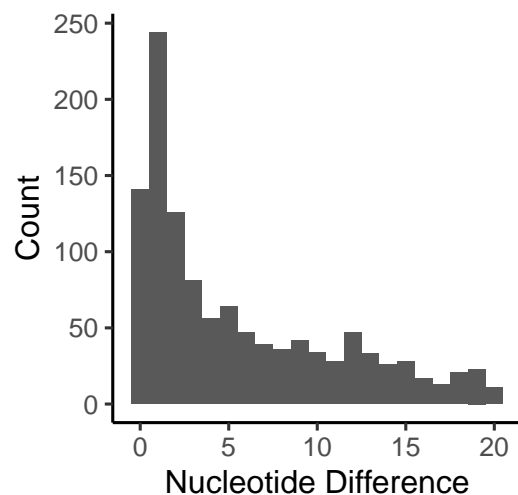
IGHV4-NL_1*01_S1456

532 sequences assigned
68 (12.8%) exact matches, in which:
46 unique CDR3
4 unique J



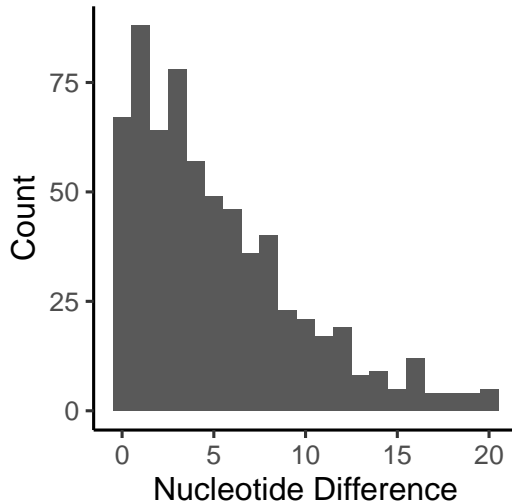
IGHV4-144*01_S2372

1254 sequences assigned
141 (11.2%) exact matches, in which:
105 unique CDR3
6 unique J



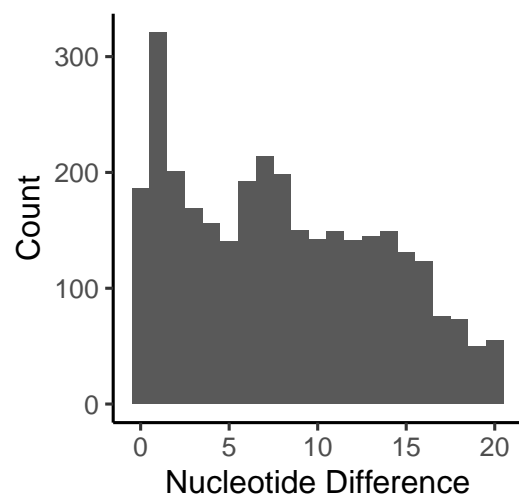
IGHV4-150*01_S9374

680 sequences assigned
67 (9.9%) exact matches, in which:
46 unique CDR3
5 unique J



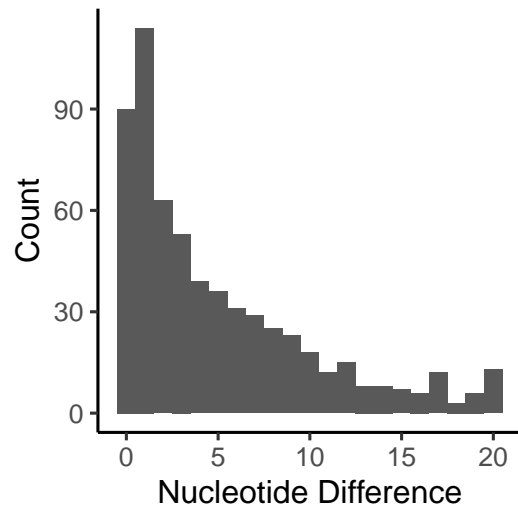
IGHV4-NL_1*01_S5424

3772 sequences assigned
186 (4.9%) exact matches, in which:
141 unique CDR3
6 unique J



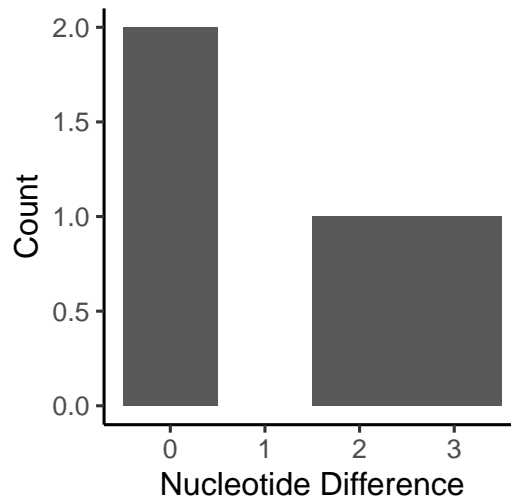
IGHV4–NL_11*01_S5570

640 sequences assigned
90 (14.1%) exact matches, in which:
66 unique CDR3
5 unique J



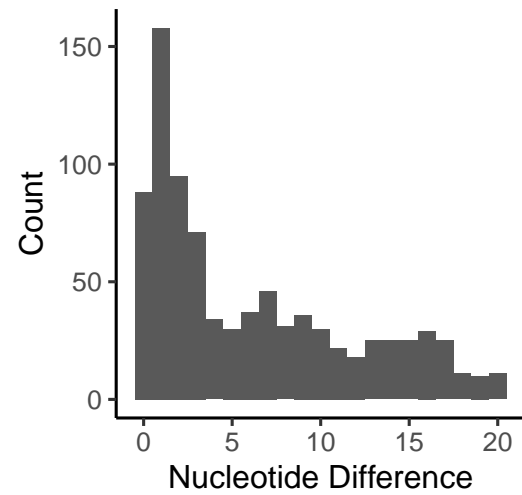
IGHV4–NL_16*01_S2138

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



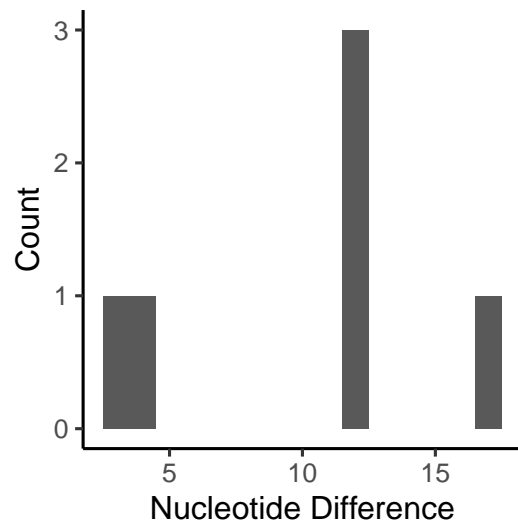
IGHV4–NL_17*01_S4099

929 sequences assigned
88 (9.5%) exact matches, in which:
67 unique CDR3
6 unique J



