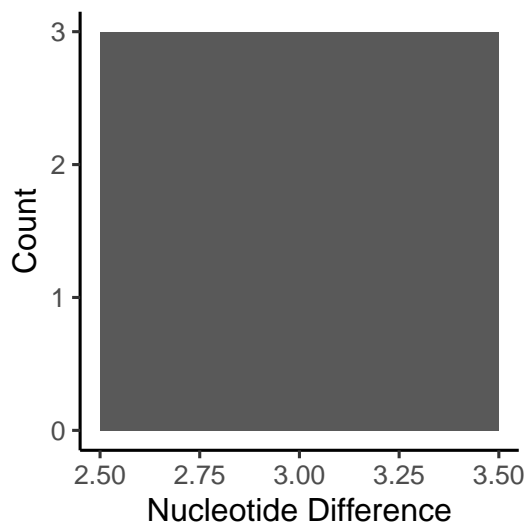


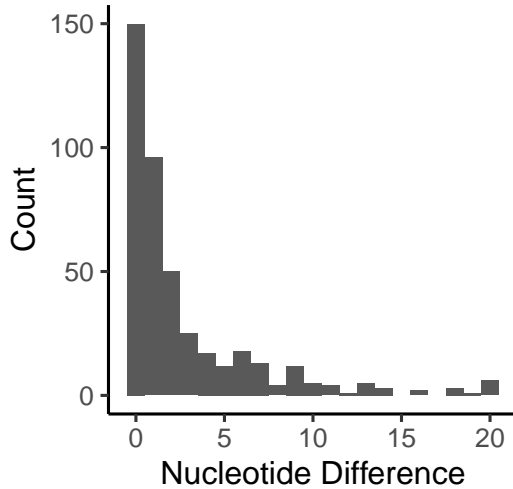
IGHV1-58*02

3 sequences assigned
No exact matches.



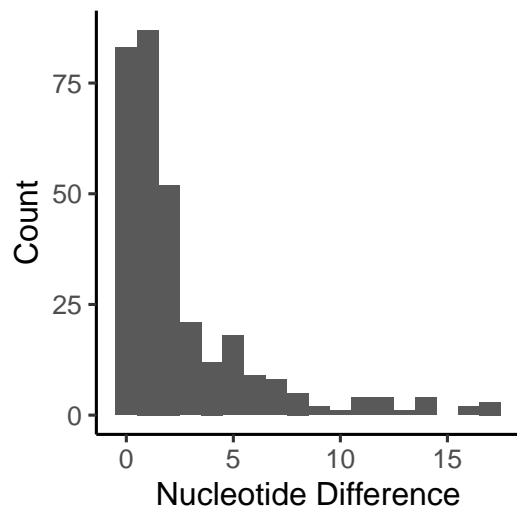
IGHV1-84*01_S4663

667 sequences assigned
150 (22.5%) exact matches, in which:
63 unique CDR3
6 unique J



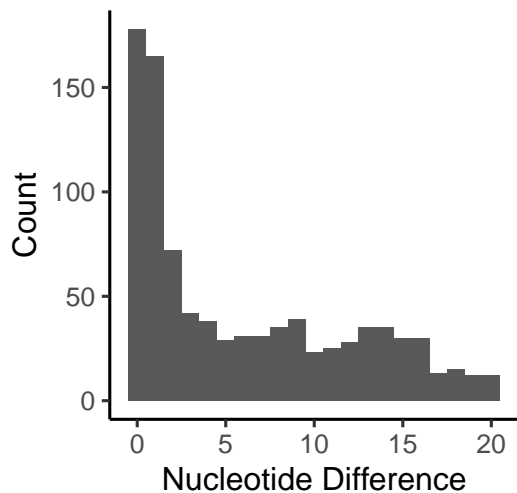
IGHV1-138*01_S3445

317 sequences assigned
83 (26.2%) exact matches, in which:
53 unique CDR3
7 unique J



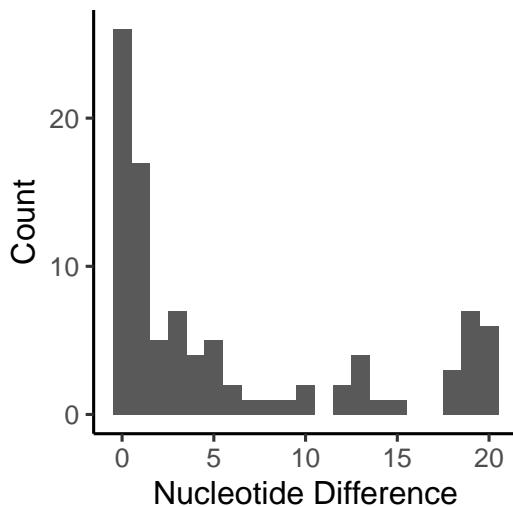
IGHV1-60*01_S7772

973 sequences assigned
178 (18.3%) exact matches, in which:
92 unique CDR3
6 unique J



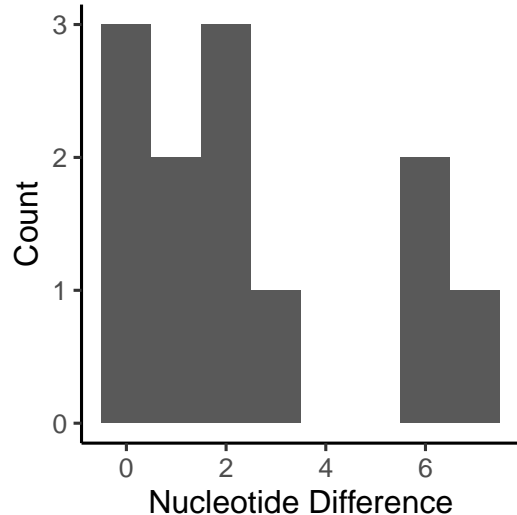
IGHV1-124*01_S1765

118 sequences assigned
26 (22%) exact matches, in which:
14 unique CDR3
4 unique J



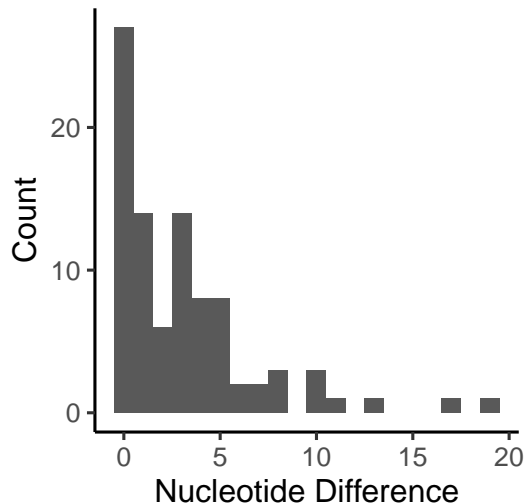
IGHV1-NL_1*01_S2052

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



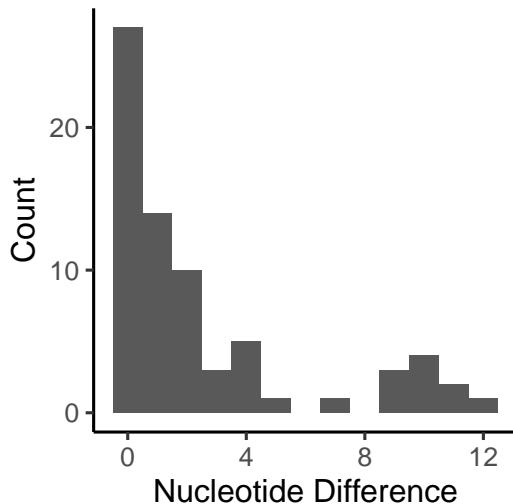
IGHV1-84*01_S0240

92 sequences assigned
27 (29.3%) exact matches, in which:
13 unique CDR3
2 unique J



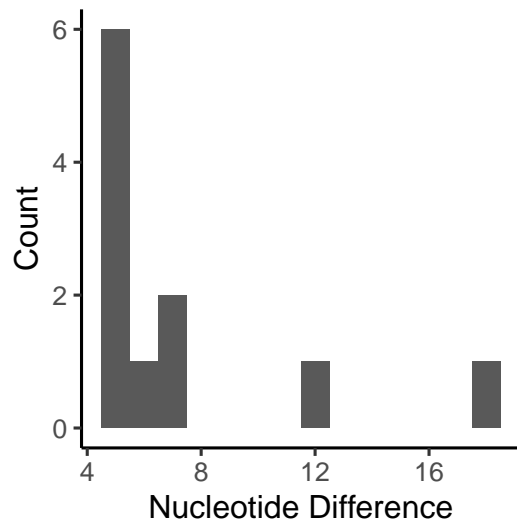
IGHV1-138*01_S2593

71 sequences assigned
27 (38%) exact matches, in which:
21 unique CDR3
6 unique J



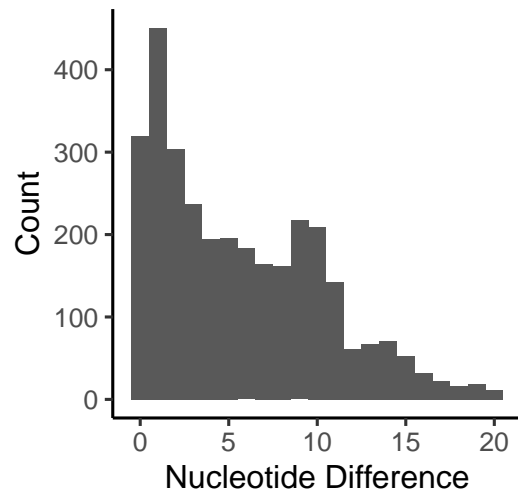
IGHV1-NL_2*01_S0023

31 sequences assigned
No exact matches.



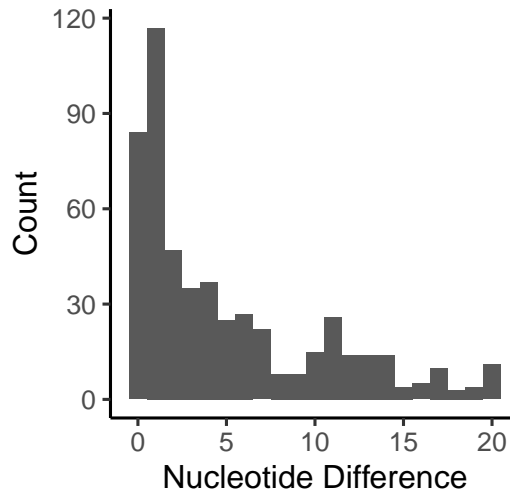
IGHV2-7*02_S4285

3196 sequences assigned
320 (10%) exact matches, in which:
188 unique CDR3
7 unique J



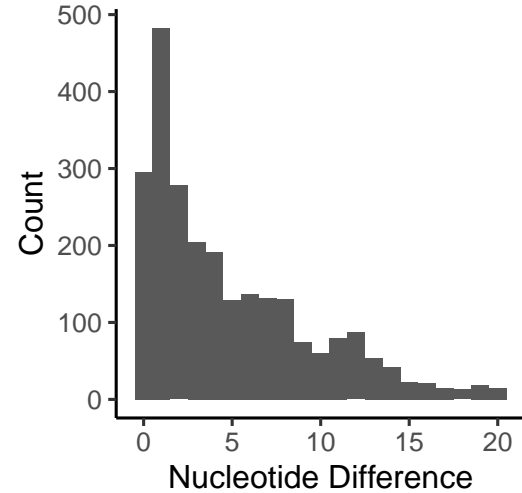
IGHV2-69*02_S0779

577 sequences assigned
84 (14.6%) exact matches, in which:
38 unique CDR3
3 unique J



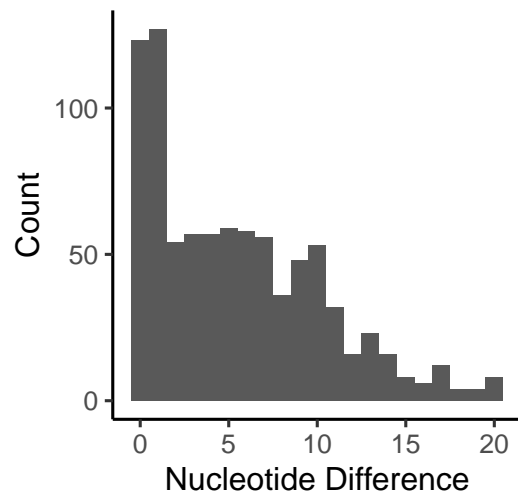
IGHV2-NL_1*01_S7874

2568 sequences assigned
295 (11.5%) exact matches, in which:
148 unique CDR3
7 unique J



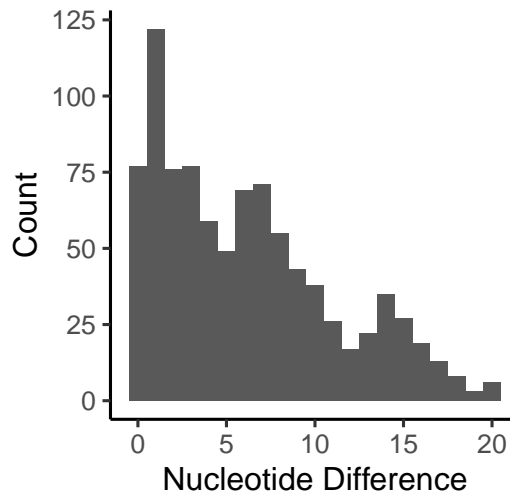
IGHV2-7*02_S4285_G28

881 sequences assigned
123 (14%) exact matches, in which:
107 unique CDR3
6 unique J



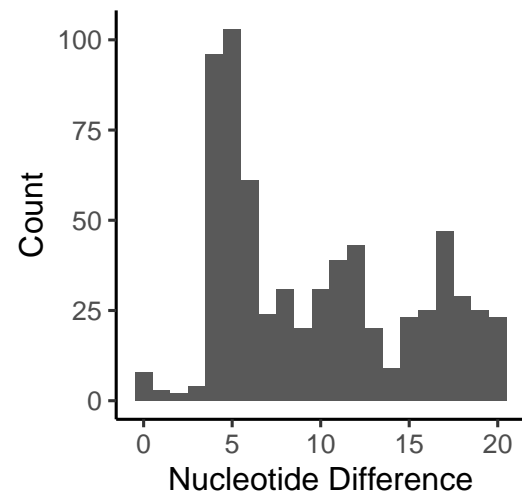
IGHV2-118*01_S4531

974 sequences assigned
77 (7.9%) exact matches, in which:
40 unique CDR3
5 unique J



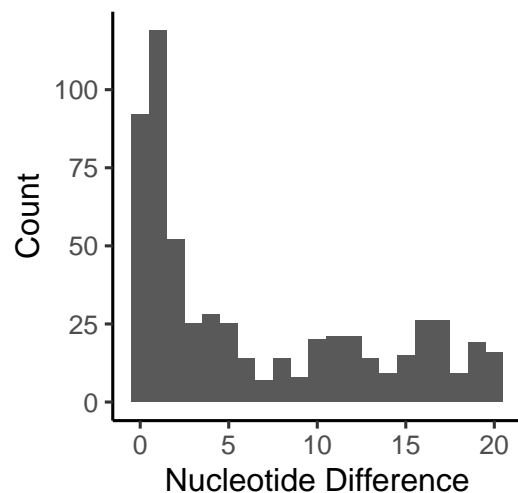
IGHV3-5*01_S4091

797 sequences assigned
8 (1%) exact matches, in which:
6 unique CDR3
4 unique J



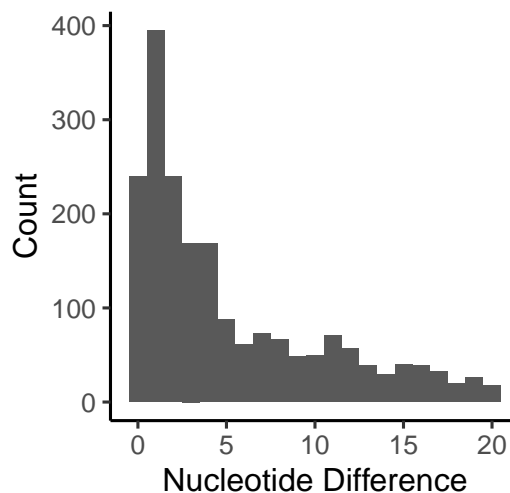
IGHV2-69*01_S2332

697 sequences assigned
92 (13.2%) exact matches, in which:
43 unique CDR3
7 unique J



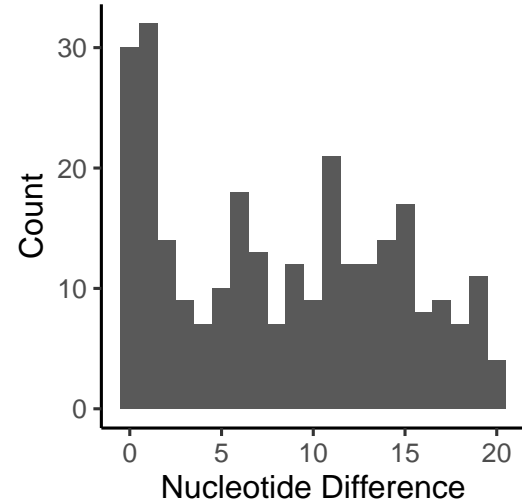
IGHV2-118*01_S6364

2153 sequences assigned
240 (11.1%) exact matches, in which:
111 unique CDR3
8 unique J



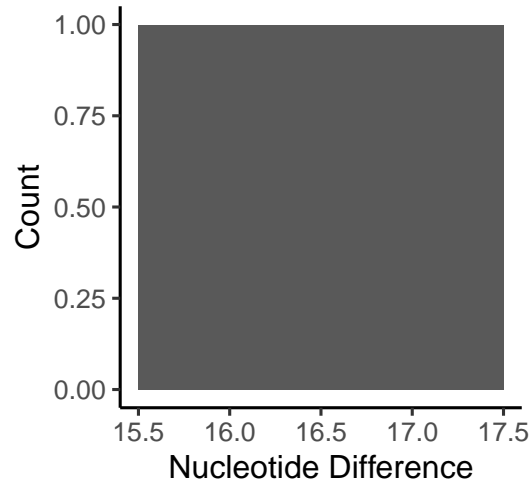
IGHV3-9*01_S8777

329 sequences assigned
30 (9.1%) exact matches, in which:
22 unique CDR3
5 unique J



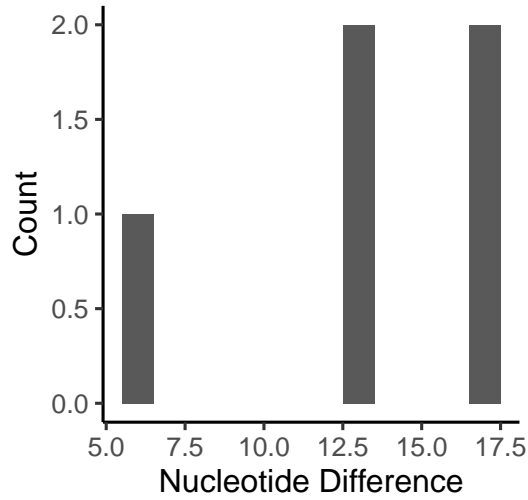
IGHV3-28*01_S0096

11 sequences assigned
No exact matches.



