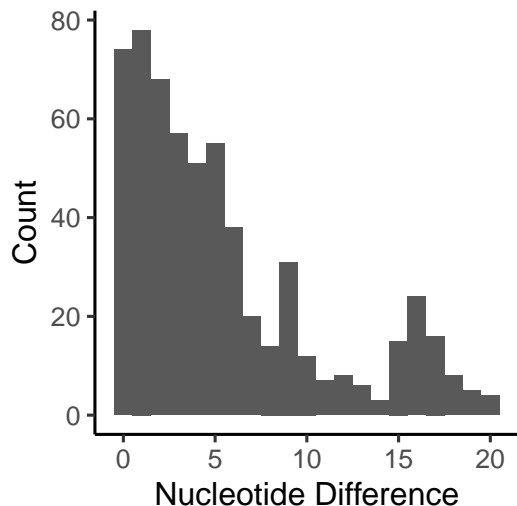


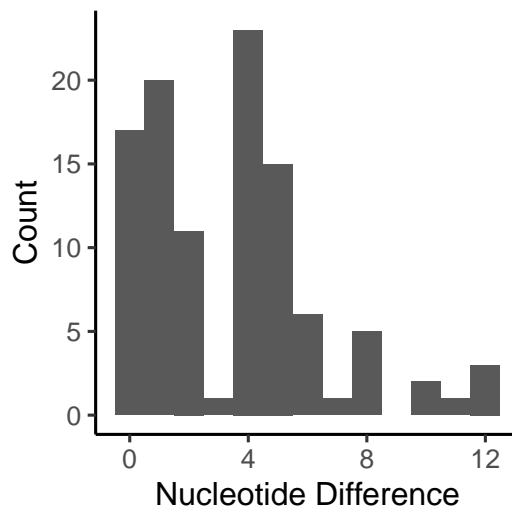
IGHV1-60*01_S7772

615 sequences assigned
74 (12%) exact matches, in which:
38 unique CDR3
4 unique J



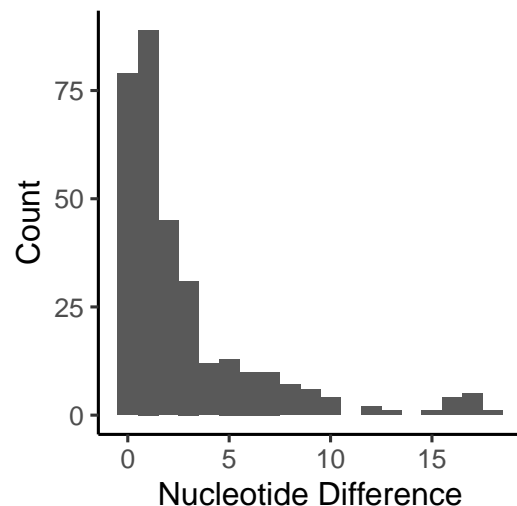
IGHV1-124*01_S1765

111 sequences assigned
17 (15.3%) exact matches, in which:
9 unique CDR3
1 unique J



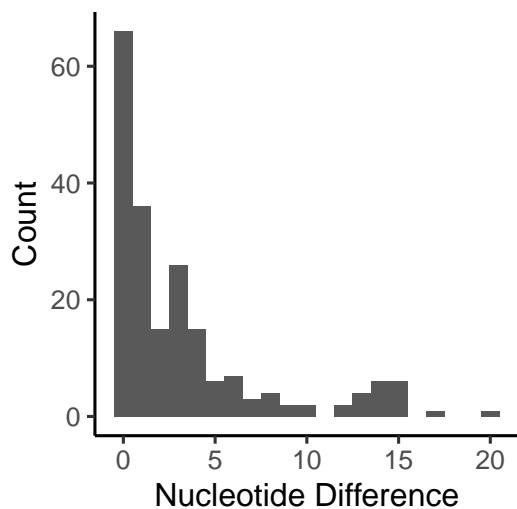
IGHV1-138*01_S8712

335 sequences assigned
79 (23.6%) exact matches, in which:
53 unique CDR3
4 unique J



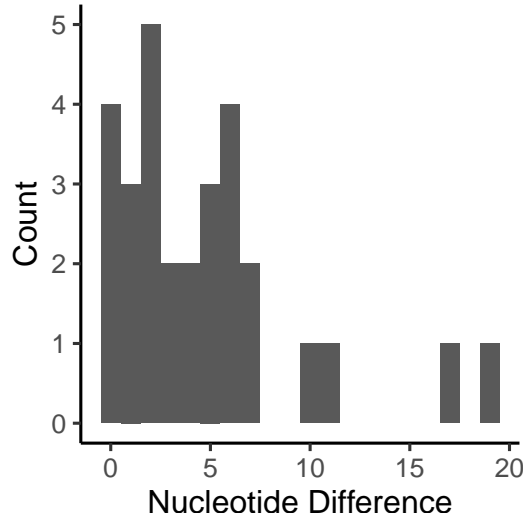
IGHV1-84*01_S0025

222 sequences assigned
66 (29.7%) exact matches, in which:
30 unique CDR3
4 unique J



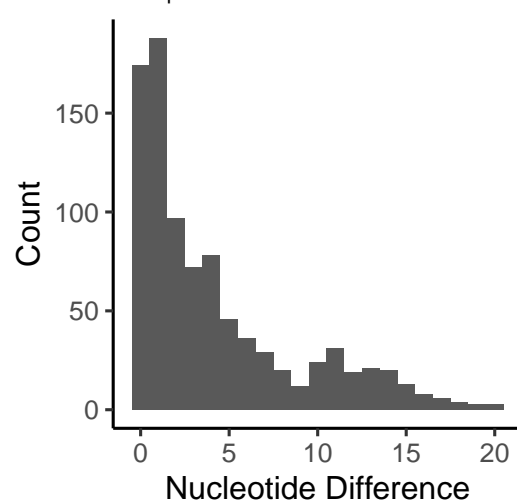
IGHV1-138*01_S2593

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



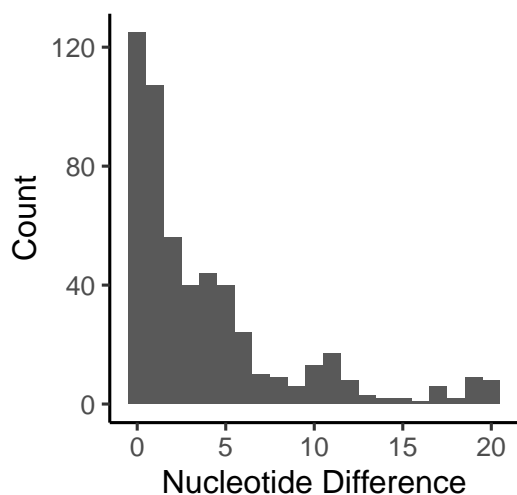
IGHV1-NL_1*01_S2052

912 sequences assigned
174 (19.1%) exact matches, in which:
90 unique CDR3
5 unique J



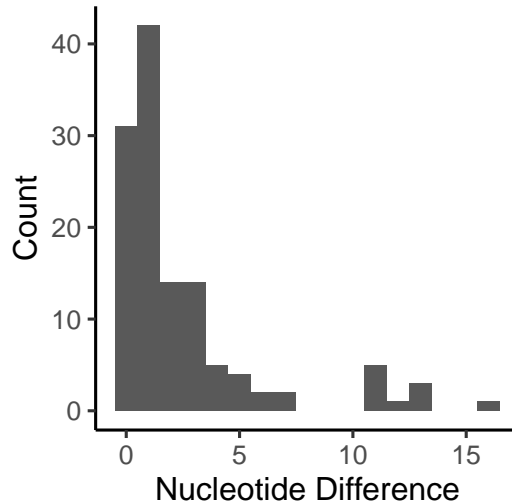
IGHV1-84*01_S4663

797 sequences assigned
125 (15.7%) exact matches, in which:
51 unique CDR3
4 unique J



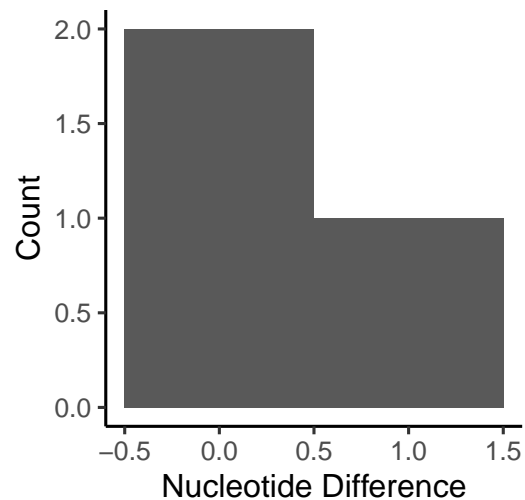
IGHV1-138*01_S8042

127 sequences assigned
31 (24.4%) exact matches, in which:
21 unique CDR3
2 unique J



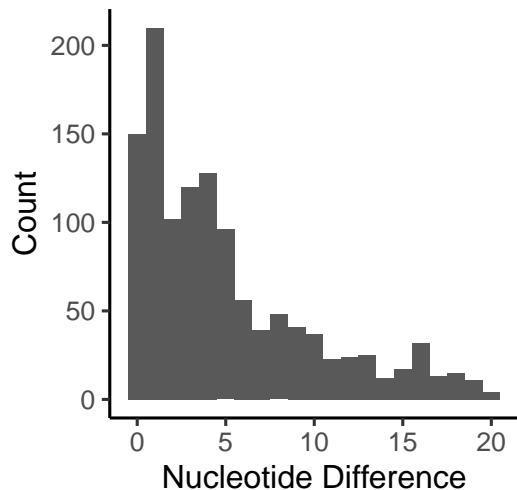
IGHV1-NL_2*01_S7386

65 sequences assigned
2 (3.1%) exact matches, in which:
1 unique CDR3
1 unique J



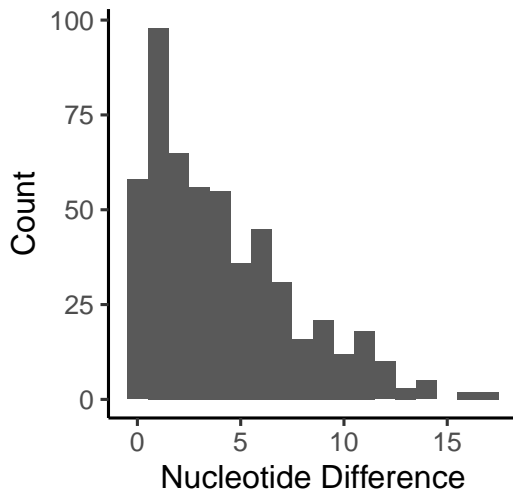
IGHV2-7*02_S1732

1227 sequences assigned
150 (12.2%) exact matches, in which:
71 unique CDR3
4 unique J



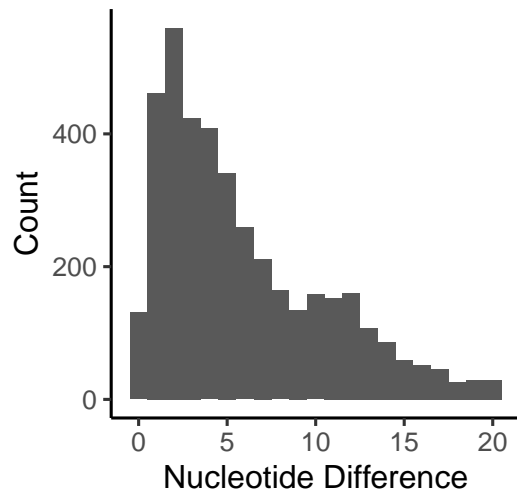
IGHV2-69*01_S2408

562 sequences assigned
58 (10.3%) exact matches, in which:
28 unique CDR3
5 unique J



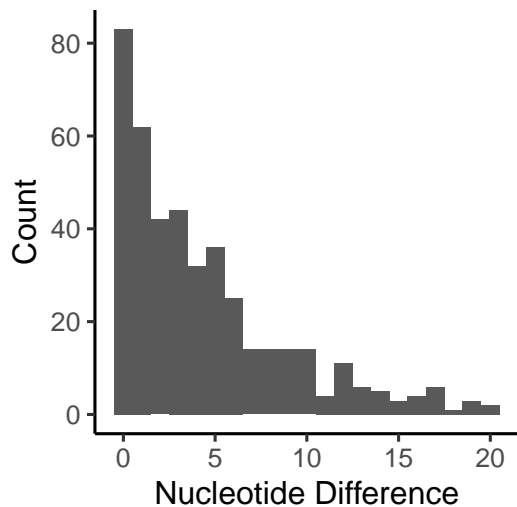
IGHV2-173*01_G289T

4212 sequences assigned
131 (3.1%) exact matches, in which:
99 unique CDR3
5 unique J



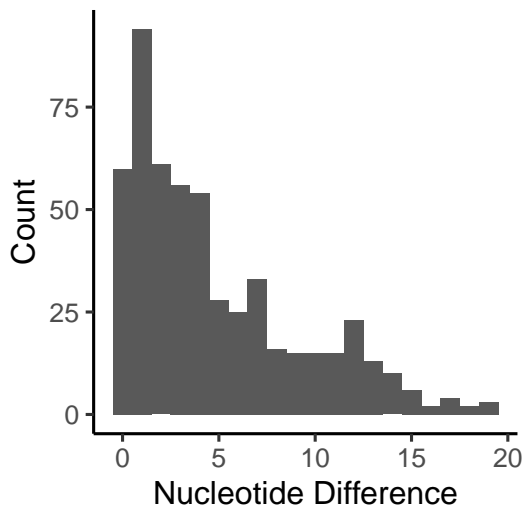
IGHV2-7*02_S1732_G289T

433 sequences assigned
83 (19.2%) exact matches, in which:
67 unique CDR3
4 unique J



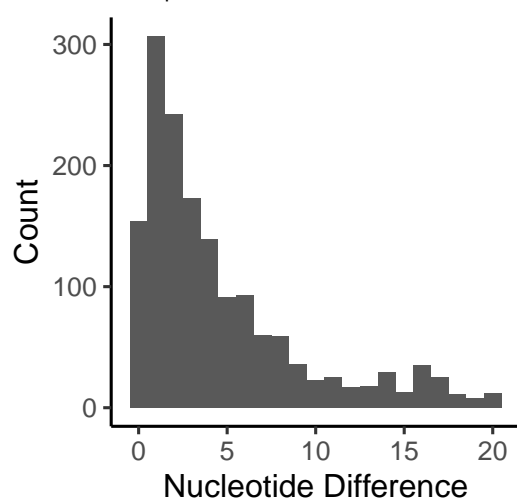
IGHV2-69*01_S8735

638 sequences assigned
60 (9.4%) exact matches, in which:
28 unique CDR3
3 unique J



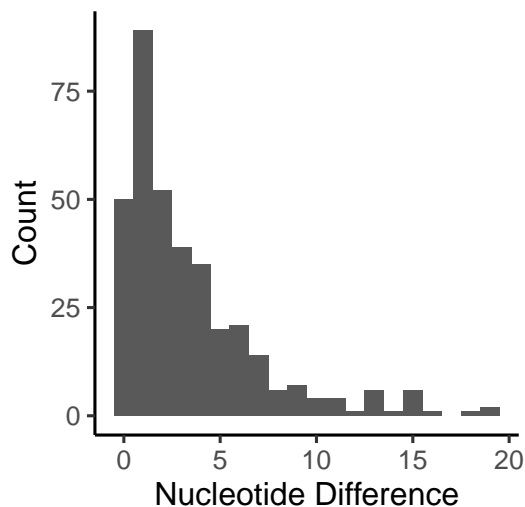
IGHV2-NL_1*01_S7874

1601 sequences assigned
154 (9.6%) exact matches, in which:
69 unique CDR3
4 unique J



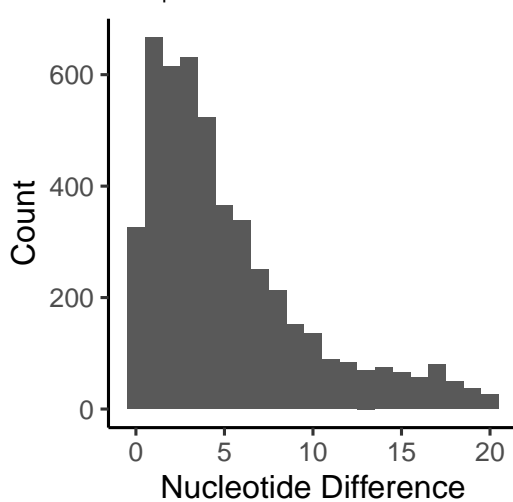
IGHV2-7*02_S4285

360 sequences assigned
50 (13.9%) exact matches, in which:
29 unique CDR3
5 unique J



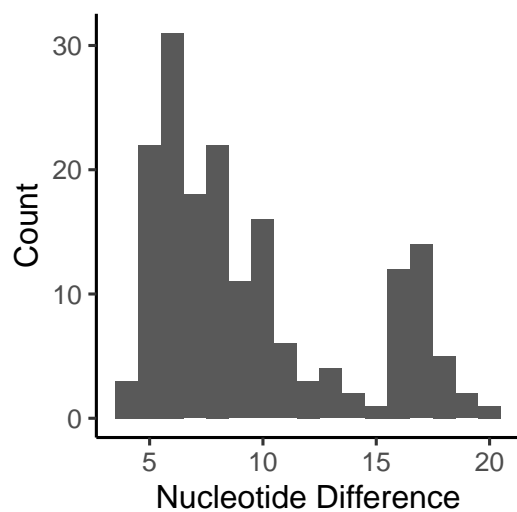
IGHV2-118*01_S6364

5294 sequences assigned
325 (6.1%) exact matches, in which:
144 unique CDR3
5 unique J



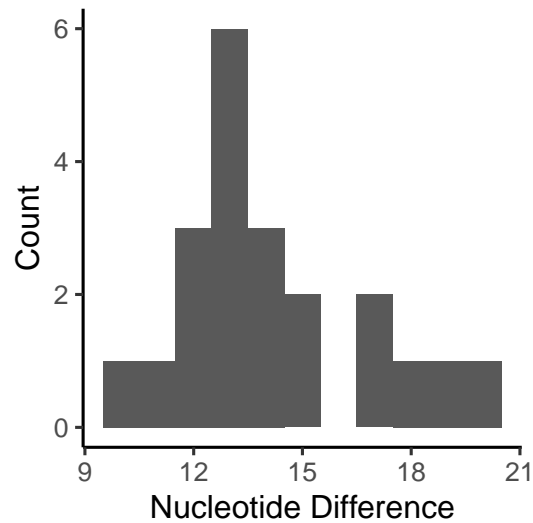
IGHV3-5*01_S0969

186 sequences assigned
No exact matches.