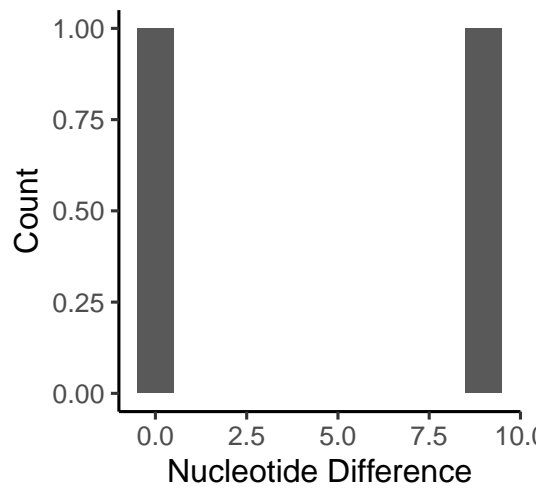
IGHV4–NL_12*01_S8068

8 sequences assigned
No exact matches.



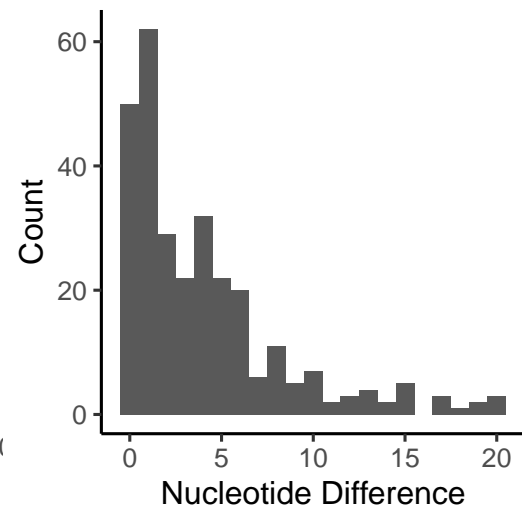
IGHV4–NL_16*01_S2324

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



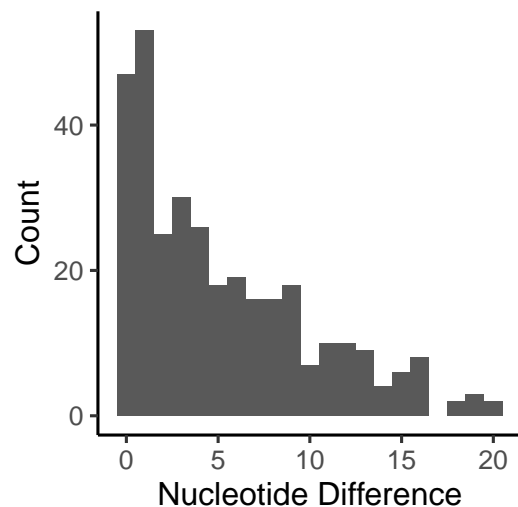
IGHV4–NL_17*01_S5431

322 sequences assigned
50 (15.5%) exact matches, in which:
43 unique CDR3
4 unique J



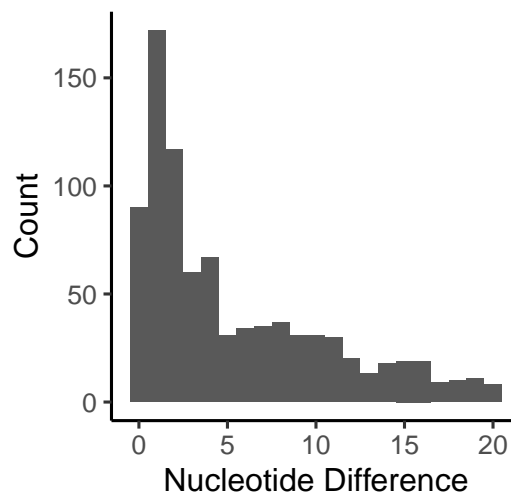
IGHV4–NL_15*01_S5717

345 sequences assigned
47 (13.6%) exact matches, in which:
36 unique CDR3
6 unique J



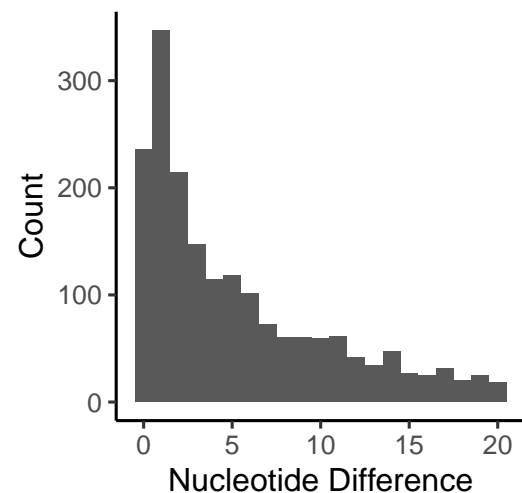
IGHV4–NL_17*01_S0936

933 sequences assigned
90 (9.6%) exact matches, in which:
77 unique CDR3
6 unique J



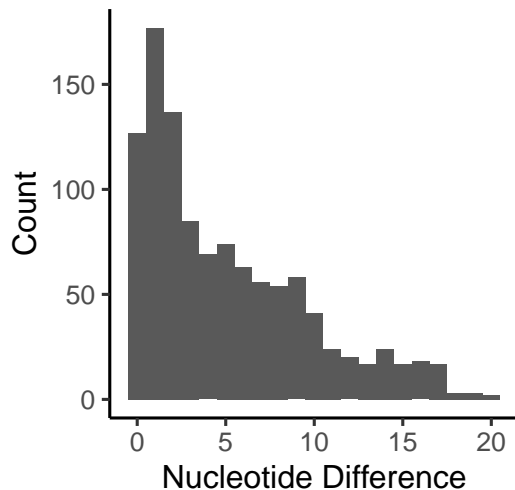
IGHV4–NL_20*01_S3868

2025 sequences assigned
236 (11.7%) exact matches, in which:
183 unique CDR3
6 unique J