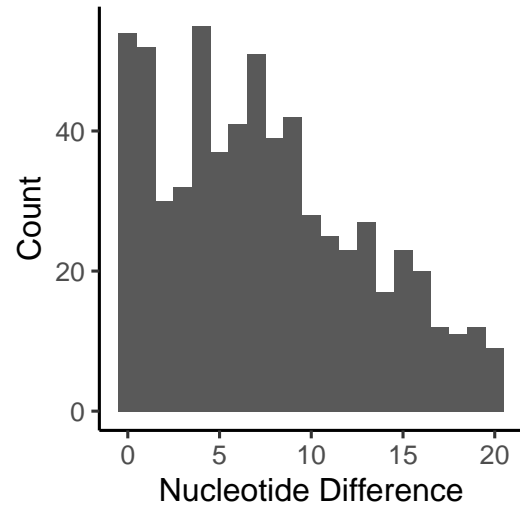
IGHV3-34*01_S1309

6 sequences assigned
No exact matches.



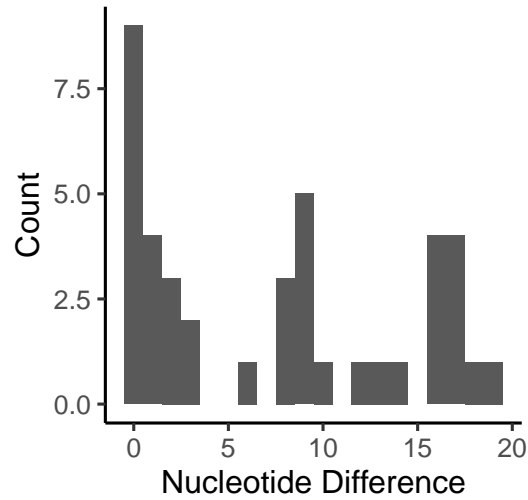
IGHV3-37*01_S6325

712 sequences assigned
54 (7.6%) exact matches, in which:
32 unique CDR3
4 unique J



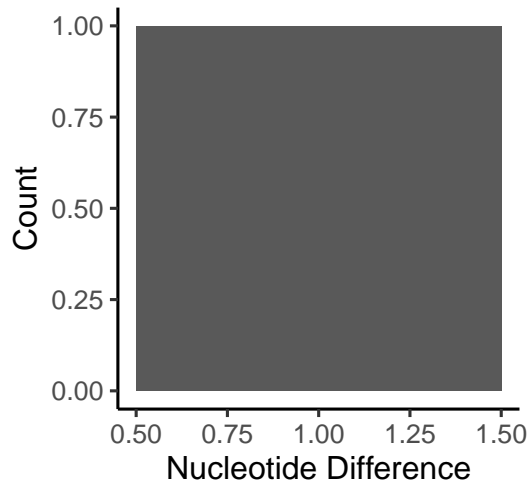
IGHV3-28*01_S7540

47 sequences assigned
9 (19.1%) exact matches, in which:
7 unique CDR3
3 unique J



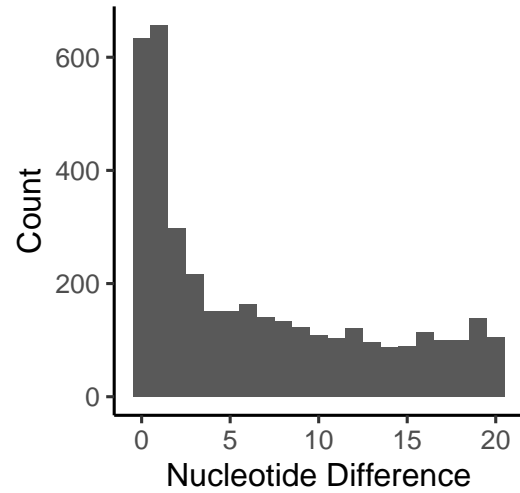
IGHV3-34*01_S2915

1 sequences assigned
No exact matches.



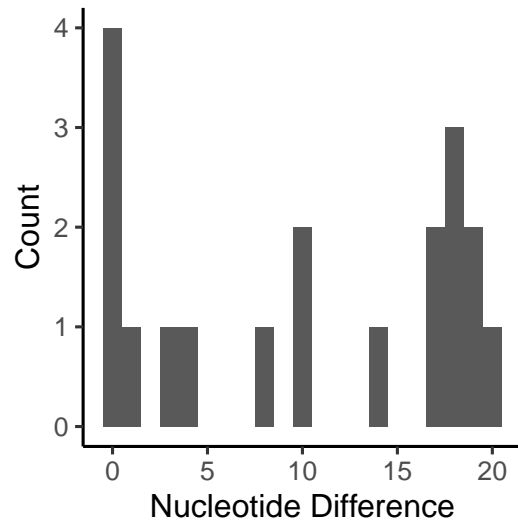
IGHV3-50*01_S1524

4134 sequences assigned
634 (15.3%) exact matches, in which:
378 unique CDR3
8 unique J



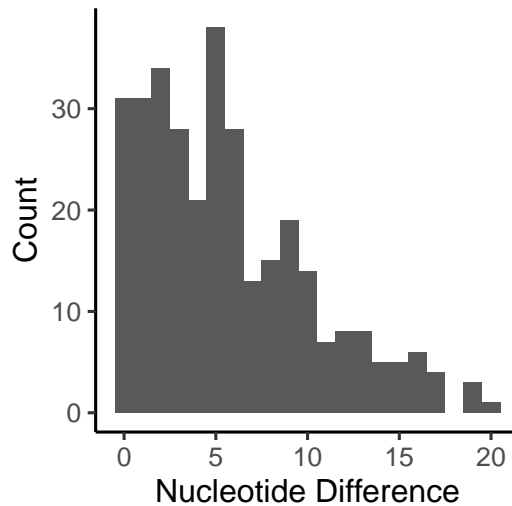
IGHV3-28*01_S8684

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



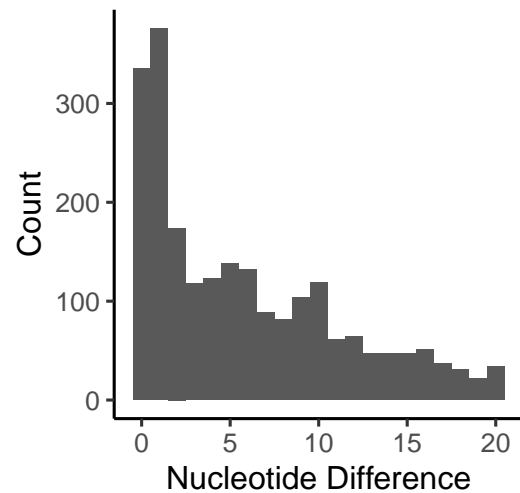
IGHV3-36*01_S6650

338 sequences assigned
31 (9.2%) exact matches, in which:
26 unique CDR3
5 unique J



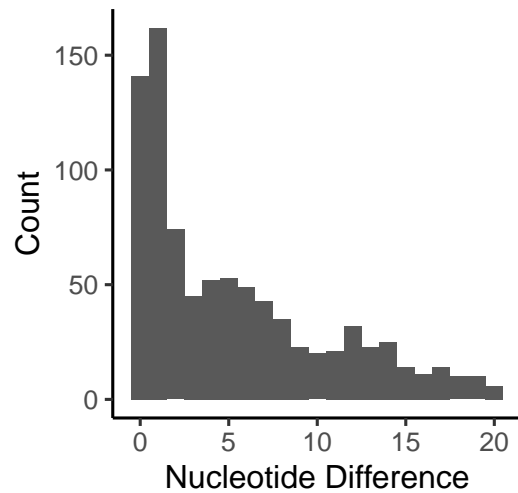
IGHV3-50*01_S1879

2548 sequences assigned
335 (13.1%) exact matches, in which:
229 unique CDR3
6 unique J



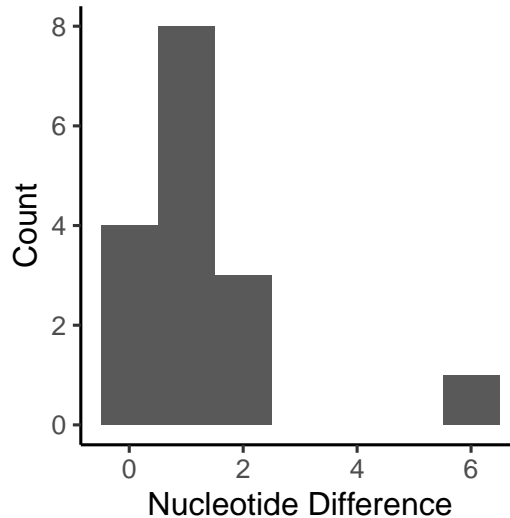
IGHV3-53*01_S7463

937 sequences assigned
141 (15%) exact matches, in which:
78 unique CDR3
7 unique J



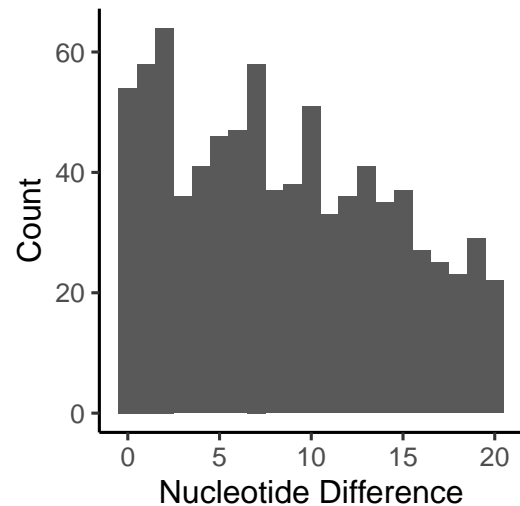
IGHV3-83*02_S2462

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



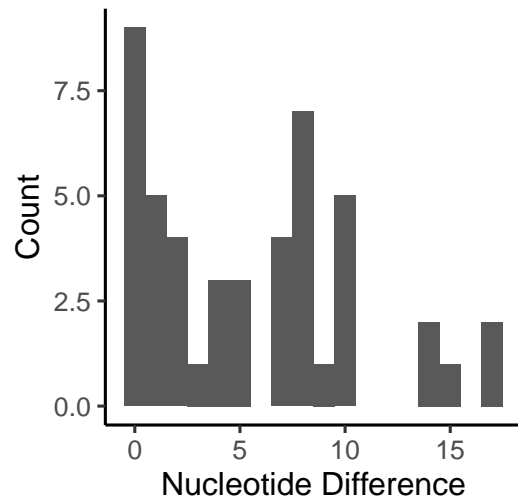
IGHV3-88*01_T227G_T23

1032 sequences assigned
54 (5.2%) exact matches, in which:
50 unique CDR3
6 unique J



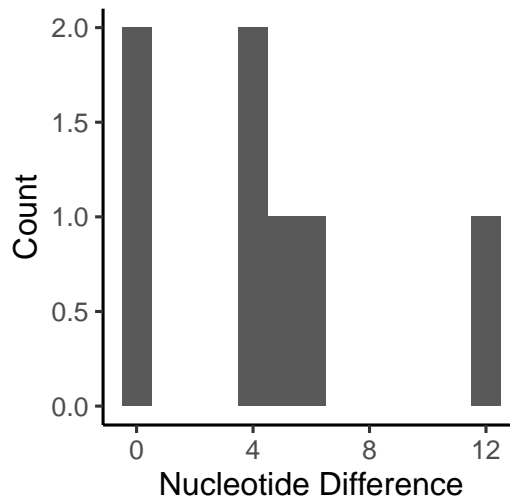
IGHV3-73*02_S7884

60 sequences assigned
9 (15%) exact matches, in which:
7 unique CDR3
3 unique J



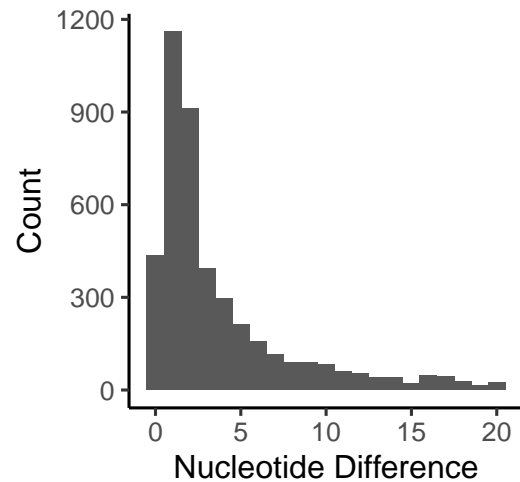
IGHV3-83*02_S9518

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



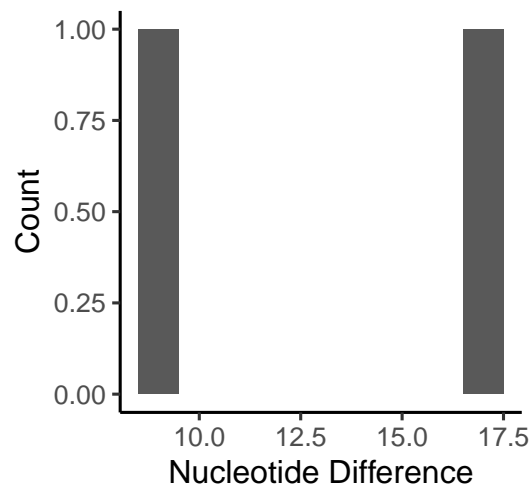
IGHV3-94*01_S5120

4528 sequences assigned
434 (9.6%) exact matches, in which:
252 unique CDR3
6 unique J



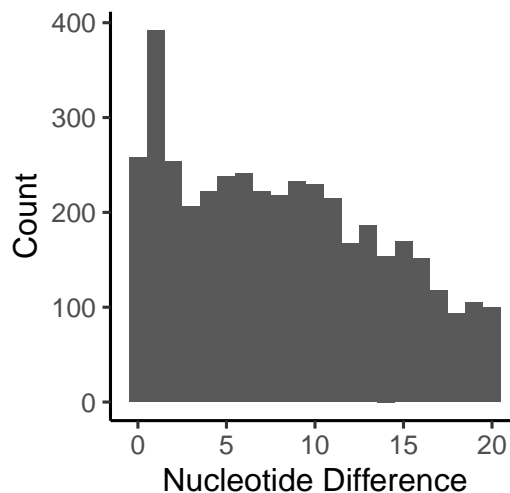
IGHV3-83*01_S9109

2 sequences assigned
No exact matches.



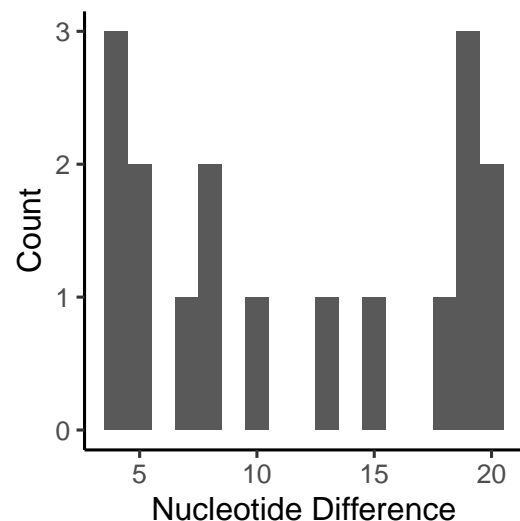
IGHV3-88*01_S9470

4826 sequences assigned
258 (5.3%) exact matches, in which:
121 unique CDR3
8 unique J



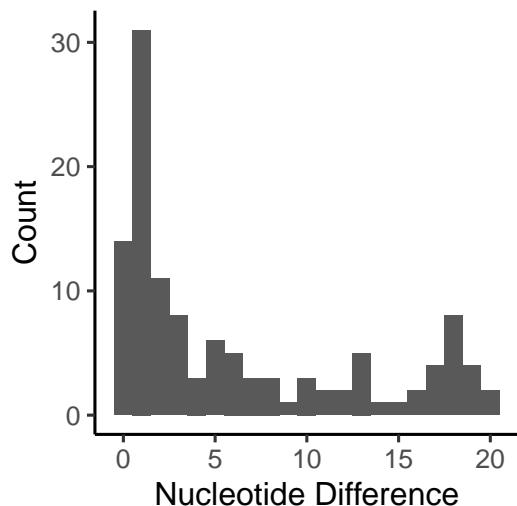
IGHV3-100*01_S4205

26 sequences assigned
No exact matches.



