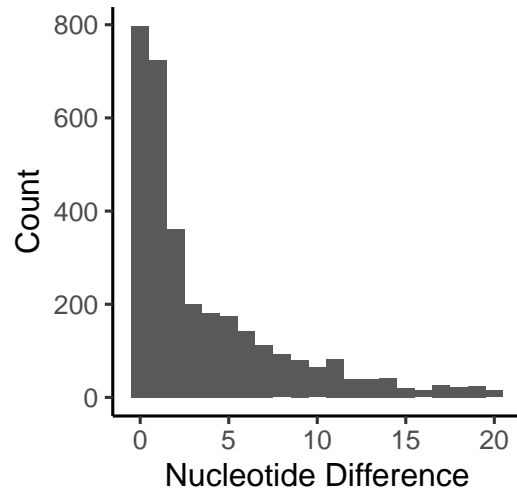


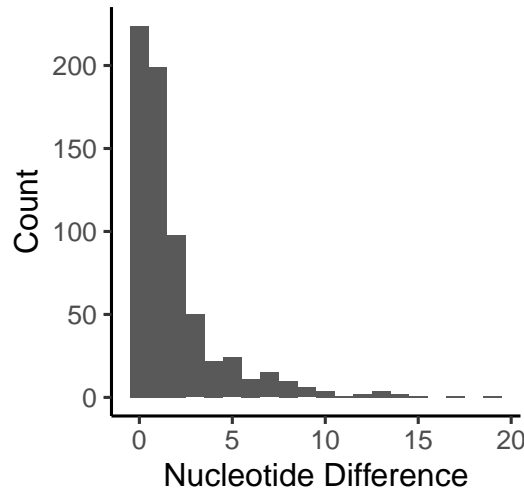
IGHV1-60*01_S7772

3310 sequences assigned
798 (24.1%) exact matches, in which:
475 unique CDR3
8 unique J



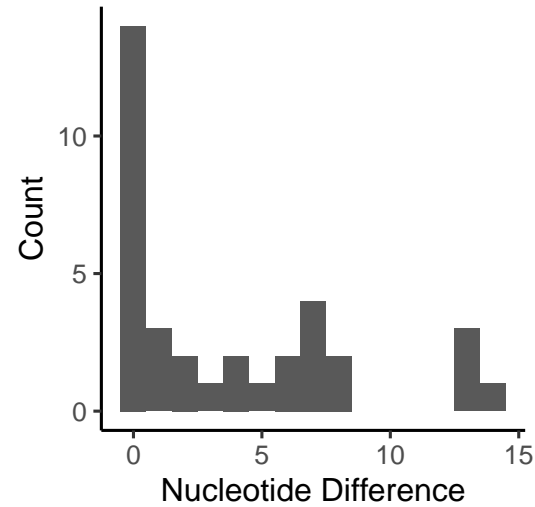
IGHV1-138*01_S2054

677 sequences assigned
224 (33.1%) exact matches, in which:
180 unique CDR3
7 unique J



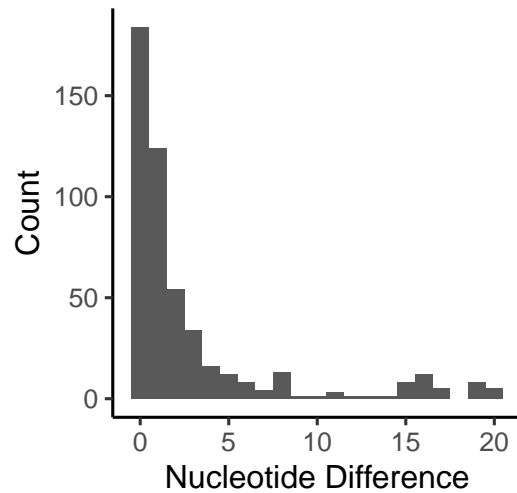
IGHV1-NL_2*01_S2245

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



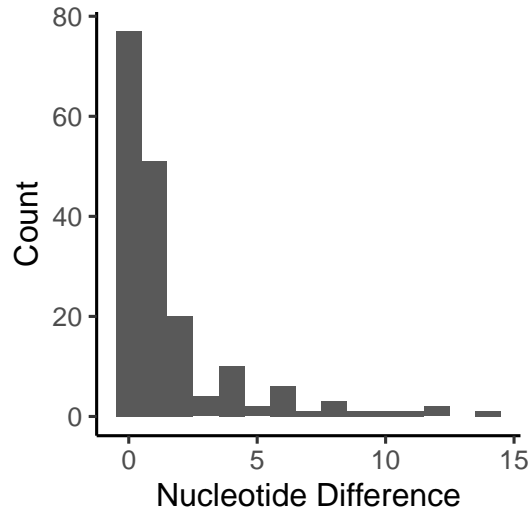
IGHV1-84*01_S2078

600 sequences assigned
184 (30.7%) exact matches, in which:
106 unique CDR3
8 unique J



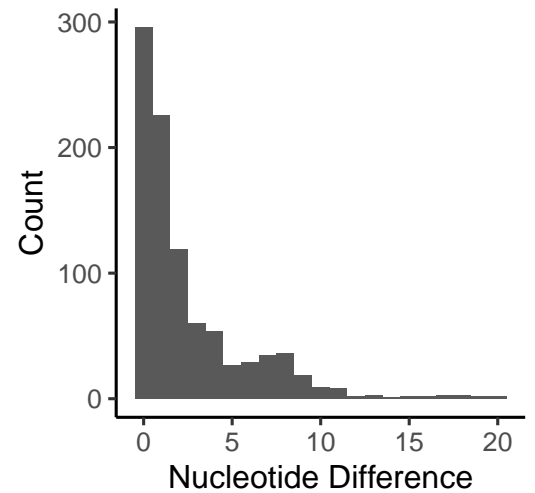
IGHV1-138*01_S6073

181 sequences assigned
77 (42.5%) exact matches, in which:
66 unique CDR3
7 unique J



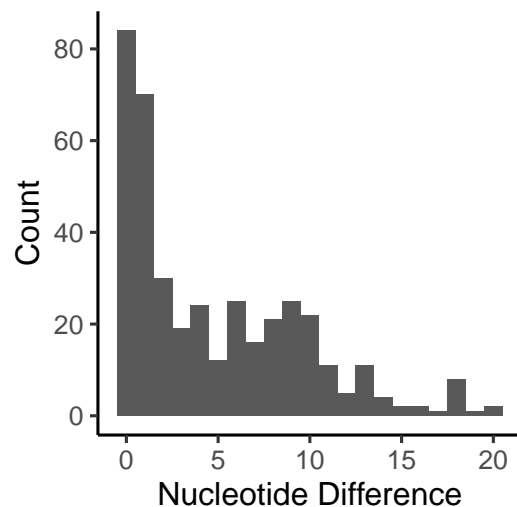
IGHV2-7*02_S3534

942 sequences assigned
296 (31.4%) exact matches, in which:
179 unique CDR3
8 unique J



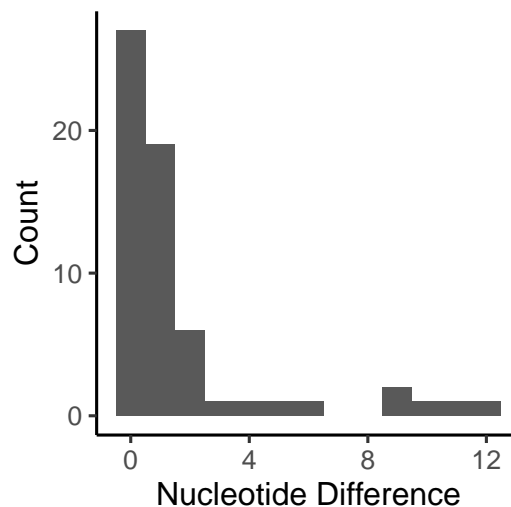
IGHV1-124*01_S6748

431 sequences assigned
84 (19.5%) exact matches, in which:
46 unique CDR3
6 unique J



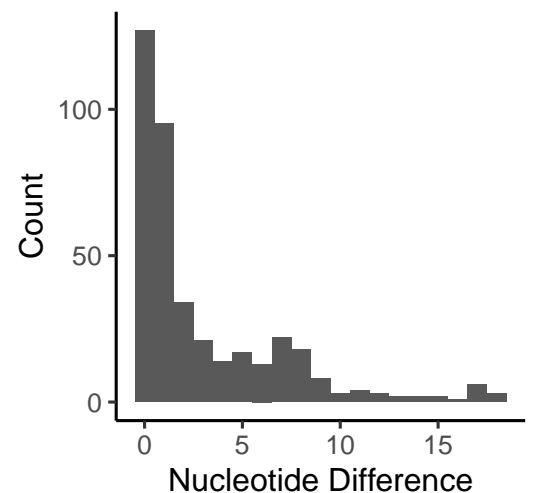
IGHV1-170*01_S3055

61 sequences assigned
27 (44.3%) exact matches, in which:
17 unique CDR3
6 unique J



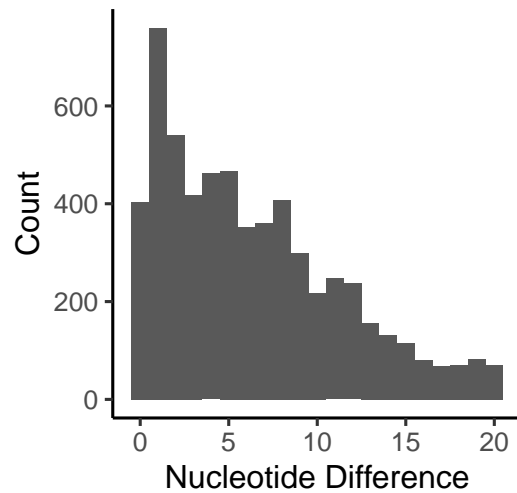
IGHV2-7*02_S3534_G29

399 sequences assigned
127 (31.8%) exact matches, in which:
109 unique CDR3
8 unique J



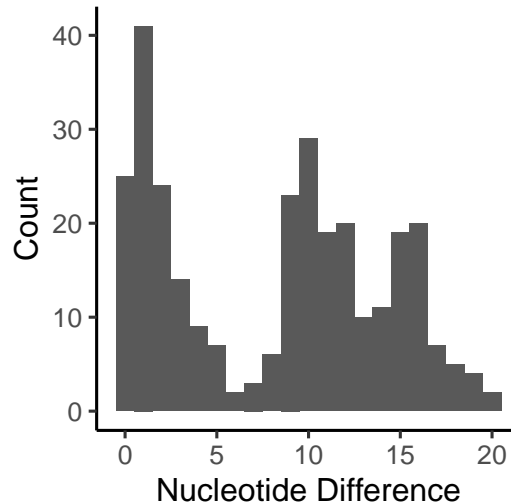
IGHV2-69*01_S0230

6113 sequences assigned
404 (6.6%) exact matches, in which:
244 unique CDR3
9 unique J



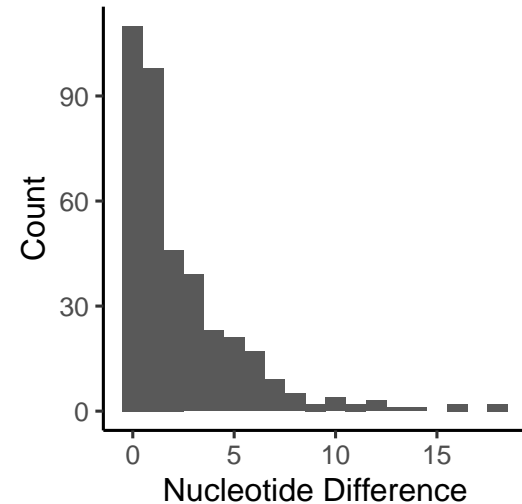
IGHV2-NL_1*01_S3259

452 sequences assigned
25 (5.5%) exact matches, in which:
20 unique CDR3
3 unique J



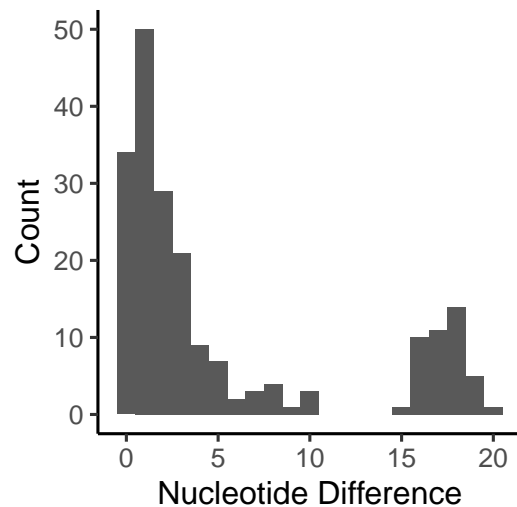
IGHV2-NL_2*01_S6246

385 sequences assigned
110 (28.6%) exact matches, in which:
58 unique CDR3
7 unique J



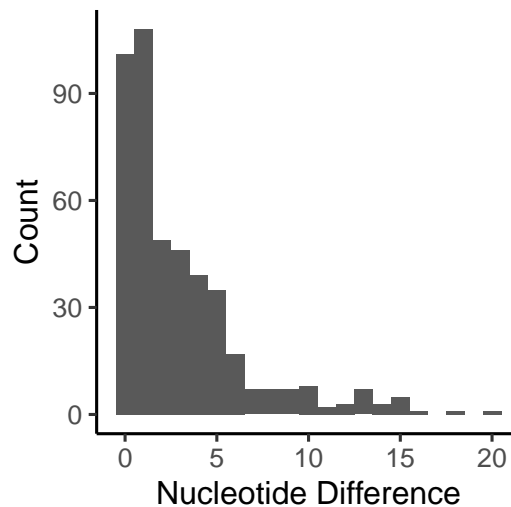
IGHV2-118*01_S1355

211 sequences assigned
34 (16.1%) exact matches, in which:
23 unique CDR3
3 unique J



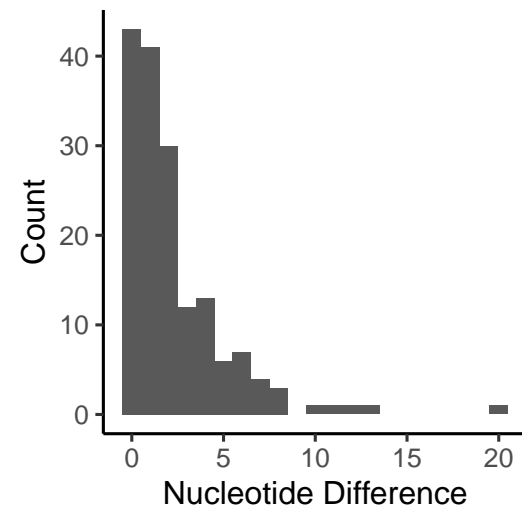
IGHV2-NL_2*01_S2193

458 sequences assigned
101 (22.1%) exact matches, in which:
57 unique CDR3
5 unique J



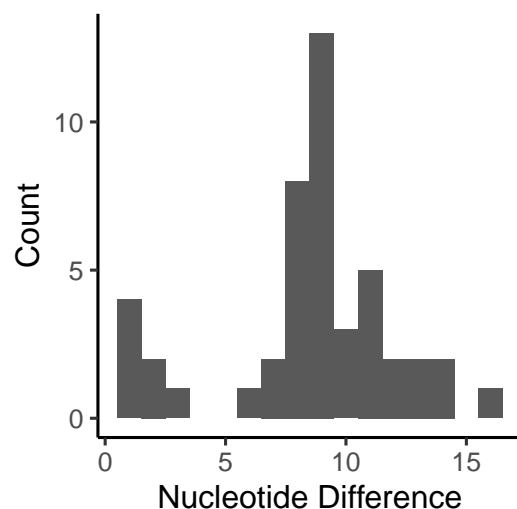
IGHV2-NL_2*01_S6246_C

164 sequences assigned
43 (26.2%) exact matches, in which:
38 unique CDR3
6 unique J



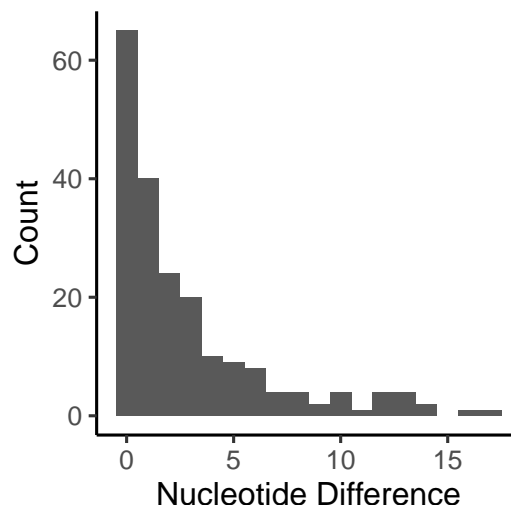
IGHV2-118*01_S2278

232 sequences assigned
No exact matches.



