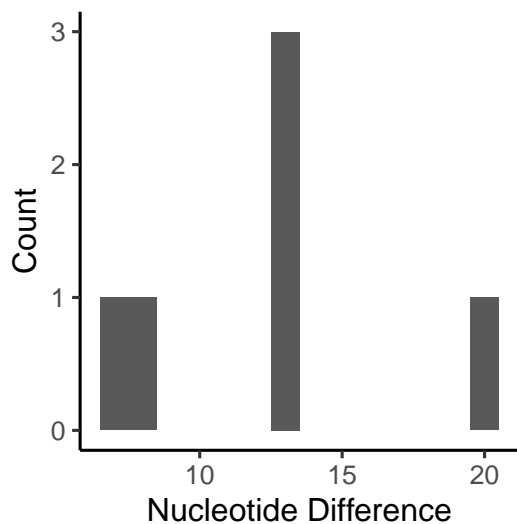


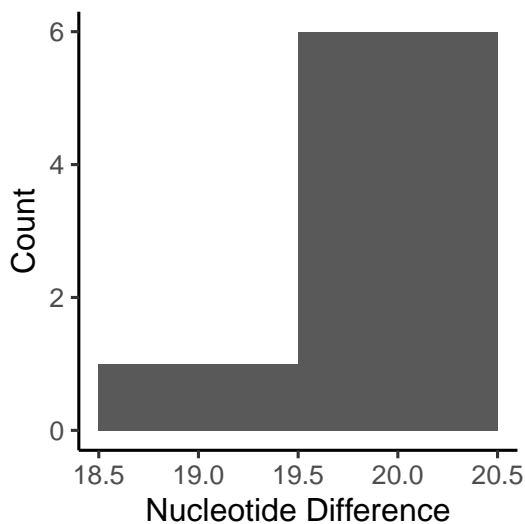
IGHV1-60*01_S1023

6 sequences assigned
No exact matches.



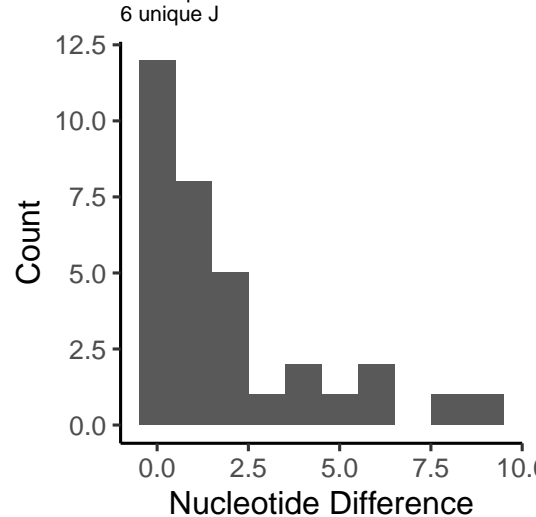
IGHV1-105*01_S8693

8 sequences assigned
No exact matches.



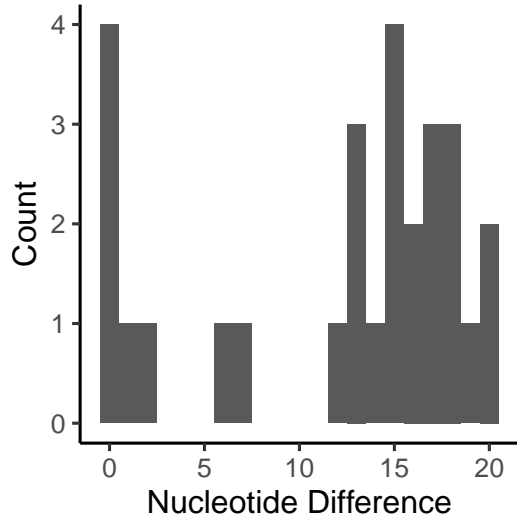
IGHV1-138*01_S2734

33 sequences assigned
12 (36.4%) exact matches, in which:
11 unique CDR3
6 unique J



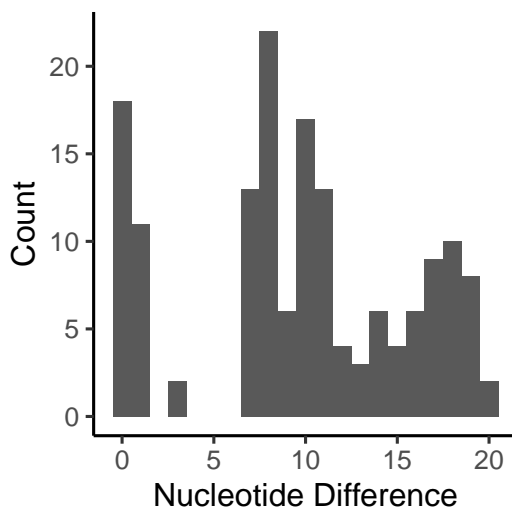
IGHV1-60*01_S7772

30 sequences assigned
4 (13.3%) exact matches, in which:
4 unique CDR3
2 unique J



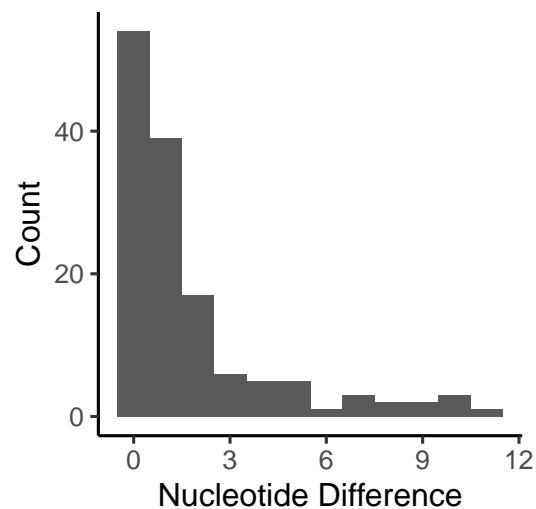
IGHV1-124*01_S6748

184 sequences assigned
18 (9.8%) exact matches, in which:
14 unique CDR3
4 unique J



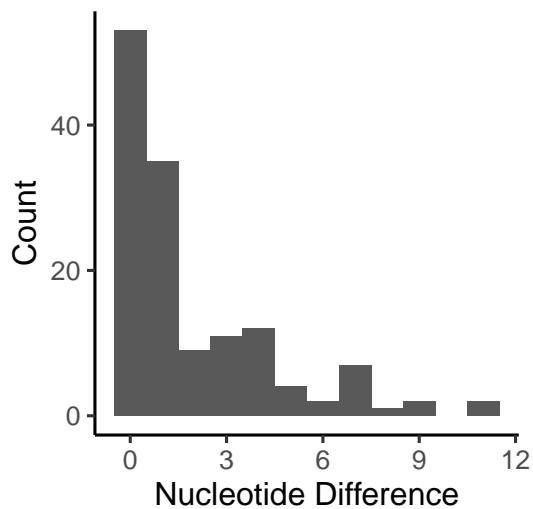
IGHV1-138*02_S9625

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



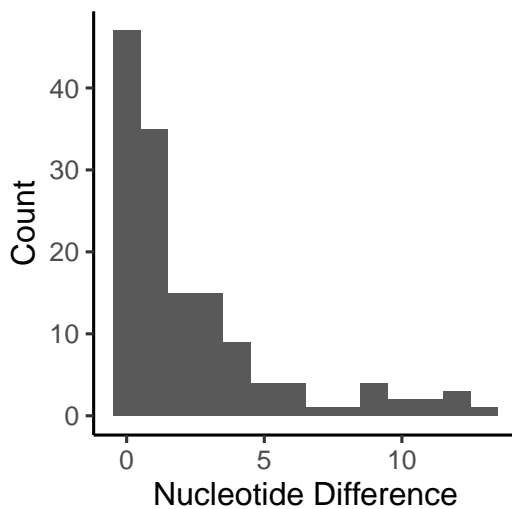
IGHV1-84*01_S4048

138 sequences assigned
53 (38.4%) exact matches, in which:
29 unique CDR3
4 unique J



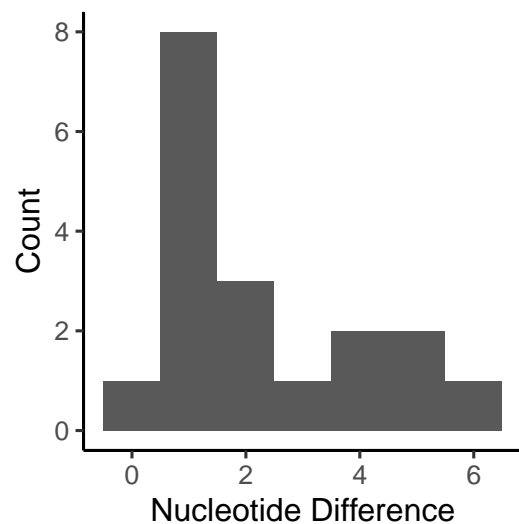
IGHV1-138*01_S0032

143 sequences assigned
47 (32.9%) exact matches, in which:
40 unique CDR3
7 unique J



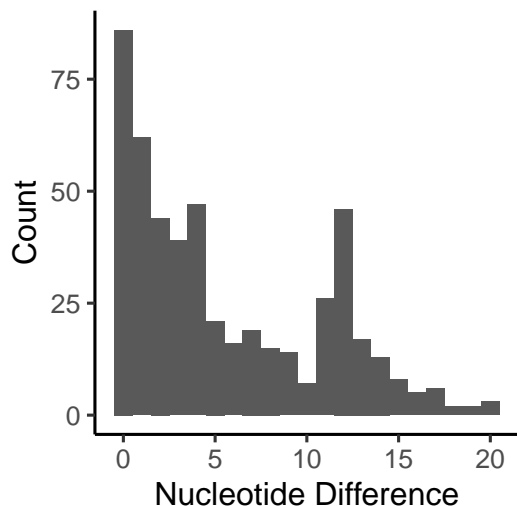
IGHV1-170*01_S3055

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



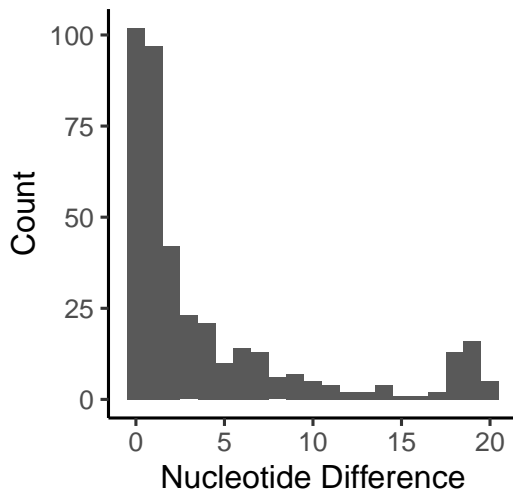
IGHV1–NL_1*01_S5433

509 sequences assigned
86 (16.9%) exact matches, in which:
52 unique CDR3
7 unique J



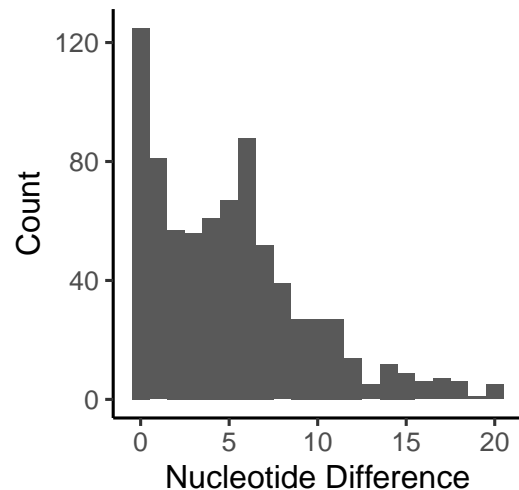
IGHV2–7*02_S3534_G29

407 sequences assigned
102 (25.1%) exact matches, in which:
80 unique CDR3
8 unique J



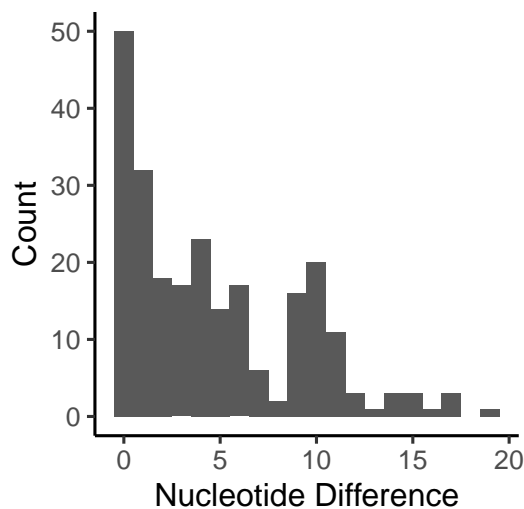
IGHV2–69*01_S2648

781 sequences assigned
125 (16%) exact matches, in which:
76 unique CDR3
7 unique J



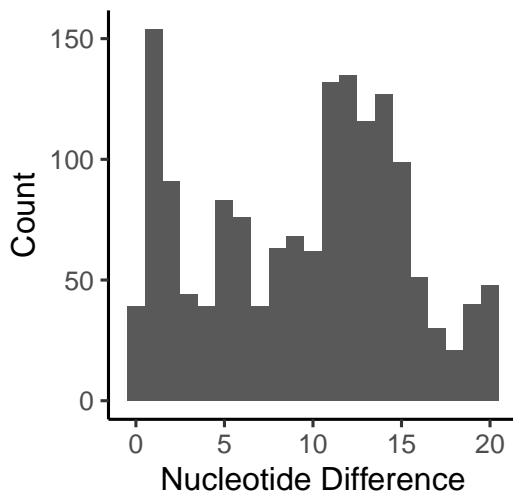
IGHV1–NL_2*01_S8362

242 sequences assigned
50 (20.7%) exact matches, in which:
29 unique CDR3
7 unique J



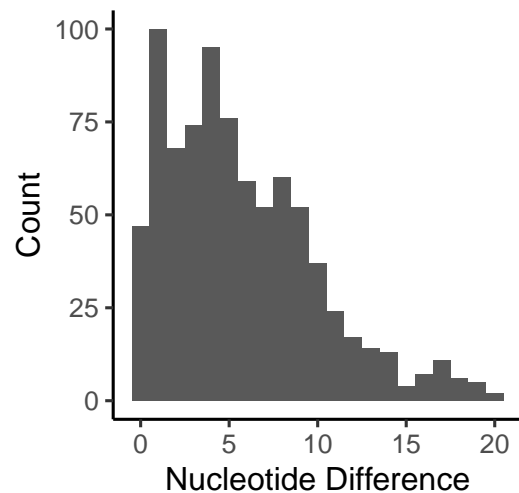
IGHV2–69*01_G292T

1781 sequences assigned
39 (2.2%) exact matches, in which:
36 unique CDR3
7 unique J



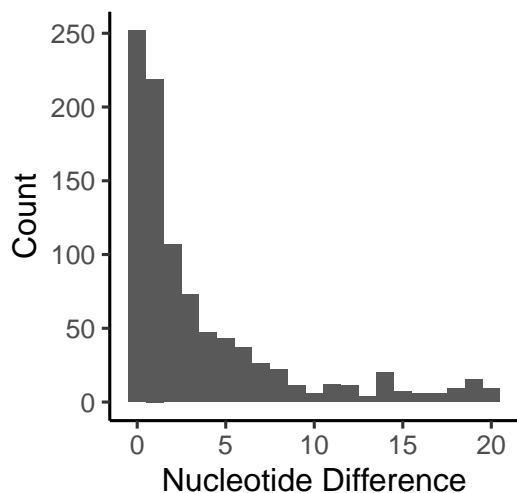
IGHV2–118*01_S2278

1142 sequences assigned
47 (4.1%) exact matches, in which:
30 unique CDR3
6 unique J



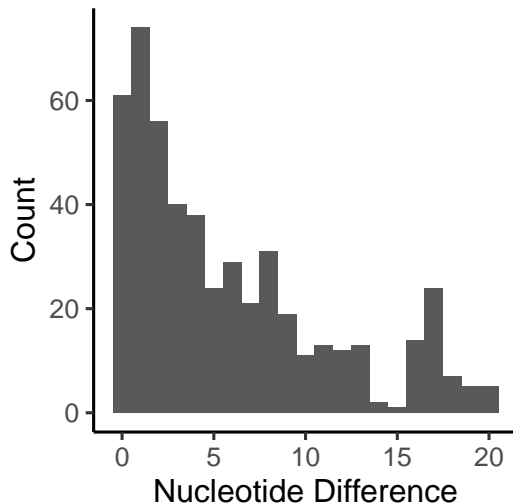
IGHV2–7*02_S3534

952 sequences assigned
252 (26.5%) exact matches, in which:
162 unique CDR3
7 unique J



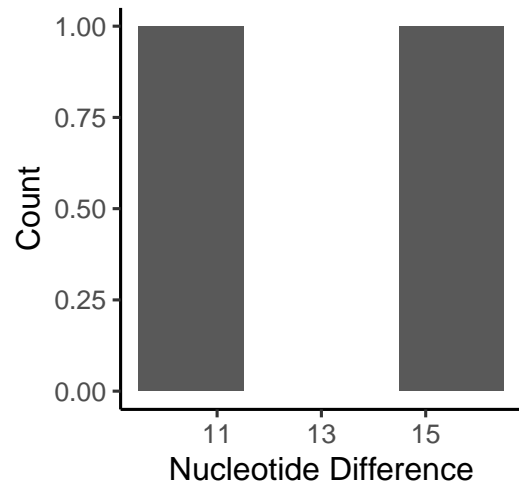
IGHV2–69*01_S1113

506 sequences assigned
61 (12.1%) exact matches, in which:
38 unique CDR3
6 unique J



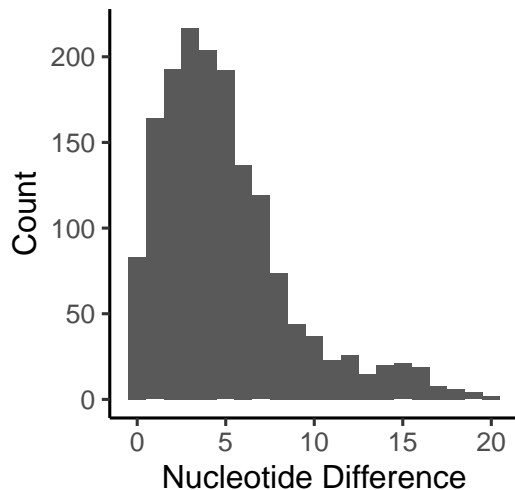
IGHV2–173*01_S2781

5 sequences assigned
No exact matches.