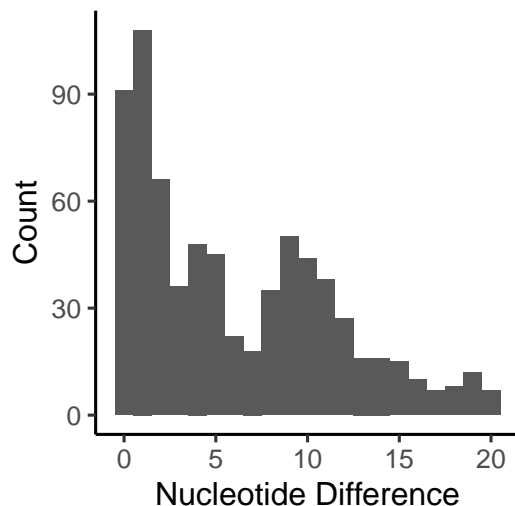
IGHV3-100*01_S4375

172 sequences assigned
14 (8.1%) exact matches, in which:
9 unique CDR3
4 unique J



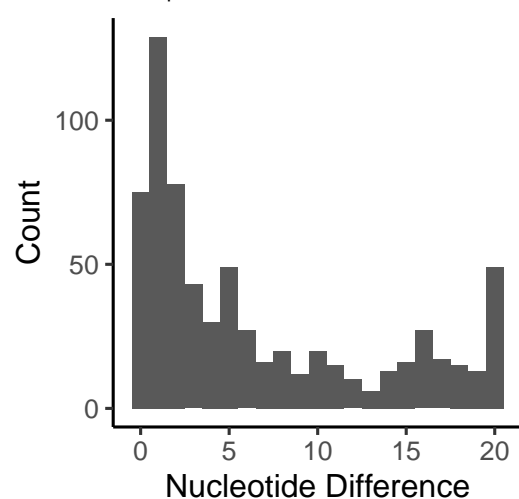
IGHV3-122*01_S8388

752 sequences assigned
91 (12.1%) exact matches, in which:
53 unique CDR3
5 unique J



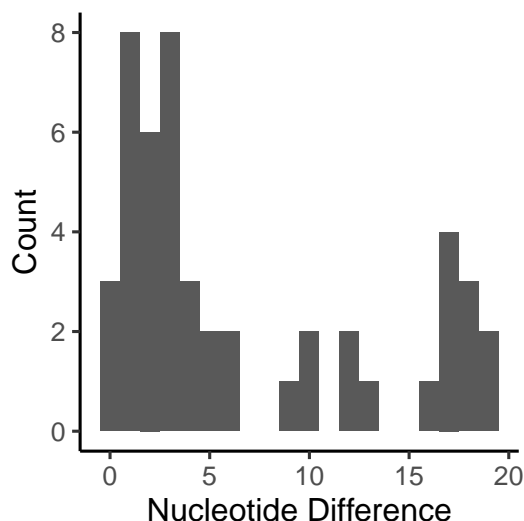
IGHV3-128*02_S0204

796 sequences assigned
75 (9.4%) exact matches, in which:
41 unique CDR3
2 unique J



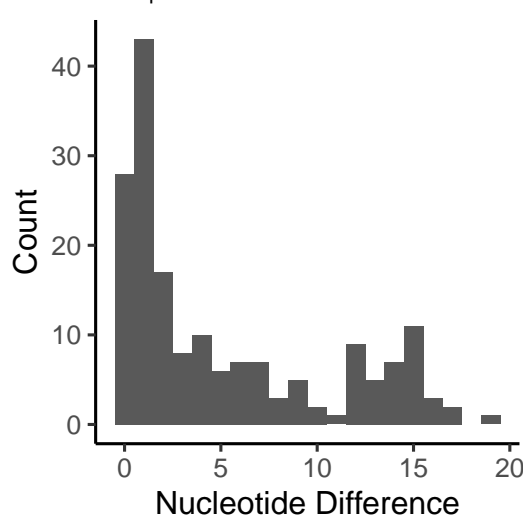
IGHV3-120*01_S4231

51 sequences assigned
3 (5.9%) exact matches, in which:
3 unique CDR3
1 unique J



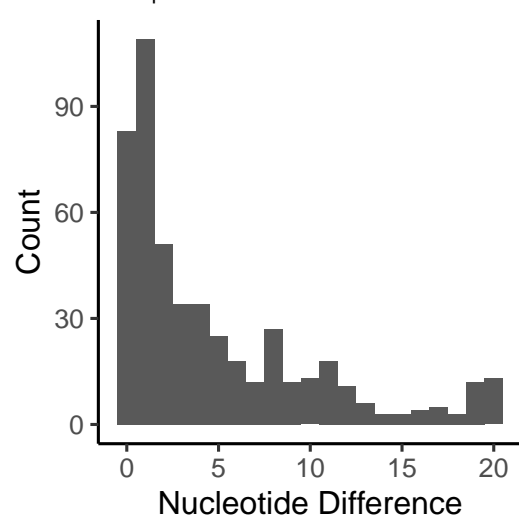
IGHV3-127*01_S5171

180 sequences assigned
28 (15.6%) exact matches, in which:
16 unique CDR3
3 unique J



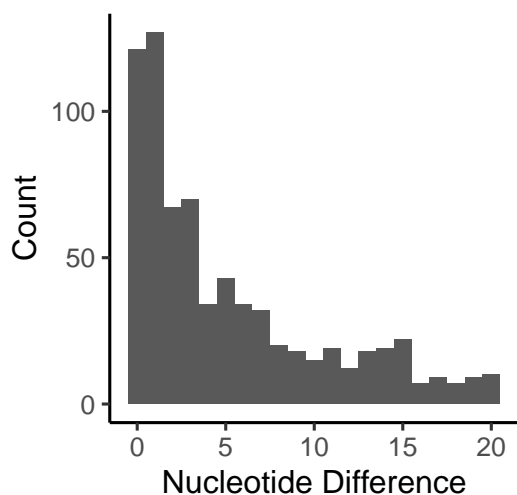
IGHV3-128*02_S1569

533 sequences assigned
83 (15.6%) exact matches, in which:
50 unique CDR3
5 unique J



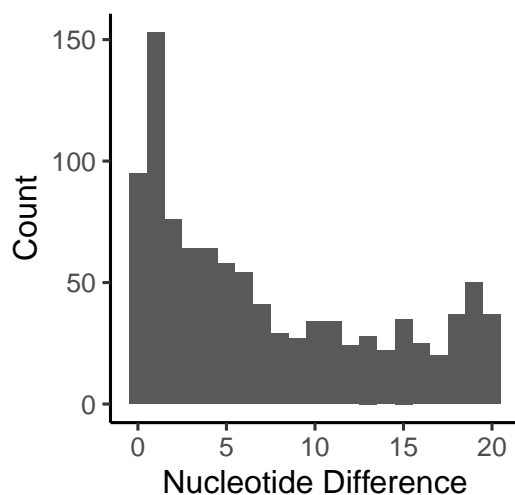
IGHV3-122*01_S5299

752 sequences assigned
121 (16.1%) exact matches, in which:
75 unique CDR3
8 unique J



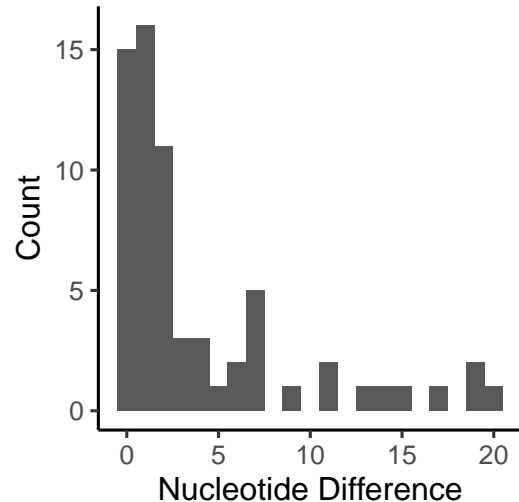
IGHV3-127*01_S5510

1185 sequences assigned
95 (8%) exact matches, in which:
59 unique CDR3
6 unique J



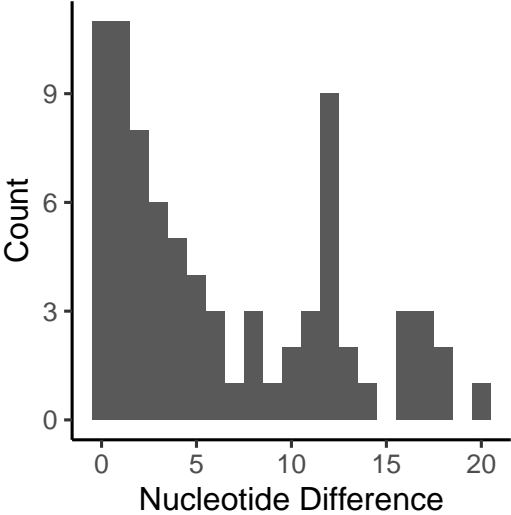
IGHV3-141*01_S2525

67 sequences assigned
15 (22.4%) exact matches, in which:
10 unique CDR3
2 unique J



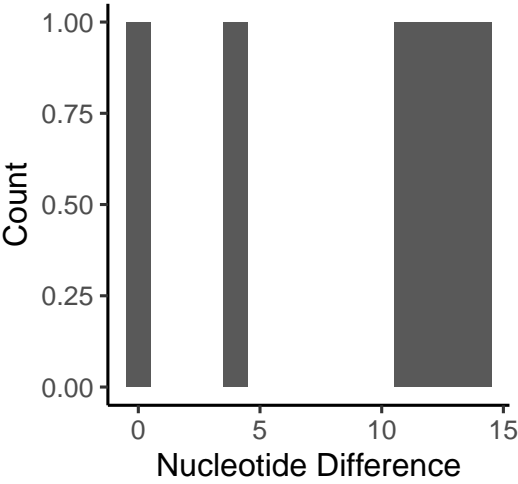
IGHV3-141*02_S2868

83 sequences assigned
11 (13.3%) exact matches, in which:
8 unique CDR3
5 unique J



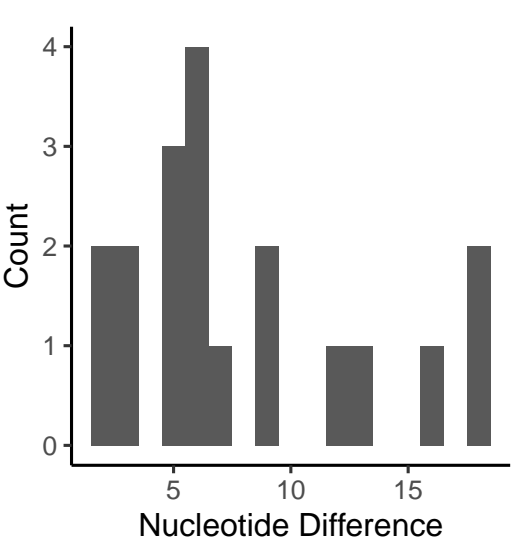
IGHV3-152*01_S5891

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



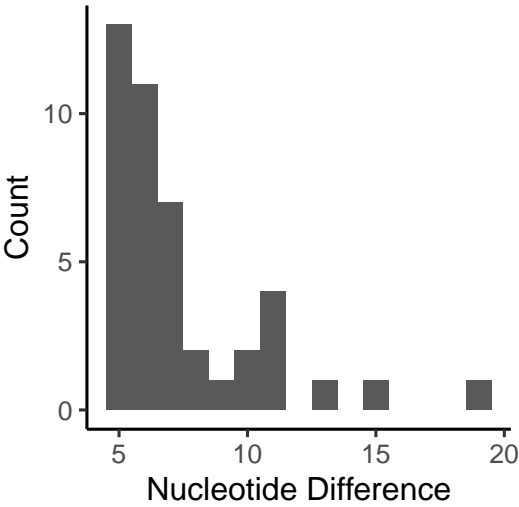
IGHV3-175*01_S1248

20 sequences assigned
No exact matches.



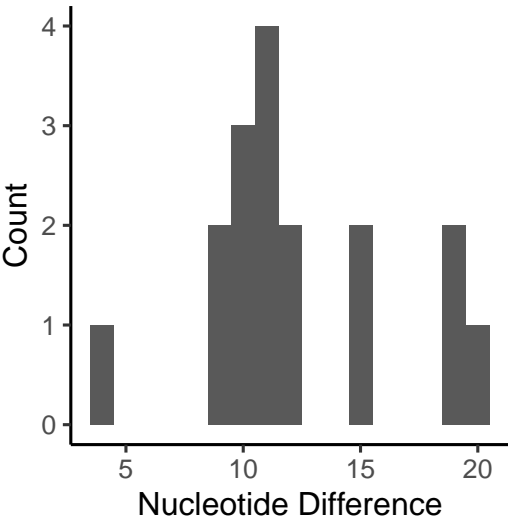
IGHV3-141*02_S4530

47 sequences assigned
No exact matches.



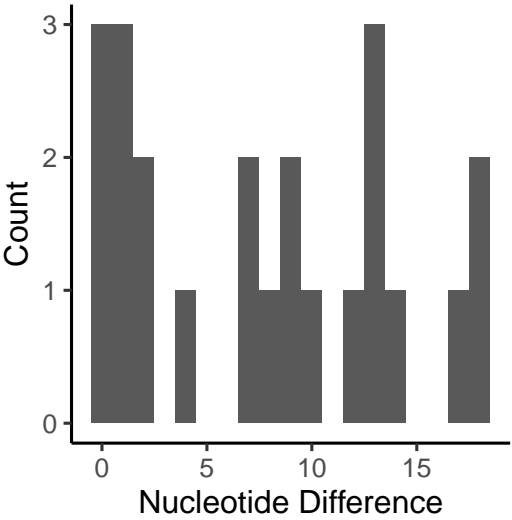
IGHV3-152*01_S7388

18 sequences assigned
No exact matches.



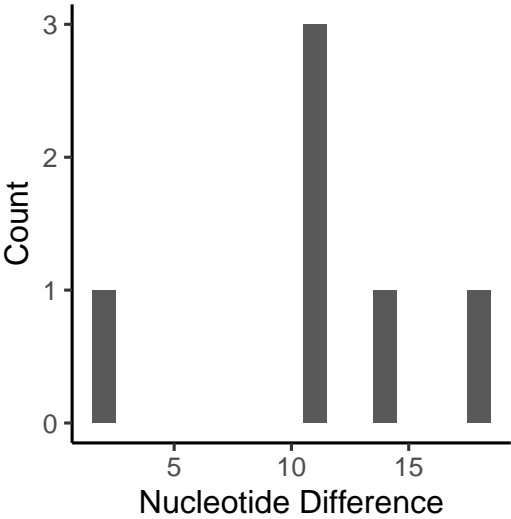
IGHV3-177*01_S5369

28 sequences assigned
3 (10.7%) exact matches, in which:
3 unique CDR3
2 unique J



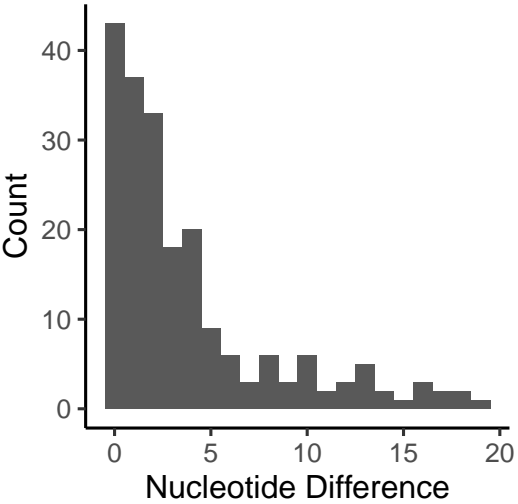
IGHV3-152*01_S1133

7 sequences assigned
No exact matches.



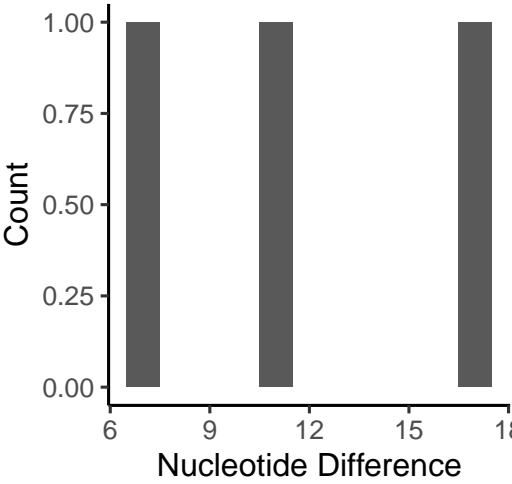
IGHV3-172*01_S8824

213 sequences assigned
43 (20.2%) exact matches, in which:
23 unique CDR3
4 unique J



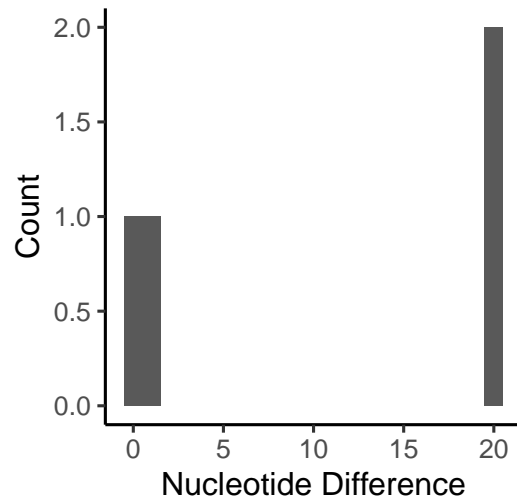
IGHV3-177*01_S6408

4 sequences assigned
No exact matches.



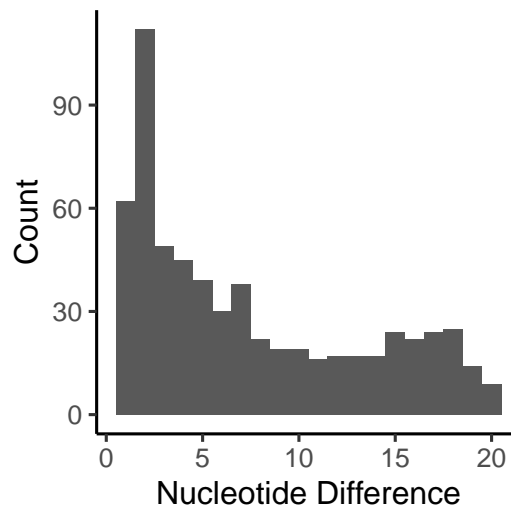
IGHV3-177*01_S8970

5 sequences assigned
1 (20%) exact matches, in which:
1 unique CDR3
1 unique J



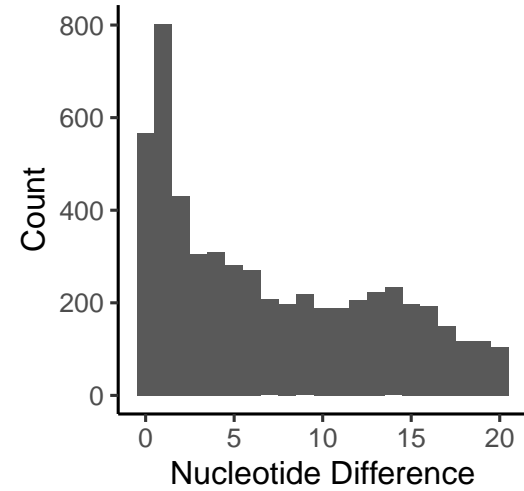
IGHV3-NL_1*01_S5238

752 sequences assigned
No exact matches.