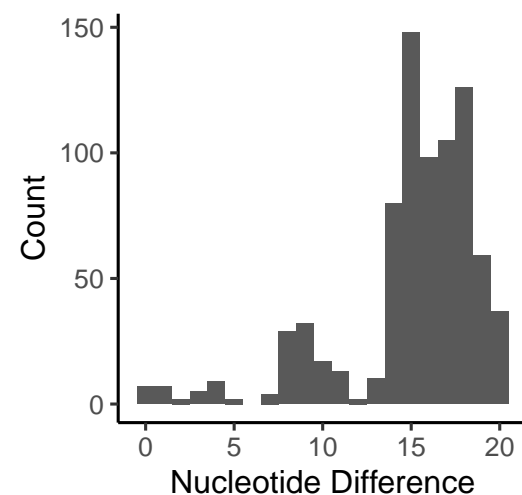
IGHV2-NL_2*01_S2193_C

203 sequences assigned
65 (32%) exact matches, in which:
55 unique CDR3
4 unique J



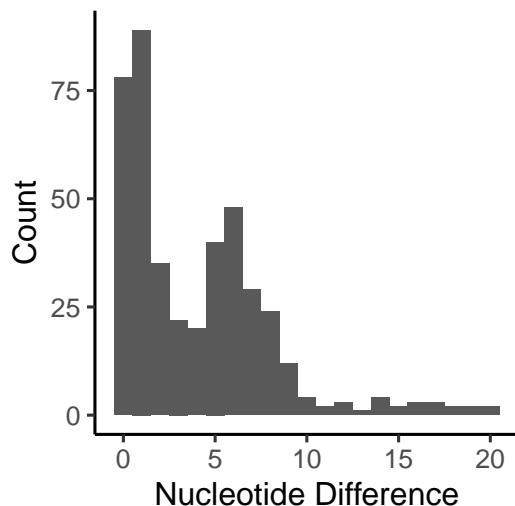
IGHV3-5*01_S1720

1010 sequences assigned
7 (0.7%) exact matches, in which:
5 unique CDR3
1 unique J



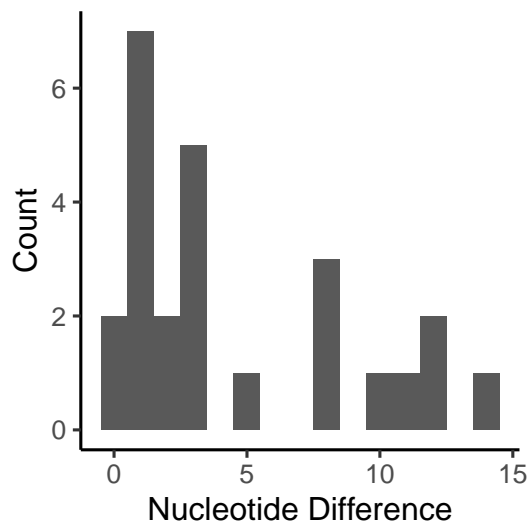
IGHV3-5*01_S7285

433 sequences assigned
78 (18%) exact matches, in which:
45 unique CDR3
7 unique J



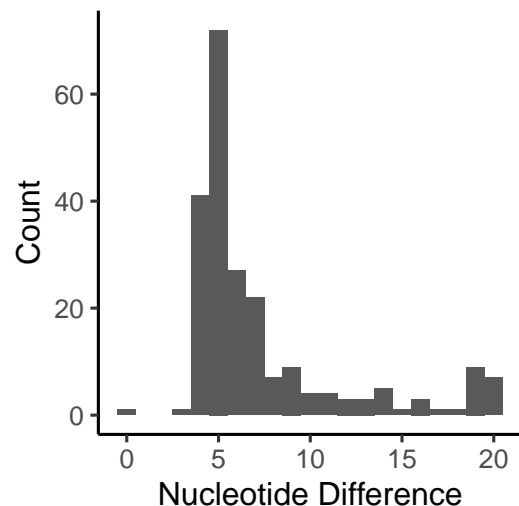
IGHV3-34*01_S1123

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



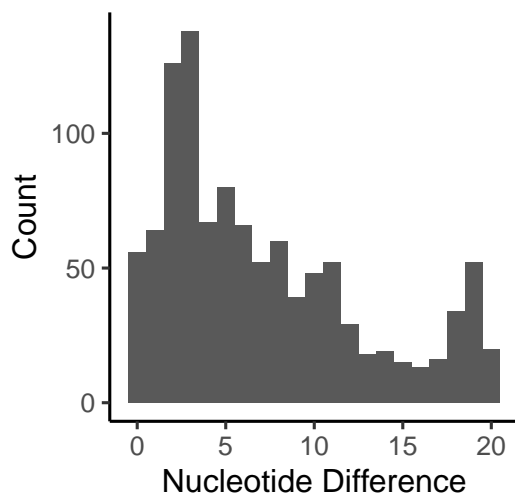
IGHV3-37*01_S0586

236 sequences assigned
1 (0.4%) exact matches, in which:
1 unique CDR3
0 unique J



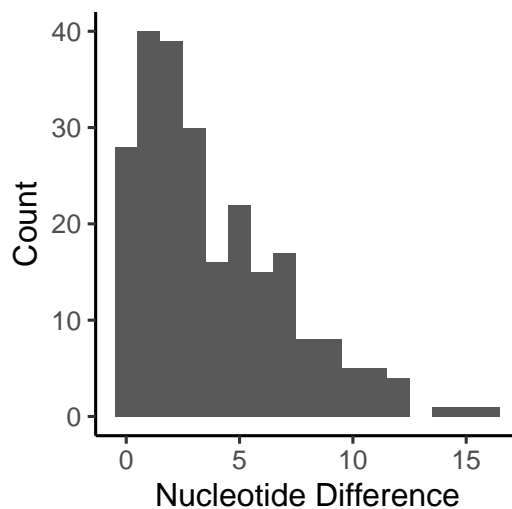
IGHV3-9*01_S0778

1133 sequences assigned
56 (4.9%) exact matches, in which:
39 unique CDR3
5 unique J



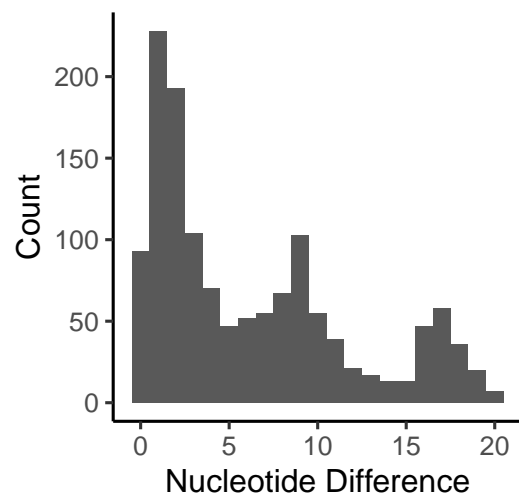
IGHV3-36*01_S1803

242 sequences assigned
28 (11.6%) exact matches, in which:
25 unique CDR3
6 unique J



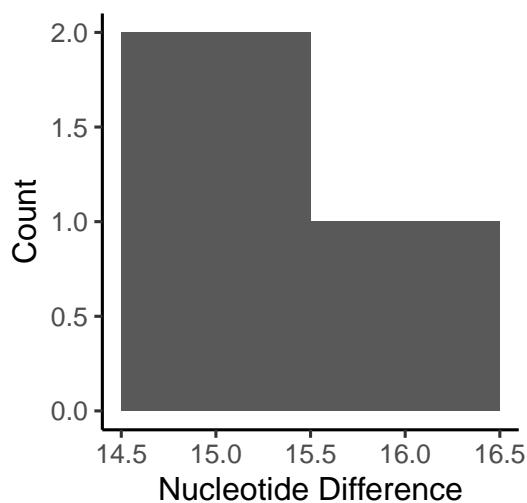
IGHV3-50*01_S9862

1383 sequences assigned
93 (6.7%) exact matches, in which:
48 unique CDR3
6 unique J



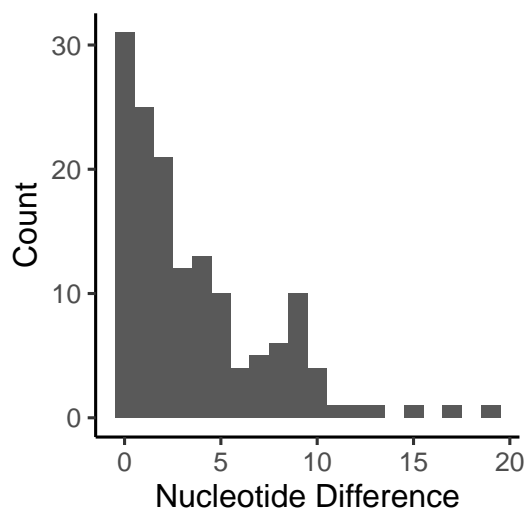
IGHV3-28*01_S3617

6 sequences assigned
No exact matches.



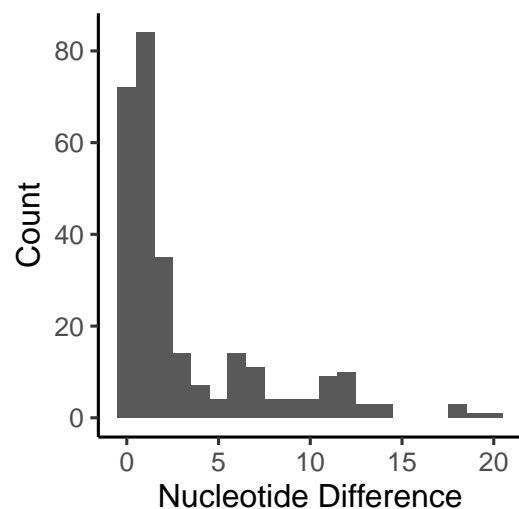
IGHV3-36*01_S6650

148 sequences assigned
31 (20.9%) exact matches, in which:
24 unique CDR3
6 unique J



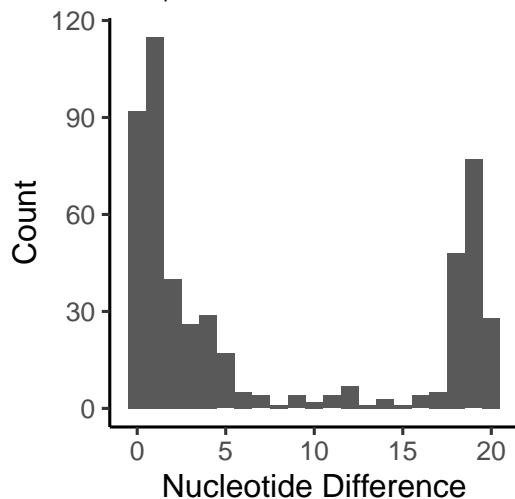
IGHV3-52*01_S8160

286 sequences assigned
72 (25.2%) exact matches, in which:
42 unique CDR3
6 unique J



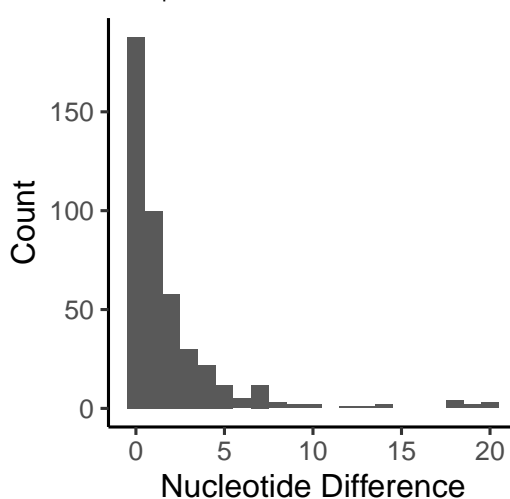
IGHV3-52*02_S6213

559 sequences assigned
92 (16.5%) exact matches, in which:
54 unique CDR3
5 unique J



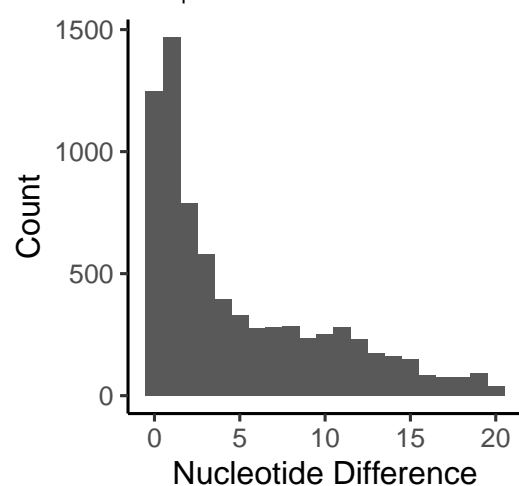
IGHV3-73*02_S0606

450 sequences assigned
188 (41.8%) exact matches, in which:
119 unique CDR3
7 unique J



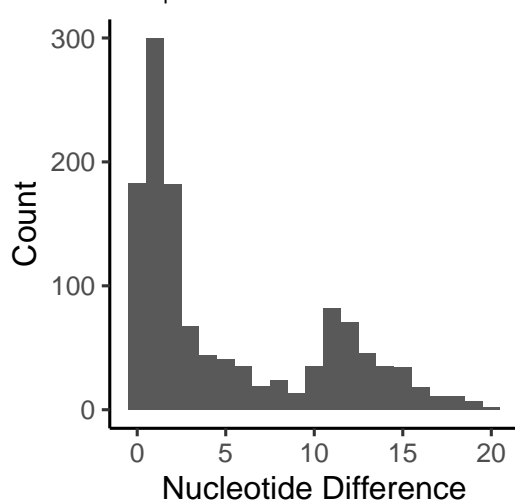
IGHV3-76*02_S4190

8251 sequences assigned
1248 (15.1%) exact matches, in which:
848 unique CDR3
8 unique J



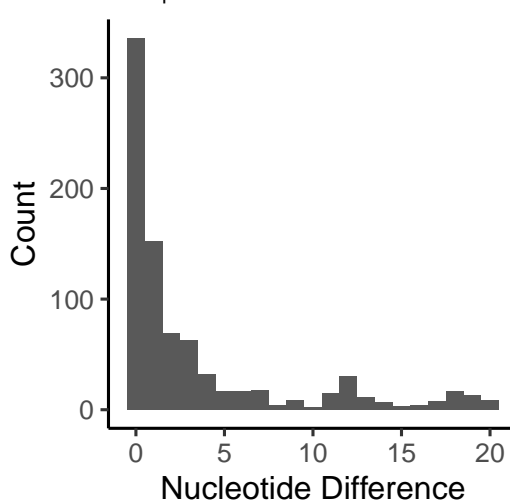
IGHV3-53*01_S3647

1499 sequences assigned
183 (12.2%) exact matches, in which:
102 unique CDR3
6 unique J



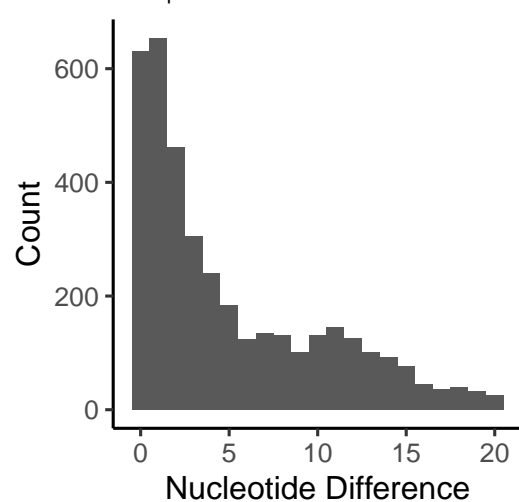
IGHV3-73*02_S4889

845 sequences assigned
336 (39.8%) exact matches, in which:
223 unique CDR3
7 unique J



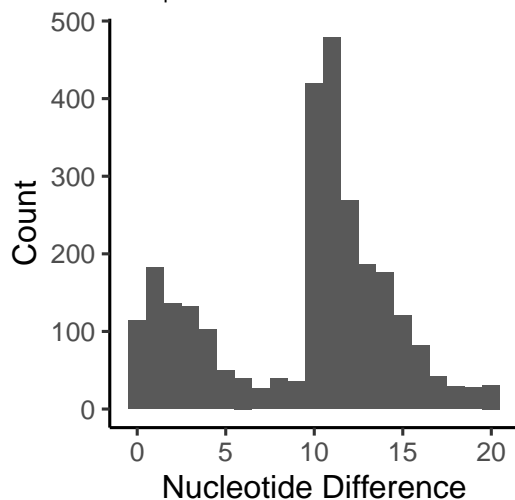
IGHV3-76*02_S4190_A2

4155 sequences assigned
631 (15.2%) exact matches, in which:
527 unique CDR3
7 unique J



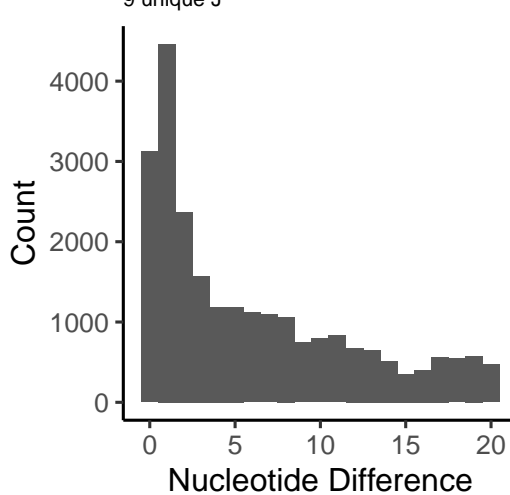
IGHV3-53*01_S8913

2814 sequences assigned
114 (4.1%) exact matches, in which:
74 unique CDR3
8 unique J



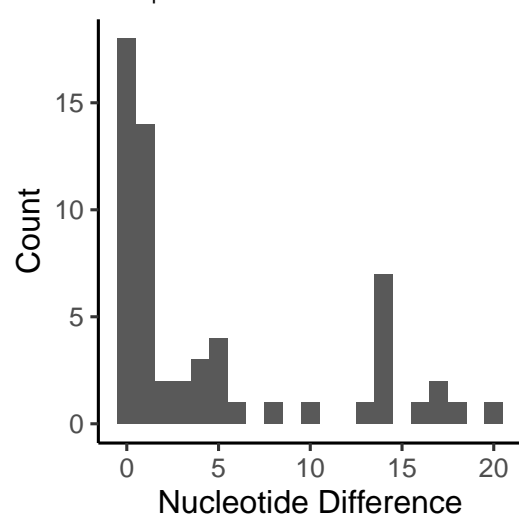
IGHV3-76*01_S9591

26021 sequences assigned
3122 (12%) exact matches, in which:
2005 unique CDR3
9 unique J



