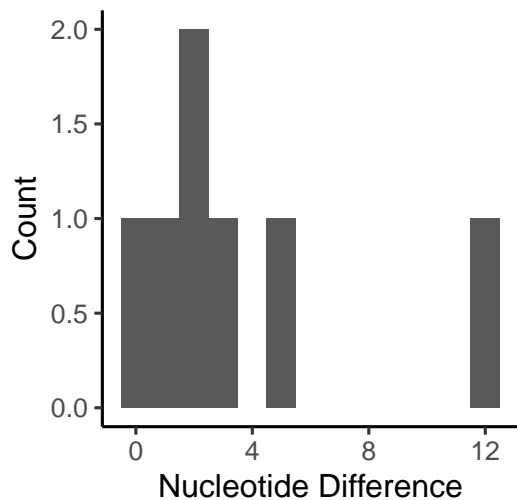


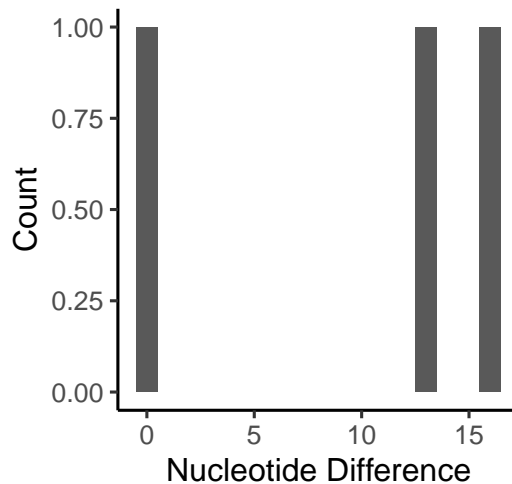
IGHV1-60*01_S7772

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



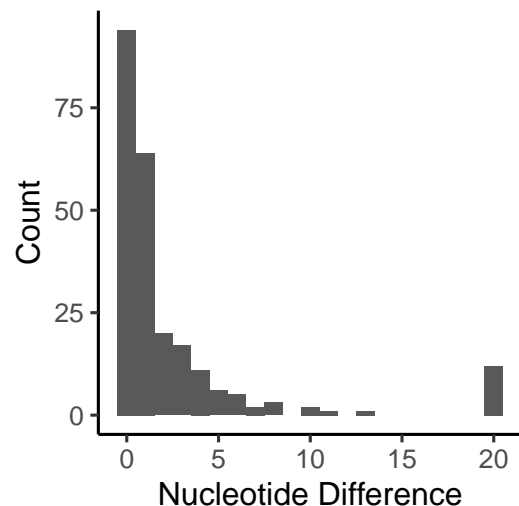
IGHV1-105*01_S9006

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



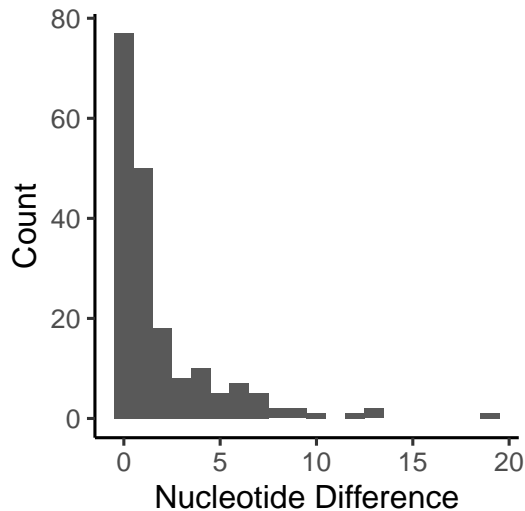
IGHV1-138*02_S9625

252 sequences assigned
94 (37.3%) exact matches, in which:
72 unique CDR3
6 unique J



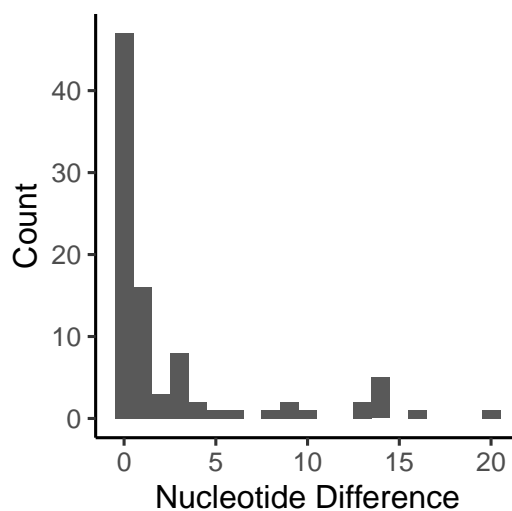
IGHV1-84*01_S2078

189 sequences assigned
77 (40.7%) exact matches, in which:
45 unique CDR3
6 unique J



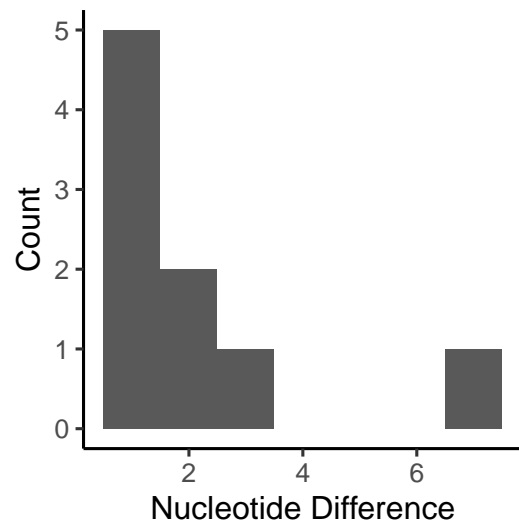
IGHV1-124*01_S6748

94 sequences assigned
47 (50%) exact matches, in which:
32 unique CDR3
5 unique J



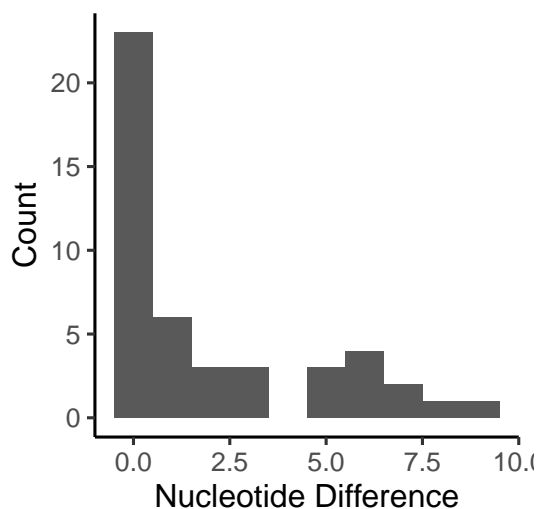
IGHV1-170*01_S3055

9 sequences assigned
No exact matches.



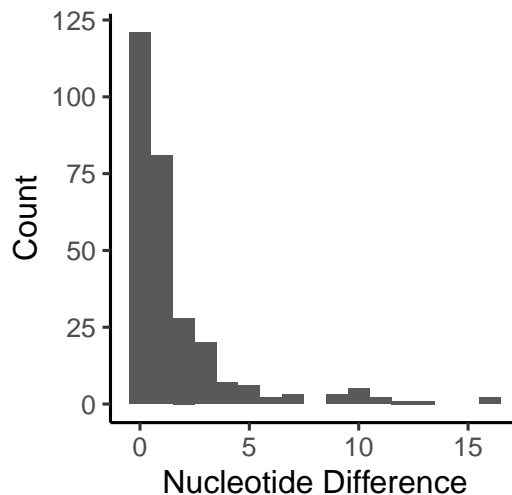
IGHV1-84*01_S4048

46 sequences assigned
23 (50%) exact matches, in which:
12 unique CDR3
5 unique J



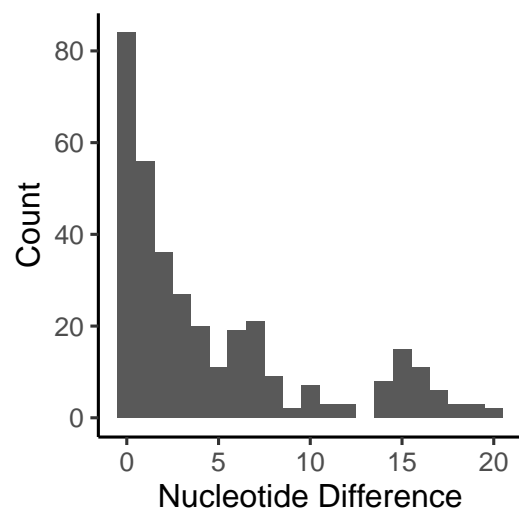
IGHV1-138*01_S0851

282 sequences assigned
121 (42.9%) exact matches, in which:
86 unique CDR3
6 unique J



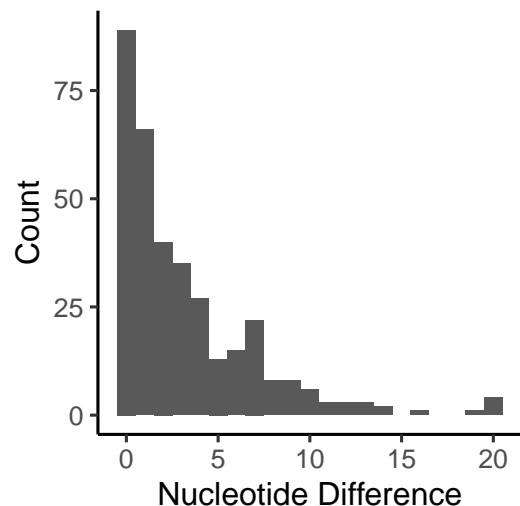
IGHV1-NL_1*01_S5433

351 sequences assigned
84 (23.9%) exact matches, in which:
54 unique CDR3
6 unique J



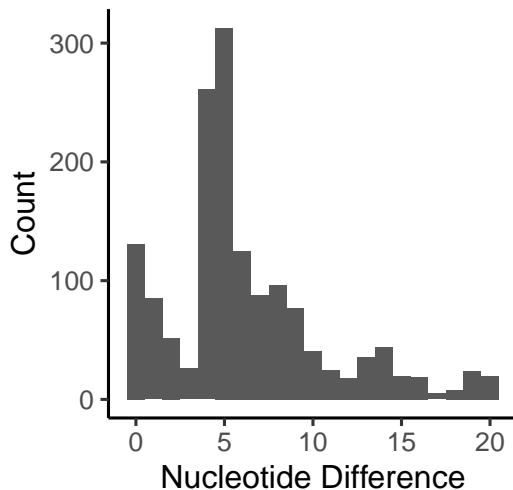
IGHV1–NL_1*01_S8523

348 sequences assigned
89 (25.6%) exact matches, in which:
53 unique CDR3
7 unique J



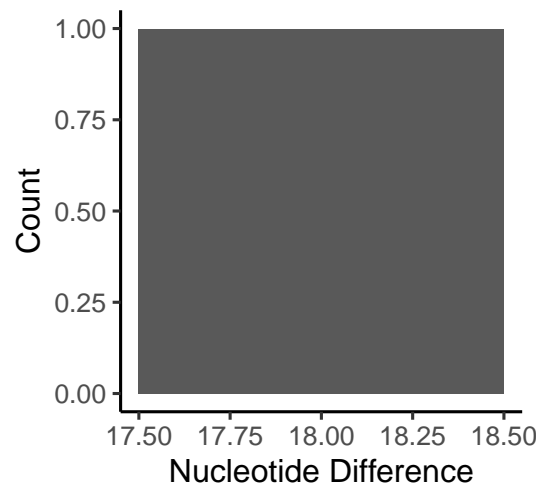
IGHV2–69*01_S2648

1533 sequences assigned
131 (8.5%) exact matches, in which:
85 unique CDR3
7 unique J



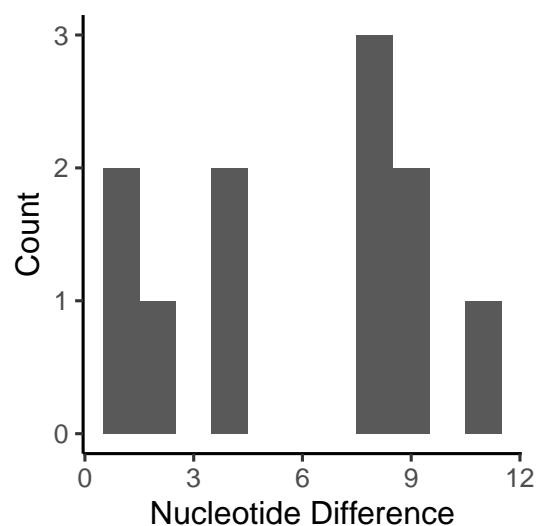
IGHV2–173*01_S2781

1 sequences assigned
No exact matches.



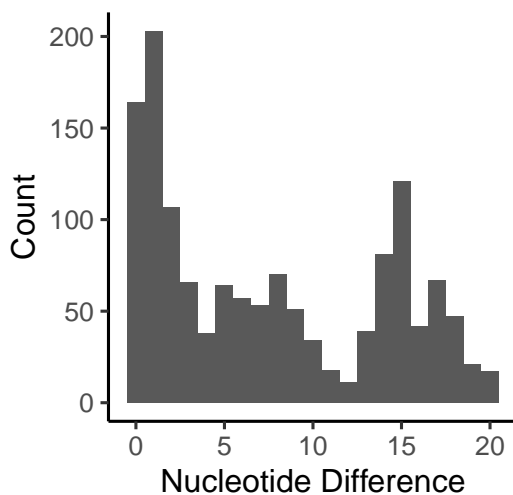
IGHV1–NL_2*01_S8362

11 sequences assigned
No exact matches.



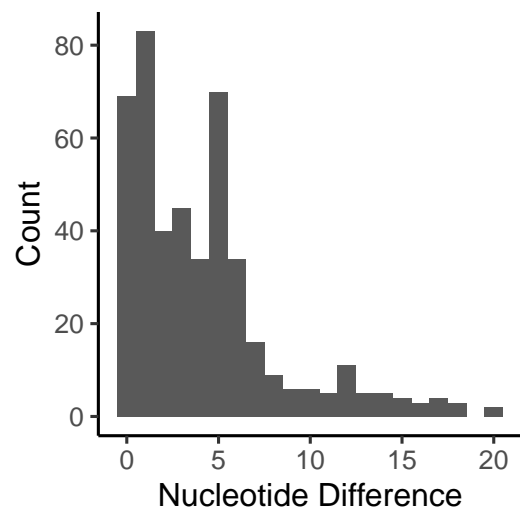
IGHV2–69*01_S8990

1428 sequences assigned
164 (11.5%) exact matches, in which:
82 unique CDR3
7 unique J



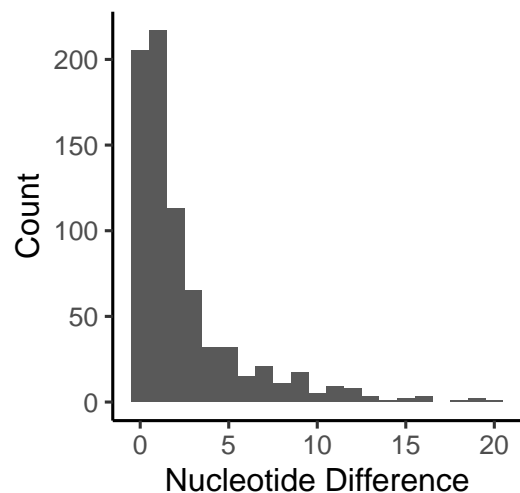
IGHV2–NL_1*01_S4605

466 sequences assigned
69 (14.8%) exact matches, in which:
44 unique CDR3
7 unique J



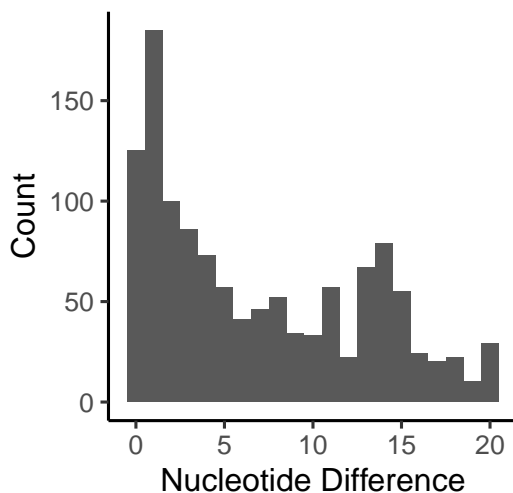
IGHV2–7*02_S3534

775 sequences assigned
205 (26.5%) exact matches, in which:
116 unique CDR3
7 unique J



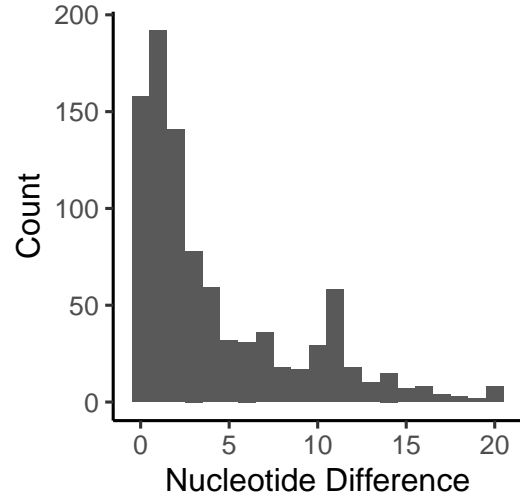
IGHV2–118*01_S2278

1441 sequences assigned
125 (8.7%) exact matches, in which:
78 unique CDR3
7 unique J