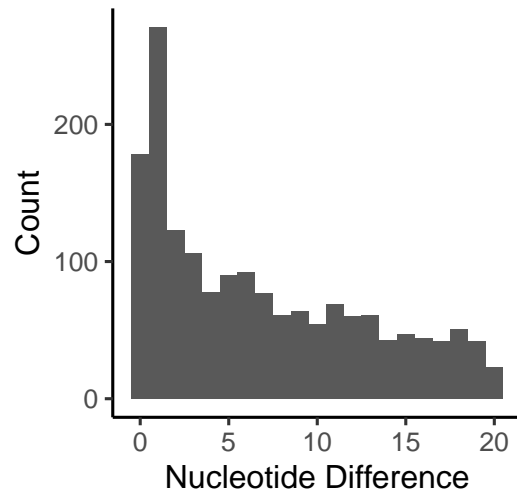
IGHV3-NL_11*01_S3736

6336 sequences assigned
567 (8.9%) exact matches, in which:
357 unique CDR3
5 unique J



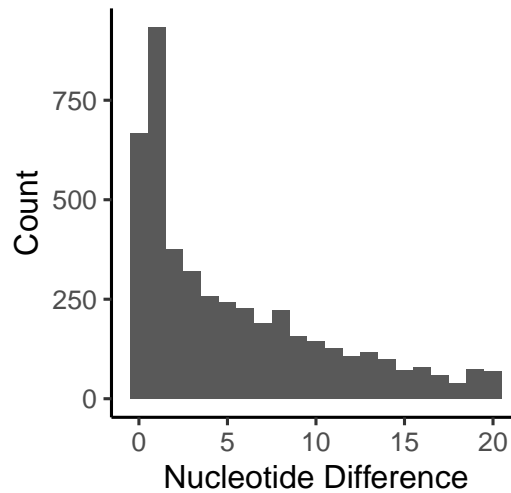
IGHV3-187*01_S2144

1820 sequences assigned
178 (9.8%) exact matches, in which:
103 unique CDR3
7 unique J



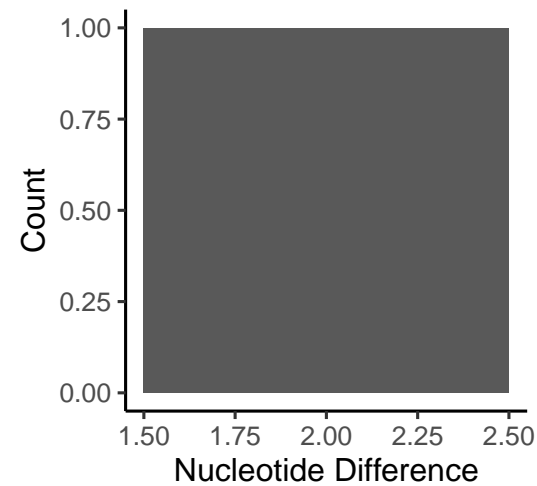
IGHV3-NL_1*01_S9854

5194 sequences assigned
666 (12.8%) exact matches, in which:
389 unique CDR3
7 unique J



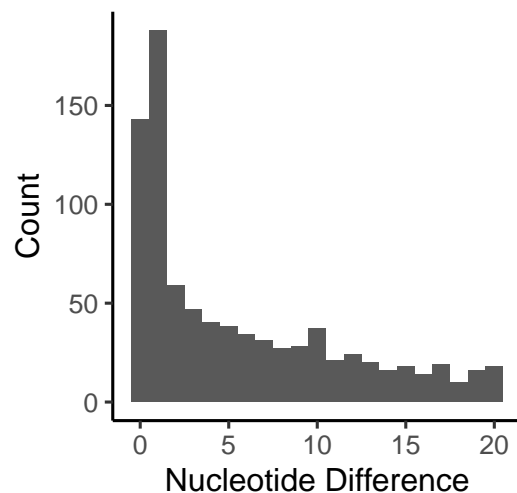
IGHV3-NL_12*02_S1760

1 sequences assigned
No exact matches.



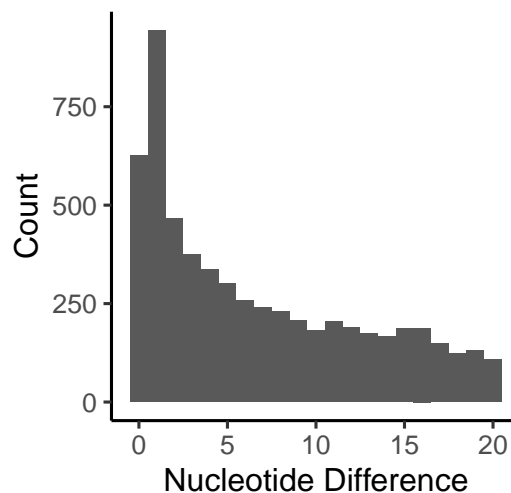
IGHV3-187*01_S6840

1080 sequences assigned
143 (13.2%) exact matches, in which:
92 unique CDR3
4 unique J



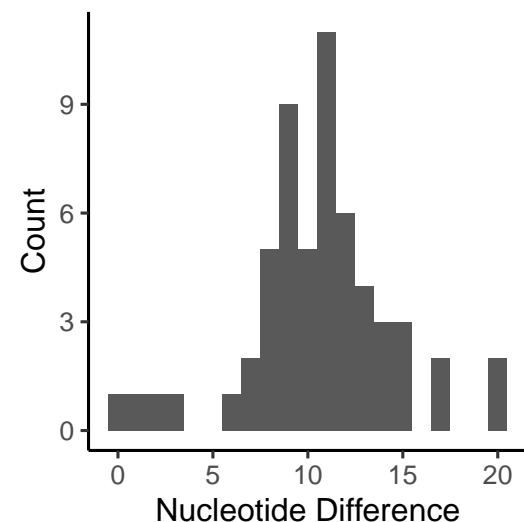
IGHV3-NL_10*02_S1970

6420 sequences assigned
626 (9.8%) exact matches, in which:
349 unique CDR3
7 unique J



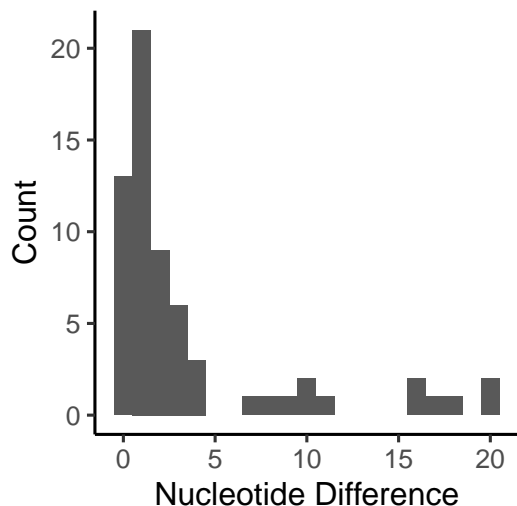
IGHV3-NL_13*01_S2791

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



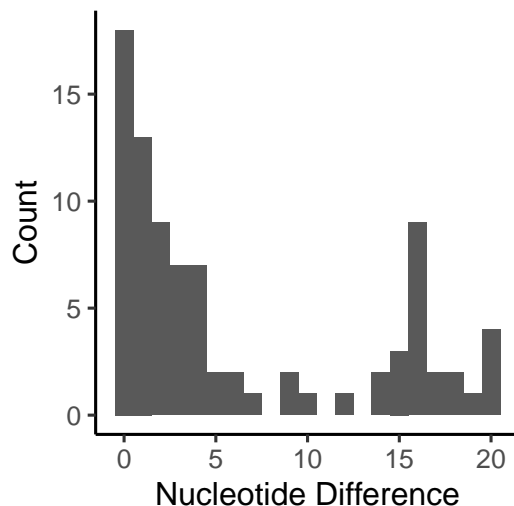
IGHV3–NL_13*01_S3277

72 sequences assigned
13 (18.1%) exact matches, in which:
8 unique CDR3
3 unique J



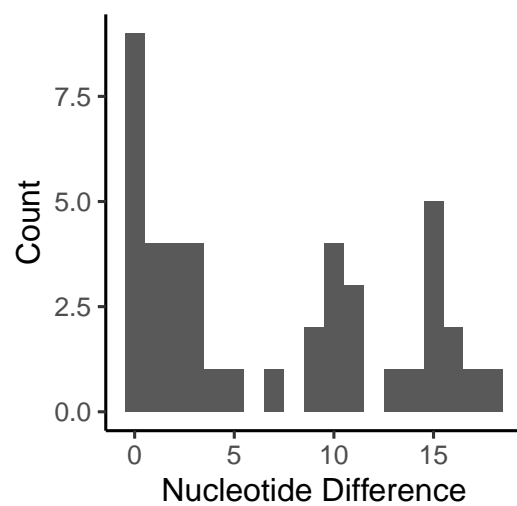
IGHV3–NL_16*01_S5133

88 sequences assigned
18 (20.5%) exact matches, in which:
9 unique CDR3
2 unique J



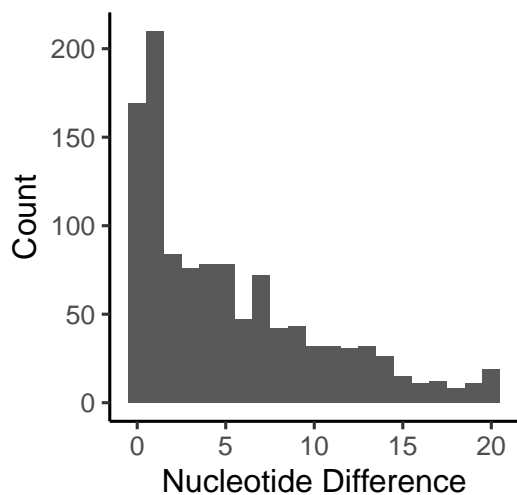
IGHV3–NL_18*01_S7053

59 sequences assigned
9 (15.3%) exact matches, in which:
6 unique CDR3
2 unique J



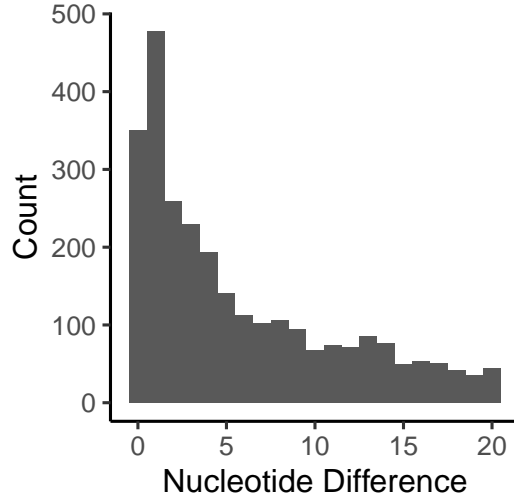
IGHV3–NL_14*01_S0218

1281 sequences assigned
169 (13.2%) exact matches, in which:
108 unique CDR3
7 unique J



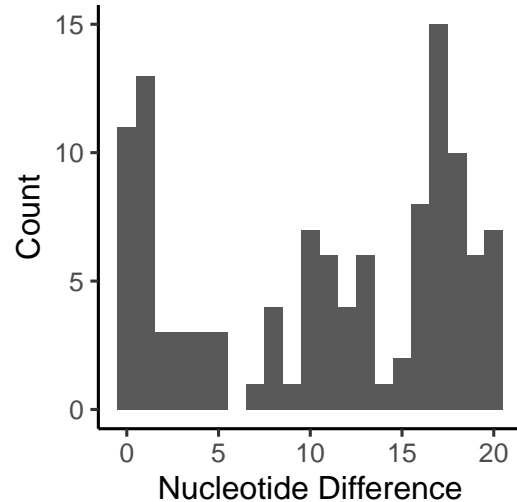
IGHV3–NL_17*01_S3909

3030 sequences assigned
351 (11.6%) exact matches, in which:
199 unique CDR3
6 unique J



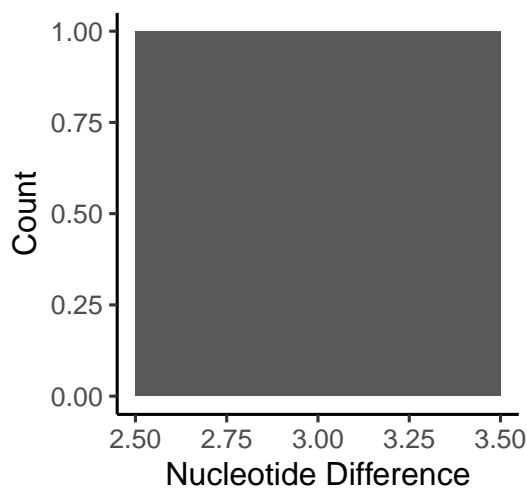
IGHV3–NL_2*01_S3900

224 sequences assigned
11 (4.9%) exact matches, in which:
9 unique CDR3
4 unique J



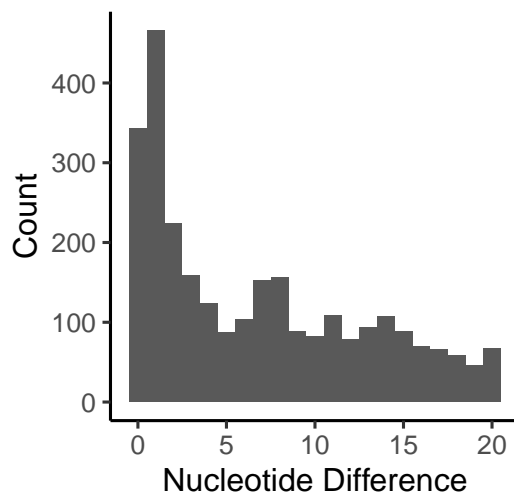
IGHV3–NL_15*01_S7302

3 sequences assigned
No exact matches.



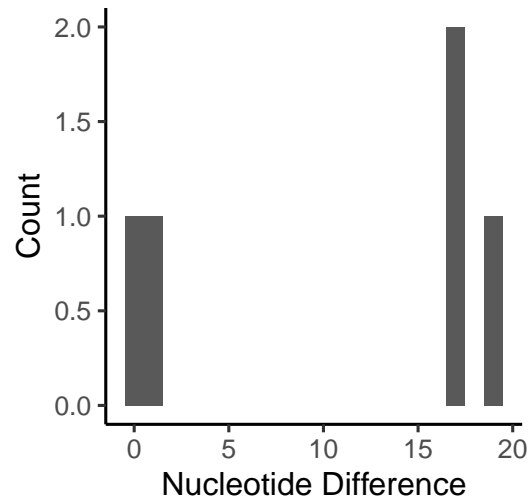
IGHV3–NL_17*01_S5770

3472 sequences assigned
343 (9.9%) exact matches, in which:
182 unique CDR3
6 unique J



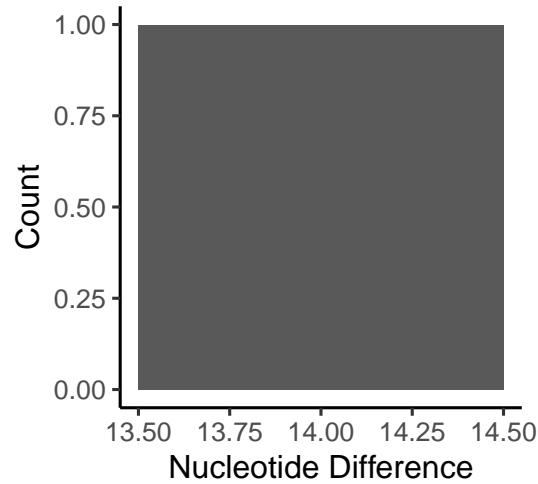
IGHV3–NL_4*01_S9067

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



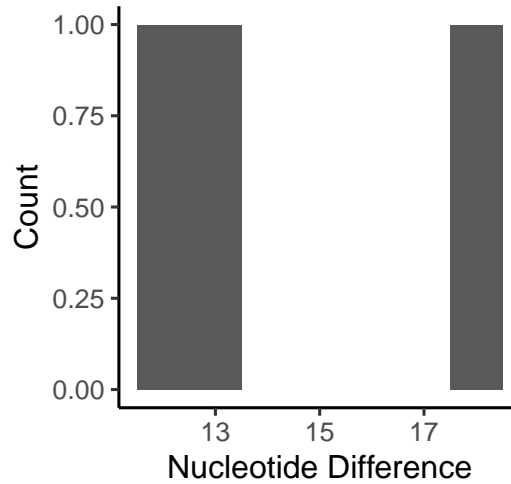
IGHV3–NL_4*01_S9392

3 sequences assigned
No exact matches.



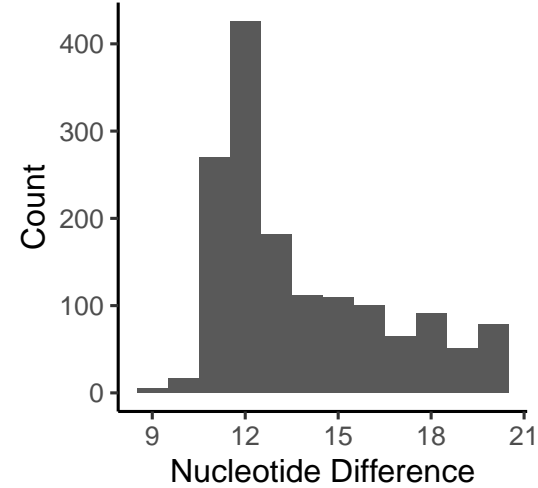
IGHV3–NL_8*01_S7474

4 sequences assigned
No exact matches.



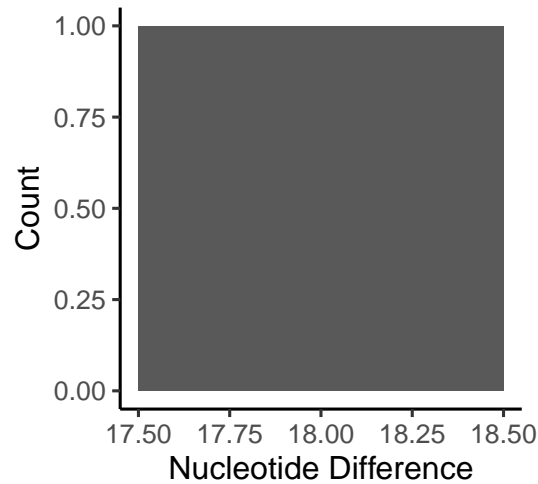
IGHV3–NL_9*01_S6098

2223 sequences assigned
No exact matches.