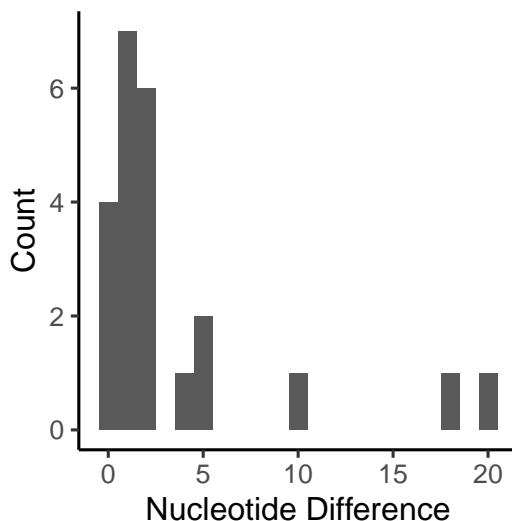
IGHV2–NL_1*01_S7937

1636 sequences assigned
83 (5.1%) exact matches, in which:
55 unique CDR3
6 unique J



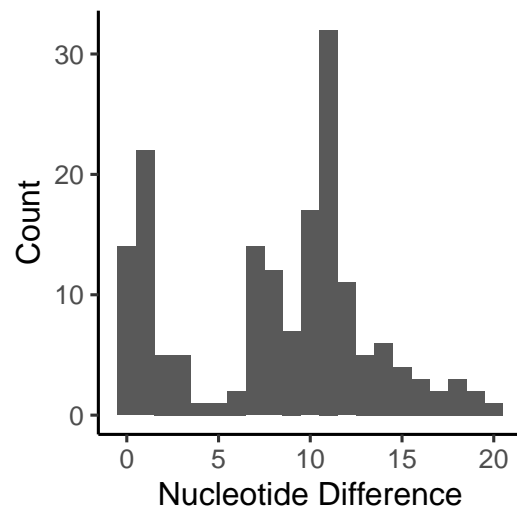
IGHV3–5*01_S1720

23 sequences assigned
4 (17.4%) exact matches, in which:
4 unique CDR3
2 unique J



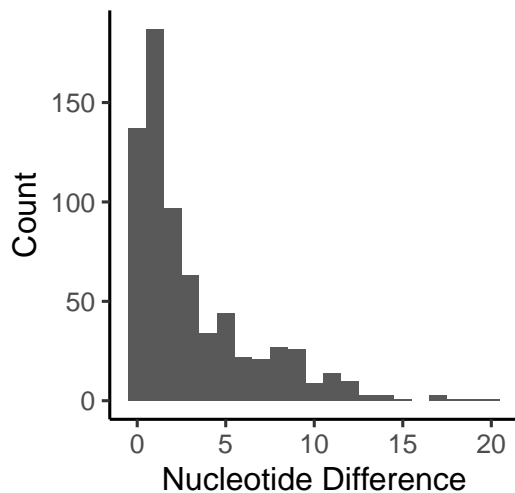
IGHV3–28*01_S4621

176 sequences assigned
14 (8%) exact matches, in which:
6 unique CDR3
3 unique J



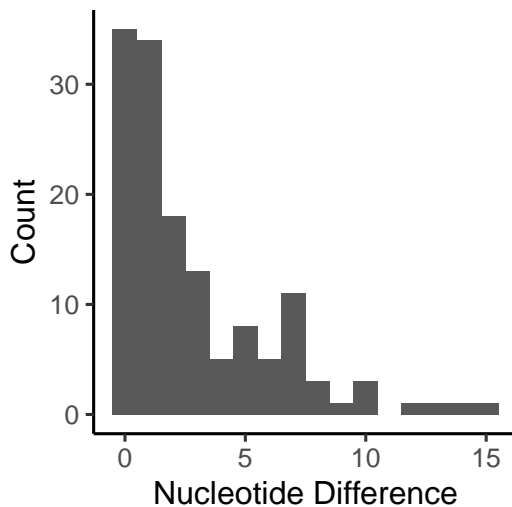
IGHV2–NL_2*01_S2193

705 sequences assigned
137 (19.4%) exact matches, in which:
65 unique CDR3
6 unique J



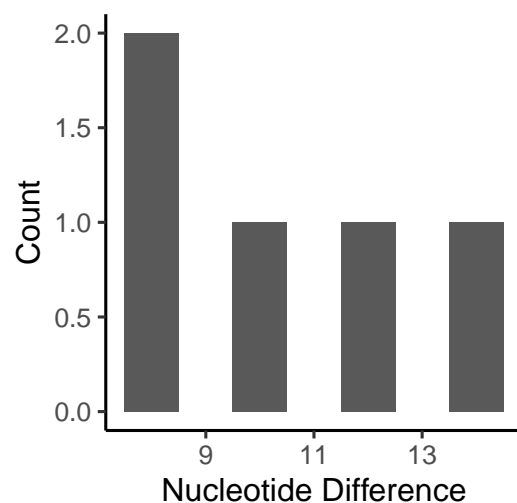
IGHV3–5*01_S4034

143 sequences assigned
35 (24.5%) exact matches, in which:
18 unique CDR3
4 unique J



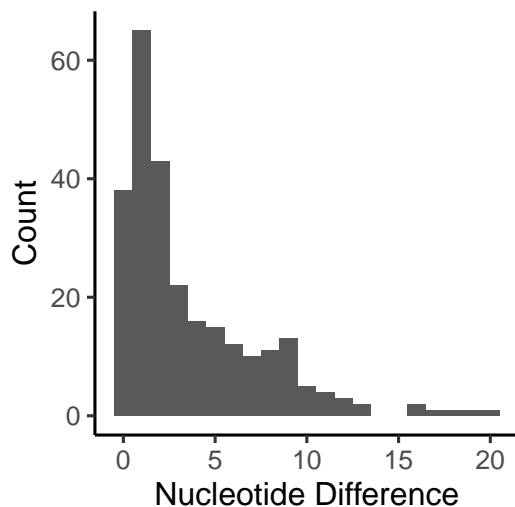
IGHV3–34*02_S0219

5 sequences assigned
No exact matches.



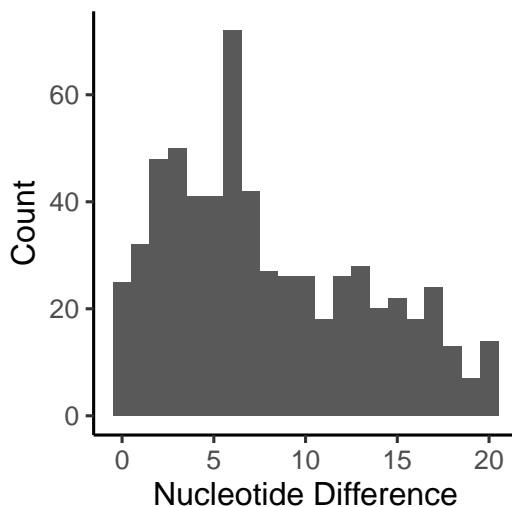
IGHV2–NL_2*01_S2193_C

267 sequences assigned
38 (14.2%) exact matches, in which:
29 unique CDR3
5 unique J



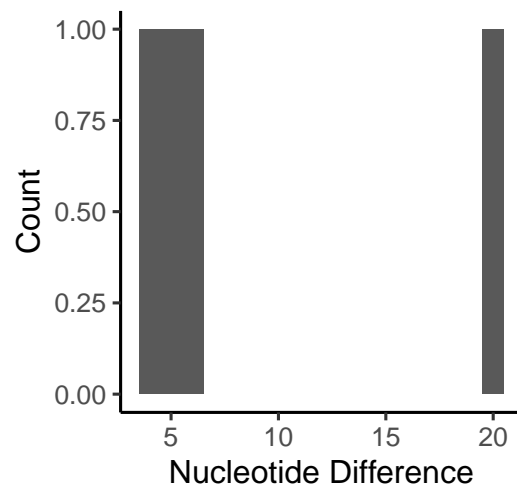
IGHV3–9*01_S0778

672 sequences assigned
25 (3.7%) exact matches, in which:
17 unique CDR3
7 unique J



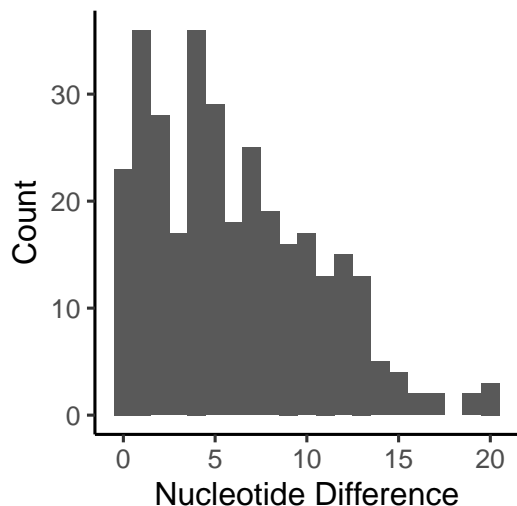
IGHV3–34*02_S0799

12 sequences assigned
No exact matches.



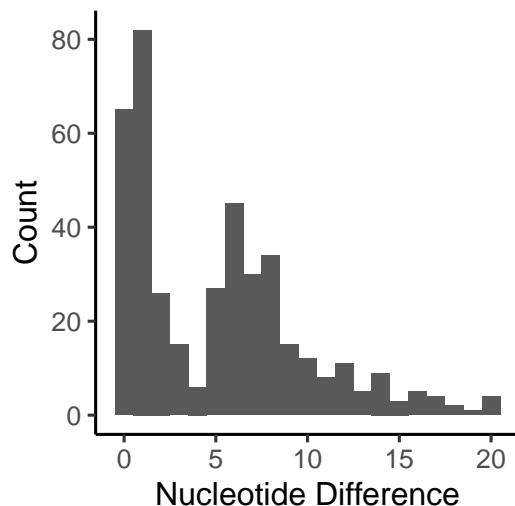
IGHV3-36*01_S6740

328 sequences assigned
23 (7%) exact matches, in which:
18 unique CDR3
5 unique J



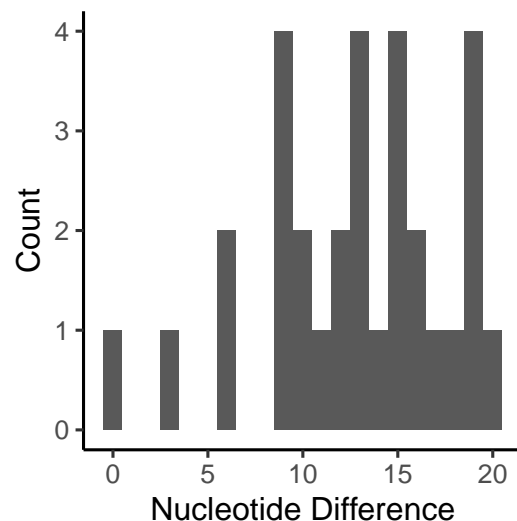
IGHV3-52*02_S4550

416 sequences assigned
65 (15.6%) exact matches, in which:
35 unique CDR3
6 unique J



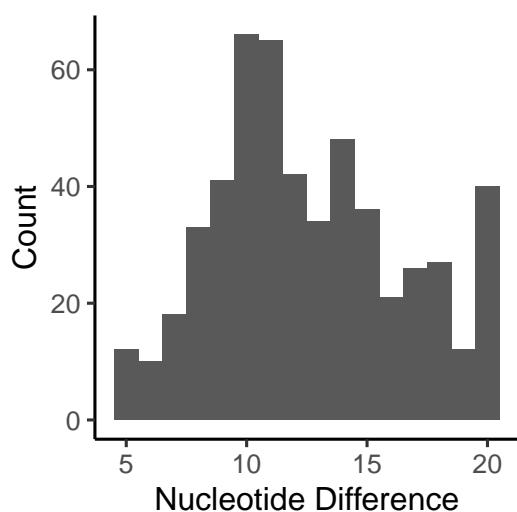
IGHV3-53*01_S8913

39 sequences assigned
1 (2.6%) exact matches, in which:
1 unique CDR3
1 unique J



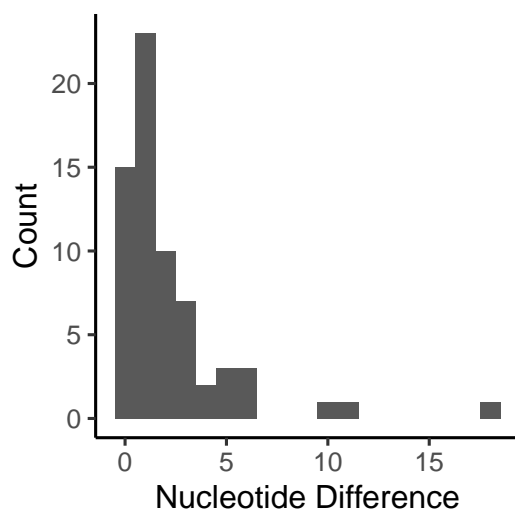
IGHV3-37*01_S0586

715 sequences assigned
No exact matches.



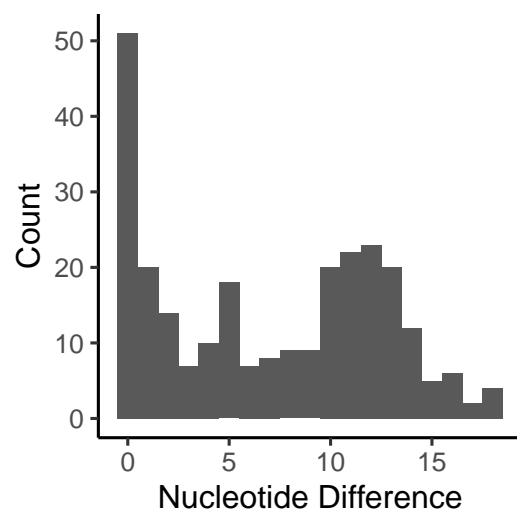
IGHV3-52*02_S6213

66 sequences assigned
15 (22.7%) exact matches, in which:
8 unique CDR3
3 unique J



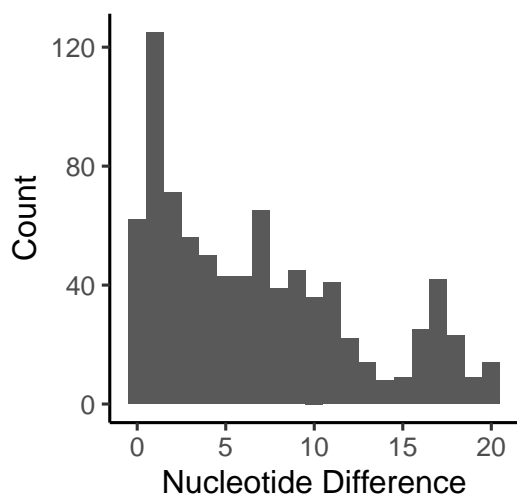
IGHV3-73*02_S2538

280 sequences assigned
51 (18.2%) exact matches, in which:
35 unique CDR3
5 unique J



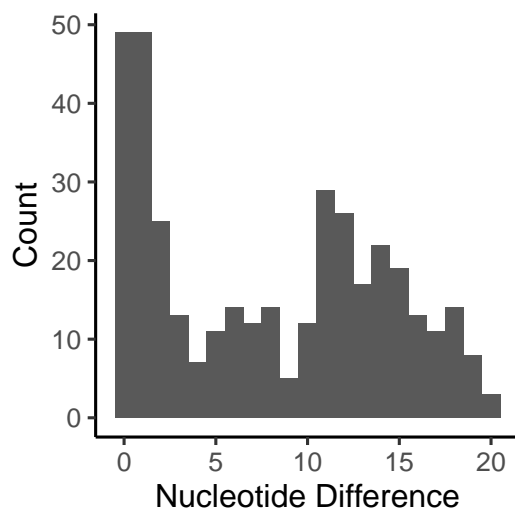
IGHV3-50*01_S8418

880 sequences assigned
62 (7%) exact matches, in which:
28 unique CDR3
6 unique J



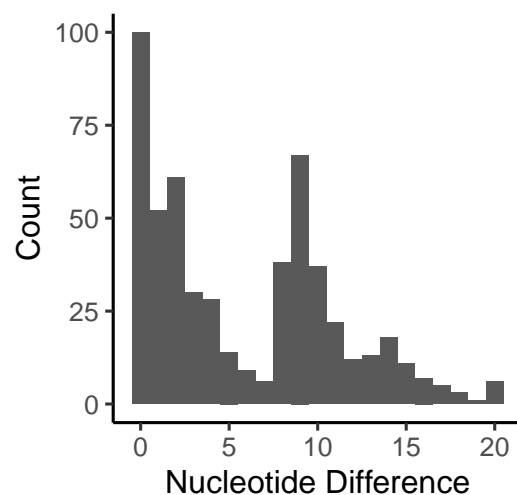
IGHV3-53*01_S2905

392 sequences assigned
49 (12.5%) exact matches, in which:
31 unique CDR3
6 unique J



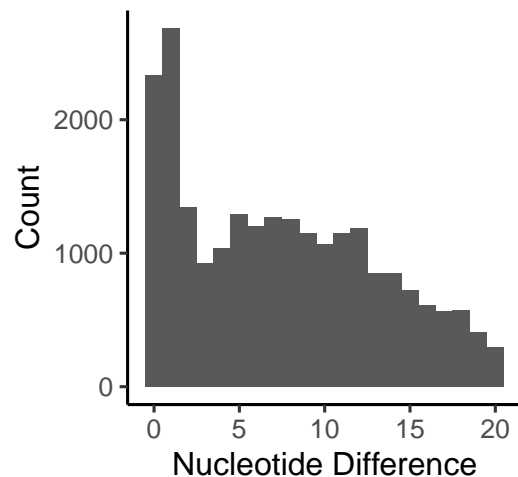
IGHV3-73*02_S7500

550 sequences assigned
100 (18.2%) exact matches, in which:
62 unique CDR3
7 unique J



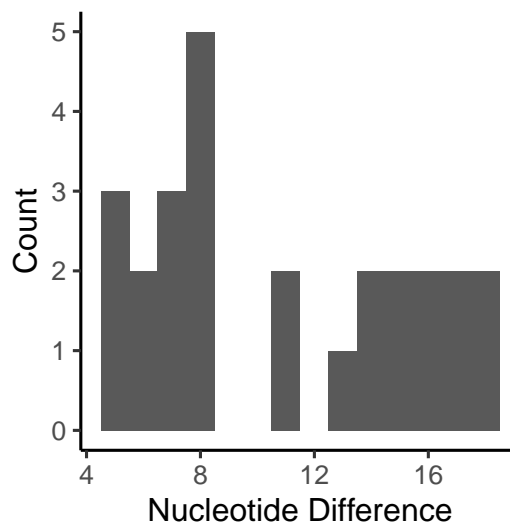
IGHV3-76*02_S4190

25035 sequences assigned
2331 (9.3%) exact matches, in which:
1534 unique CDR3
11 unique J



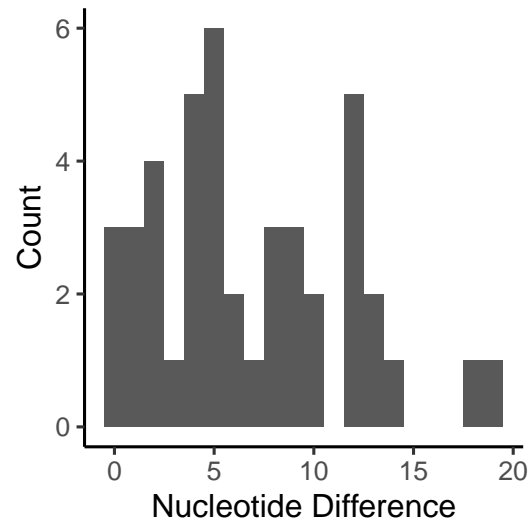
IGHV3-83*02_S1476

28 sequences assigned
No exact matches.