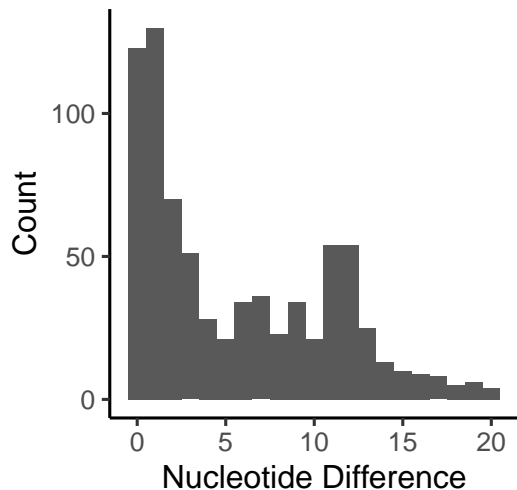
IGHV2–NL_1*01_S7937

932 sequences assigned
158 (17%) exact matches, in which:
97 unique CDR3
9 unique J



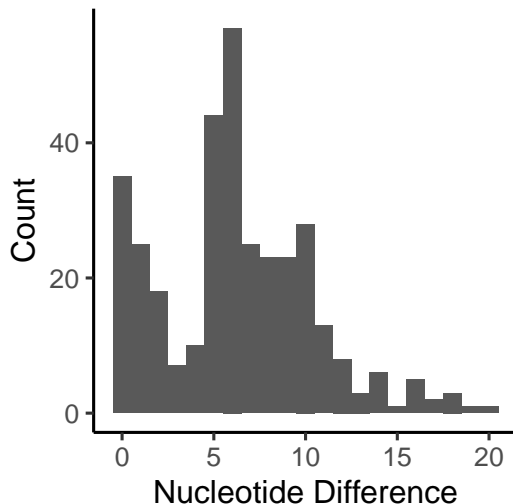
IGHV2–NL_2*01_S2193

771 sequences assigned
123 (16%) exact matches, in which:
68 unique CDR3
7 unique J



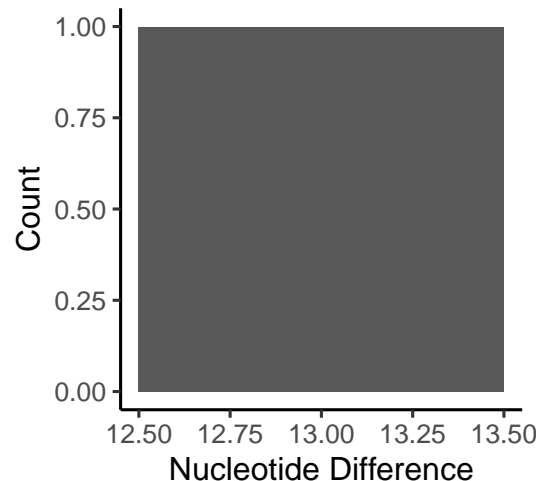
IGHV3–9*01_S0778

345 sequences assigned
35 (10.1%) exact matches, in which:
33 unique CDR3
6 unique J



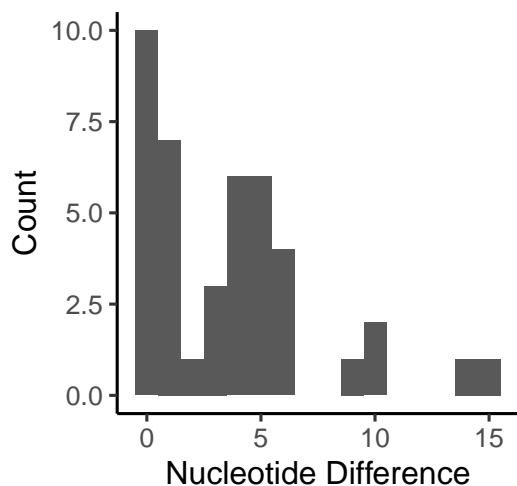
IGHV3–34*01_S1123

2 sequences assigned
No exact matches.



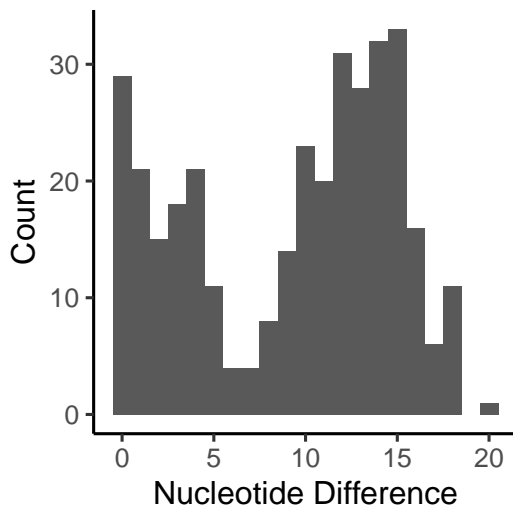
IGHV3–5*01_S1720

43 sequences assigned
10 (23.3%) exact matches, in which:
8 unique CDR3
3 unique J



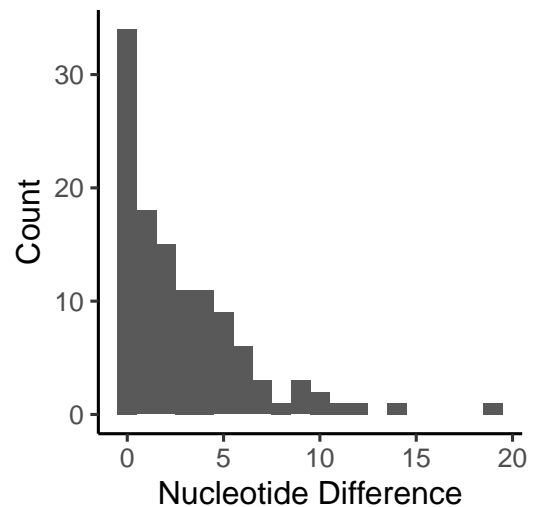
IGHV3–28*01_S7540

385 sequences assigned
29 (7.5%) exact matches, in which:
22 unique CDR3
4 unique J



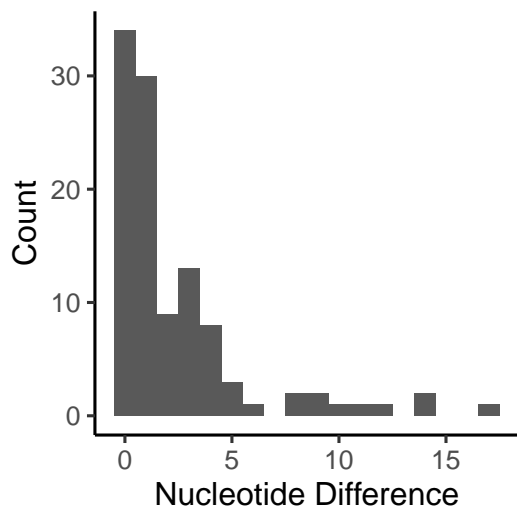
IGHV3–36*01_S6740

120 sequences assigned
34 (28.3%) exact matches, in which:
33 unique CDR3
8 unique J



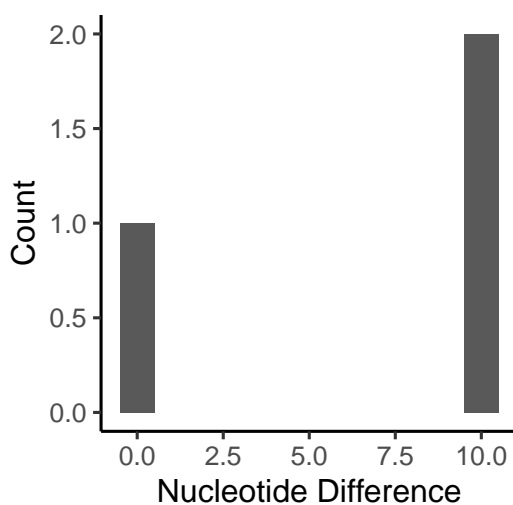
IGHV3–5*01_S8008

109 sequences assigned
34 (31.2%) exact matches, in which:
22 unique CDR3
4 unique J



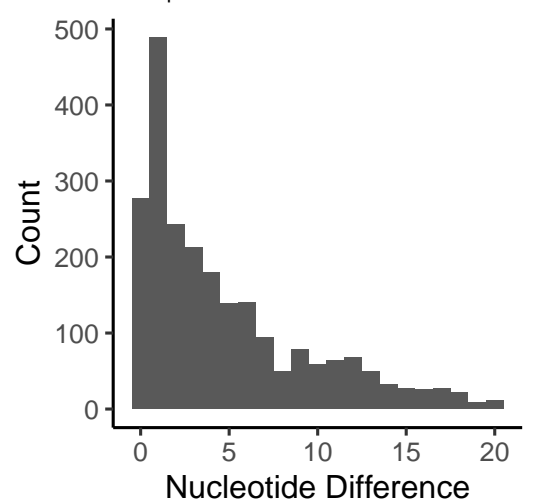
IGHV3–34*01_S0949

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



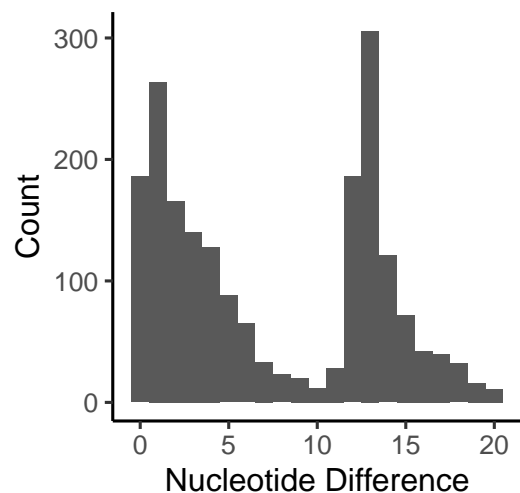
IGHV3–37*01_S0586

2357 sequences assigned
277 (11.8%) exact matches, in which:
141 unique CDR3
8 unique J



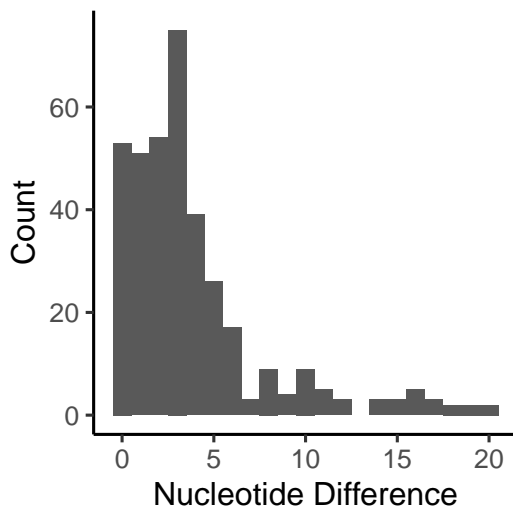
IGHV3-50*01_S8418

2067 sequences assigned
186 (9%) exact matches, in which:
119 unique CDR3
7 unique J



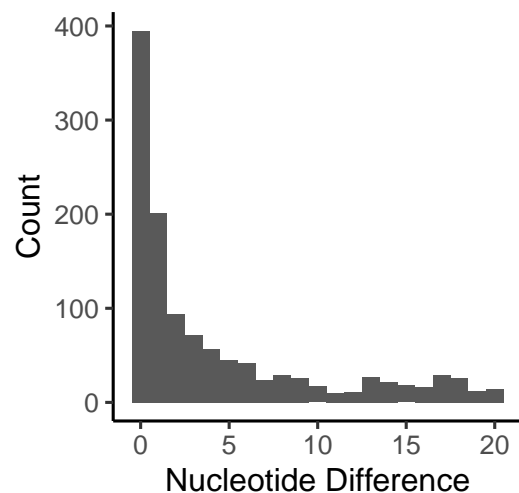
IGHV3-53*01_S2905

382 sequences assigned
53 (13.9%) exact matches, in which:
40 unique CDR3
6 unique J



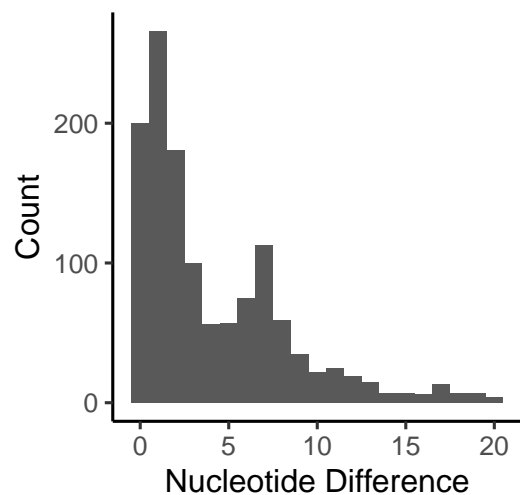
IGHV3-73*01_S7929

1214 sequences assigned
395 (32.5%) exact matches, in which:
261 unique CDR3
8 unique J



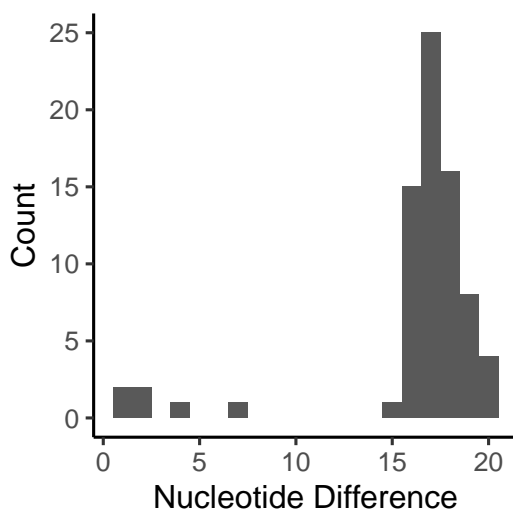
IGHV3-50*01_S8530

1292 sequences assigned
200 (15.5%) exact matches, in which:
127 unique CDR3
7 unique J



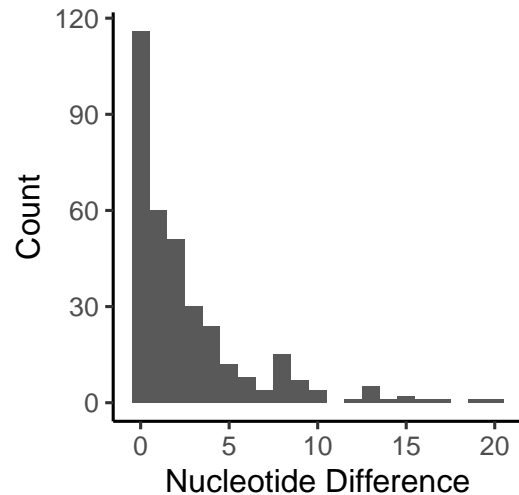
IGHV3-53*01_S6933

93 sequences assigned
No exact matches.



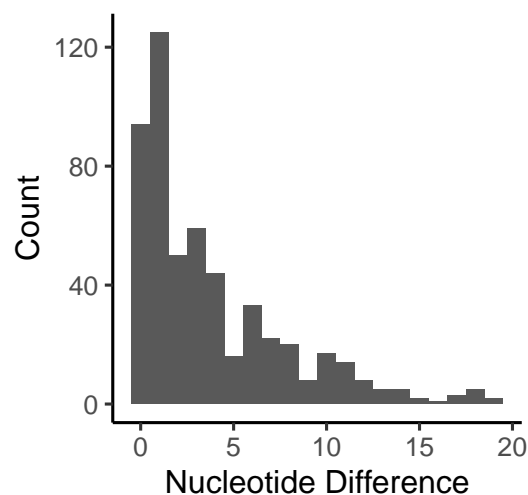
IGHV3-73*02_S2538

345 sequences assigned
116 (33.6%) exact matches, in which:
89 unique CDR3
7 unique J



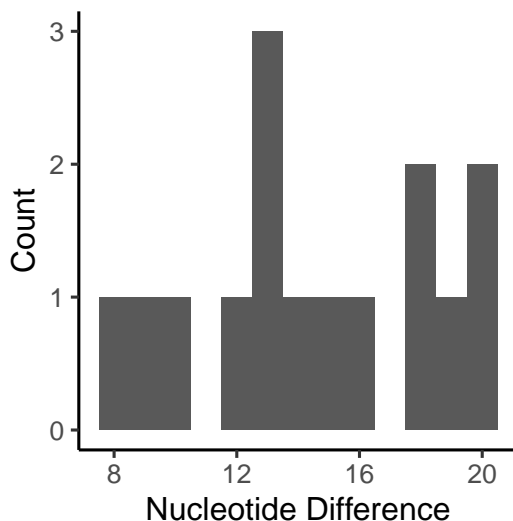
IGHV3-52*02_S4550

537 sequences assigned
94 (17.5%) exact matches, in which:
60 unique CDR3
6 unique J



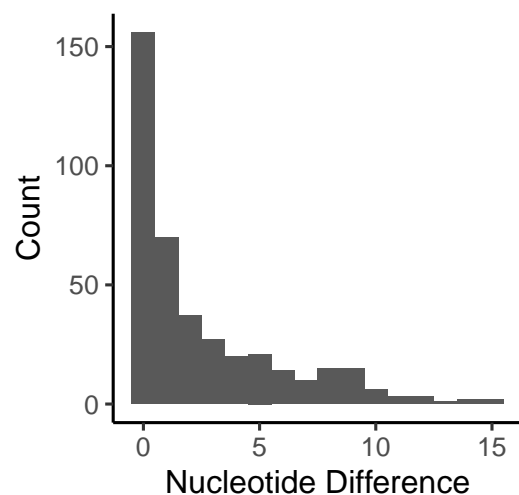
IGHV3-53*01_S8913

23 sequences assigned
No exact matches.