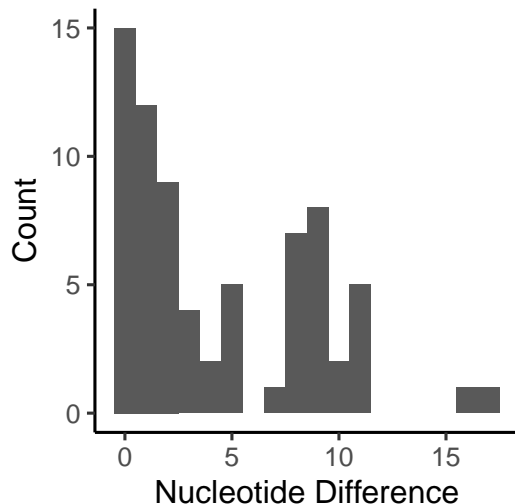
IGHV3-83*01_S5932

60 sequences assigned
18 (30%) exact matches, in which:
16 unique CDR3
6 unique J



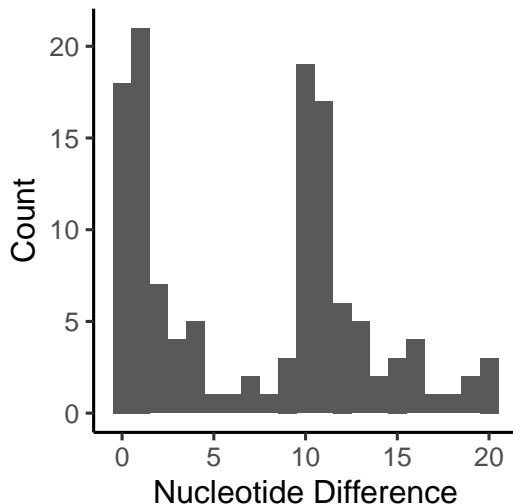
IGHV3-83*02_S1476

72 sequences assigned
15 (20.8%) exact matches, in which:
13 unique CDR3
5 unique J



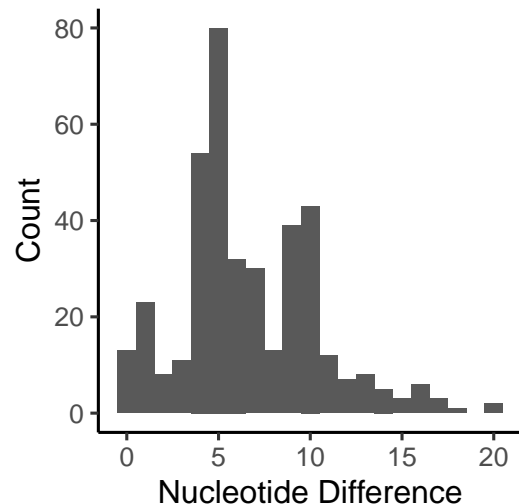
IGHV3-100*01_S5468

127 sequences assigned
18 (14.2%) exact matches, in which:
12 unique CDR3
4 unique J



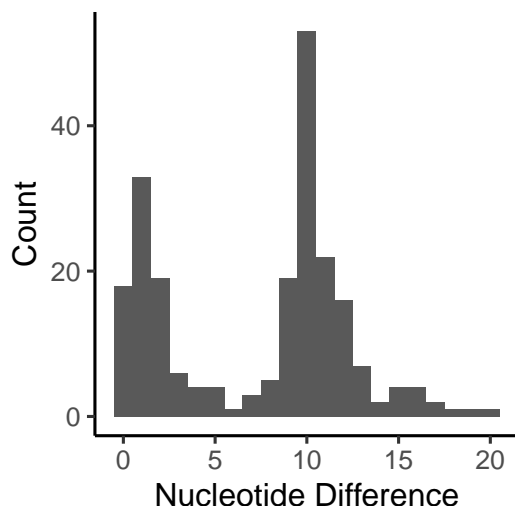
IGHV3-120*01_S7674

404 sequences assigned
13 (3.2%) exact matches, in which:
9 unique CDR3
4 unique J



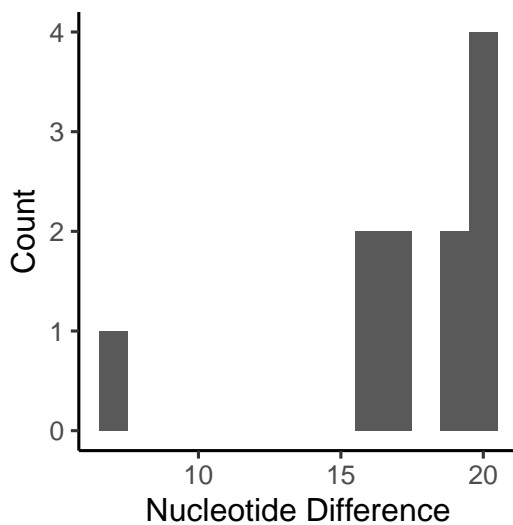
IGHV3-87*01_S2131

228 sequences assigned
18 (7.9%) exact matches, in which:
10 unique CDR3
5 unique J



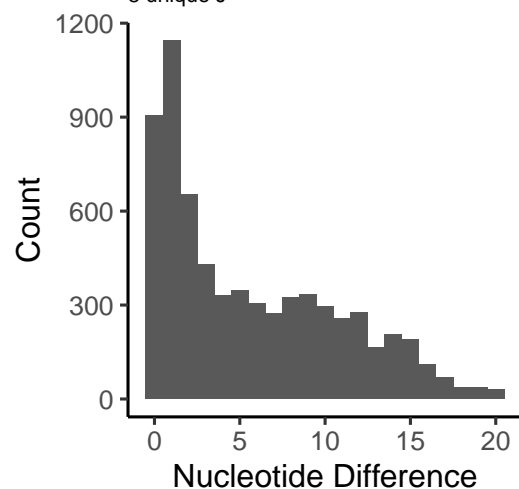
IGHV3-103*01_S1165

18 sequences assigned
No exact matches.



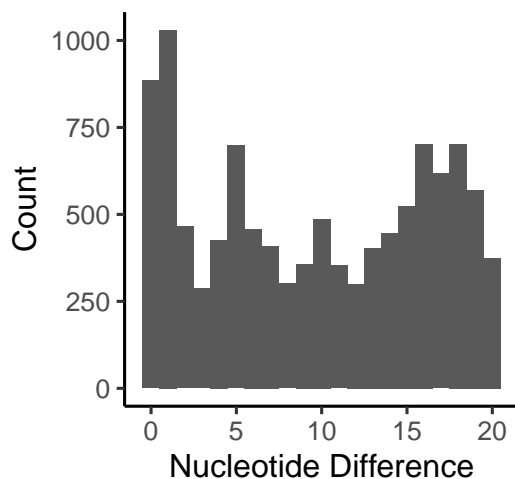
IGHV3-122*01_S8388

6939 sequences assigned
906 (13.1%) exact matches, in which:
598 unique CDR3
8 unique J



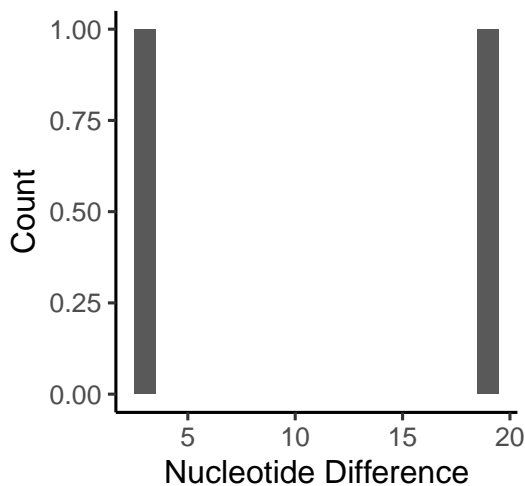
IGHV3-88*02_S1054

13876 sequences assigned
885 (6.4%) exact matches, in which:
573 unique CDR3
10 unique J



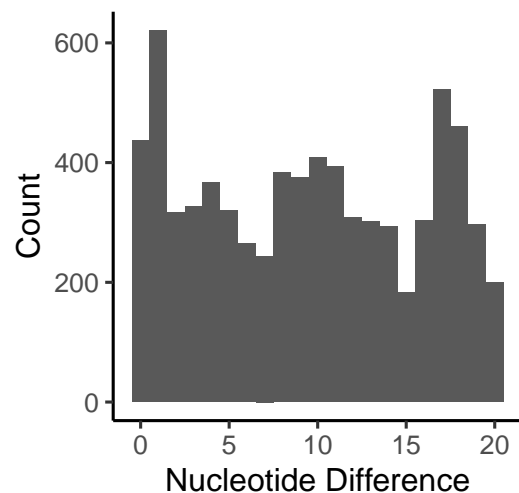
IGHV3-119*01_S1683

2 sequences assigned
No exact matches.



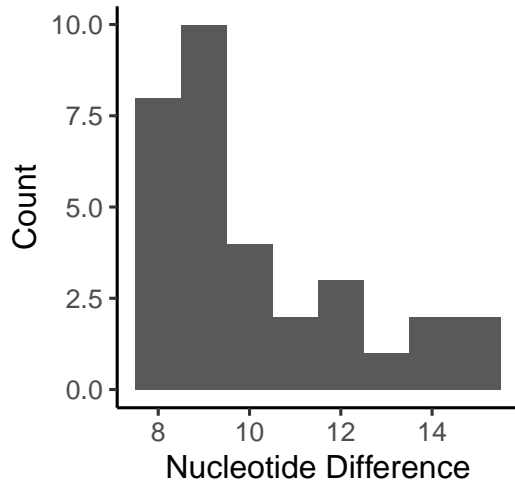
IGHV3-128*01_S3124

8380 sequences assigned
437 (5.2%) exact matches, in which:
279 unique CDR3
9 unique J



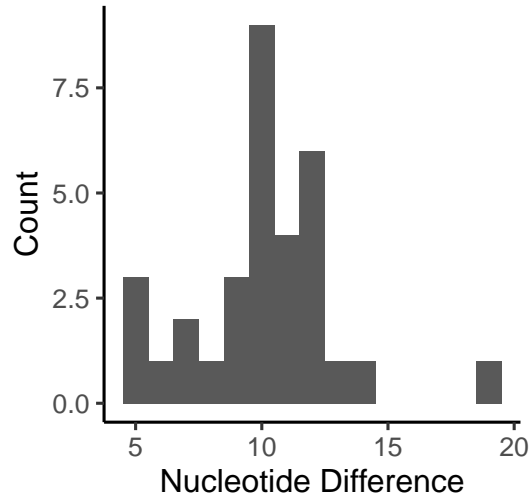
IGHV3-141*02_S0467

33 sequences assigned
No exact matches.



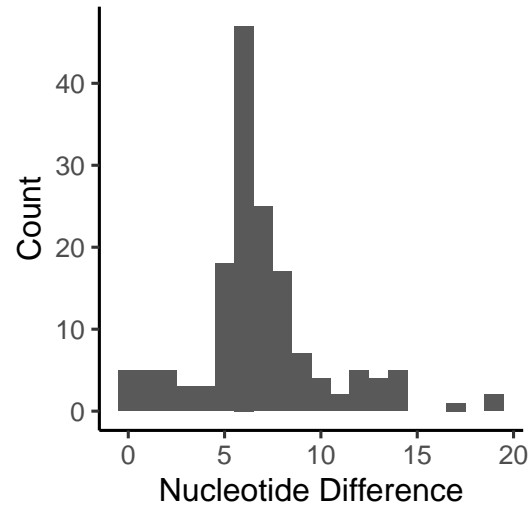
IGHV3-143*01_S1591

34 sequences assigned
No exact matches.



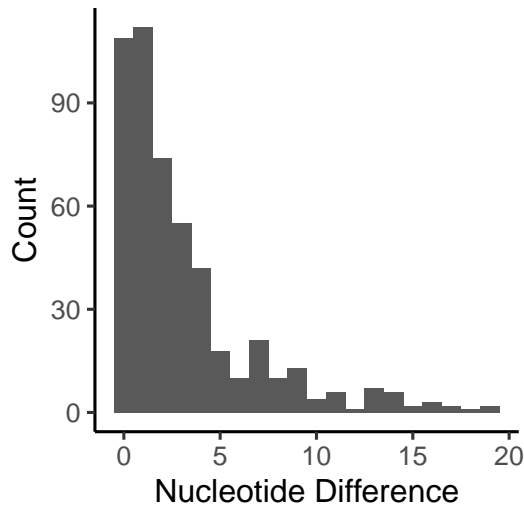
IGHV3-172*01_S8488

163 sequences assigned
5 (3.1%) exact matches, in which:
4 unique CDR3
2 unique J



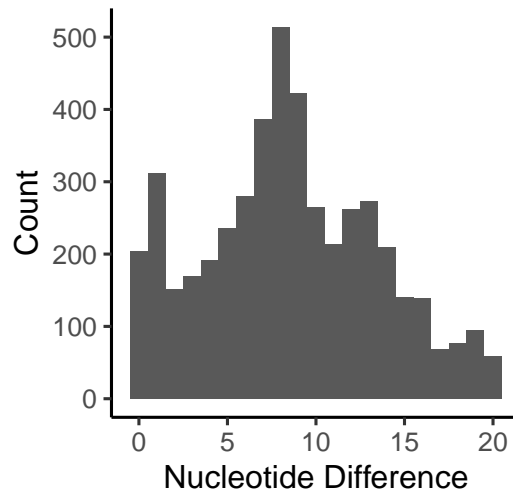
IGHV3-141*02_S4330

501 sequences assigned
109 (21.8%) exact matches, in which:
76 unique CDR3
6 unique J



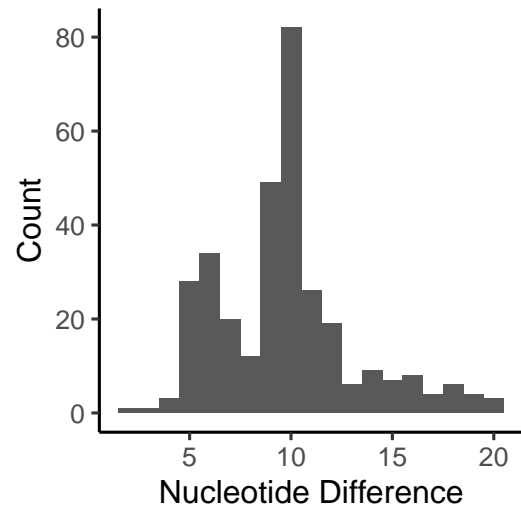
IGHV3-152*01_S7388

5586 sequences assigned
204 (3.7%) exact matches, in which:
125 unique CDR3
5 unique J



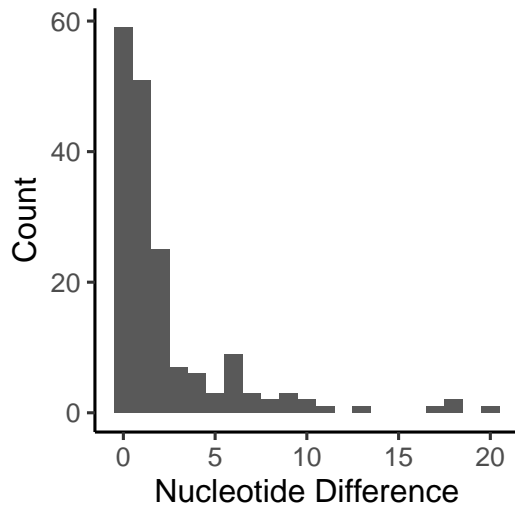
IGHV3-177*01_S2755

335 sequences assigned
No exact matches.