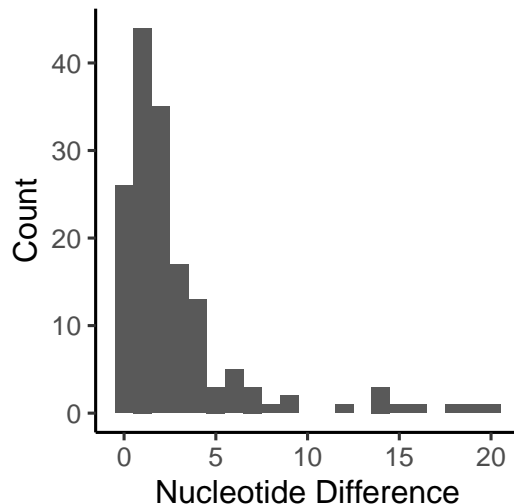
IGHV4–NL_21*01_S4478

1119 sequences assigned
127 (11.3%) exact matches, in which:
97 unique CDR3
5 unique J



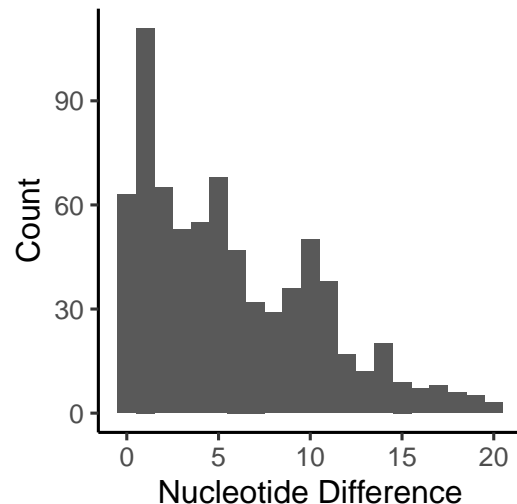
IGHV4–NL_24*01_S0809

161 sequences assigned
26 (16.1%) exact matches, in which:
21 unique CDR3
5 unique J



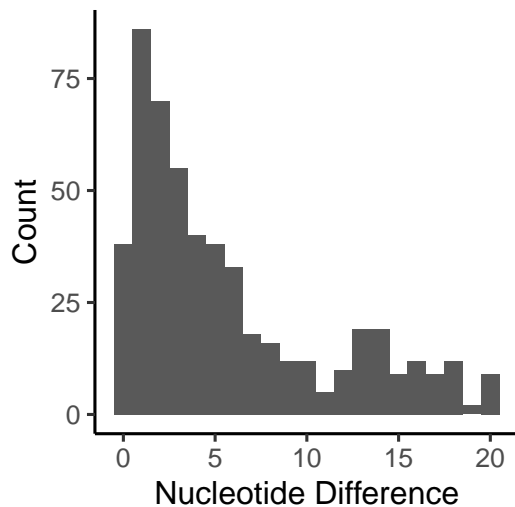
IGHV4–NL_27*01_S2822

761 sequences assigned
63 (8.3%) exact matches, in which:
43 unique CDR3
5 unique J



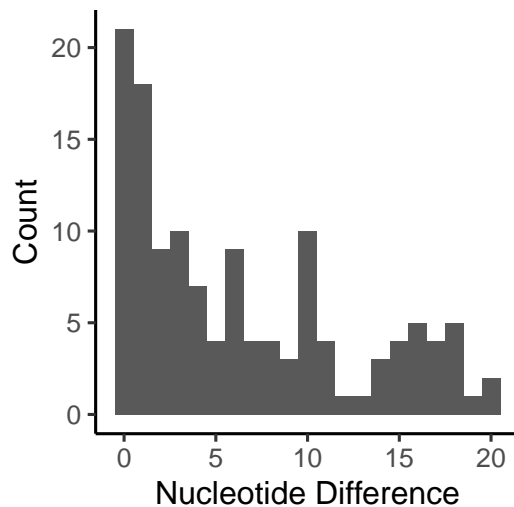
IGHV4–NL_21*01_S7469

558 sequences assigned
38 (6.8%) exact matches, in which:
31 unique CDR3
5 unique J



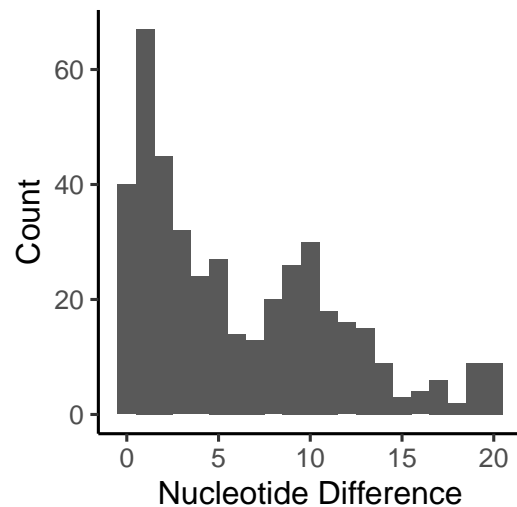
IGHV4–NL_25*01_S6200

140 sequences assigned
21 (15%) exact matches, in which:
18 unique CDR3
3 unique J



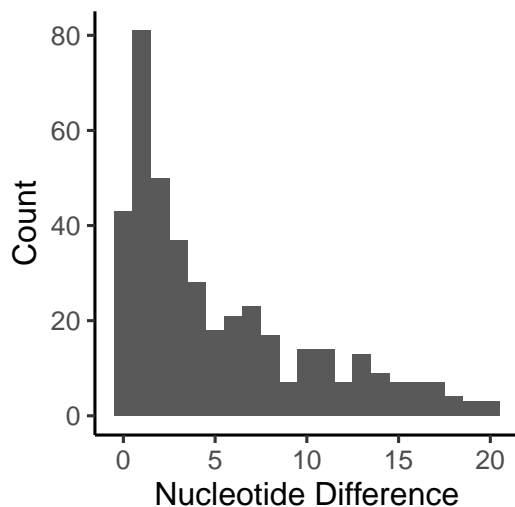
IGHV4–NL_27*01_S5720

455 sequences assigned
40 (8.8%) exact matches, in which:
26 unique CDR3
4 unique J



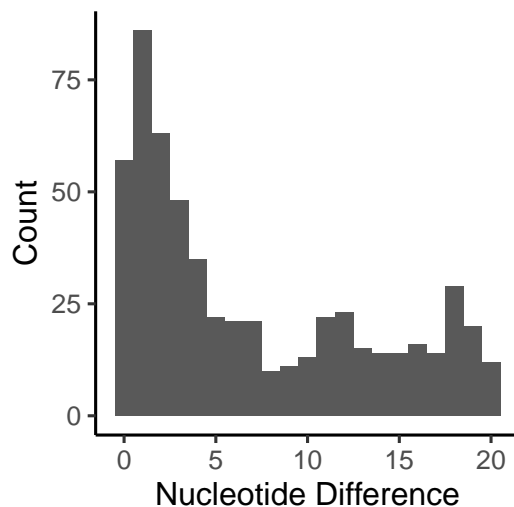
IGHV4–NL_22*01_S6977

432 sequences assigned
43 (10%) exact matches, in which:
40 unique CDR3
5 unique J



