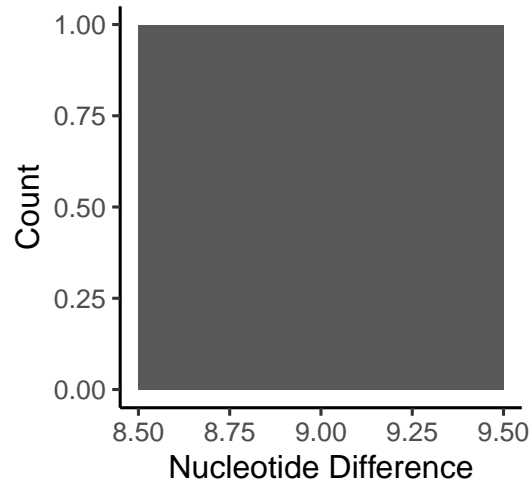


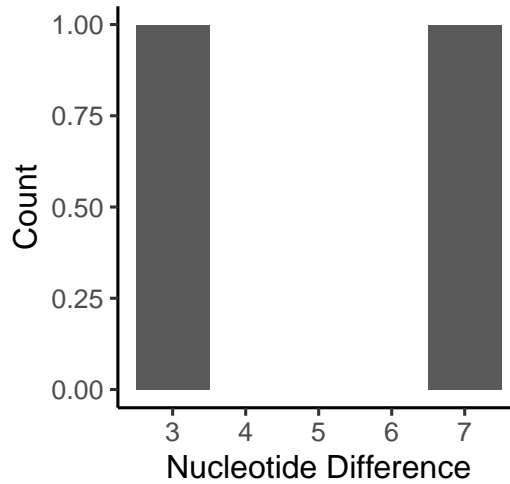
### IGHV1-60\*01\_S1918

1 sequences assigned  
No exact matches.



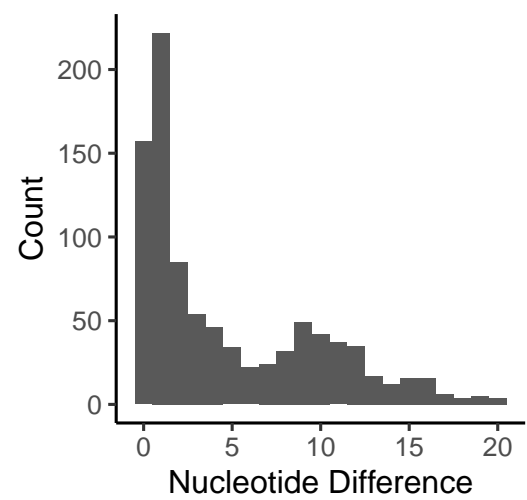
### IGHV1-124\*01\_S6748

3 sequences assigned  
No exact matches.



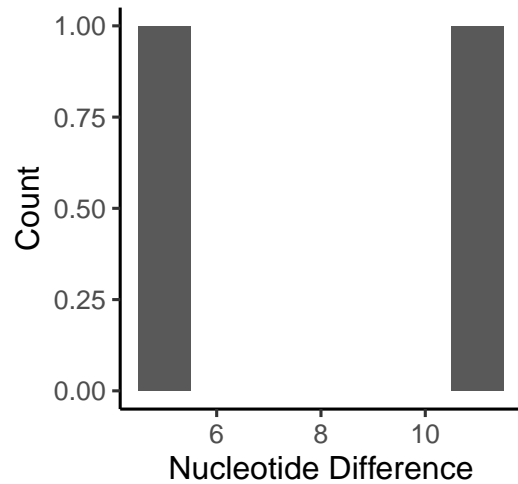
### IGHV1-NL\_1\*01\_S2052

1041 sequences assigned  
157 (15.1%) exact matches, in which:  
84 unique CDR3  
5 unique J