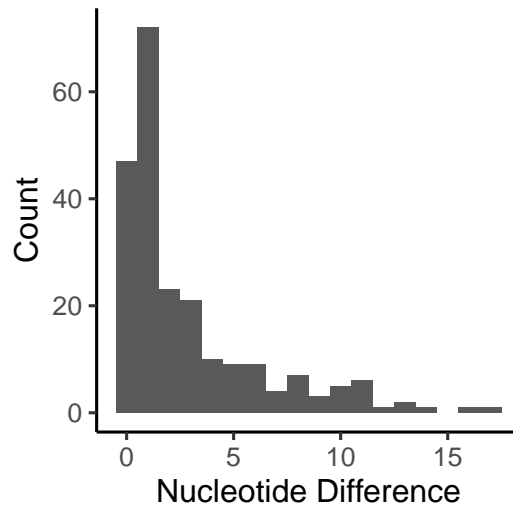
IGHV3-141*02_S4949

176 sequences assigned
59 (33.5%) exact matches, in which:
47 unique CDR3
7 unique J



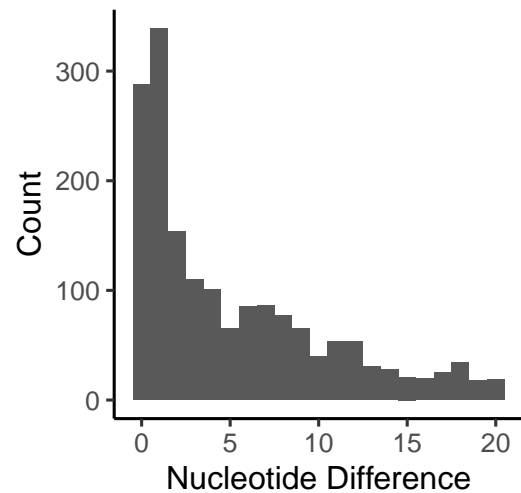
IGHV3-172*01_S1597

222 sequences assigned
47 (21.2%) exact matches, in which:
29 unique CDR3
6 unique J



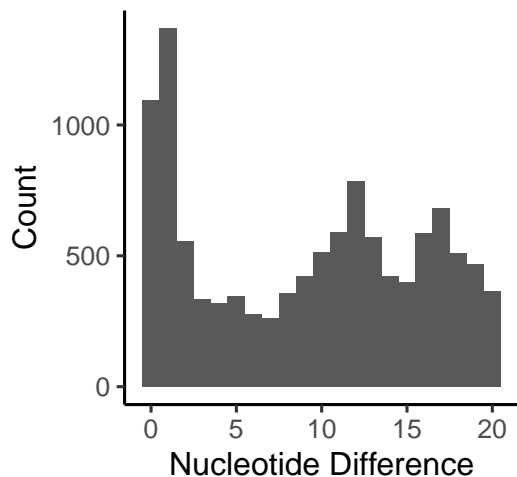
IGHV3-177*01_S8409

1796 sequences assigned
288 (16%) exact matches, in which:
199 unique CDR3
7 unique J



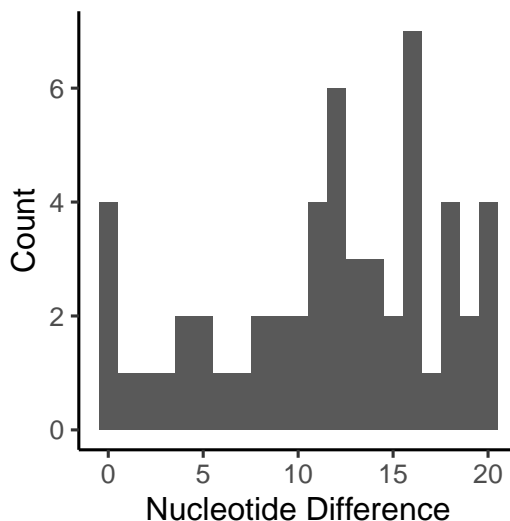
IGHV3-187*01_S1387

12952 sequences assigned
1093 (8.4%) exact matches, in which:
696 unique CDR3
10 unique J



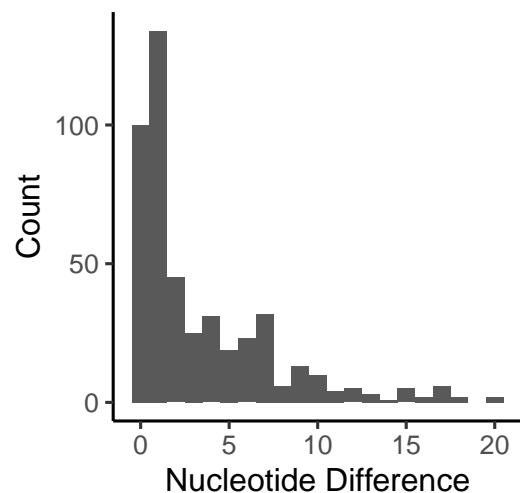
IGHV3-NL_11*01_S4102

71 sequences assigned
4 (5.6%) exact matches, in which:
4 unique CDR3
3 unique J



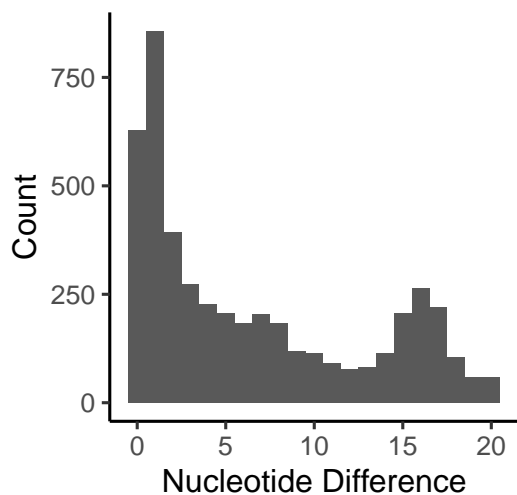
IGHV3-NL_13*01_S3277

472 sequences assigned
100 (21.2%) exact matches, in which:
63 unique CDR3
7 unique J



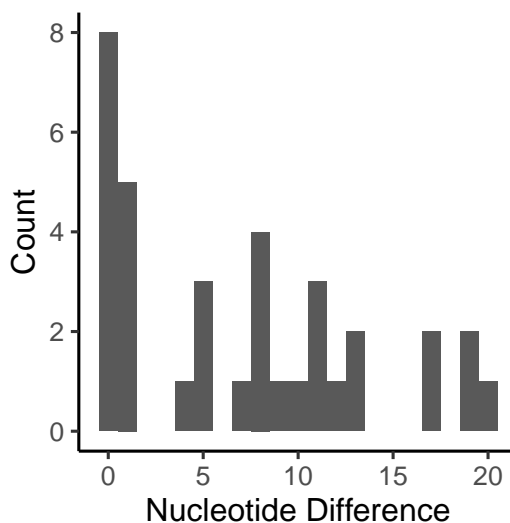
IGHV3-NL_1*01_S4906

4801 sequences assigned
628 (13.1%) exact matches, in which:
389 unique CDR3
9 unique J



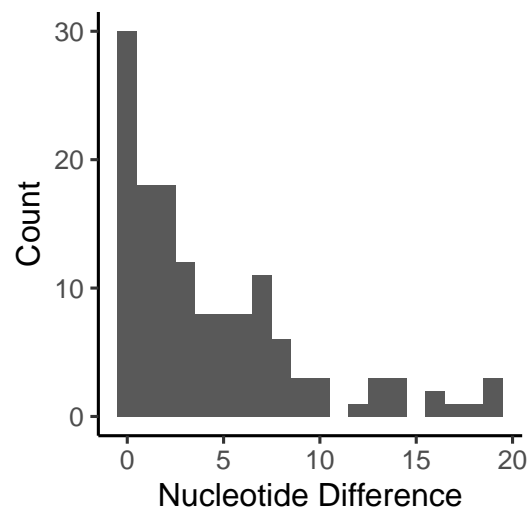
IGHV3-NL_11*01_S4380

36 sequences assigned
8 (22.2%) exact matches, in which:
8 unique CDR3
4 unique J



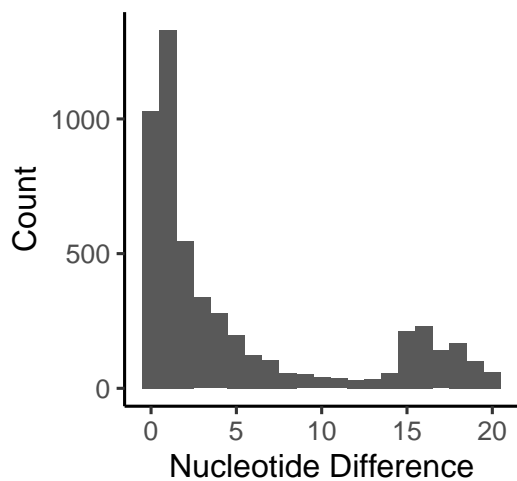
IGHV3-NL_13*01_S3277

142 sequences assigned
30 (21.1%) exact matches, in which:
25 unique CDR3
6 unique J



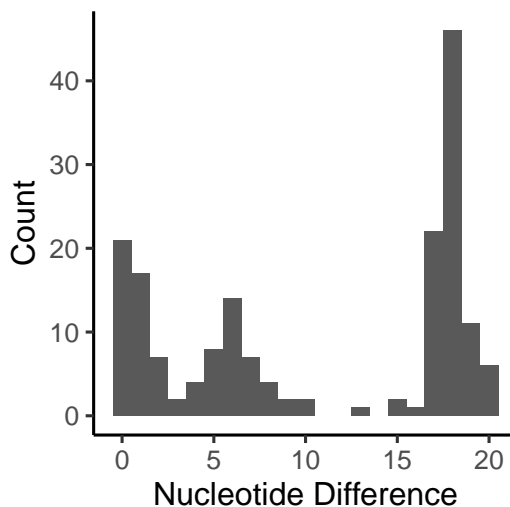
IGHV3-NL_1*01_S6560

5346 sequences assigned
1029 (19.2%) exact matches, in which:
636 unique CDR3
9 unique J



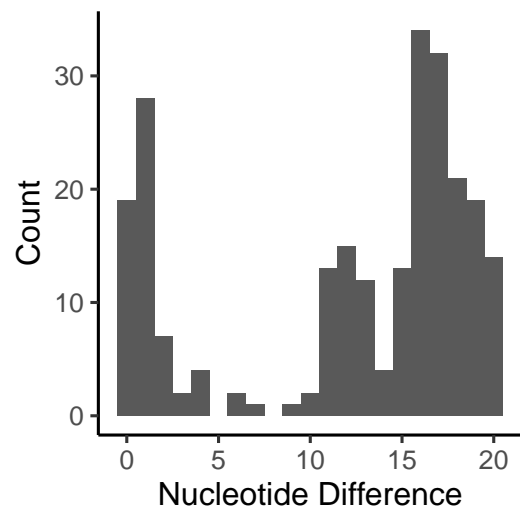
IGHV3-NL_12*02_S3129

197 sequences assigned
21 (10.7%) exact matches, in which:
15 unique CDR3
5 unique J



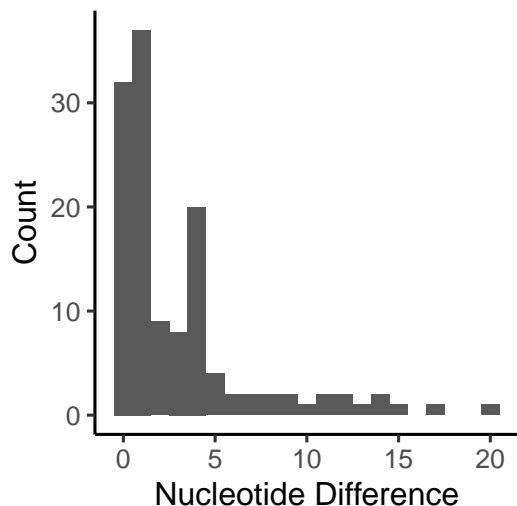
IGHV3-NL_16*01_S7722

285 sequences assigned
19 (6.7%) exact matches, in which:
17 unique CDR3
5 unique J



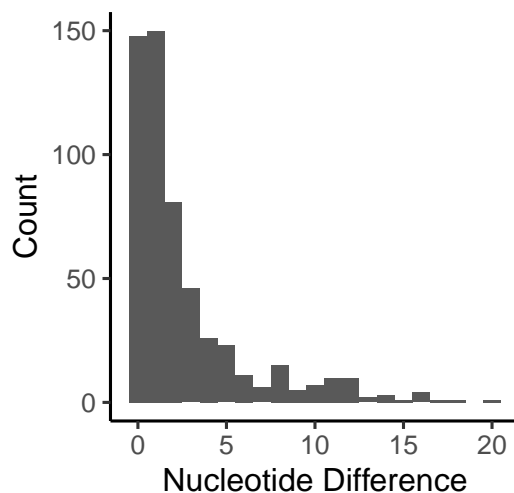
IGHV3-NL_16*01_S7825

132 sequences assigned
32 (24.2%) exact matches, in which:
24 unique CDR3
4 unique J



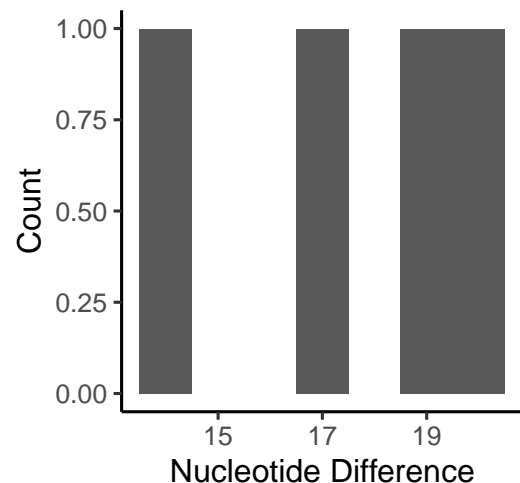
IGHV3-NL_18*01_S7220

557 sequences assigned
148 (26.6%) exact matches, in which:
100 unique CDR3
7 unique J



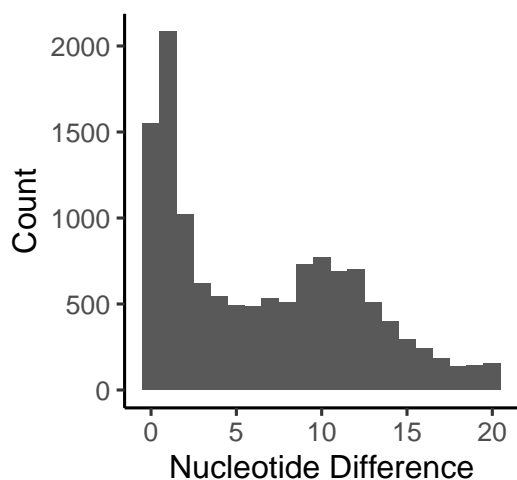
IGHV3-NL_4*01_S9635

6 sequences assigned
No exact matches.



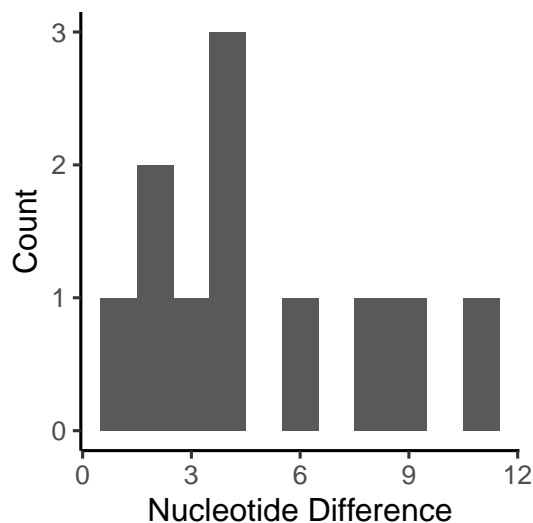
IGHV3-NL_17*01_S012

13897 sequences assigned
1549 (11.1%) exact matches, in which:
890 unique CDR3
11 unique J



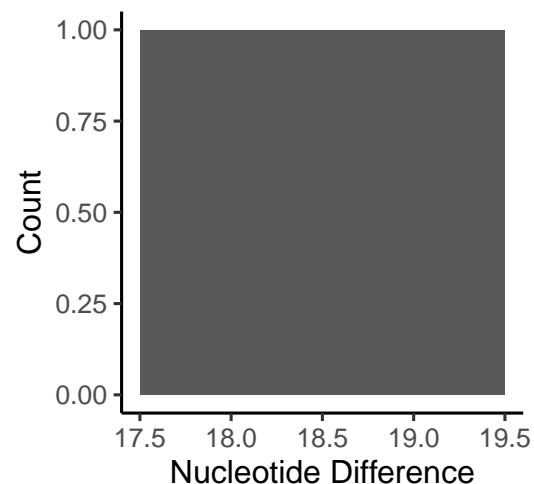
IGHV3-NL_19*01_S2166

11 sequences assigned
No exact matches.



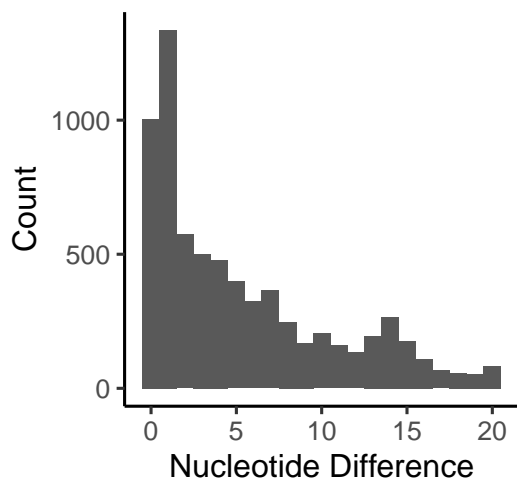
IGHV3-NL_5*01_S3315

5 sequences assigned
No exact matches.



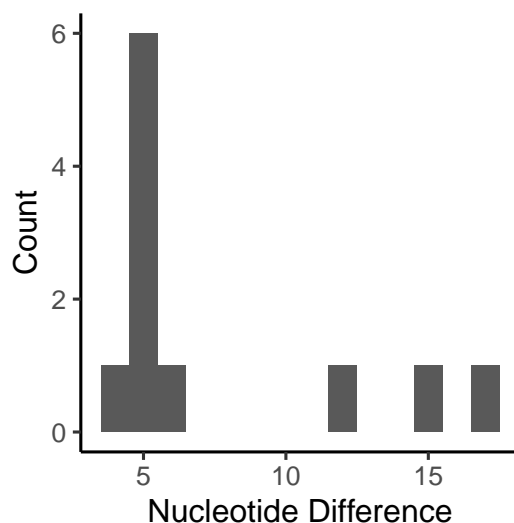
IGHV3-NL_17*01_S425

7718 sequences assigned
1004 (13%) exact matches, in which:
633 unique CDR3
9 unique J



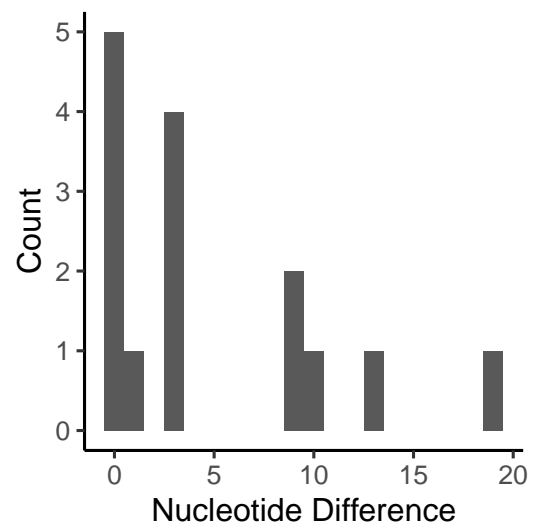
IGHV3-NL_4*01_S6875

13 sequences assigned
No exact matches.