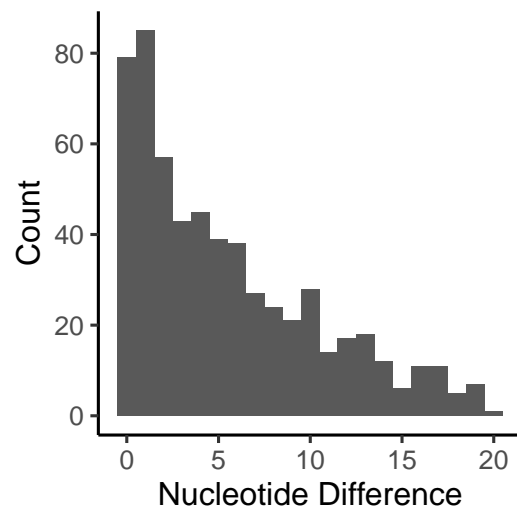
IGHV4–NL_25*01_S8389

607 sequences assigned
57 (9.4%) exact matches, in which:
40 unique CDR3
5 unique J



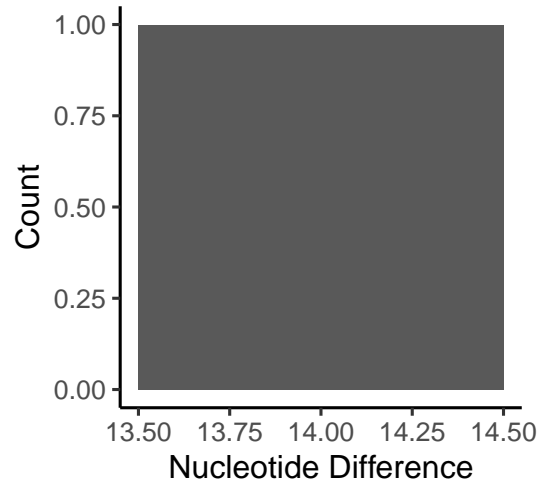
IGHV4–NL_29*01_S9965

617 sequences assigned
79 (12.8%) exact matches, in which:
59 unique CDR3
5 unique J



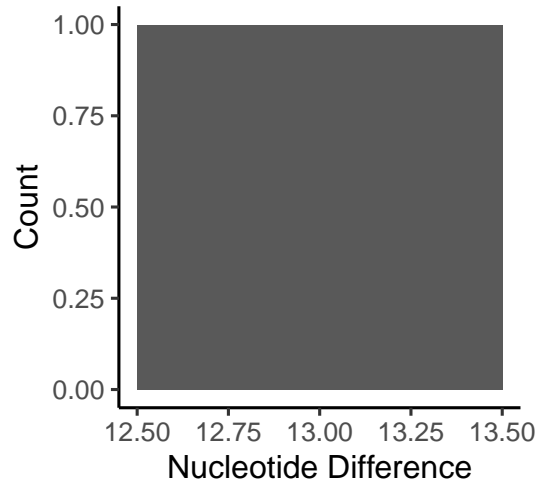
IGHV4–NL_3*01_S7576

1 sequences assigned
No exact matches.



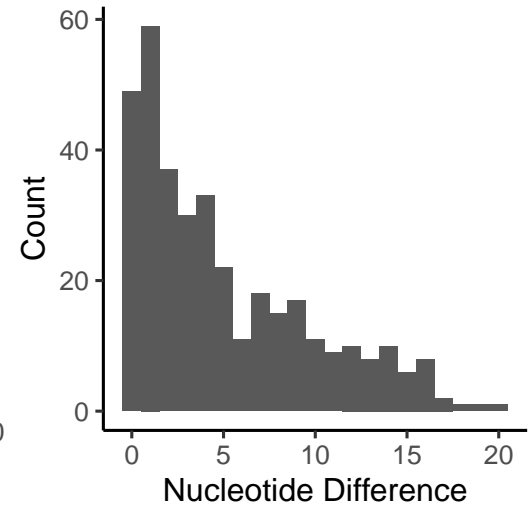
IGHV4–NL_32*01_S3033

1 sequences assigned
No exact matches.



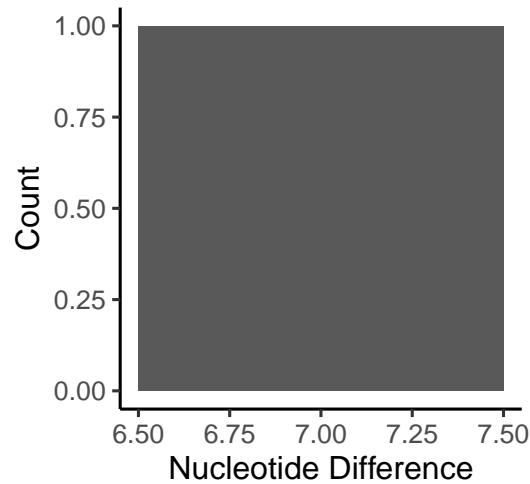
IGHV4–NL_36*01_S0936

365 sequences assigned
49 (13.4%) exact matches, in which:
35 unique CDR3
5 unique J



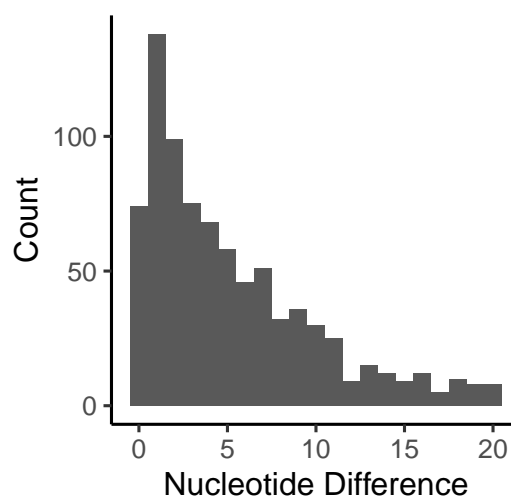
IGHV4–NL_3*01_S7864

26 sequences assigned
No exact matches.