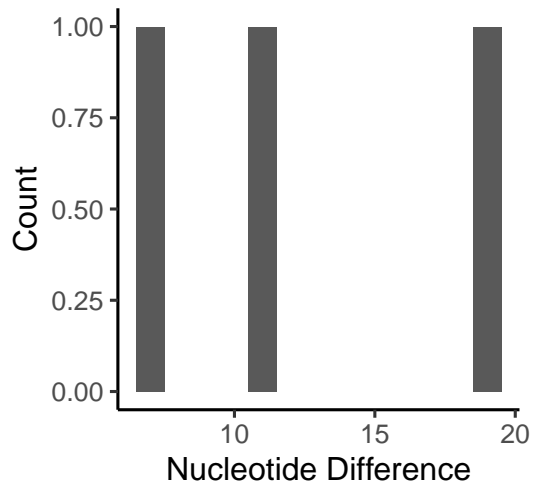
IGHV3-5*01_S2703

42 sequences assigned
No exact matches.



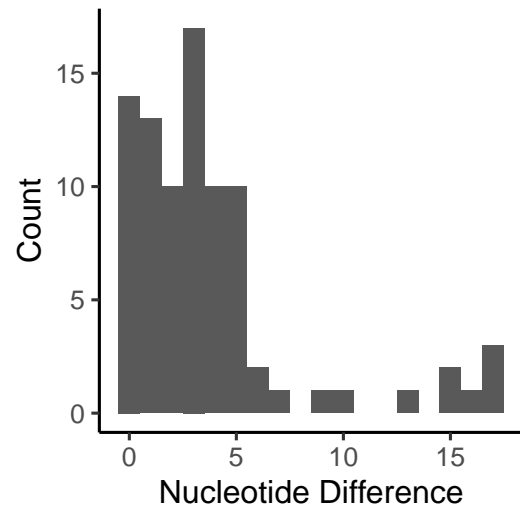
IGHV3-28*01_S5703

6 sequences assigned
No exact matches.



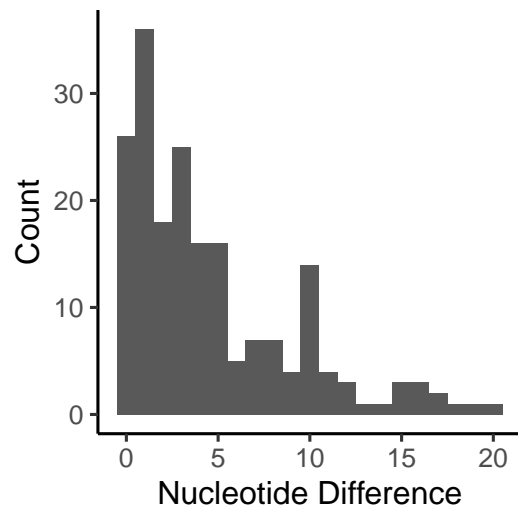
IGHV3-36*01_S9128

88 sequences assigned
14 (15.9%) exact matches, in which:
13 unique CDR3
2 unique J



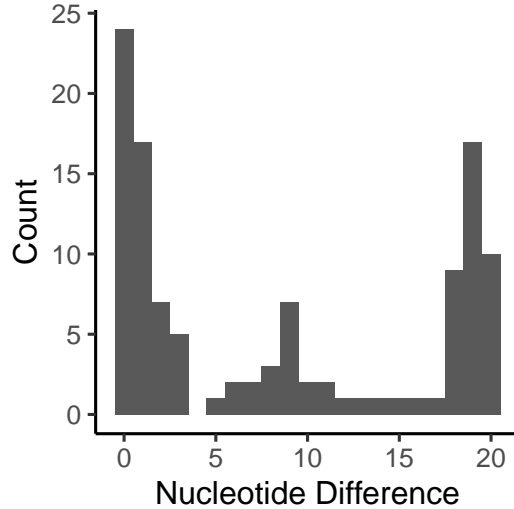
IGHV3-9*01_S8777

198 sequences assigned
26 (13.1%) exact matches, in which:
21 unique CDR3
4 unique J



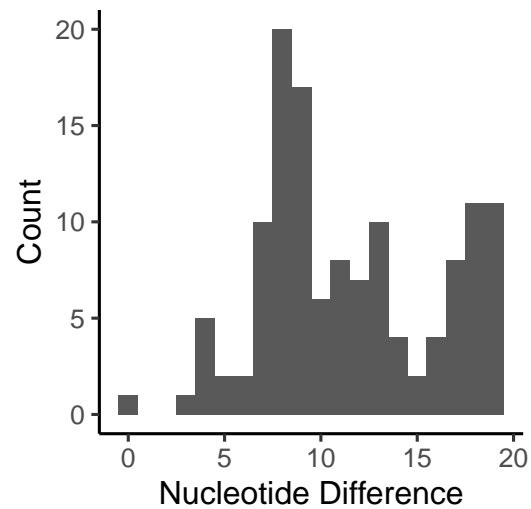
IGHV3-28*01_S7540

138 sequences assigned
24 (17.4%) exact matches, in which:
12 unique CDR3
4 unique J



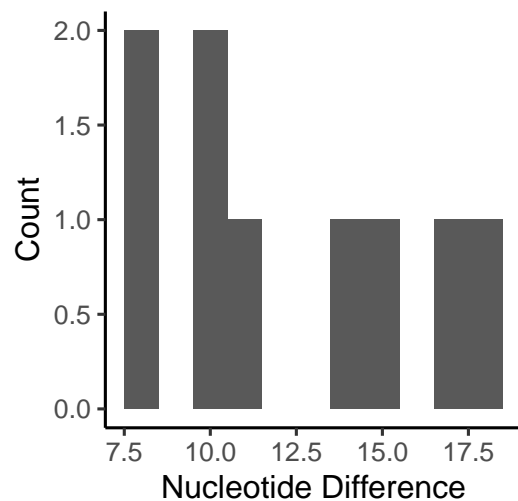
IGHV3-37*01_S6325

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



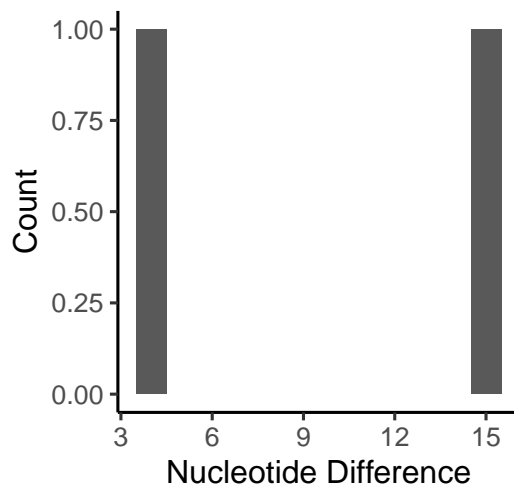
IGHV3-28*01_S3792

9 sequences assigned
No exact matches.



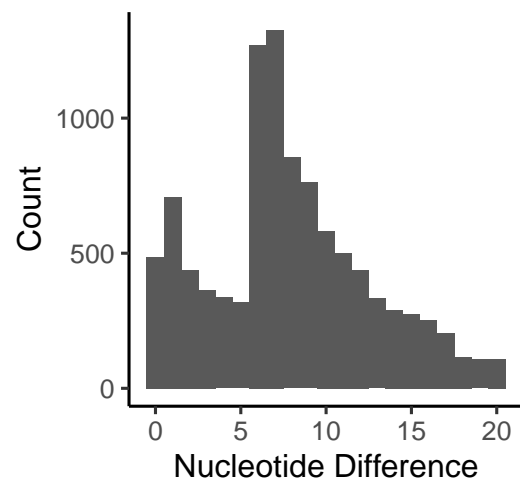
IGHV3-34*01_S1309

3 sequences assigned
No exact matches.



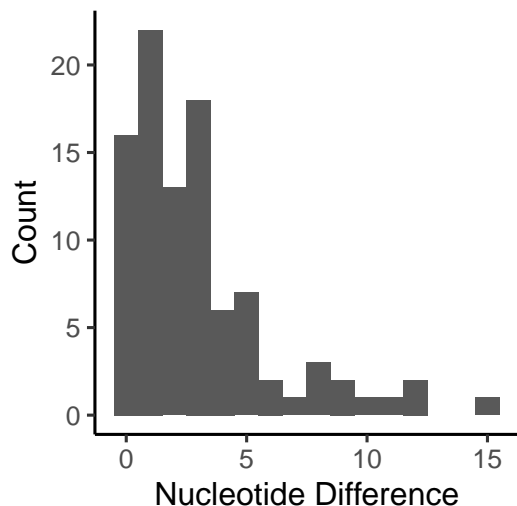
IGHV3-50*01_S9079

10792 sequences assigned
485 (4.5%) exact matches, in which:
261 unique CDR3
5 unique J



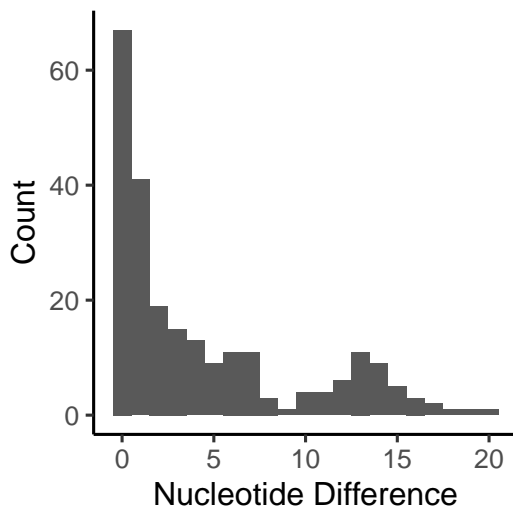
IGHV3-52*01_S3960

98 sequences assigned
16 (16.3%) exact matches, in which:
6 unique CDR3
2 unique J



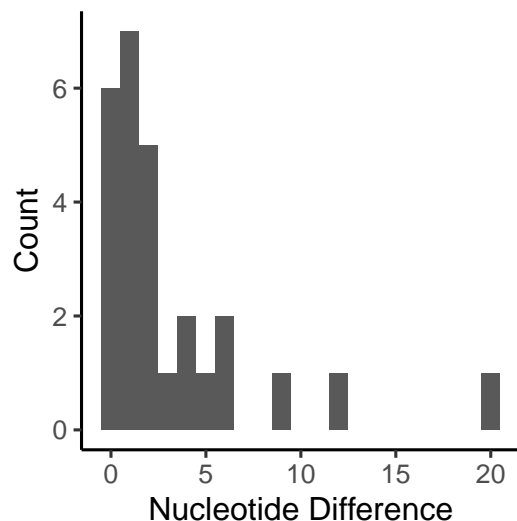
IGHV3-73*02_S3937

241 sequences assigned
67 (27.8%) exact matches, in which:
43 unique CDR3
4 unique J



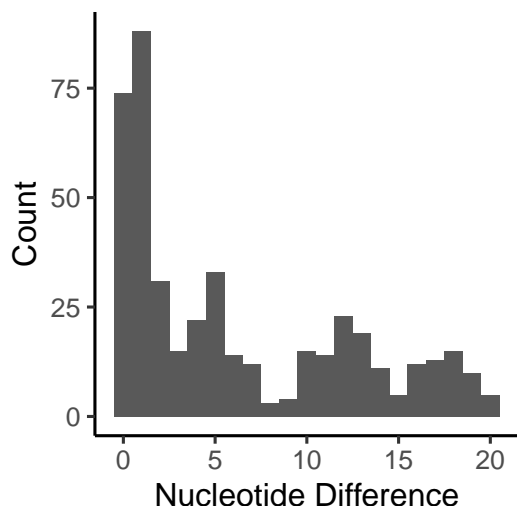
IGHV3-83*01_S9109

29 sequences assigned
6 (20.7%) exact matches, in which:
4 unique CDR3
1 unique J



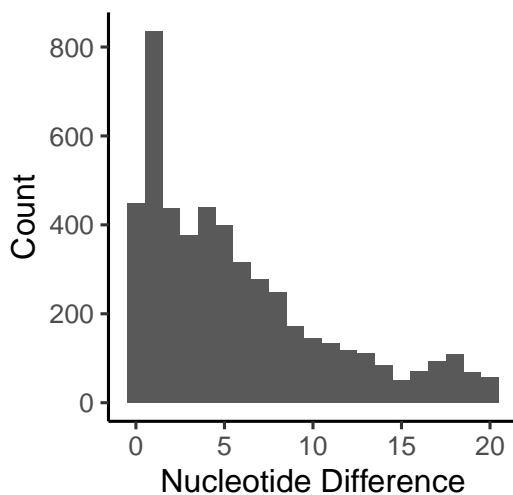
IGHV3-53*01_S2949

485 sequences assigned
74 (15.3%) exact matches, in which:
36 unique CDR3
4 unique J



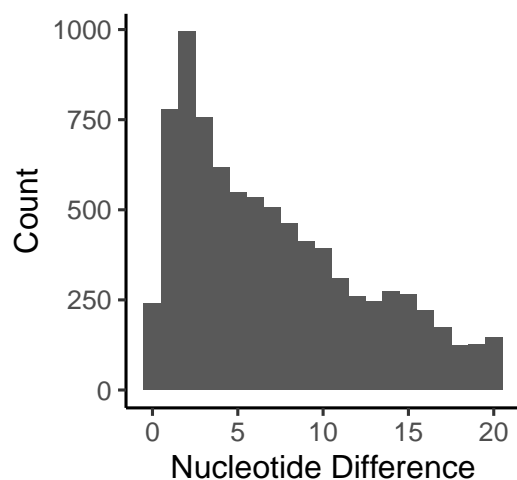
IGHV3-76*01_S0794

5268 sequences assigned
449 (8.5%) exact matches, in which:
257 unique CDR3
5 unique J



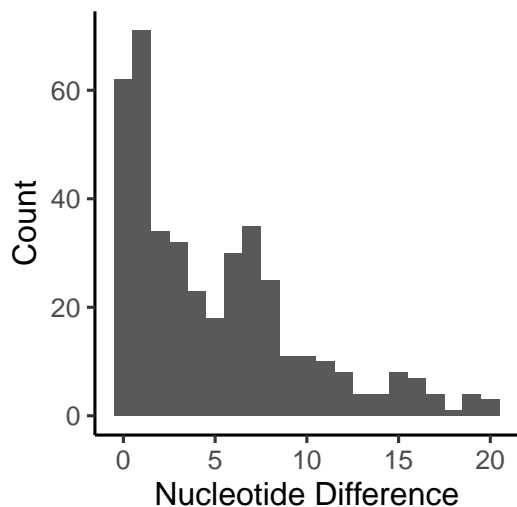
IGHV3-88*01_S4297

9379 sequences assigned
241 (2.6%) exact matches, in which:
110 unique CDR3
4 unique J



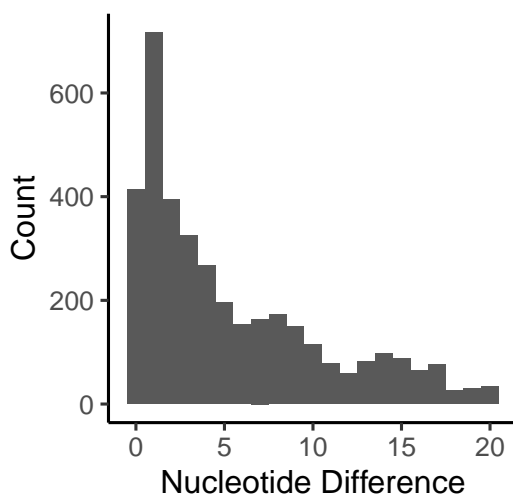
IGHV3-53*01_S3451

411 sequences assigned
62 (15.1%) exact matches, in which:
36 unique CDR3
4 unique J



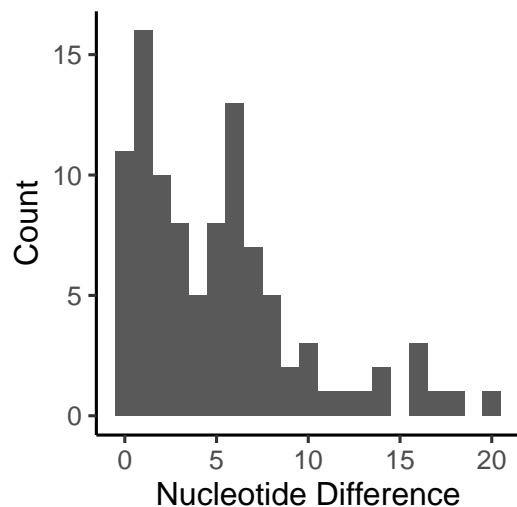
IGHV3-76*01_S5420

4014 sequences assigned
413 (10.3%) exact matches, in which:
238 unique CDR3
5 unique J