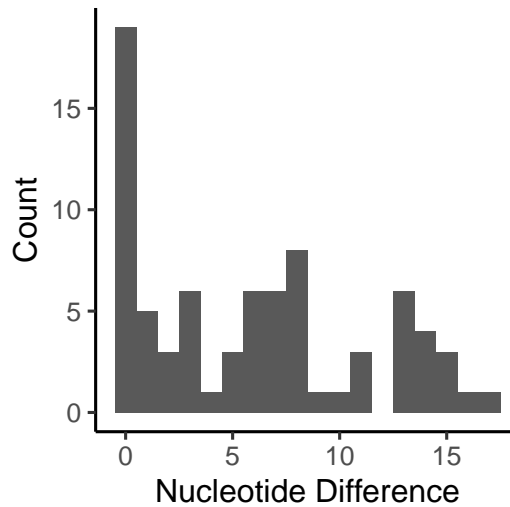
### IGHV1-60\*01\_S7772

2 sequences assigned  
No exact matches.



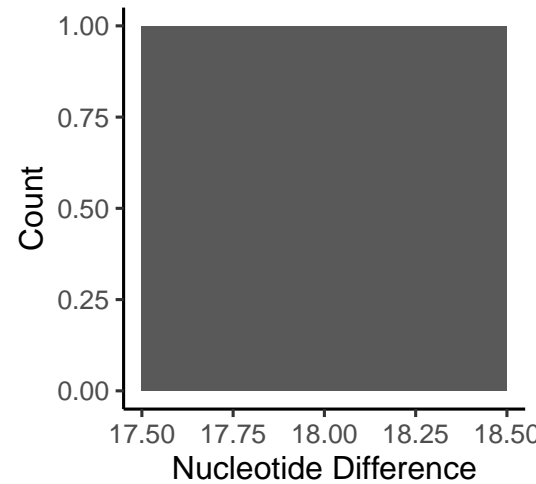
### IGHV1-124\*01\_S7834

78 sequences assigned  
19 (24.4%) exact matches, in which:  
11 unique CDR3  
2 unique J



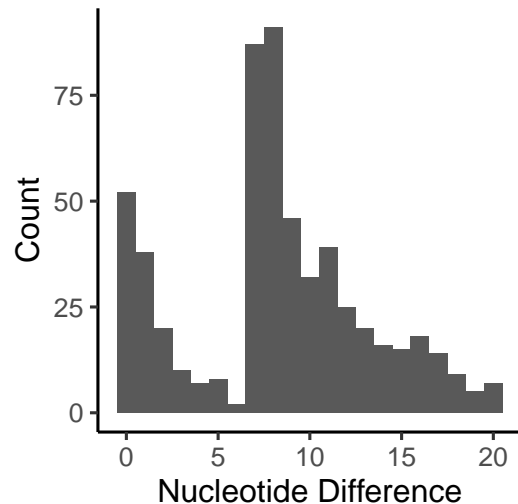
### IGHV1-NL\_2\*01\_S5797

4 sequences assigned  
No exact matches.



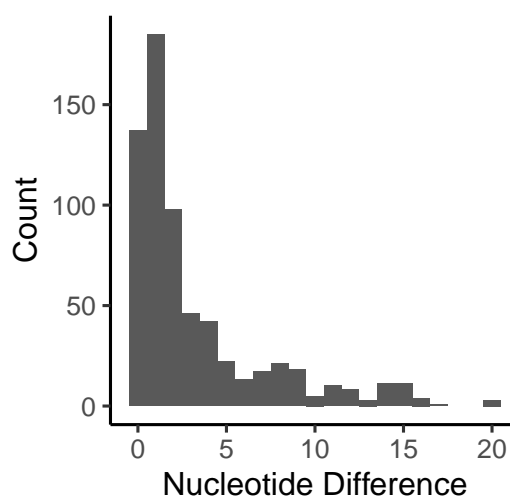
### IGHV1-84\*01\_S9171

723 sequences assigned  
52 (7.2%) exact matches, in which:  
22 unique CDR3  
4 unique J