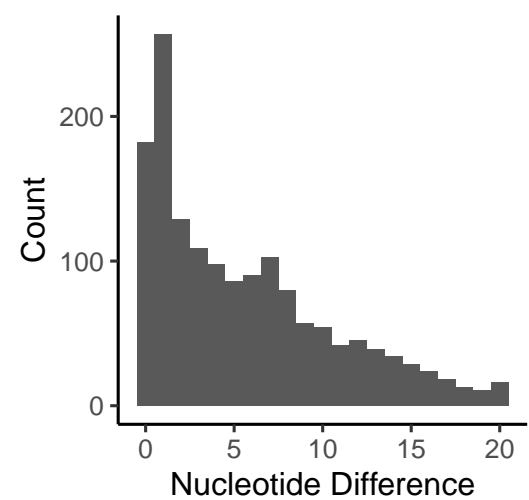
IGHV4–NL_33*01_S4467

976 sequences assigned
74 (7.6%) exact matches, in which:
64 unique CDR3
5 unique J



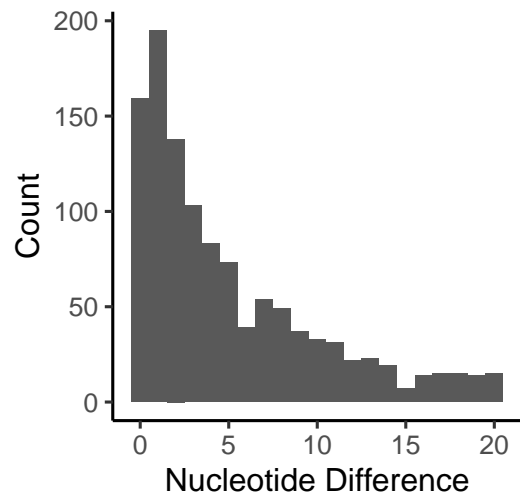
IGHV4–NL_36*01_S5847

1562 sequences assigned
182 (11.7%) exact matches, in which:
128 unique CDR3
8 unique J



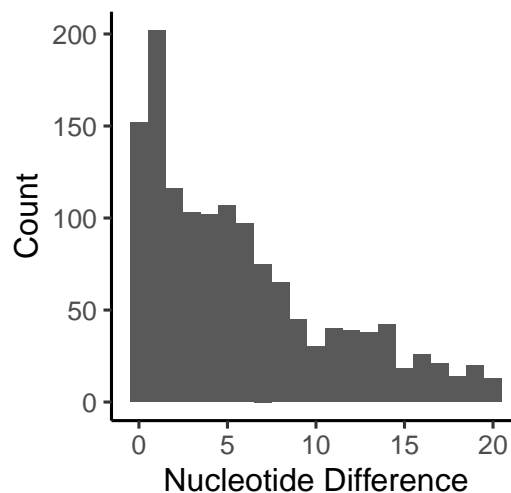
IGHV4–NL_31*01_S7693

1170 sequences assigned
159 (13.6%) exact matches, in which:
116 unique CDR3
5 unique J



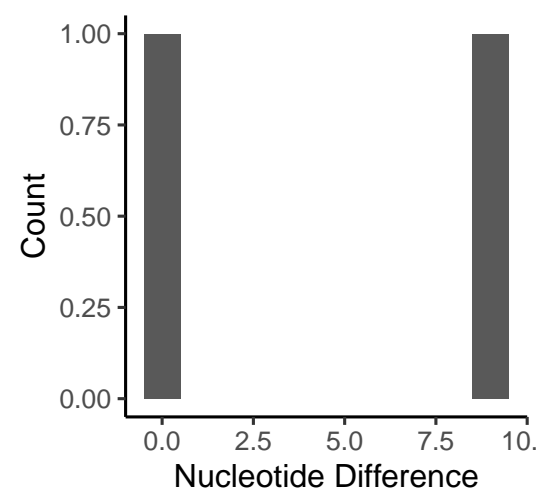
IGHV4–NL_36*01_S0848

1420 sequences assigned
152 (10.7%) exact matches, in which:
113 unique CDR3
5 unique J



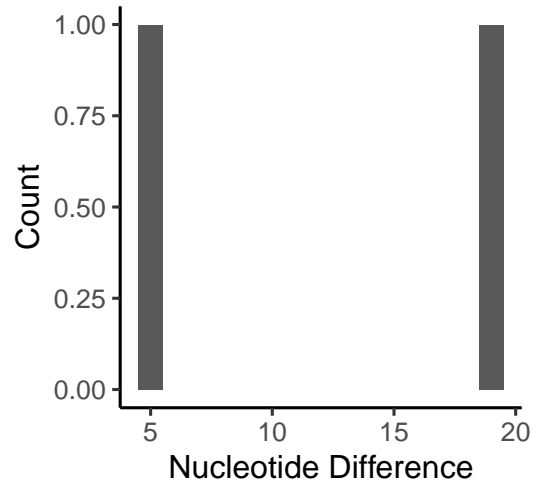
IGHV4–NL_38*01_S5467

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



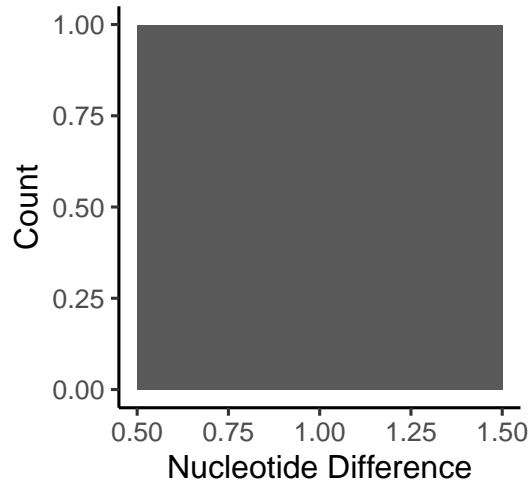
IGHV4–NL_38*01_S8437

3 sequences assigned
No exact matches.



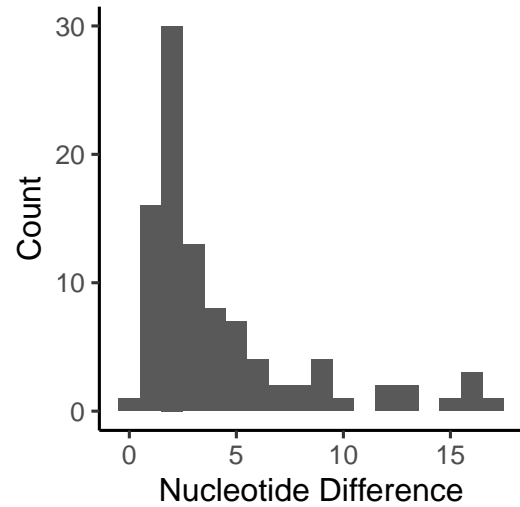
IGHV4–NL_40*01_S0696

2 sequences assigned
No exact matches.