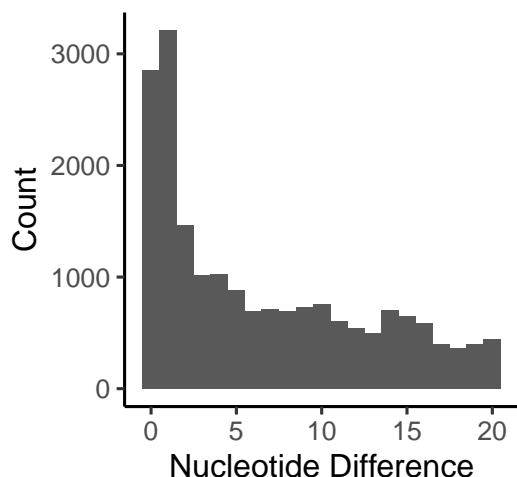
IGHV3-73*02_S7500

402 sequences assigned
156 (38.8%) exact matches, in which:
107 unique CDR3
8 unique J



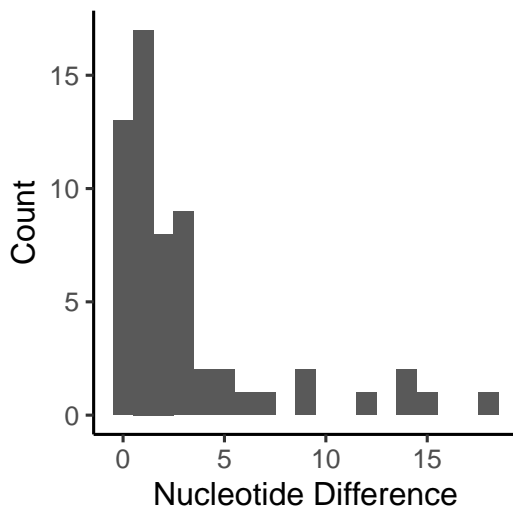
IGHV3-76*02_S4190

21187 sequences assigned
2856 (13.5%) exact matches, in which:
2065 unique CDR3
10 unique J



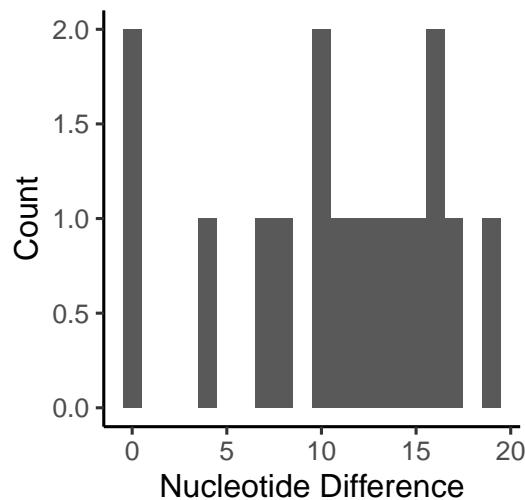
IGHV3-87*01_S1401

61 sequences assigned
13 (21.3%) exact matches, in which:
10 unique CDR3
4 unique J



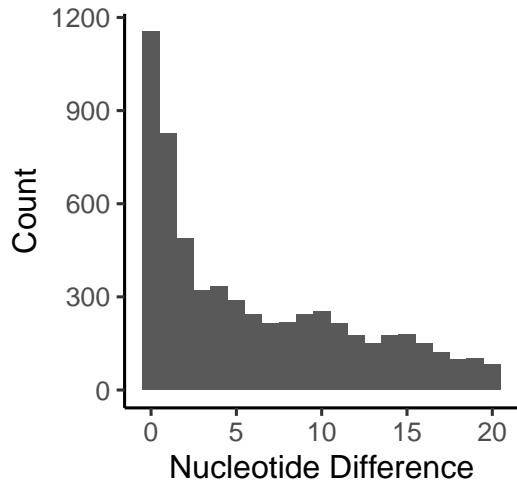
IGHV3-88*02_S9033

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



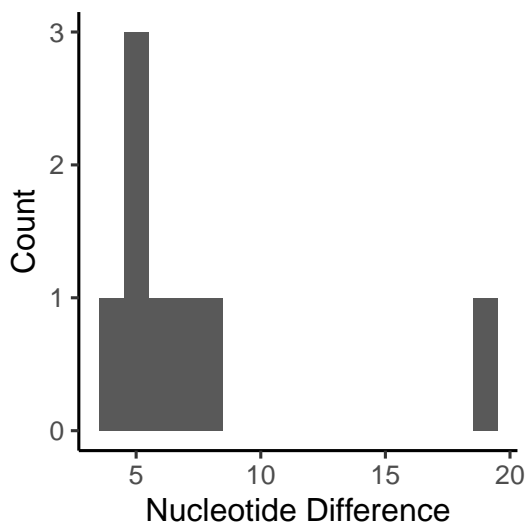
IGHV3-76*02_S4190_A1

6662 sequences assigned
1154 (17.3%) exact matches, in which:
1053 unique CDR3
9 unique J



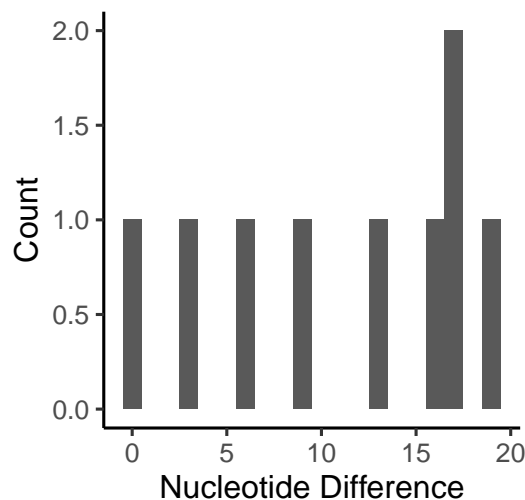
IGHV3-87*02_S7927

43 sequences assigned
No exact matches.



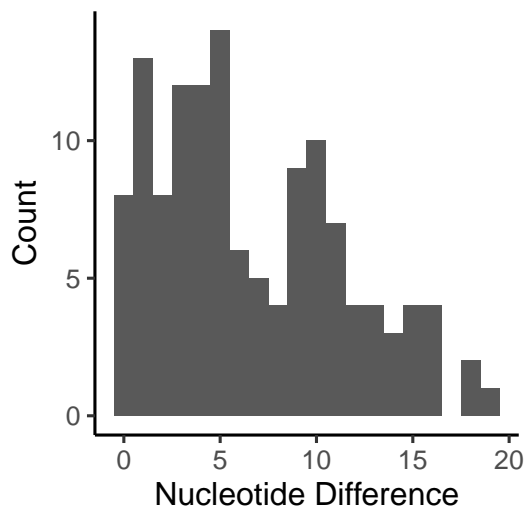
IGHV3-94*01_S8766

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



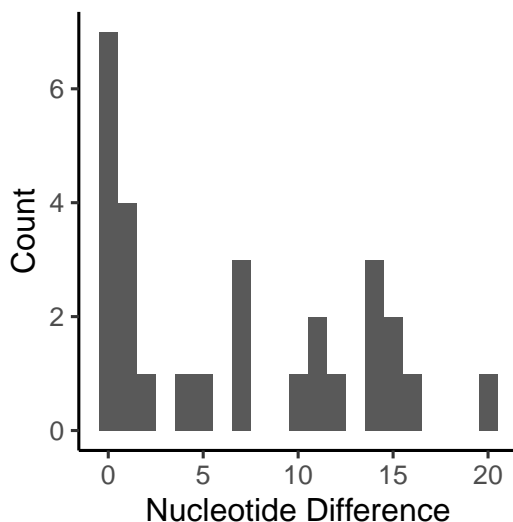
IGHV3-83*01_S5932

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



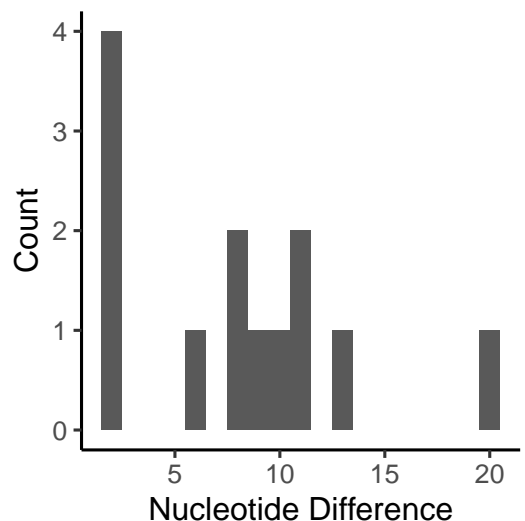
IGHV3-88*02_S1054

33 sequences assigned
7 (21.2%) exact matches, in which:
7 unique CDR3
6 unique J



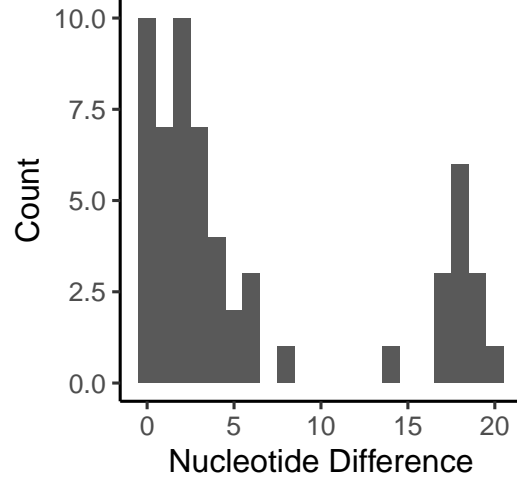
IGHV3-94*01_S9358

13 sequences assigned
No exact matches.



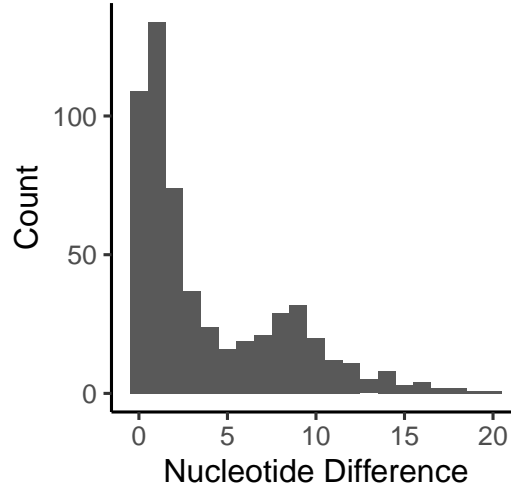
IGHV3-100*01_S4375

64 sequences assigned
10 (15.6%) exact matches, in which:
7 unique CDR3
2 unique J



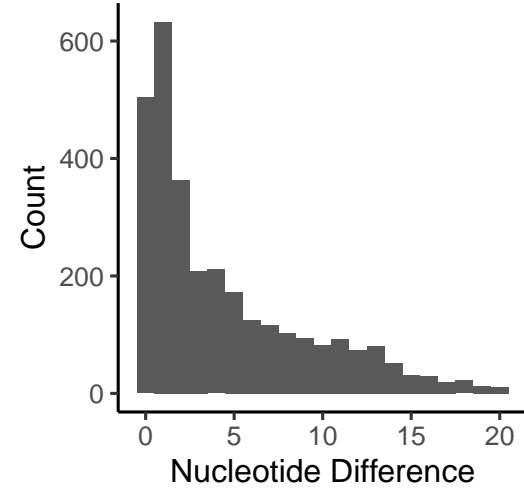
IGHV3-119*01_S5944

571 sequences assigned
109 (19.1%) exact matches, in which:
55 unique CDR3
5 unique J



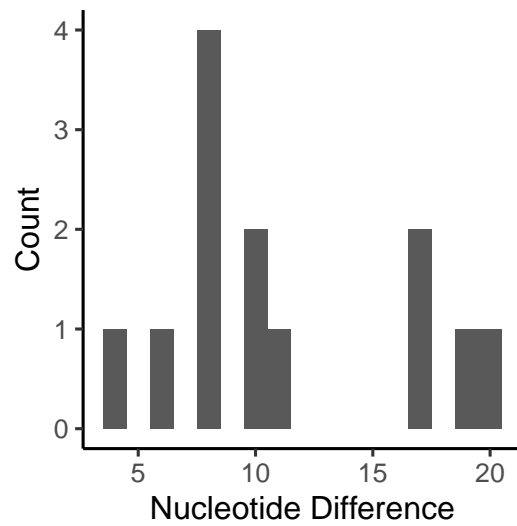
IGHV3-122*01_S8388

3116 sequences assigned
504 (16.2%) exact matches, in which:
344 unique CDR3
8 unique J



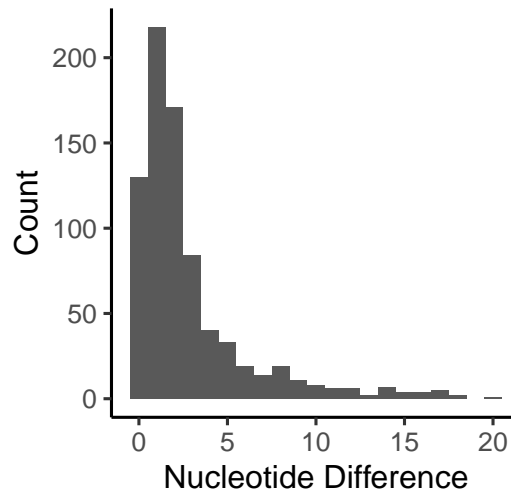
IGHV3-103*01_S1165

14 sequences assigned
No exact matches.



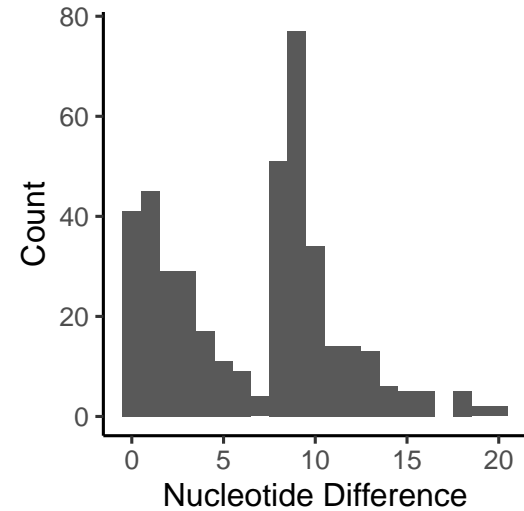
IGHV3-120*01_S7674

794 sequences assigned
130 (16.4%) exact matches, in which:
89 unique CDR3
6 unique J



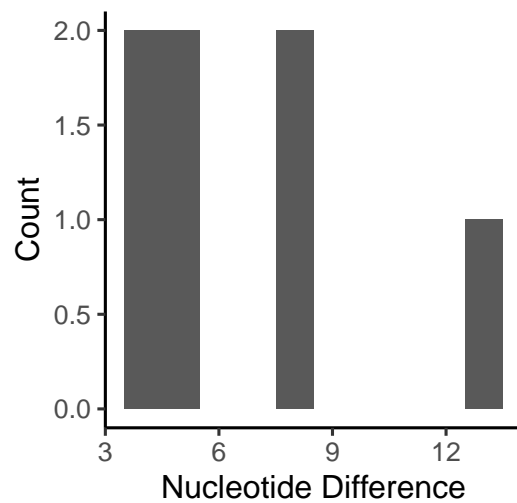
IGHV3-127*01_S6769

427 sequences assigned
41 (9.6%) exact matches, in which:
27 unique CDR3
6 unique J



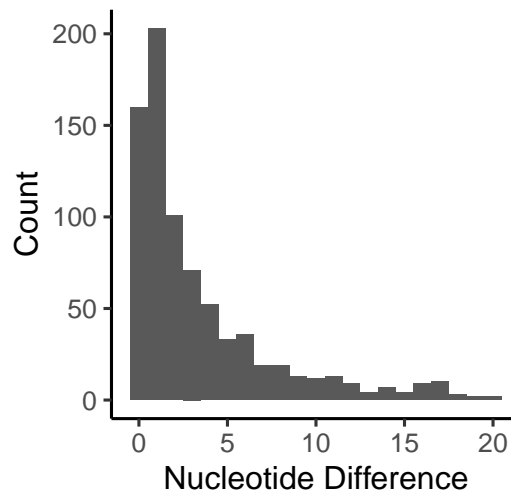
IGHV3-103*01_S6076

7 sequences assigned
No exact matches.