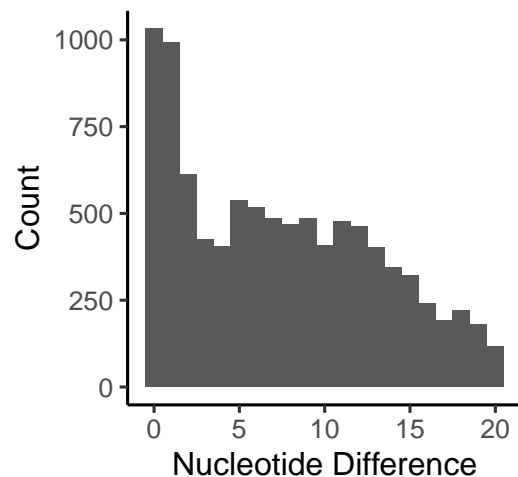
IGHV3-94*01_S8766

45 sequences assigned
3 (6.7%) exact matches, in which:
3 unique CDR3
2 unique J



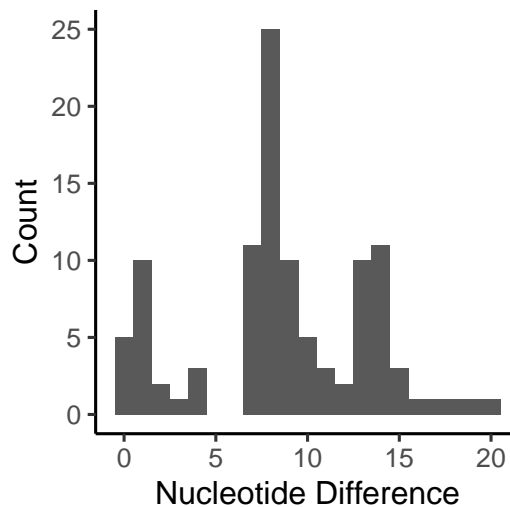
IGHV3-76*02_S4190_A1

10141 sequences assigned
1032 (10.2%) exact matches, in which:
857 unique CDR3
7 unique J



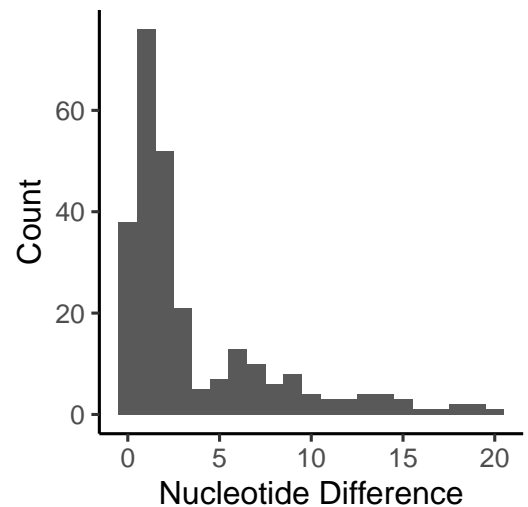
IGHV3-87*01_S1401

110 sequences assigned
5 (4.5%) exact matches, in which:
3 unique CDR3
2 unique J



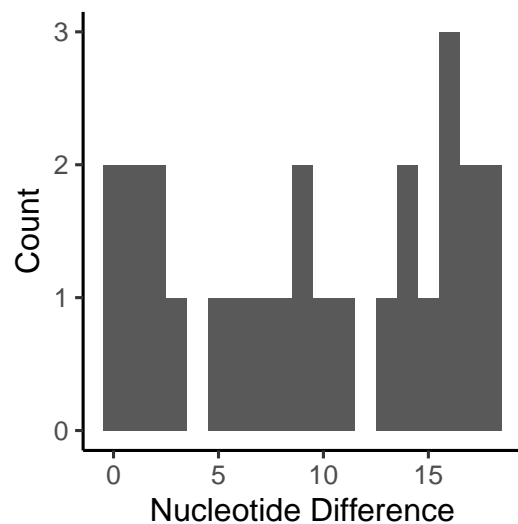
IGHV3-100*01_S2773

270 sequences assigned
38 (14.1%) exact matches, in which:
26 unique CDR3
4 unique J



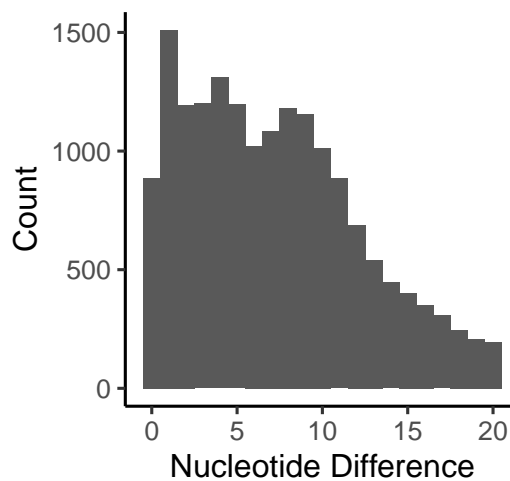
IGHV3-83*01_S5932

30 sequences assigned
2 (6.7%) exact matches, in which:
2 unique CDR3
2 unique J



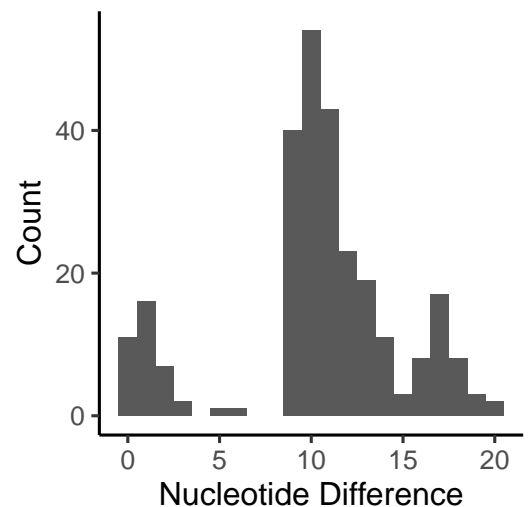
IGHV3-88*01_S3027

18345 sequences assigned
887 (4.8%) exact matches, in which:
503 unique CDR3
8 unique J



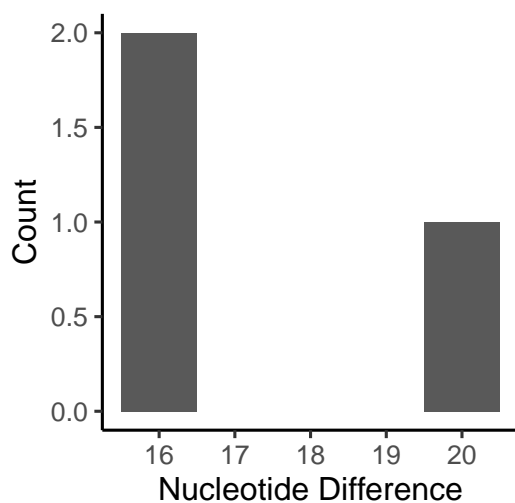
IGHV3-100*01_S4375

345 sequences assigned
11 (3.2%) exact matches, in which:
8 unique CDR3
3 unique J



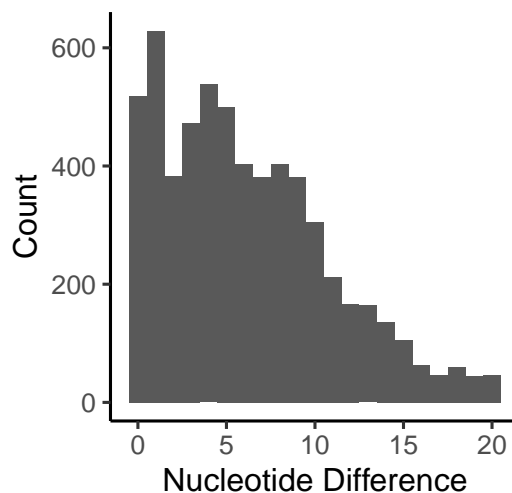
IGHV3-103*01_S0760

9 sequences assigned
No exact matches.



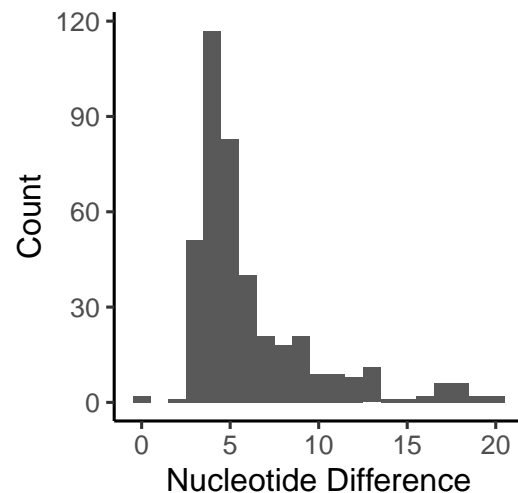
IGHV3-122*01_S8388

6318 sequences assigned
519 (8.2%) exact matches, in which:
332 unique CDR3
9 unique J



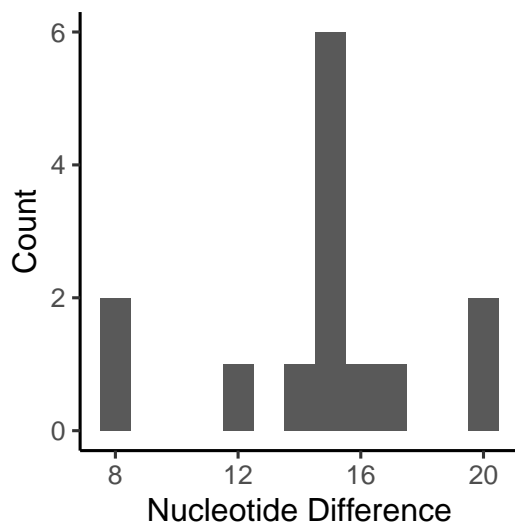
IGHV3-127*01_S6769

414 sequences assigned
2 (0.5%) exact matches, in which:
2 unique CDR3
2 unique J



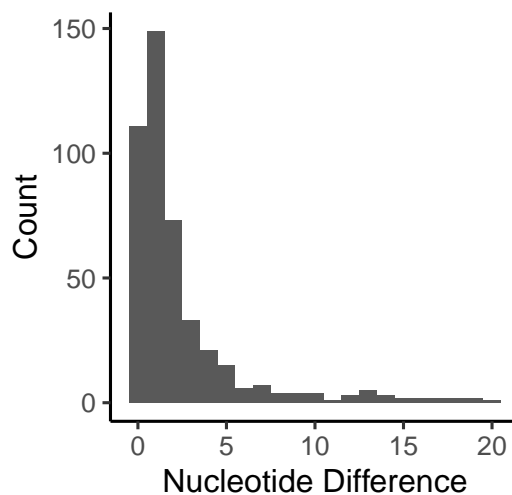
IGHV3-103*01_S1165

17 sequences assigned
No exact matches.



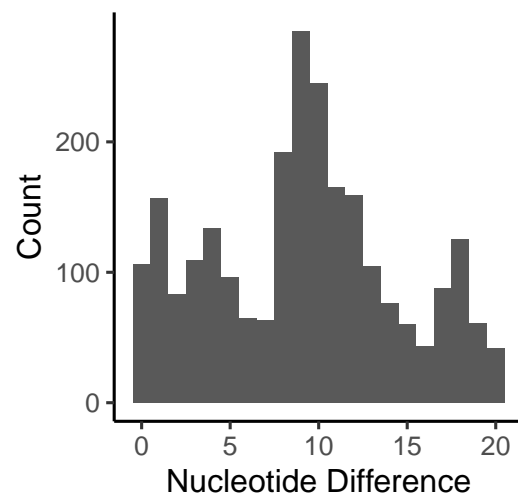
IGHV3-127*01_S2385

454 sequences assigned
111 (24.4%) exact matches, in which:
69 unique CDR3
6 unique J



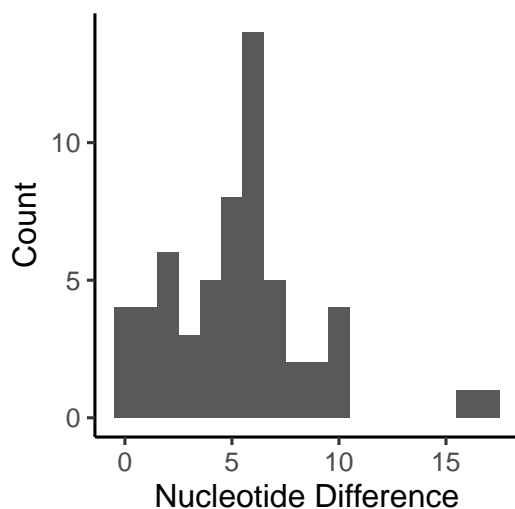
IGHV3-128*01_S3124

2724 sequences assigned
106 (3.9%) exact matches, in which:
66 unique CDR3
7 unique J



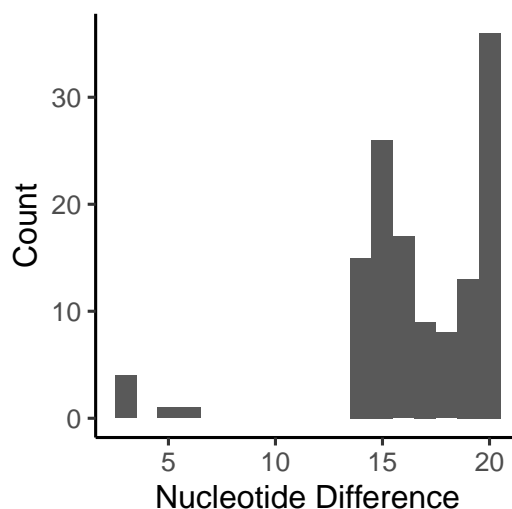
IGHV3-120*01_S7674

59 sequences assigned
4 (6.8%) exact matches, in which:
3 unique CDR3
3 unique J



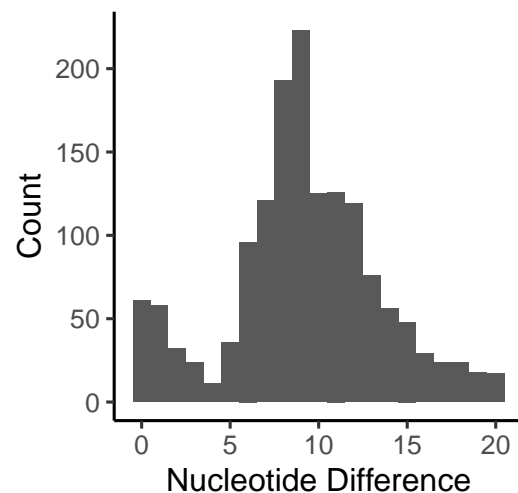
IGHV3-127*01_S5510

191 sequences assigned
No exact matches.