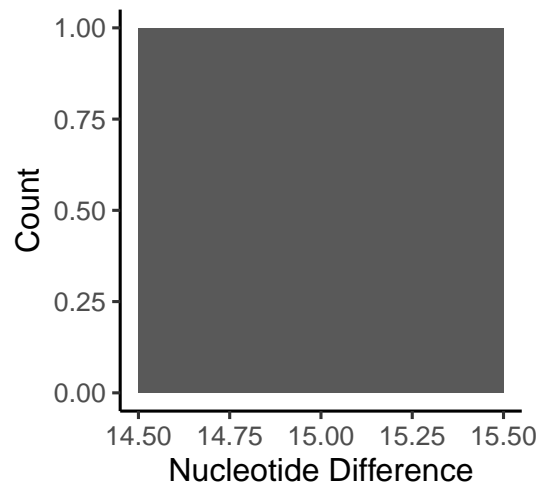
IGHV4–NL_5*01_S5442

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



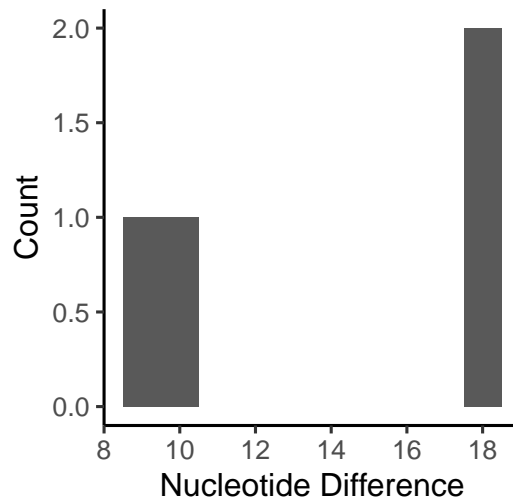
IGHV4–NL_38*01_S9472

1 sequences assigned
No exact matches.



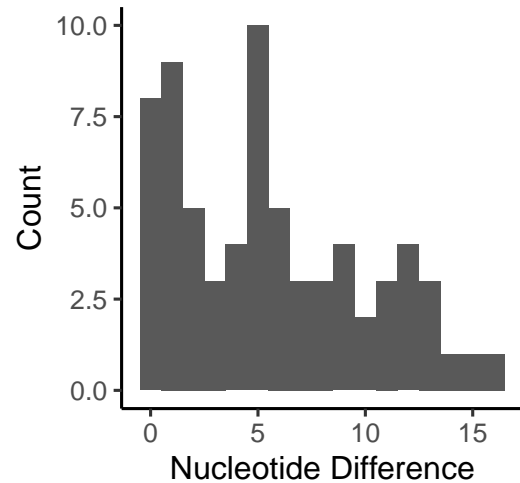
IGHV4–NL_42*01_S3076

4 sequences assigned
No exact matches.



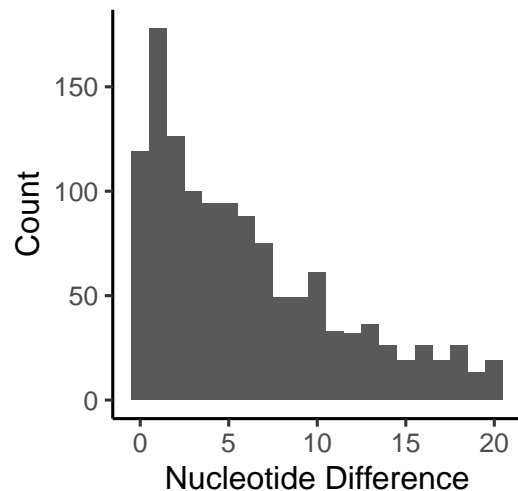
IGHV4–NL_5*01_S6060

72 sequences assigned
8 (11.1%) exact matches, in which:
7 unique CDR3
3 unique J



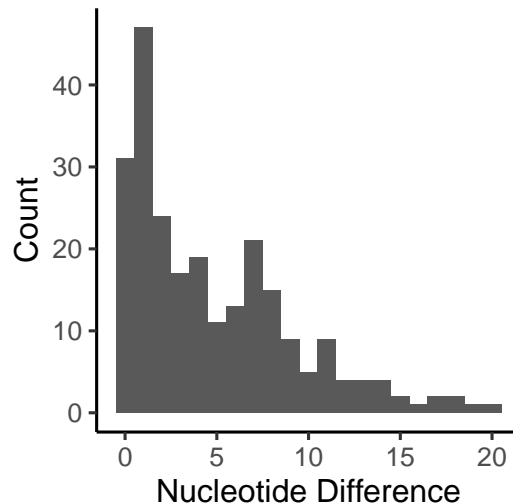
IGHV4–NL_4*01_S5211

1361 sequences assigned
119 (8.7%) exact matches, in which:
89 unique CDR3
6 unique J



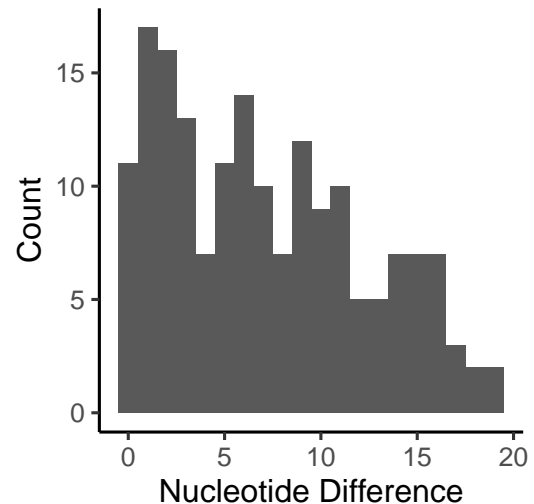
IGHV4–NL_5*01_S2634

256 sequences assigned
31 (12.1%) exact matches, in which:
24 unique CDR3
6 unique J



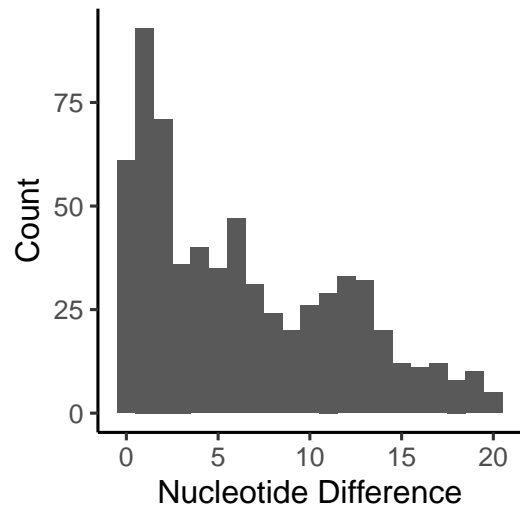
IGHV4–NL_5*01_S8913

199 sequences assigned
11 (5.5%) exact matches, in which:
10 unique CDR3
3 unique J