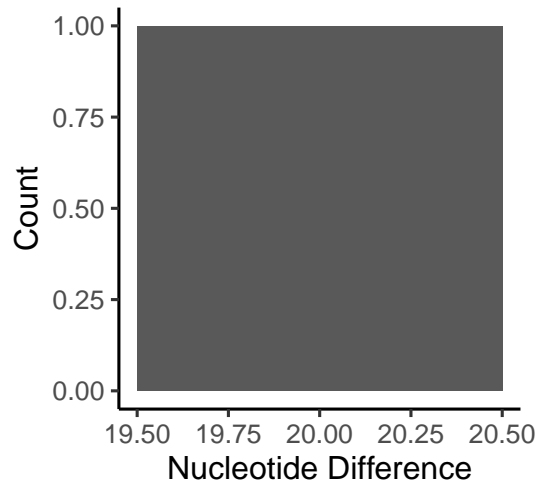
IGHV3–NL_5*01_S8361

4 sequences assigned
No exact matches.



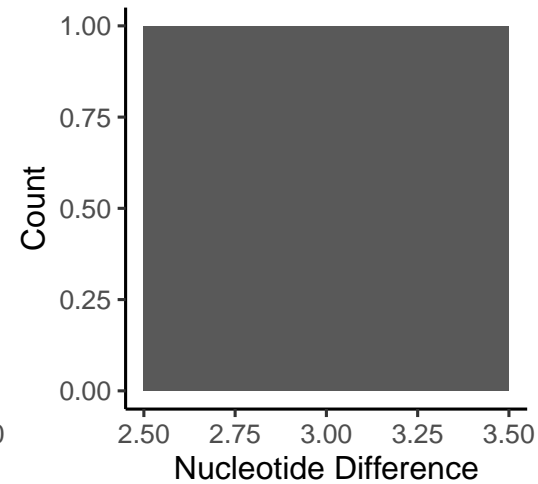
IGHV3–NL_8*01_S7860

1 sequences assigned
No exact matches.



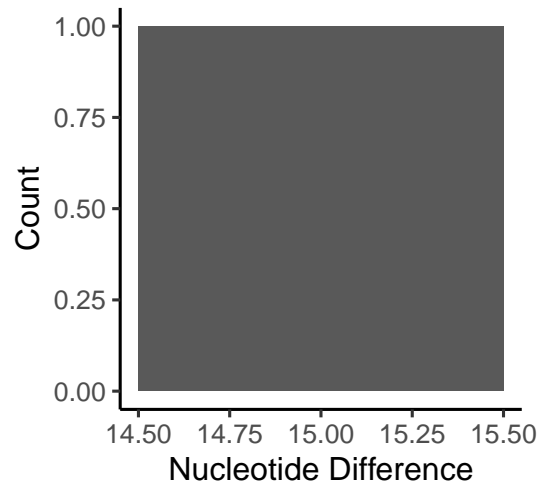
IGHV4–67*01_S8901

6 sequences assigned
No exact matches.



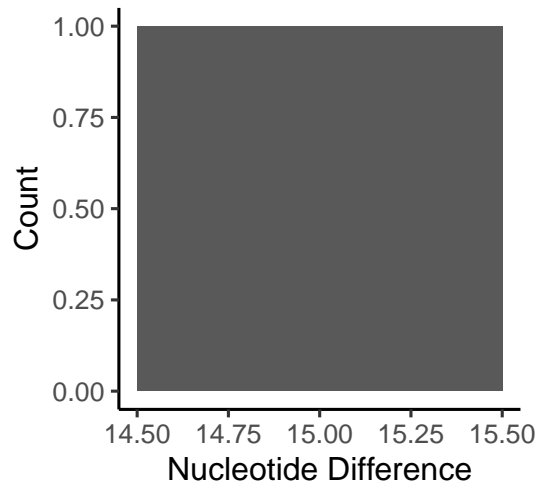
IGHV3–NL_7*01_S0199

26 sequences assigned
No exact matches.



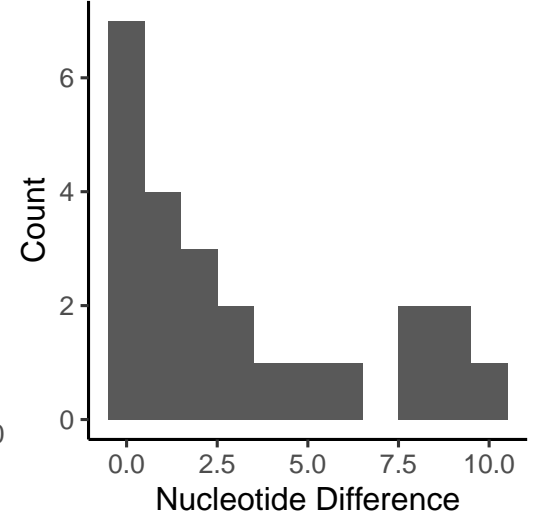
IGHV3–NL_8*01_S9578

1 sequences assigned
No exact matches.



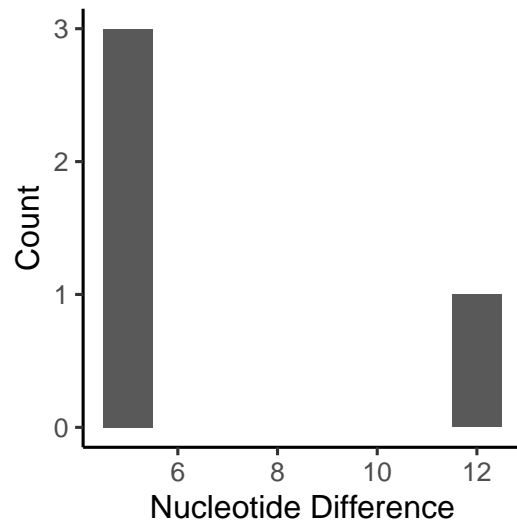
IGHV4–67*02_S8103

27 sequences assigned
7 (25.9%) exact matches, in which:
7 unique CDR3
2 unique J



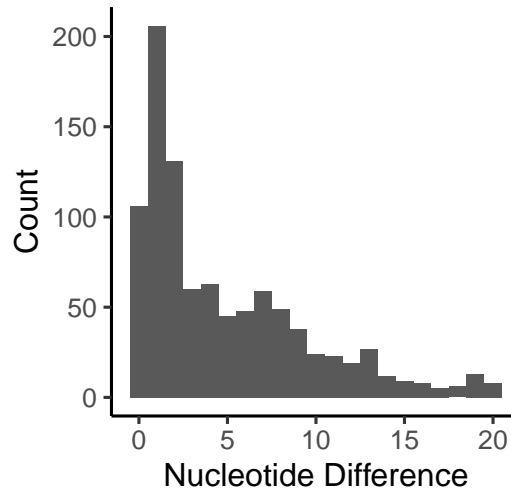
IGHV4-72*01_S2051

5 sequences assigned
No exact matches.



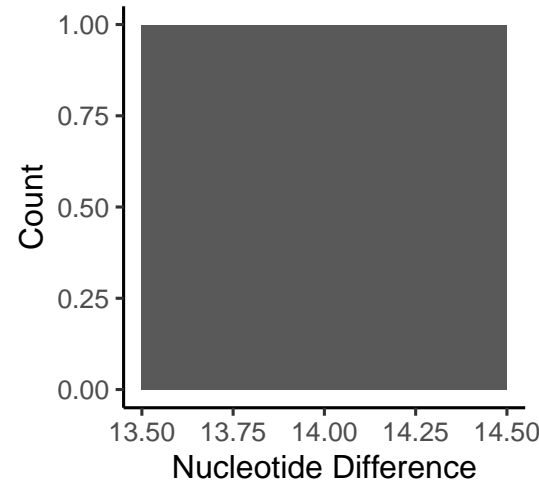
IGHV4-93*01_S5203

1018 sequences assigned
106 (10.4%) exact matches, in which:
96 unique CDR3
7 unique J



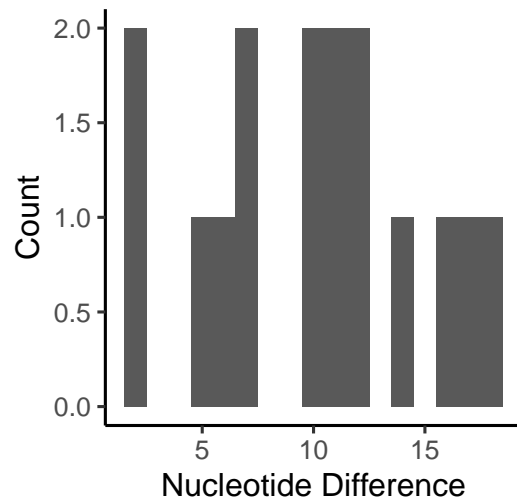
IGHV4-144*01_S2055

3 sequences assigned
No exact matches.



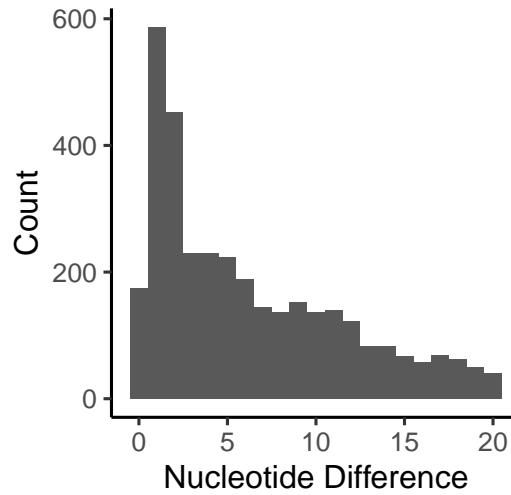
IGHV4-79*02_S9501

23 sequences assigned
No exact matches.



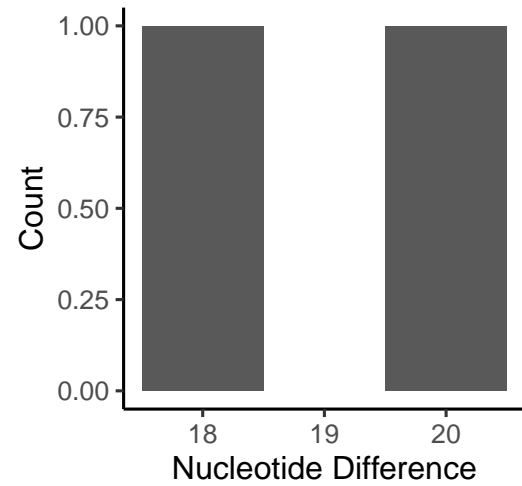
IGHV4-117*01_S0312

3790 sequences assigned
174 (4.6%) exact matches, in which:
142 unique CDR3
7 unique J



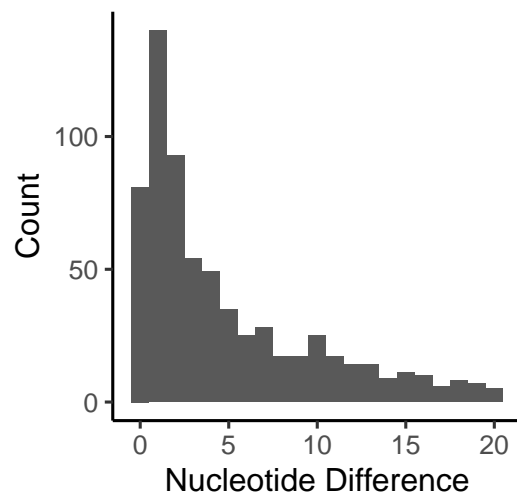
IGHV4-144*01_S5374

3 sequences assigned
No exact matches.



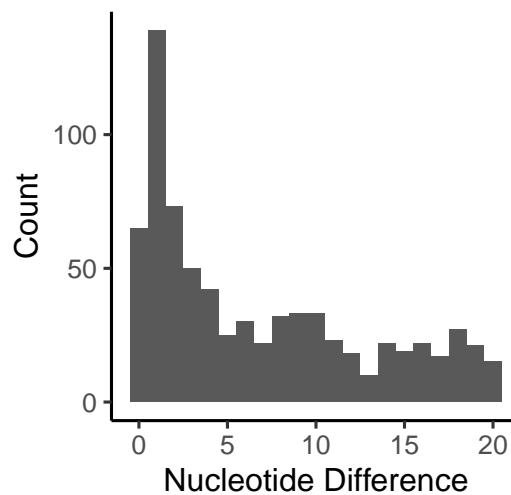
IGHV4-93*01_S0998

690 sequences assigned
81 (11.7%) exact matches, in which:
77 unique CDR3
6 unique J



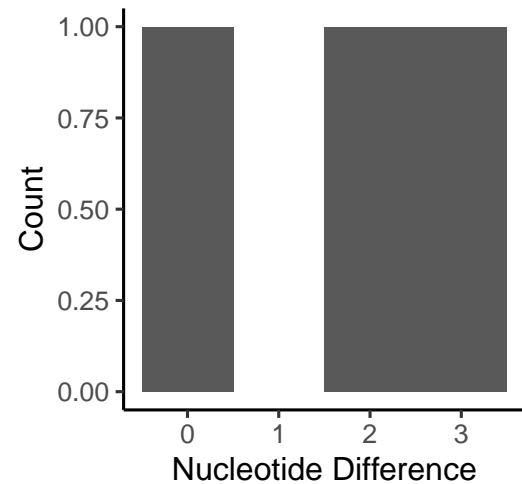
IGHV4-117*01_S0992

891 sequences assigned
65 (7.3%) exact matches, in which:
62 unique CDR3
7 unique J



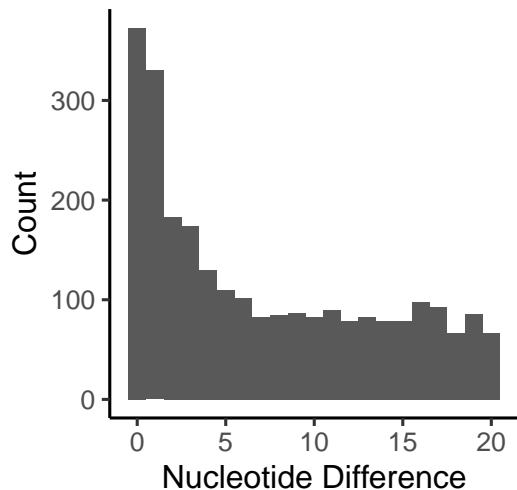
IGHV4-144*01_S8596

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



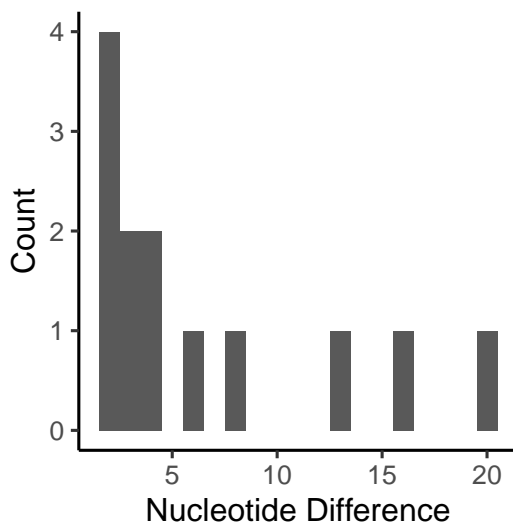
IGHV4-149*01_S1166

3149 sequences assigned
373 (11.8%) exact matches, in which:
290 unique CDR3
6 unique J



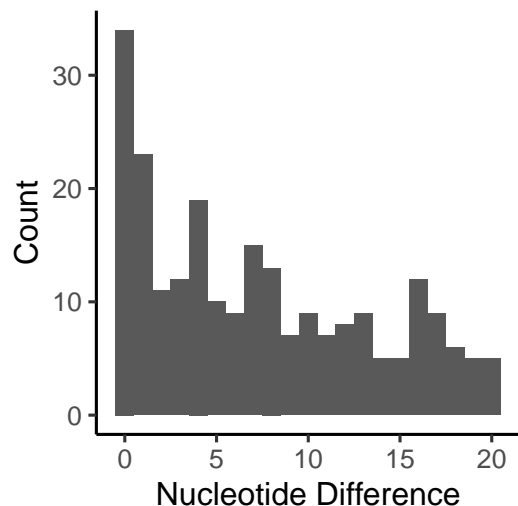
IGHV4-174*02_S5400

32 sequences assigned
No exact matches.