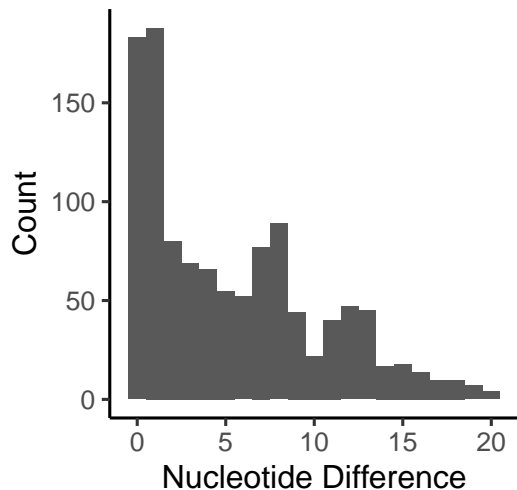
IGHV3-128*02_S0577

1591 sequences assigned
61 (3.8%) exact matches, in which:
46 unique CDR3
4 unique J



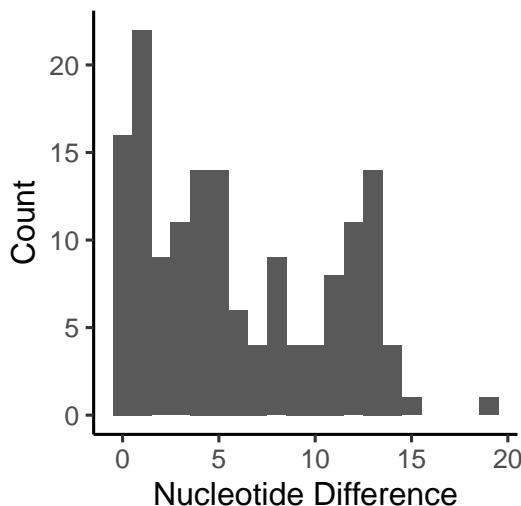
IGHV3-141*01_S8690

1157 sequences assigned
183 (15.8%) exact matches, in which:
137 unique CDR3
7 unique J



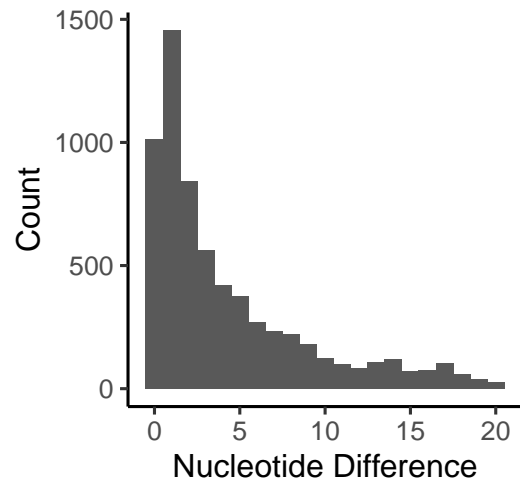
IGHV3-172*01_S8488

169 sequences assigned
16 (9.5%) exact matches, in which:
16 unique CDR3
4 unique J



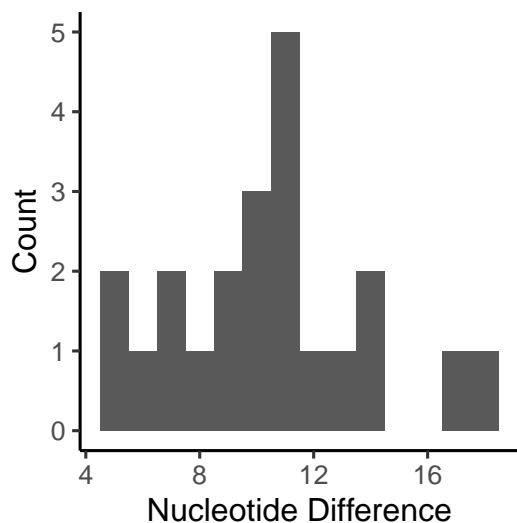
IGHV3-NL_1*01_S1988

6578 sequences assigned
1015 (15.4%) exact matches, in which:
655 unique CDR3
9 unique J



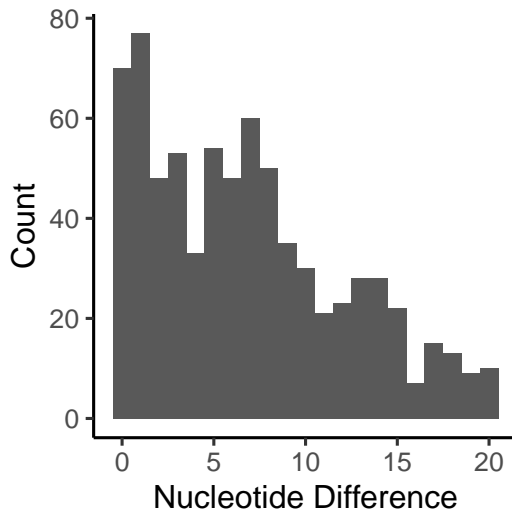
IGHV3-143*01_S1591

23 sequences assigned
No exact matches.



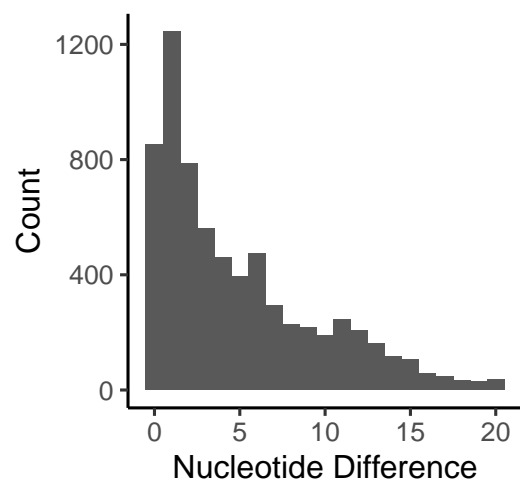
IGHV3-177*01_S8409

832 sequences assigned
70 (8.4%) exact matches, in which:
50 unique CDR3
8 unique J



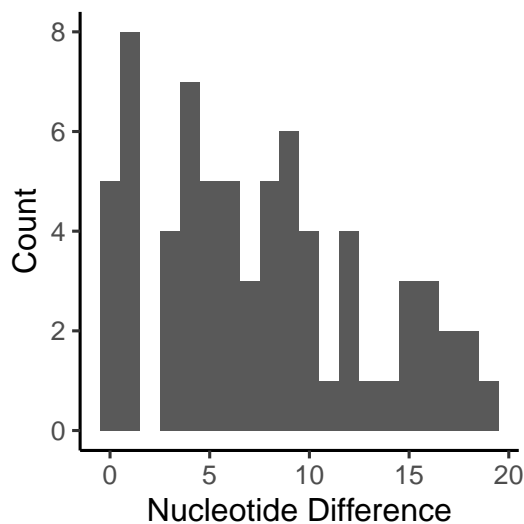
IGHV3-NL_1*01_S4850

7040 sequences assigned
853 (12.1%) exact matches, in which:
544 unique CDR3
8 unique J



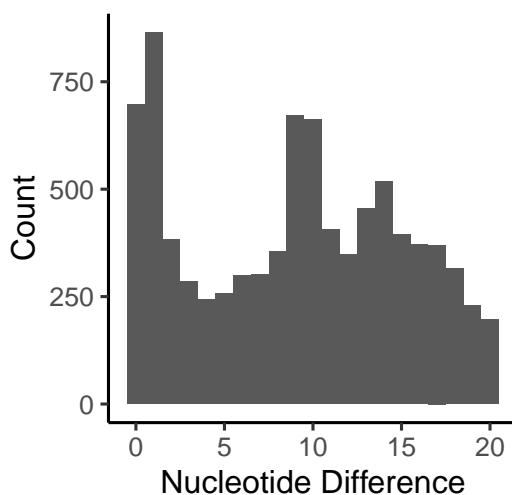
IGHV3-172*01_S1597

76 sequences assigned
5 (6.6%) exact matches, in which:
5 unique CDR3
3 unique J



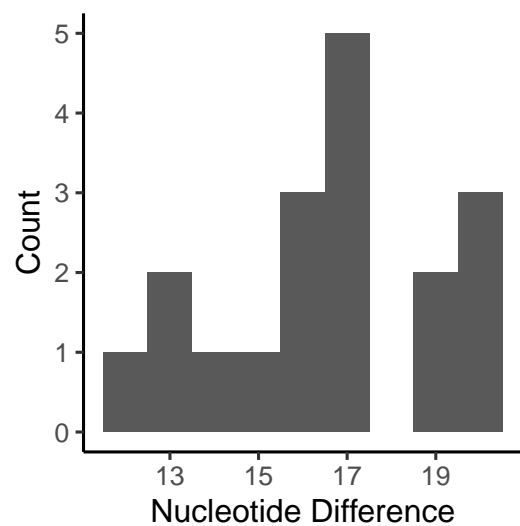
IGHV3-187*01_S6641

9608 sequences assigned
697 (7.3%) exact matches, in which:
422 unique CDR3
10 unique J



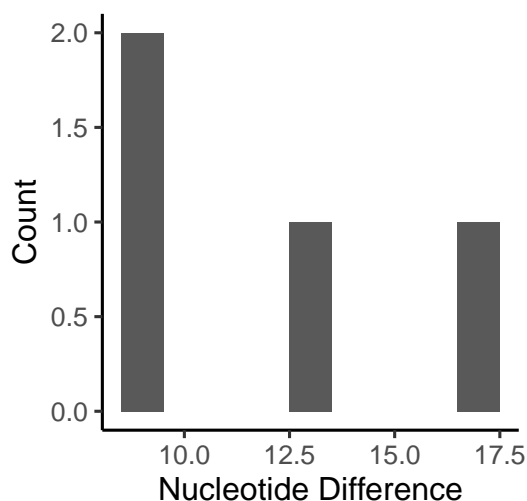
IGHV3-NL_10*02_S3155

38 sequences assigned
No exact matches.



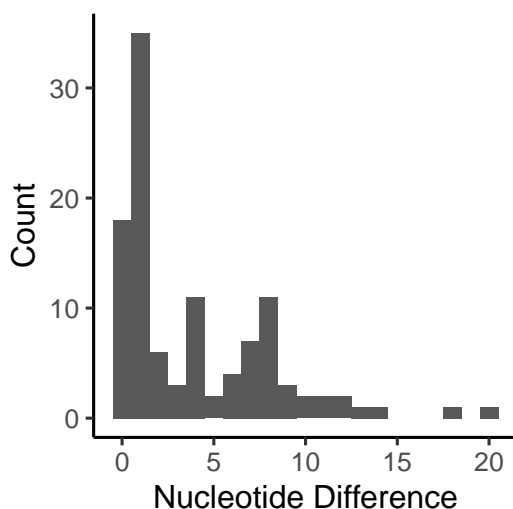
IGHV3-NL_10*02_S8522

10 sequences assigned
No exact matches.



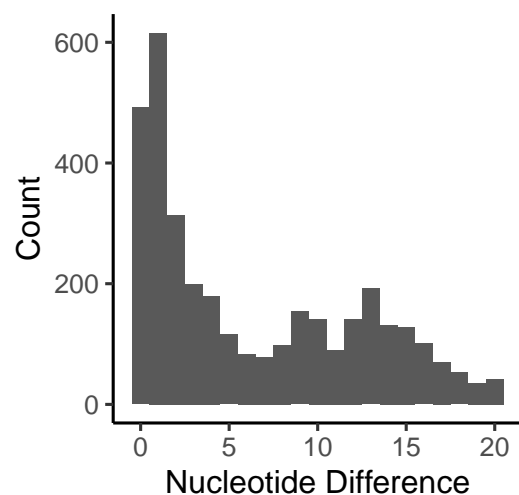
IGHV3-NL_12*02_S6383

115 sequences assigned
18 (15.7%) exact matches, in which:
11 unique CDR3
4 unique J



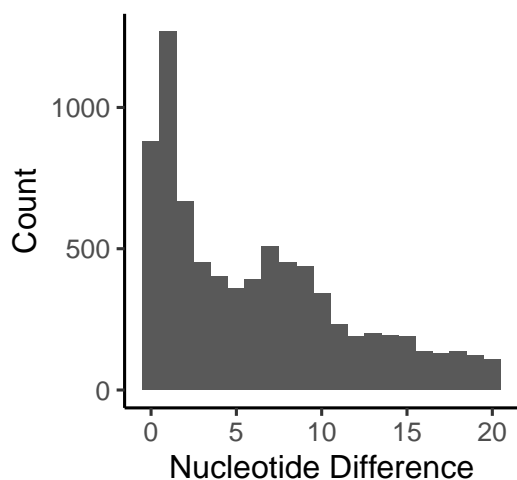
IGHV3-NL_17*01_S0238

4137 sequences assigned
492 (11.9%) exact matches, in which:
292 unique CDR3
7 unique J



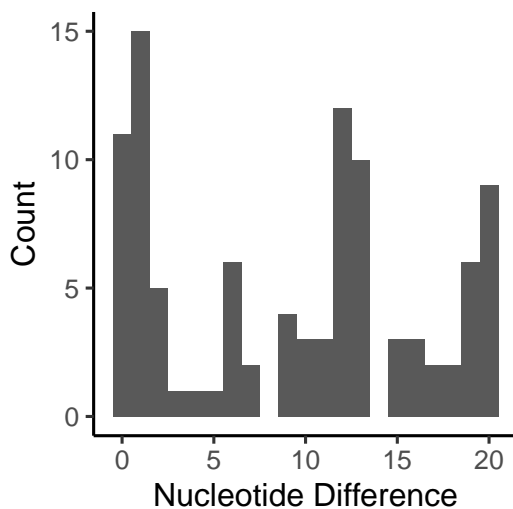
IGHV3-NL_11*01_S300

8229 sequences assigned
879 (10.7%) exact matches, in which:
544 unique CDR3
9 unique J



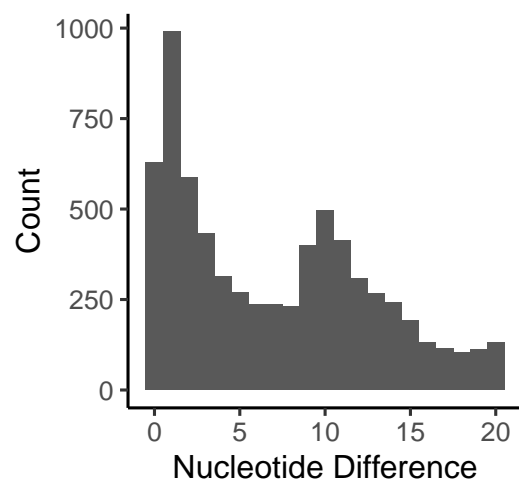
IGHV3-NL_13*01_S3277

133 sequences assigned
11 (8.3%) exact matches, in which:
8 unique CDR3
4 unique J



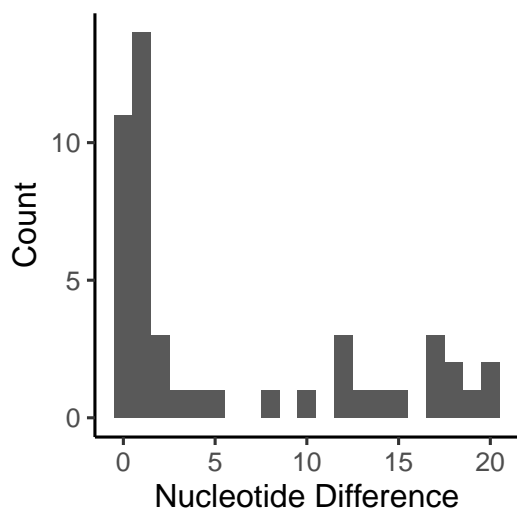
IGHV3-NL_17*01_S134

7328 sequences assigned
630 (8.6%) exact matches, in which:
367 unique CDR3
7 unique J



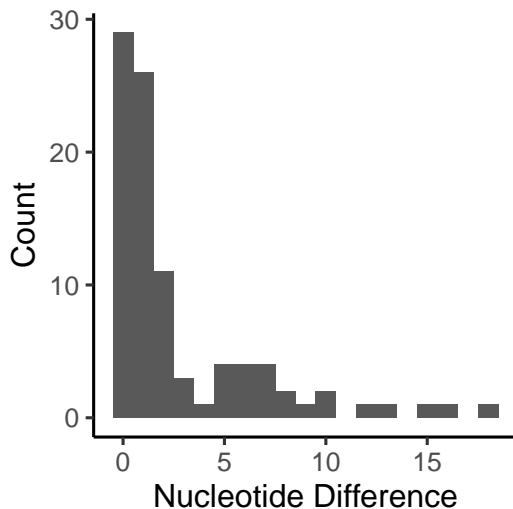
IGHV3-NL_12*02_S5246

57 sequences assigned
11 (19.3%) exact matches, in which:
8 unique CDR3
3 unique J



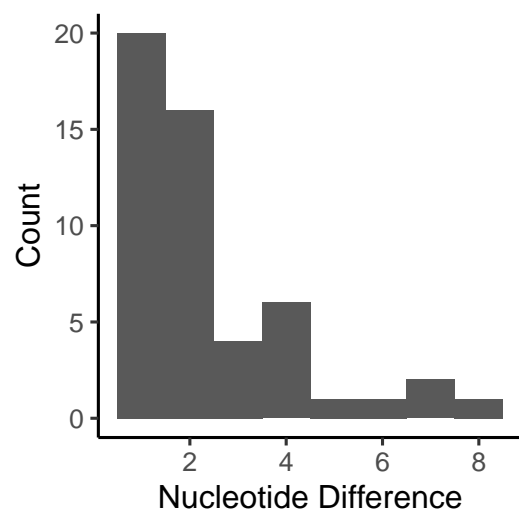
IGHV3-NL_16*01_S7825

95 sequences assigned
29 (30.5%) exact matches, in which:
14 unique CDR3
3 unique J



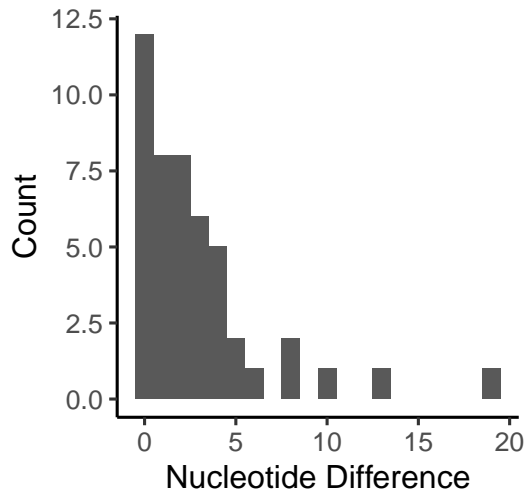
IGHV3-NL_18*01_S6383

52 sequences assigned
No exact matches.