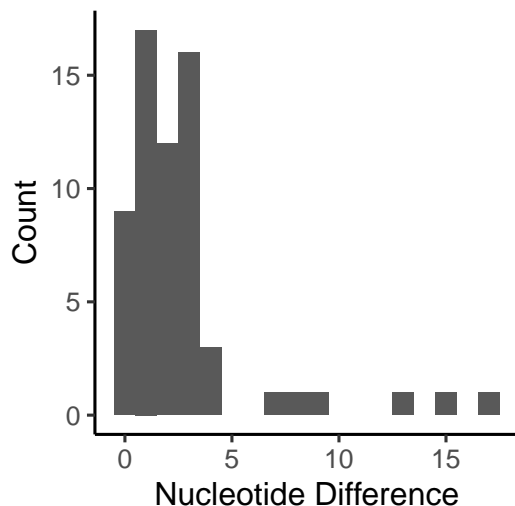
IGHV3-100*01_S4205

101 sequences assigned
11 (10.9%) exact matches, in which:
8 unique CDR3
5 unique J



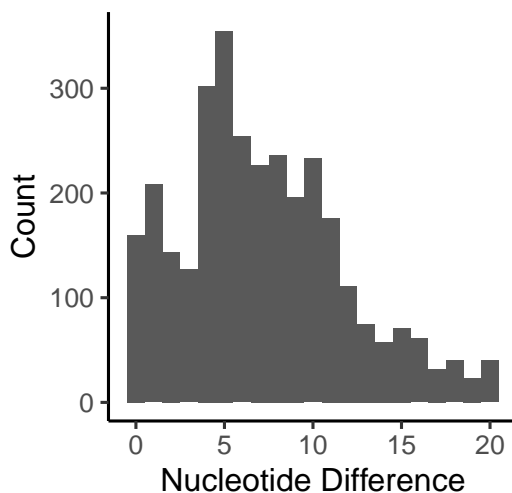
IGHV3-100*01_S4375

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



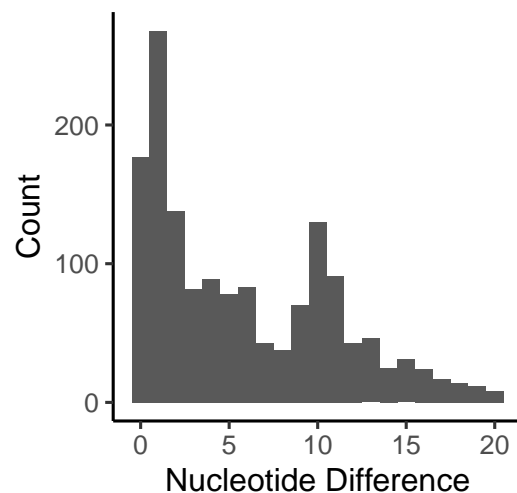
IGHV3-122*01_S5299

3236 sequences assigned
160 (4.9%) exact matches, in which:
72 unique CDR3
6 unique J



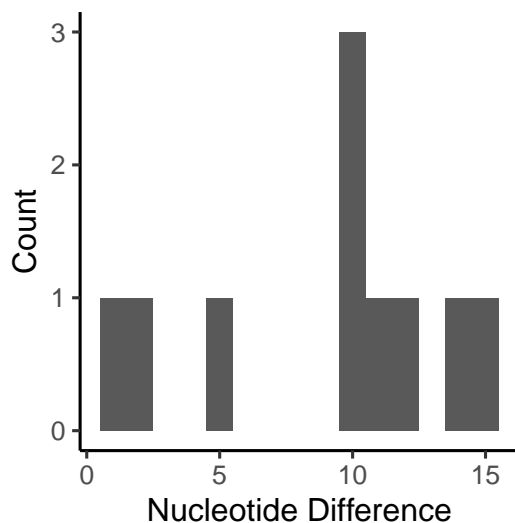
IGHV3-128*02_S5001

1855 sequences assigned
177 (9.5%) exact matches, in which:
90 unique CDR3
4 unique J



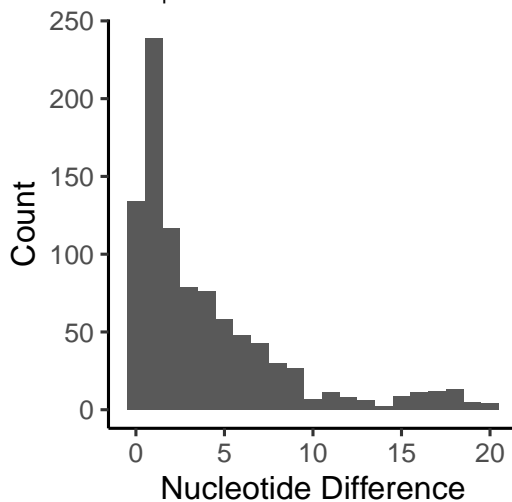
IGHV3-103*01_S2756

11 sequences assigned
No exact matches.



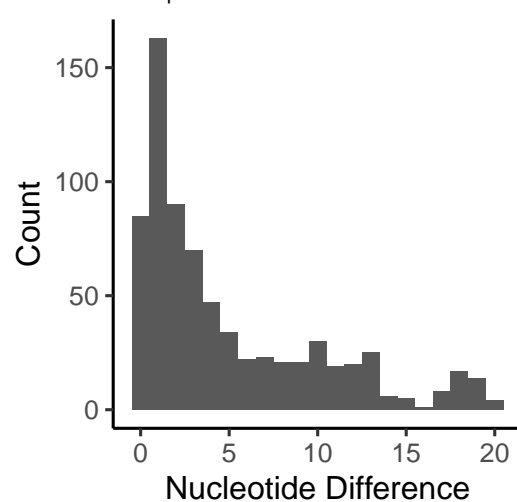
IGHV3-127*01_S5171

950 sequences assigned
134 (14.1%) exact matches, in which:
73 unique CDR3
5 unique J



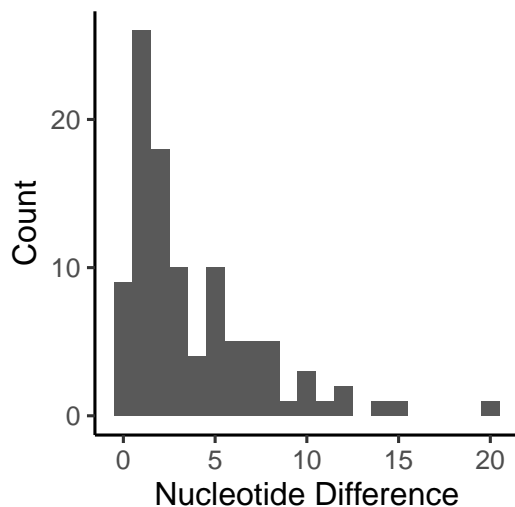
IGHV3-128*02_S6042

747 sequences assigned
85 (11.4%) exact matches, in which:
49 unique CDR3
4 unique J



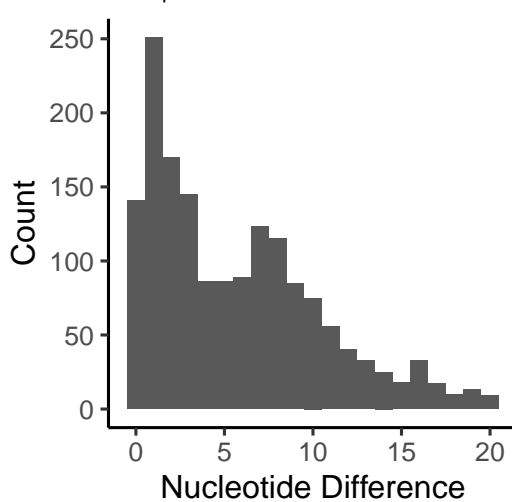
IGHV3-120*01_S4231

104 sequences assigned
9 (8.7%) exact matches, in which:
6 unique CDR3
1 unique J



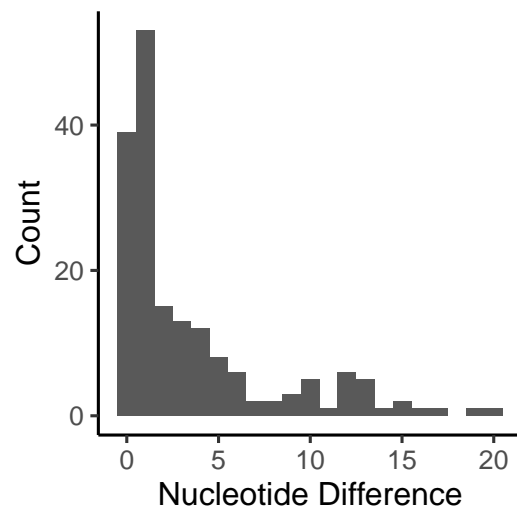
IGHV3-127*01_S9779

1718 sequences assigned
141 (8.2%) exact matches, in which:
79 unique CDR3
5 unique J



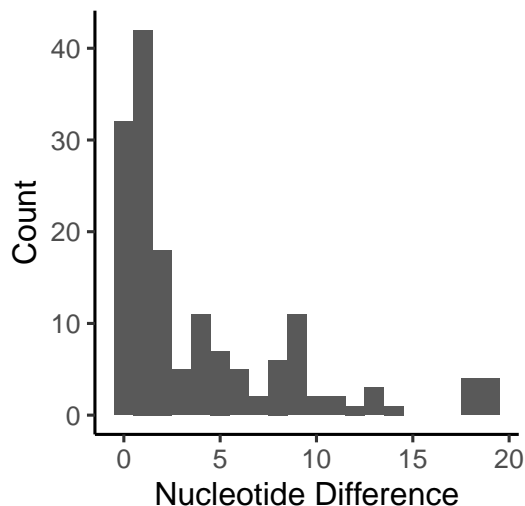
IGHV3-141*01_S8690

198 sequences assigned
39 (19.7%) exact matches, in which:
24 unique CDR3
3 unique J



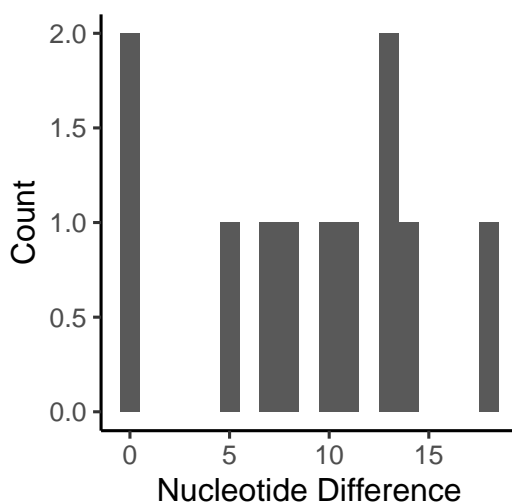
IGHV3-172*01_S0072

176 sequences assigned
32 (18.2%) exact matches, in which:
13 unique CDR3
2 unique J



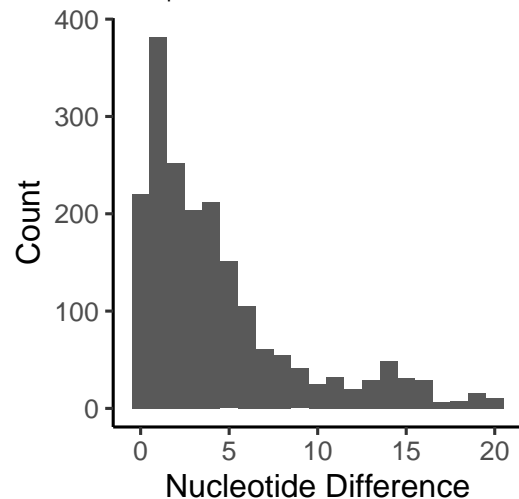
IGHV3-175*01_S1248

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



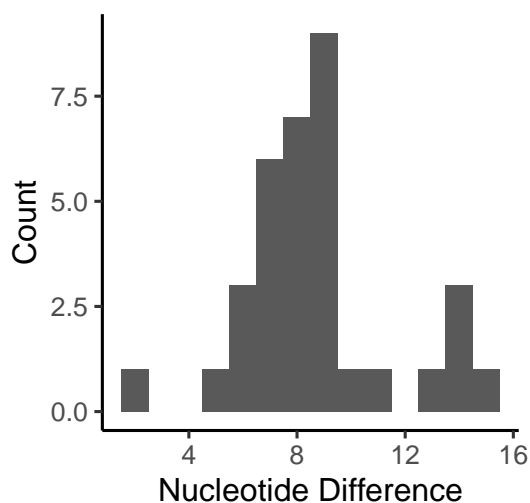
IGHV3-187*01_S6840

2014 sequences assigned
220 (10.9%) exact matches, in which:
116 unique CDR3
5 unique J



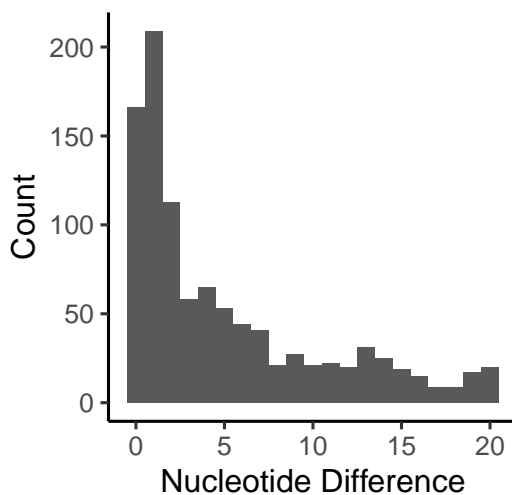
IGHV3-172*01_S1597

35 sequences assigned
No exact matches.



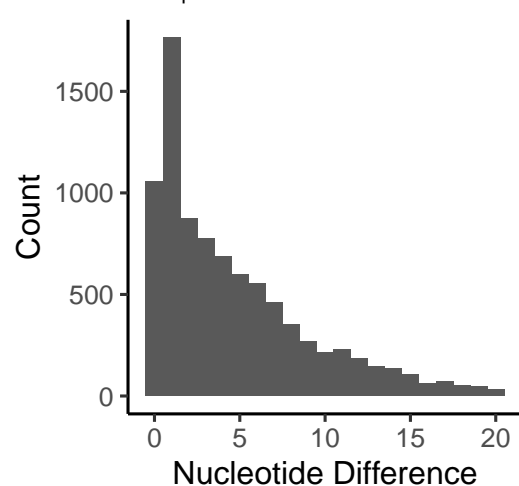
IGHV3-177*01_S5369

1056 sequences assigned
166 (15.7%) exact matches, in which:
76 unique CDR3
5 unique J



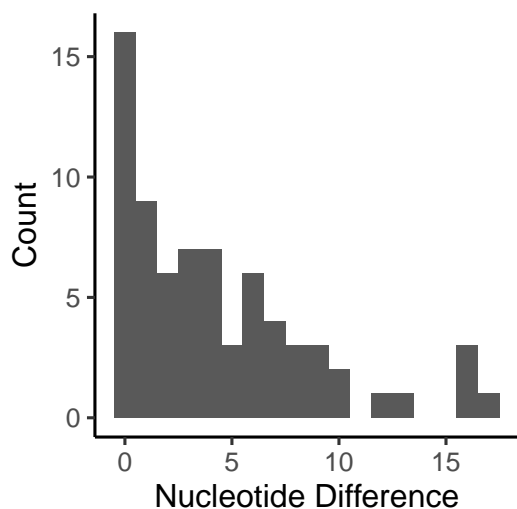
IGHV3-NL_1*01_S9854

9640 sequences assigned
1058 (11%) exact matches, in which:
567 unique CDR3
6 unique J



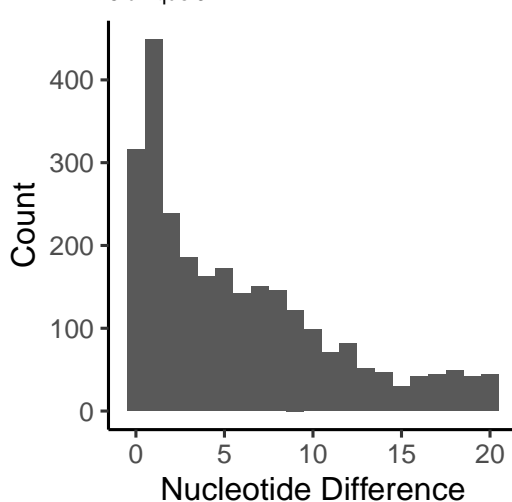
IGHV3-172*01_S8824

74 sequences assigned
16 (21.6%) exact matches, in which:
7 unique CDR3
2 unique J



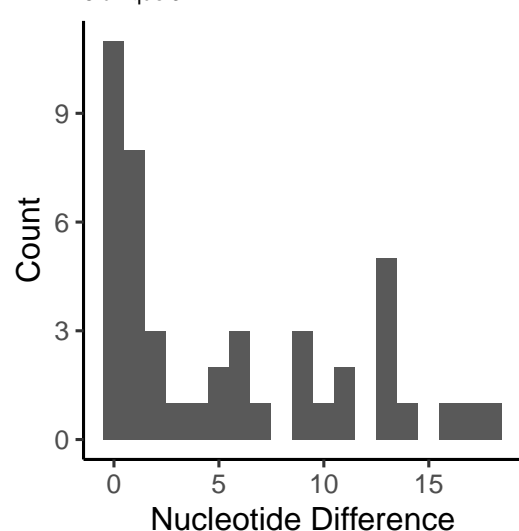
IGHV3-187*01_S1387

2866 sequences assigned
316 (11%) exact matches, in which:
186 unique CDR3
5 unique J