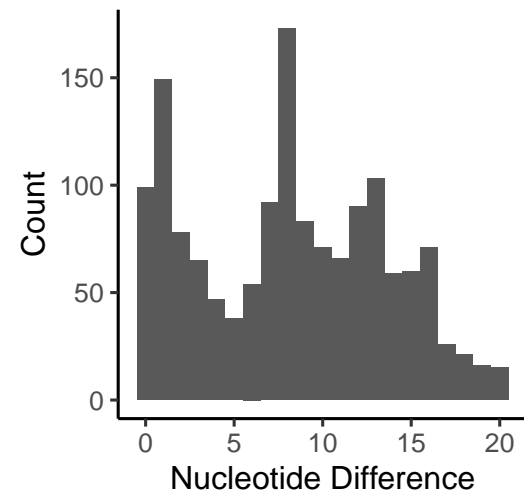
IGHV3-122*01_S0584

795 sequences assigned
160 (20.1%) exact matches, in which:
113 unique CDR3
7 unique J



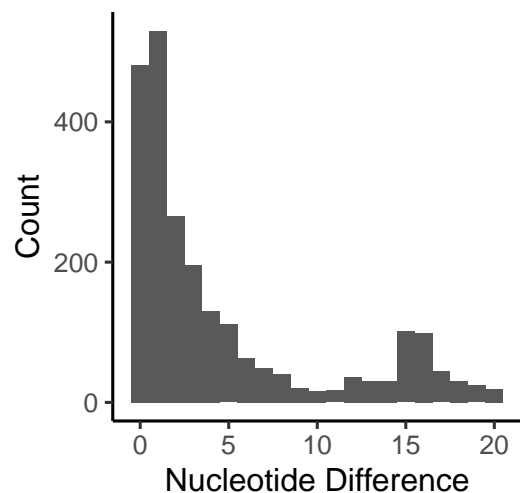
IGHV3-128*01_S6300

1545 sequences assigned
99 (6.4%) exact matches, in which:
46 unique CDR3
5 unique J



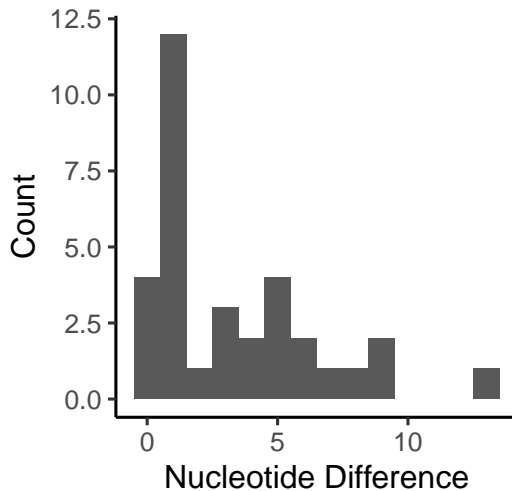
IGHV3-141*01_S8690

2420 sequences assigned
481 (19.9%) exact matches, in which:
377 unique CDR3
7 unique J



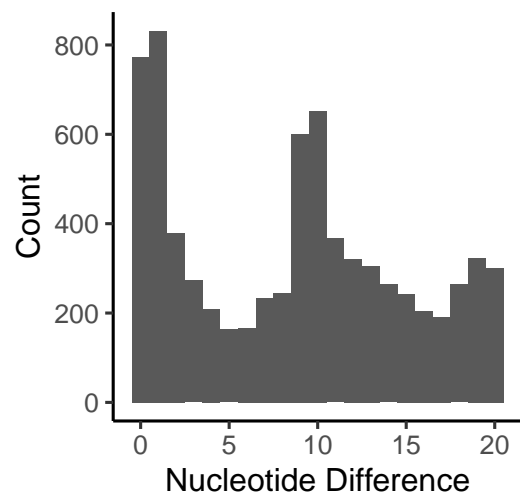
IGHV3-172*01_S1597

33 sequences assigned
4 (12.1%) exact matches, in which:
3 unique CDR3
3 unique J



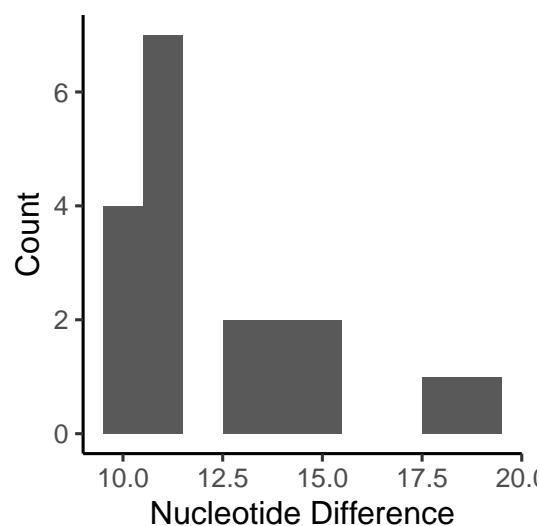
IGHV3-187*01_S6641

8287 sequences assigned
773 (9.3%) exact matches, in which:
509 unique CDR3
8 unique J



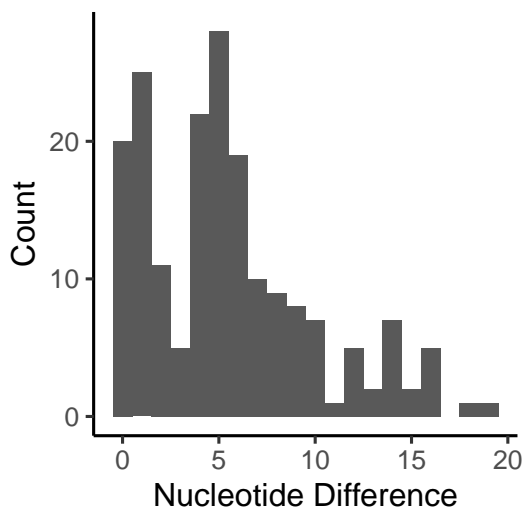
IGHV3-143*01_S1591

20 sequences assigned
No exact matches.



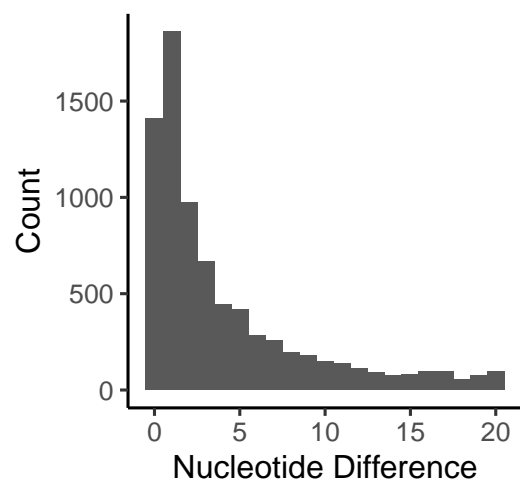
IGHV3-172*01_S8488

193 sequences assigned
20 (10.4%) exact matches, in which:
12 unique CDR3
5 unique J



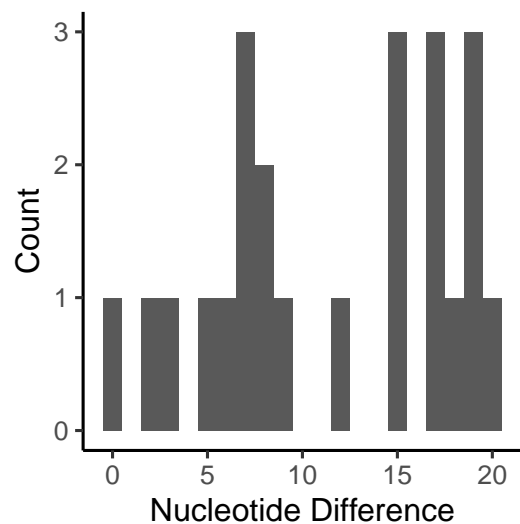
IGHV3-NL_1*01_S1988

8713 sequences assigned
1408 (16.2%) exact matches, in which:
890 unique CDR3
9 unique J



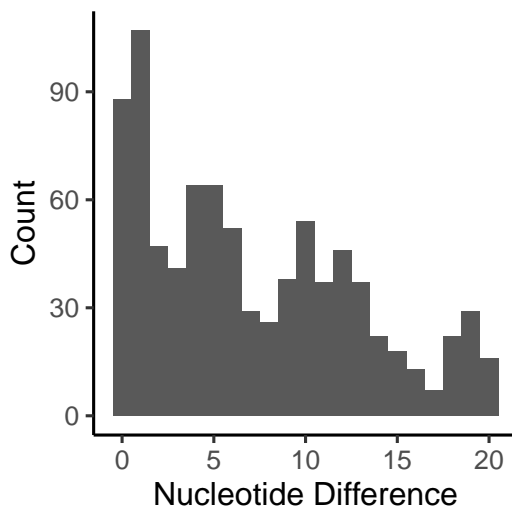
IGHV3-152*01_S7388

30 sequences assigned
1 (3.3%) exact matches, in which:
1 unique CDR3
1 unique J



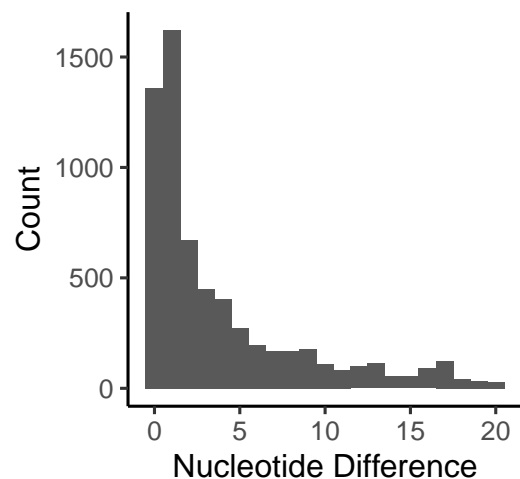
IGHV3-177*01_S8409

904 sequences assigned
88 (9.7%) exact matches, in which:
54 unique CDR3
7 unique J



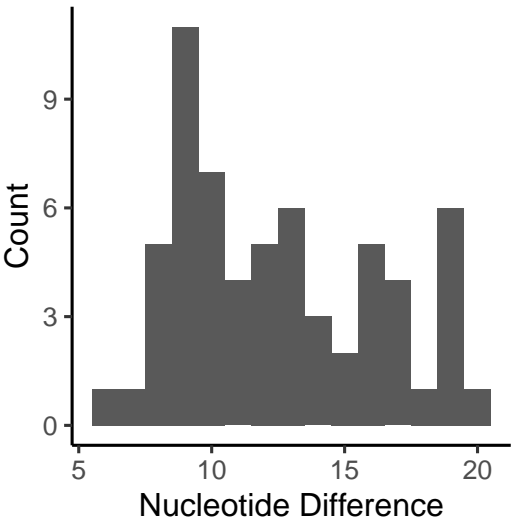
IGHV3-NL_1*01_S3947

6405 sequences assigned
1361 (21.2%) exact matches, in which:
889 unique CDR3
9 unique J



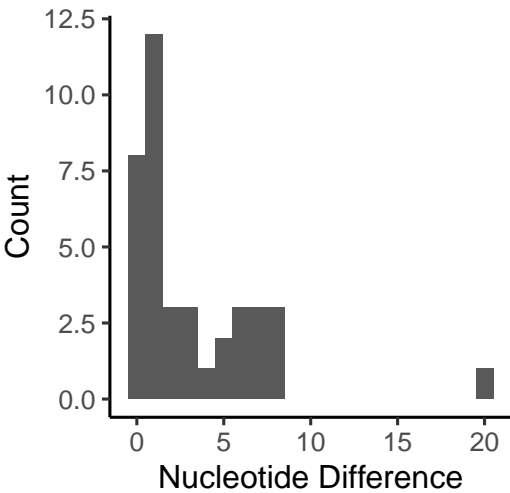
IGHV3–NL_10*02_S3155

87 sequences assigned
No exact matches.



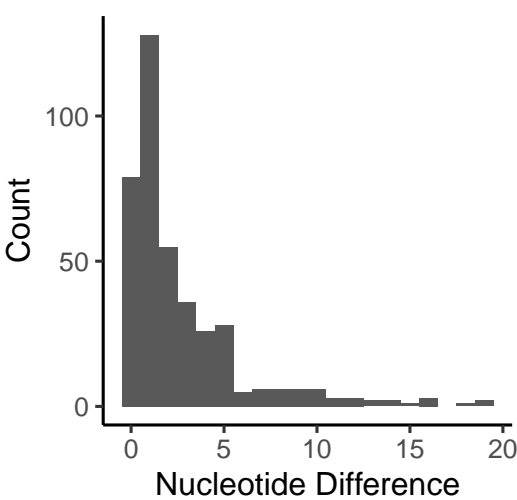
IGHV3–NL_13*01_S3277

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



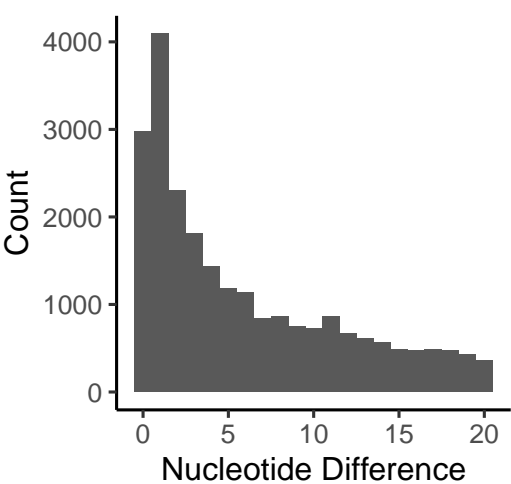
IGHV3–NL_16*01_S5994

400 sequences assigned
79 (19.8%) exact matches, in which:
43 unique CDR3
5 unique J



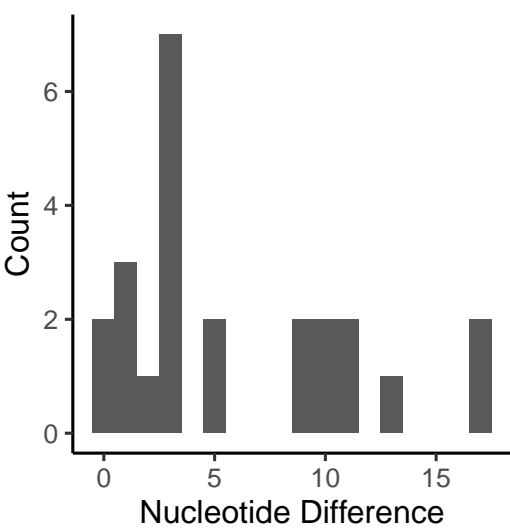
IGHV3–NL_11*01_S438

24935 sequences assigned
2978 (11.9%) exact matches, in which:
2060 unique CDR3
12 unique J



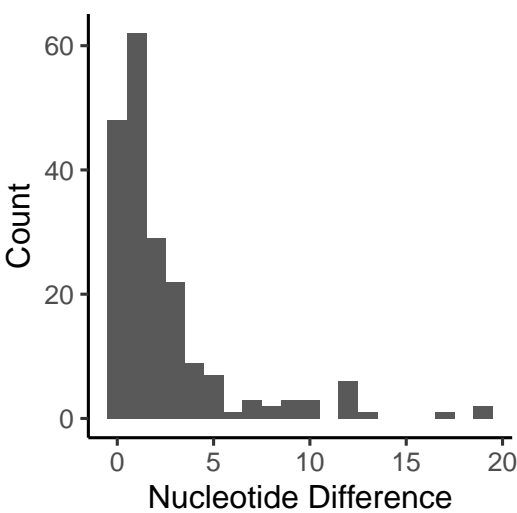
IGHV3–NL_13*01_S6424

24 sequences assigned
2 (8.3%) exact matches, in which:
2 unique CDR3
1 unique J



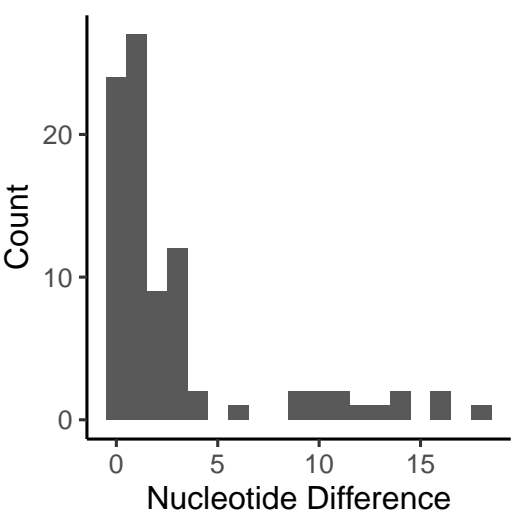
IGHV3–NL_16*01_S7825

202 sequences assigned
48 (23.8%) exact matches, in which:
39 unique CDR3
5 unique J



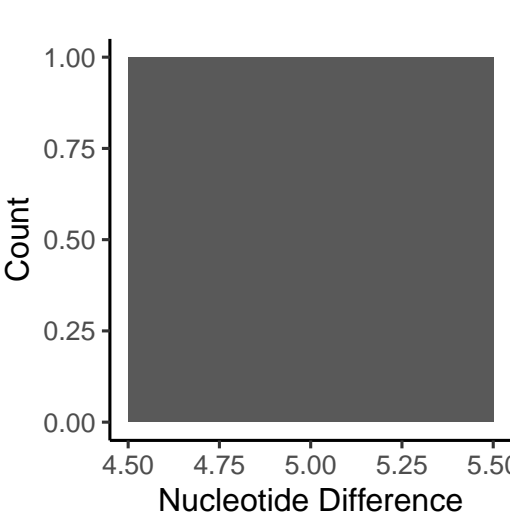
IGHV3–NL_12*02_S5246

88 sequences assigned
24 (27.3%) exact matches, in which:
20 unique CDR3
6 unique J



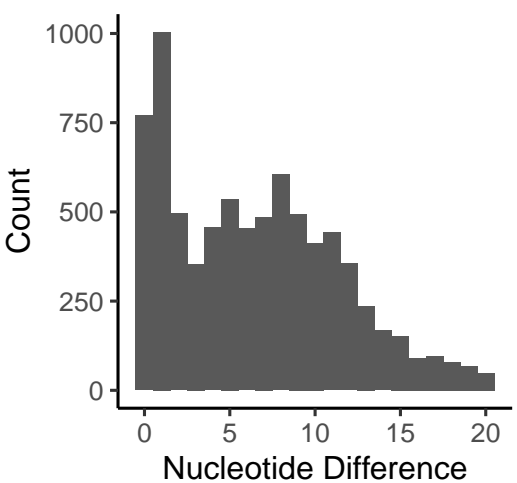
IGHV3–NL_14*01_S9823

1 sequences assigned
No exact matches.