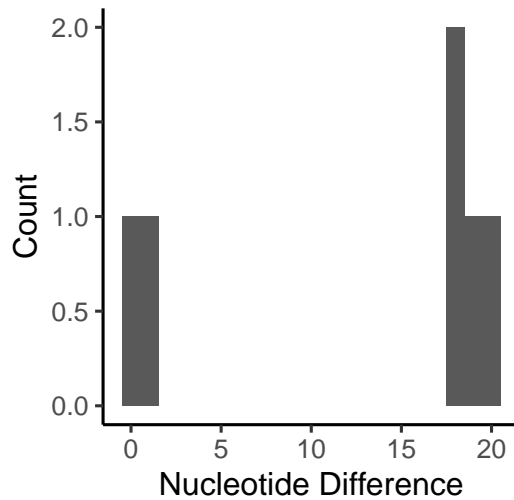
IGHV3-NL_18*01_S6396

47 sequences assigned
12 (25.5%) exact matches, in which:
6 unique CDR3
2 unique J



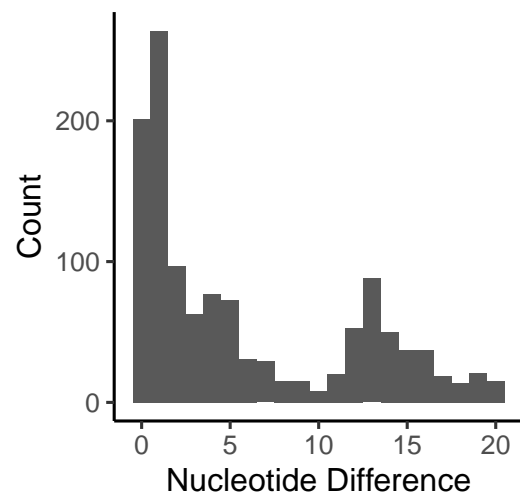
IGHV3-NL_2*01_S9710

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



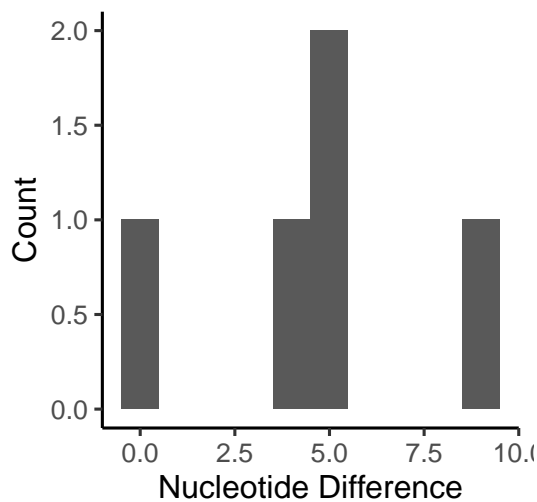
IGHV3-NL_8*01_S9584

1277 sequences assigned
201 (15.7%) exact matches, in which:
104 unique CDR3
9 unique J



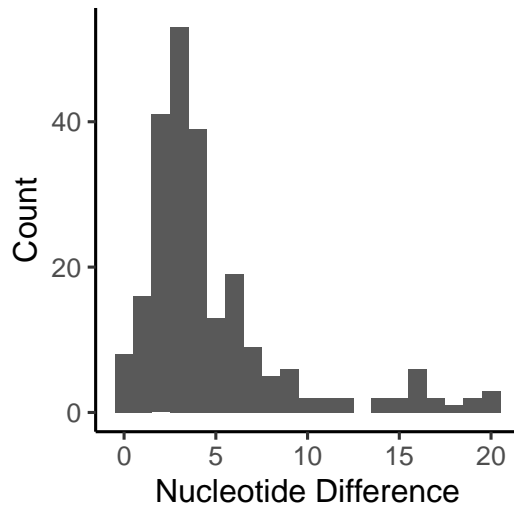
IGHV3-NL_19*01_S2166

6 sequences assigned
1 (16.7%) exact matches, in which:
1 unique CDR3
1 unique J



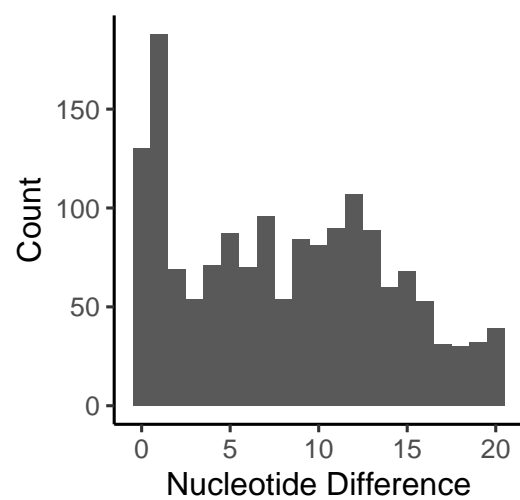
IGHV3-NL_4*01_S6875

245 sequences assigned
8 (3.3%) exact matches, in which:
6 unique CDR3
2 unique J



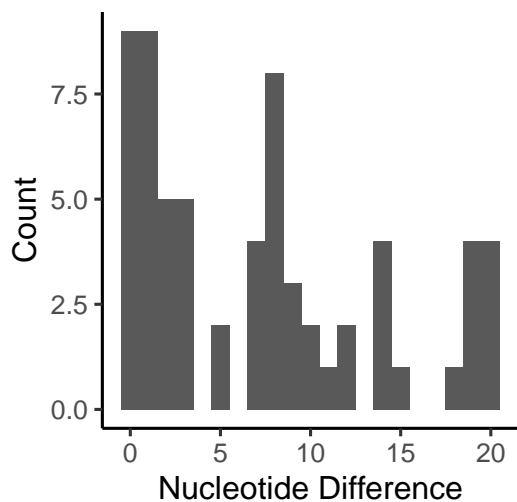
IGHV3-NL_9*01_S6098

1722 sequences assigned
130 (7.5%) exact matches, in which:
91 unique CDR3
7 unique J



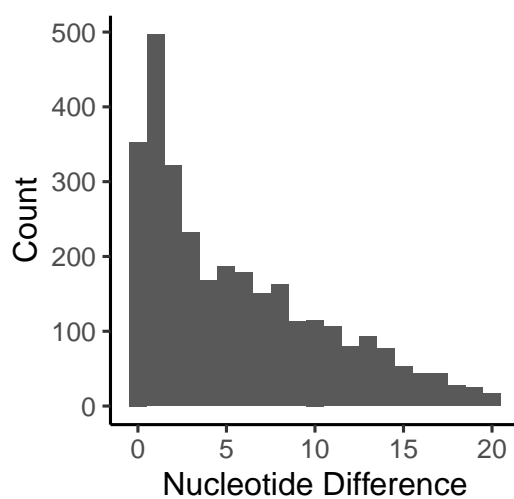
IGHV3-NL_2*01_S0144

65 sequences assigned
9 (13.8%) exact matches, in which:
5 unique CDR3
4 unique J



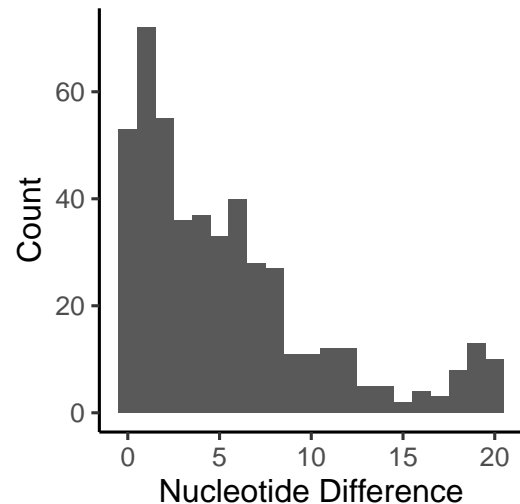
IGHV3-NL_5*01_S4429

3302 sequences assigned
353 (10.7%) exact matches, in which:
228 unique CDR3
7 unique J



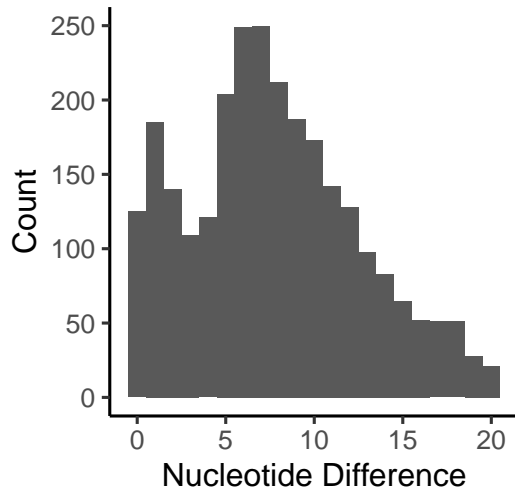
IGHV4-67*02_S4494

634 sequences assigned
53 (8.4%) exact matches, in which:
40 unique CDR3
6 unique J



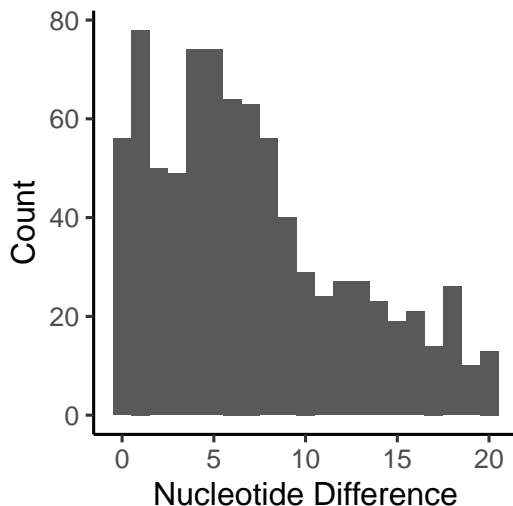
IGHV4-72*01_S8261

2756 sequences assigned
125 (4.5%) exact matches, in which:
90 unique CDR3
8 unique J



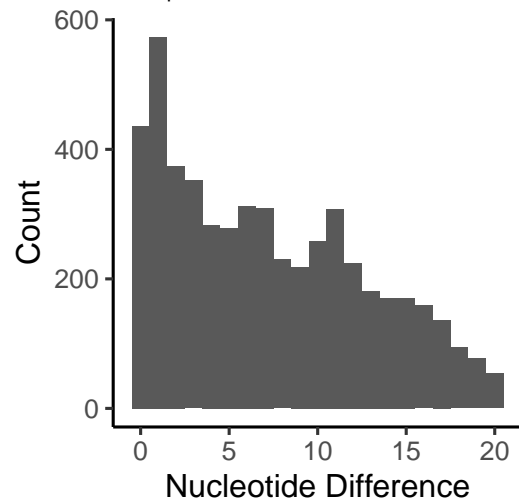
IGHV4-117*01_S3455

859 sequences assigned
56 (6.5%) exact matches, in which:
47 unique CDR3
6 unique J



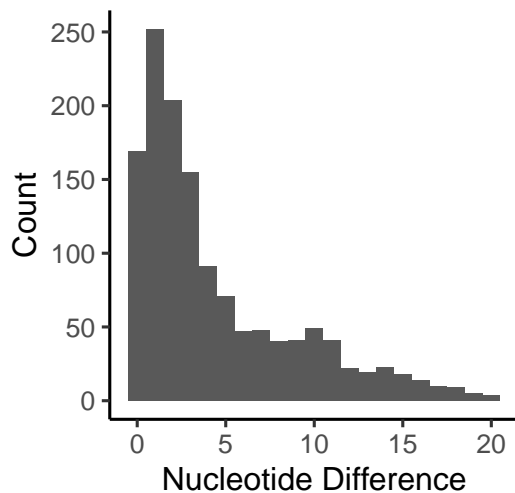
IGHV4-149*01_S2615

5630 sequences assigned
436 (7.7%) exact matches, in which:
332 unique CDR3
8 unique J



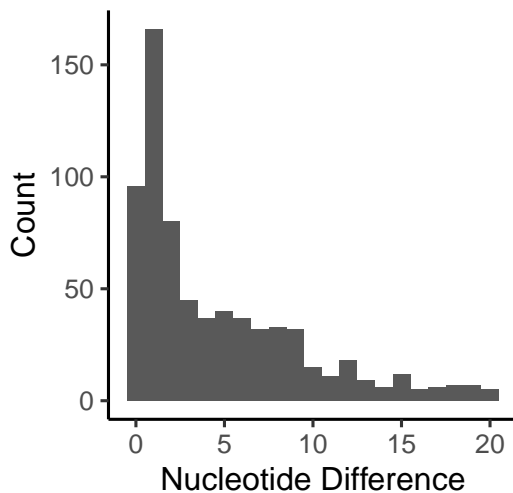
IGHV4-79*01_S6884

1395 sequences assigned
169 (12.1%) exact matches, in which:
132 unique CDR3
7 unique J



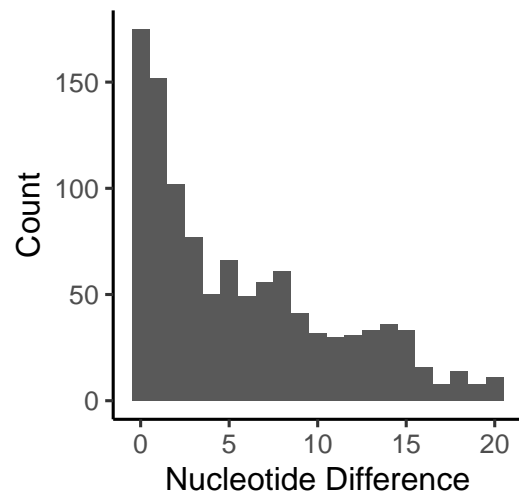
IGHV4-144*01_S0885

779 sequences assigned
96 (12.3%) exact matches, in which:
76 unique CDR3
8 unique J



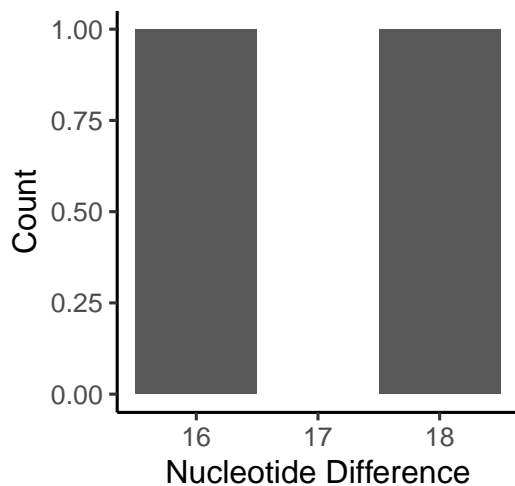
IGHV4-149*01_S5969

1151 sequences assigned
175 (15.2%) exact matches, in which:
141 unique CDR3
7 unique J



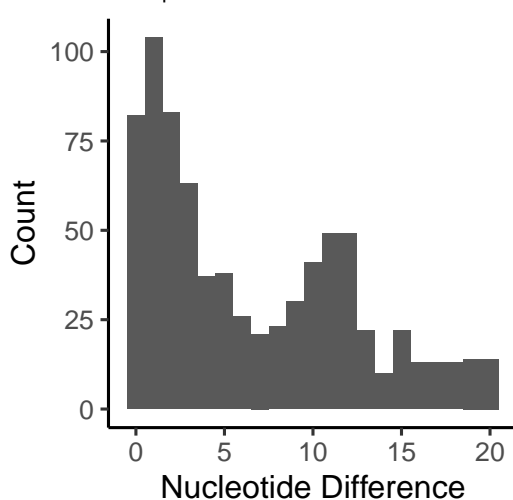
IGHV4-93*01_S5203

3 sequences assigned
No exact matches.



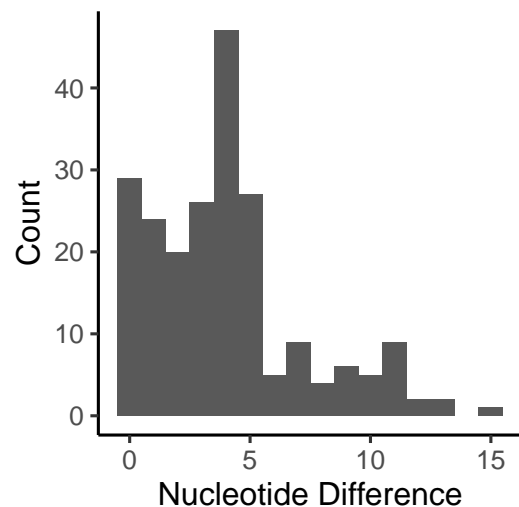
IGHV4-144*01_S1446

794 sequences assigned
82 (10.3%) exact matches, in which:
66 unique CDR3
7 unique J



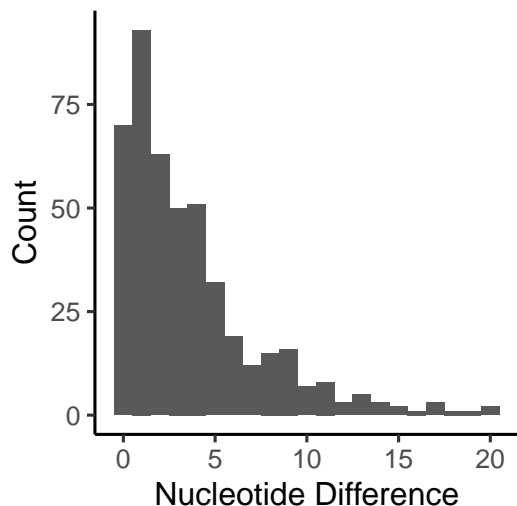
IGHV4-150*01_S4911

218 sequences assigned
29 (13.3%) exact matches, in which:
25 unique CDR3
7 unique J



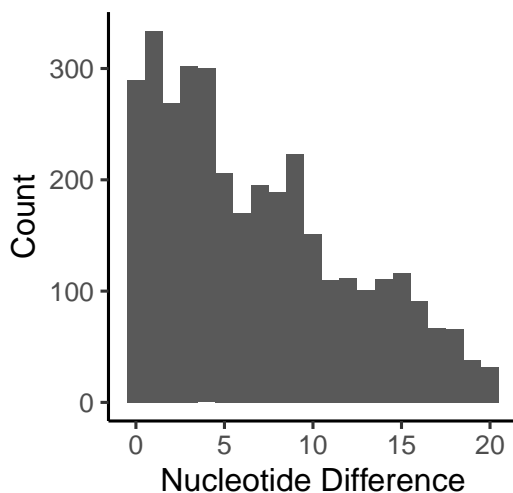
IGHV4-150*01_S5230

459 sequences assigned
70 (15.3%) exact matches, in which:
58 unique CDR3
7 unique J



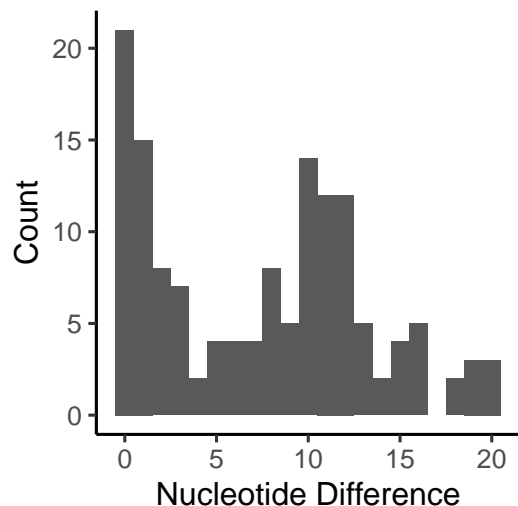
IGHV4-NL_1*01_S9508

3689 sequences assigned
290 (7.9%) exact matches, in which:
203 unique CDR3
7 unique J