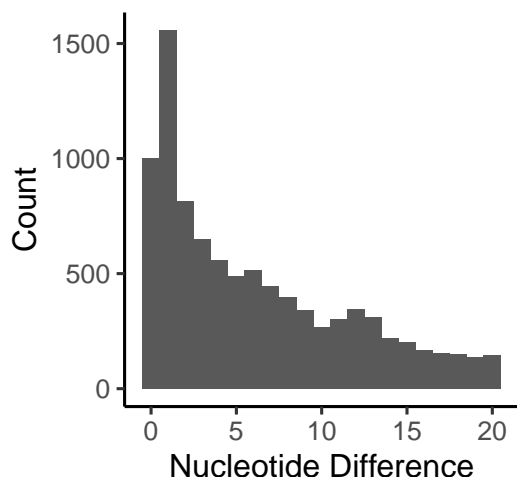
IGHV3-NL_10*02_S1970

48 sequences assigned
11 (22.9%) exact matches, in which:
11 unique CDR3
5 unique J



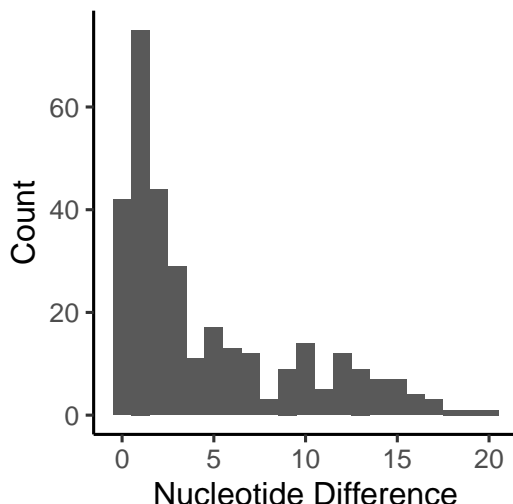
IGHV3-NL_11*01_S373

10562 sequences assigned
1001 (9.5%) exact matches, in which:
572 unique CDR3
6 unique J



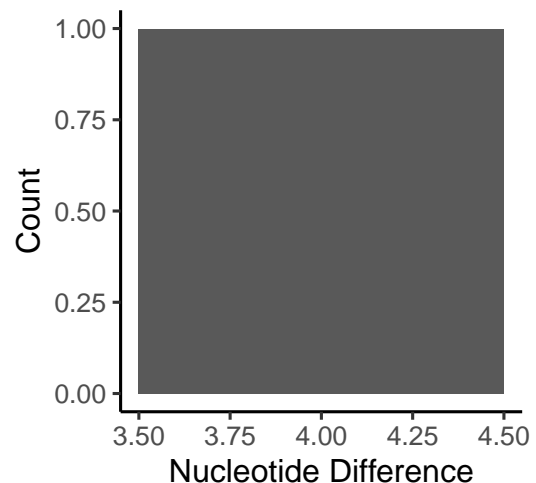
IGHV3-NL_13*01_S3277

326 sequences assigned
42 (12.9%) exact matches, in which:
19 unique CDR3
3 unique J



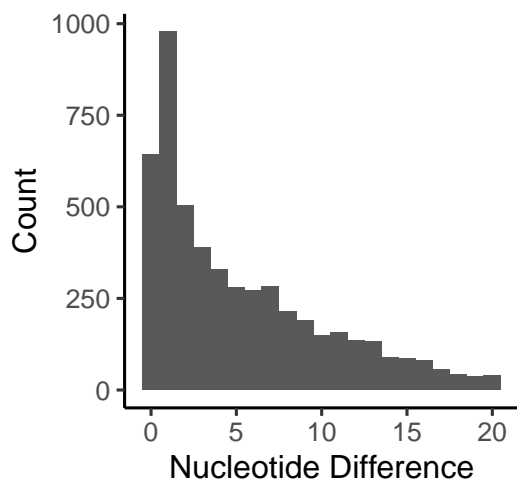
IGHV3-NL_15*01_S7302

1 sequences assigned
No exact matches.



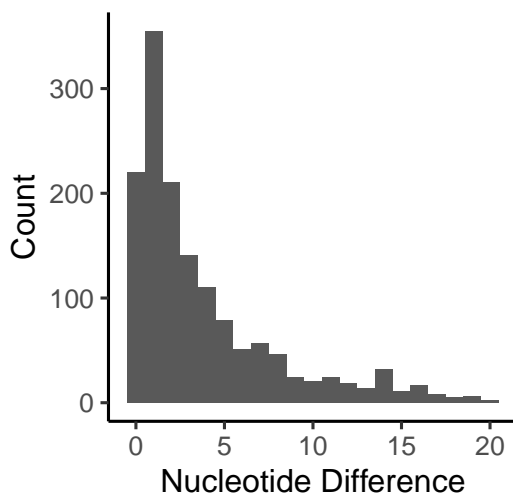
IGHV3-NL_11*01_S571

5313 sequences assigned
643 (12.1%) exact matches, in which:
376 unique CDR3
6 unique J



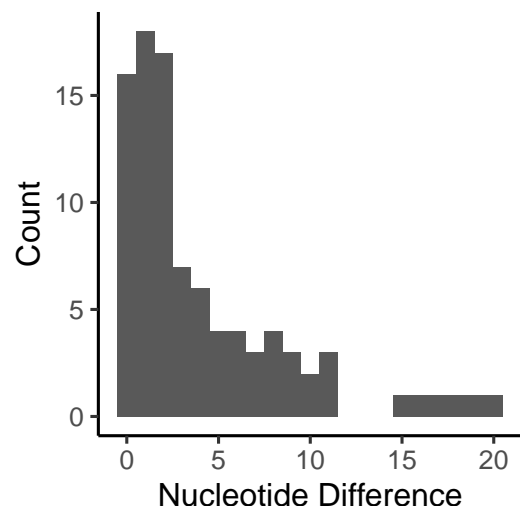
IGHV3-NL_14*01_S6089

1609 sequences assigned
220 (13.7%) exact matches, in which:
109 unique CDR3
5 unique J



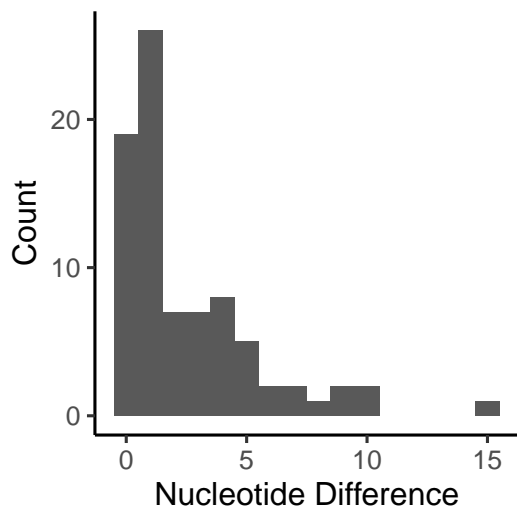
IGHV3-NL_16*01_S8234

94 sequences assigned
16 (17%) exact matches, in which:
12 unique CDR3
2 unique J



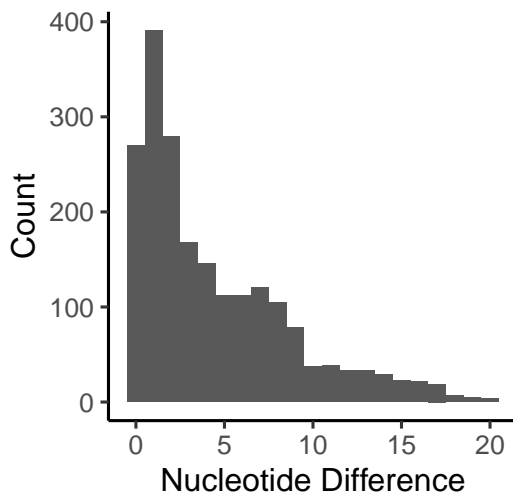
IGHV3-NL_12*02_S5864

82 sequences assigned
19 (23.2%) exact matches, in which:
12 unique CDR3
3 unique J



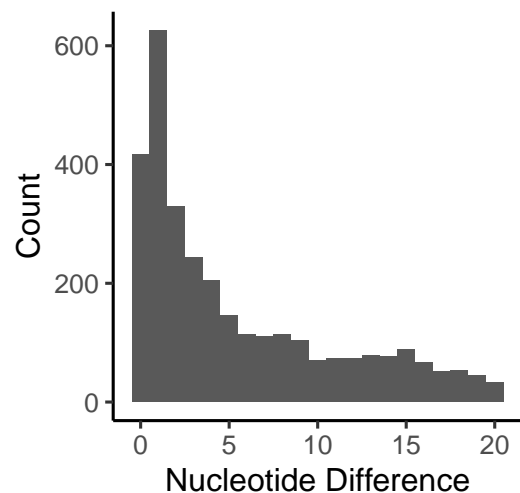
IGHV3-NL_14*01_S6338

2070 sequences assigned
270 (13%) exact matches, in which:
159 unique CDR3
6 unique J



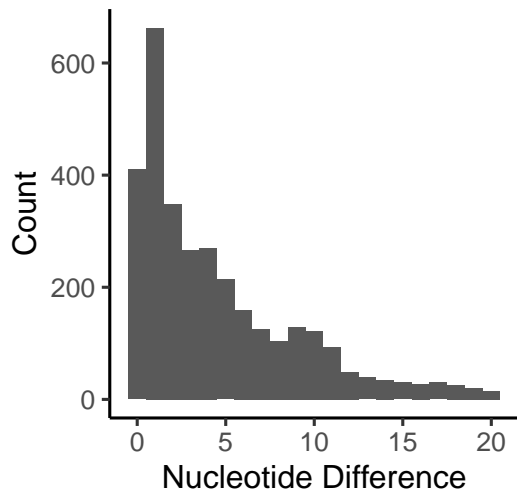
IGHV3-NL_17*01_S4250

3574 sequences assigned
417 (11.7%) exact matches, in which:
222 unique CDR3
4 unique J



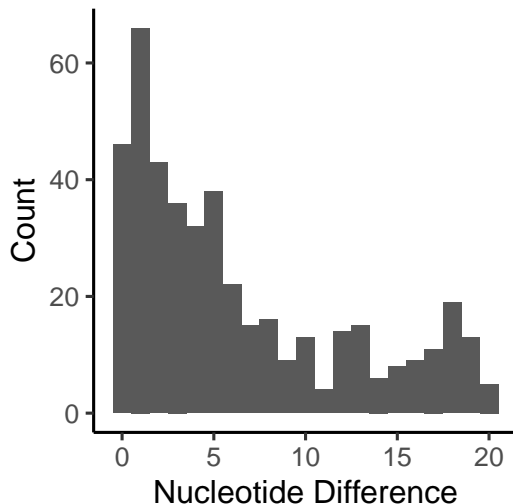
IGHV3–NL_17*01_S4736

3413 sequences assigned
410 (12%) exact matches, in which:
223 unique CDR3
4 unique J



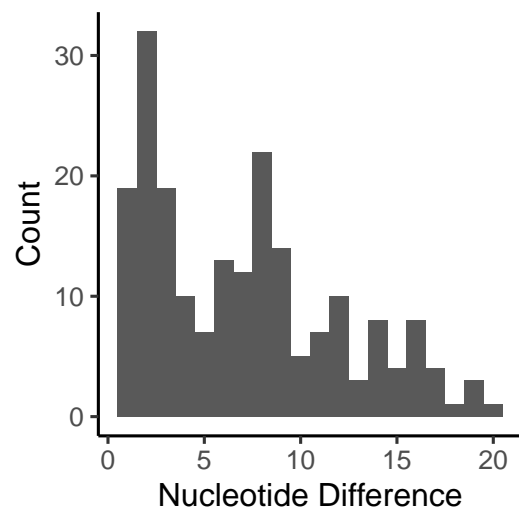
IGHV3–NL_4*01_S9067

466 sequences assigned
46 (9.9%) exact matches, in which:
22 unique CDR3
3 unique J



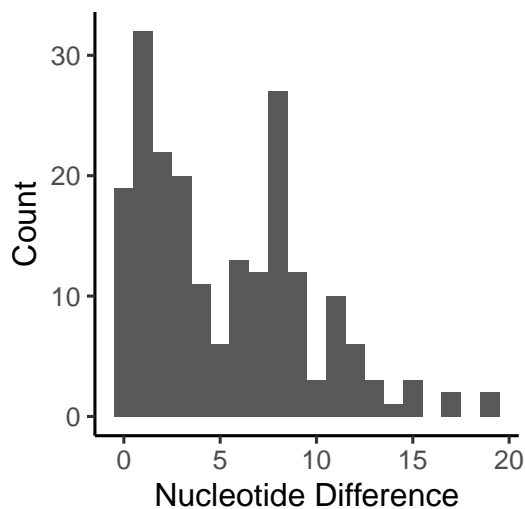
IGHV3–NL_8*01_S7474

228 sequences assigned
No exact matches.



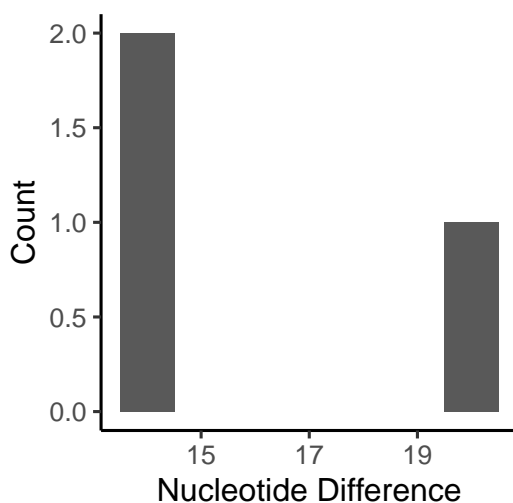
IGHV3–NL_18*01_S6383

207 sequences assigned
19 (9.2%) exact matches, in which:
16 unique CDR3
2 unique J



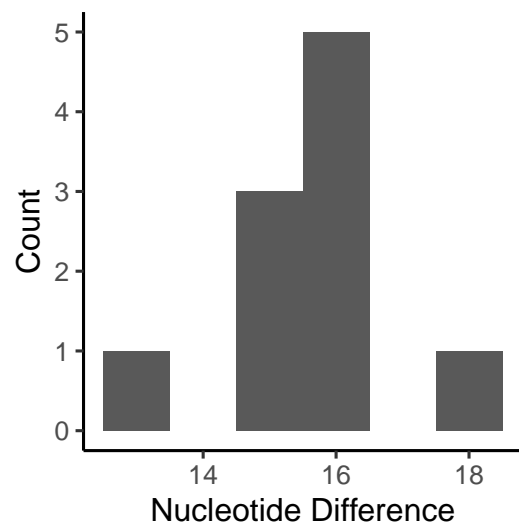
IGHV3–NL_5*01_S8361

4 sequences assigned
No exact matches.



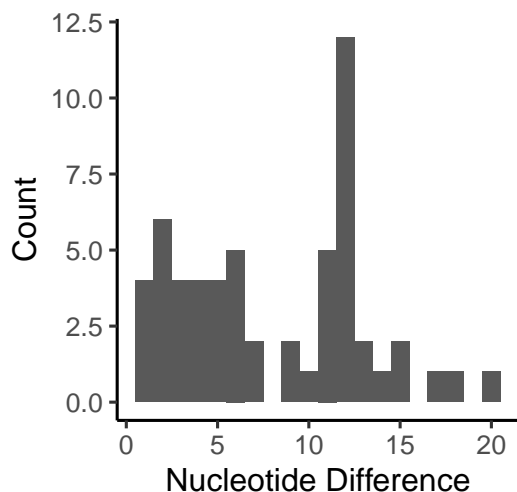
IGHV3–NL_9*01_S6098

20 sequences assigned
No exact matches.



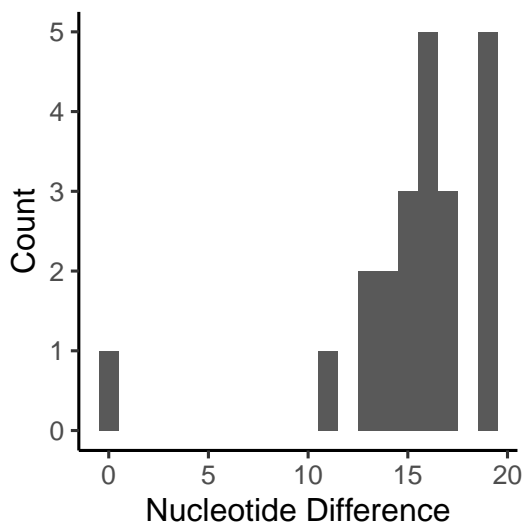
IGHV3–NL_2*01_S3900

65 sequences assigned
No exact matches.