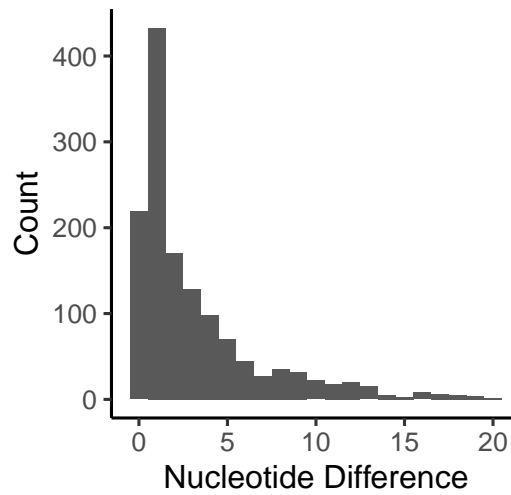
IGHV4–NL_6*01_S4760

718 sequences assigned
61 (8.5%) exact matches, in which:
47 unique CDR3
6 unique J



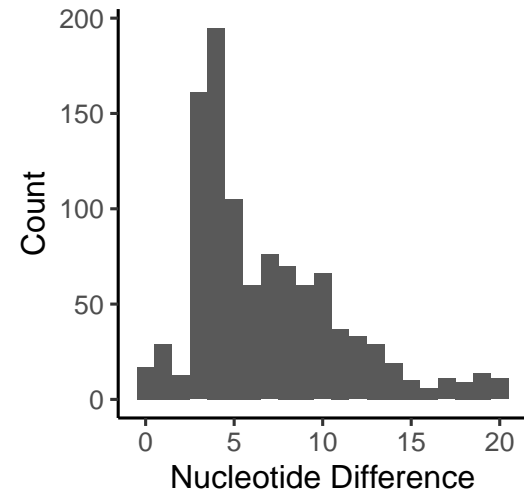
IGHV5–15*01_S0203

1372 sequences assigned
219 (16%) exact matches, in which:
115 unique CDR3
5 unique J



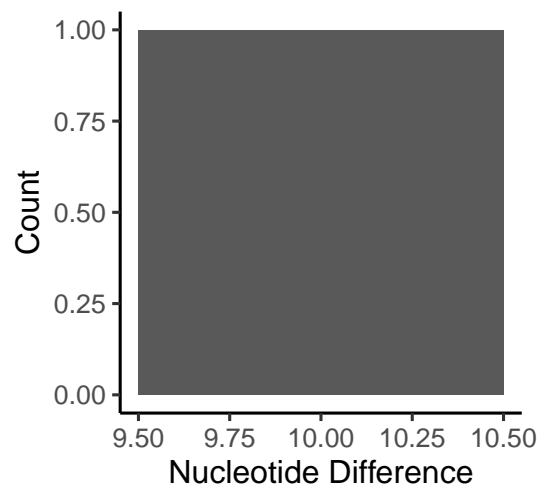
IGHV7–86*01_S7736

1069 sequences assigned
17 (1.6%) exact matches, in which:
6 unique CDR3
1 unique J



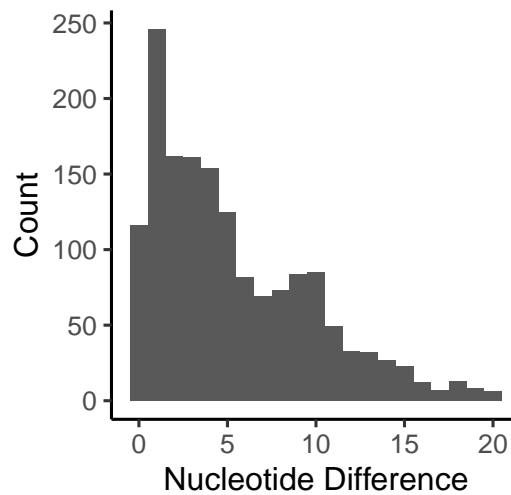
IGHV4–NL_7*02_S0143

1 sequences assigned
No exact matches.



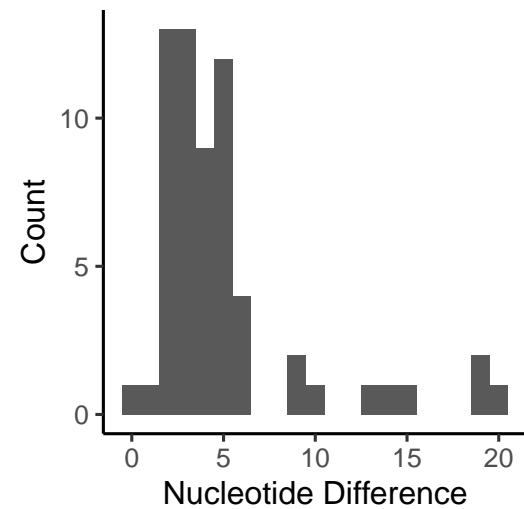
IGHV5–15*01_S3383

1591 sequences assigned
116 (7.3%) exact matches, in which:
62 unique CDR3
6 unique J



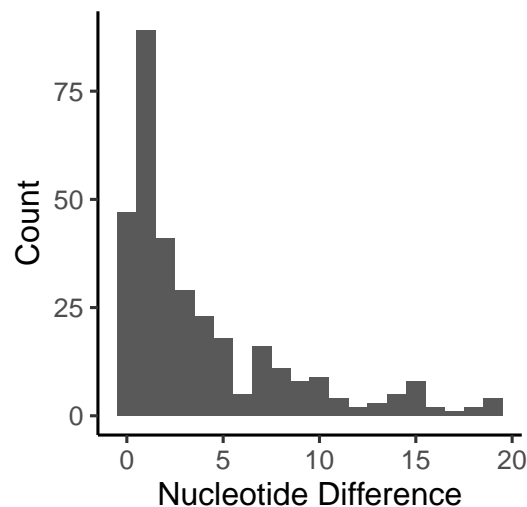
IGHV7–135*02_S1424

66 sequences assigned
1 (1.5%) exact matches, in which:
1 unique CDR3
1 unique J



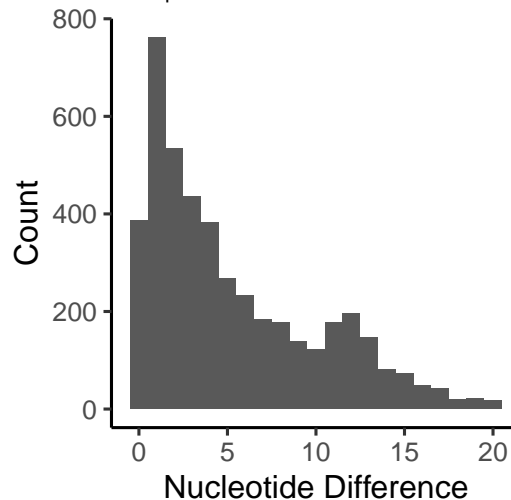
IGHV4–NL_8*02_S1304

342 sequences assigned
47 (13.7%) exact matches, in which:
33 unique CDR3
5 unique J