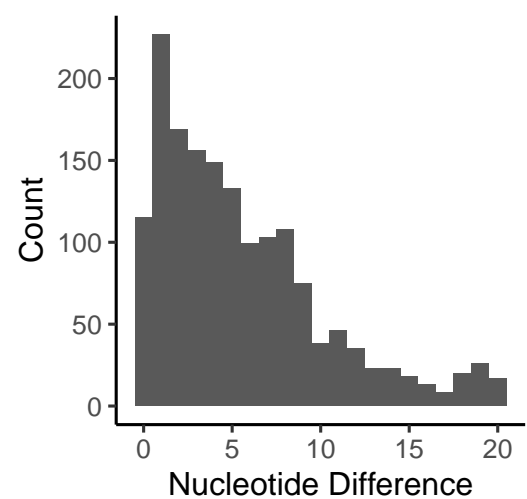
### IGHV1-138\*01\_S2054

657 sequences assigned  
137 (20.9%) exact matches, in which:  
77 unique CDR3  
6 unique J



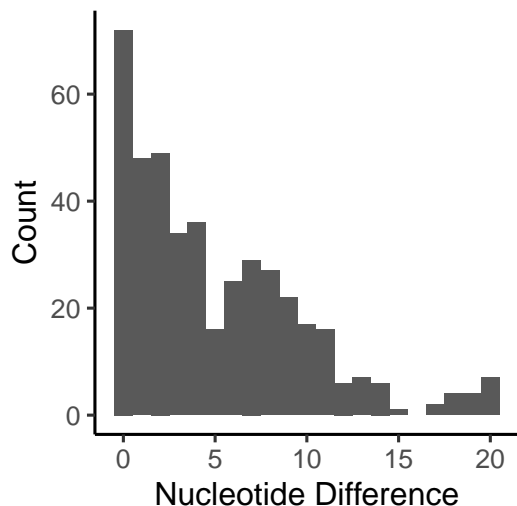
### IGHV2-7\*02\_S1732

1633 sequences assigned  
115 (7%) exact matches, in which:  
71 unique CDR3  
7 unique J



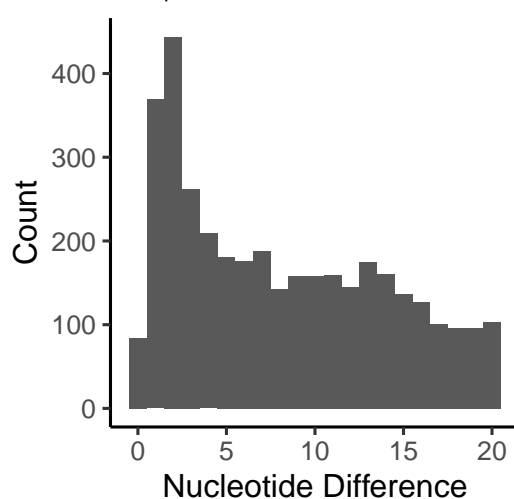
### IGHV2-7\*02\_S1732\_G289T

450 sequences assigned  
72 (16%) exact matches, in which:  
65 unique CDR3  
7 unique J



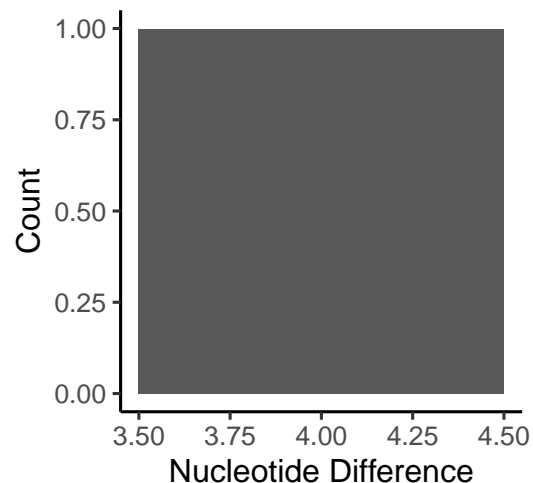
### IGHV2-173\*01\_G289T

4125 sequences assigned  
84 (2%) exact matches, in which:  
75 unique CDR3  
7 unique J