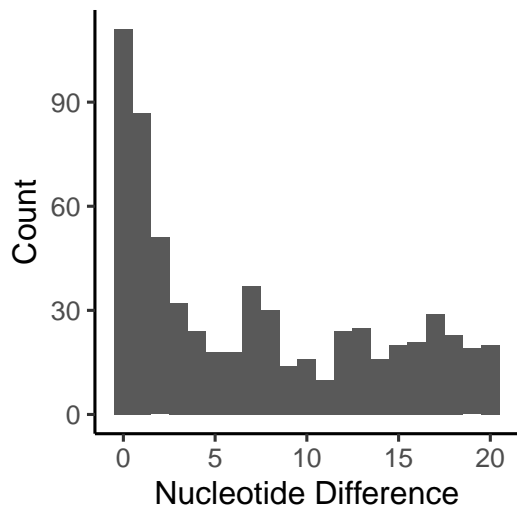
IGHV4-NL_1*02_S4188_A

256 sequences assigned
34 (13.3%) exact matches, in which:
33 unique CDR3
5 unique J



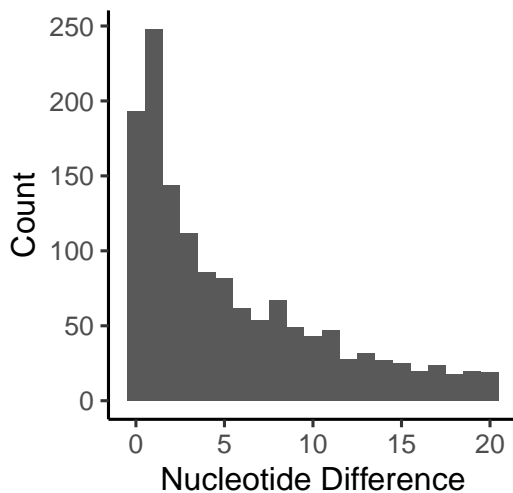
IGHV4-149*01_S1430

801 sequences assigned
111 (13.9%) exact matches, in which:
90 unique CDR3
6 unique J



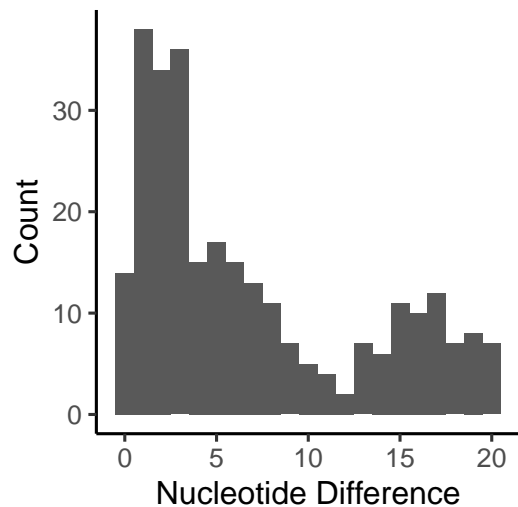
IGHV4-NL_1*01_S1593

1592 sequences assigned
193 (12.1%) exact matches, in which:
146 unique CDR3
7 unique J



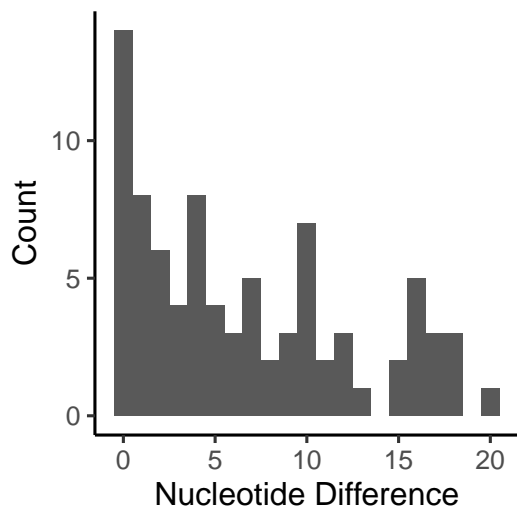
IGHV4-NL_10*01_S0458

332 sequences assigned
14 (4.2%) exact matches, in which:
14 unique CDR3
4 unique J



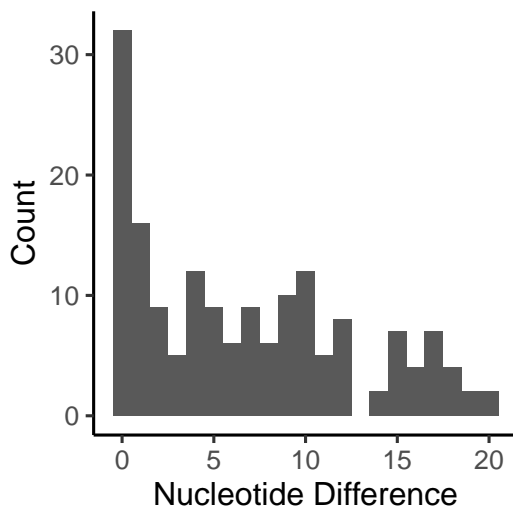
IGHV4-150*01_S2067

86 sequences assigned
14 (16.3%) exact matches, in which:
13 unique CDR3
3 unique J



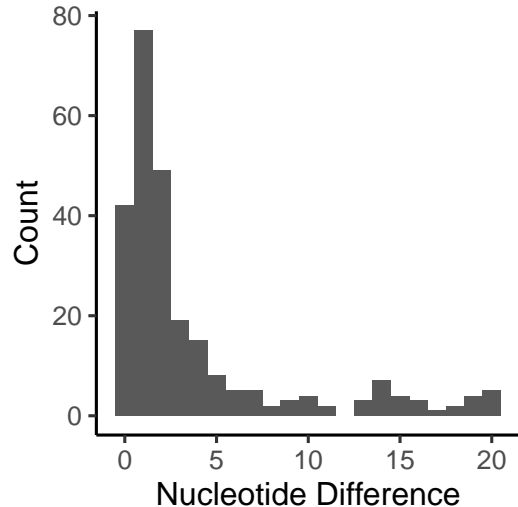
IGHV4-NL_1*02_S4188

184 sequences assigned
32 (17.4%) exact matches, in which:
30 unique CDR3
5 unique J



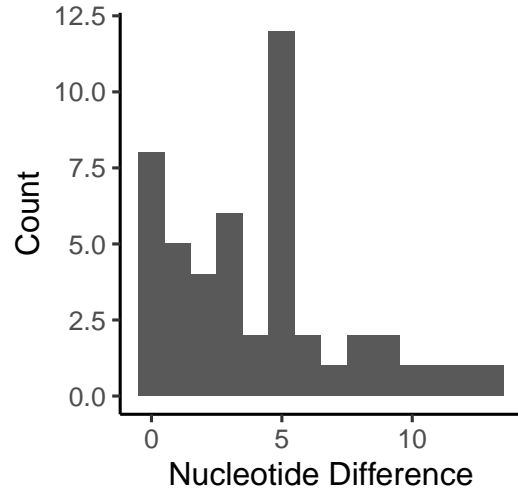
IGHV4-NL_11*01_S0325

268 sequences assigned
42 (15.7%) exact matches, in which:
33 unique CDR3
4 unique J



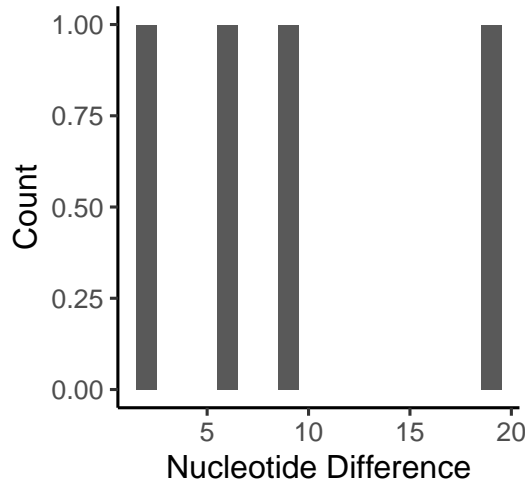
IGHV4-NL_11*01_S465'

49 sequences assigned
8 (16.3%) exact matches, in which:
7 unique CDR3
3 unique J



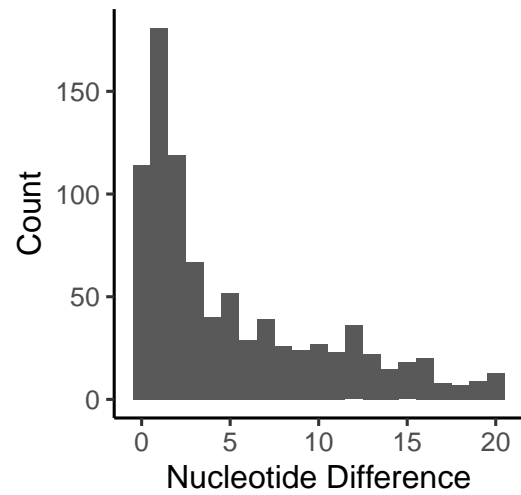
IGHV4-NL_15*01_S7687

5 sequences assigned
No exact matches.



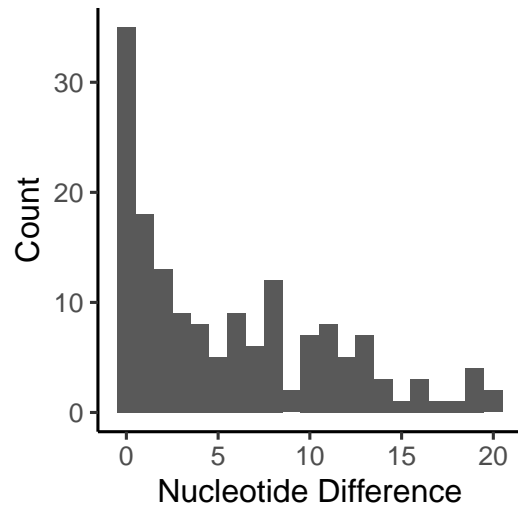
IGHV4-NL_17*01_S0936

1070 sequences assigned
114 (10.7%) exact matches, in which:
101 unique CDR3
7 unique J



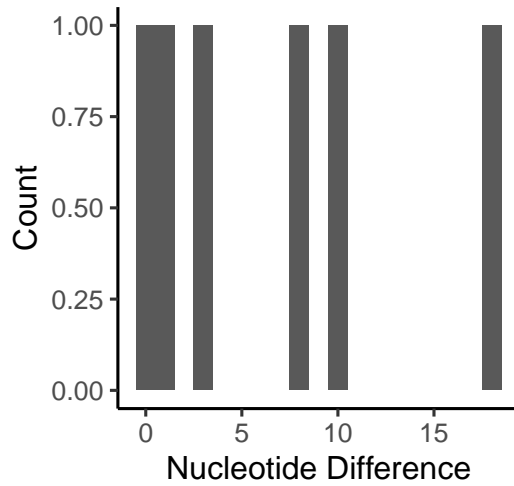
IGHV4-NL_12*01_S8068

175 sequences assigned
35 (20%) exact matches, in which:
34 unique CDR3
4 unique J



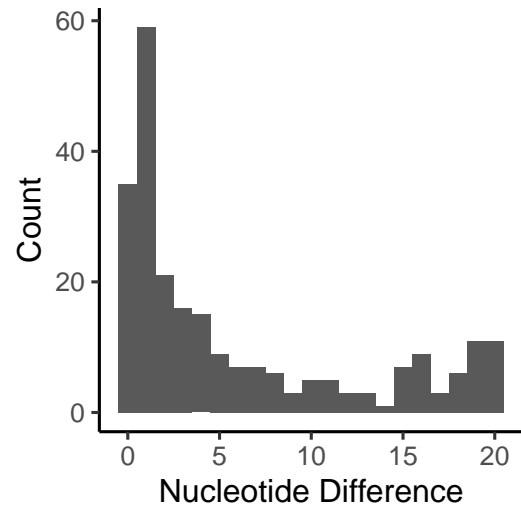
IGHV4-NL_16*01_S2138

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



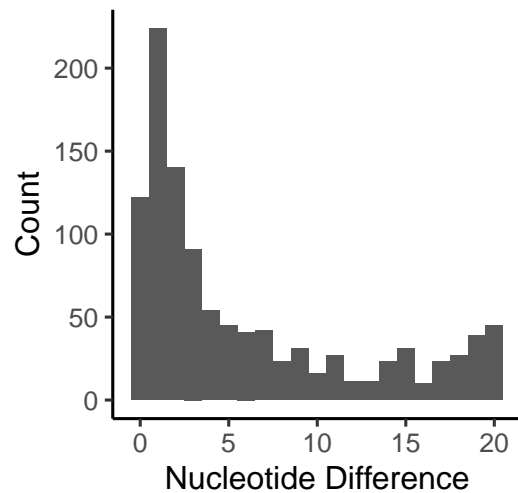
IGHV4-NL_17*01_S6727

276 sequences assigned
35 (12.7%) exact matches, in which:
35 unique CDR3
5 unique J



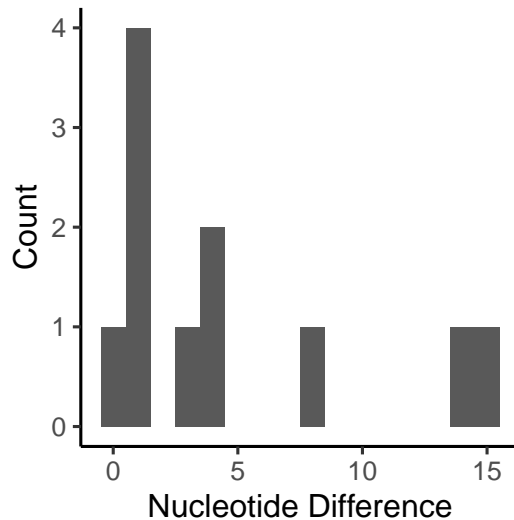
IGHV4-NL_13*01_S9744

1327 sequences assigned
122 (9.2%) exact matches, in which:
109 unique CDR3
8 unique J



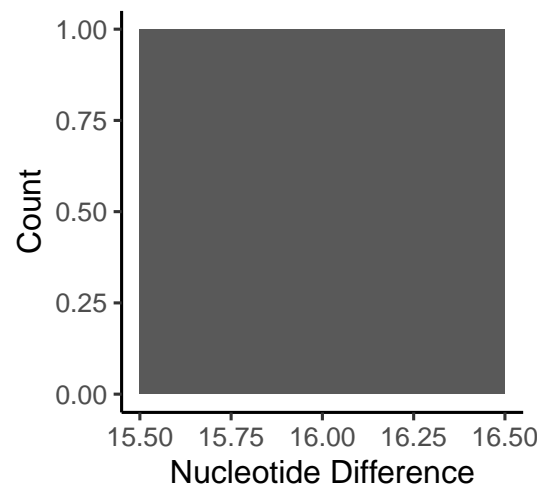
IGHV4-NL_16*01_S3062

11 sequences assigned
1 (9.1%) exact matches, in which:
1 unique CDR3
1 unique J



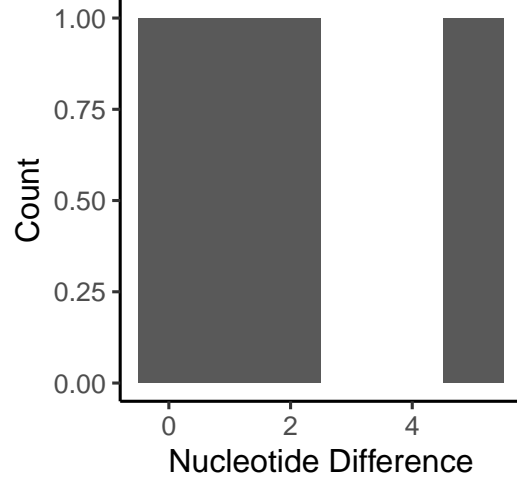
IGHV4-NL_20*01_S5229

1 sequences assigned
No exact matches.



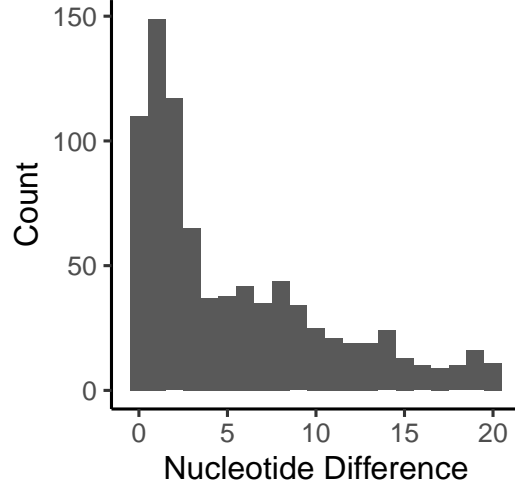
IGHV4–NL_20*01_S6186

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



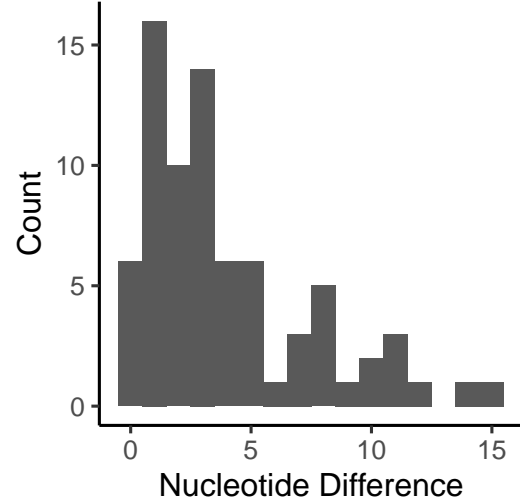
IGHV4–NL_21*01_S7469

1028 sequences assigned
110 (10.7%) exact matches, in which:
92 unique CDR3
5 unique J



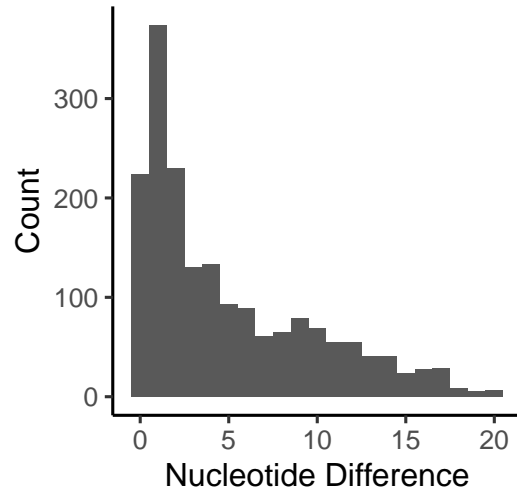
IGHV4–NL_24*01_S1628

78 sequences assigned
6 (7.7%) exact matches, in which:
6 unique CDR3
2 unique J



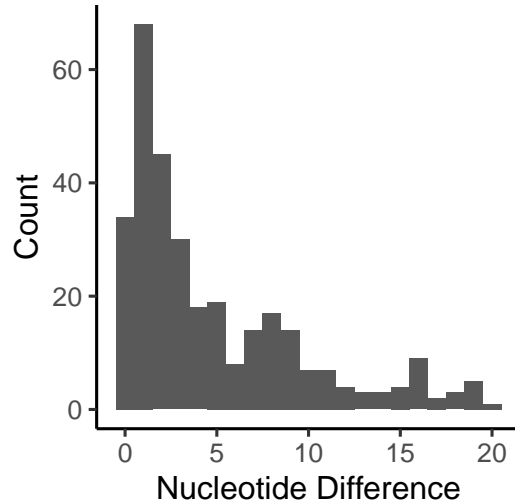
IGHV4–NL_21*01_S0138

1934 sequences assigned
224 (11.6%) exact matches, in which:
200 unique CDR3
7 unique J



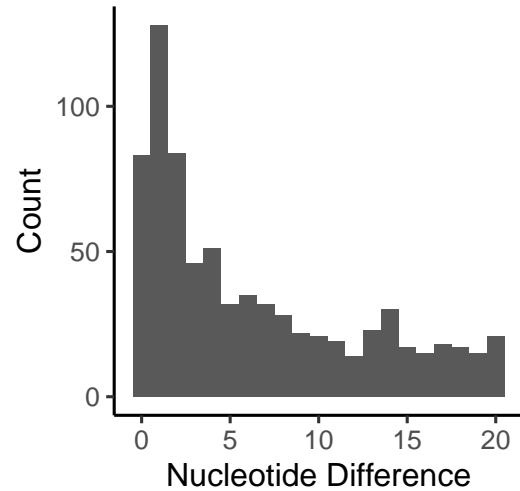
IGHV4–NL_22*01_S2393

353 sequences assigned
34 (9.6%) exact matches, in which:
32 unique CDR3
5 unique J



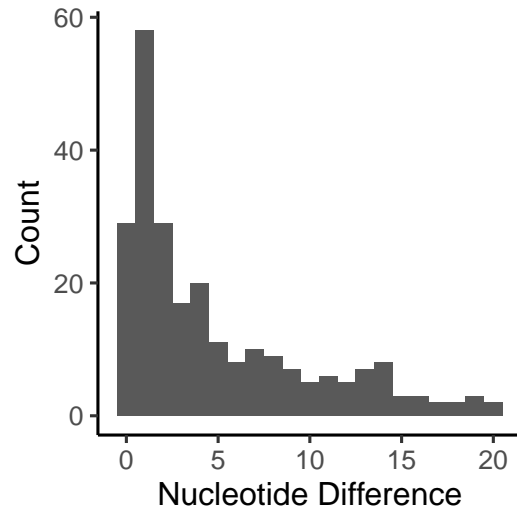
IGHV4–NL_25*01_S9955

1041 sequences assigned
83 (8%) exact matches, in which:
65 unique CDR3
5 unique J