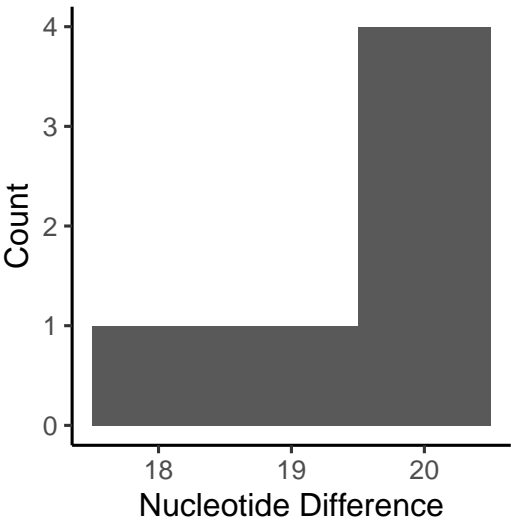
IGHV3-NL_5*01_S4429

16 sequences assigned
5 (31.2%) exact matches, in which:
5 unique CDR3
3 unique J



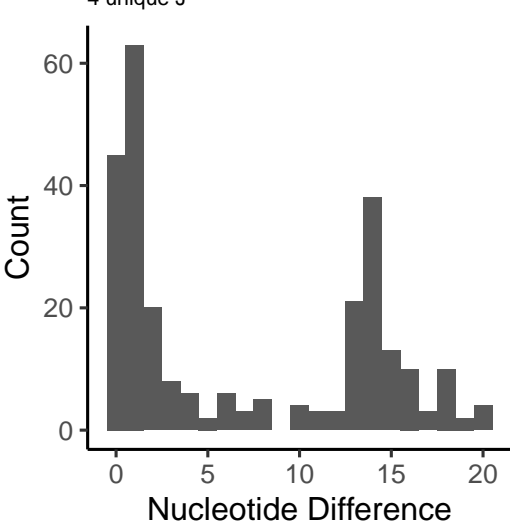
IGHV3–NL_5*01_S7761

13 sequences assigned
No exact matches.



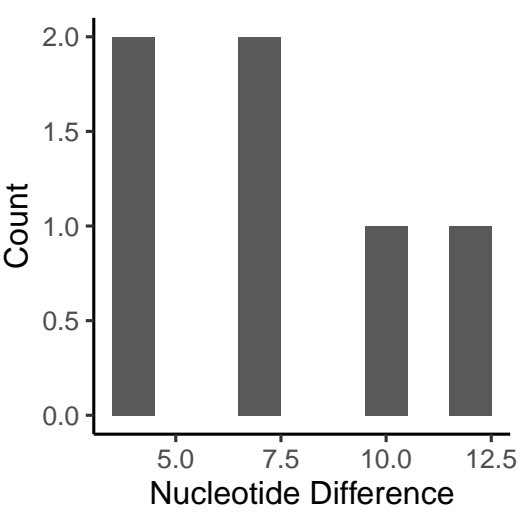
IGHV3–NL_8*01_S7415

276 sequences assigned
45 (16.3%) exact matches, in which:
31 unique CDR3
4 unique J



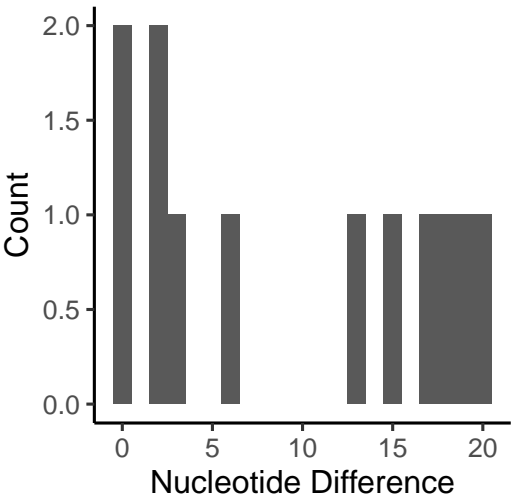
IGHV4–67*02_S1312

6 sequences assigned
No exact matches.



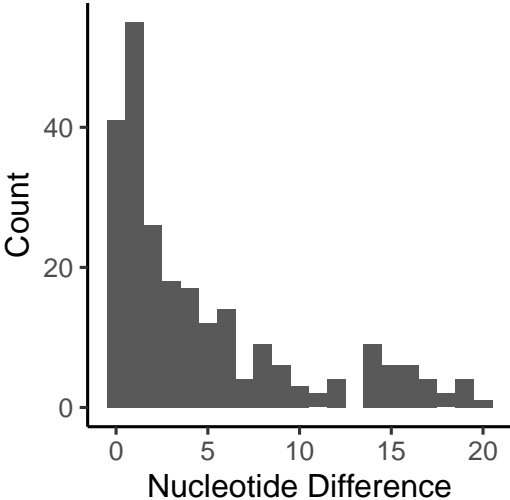
IGHV3–NL_5*01_S8361

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



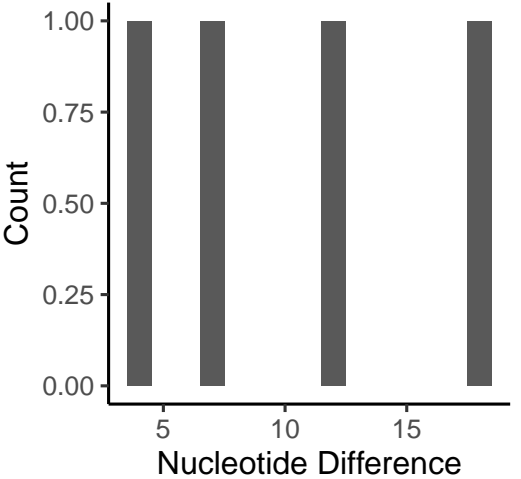
IGHV3–NL_8*01_S7474

279 sequences assigned
41 (14.7%) exact matches, in which:
24 unique CDR3
6 unique J



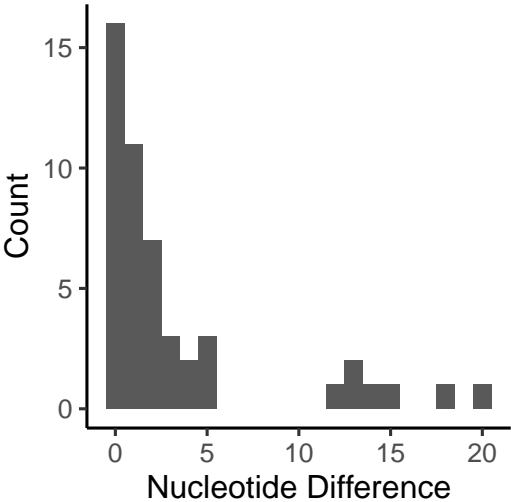
IGHV4–72*01_S8261

4 sequences assigned
No exact matches.



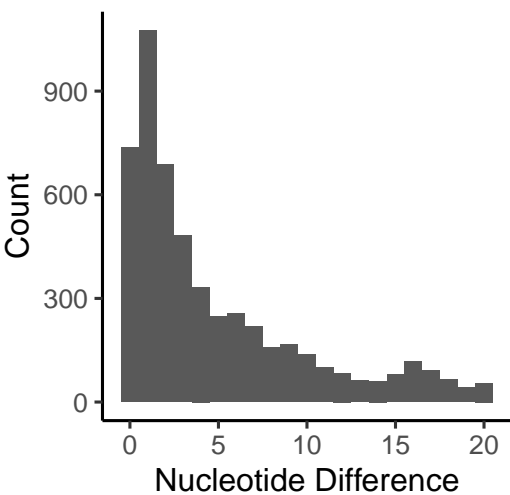
IGHV3–NL_6*02_S6474

55 sequences assigned
16 (29.1%) exact matches, in which:
15 unique CDR3
5 unique J



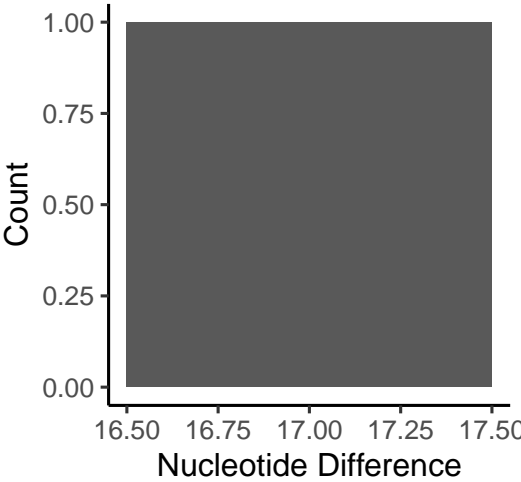
IGHV3–NL_9*01_S6098

6205 sequences assigned
737 (11.9%) exact matches, in which:
466 unique CDR3
7 unique J



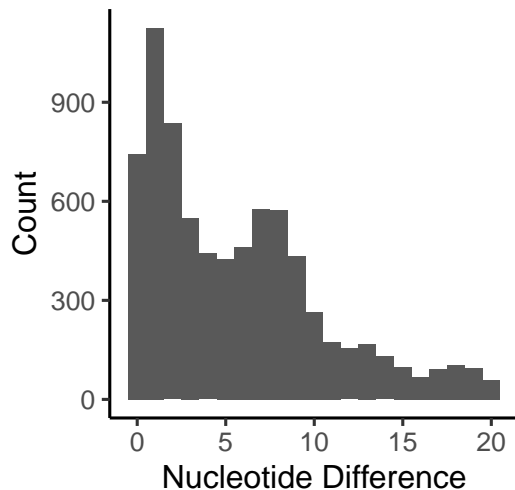
IGHV4–93*01_S5203

1 sequences assigned
No exact matches.



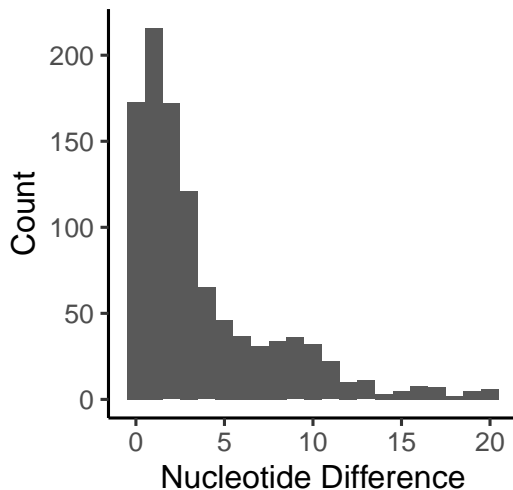
IGHV4-117*01_S2181

8002 sequences assigned
744 (9.3%) exact matches, in which:
617 unique CDR3
8 unique J



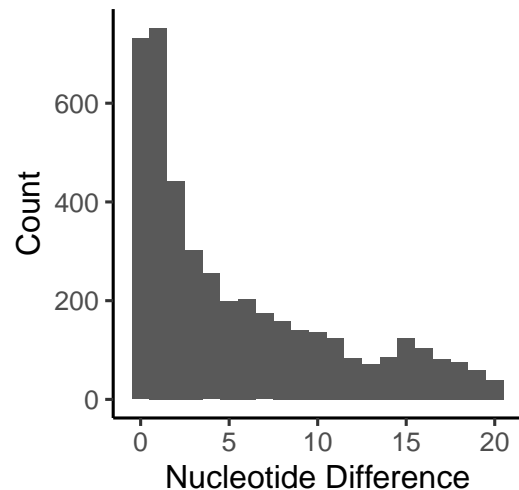
IGHV4-144*01_S0885

1067 sequences assigned
173 (16.2%) exact matches, in which:
124 unique CDR3
7 unique J



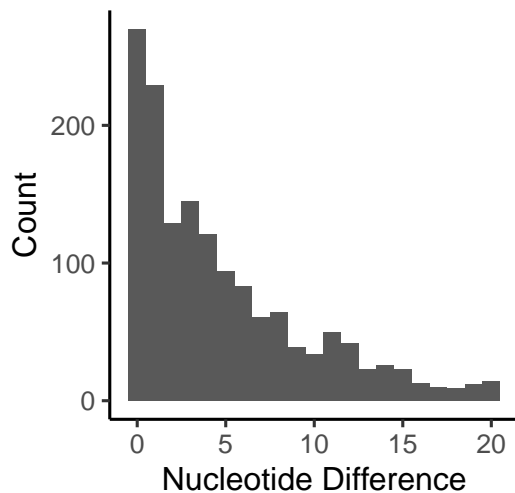
IGHV4-149*01_S4098

4511 sequences assigned
731 (16.2%) exact matches, in which:
573 unique CDR3
10 unique J



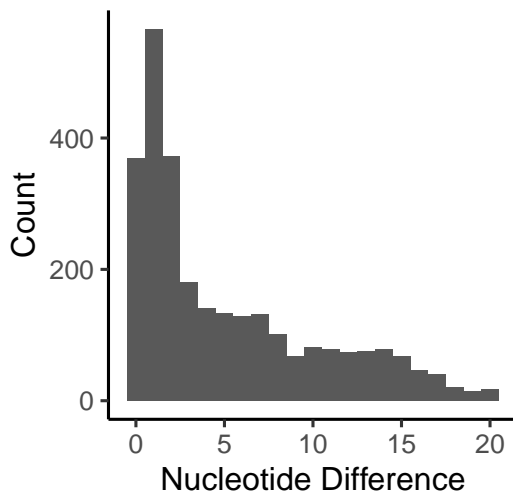
IGHV4-117*01_S6852

1522 sequences assigned
270 (17.7%) exact matches, in which:
222 unique CDR3
8 unique J



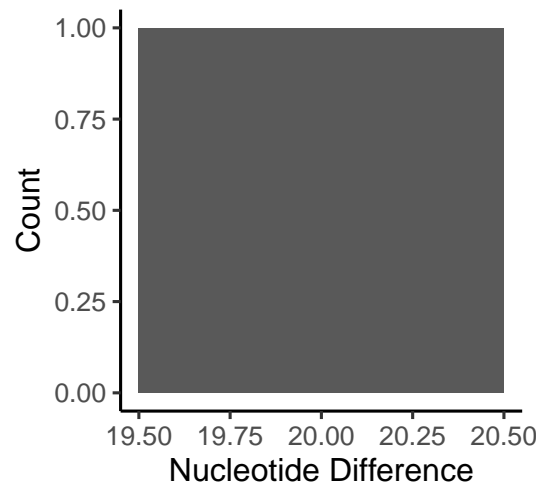
IGHV4-144*01_S6192

3018 sequences assigned
369 (12.2%) exact matches, in which:
304 unique CDR3
7 unique J



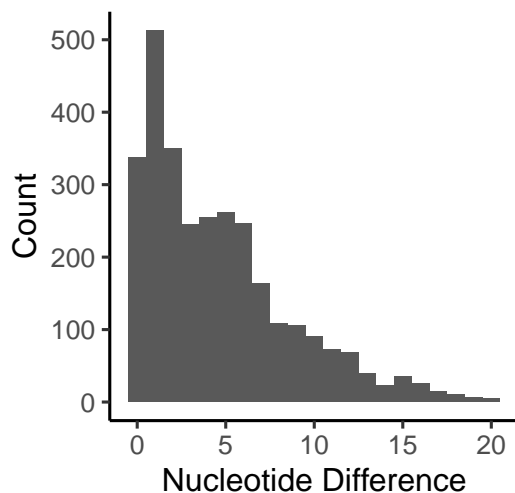
IGHV4-150*01_S1575

2 sequences assigned
No exact matches.



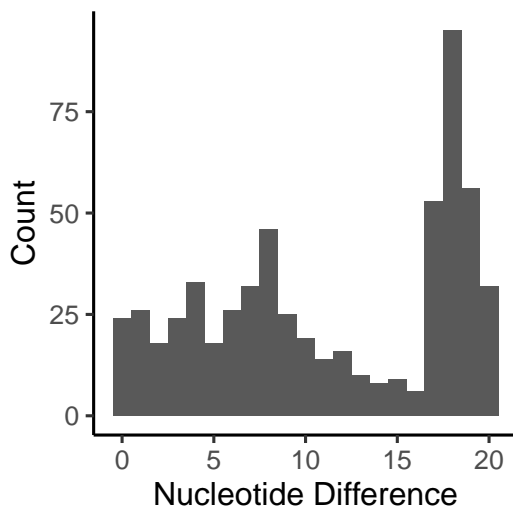
IGHV4-117*01_S7493

3043 sequences assigned
338 (11.1%) exact matches, in which:
273 unique CDR3
8 unique J



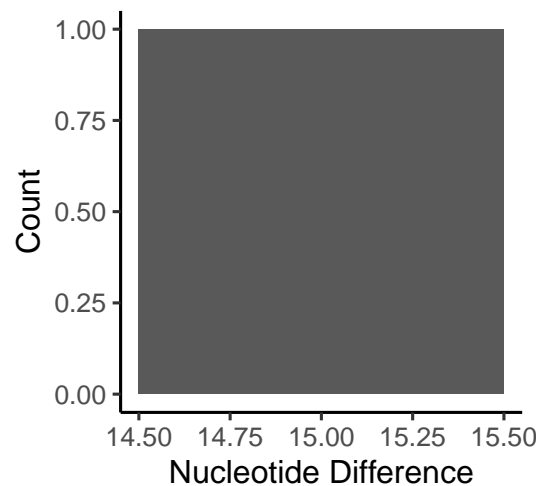
IGHV4-149*01_S0794

708 sequences assigned
24 (3.4%) exact matches, in which:
22 unique CDR3
6 unique J



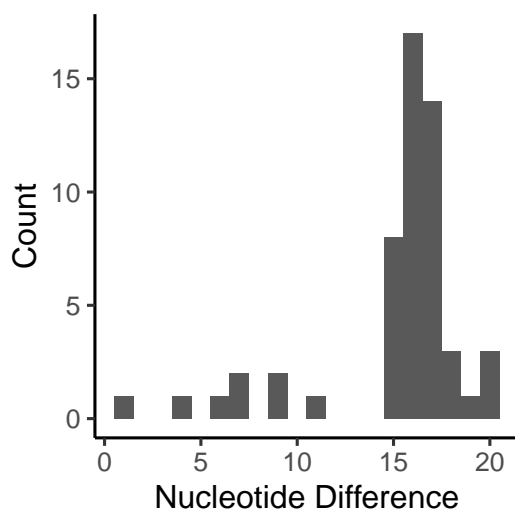
IGHV4-150*01_S6287

1 sequences assigned
No exact matches.