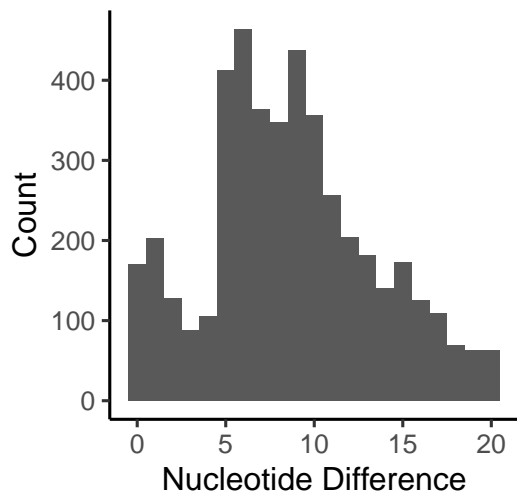
IGHV4-NL_10*01_S4826

149 sequences assigned
21 (14.1%) exact matches, in which:
19 unique CDR3
6 unique J



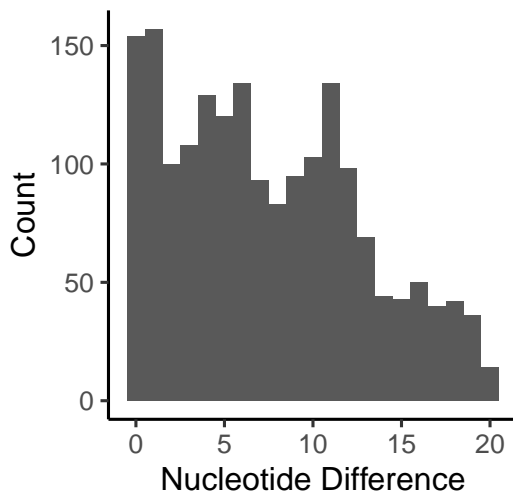
IGHV4-174*02_S7573

4654 sequences assigned
170 (3.7%) exact matches, in which:
129 unique CDR3
7 unique J



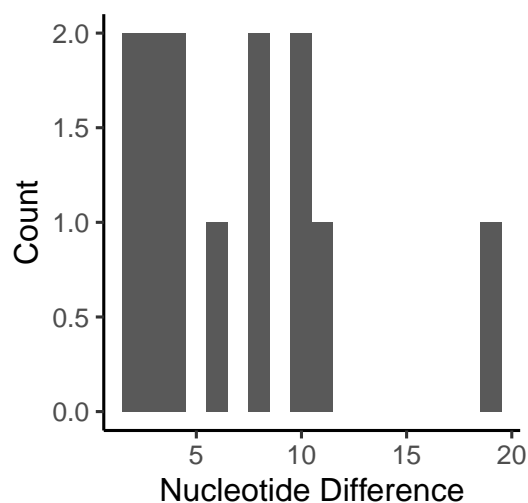
IGHV4-NL_1*01_S9616

2093 sequences assigned
154 (7.4%) exact matches, in which:
117 unique CDR3
7 unique J



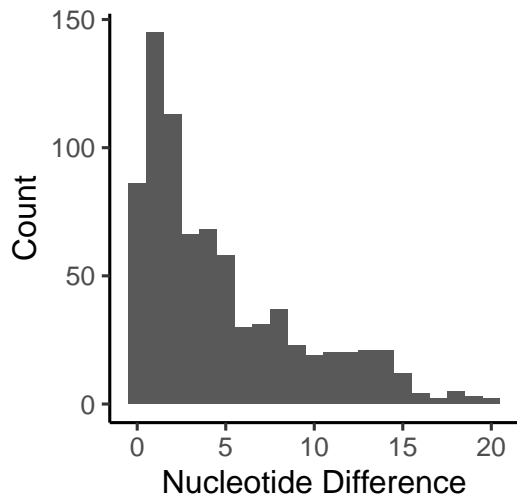
IGHV4-NL_12*01_S6471

16 sequences assigned
No exact matches.



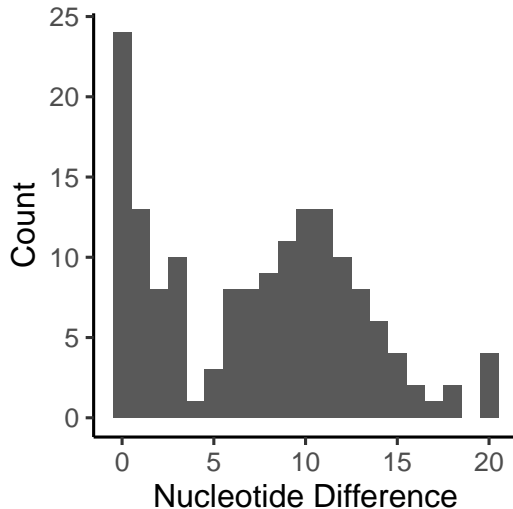
IGHV4-NL_1*01_S5641

798 sequences assigned
86 (10.8%) exact matches, in which:
69 unique CDR3
8 unique J



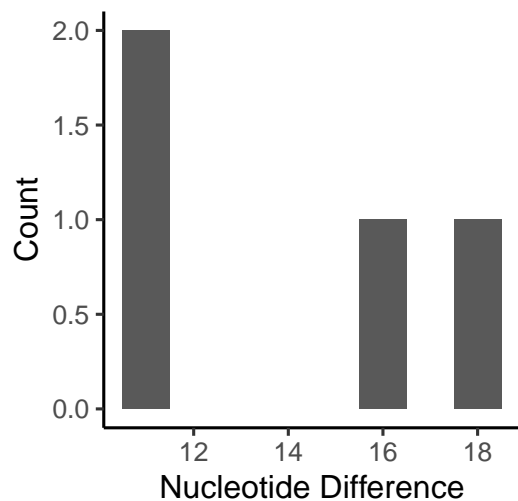
IGHV4-NL_10*01_S4826

162 sequences assigned
24 (14.8%) exact matches, in which:
20 unique CDR3
5 unique J



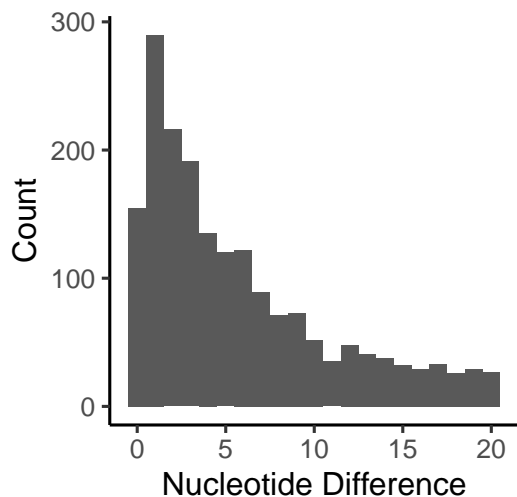
IGHV4-NL_12*01_S9315

5 sequences assigned
No exact matches.



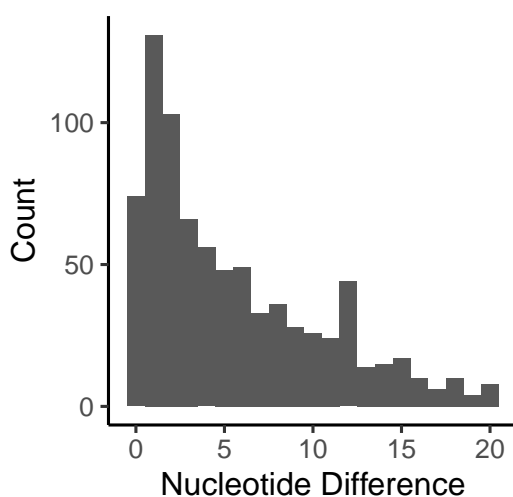
IGHV4–NL_13*01_S1361

1940 sequences assigned
155 (8%) exact matches, in which:
128 unique CDR3
8 unique J



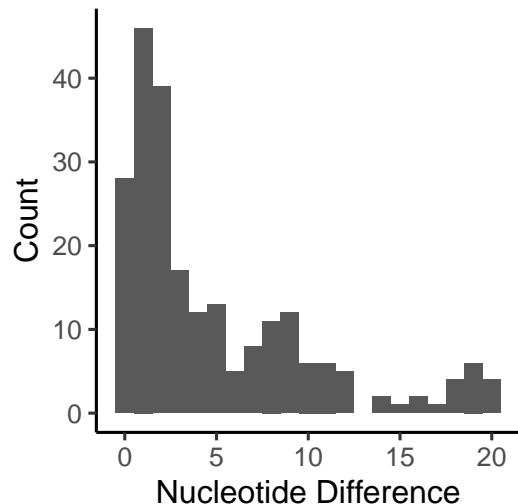
IGHV4–NL_17*01_S5431

828 sequences assigned
74 (8.9%) exact matches, in which:
64 unique CDR3
6 unique J



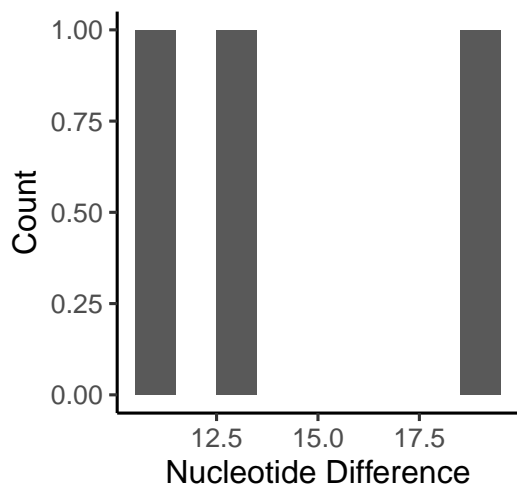
IGHV4–NL_21*01_S5257

230 sequences assigned
28 (12.2%) exact matches, in which:
22 unique CDR3
4 unique J



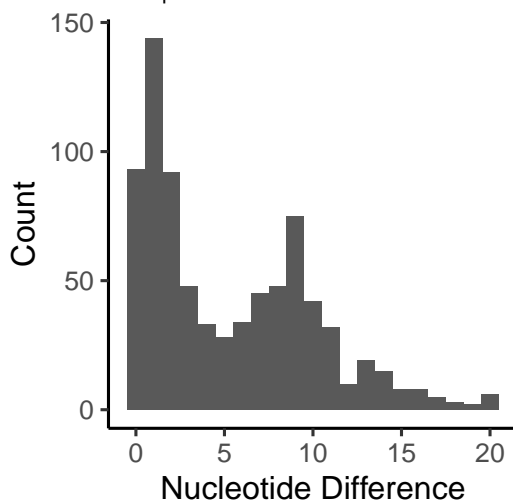
IGHV4–NL_14*01_S3059

3 sequences assigned
No exact matches.



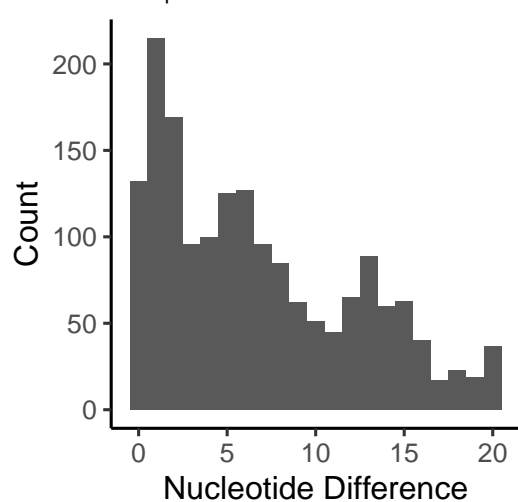
IGHV4–NL_17*01_S8189

805 sequences assigned
93 (11.6%) exact matches, in which:
75 unique CDR3
6 unique J



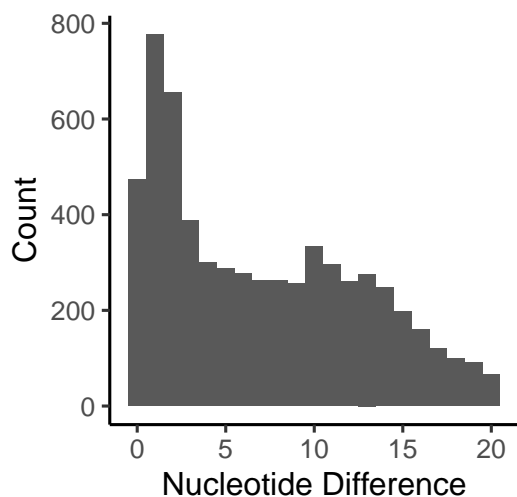
IGHV4–NL_22*01_S1072

1872 sequences assigned
132 (7.1%) exact matches, in which:
113 unique CDR3
8 unique J



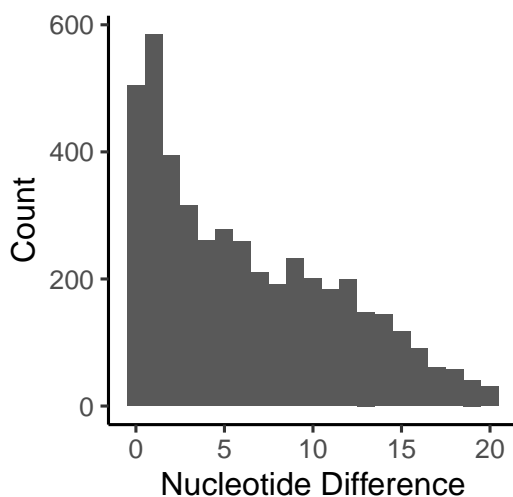
IGHV4–NL_16*01_S2138

6360 sequences assigned
473 (7.4%) exact matches, in which:
371 unique CDR3
9 unique J



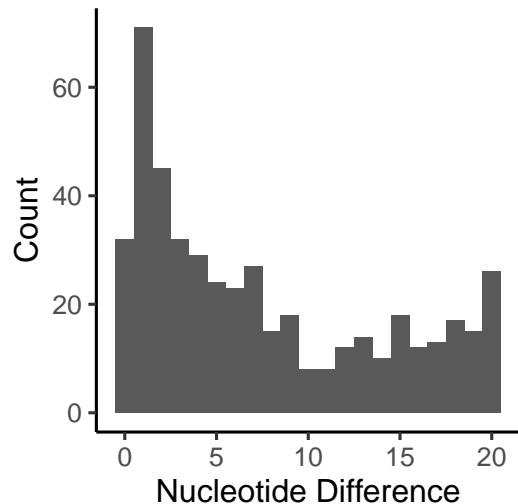
IGHV4–NL_18*01_S3907

4668 sequences assigned
505 (10.8%) exact matches, in which:
371 unique CDR3
7 unique J



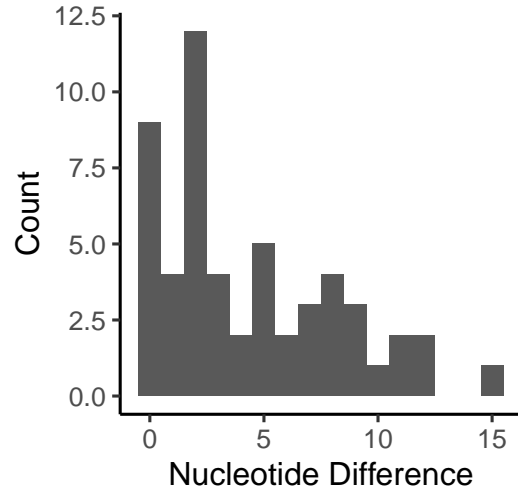
IGHV4–NL_22*01_S9775

509 sequences assigned
32 (6.3%) exact matches, in which:
27 unique CDR3
6 unique J



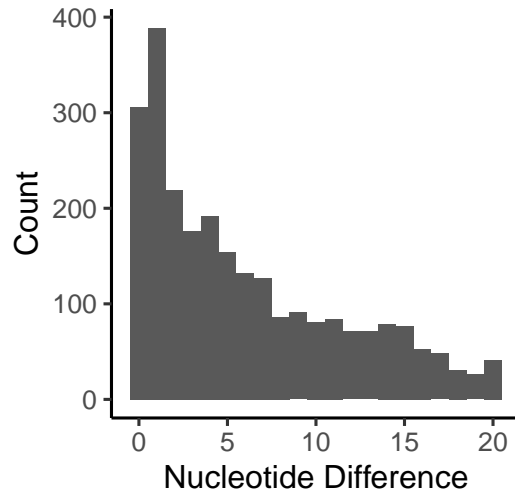
IGHV4-NL_24*01_S3447

54 sequences assigned
9 (16.7%) exact matches, in which:
6 unique CDR3
5 unique J



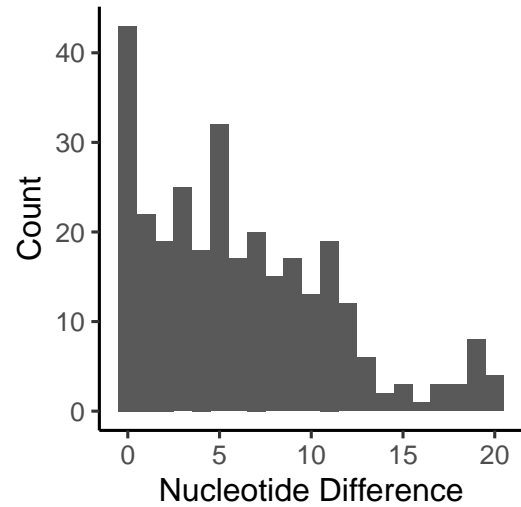
IGHV4-NL_27*01_S6960

2683 sequences assigned
306 (11.4%) exact matches, in which:
235 unique CDR3
9 unique J



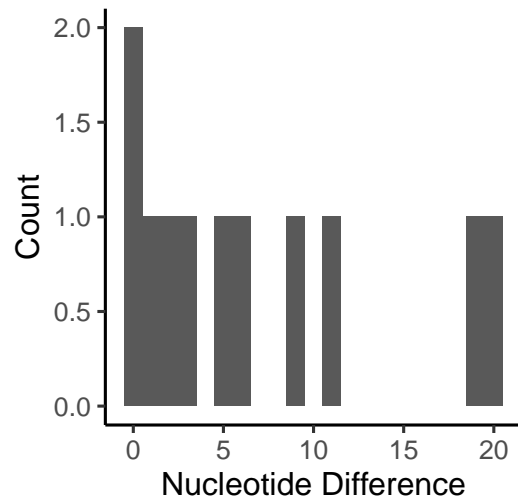
IGHV4-NL_28*01_S8886

312 sequences assigned
43 (13.8%) exact matches, in which:
36 unique CDR3
6 unique J