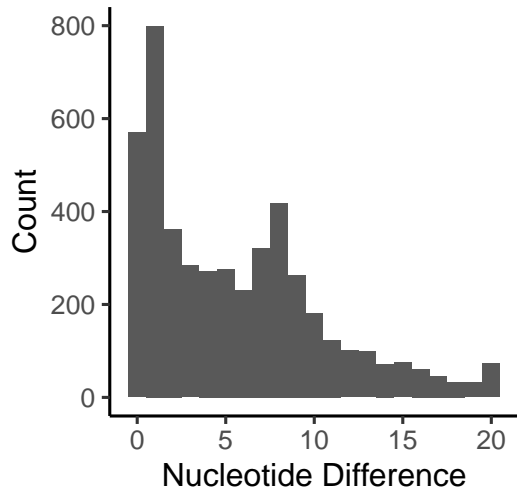
IGHV3–NL_17*01_S1343

8094 sequences assigned
770 (9.5%) exact matches, in which:
501 unique CDR3
10 unique J



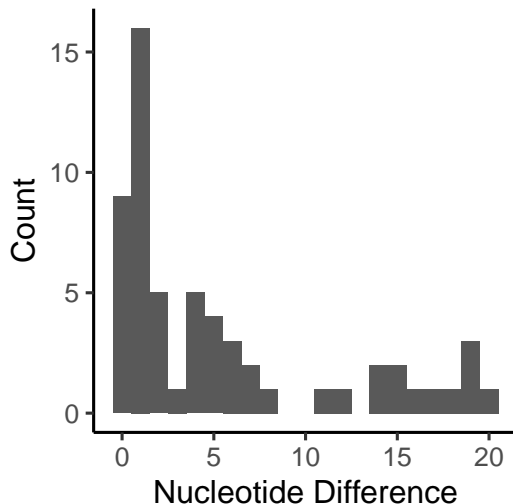
IGHV3–NL_17*01_S6168

5115 sequences assigned
570 (11.1%) exact matches, in which:
354 unique CDR3
8 unique J



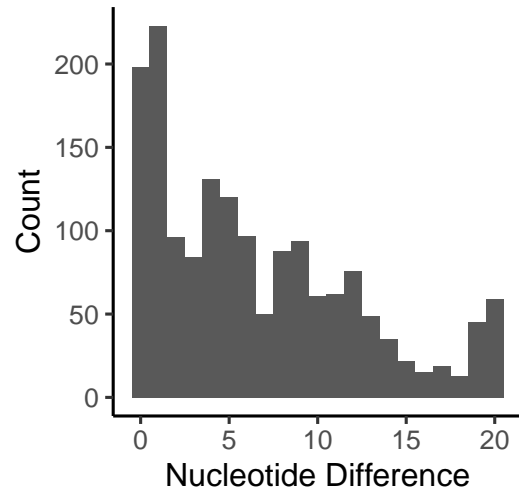
IGHV3–NL_2*01_S9710

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



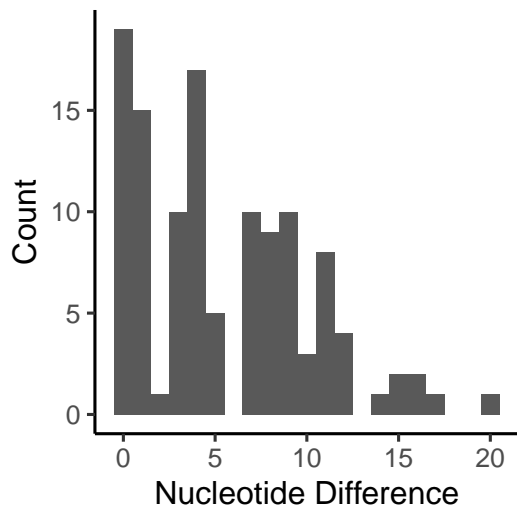
IGHV3–NL_5*01_S4429

1753 sequences assigned
198 (11.3%) exact matches, in which:
119 unique CDR3
7 unique J



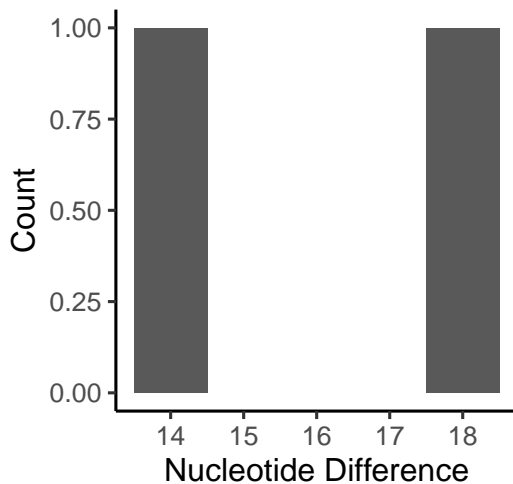
IGHV3–NL_18*01_S6396

120 sequences assigned
19 (15.8%) exact matches, in which:
17 unique CDR3
4 unique J



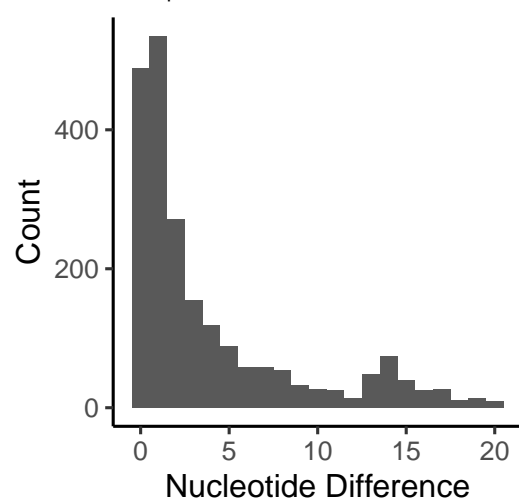
IGHV3–NL_3*02_S6269

2 sequences assigned
No exact matches.



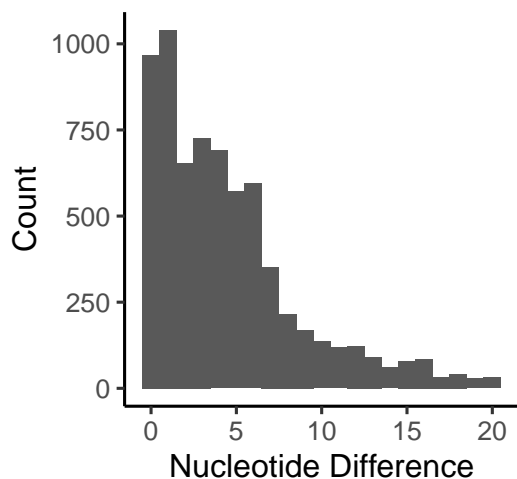
IGHV3–NL_5*01_S8361

2254 sequences assigned
489 (21.7%) exact matches, in which:
268 unique CDR3
7 unique J



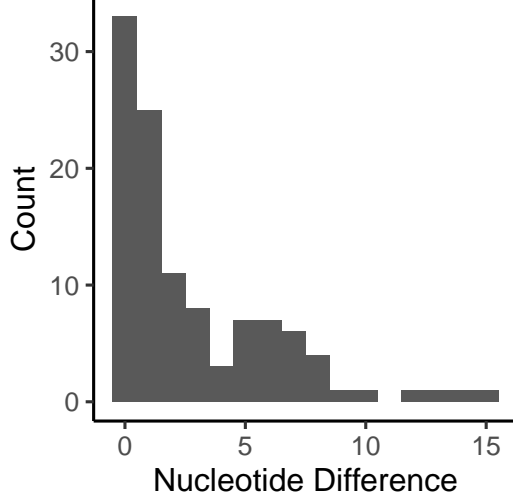
IGHV3–NL_19*01_S216

6925 sequences assigned
967 (14%) exact matches, in which:
550 unique CDR3
9 unique J



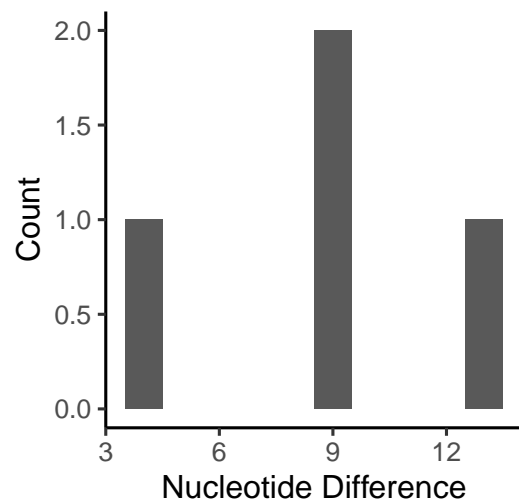
IGHV3–NL_4*01_S6875

112 sequences assigned
33 (29.5%) exact matches, in which:
18 unique CDR3
5 unique J



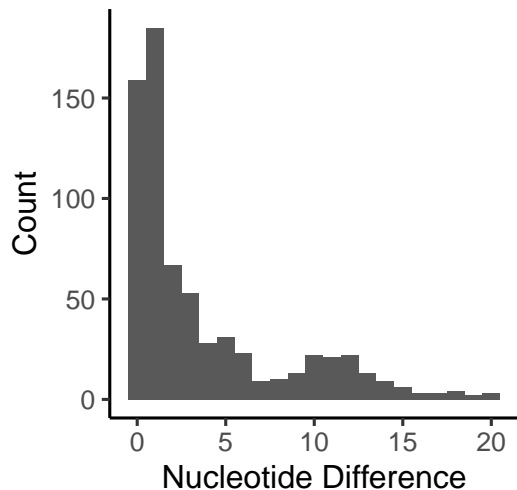
IGHV3–NL_6*02_S6474

4 sequences assigned
No exact matches.



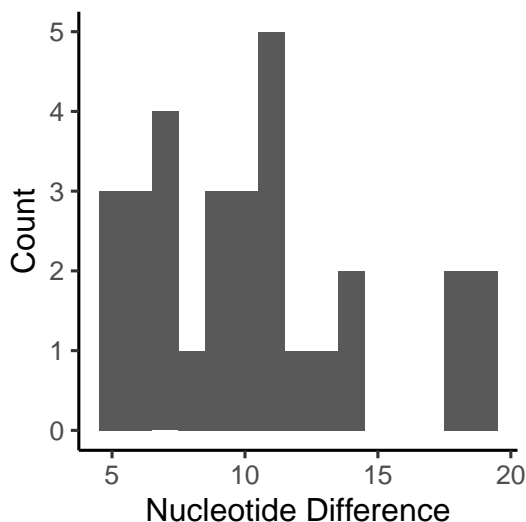
IGHV3–NL_8*01_S9584

700 sequences assigned
159 (22.7%) exact matches, in which:
100 unique CDR3
8 unique J



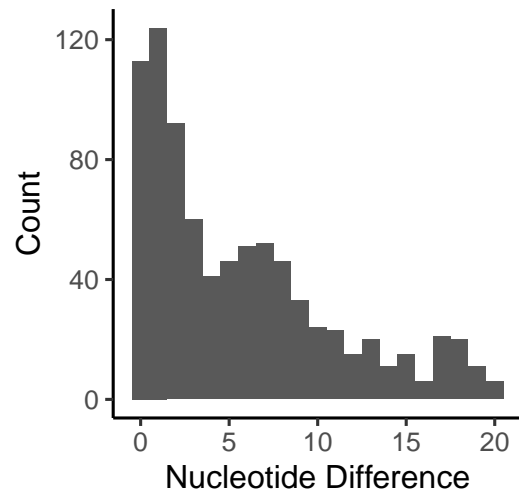
IGHV4–67*02_S1312

35 sequences assigned
No exact matches.



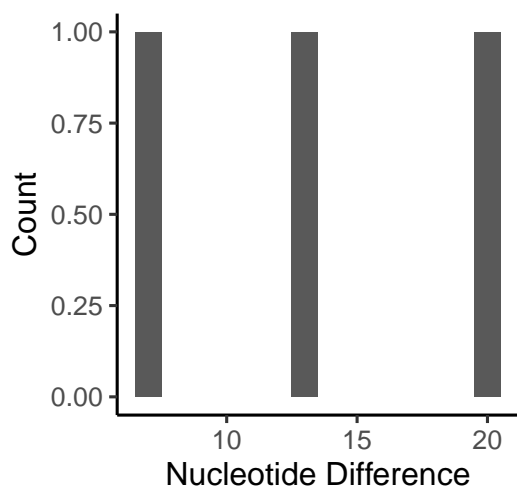
IGHV4–72*01_S8261

848 sequences assigned
113 (13.3%) exact matches, in which:
87 unique CDR3
6 unique J



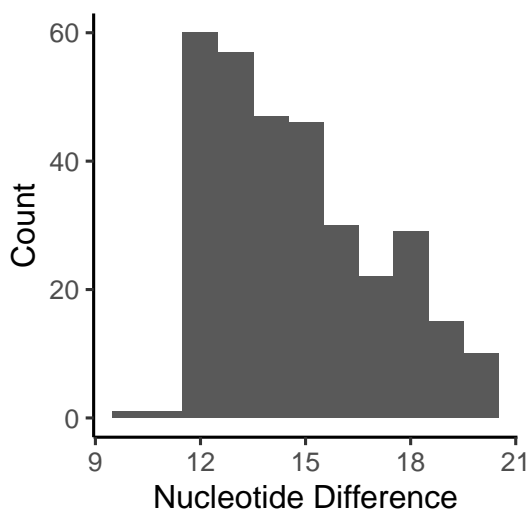
IGHV3–NL_9*01_S1652

8 sequences assigned
No exact matches.



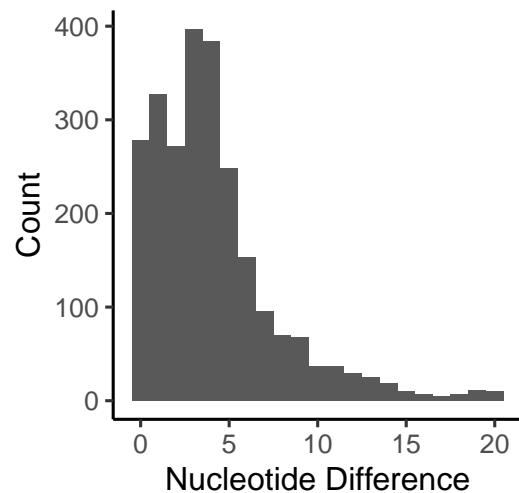
IGHV4–67*02_S4494

358 sequences assigned
No exact matches.



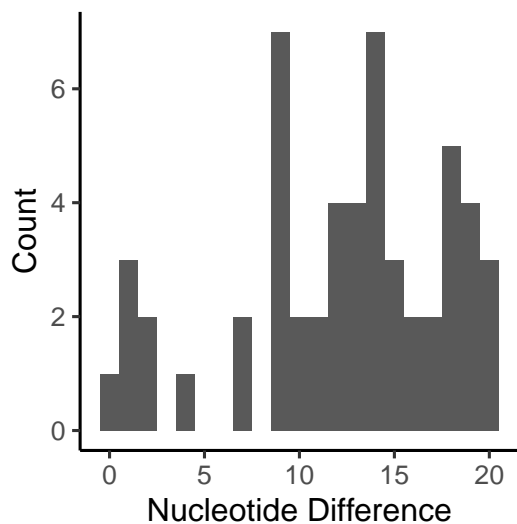
IGHV4–79*01_S6884

2525 sequences assigned
278 (11%) exact matches, in which:
218 unique CDR3
6 unique J



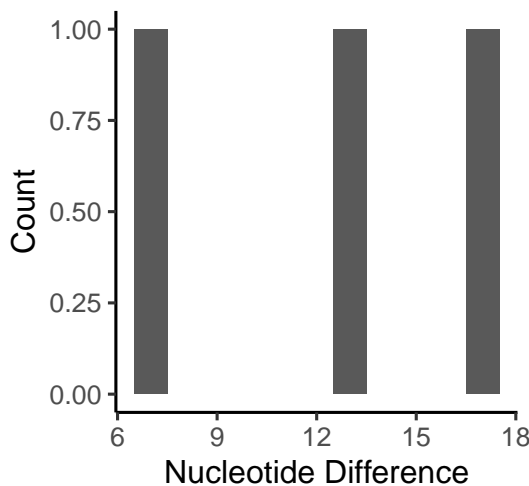
IGHV3–NL_9*01_S6098

83 sequences assigned
1 (1.2%) exact matches, in which:
1 unique CDR3
0 unique J



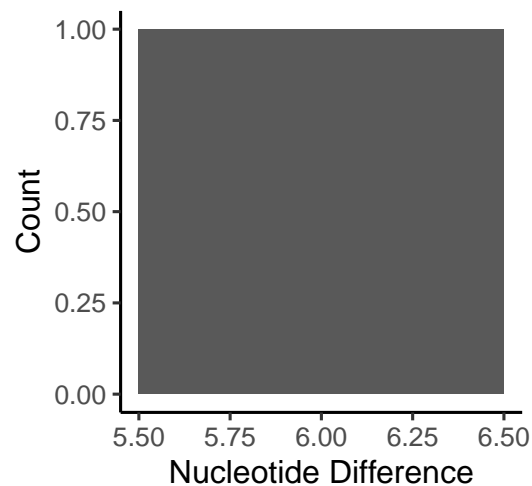
IGHV4–67*02_S6848

5 sequences assigned
No exact matches.