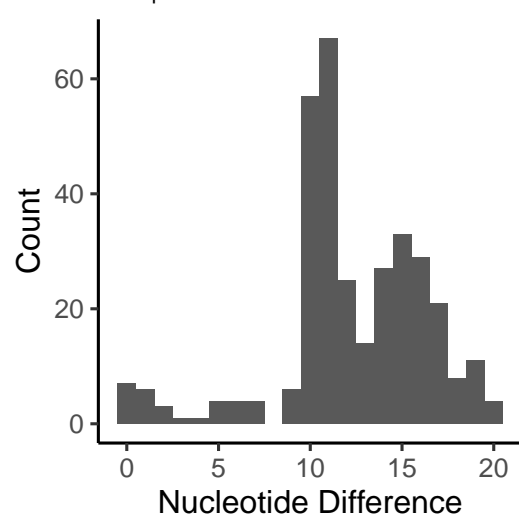
IGHV3–NL_7*01_S0199

32 sequences assigned
1 (3.1%) exact matches, in which:
1 unique CDR3
1 unique J



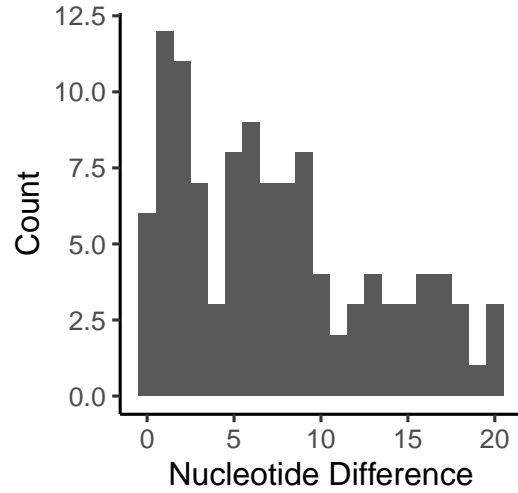
IGHV4–67*01_S0439

410 sequences assigned
7 (1.7%) exact matches, in which:
5 unique CDR3
2 unique J



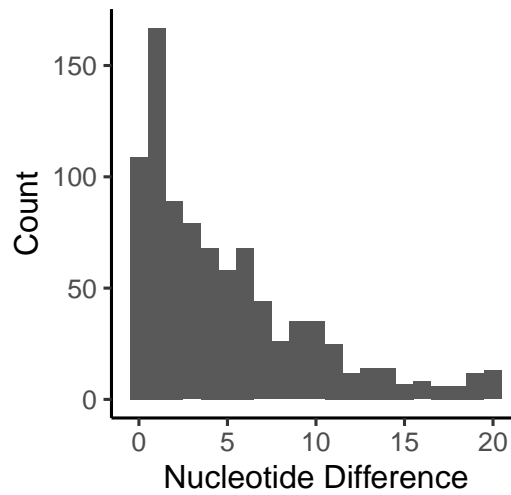
IGHV4-67*02_S6848

145 sequences assigned
6 (4.1%) exact matches, in which:
6 unique CDR3
4 unique J



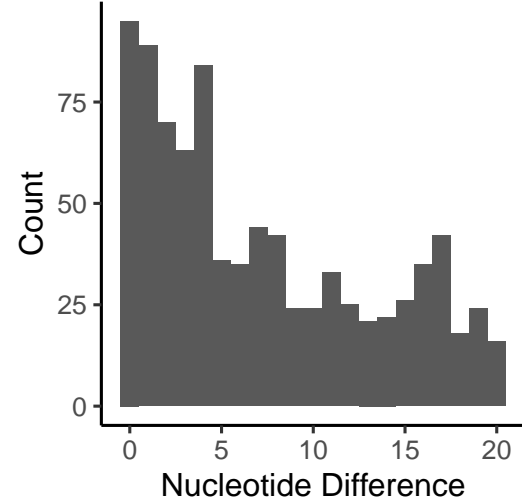
IGHV4-93*01_S1164

937 sequences assigned
109 (11.6%) exact matches, in which:
76 unique CDR3
5 unique J



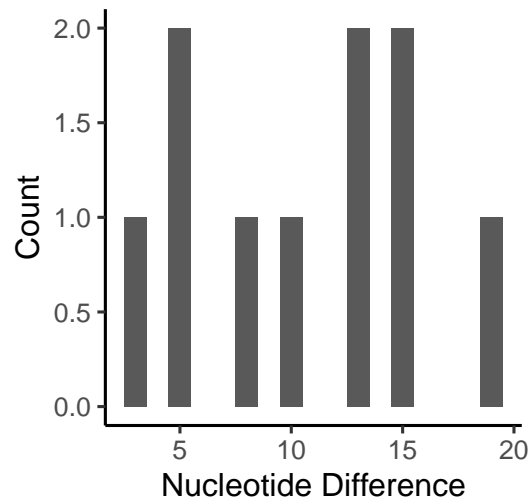
IGHV4-149*01_S3573

1043 sequences assigned
95 (9.1%) exact matches, in which:
70 unique CDR3
5 unique J



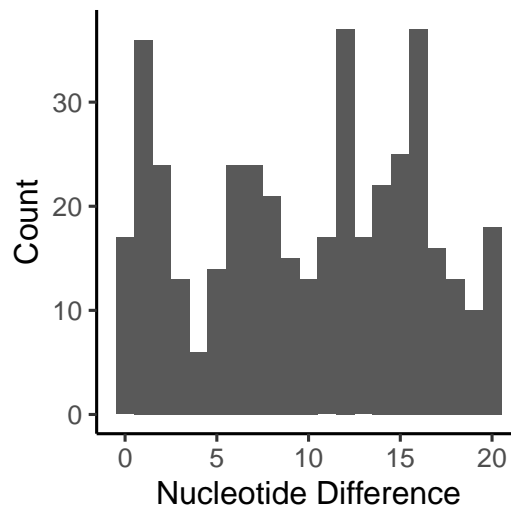
IGHV4-72*01_S2051

12 sequences assigned
No exact matches.



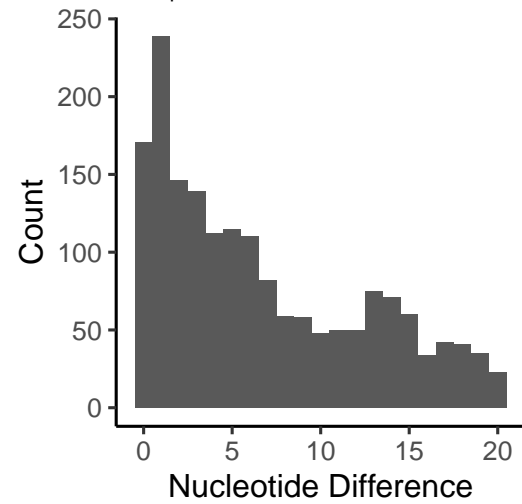
IGHV4-144*01_S2055

596 sequences assigned
17 (2.9%) exact matches, in which:
13 unique CDR3
4 unique J



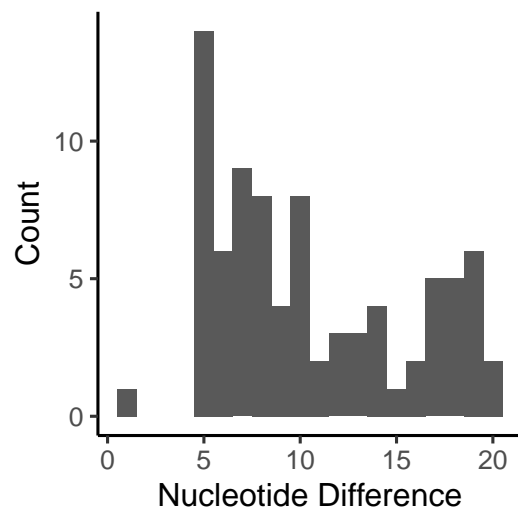
IGHV4-149*01_S6502

2005 sequences assigned
171 (8.5%) exact matches, in which:
125 unique CDR3
5 unique J



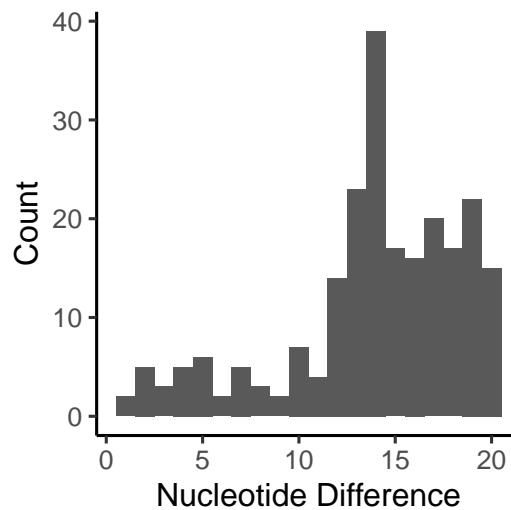
IGHV4-79*02_S9501

137 sequences assigned
No exact matches.



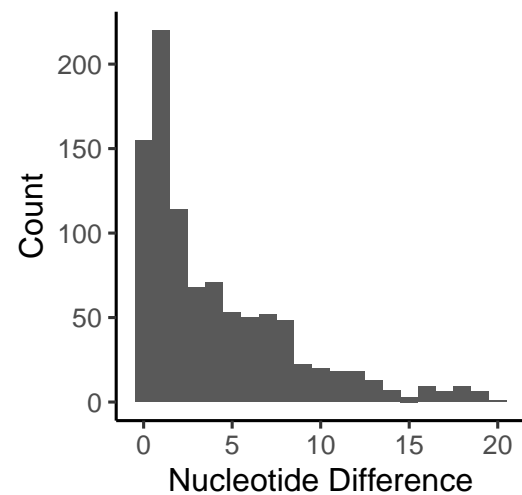
IGHV4-144*01_S5374

344 sequences assigned
No exact matches.



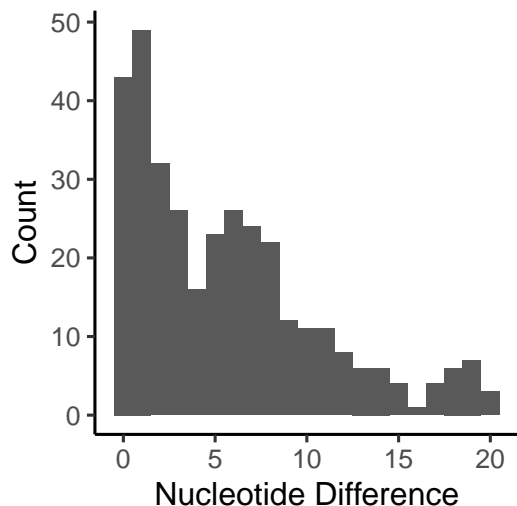
IGHV4-NL_1*01_S2370

988 sequences assigned
155 (15.7%) exact matches, in which:
105 unique CDR3
5 unique J



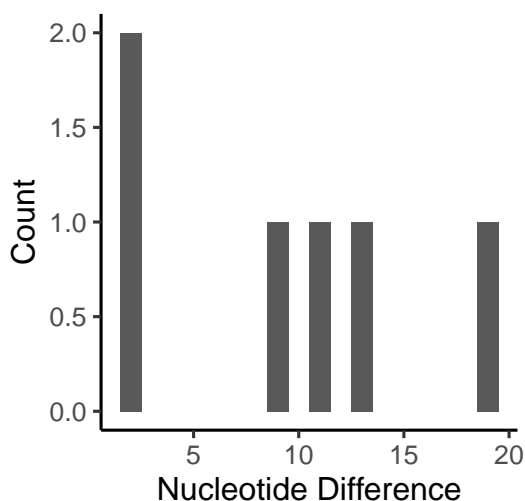
IGHV4–NL_1*01_S4155

356 sequences assigned
43 (12.1%) exact matches, in which:
31 unique CDR3
4 unique J



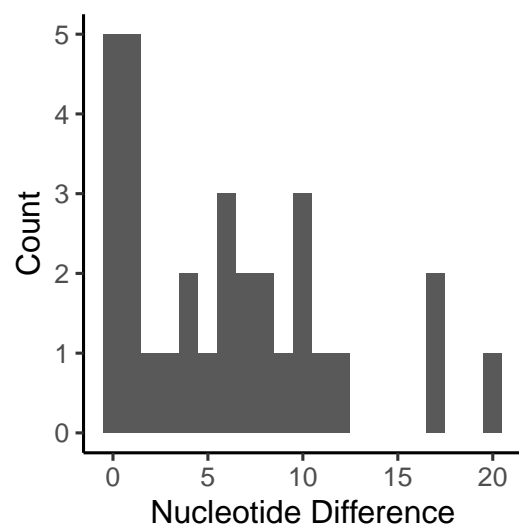
IGHV4–NL_10*01_S7684

7 sequences assigned
No exact matches.



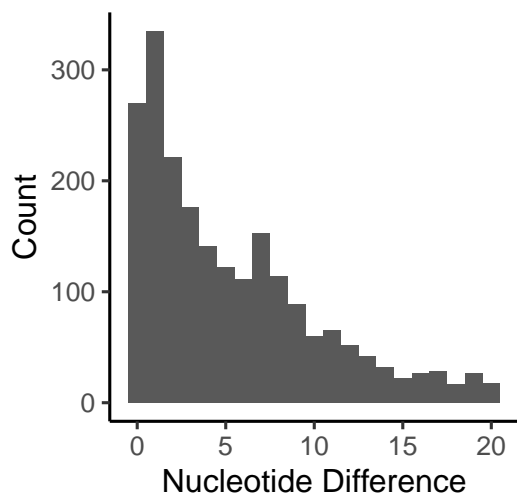
IGHV4–NL_12*01_S8068

39 sequences assigned
5 (12.8%) exact matches, in which:
5 unique CDR3
2 unique J



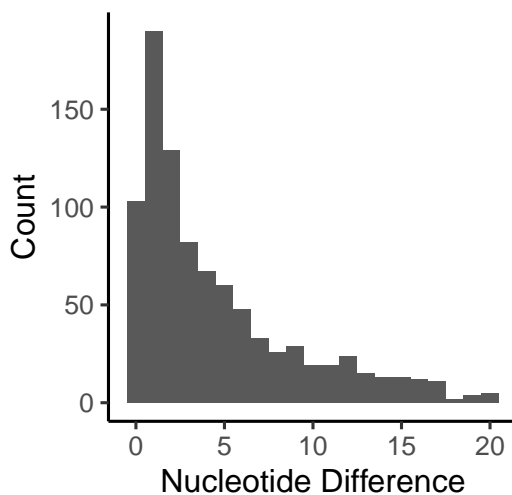
IGHV4–NL_1*01_S9508

2240 sequences assigned
270 (12.1%) exact matches, in which:
191 unique CDR3
5 unique J



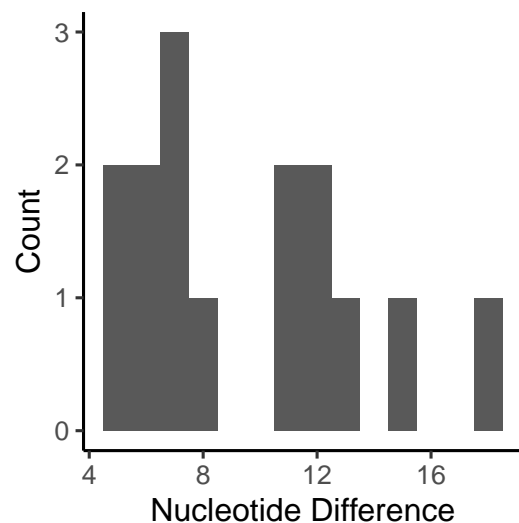
IGHV4–NL_11*01_S9942

972 sequences assigned
103 (10.6%) exact matches, in which:
80 unique CDR3
5 unique J



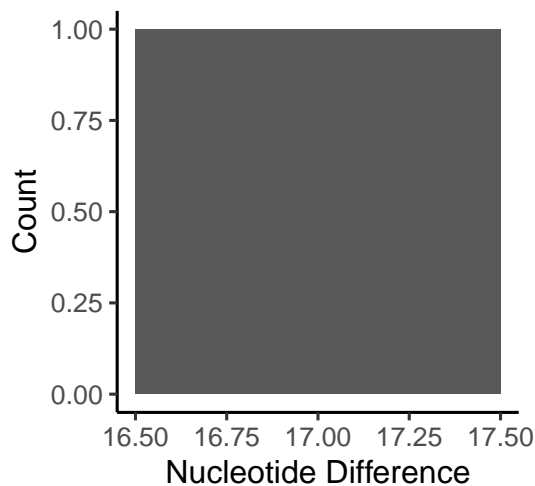
IGHV4–NL_13*01_S9744

20 sequences assigned
No exact matches.



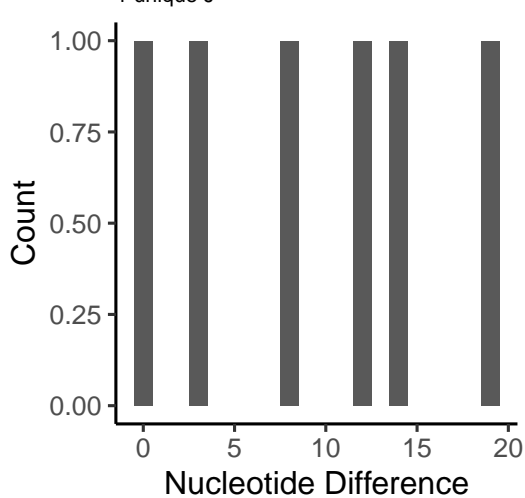
IGHV4–NL_10*01_S0458

1 sequences assigned
No exact matches.