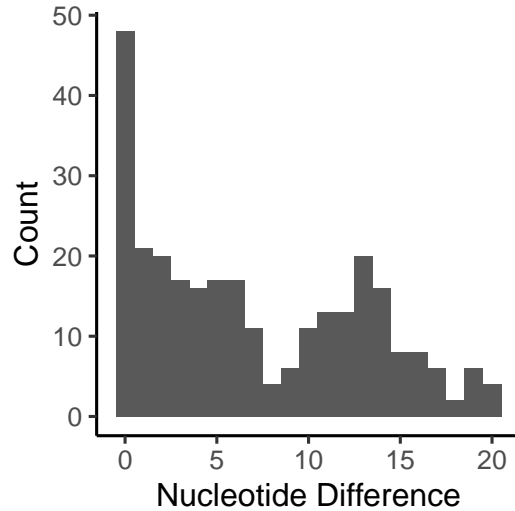
IGHV4-NL_25*01_S1514

13 sequences assigned
2 (15.4%) exact matches, in which:
2 unique CDR3
1 unique J



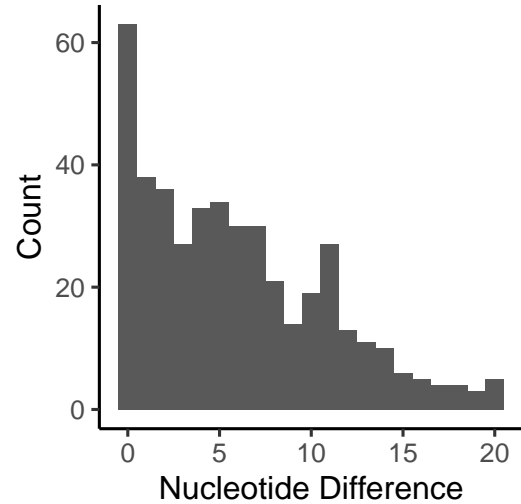
IGHV4-NL_28*01_S0629

327 sequences assigned
48 (14.7%) exact matches, in which:
38 unique CDR3
5 unique J



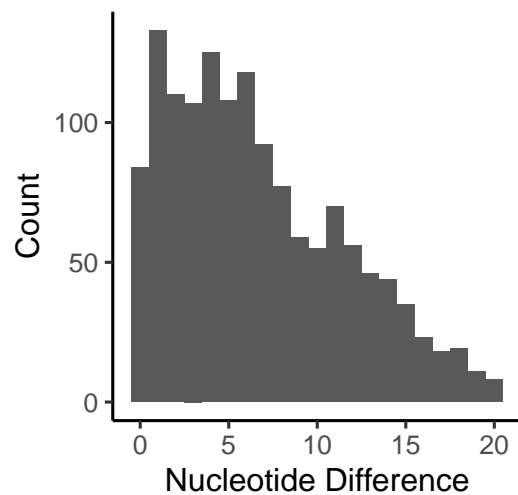
IGHV4-NL_28*01_S8886

450 sequences assigned
63 (14%) exact matches, in which:
57 unique CDR3
7 unique J



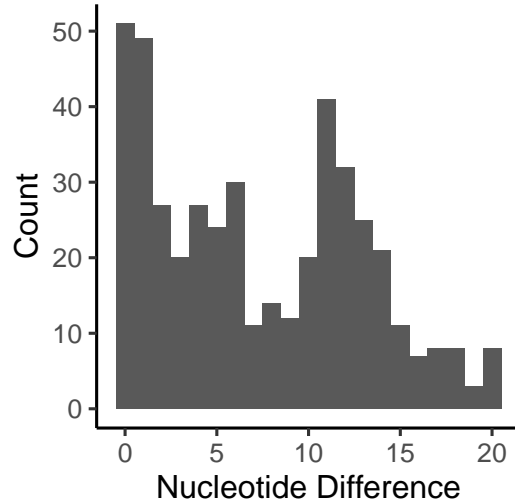
IGHV4-NL_27*01_S5217

1500 sequences assigned
84 (5.6%) exact matches, in which:
74 unique CDR3
7 unique J



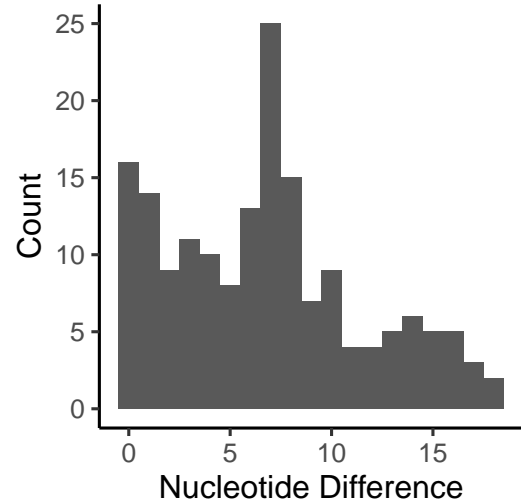
IGHV4-NL_28*01_S0629

482 sequences assigned
51 (10.6%) exact matches, in which:
44 unique CDR3
6 unique J



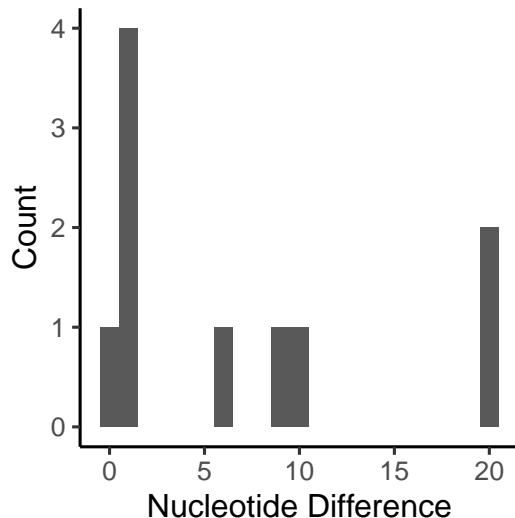
IGHV4-NL_29*01_S7498

175 sequences assigned
16 (9.1%) exact matches, in which:
14 unique CDR3
4 unique J



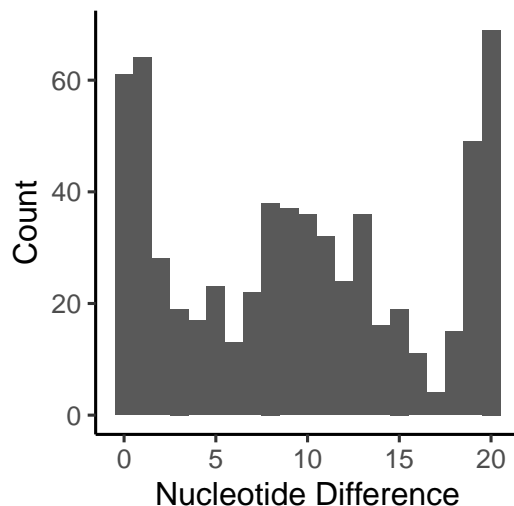
IGHV4-NL_30*01_S1240

10 sequences assigned
1 (10%) exact matches, in which:
1 unique CDR3
1 unique J



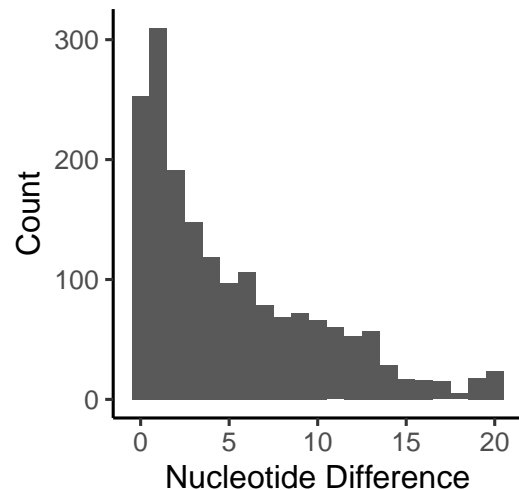
IGHV4-NL_36*01_S1694

808 sequences assigned
61 (7.5%) exact matches, in which:
48 unique CDR3
7 unique J



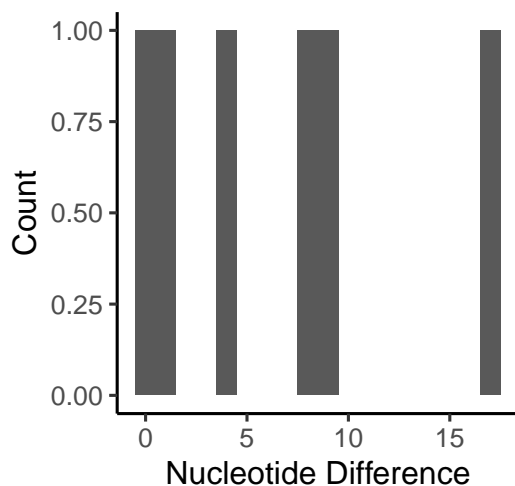
IGHV4-NL_37*01_S0825

1875 sequences assigned
253 (13.5%) exact matches, in which:
191 unique CDR3
7 unique J



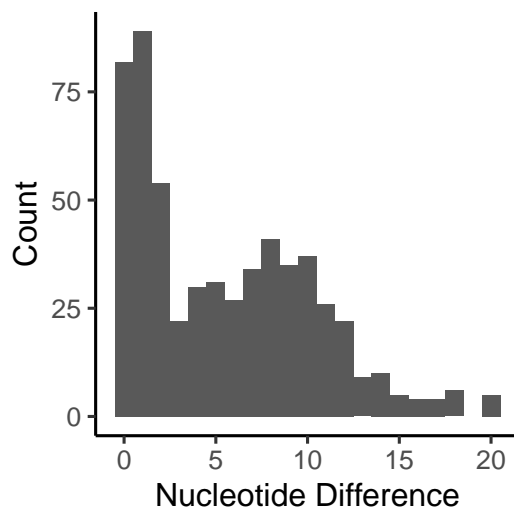
IGHV4-NL_33*01_S9195

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



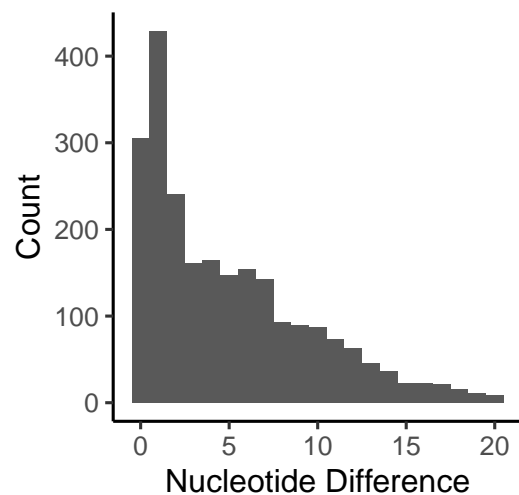
IGHV4-NL_36*01_S5766

597 sequences assigned
82 (13.7%) exact matches, in which:
68 unique CDR3
8 unique J



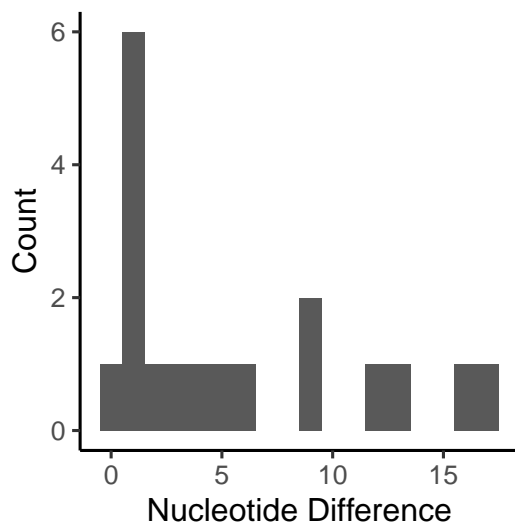
IGHV4-NL_37*01_S0997

2372 sequences assigned
305 (12.9%) exact matches, in which:
228 unique CDR3
9 unique J



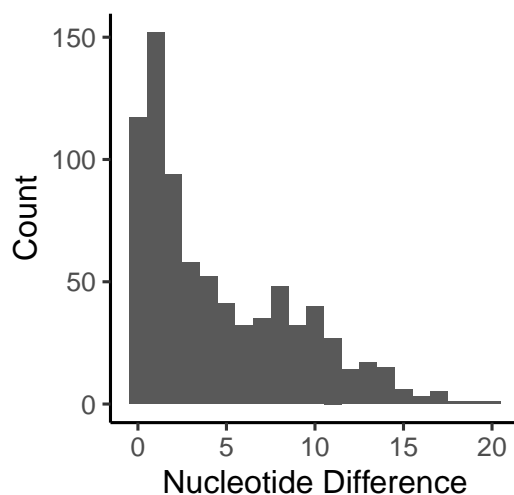
IGHV4-NL_33*01_S9333

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



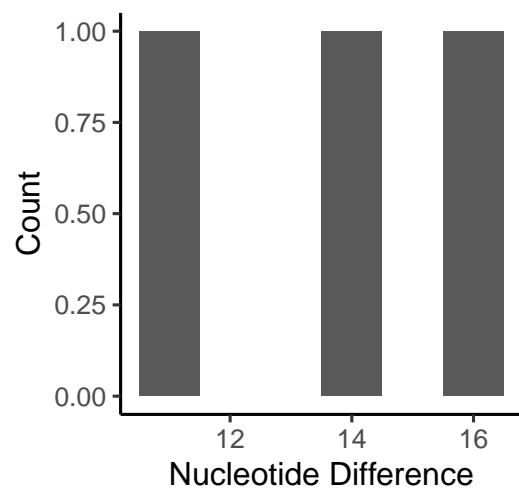
IGHV4-NL_37*01_S0071

799 sequences assigned
117 (14.6%) exact matches, in which:
90 unique CDR3
8 unique J



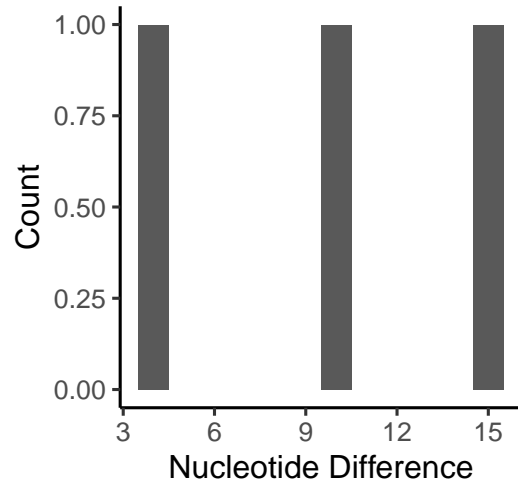
IGHV4-NL_38*01_S9225

5 sequences assigned
No exact matches.



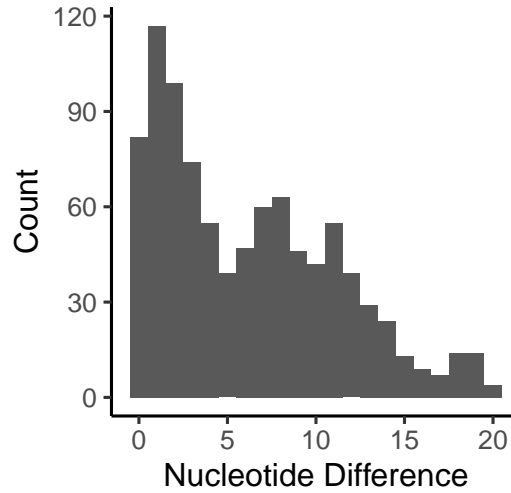
IGHV4–NL_4*01_S5211

6 sequences assigned
No exact matches.



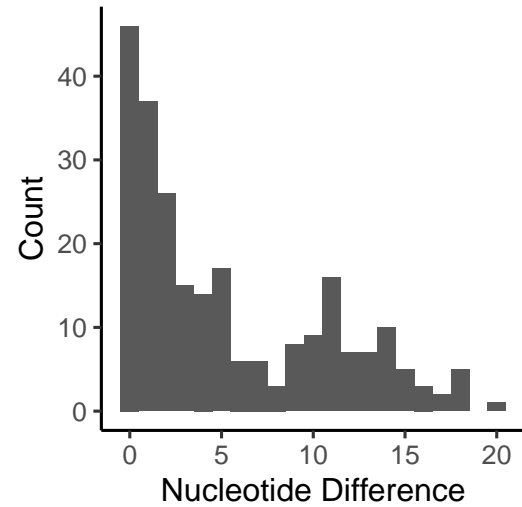
IGHV4–NL_41*01_S4457

972 sequences assigned
82 (8.4%) exact matches, in which:
62 unique CDR3
6 unique J



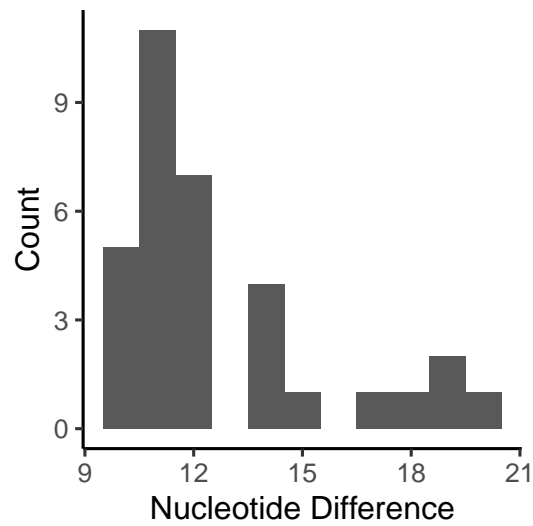
IGHV4–NL_5*01_S1559

243 sequences assigned
46 (18.9%) exact matches, in which:
39 unique CDR3
5 unique J



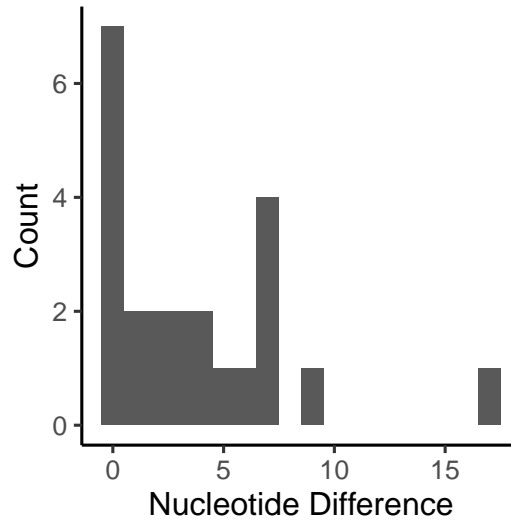
IGHV4–NL_4*01_S8866

40 sequences assigned
No exact matches.