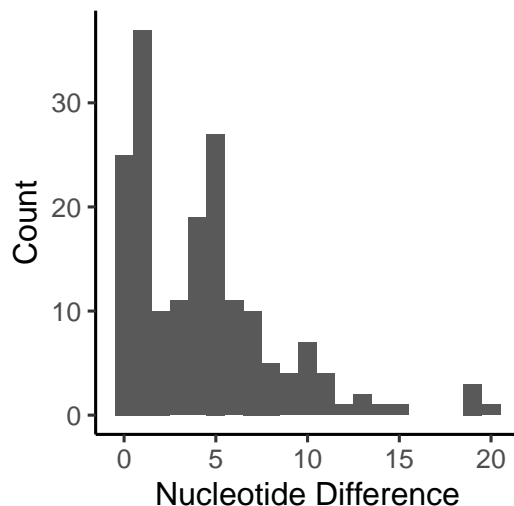
IGHV4-174*02_S7573

57 sequences assigned
No exact matches.



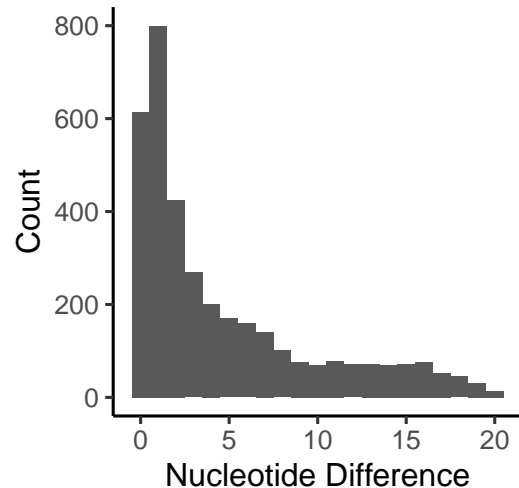
IGHV4-NL_1*02_S9550

181 sequences assigned
25 (13.8%) exact matches, in which:
22 unique CDR3
5 unique J



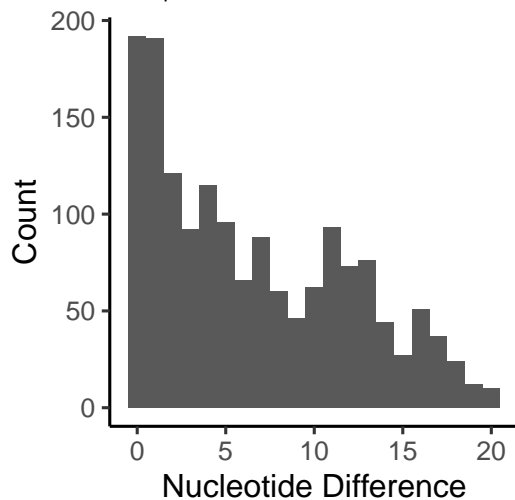
IGHV4-NL_13*01_S9273

3743 sequences assigned
614 (16.4%) exact matches, in which:
537 unique CDR3
7 unique J



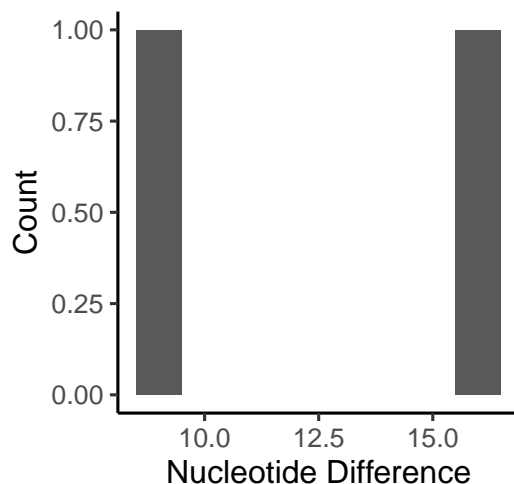
IGHV4-NL_1*01_S8520

1758 sequences assigned
192 (10.9%) exact matches, in which:
156 unique CDR3
9 unique J



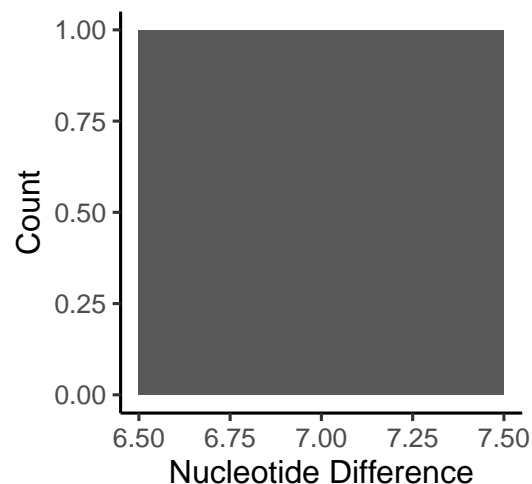
IGHV4-NL_10*01_S8805

2 sequences assigned
No exact matches.



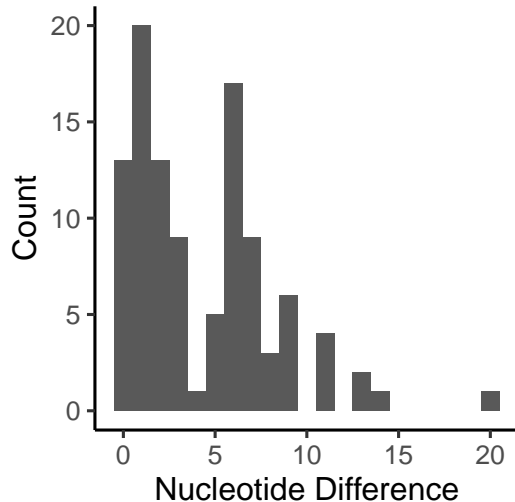
IGHV4-NL_14*01_S3059

1 sequences assigned
No exact matches.



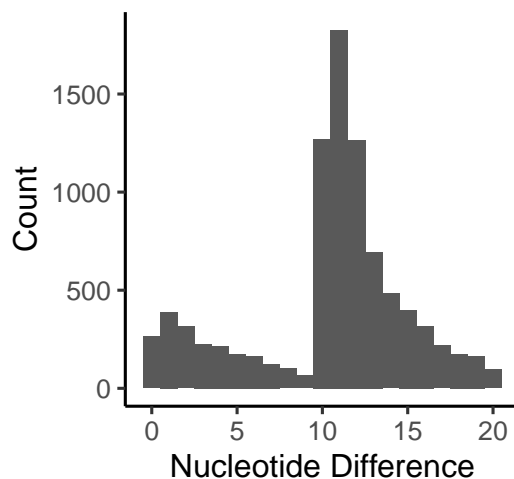
IGHV4-NL_1*02_S2201

105 sequences assigned
13 (12.4%) exact matches, in which:
11 unique CDR3
5 unique J



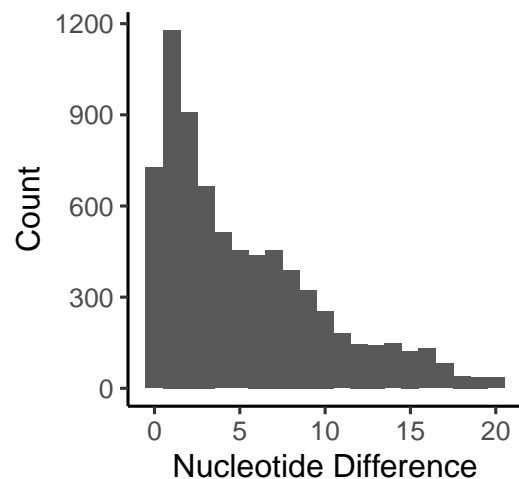
IGHV4-NL_12*01_S647

9734 sequences assigned
265 (2.7%) exact matches, in which:
214 unique CDR3
7 unique J



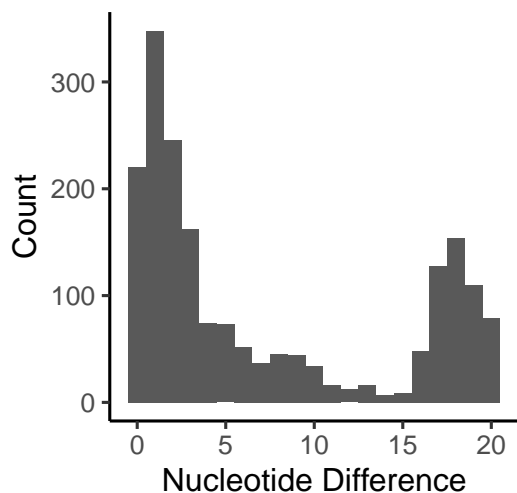
IGHV4-NL_16*01_S213

7790 sequences assigned
727 (9.3%) exact matches, in which:
570 unique CDR3
8 unique J



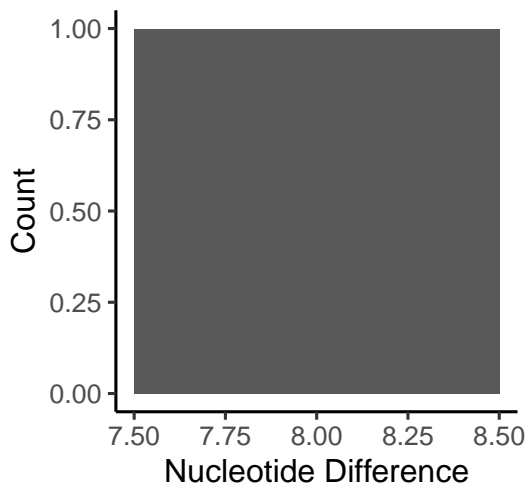
IGHV4-NL_17*01_S6249

2082 sequences assigned
220 (10.6%) exact matches, in which:
192 unique CDR3
7 unique J



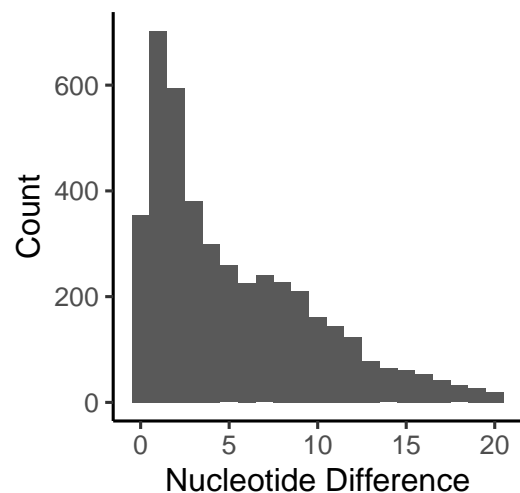
IGHV4-NL_21*01_S2225

1 sequences assigned
No exact matches.



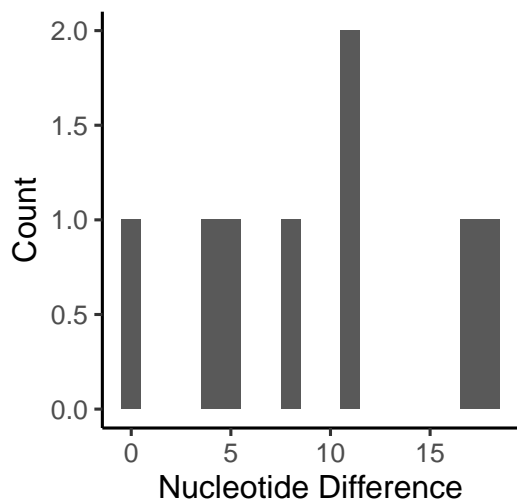
IGHV4-NL_22*01_S2393

4447 sequences assigned
354 (8%) exact matches, in which:
287 unique CDR3
7 unique J



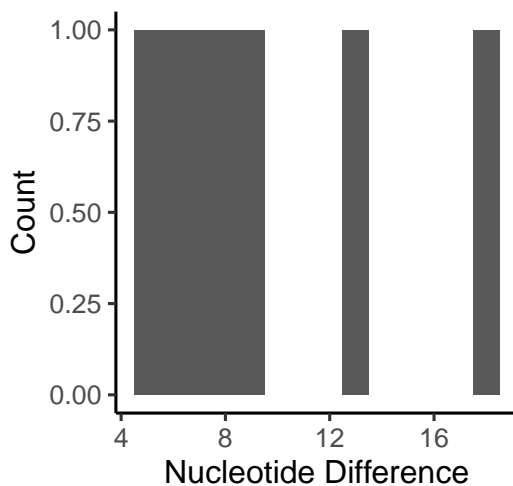
IGHV4-NL_18*01_S3907

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



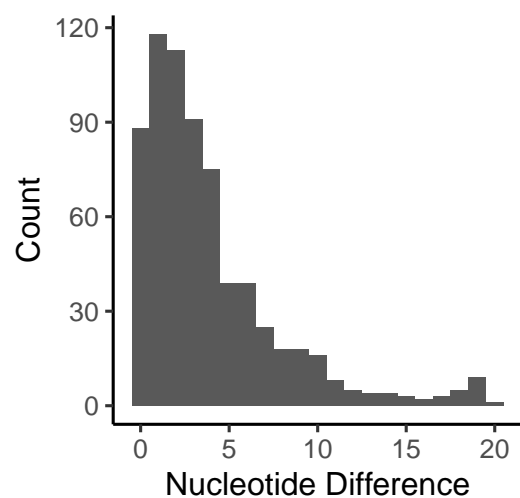
IGHV4-NL_21*01_S3442

9 sequences assigned
No exact matches.



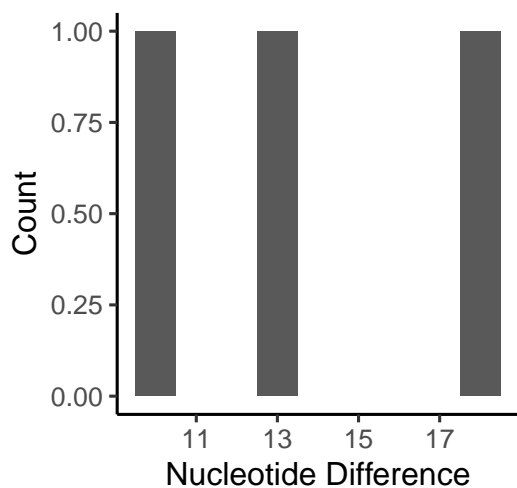
IGHV4-NL_22*01_S4706

708 sequences assigned
88 (12.4%) exact matches, in which:
71 unique CDR3
7 unique J



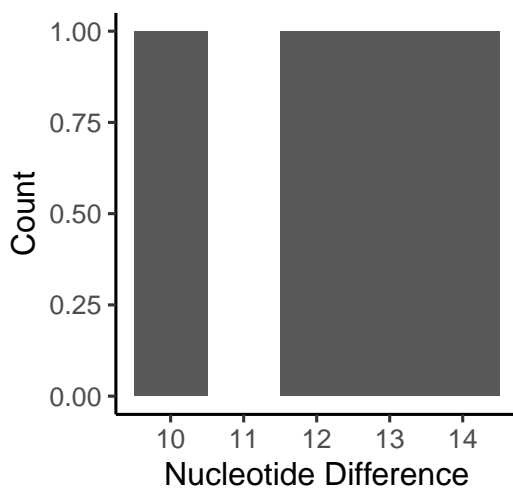
IGHV4-NL_21*01_S0138

4 sequences assigned
No exact matches.



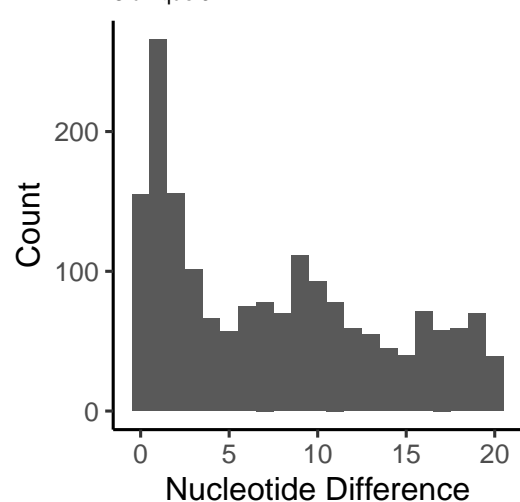
IGHV4-NL_21*01_S5257

4 sequences assigned
No exact matches.