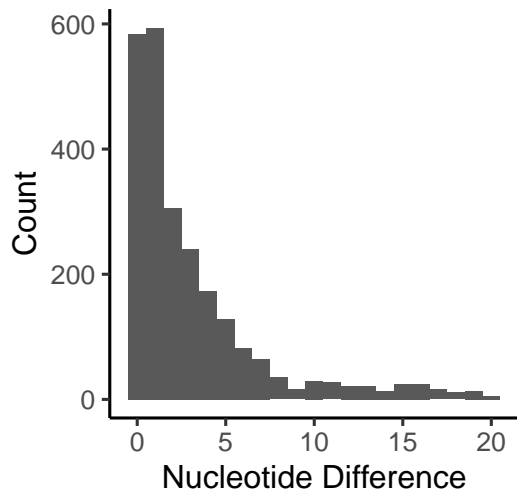
IGHV4–93*01_S5203

1 sequences assigned
No exact matches.



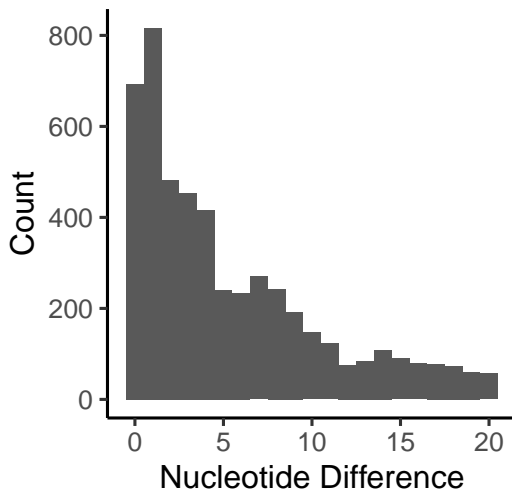
IGHV4-144*01_S0885

2573 sequences assigned
584 (22.7%) exact matches, in which:
459 unique CDR3
9 unique J



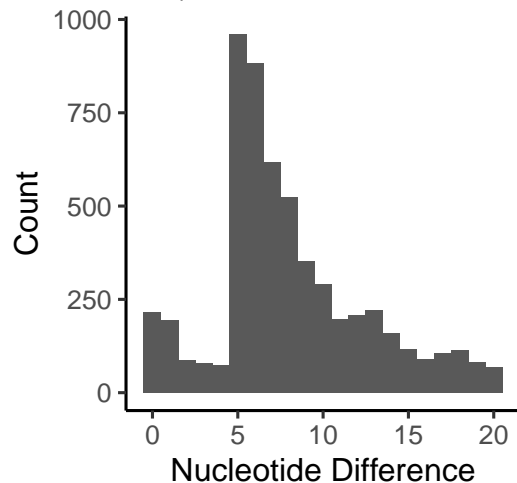
IGHV4-149*01_S2615

5474 sequences assigned
693 (12.7%) exact matches, in which:
533 unique CDR3
9 unique J



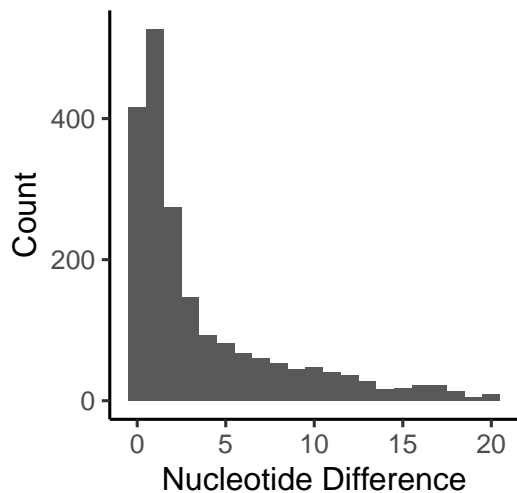
IGHV4-174*02_S7573

5860 sequences assigned
215 (3.7%) exact matches, in which:
176 unique CDR3
8 unique J



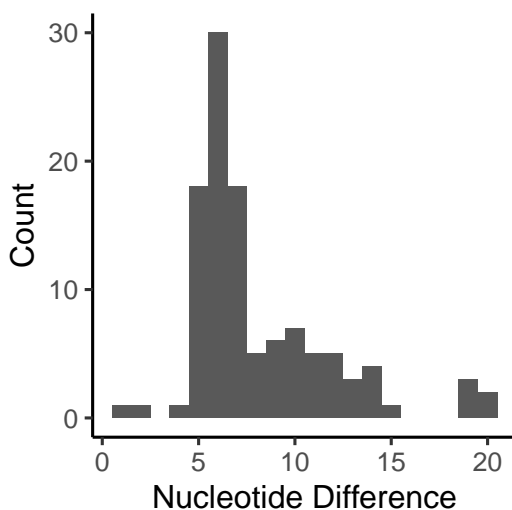
IGHV4-144*01_S1446

2046 sequences assigned
416 (20.3%) exact matches, in which:
342 unique CDR3
8 unique J



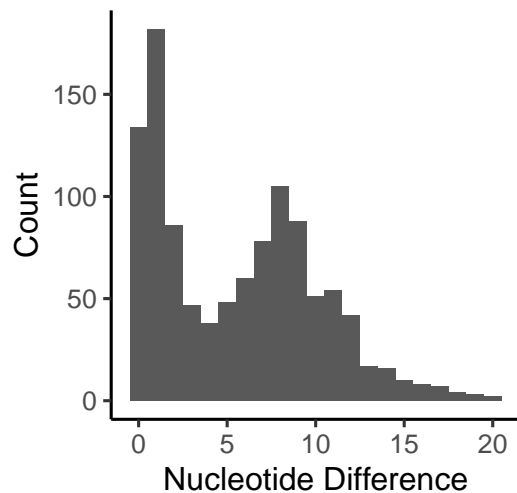
IGHV4-150*01_S3982

115 sequences assigned
No exact matches.



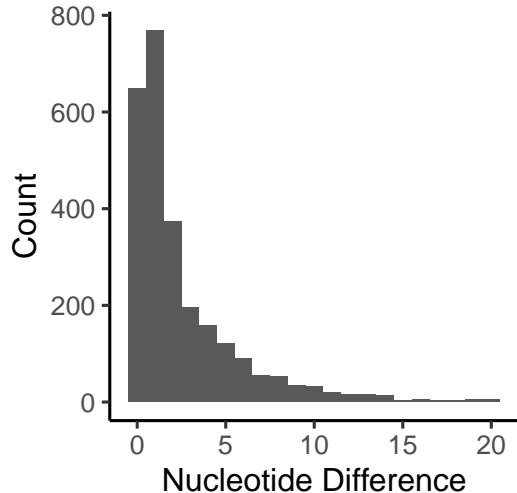
IGHV4-NL_1*01_S5641

1096 sequences assigned
134 (12.2%) exact matches, in which:
111 unique CDR3
8 unique J



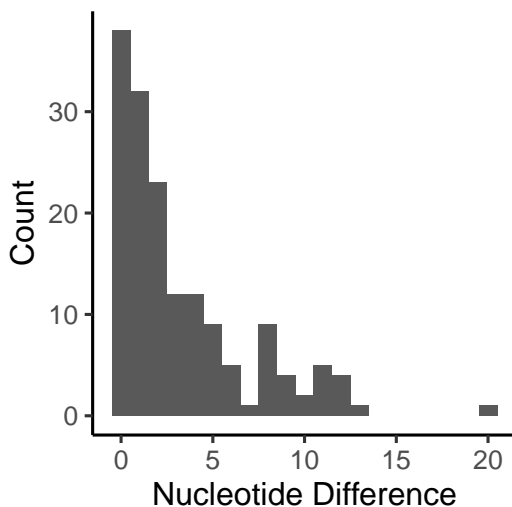
IGHV4-144*01_S3590

2652 sequences assigned
648 (24.4%) exact matches, in which:
520 unique CDR3
7 unique J



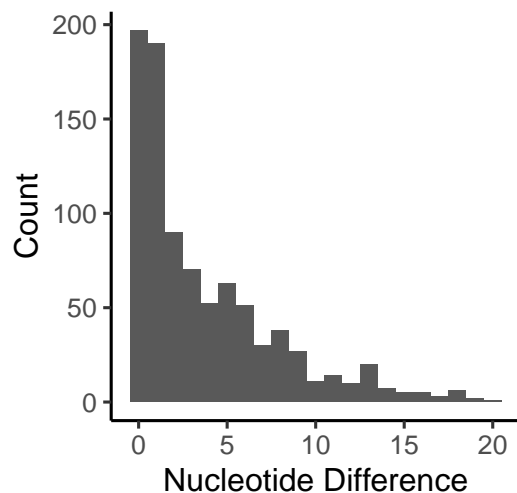
IGHV4-150*01_S4911

158 sequences assigned
38 (24.1%) exact matches, in which:
28 unique CDR3
6 unique J



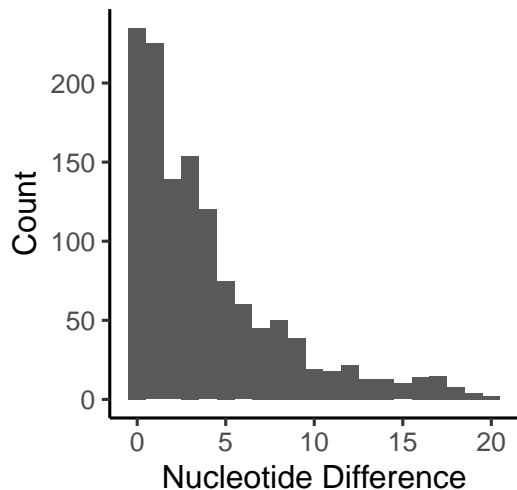
IGHV4-NL_1*01_S9616

1094 sequences assigned
197 (18%) exact matches, in which:
156 unique CDR3
7 unique J



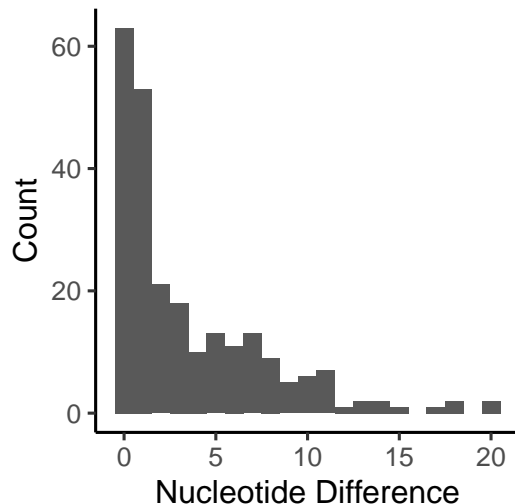
IGHV4–NL_16*01_S2458

1299 sequences assigned
235 (18.1%) exact matches, in which:
182 unique CDR3
7 unique J



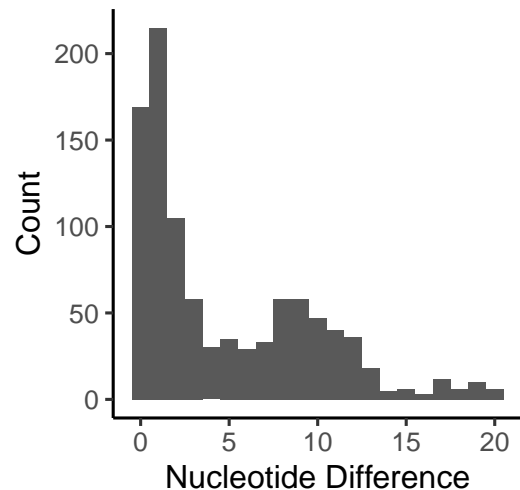
IGHV4–NL_19*01_S4449

248 sequences assigned
63 (25.4%) exact matches, in which:
59 unique CDR3
7 unique J



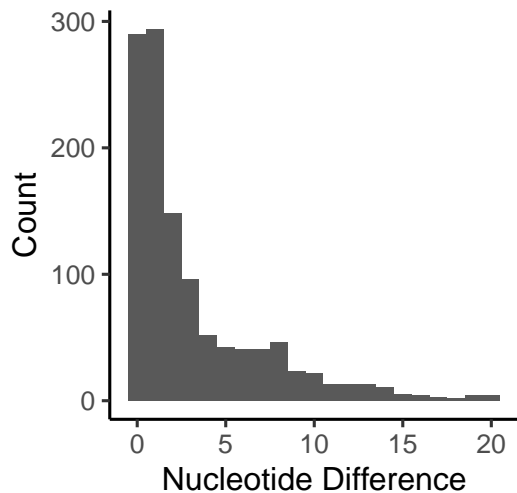
IGHV4–NL_22*01_S1072

999 sequences assigned
169 (16.9%) exact matches, in which:
153 unique CDR3
7 unique J



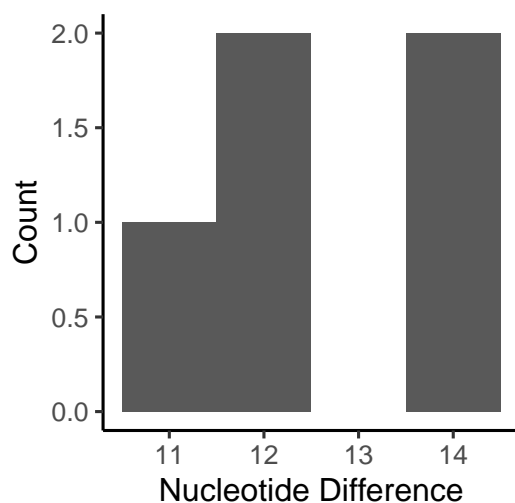
IGHV4–NL_17*01_S6933

1186 sequences assigned
290 (24.5%) exact matches, in which:
227 unique CDR3
7 unique J



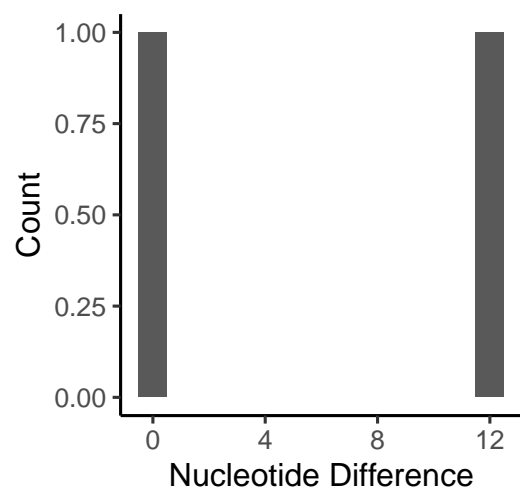
IGHV4–NL_21*01_S0138

12 sequences assigned
No exact matches.



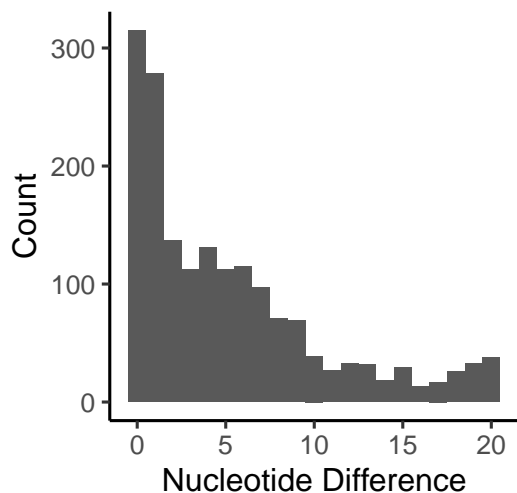
IGHV4–NL_25*01_S1514

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



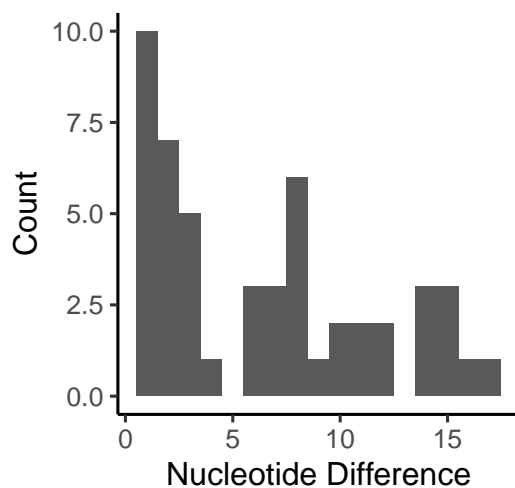
IGHV4–NL_18*01_S3907

2018 sequences assigned
315 (15.6%) exact matches, in which:
260 unique CDR3
7 unique J



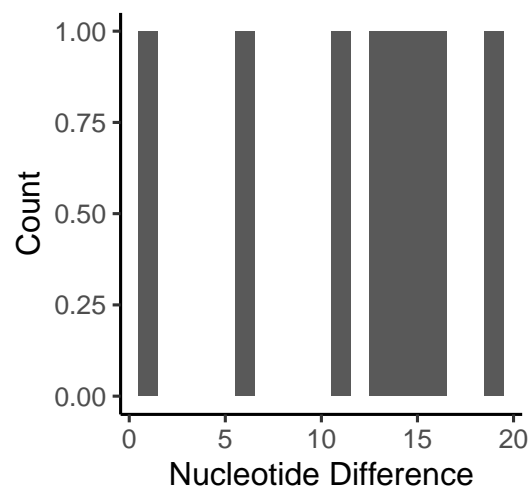
IGHV4–NL_21*01_S5257

51 sequences assigned
No exact matches.