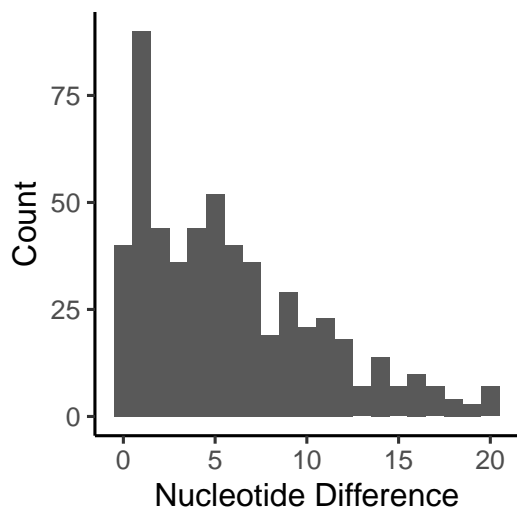
### IGHV2-NL\_2\*01\_S8873

1 sequences assigned  
No exact matches.



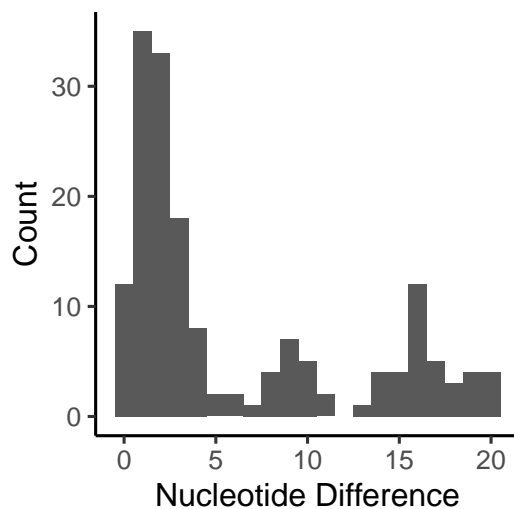
### IGHV2-7\*02\_S4285

568 sequences assigned  
40 (7%) exact matches, in which:  
24 unique CDR3  
3 unique J



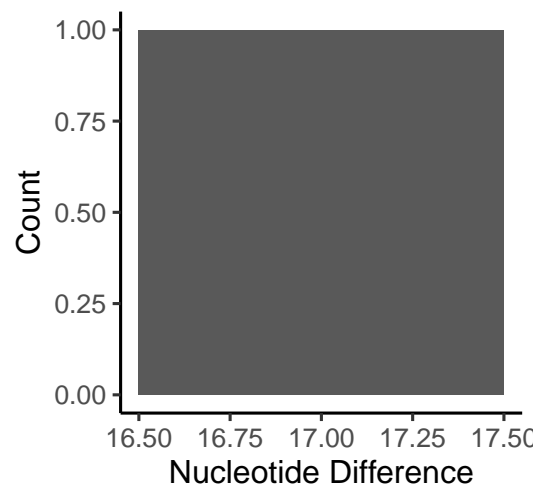
### IGHV2-NL\_1\*01\_S4514

190 sequences assigned  
12 (6.3%) exact matches, in which:  
8 unique CDR3  
2 unique J