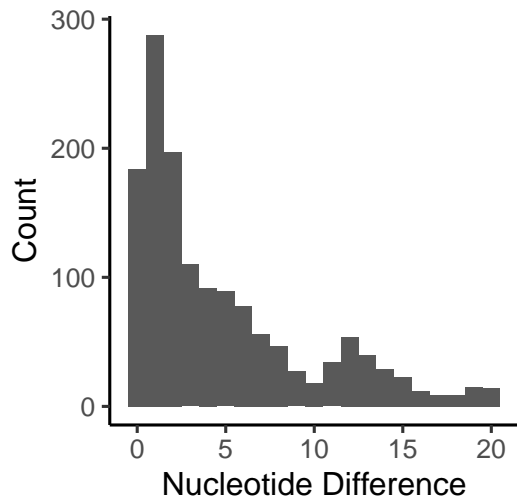
IGHV4-NL_25*01_S1514

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



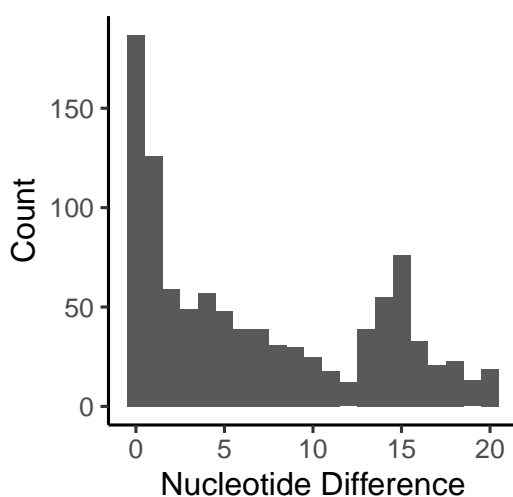
IGHV4–NL_27*01_S0482

1702 sequences assigned
184 (10.8%) exact matches, in which:
162 unique CDR3
8 unique J



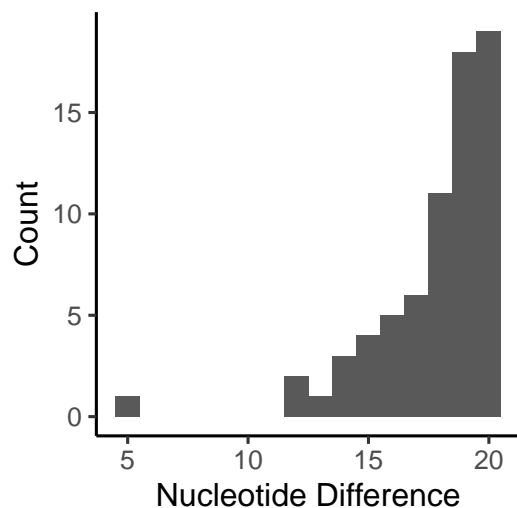
IGHV4–NL_28*01_S1005

1075 sequences assigned
187 (17.4%) exact matches, in which:
162 unique CDR3
7 unique J



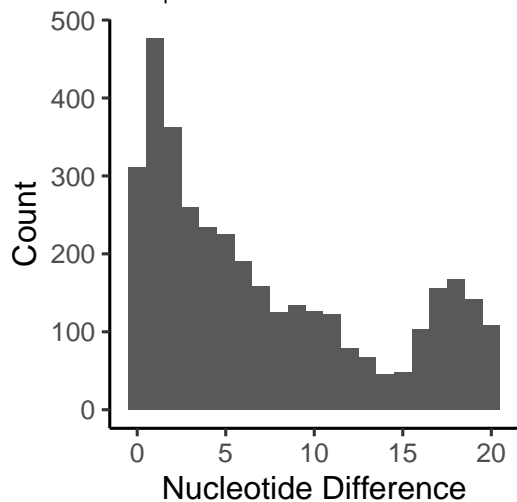
IGHV4–NL_3*01_S5200

166 sequences assigned
No exact matches.



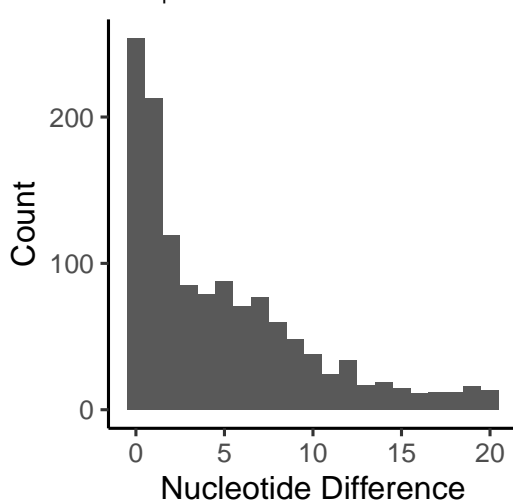
IGHV4–NL_27*01_S1515

4199 sequences assigned
311 (7.4%) exact matches, in which:
247 unique CDR3
8 unique J



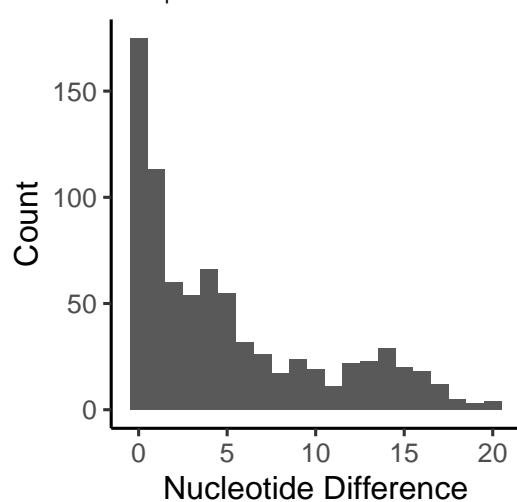
IGHV4–NL_28*01_S1005

1397 sequences assigned
254 (18.2%) exact matches, in which:
224 unique CDR3
7 unique J



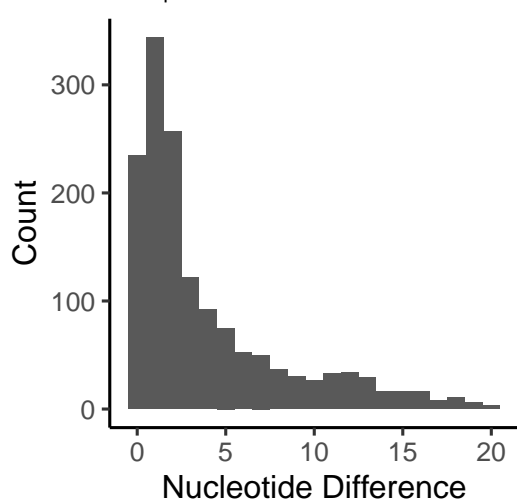
IGHV4–NL_30*01_S1240

819 sequences assigned
175 (21.4%) exact matches, in which:
147 unique CDR3
8 unique J



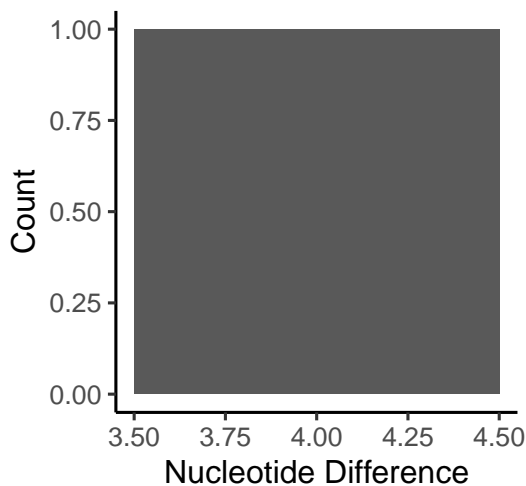
IGHV4–NL_27*01_S5720

1521 sequences assigned
235 (15.5%) exact matches, in which:
198 unique CDR3
8 unique J



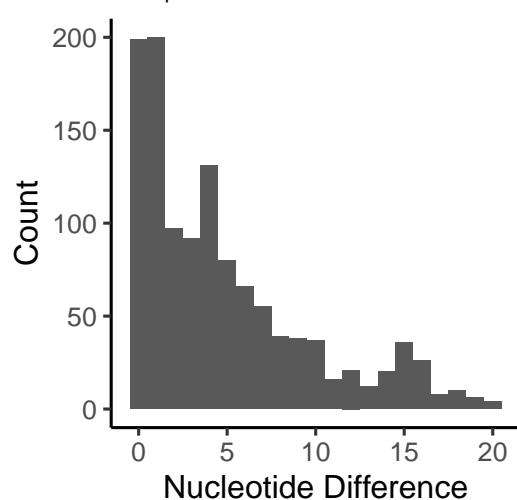
IGHV4–NL_29*01_S1425

1 sequences assigned
No exact matches.



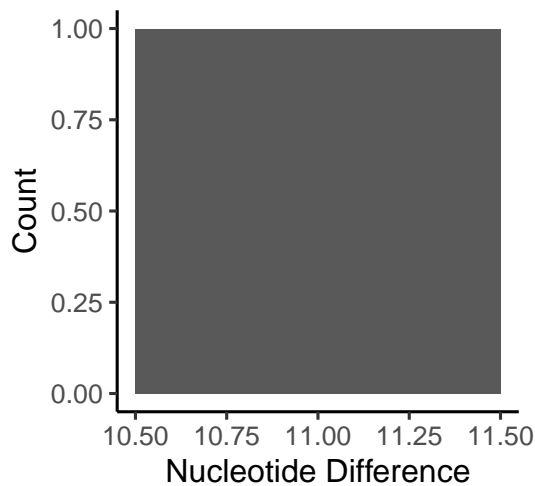
IGHV4–NL_30*01_S1240

1263 sequences assigned
199 (15.8%) exact matches, in which:
175 unique CDR3
7 unique J



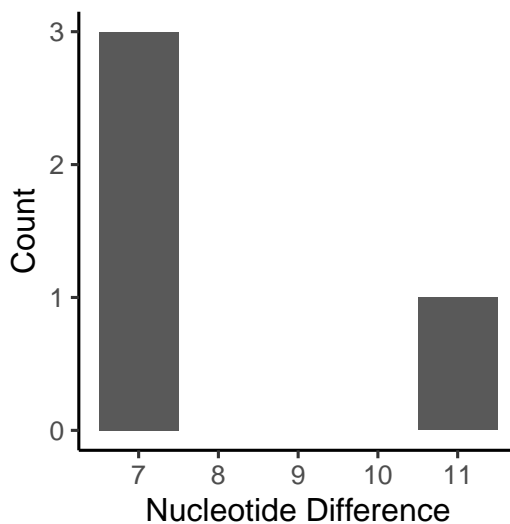
IGHV4–NL_31*01_S7693

1 sequences assigned
No exact matches.



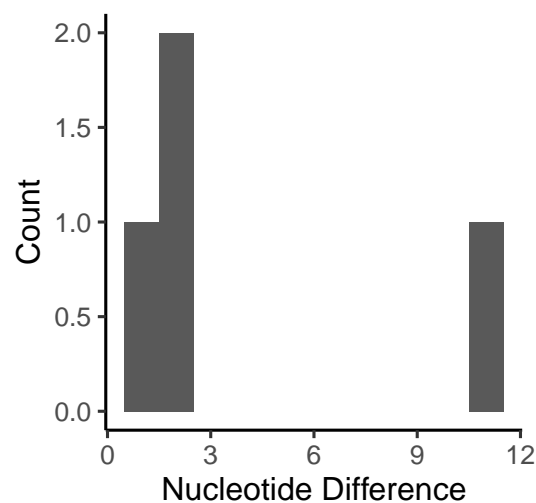
IGHV4–NL_36*01_S6474

4 sequences assigned
No exact matches.



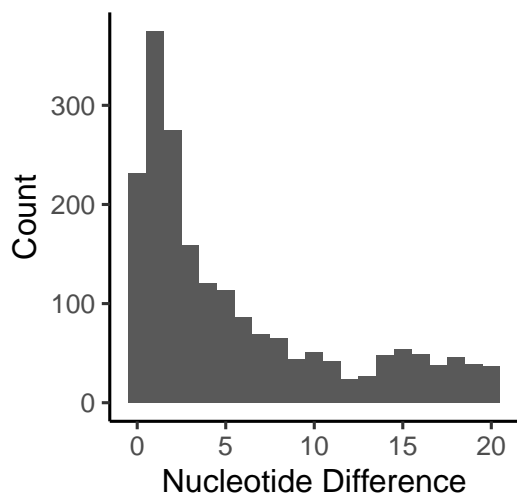
IGHV4–NL_37*01_S0997

4 sequences assigned
No exact matches.



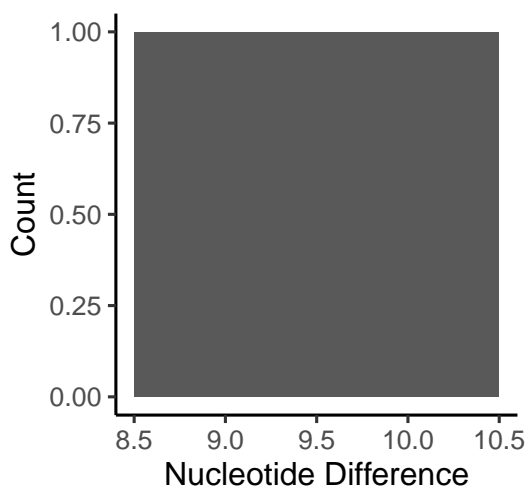
IGHV4–NL_33*01_S9333

2156 sequences assigned
232 (10.8%) exact matches, in which:
195 unique CDR3
7 unique J



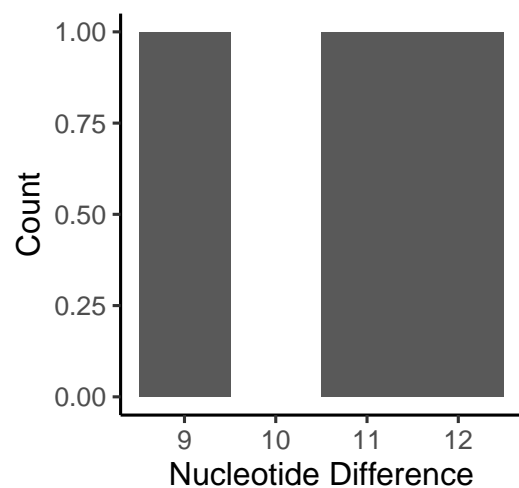
IGHV4–NL_36*01_S8200

2 sequences assigned
No exact matches.



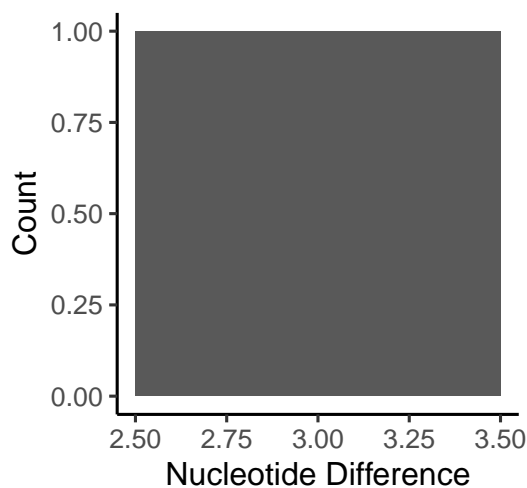
IGHV4–NL_38*01_S9225

12 sequences assigned
No exact matches.



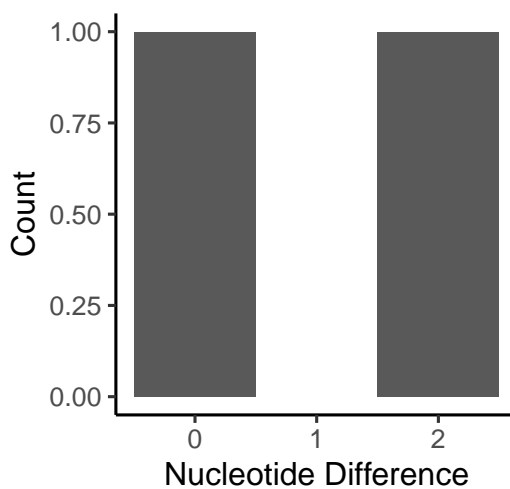
IGHV4–NL_36*01_S1694

1 sequences assigned
No exact matches.