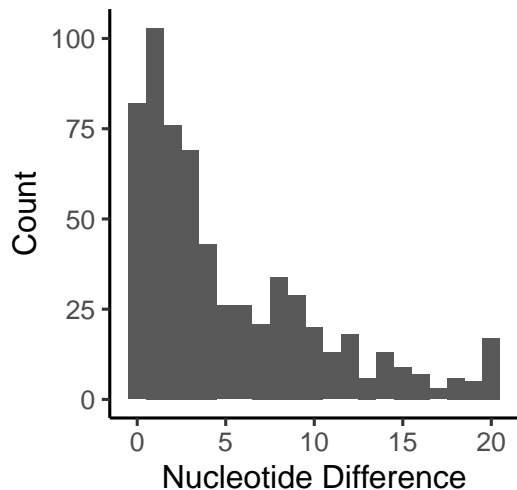
IGHV4–NL_25*01_S9955

13 sequences assigned
No exact matches.



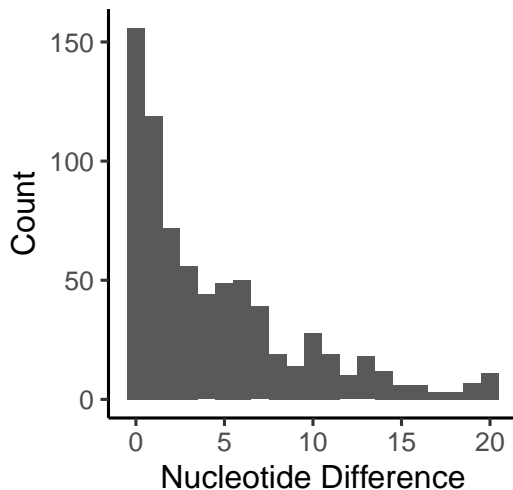
IGHV4–NL_27*01_S5217

717 sequences assigned
82 (11.4%) exact matches, in which:
60 unique CDR3
6 unique J



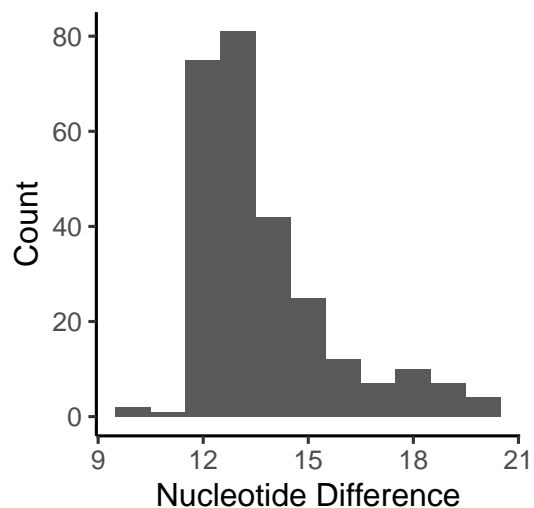
IGHV4–NL_28*01_S0629

771 sequences assigned
156 (20.2%) exact matches, in which:
145 unique CDR3
7 unique J



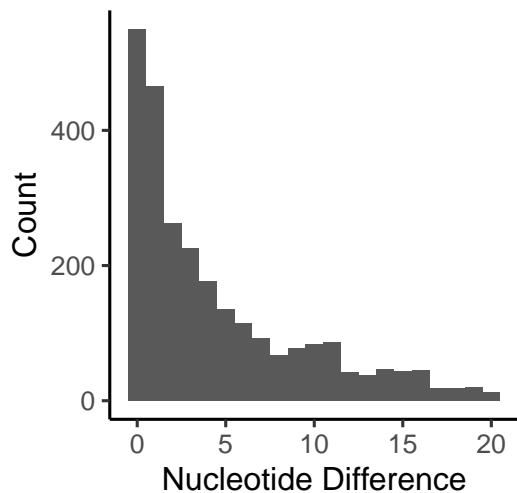
IGHV4–NL_3*01_S5200

453 sequences assigned
No exact matches.



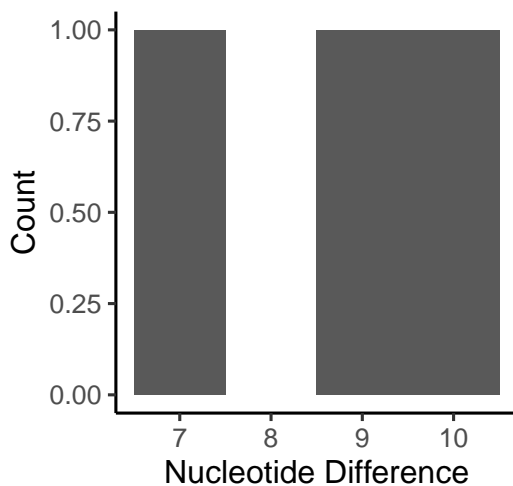
IGHV4–NL_27*01_S6960

2769 sequences assigned
550 (19.9%) exact matches, in which:
466 unique CDR3
8 unique J



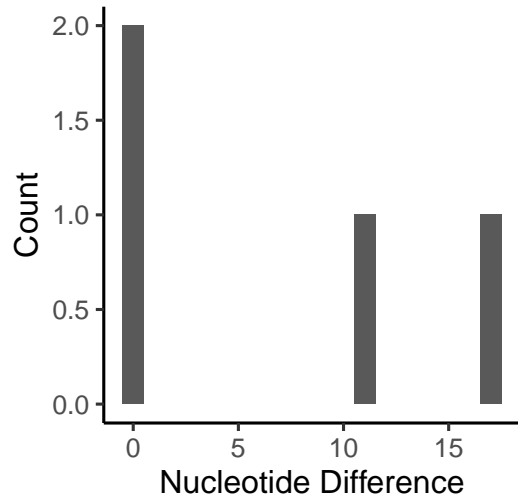
IGHV4–NL_29*01_S3767

3 sequences assigned
No exact matches.



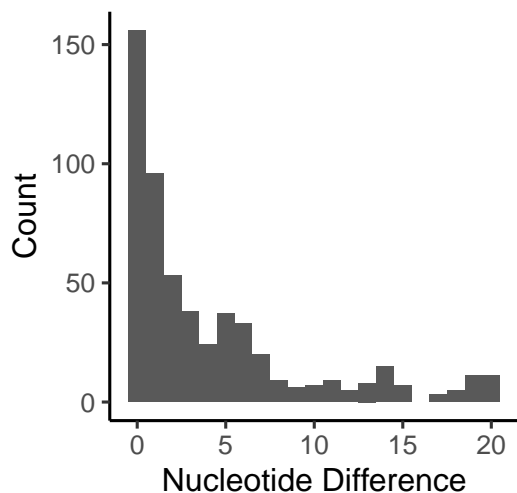
IGHV4–NL_30*01_S12400

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



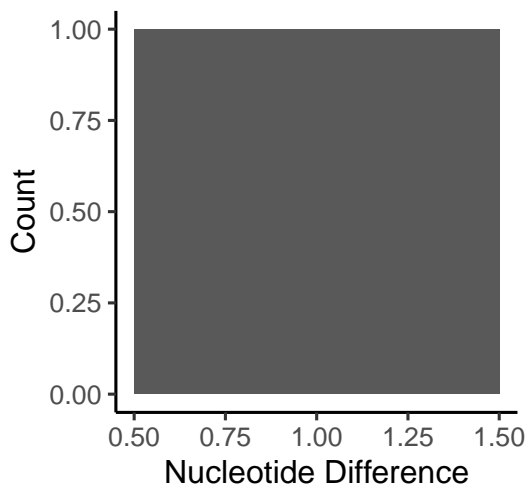
IGHV4–NL_28*01_S0629

573 sequences assigned
156 (27.2%) exact matches, in which:
135 unique CDR3
7 unique J



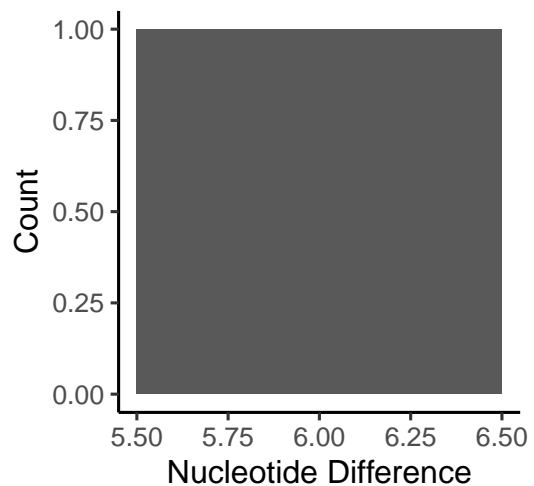
IGHV4–NL_29*01_S9610

1 sequences assigned
No exact matches.



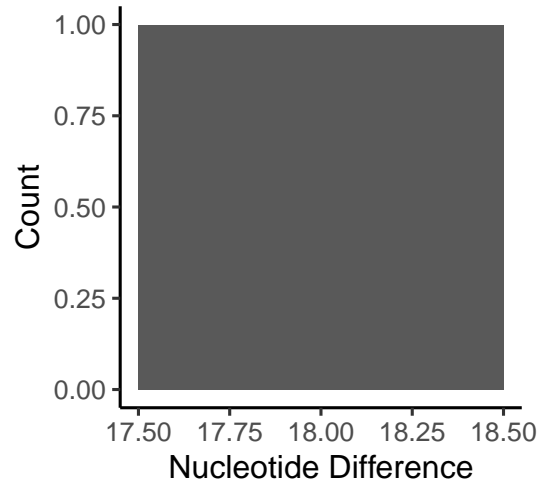
IGHV4–NL_31*01_S7693

1 sequences assigned
No exact matches.



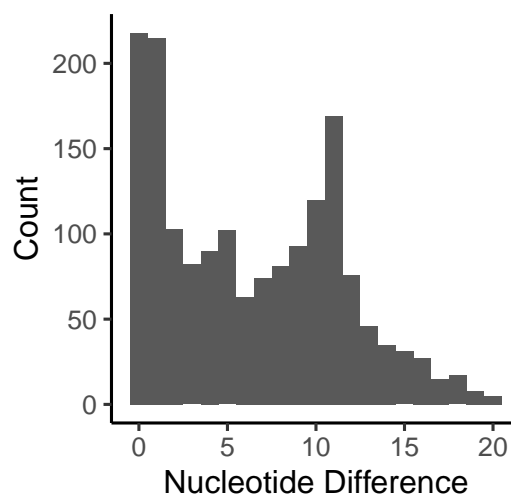
IGHV4-NL_32*01_S1450

1 sequences assigned
No exact matches.



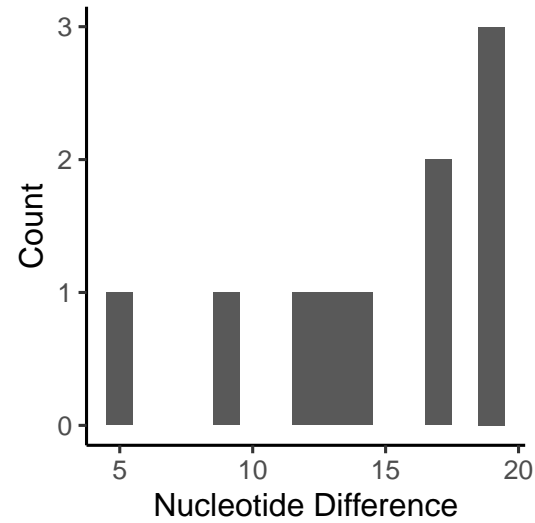
IGHV4-NL_37*01_S0071

1787 sequences assigned
218 (12.2%) exact matches, in which:
172 unique CDR3
7 unique J



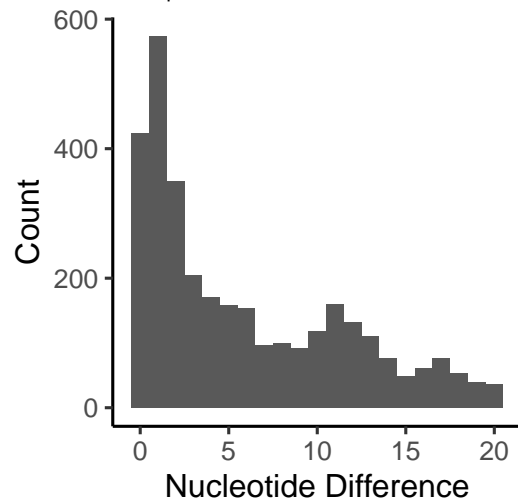
IGHV4-NL_4*01_S5211

21 sequences assigned
No exact matches.



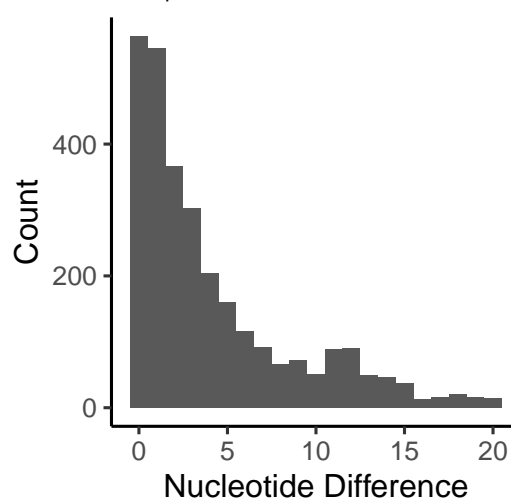
IGHV4-NL_33*01_S9199

3534 sequences assigned
424 (12%) exact matches, in which:
345 unique CDR3
8 unique J



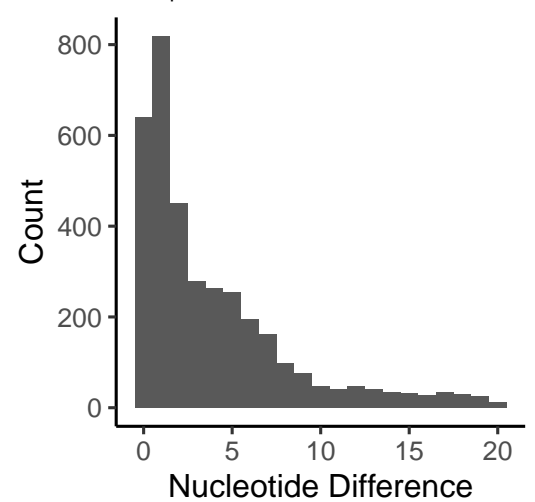
IGHV4-NL_37*01_S0997

3000 sequences assigned
564 (18.8%) exact matches, in which:
444 unique CDR3
8 unique J



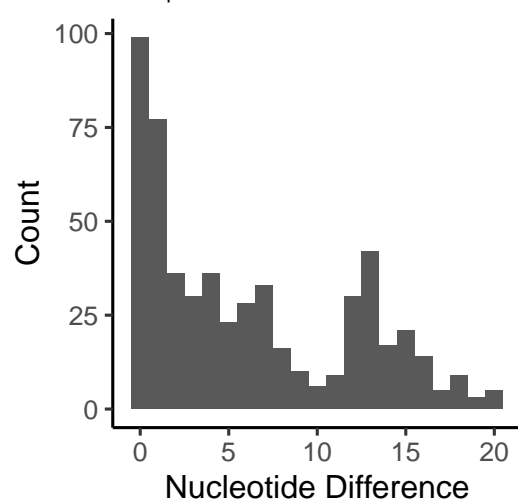
IGHV4-NL_40*01_S9020

3677 sequences assigned
639 (17.4%) exact matches, in which:
528 unique CDR3
7 unique J



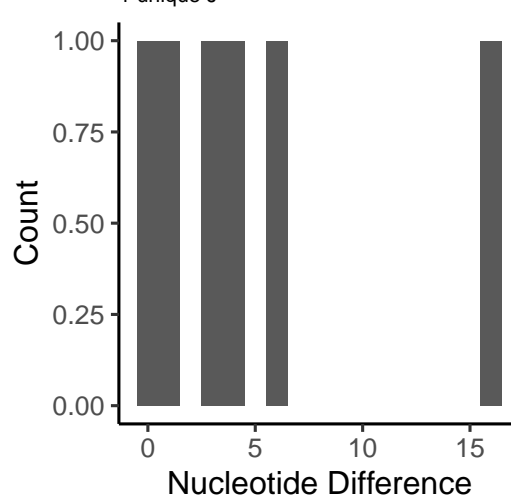
IGHV4-NL_36*01_S1694

580 sequences assigned
99 (17.1%) exact matches, in which:
85 unique CDR3
7 unique J