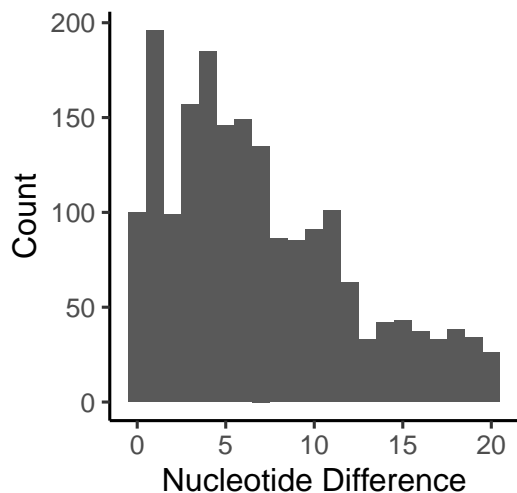
### IGHV3-28\*01\_S0096

2 sequences assigned  
No exact matches.



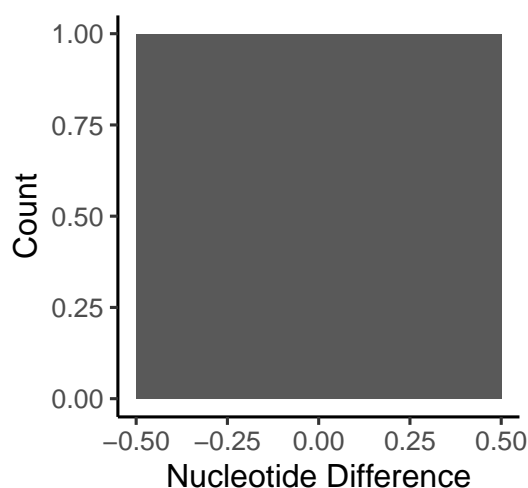
### IGHV2-69\*01\_S6153

2143 sequences assigned  
100 (4.7%) exact matches, in which:  
50 unique CDR3  
4 unique J



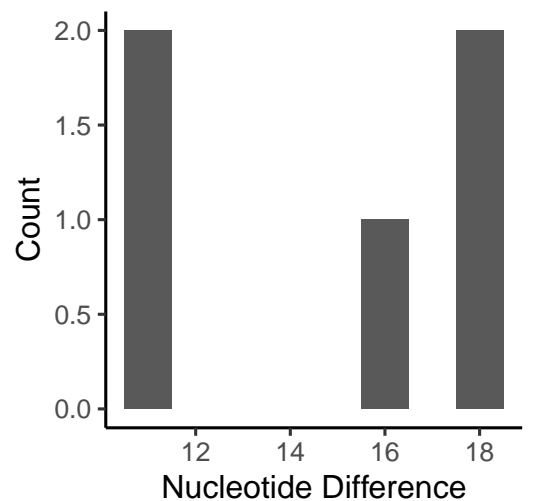
### IGHV2-NL\_2\*01\_S2193

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



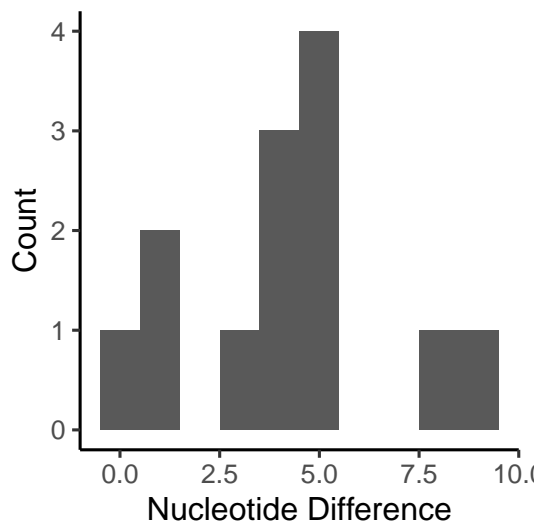
### IGHV3-28\*01\_S3792

12 sequences assigned  
No exact matches.