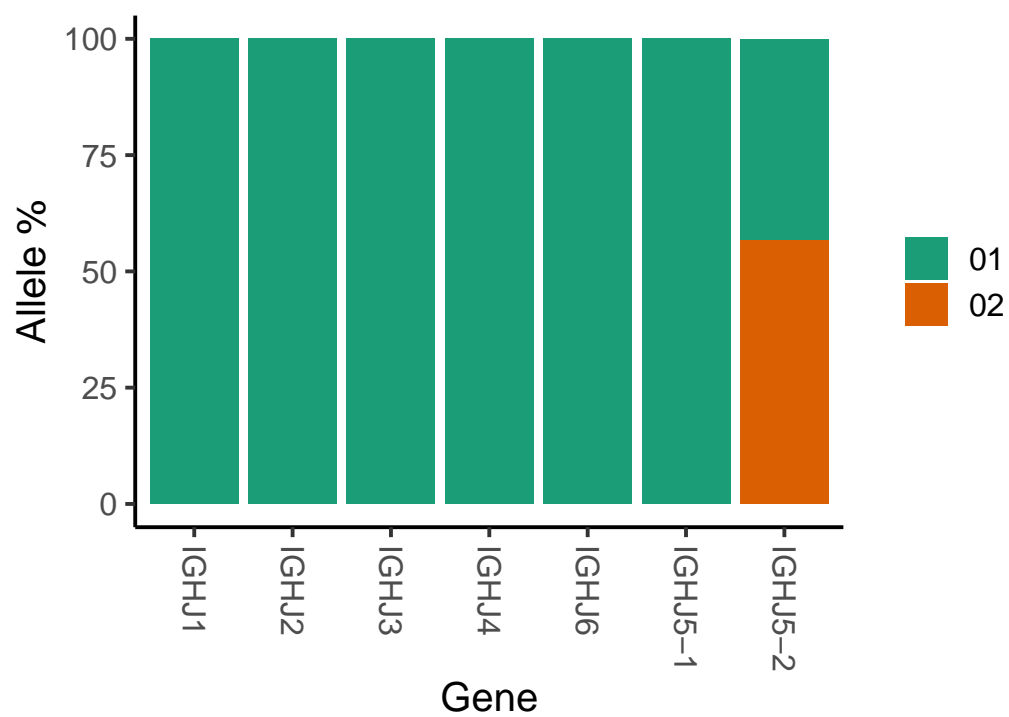


IGHV5–157*02_S3096

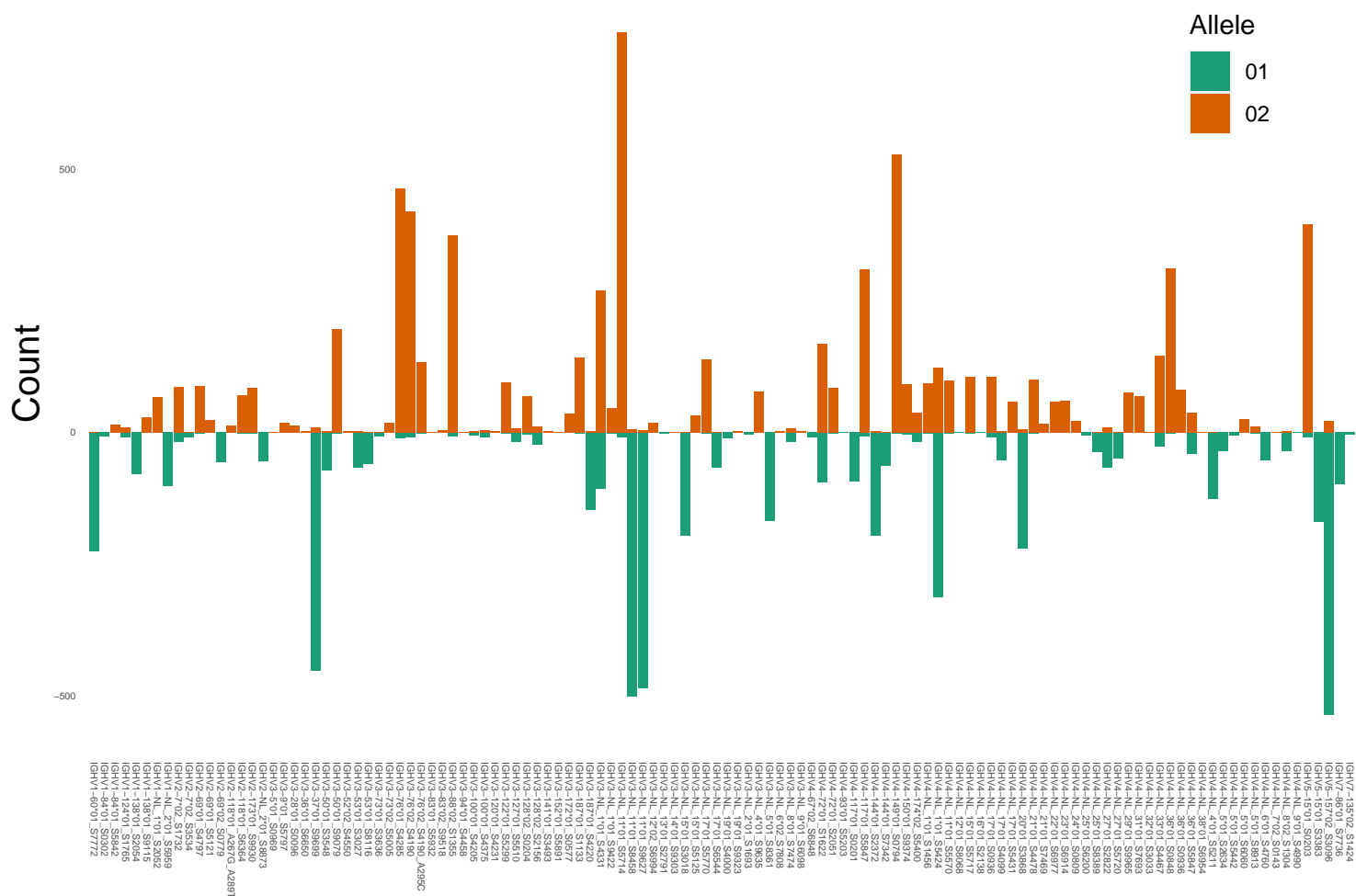
4549 sequences assigned
387 (8.5%) exact matches, in which:
197 unique CDR3
7 unique J



Allele Usage



Sequence Count byIGHJ5-2 allele usage



Warning – no inferred sequences found.