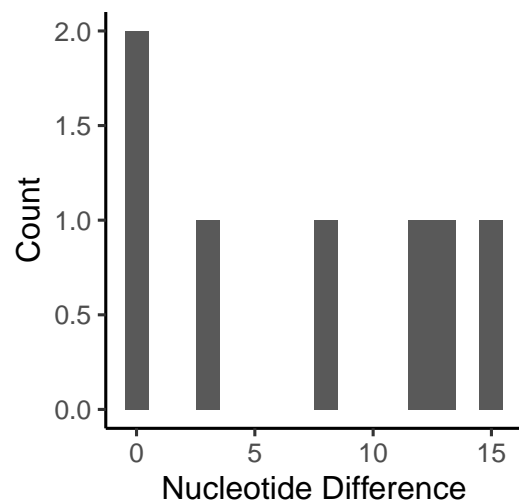
IGHV4–NL_37*01_S0077

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



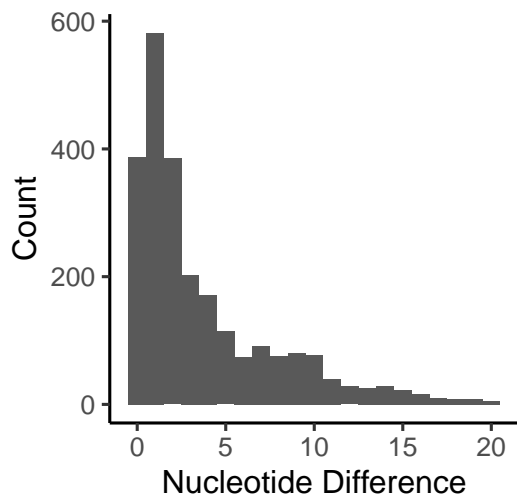
IGHV4–NL_40*01_S9020

7 sequences assigned
2 (28.6%) exact matches, in which:
2 unique CDR3
2 unique J



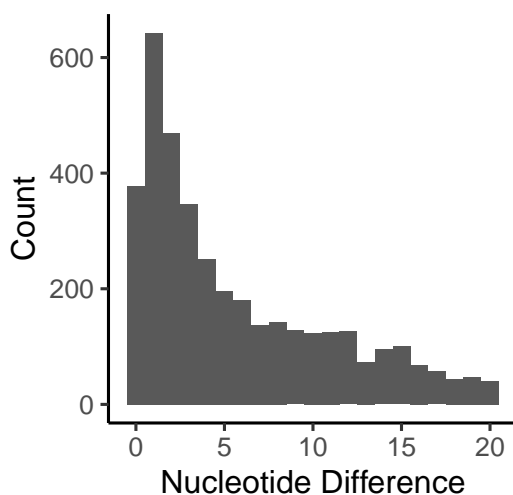
IGHV4–NL_41*01_S9253

2540 sequences assigned
387 (15.2%) exact matches, in which:
295 unique CDR3
7 unique J



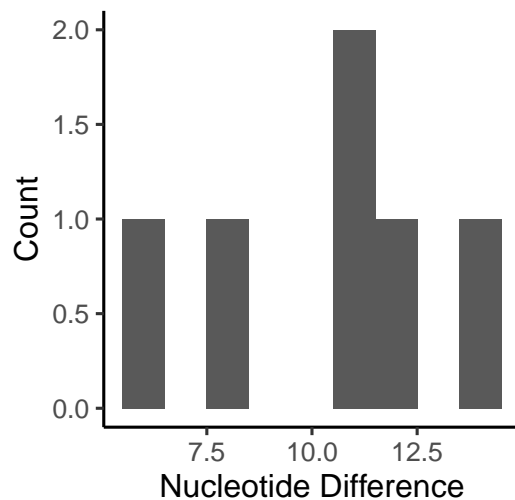
IGHV4–NL_5*01_S0908

4062 sequences assigned
378 (9.3%) exact matches, in which:
328 unique CDR3
8 unique J



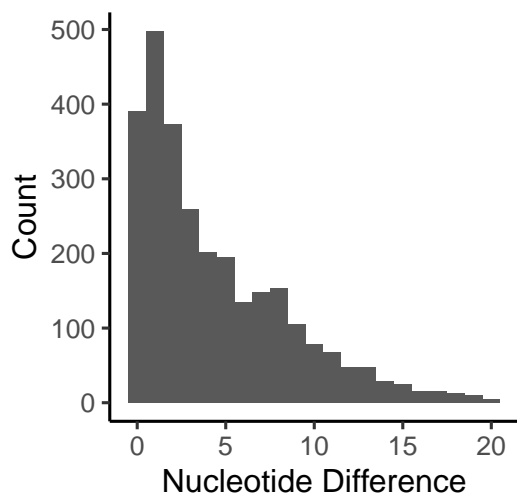
IGHV4–NL_9*02_S2874

6 sequences assigned
No exact matches.



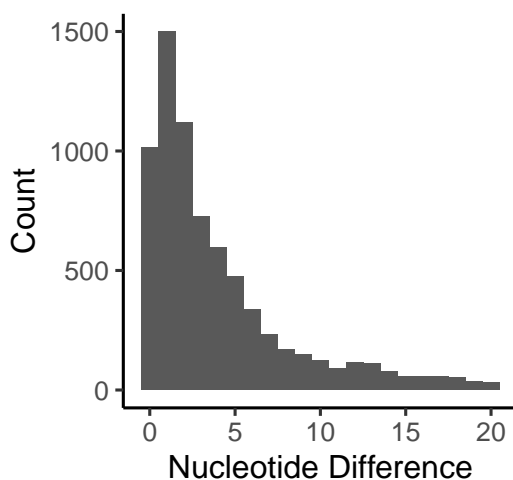
IGHV4–NL_42*01_S8550

2960 sequences assigned
391 (13.2%) exact matches, in which:
310 unique CDR3
7 unique J



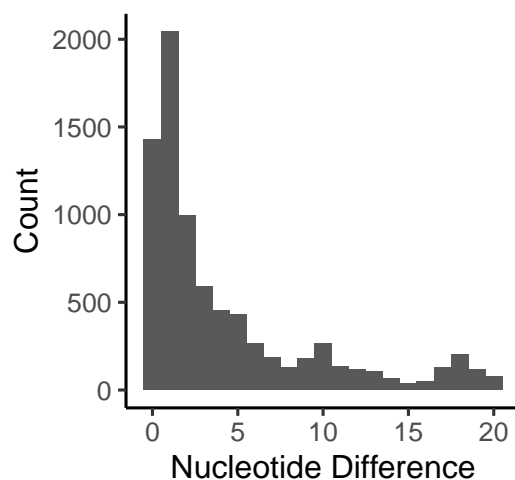
IGHV4–NL_5*01_S6960

7487 sequences assigned
1013 (13.5%) exact matches, in which:
835 unique CDR3
10 unique J



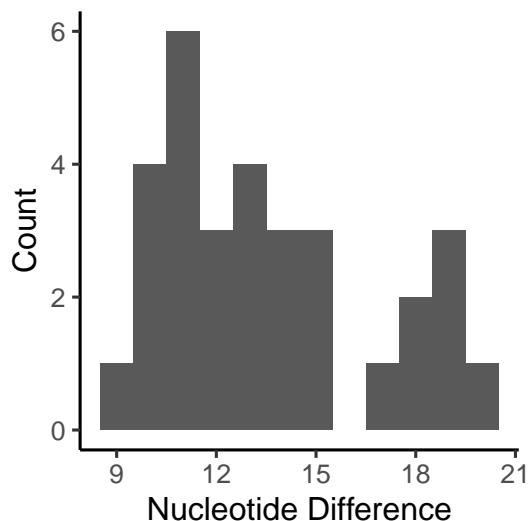
IGHV5–15*01_S8661

8304 sequences assigned
1431 (17.2%) exact matches, in which:
918 unique CDR3
10 unique J



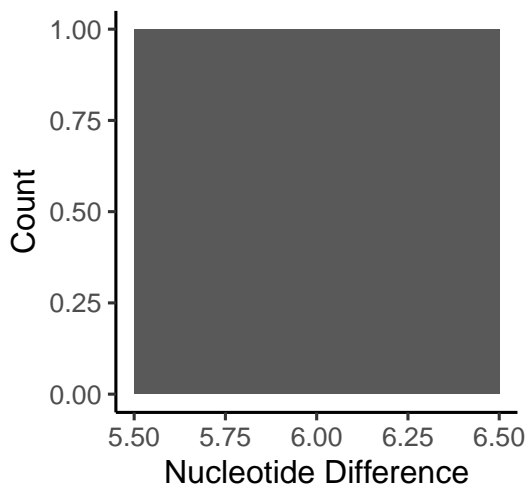
IGHV4–NL_43*01_S3820

35 sequences assigned
No exact matches.



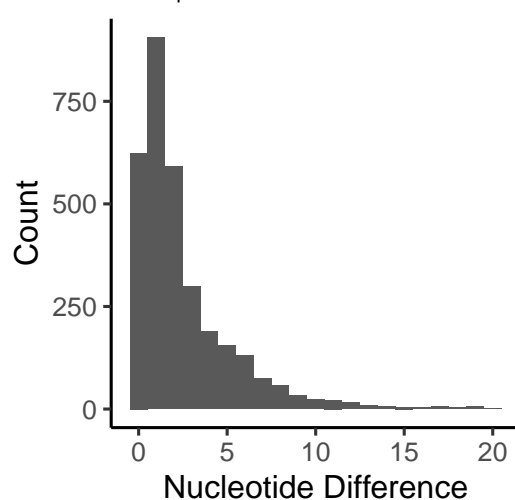
IGHV4–NL_6*01_S3002

1 sequences assigned
No exact matches.



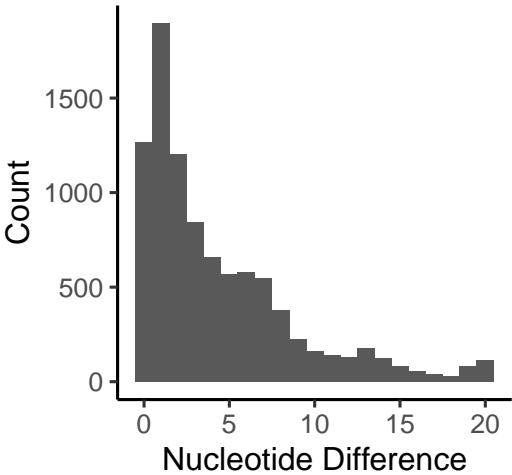
IGHV5–157*01_S8626

3176 sequences assigned
624 (19.6%) exact matches, in which:
341 unique CDR3
10 unique J



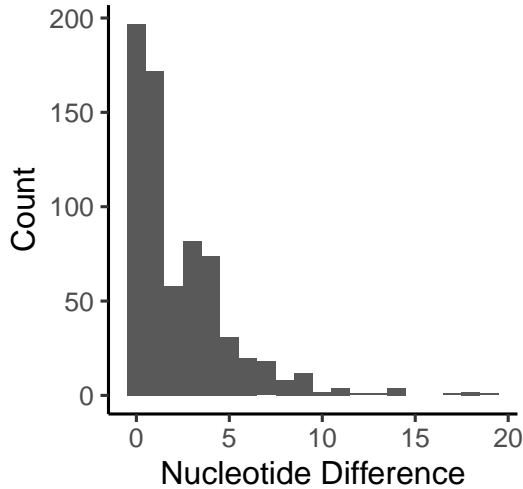
IGHV5–157*02_S3096

9467 sequences assigned
1266 (13.4%) exact matches, in which:
679 unique CDR3
10 unique J



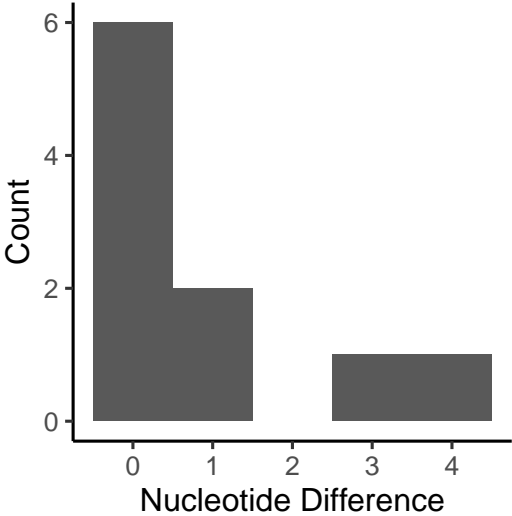
IGHV7–86*02_S1706

820 sequences assigned
197 (24%) exact matches, in which:
121 unique CDR3
8 unique J



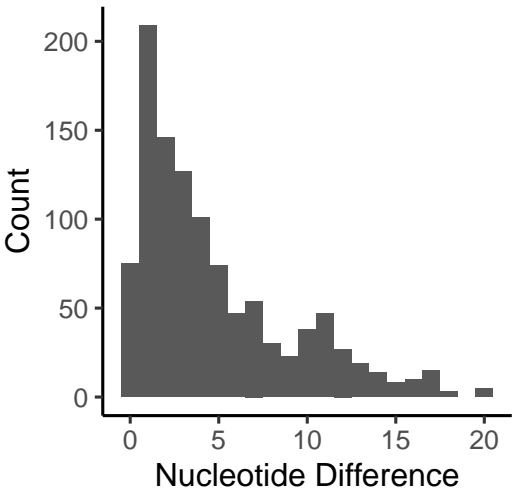
IGHV5–NL_1*02_S5699

10 sequences assigned
6 (60%) exact matches, in which:
6 unique CDR3
4 unique J

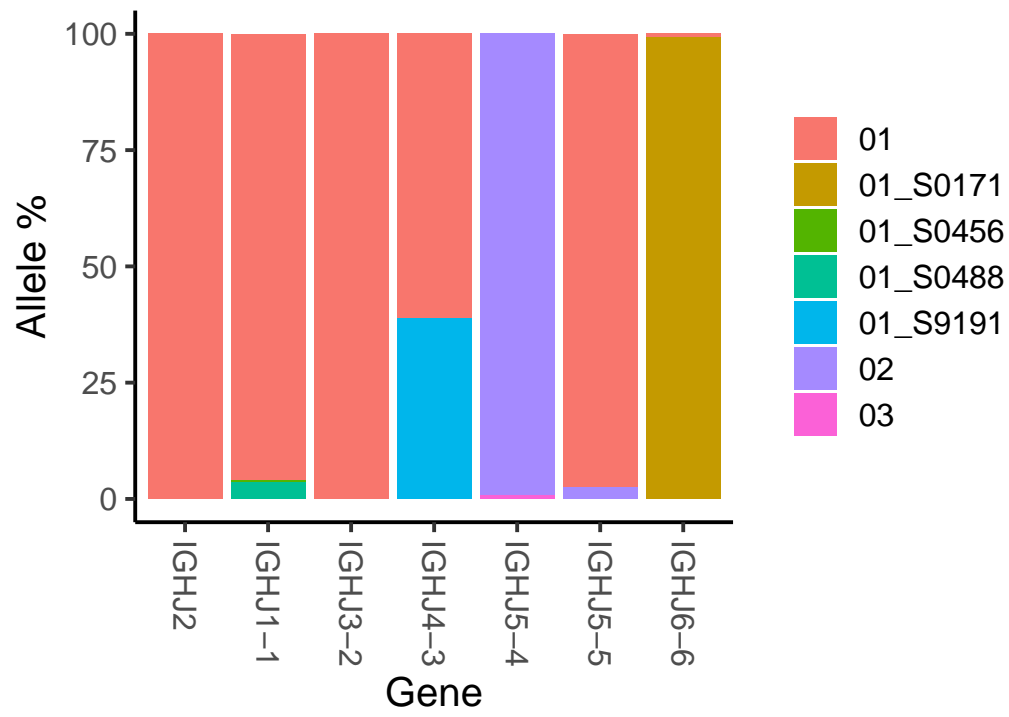


IGHV6–1*01_G283T

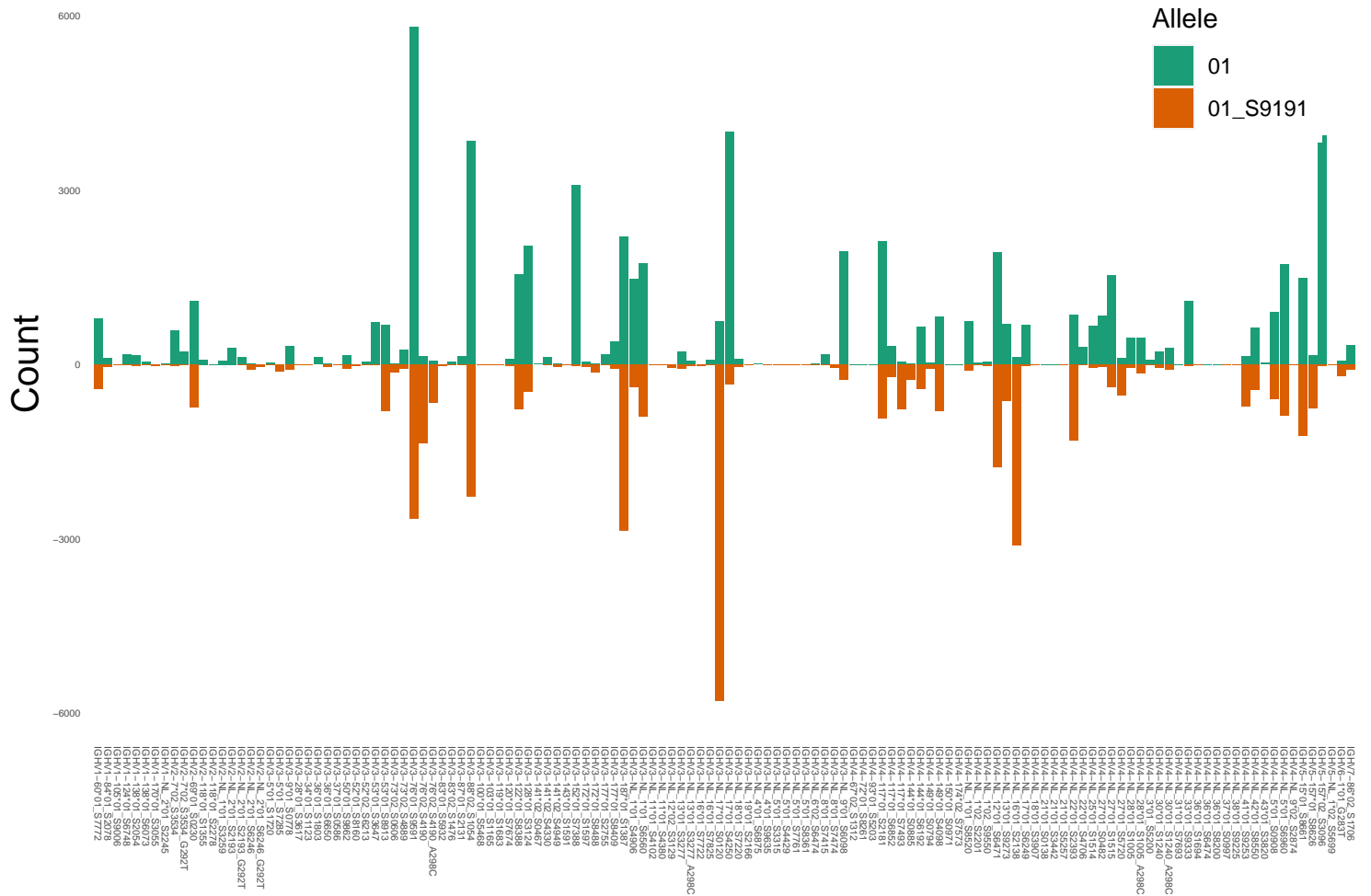
1079 sequences assigned
75 (7%) exact matches, in which:
60 unique CDR3
7 unique J



Allele Usage



Sequence Count by IGHJ4-3 allele usage



Warning – no inferred sequences found.