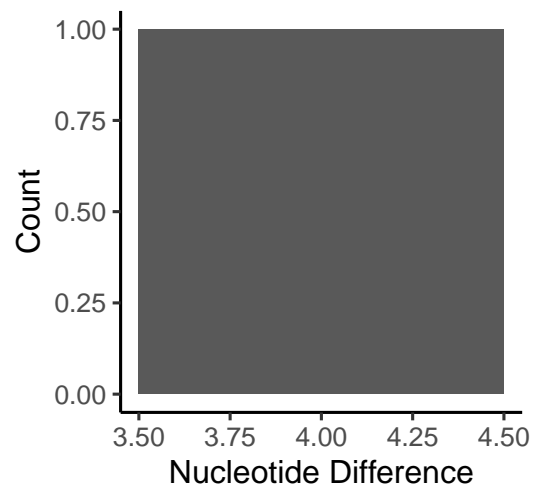
IGHV4–NL_12*01_S5174

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



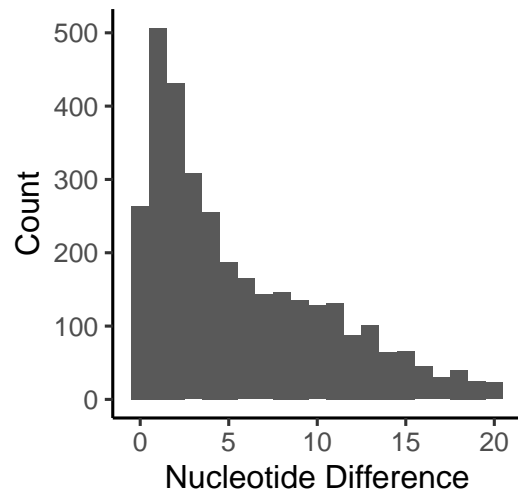
IGHV4–NL_15*01_S7687

1 sequences assigned
No exact matches.



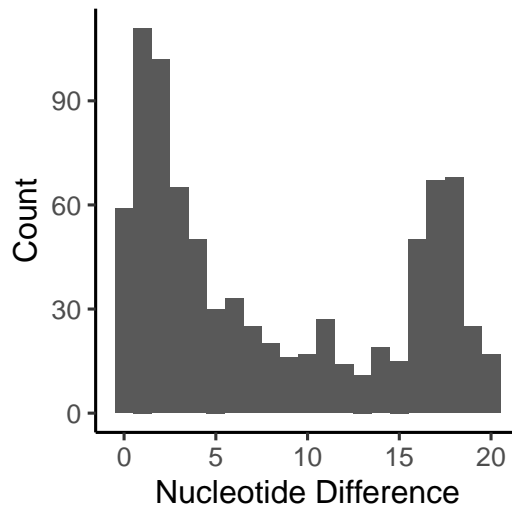
IGHV4–NL_16*01_S3062

3463 sequences assigned
264 (7.6%) exact matches, in which:
207 unique CDR3
5 unique J



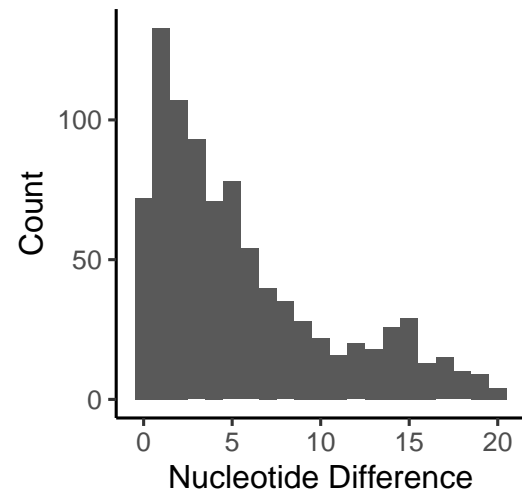
IGHV4–NL_20*01_S5229

911 sequences assigned
59 (6.5%) exact matches, in which:
47 unique CDR3
5 unique J



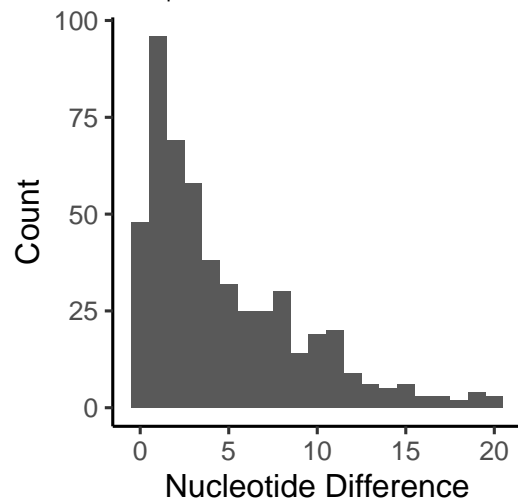
IGHV4–NL_22*01_S6977

936 sequences assigned
72 (7.7%) exact matches, in which:
61 unique CDR3
6 unique J



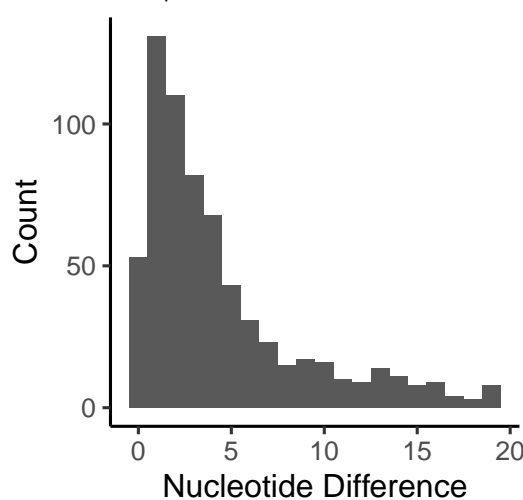
IGHV4–NL_17*01_S3082

549 sequences assigned
48 (8.7%) exact matches, in which:
37 unique CDR3
5 unique J



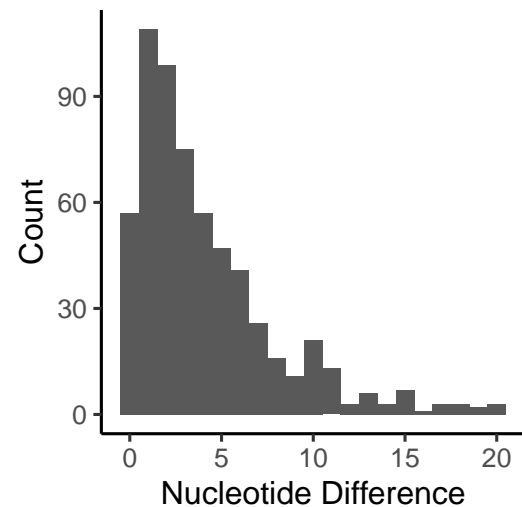
IGHV4–NL_20*01_S6186

682 sequences assigned
53 (7.8%) exact matches, in which:
37 unique CDR3
5 unique J



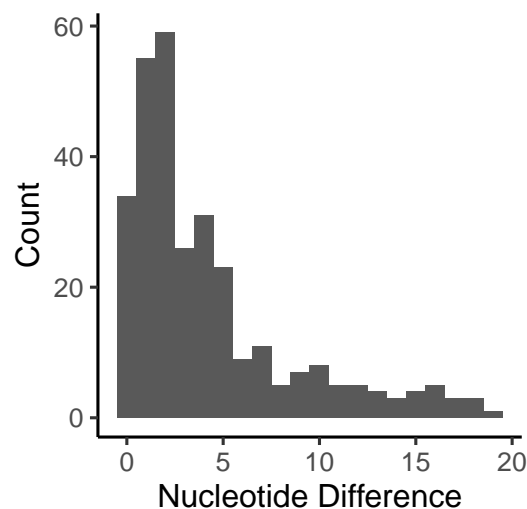
IGHV4–NL_24*01_S1628

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



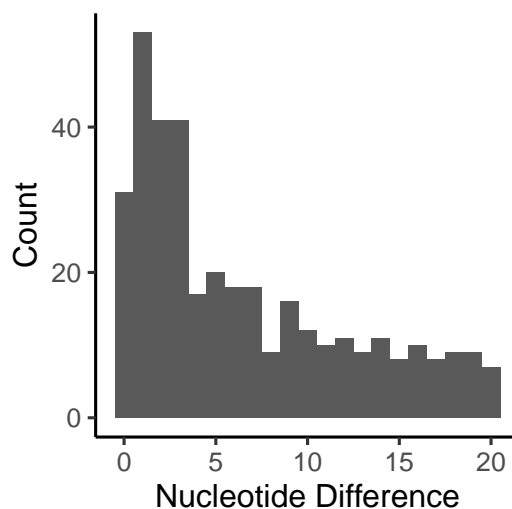
IGHV4–NL_17*01_S5431

311 sequences assigned
34 (10.9%) exact matches, in which:
29 unique CDR3
6 unique J



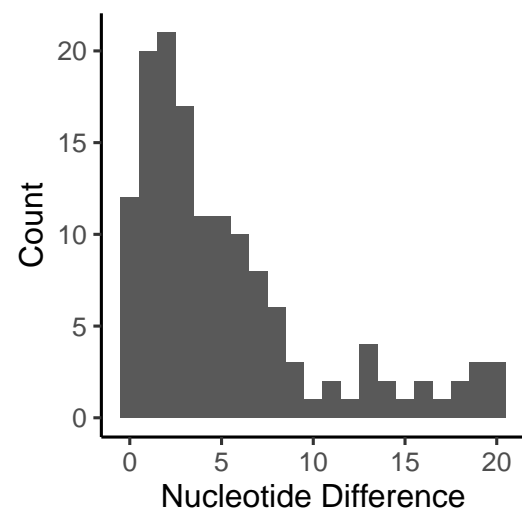
IGHV4–NL_21*01_S6468

389 sequences assigned
31 (8%) exact matches, in which:
25 unique CDR3
3 unique J



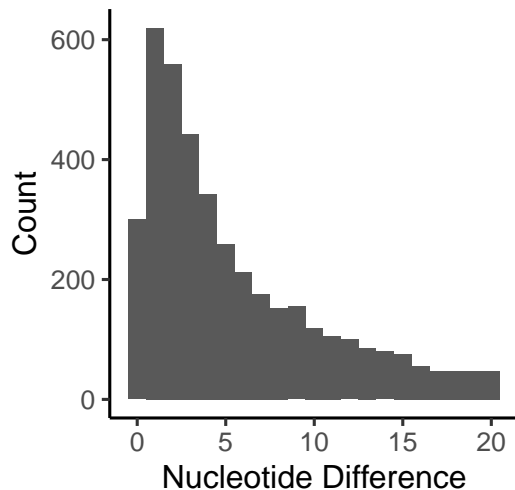
IGHV4–NL_24*01_S2784

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



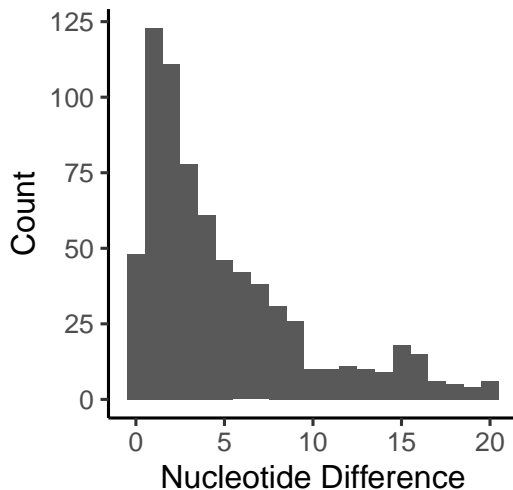
IGHV4–NL_25*01_S9955

4371 sequences assigned
300 (6.9%) exact matches, in which:
237 unique CDR3
6 unique J



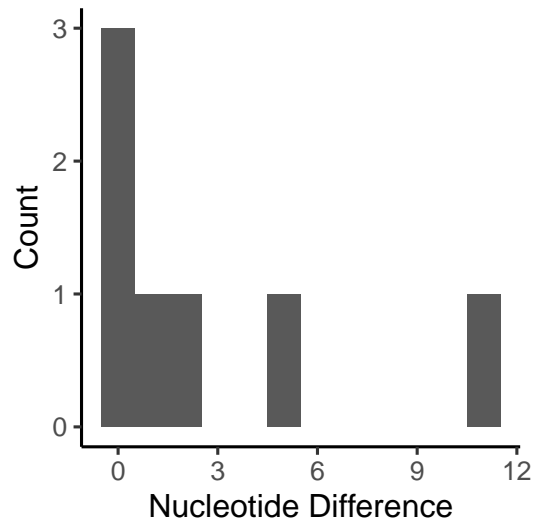
IGHV4–NL_28*01_S8057

718 sequences assigned
48 (6.7%) exact matches, in which:
41 unique CDR3
4 unique J



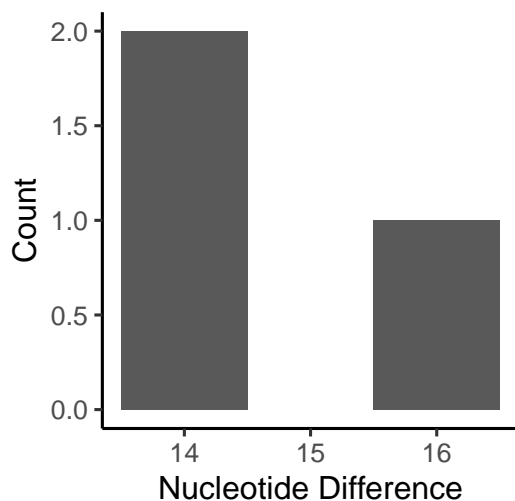
IGHV4–NL_29*01_S9610

8 sequences assigned
3 (37.5%) exact matches, in which:
3 unique CDR3
2 unique J



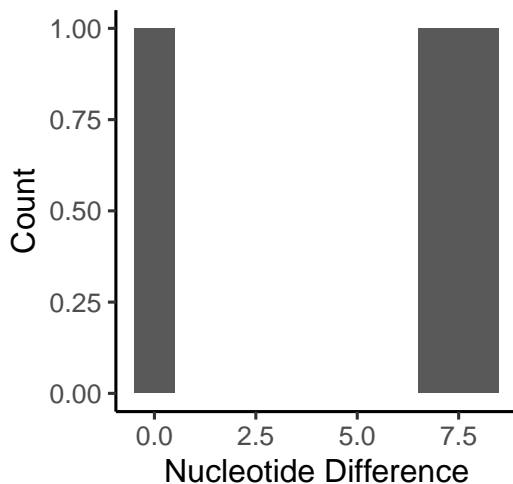
IGHV4–NL_26*01_S2261

3 sequences assigned
No exact matches.



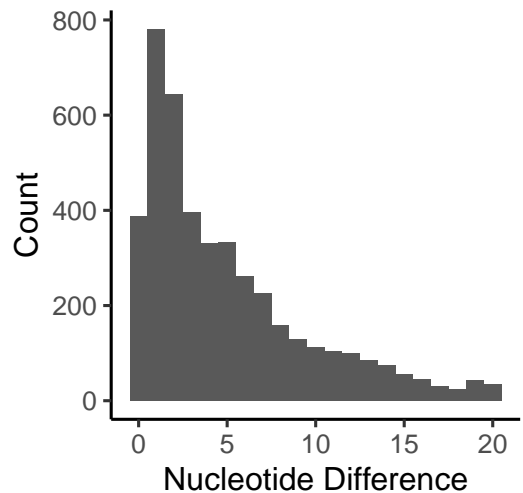
IGHV4–NL_29*01_S1425

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



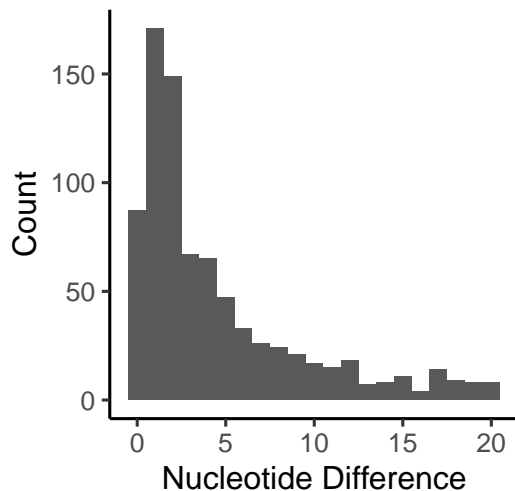
IGHV4–NL_3*01_S7576

4550 sequences assigned
388 (8.5%) exact matches, in which:
308 unique CDR3
5 unique J



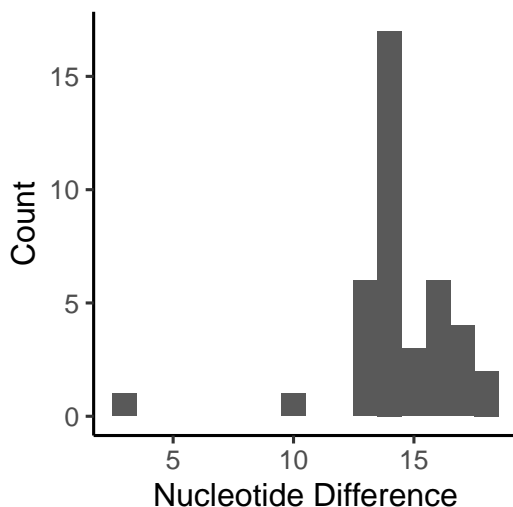
IGHV4–NL_27*01_S5720

859 sequences assigned
87 (10.1%) exact matches, in which:
71 unique CDR3
5 unique J



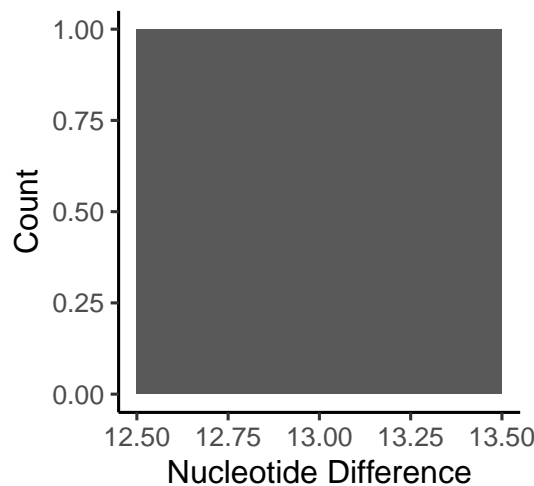
IGHV4–NL_29*01_S3761

45 sequences assigned
No exact matches.