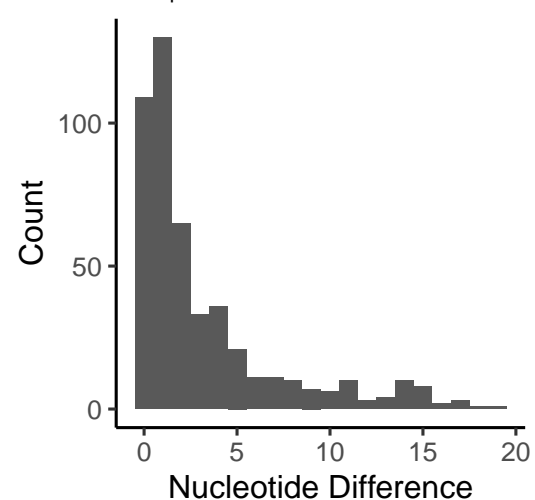
IGHV4-NL_38*01_S8437

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



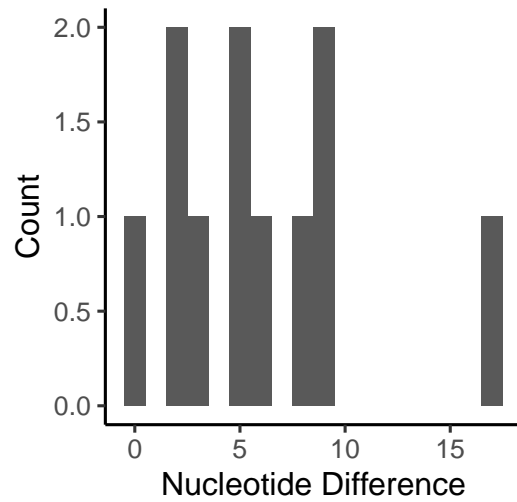
IGHV4-NL_41*01_S4457

589 sequences assigned
109 (18.5%) exact matches, in which:
91 unique CDR3
7 unique J



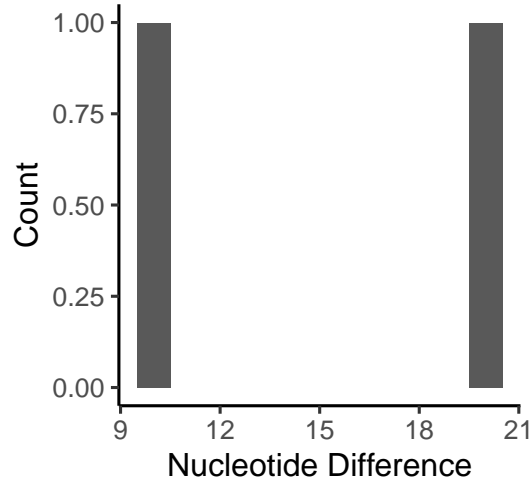
IGHV4–NL_42*01_S8550

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



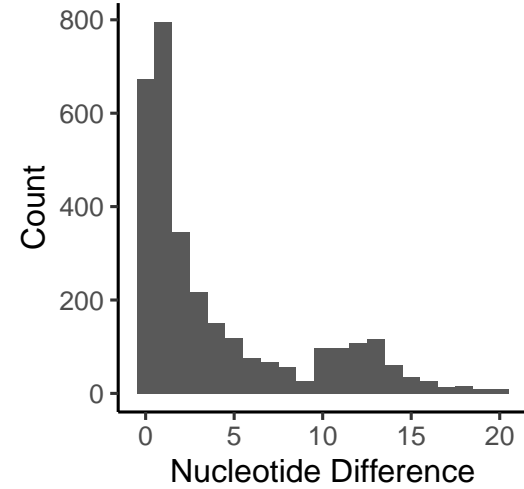
IGHV4–NL_9*01_S2406

2 sequences assigned
No exact matches.



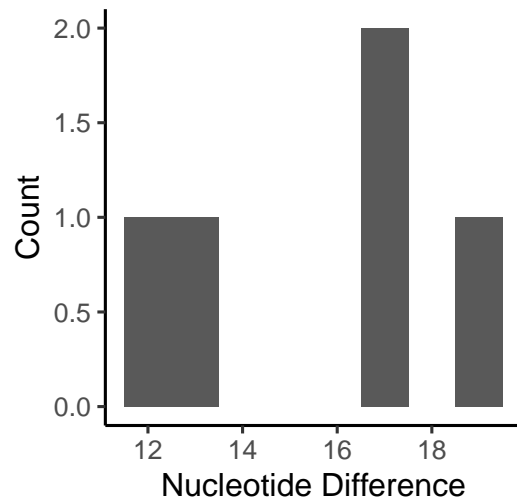
IGHV5–15*01_S8661

3164 sequences assigned
673 (21.3%) exact matches, in which:
367 unique CDR3
8 unique J



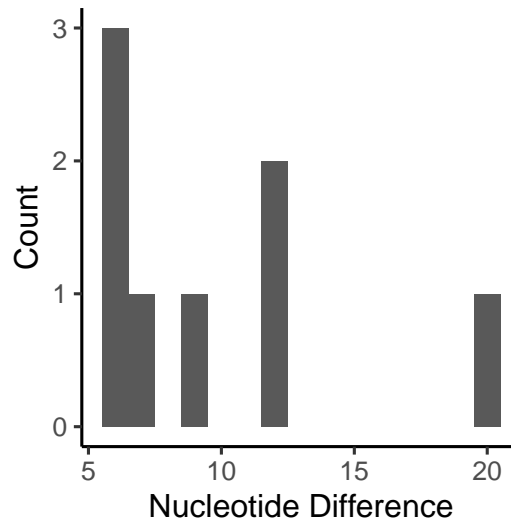
IGHV4–NL_43*01_S3820

7 sequences assigned
No exact matches.



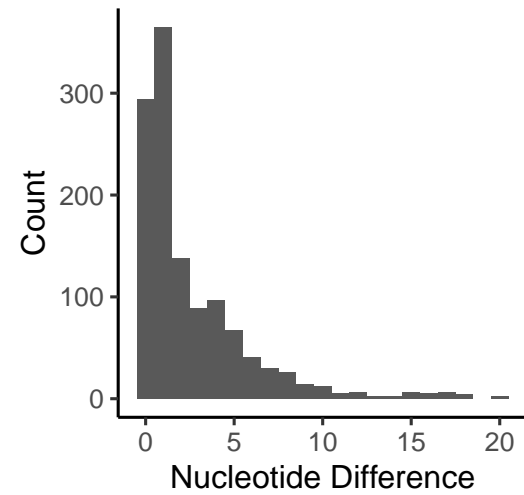
IGHV4–NL_9*01_S6608

9 sequences assigned
No exact matches.



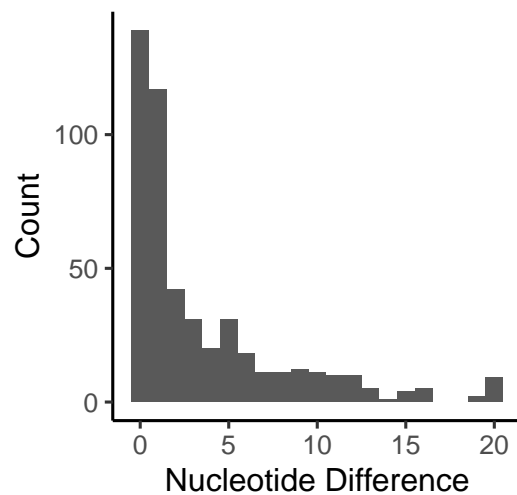
IGHV5–157*01_S4351

1219 sequences assigned
294 (24.1%) exact matches, in which:
147 unique CDR3
8 unique J



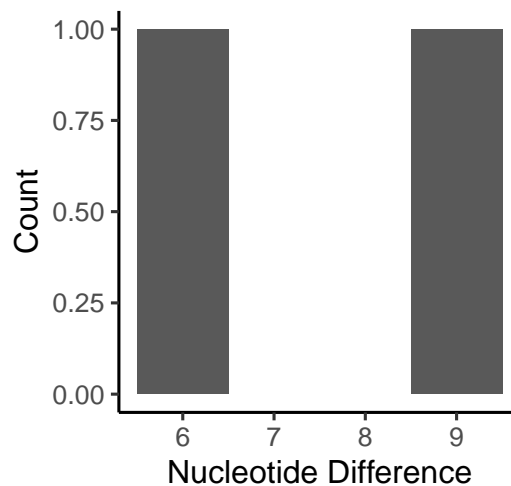
IGHV4–NL_5*01_S6337

528 sequences assigned
139 (26.3%) exact matches, in which:
112 unique CDR3
8 unique J



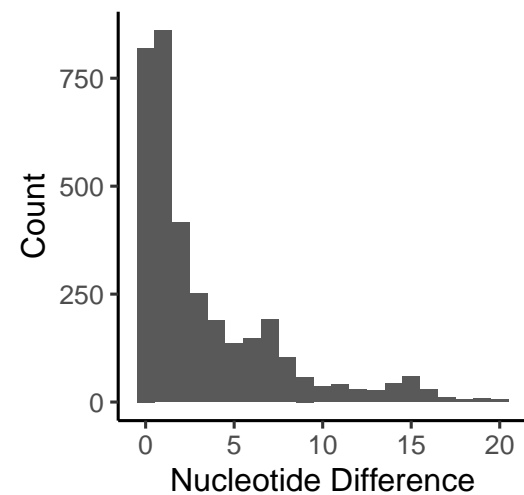
IGHV4–NL_9*02_S2874

2 sequences assigned
No exact matches.



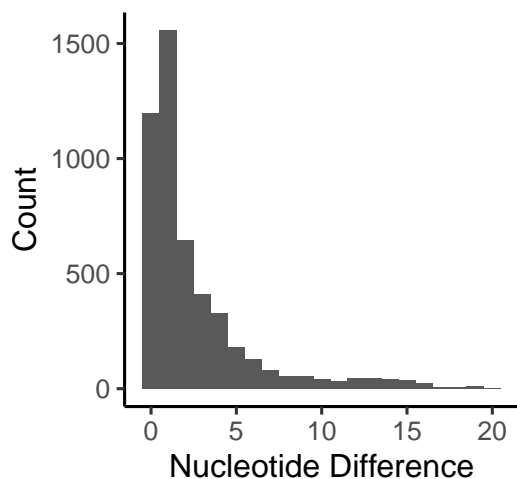
IGHV5–157*01_S5362

3483 sequences assigned
820 (23.5%) exact matches, in which:
390 unique CDR3
10 unique J



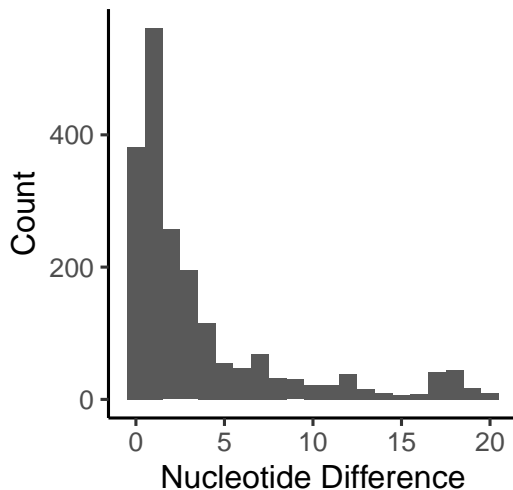
IGHV5–NL_1*02_S5699

4953 sequences assigned
1196 (24.1%) exact matches, in which:
708 unique CDR3
9 unique J



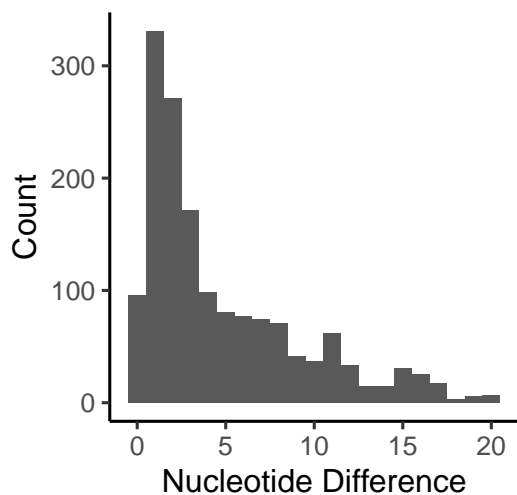
IGHV7–86*01_S5062

2020 sequences assigned
382 (18.9%) exact matches, in which:
158 unique CDR3
8 unique J



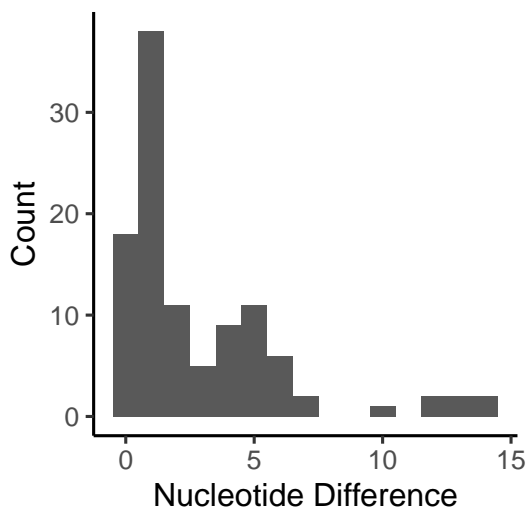
IGHV6–1*01_G283T

1630 sequences assigned
96 (5.9%) exact matches, in which:
76 unique CDR3
8 unique J



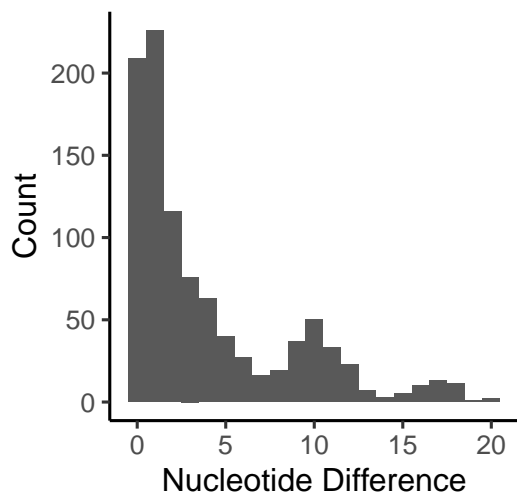
IGHV7–135*01_S9086

107 sequences assigned
18 (16.8%) exact matches, in which:
11 unique CDR3
5 unique J

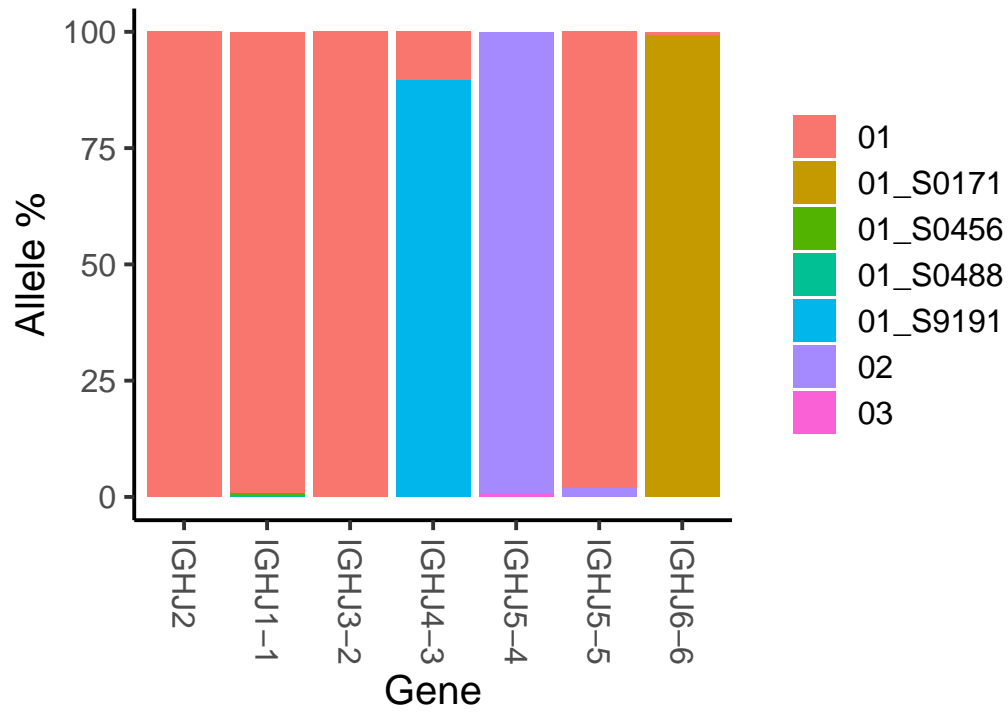


IGHV7–86*01_S1348

993 sequences assigned
209 (21%) exact matches, in which:
120 unique CDR3
8 unique J



Allele Usage



Warning – no inferred sequences found.