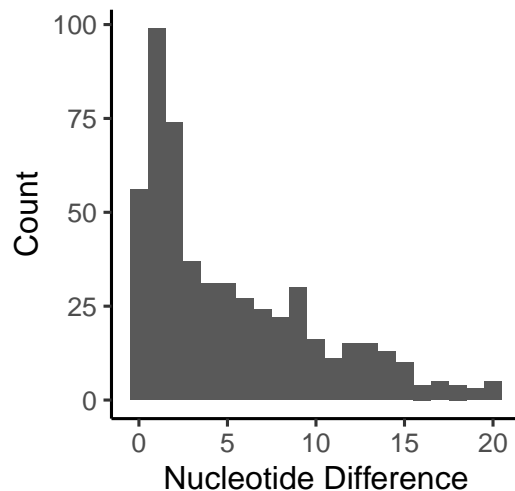
IGHV4–NL_21*01_S6308

260 sequences assigned
29 (11.2%) exact matches, in which:
25 unique CDR3
5 unique J



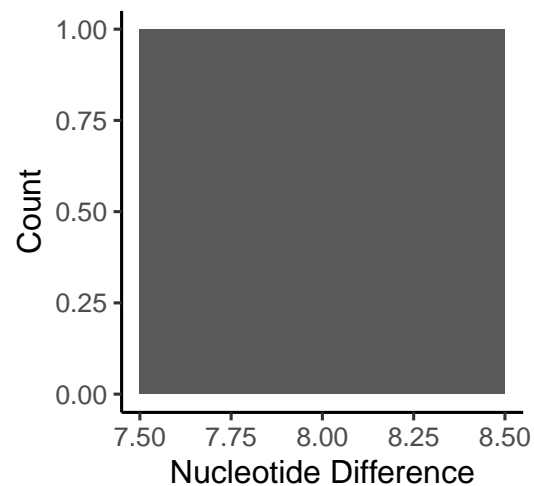
IGHV4–NL_22*01_S6977

565 sequences assigned
56 (9.9%) exact matches, in which:
52 unique CDR3
7 unique J



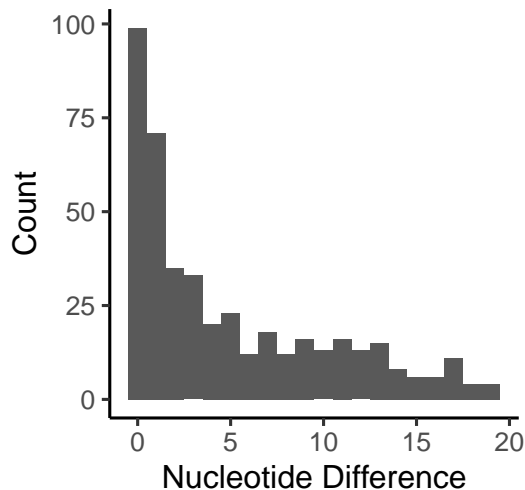
IGHV4–NL_26*01_S2261

2 sequences assigned
No exact matches.



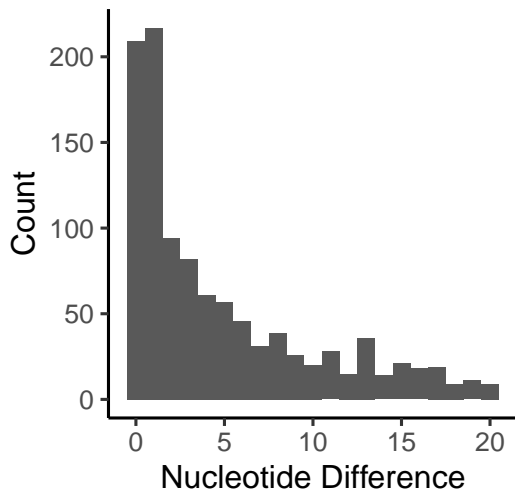
IGHV4–NL_27*01_S3510

464 sequences assigned
99 (21.3%) exact matches, in which:
82 unique CDR3
5 unique J



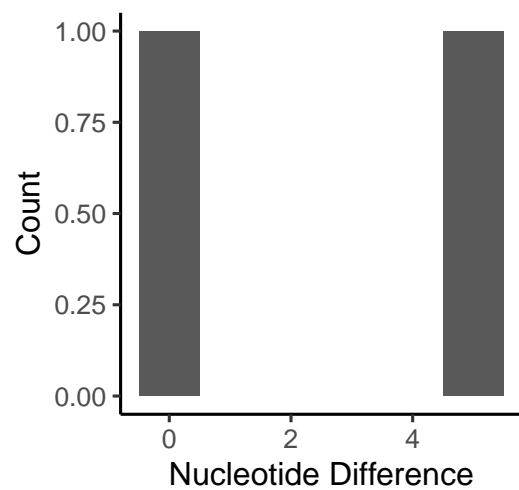
IGHV4–NL_29*01_S9610

1150 sequences assigned
209 (18.2%) exact matches, in which:
160 unique CDR3
8 unique J



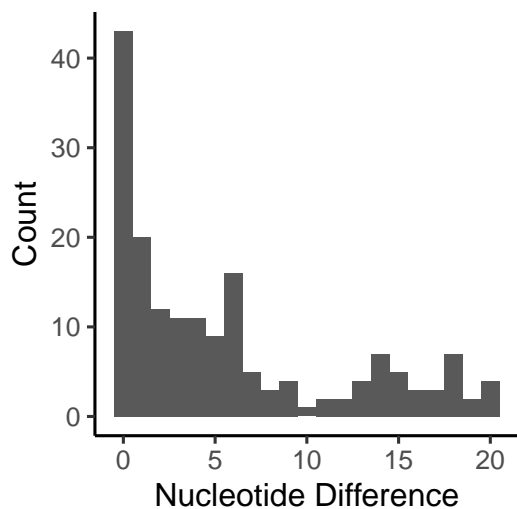
IGHV4–NL_31*01_S7693

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



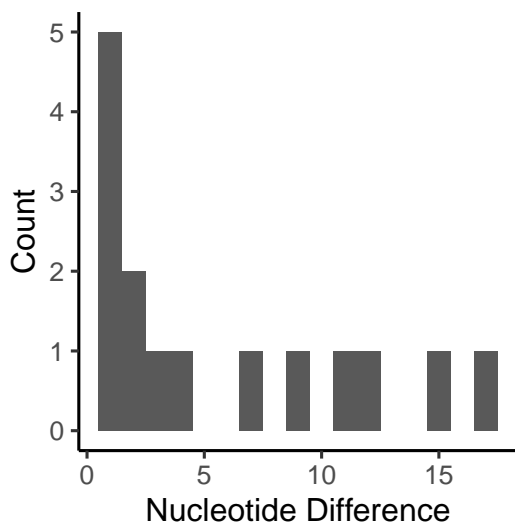
IGHV4–NL_28*01_S2610

228 sequences assigned
43 (18.9%) exact matches, in which:
42 unique CDR3
7 unique J



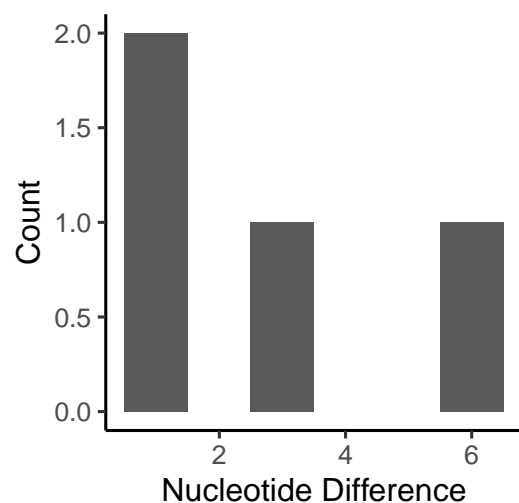
IGHV4–NL_3*01_S7576

16 sequences assigned
No exact matches.



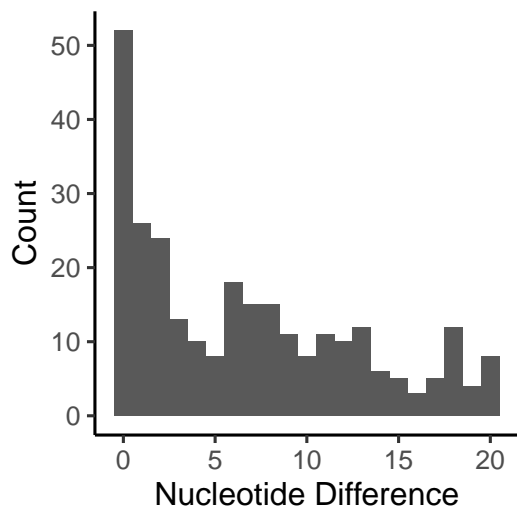
IGHV4–NL_32*01_S3033

4 sequences assigned
No exact matches.



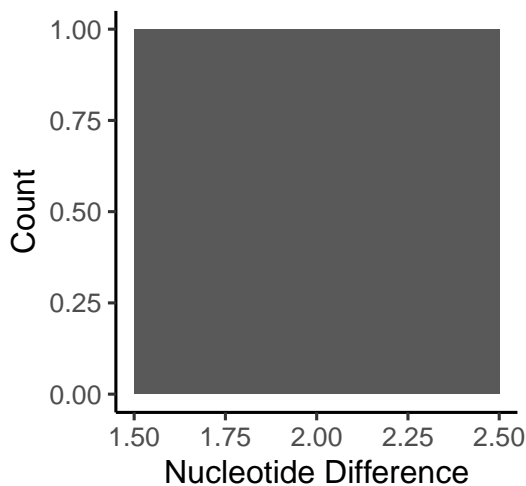
IGHV4–NL_28*01_S2610_S3510

339 sequences assigned
52 (15.3%) exact matches, in which:
50 unique CDR3
7 unique J



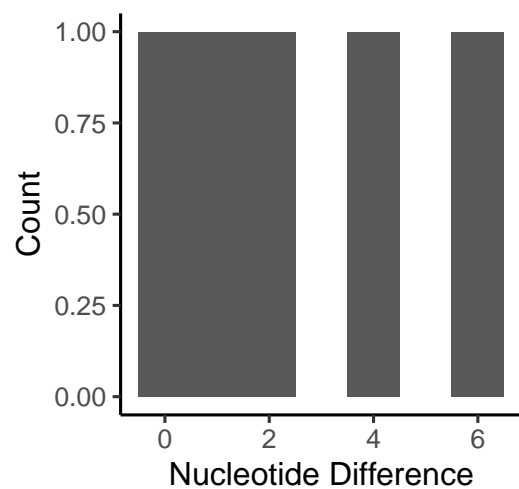
IGHV4–NL_31*01_S1675

1 sequences assigned
No exact matches.



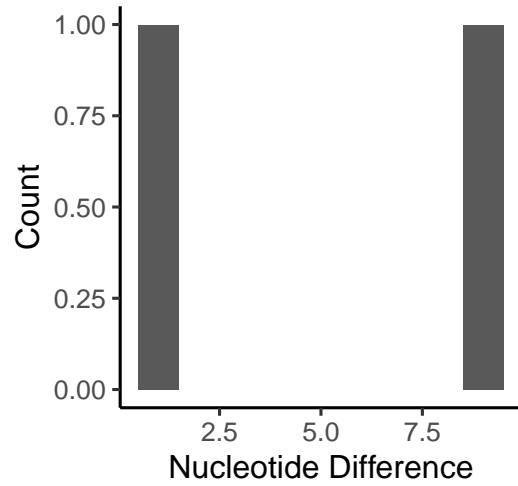
IGHV4–NL_33*01_S2532

5 sequences assigned
1 (20%) exact matches, in which:
1 unique CDR3
1 unique J



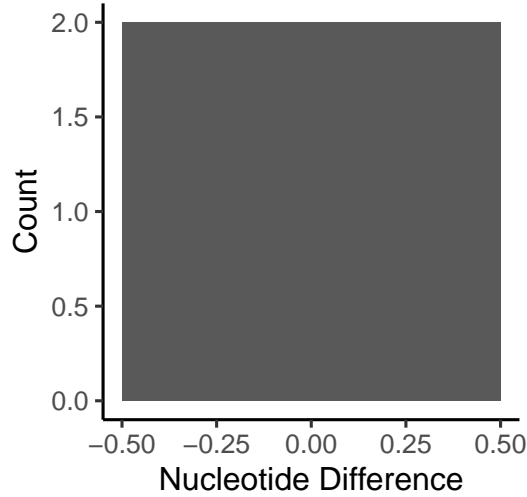
IGHV4-NL_33*01_S4377

2 sequences assigned
No exact matches.



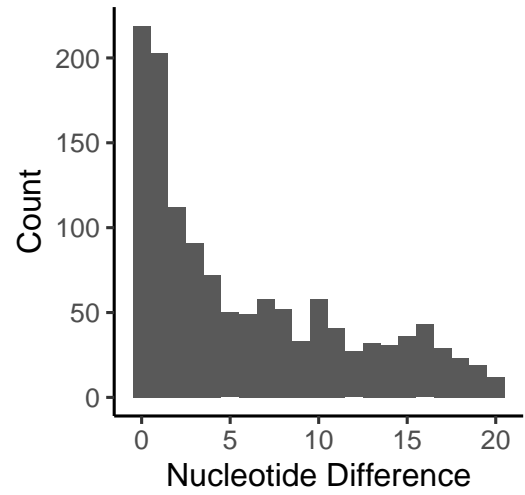
IGHV4-NL_34*01_S4749

2 sequences assigned
2 (100%) exact matches, in which:
2 unique CDR3
2 unique J



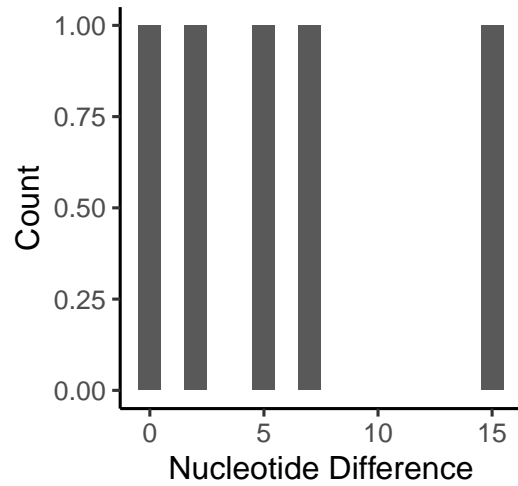
IGHV4-NL_36*01_S9644

1453 sequences assigned
219 (15.1%) exact matches, in which:
175 unique CDR3
7 unique J



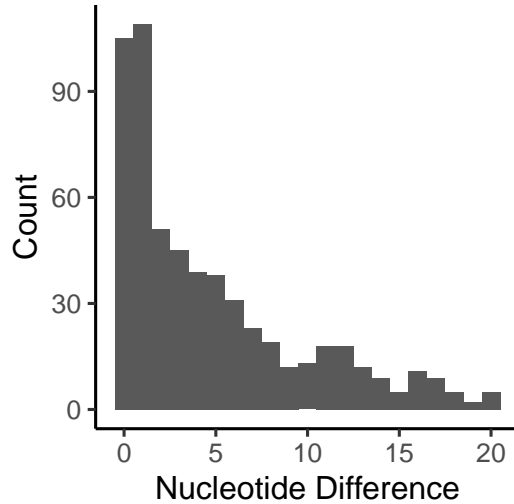
IGHV4-NL_33*01_S4467

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



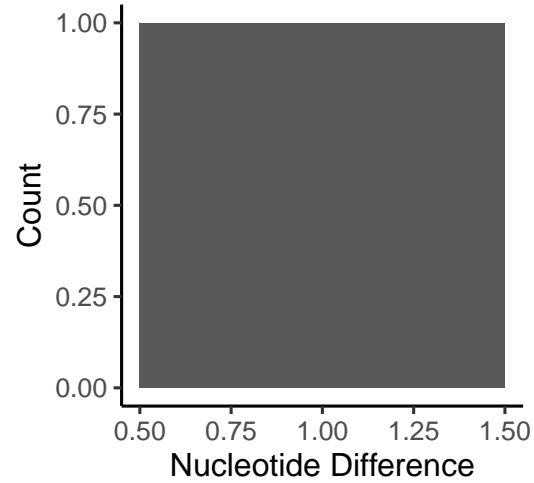
IGHV4-NL_36*01_S3269

613 sequences assigned
105 (17.1%) exact matches, in which:
84 unique CDR3
5 unique J



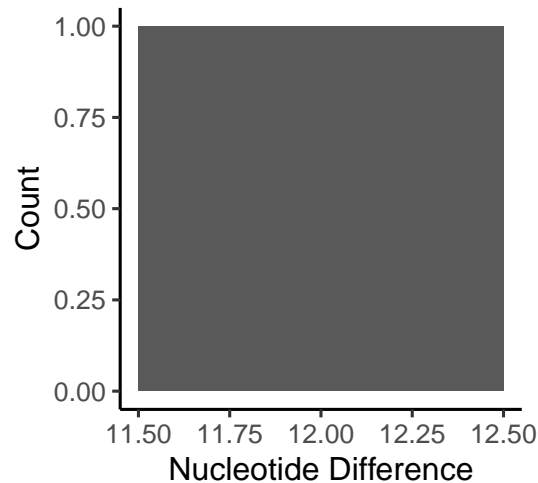
IGHV4-NL_38*01_S2187

2 sequences assigned
No exact matches.



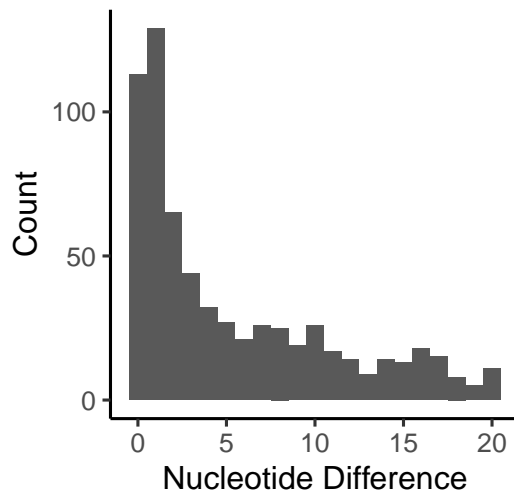
IGHV4-NL_33*01_S8127

1 sequences assigned
No exact matches.