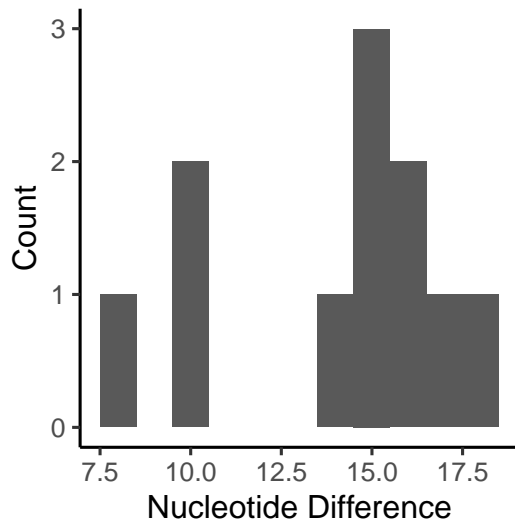
IGHV4–NL_30*01_S4251

2 sequences assigned
No exact matches.



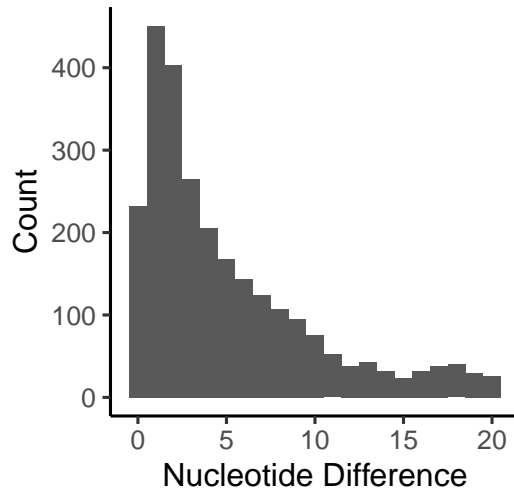
IGHV4–NL_32*01_S3033

31 sequences assigned
No exact matches.



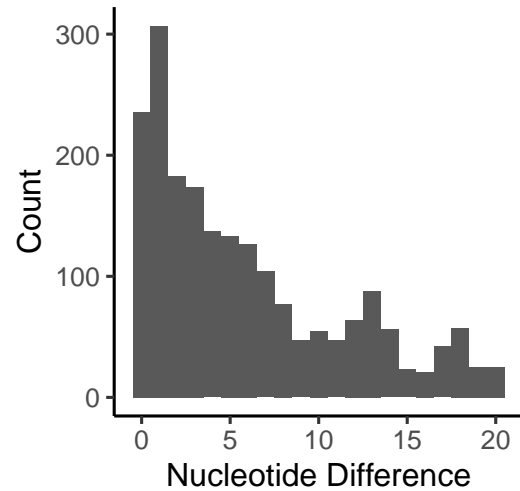
IGHV4–NL_33*01_S4467

2980 sequences assigned
232 (7.8%) exact matches, in which:
180 unique CDR3
5 unique J



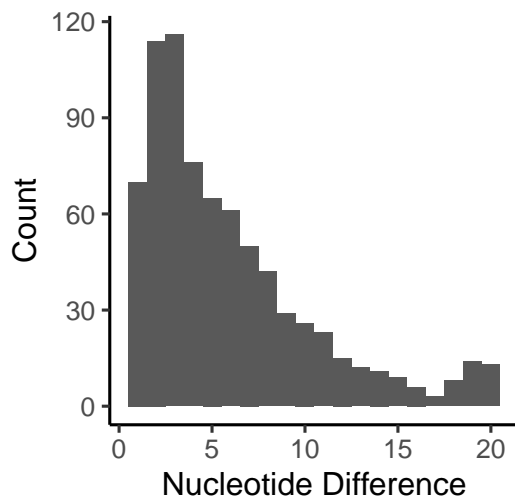
IGHV4–NL_36*01_S0538

2112 sequences assigned
236 (11.2%) exact matches, in which:
157 unique CDR3
5 unique J



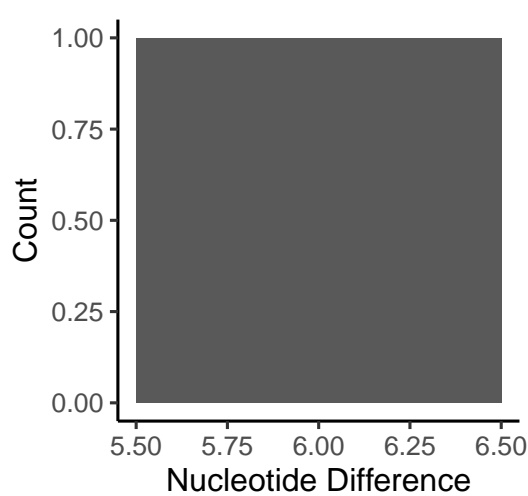
IGHV4–NL_33*01_S1148

795 sequences assigned
No exact matches.



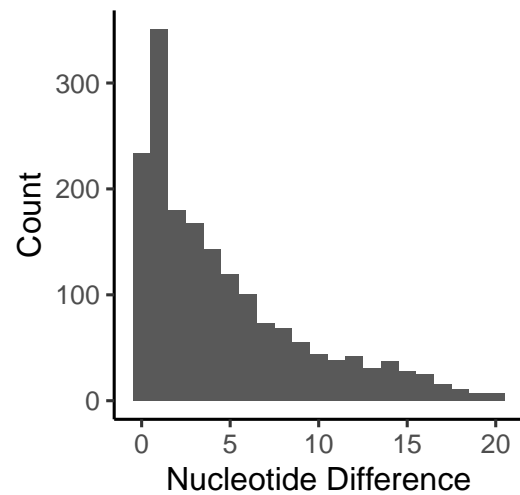
IGHV4–NL_34*01_S4745

3 sequences assigned
No exact matches.



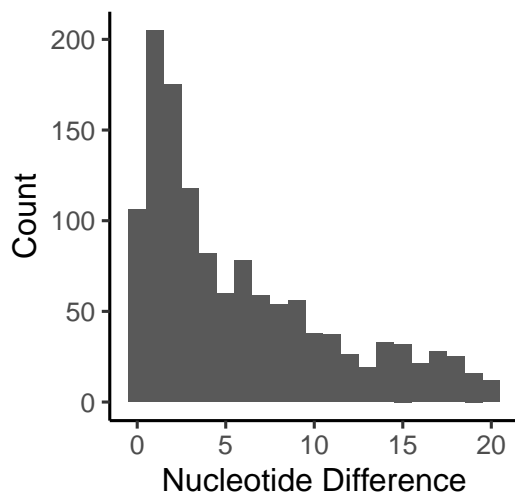
IGHV4–NL_36*01_S5847

1869 sequences assigned
234 (12.5%) exact matches, in which:
168 unique CDR3
5 unique J



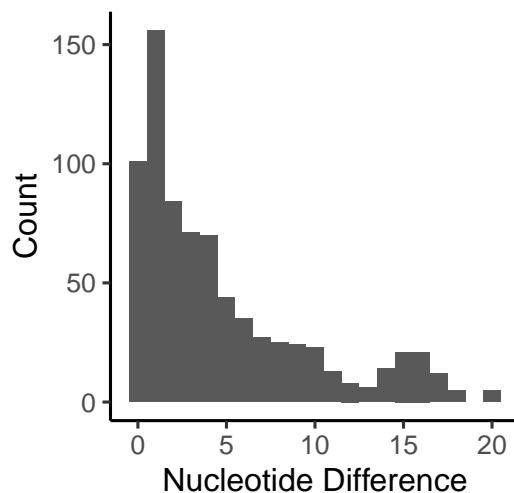
IGHV4–NL_33*01_S2532

1388 sequences assigned
106 (7.6%) exact matches, in which:
83 unique CDR3
5 unique J



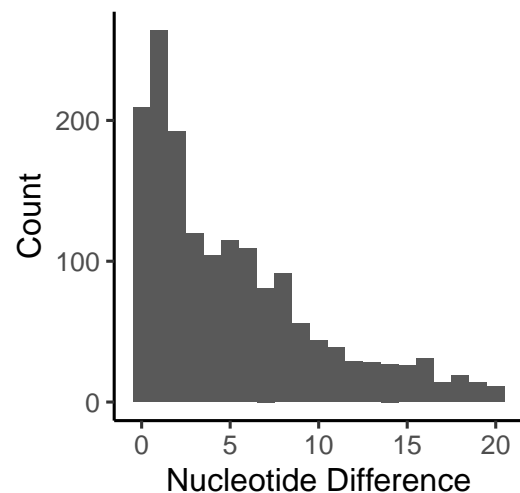
IGHV4–NL_36*01_S0211

783 sequences assigned
101 (12.9%) exact matches, in which:
69 unique CDR3
4 unique J



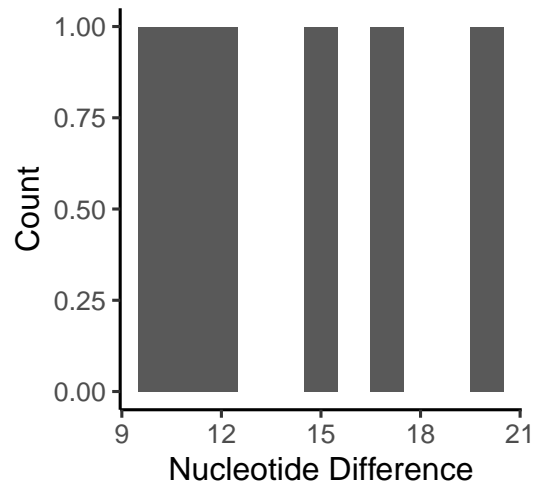
IGHV4–NL_36*01_S9644

1784 sequences assigned
209 (11.7%) exact matches, in which:
147 unique CDR3
7 unique J



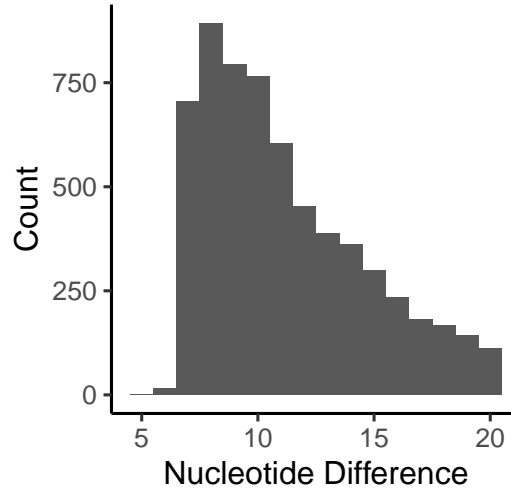
IGHV4-NL_38*01_S2187

6 sequences assigned
No exact matches.



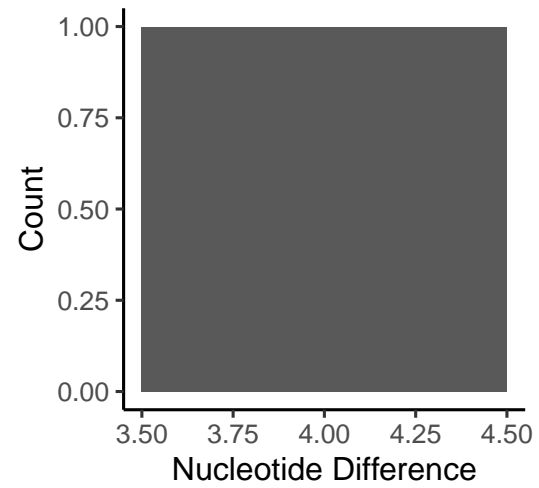
IGHV4-NL_4*01_S5211

6818 sequences assigned
No exact matches.



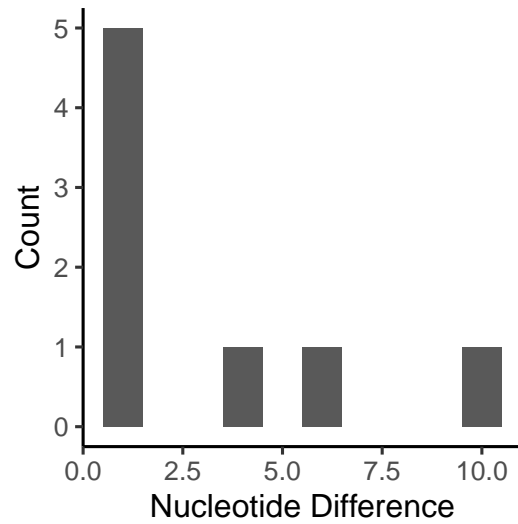
IGHV4-NL_40*01_S5093

1 sequences assigned
No exact matches.



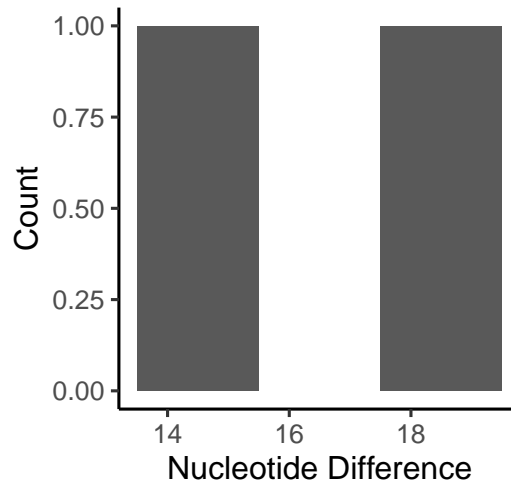
IGHV4-NL_38*01_S8437

9 sequences assigned
No exact matches.



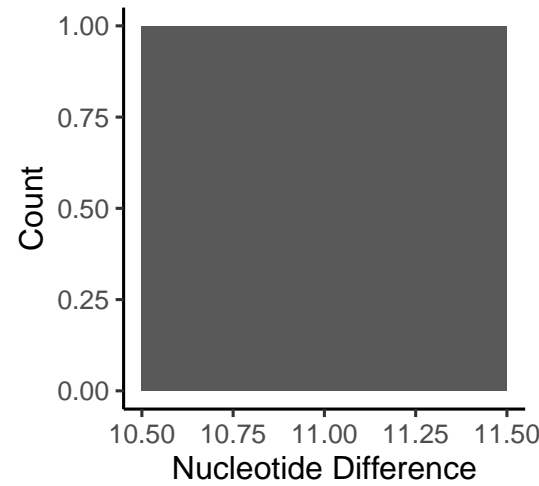
IGHV4-NL_4*01_S8866

9 sequences assigned
No exact matches.



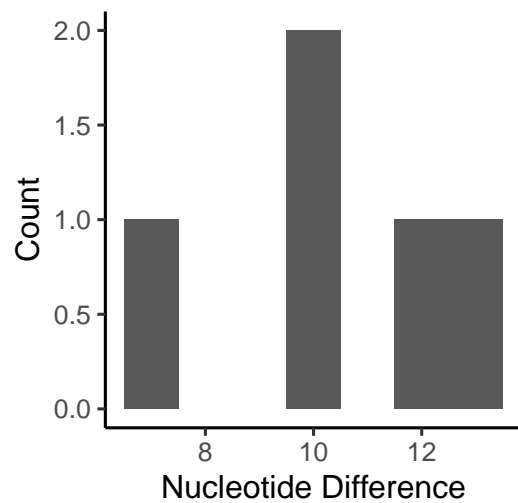
IGHV4-NL_40*01_S9974

1 sequences assigned
No exact matches.



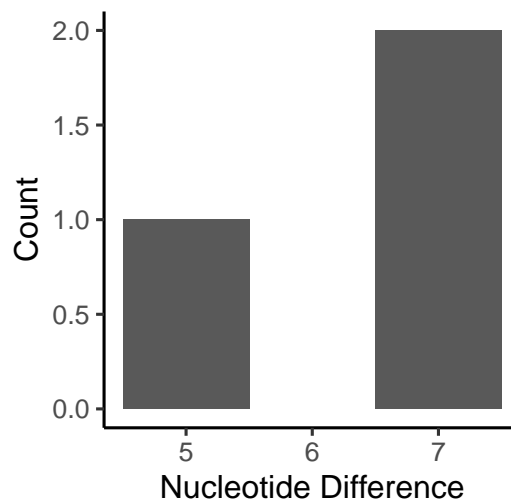
IGHV4-NL_38*01_S9244

5 sequences assigned
No exact matches.



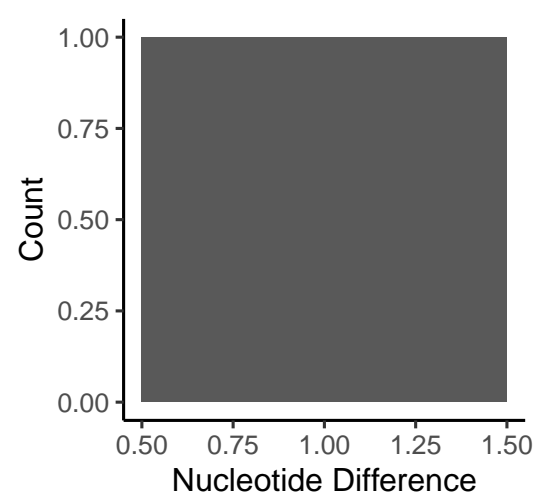
IGHV4-NL_40*01_S0696

4 sequences assigned
No exact matches.