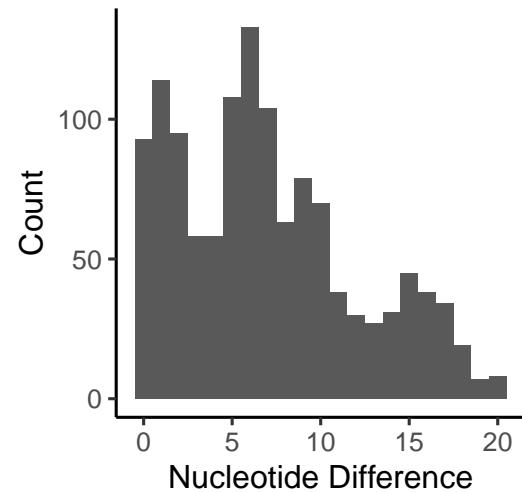
IGHV4–NL_42*01_S8550

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



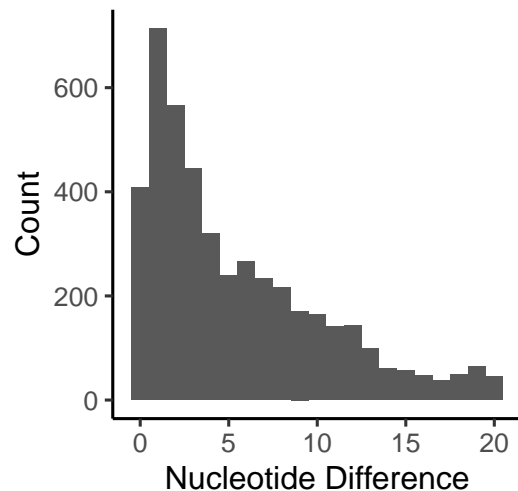
IGHV4–NL_5*01_S6337

1284 sequences assigned
93 (7.2%) exact matches, in which:
69 unique CDR3
6 unique J



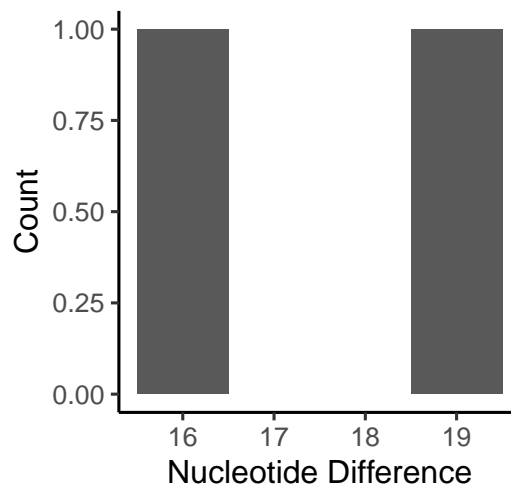
IGHV4–NL_40*01_S9020

4889 sequences assigned
408 (8.3%) exact matches, in which:
328 unique CDR3
7 unique J



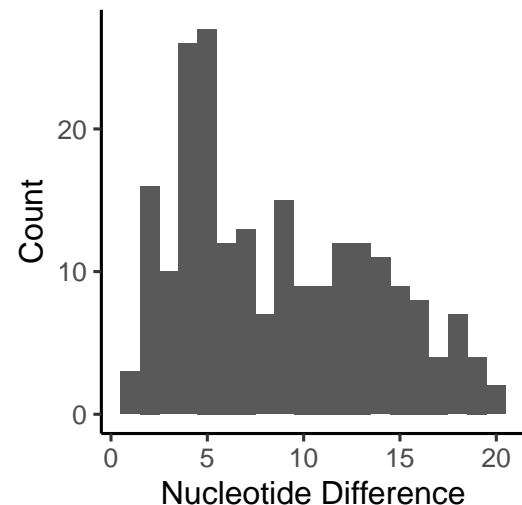
IGHV4–NL_43*01_S3820

2 sequences assigned
No exact matches.



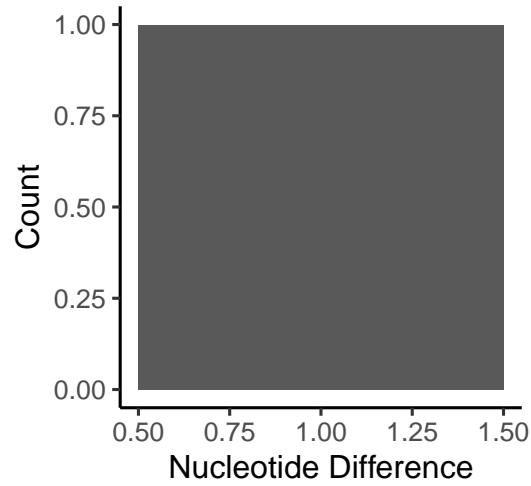
IGHV4–NL_5*01_S8913

243 sequences assigned
No exact matches.



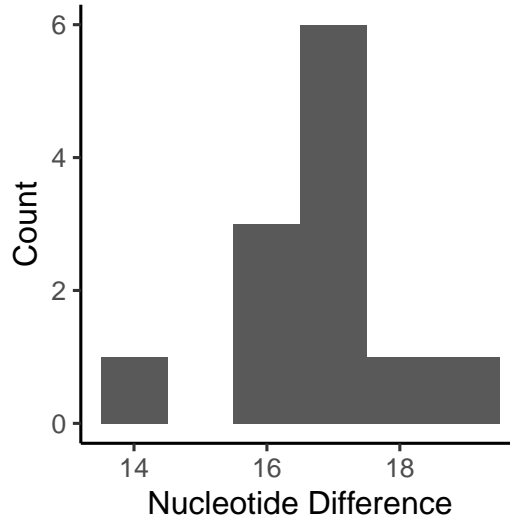
IGHV4–NL_6*01_S1427

1 sequences assigned
No exact matches.



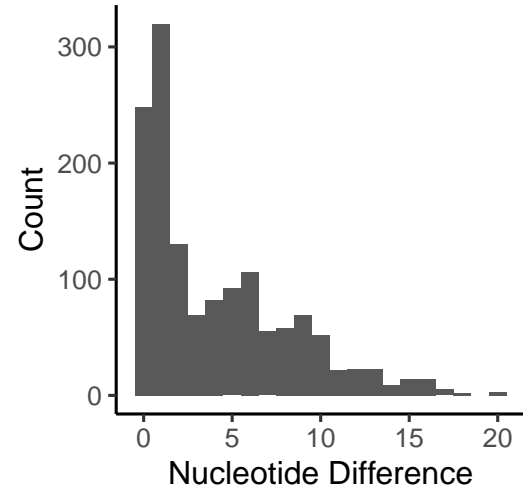
IGHV4–NL_9*01_S7216

13 sequences assigned
No exact matches.



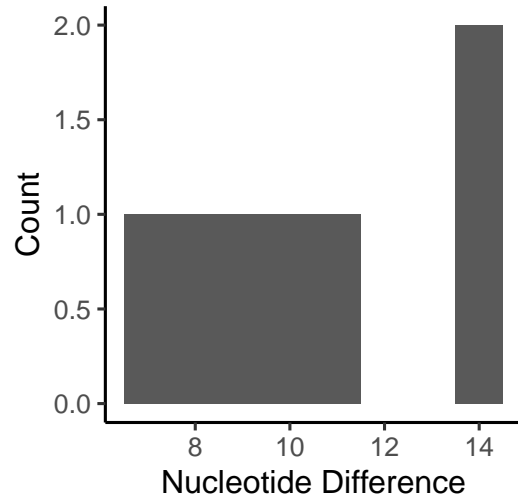
IGHV5–157*01_S5960

1400 sequences assigned
248 (17.7%) exact matches, in which:
133 unique CDR3
8 unique J



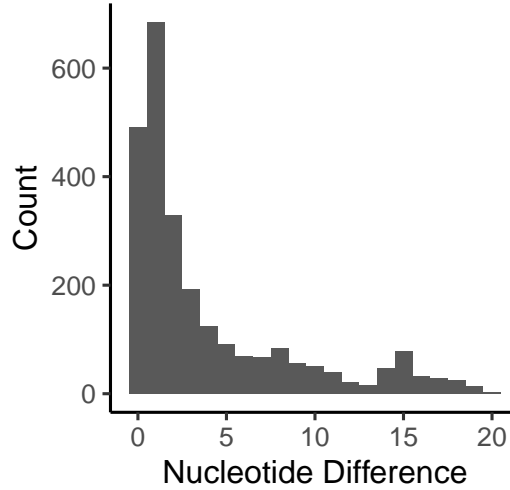
IGHV4–NL_8*02_S1704

8 sequences assigned
No exact matches.



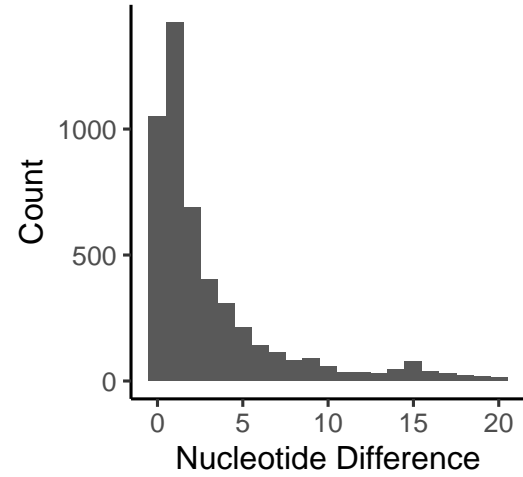
IGHV5–15*01_S8661

2629 sequences assigned
491 (18.7%) exact matches, in which:
312 unique CDR3
8 unique J



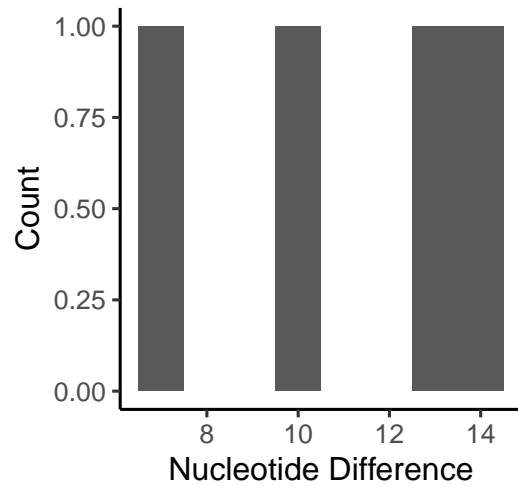
IGHV5–NL_1*02_S5699

4934 sequences assigned
1051 (21.3%) exact matches, in which:
593 unique CDR3
8 unique J



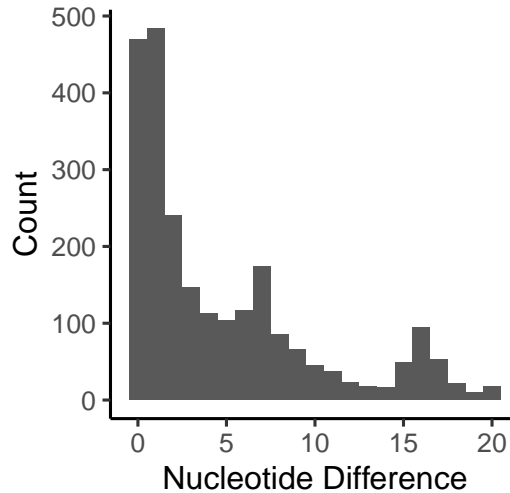
IGHV4–NL_9*01_S6608

5 sequences assigned
No exact matches.



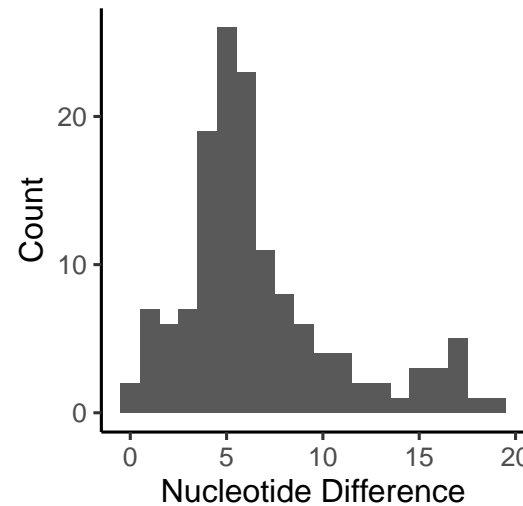
IGHV5–157*01_S5362

2415 sequences assigned
469 (19.4%) exact matches, in which:
233 unique CDR3
8 unique J



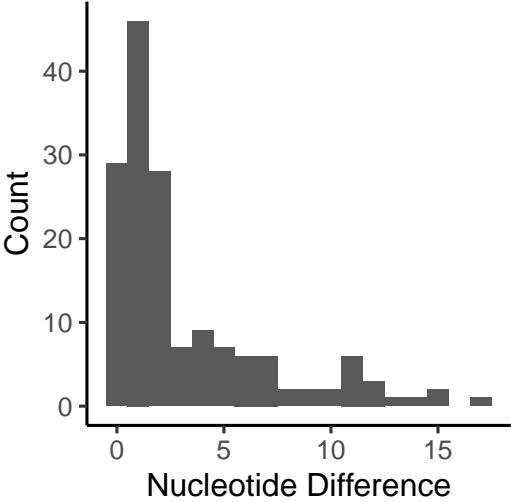
IGHV6–1*01_S5053

141 sequences assigned
2 (1.4%) exact matches, in which:
1 unique CDR3
1 unique J



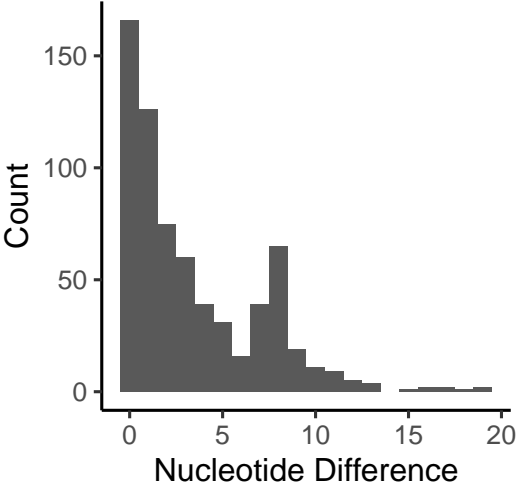
IGHV6-1*02_S6792

160 sequences assigned
29 (18.1%) exact matches, in which:
17 unique CDR3
4 unique J



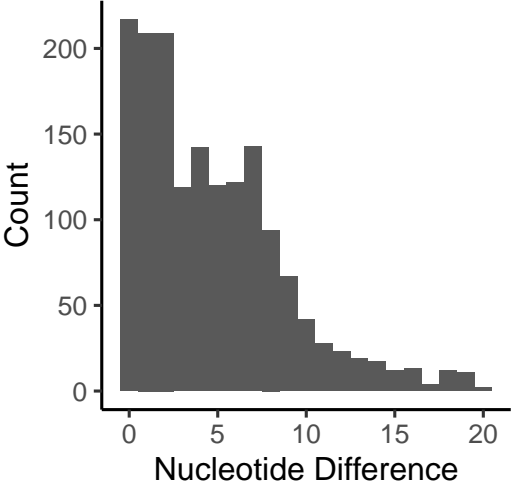
IGHV7-86*01_S5062

674 sequences assigned
166 (24.6%) exact matches, in which:
88 unique CDR3
6 unique J

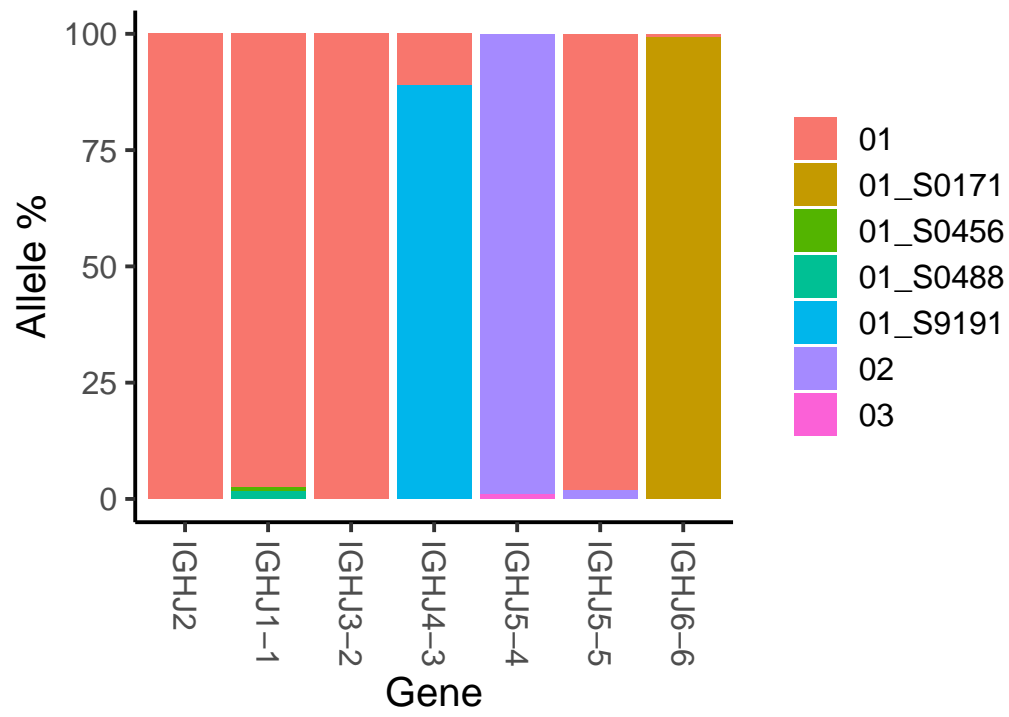


IGHV7-86*01_S6667

1711 sequences assigned
217 (12.7%) exact matches, in which:
132 unique CDR3
7 unique J



Allele Usage



Warning – no inferred sequences found.