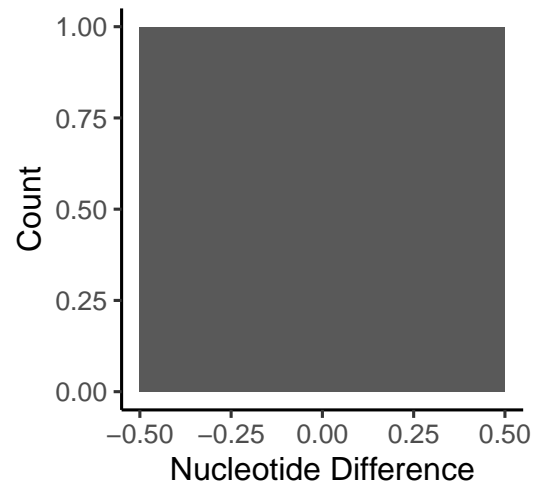
IGHV4-NL_36*01_S5847

778 sequences assigned
113 (14.5%) exact matches, in which:
93 unique CDR3
8 unique J



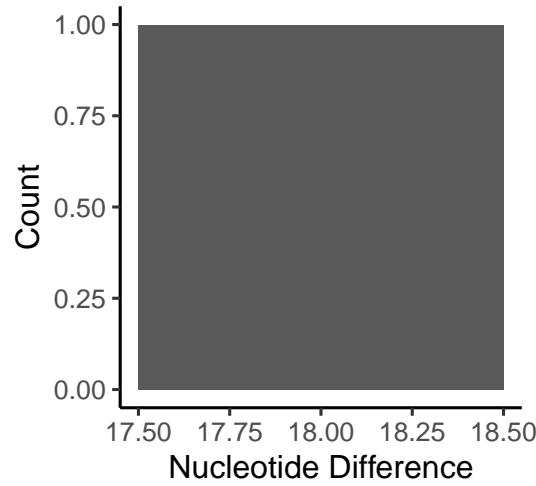
IGHV4-NL_38*01_S8437

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



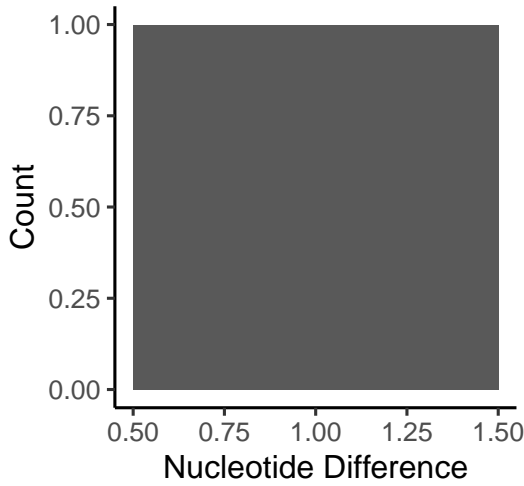
IGHV4-NL_4*01_S5211

1 sequences assigned
No exact matches.



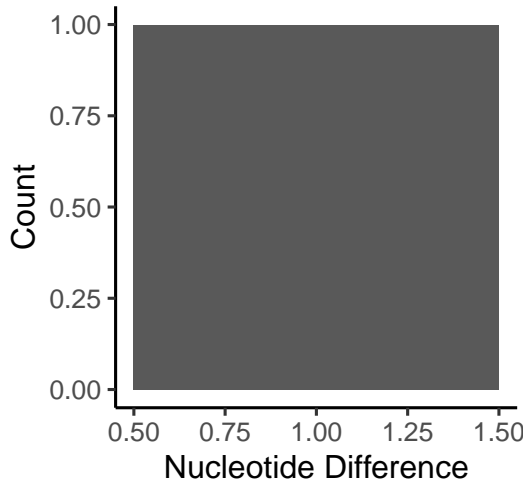
IGHV4-NL_40*01_S5093

1 sequences assigned
No exact matches.



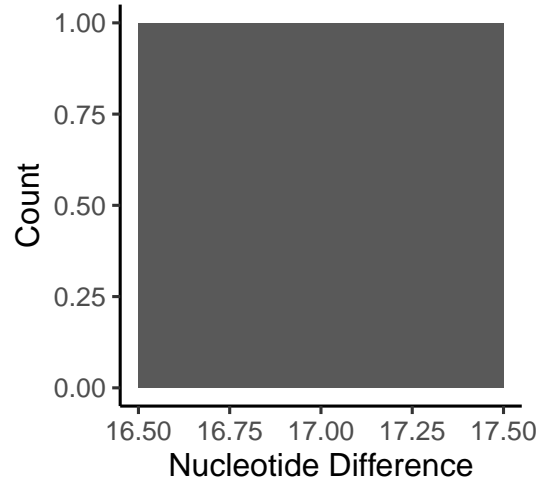
IGHV4-NL_6*01_S5805

1 sequences assigned
No exact matches.



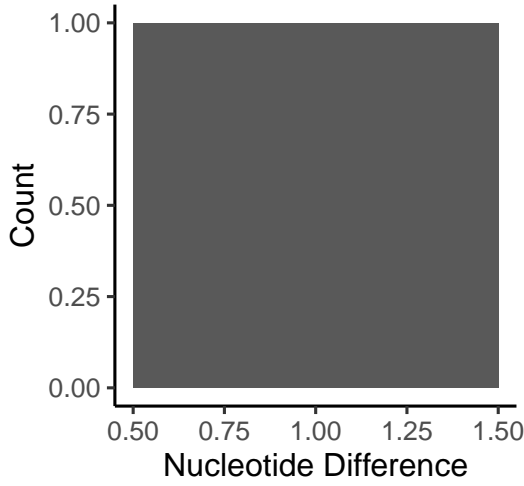
IGHV4-NL_40*01_S0696

1 sequences assigned
No exact matches.



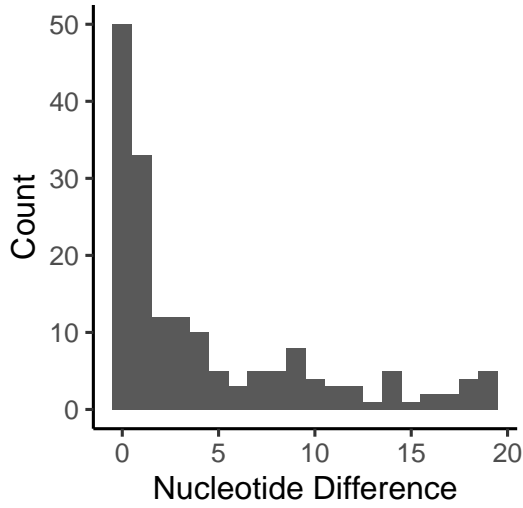
IGHV4-NL_42*01_S3572

1 sequences assigned
No exact matches.



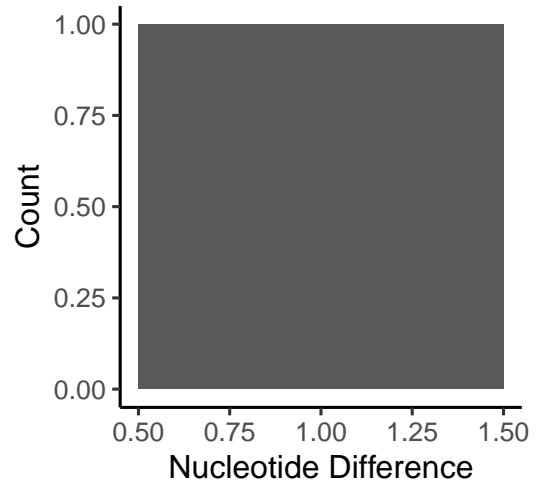
IGHV4-NL_7*02_S0143

189 sequences assigned
50 (26.5%) exact matches, in which:
41 unique CDR3
5 unique J



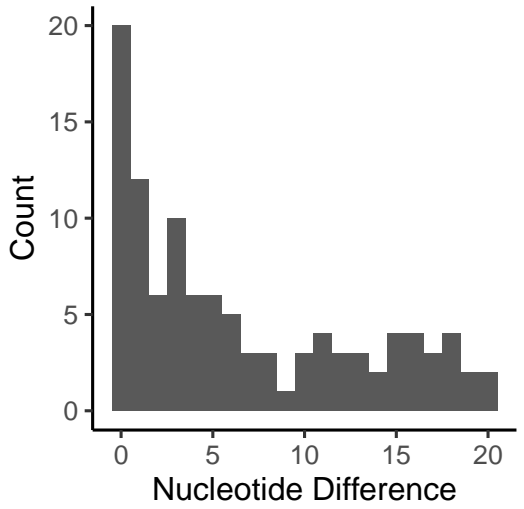
IGHV4-NL_40*01_S0979

1 sequences assigned
No exact matches.



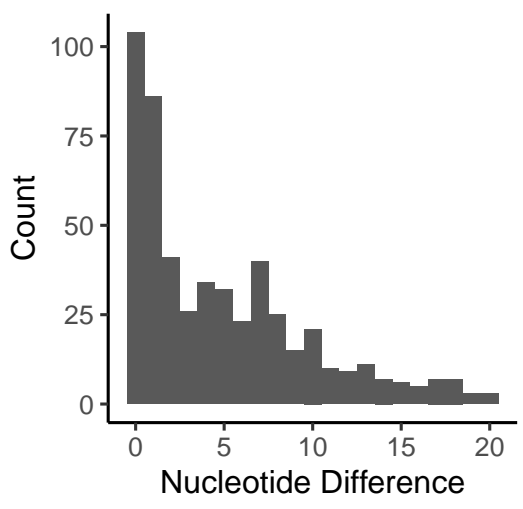
IGHV4-NL_5*01_S4603

129 sequences assigned
20 (15.5%) exact matches, in which:
19 unique CDR3
4 unique J



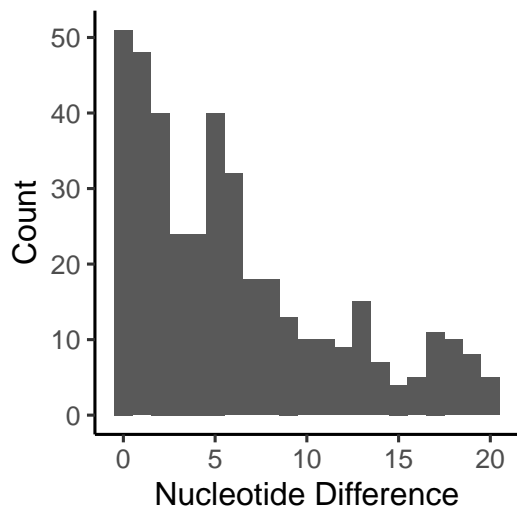
IGHV4-NL_9*01_S1435

534 sequences assigned
104 (19.5%) exact matches, in which:
84 unique CDR3
6 unique J



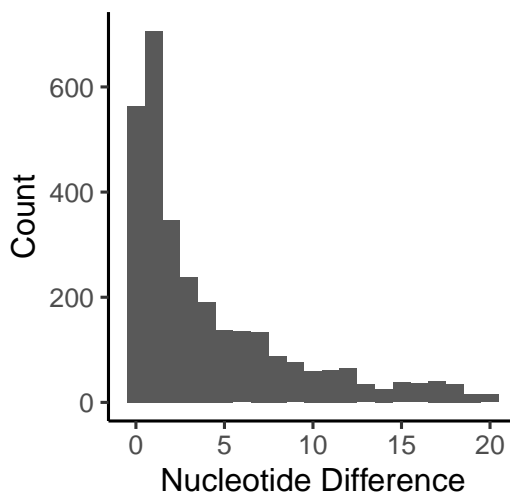
IGHV4–NL_9*01_S4906

442 sequences assigned
51 (11.5%) exact matches, in which:
42 unique CDR3
5 unique J



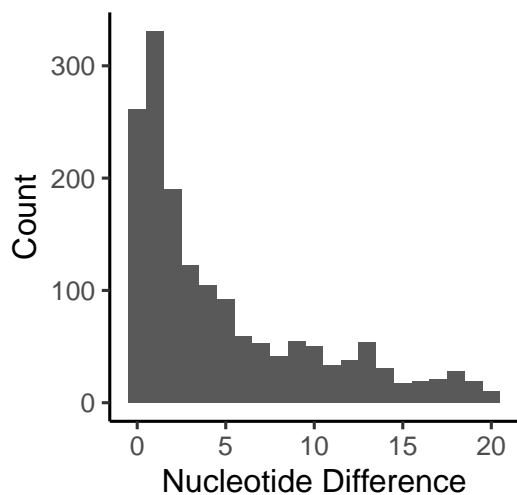
IGHV5–157*01_S6479

3195 sequences assigned
564 (17.7%) exact matches, in which:
254 unique CDR3
7 unique J



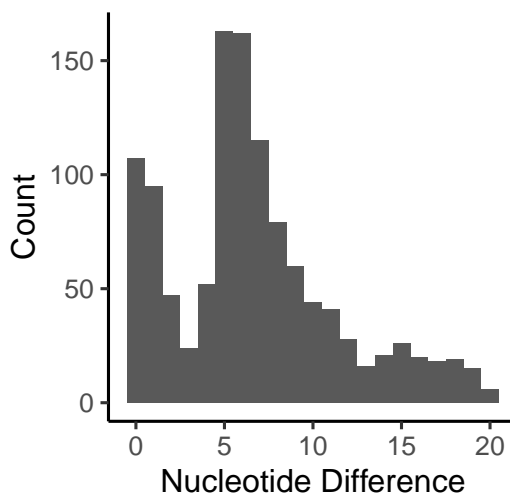
IGHV5–15*01_S9061

1655 sequences assigned
261 (15.8%) exact matches, in which:
127 unique CDR3
5 unique J



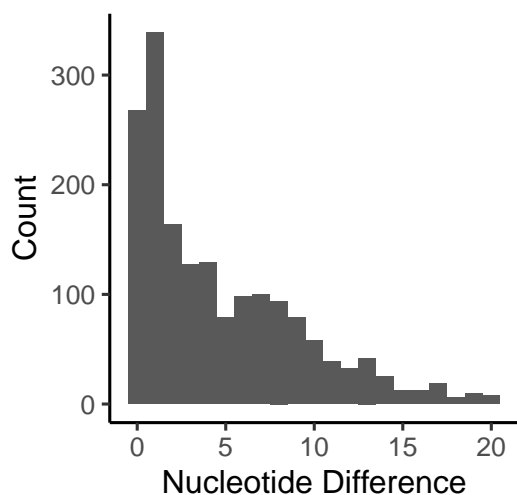
IGHV7–86*01_S9209

1211 sequences assigned
107 (8.8%) exact matches, in which:
46 unique CDR3
7 unique J



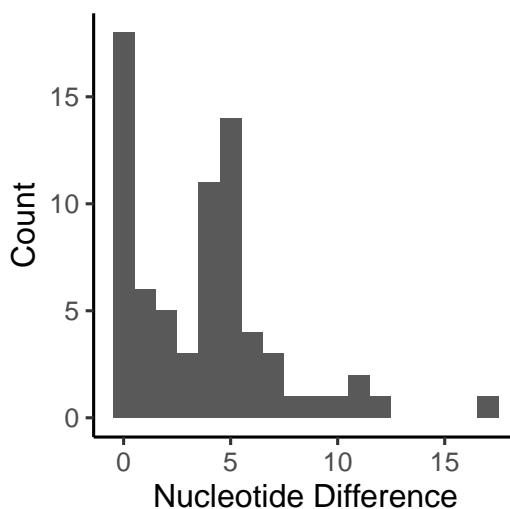
IGHV5–157*01_S5960

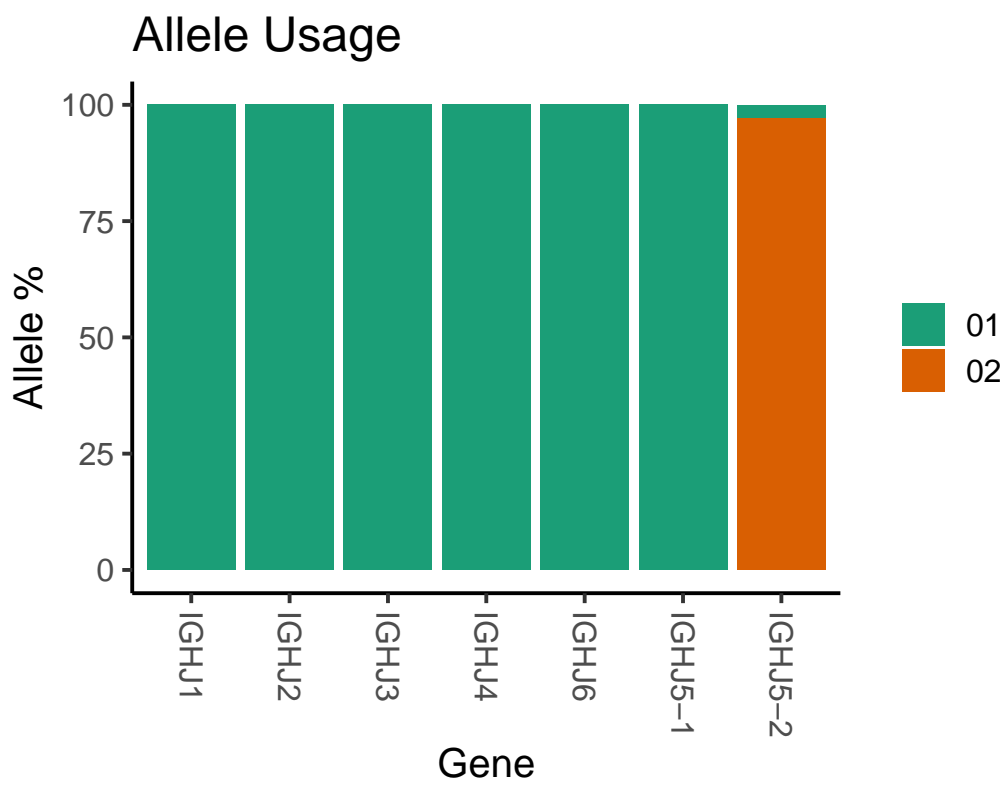
1863 sequences assigned
268 (14.4%) exact matches, in which:
133 unique CDR3
5 unique J



IGHV7–135*01_S9086

75 sequences assigned
18 (24%) exact matches, in which:
13 unique CDR3
3 unique J





Warning – no inferred sequences found.