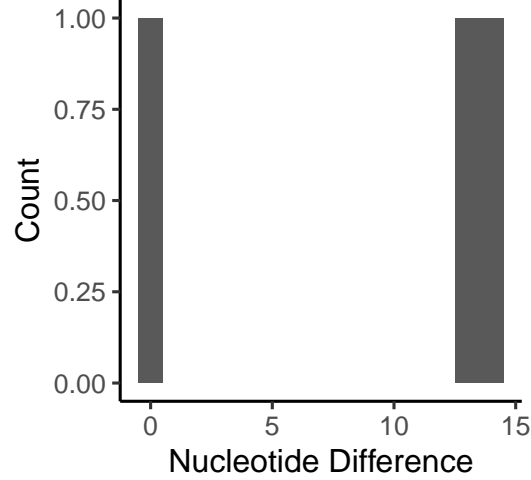
IGHV4-NL_42*01_S6064

1 sequences assigned
No exact matches.



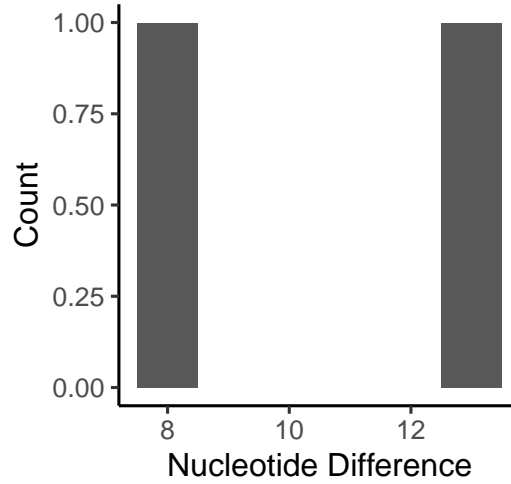
IGHV4–NL_43*01_S4510

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



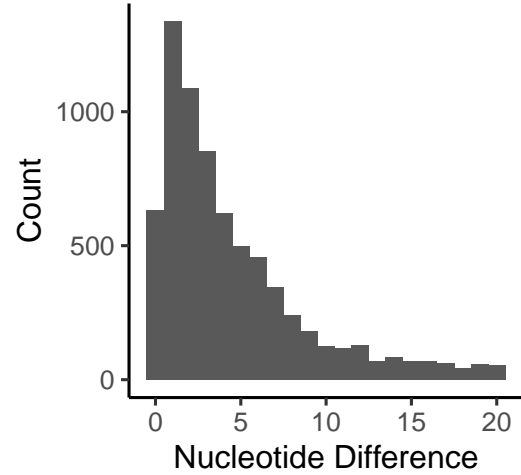
IGHV4–NL_7*02_S0143

3 sequences assigned
No exact matches.



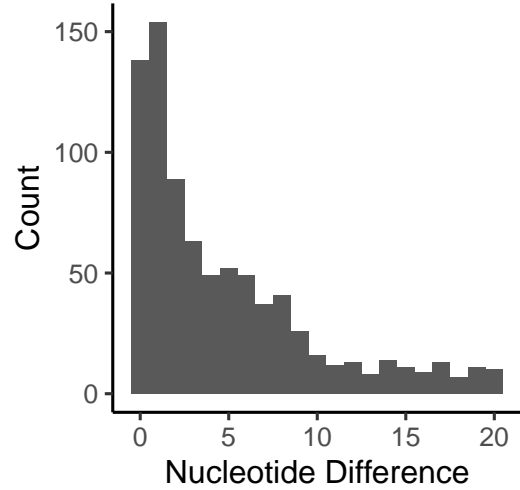
IGHV5–15*01_S8661

7256 sequences assigned
633 (8.7%) exact matches, in which:
290 unique CDR3
5 unique J



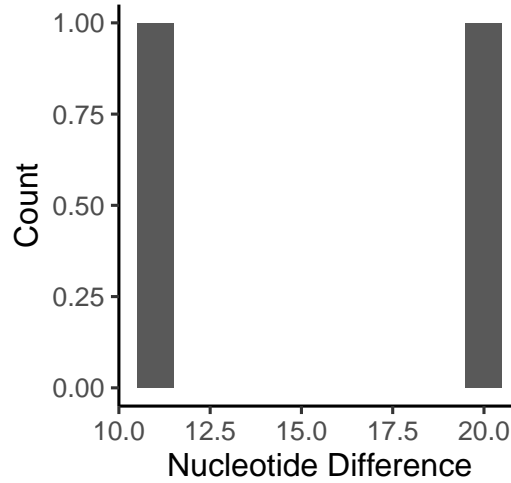
IGHV4–NL_5*01_S5158

869 sequences assigned
138 (15.9%) exact matches, in which:
101 unique CDR3
5 unique J



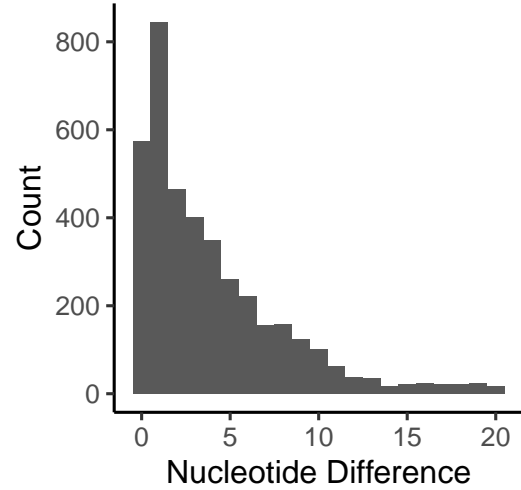
IGHV4–NL_8*02_S1304

2 sequences assigned
No exact matches.



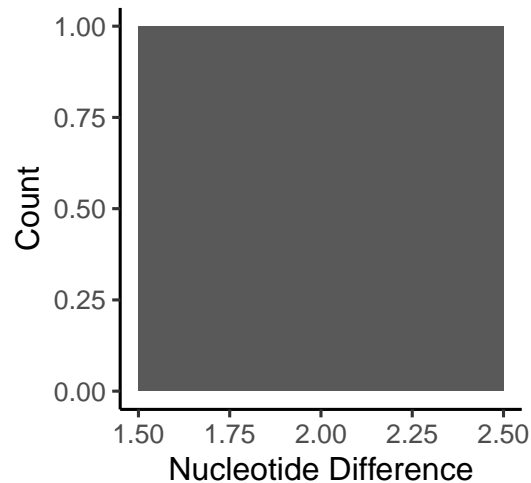
IGHV5–157*01_S6479

4056 sequences assigned
573 (14.1%) exact matches, in which:
264 unique CDR3
7 unique J



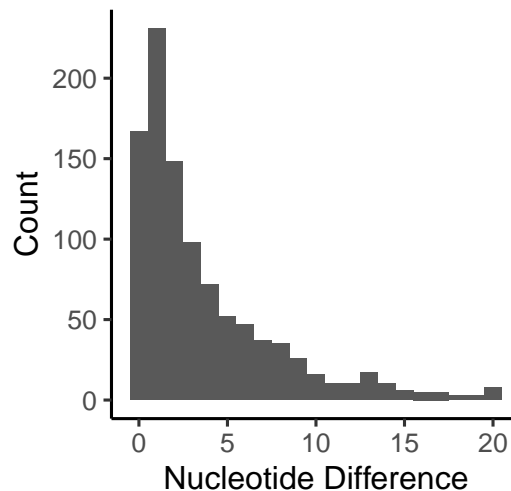
IGHV4–NL_6*01_S5805

1 sequences assigned
No exact matches.



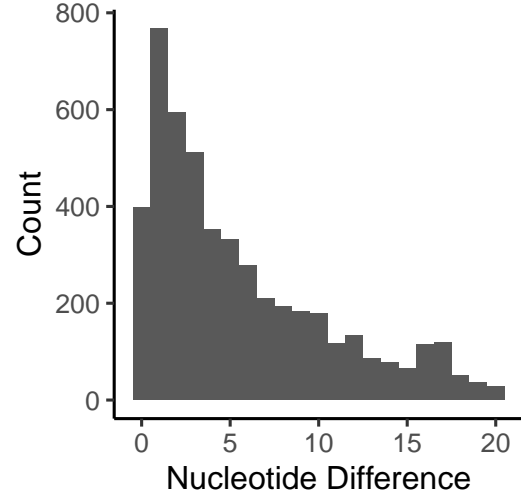
IGHV4–NL_9*01_S6766

1038 sequences assigned
167 (16.1%) exact matches, in which:
117 unique CDR3
5 unique J



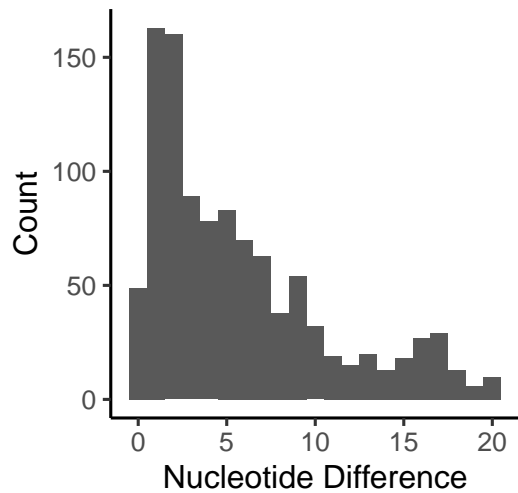
IGHV5–157*02_S3440

4993 sequences assigned
397 (8%) exact matches, in which:
172 unique CDR3
5 unique J



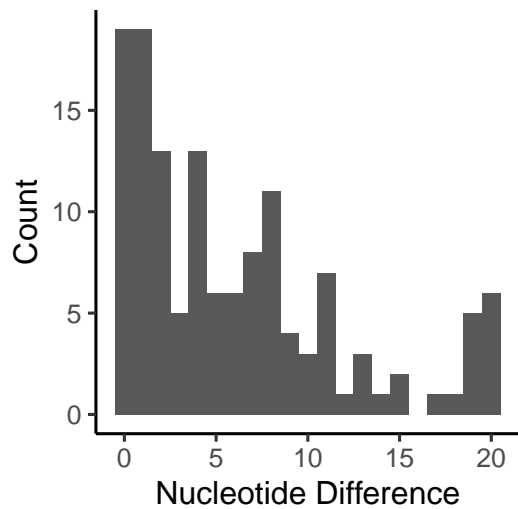
IGHV6–1*02_G280T

1084 sequences assigned
49 (4.5%) exact matches, in which:
34 unique CDR3
3 unique J



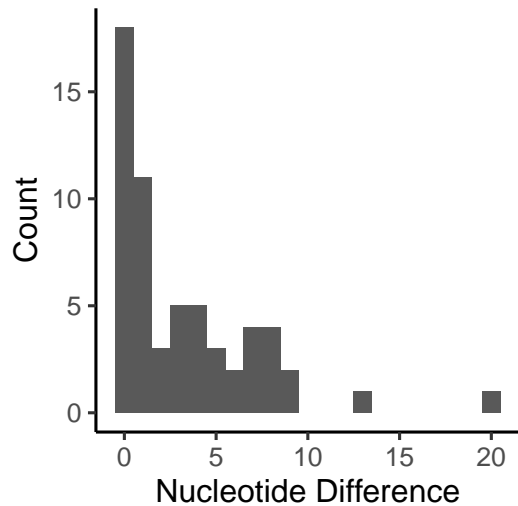
IGHV7–86*01_S3619

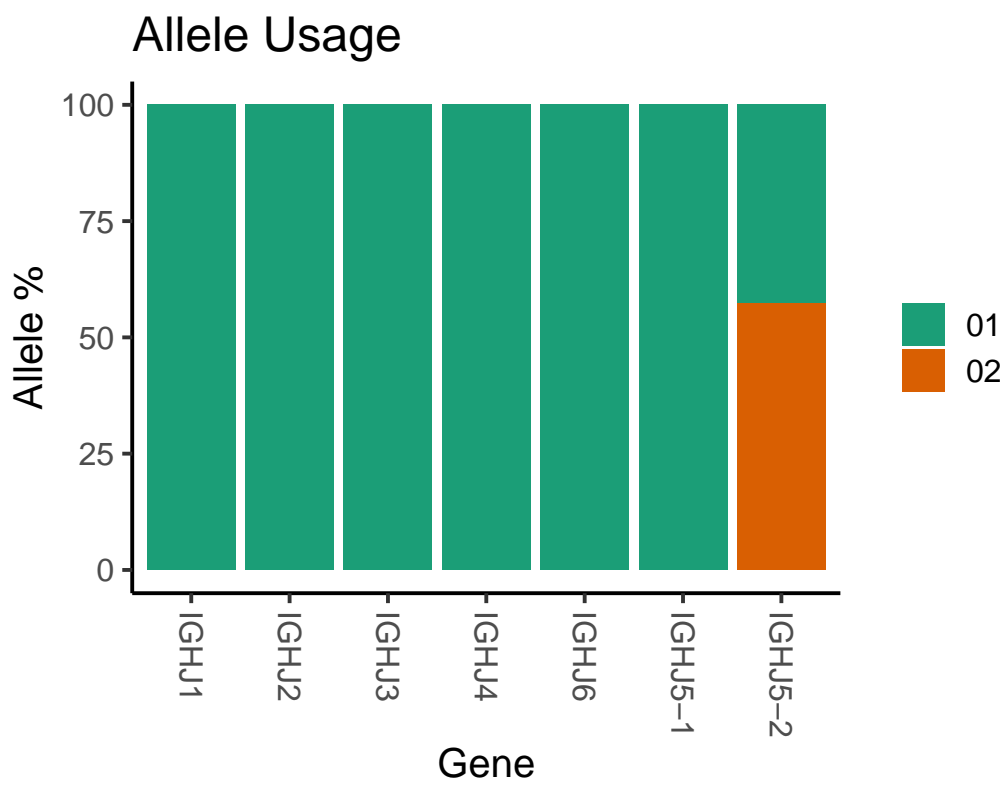
139 sequences assigned
19 (13.7%) exact matches, in which:
8 unique CDR3
3 unique J



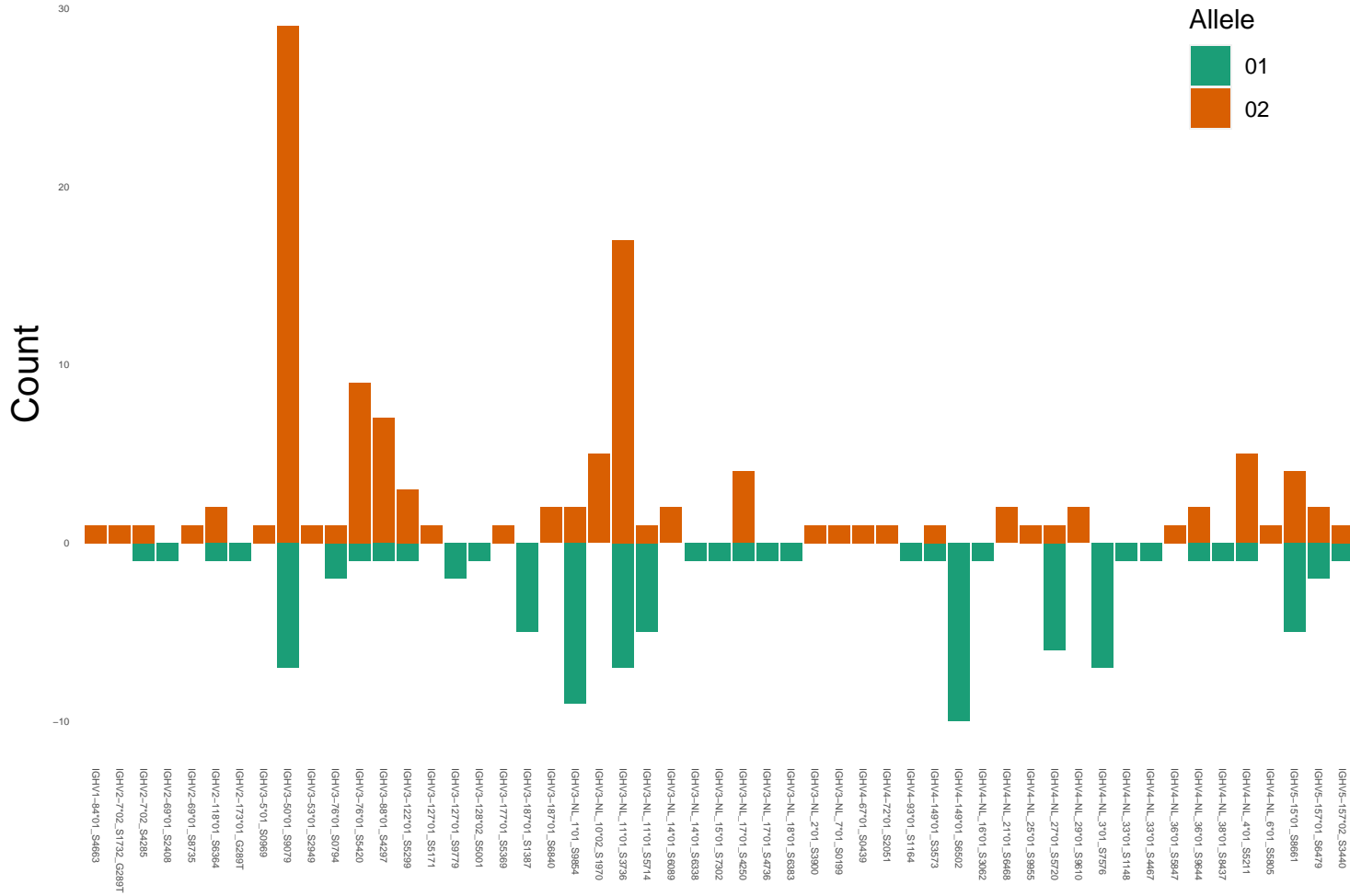
IGHV7–135*01_S9086

59 sequences assigned
18 (30.5%) exact matches, in which:
11 unique CDR3
4 unique J





Sequence Count by IGHJ5–2 allele usage



Warning – no inferred sequences found.