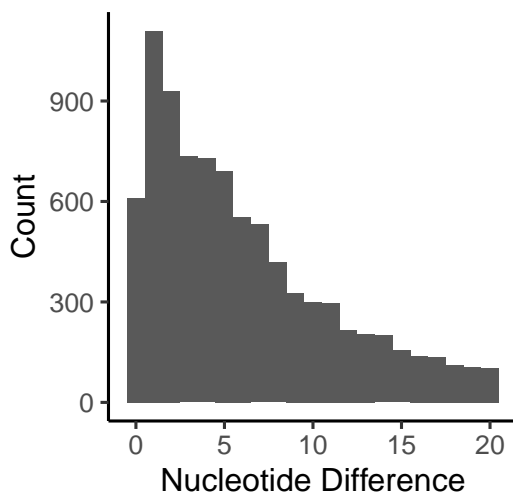
### IGHV3-34\*01\_S1309

13 sequences assigned  
1 (7.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



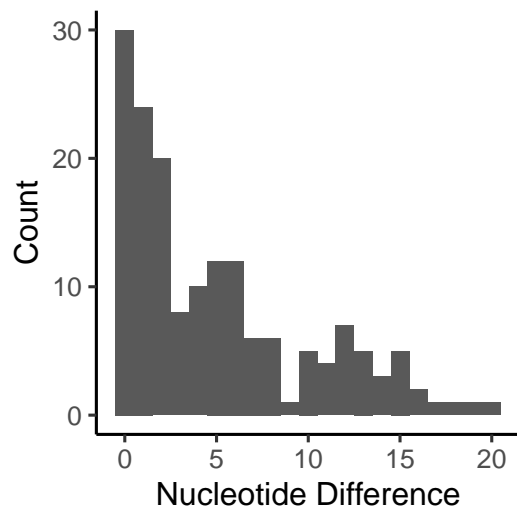
### IGHV3-50\*01\_S1879

9059 sequences assigned  
611 (6.7%) exact matches, in which:  
408 unique CDR3  
7 unique J



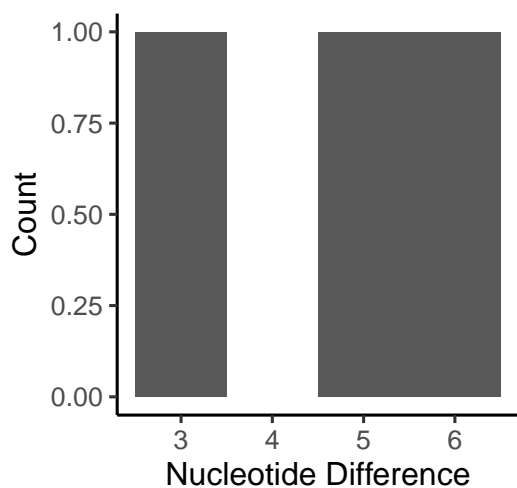
### IGHV3-53\*01\_S3647

169 sequences assigned  
30 (17.8%) exact matches, in which:  
25 unique CDR3  
4 unique J



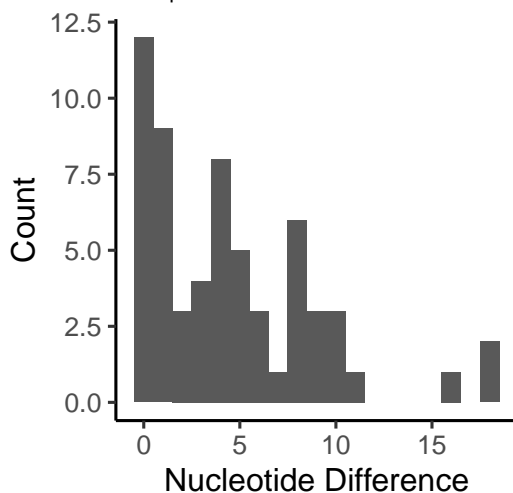
### IGHV3-36\*01\_S5206

3 sequences assigned  
No exact matches.



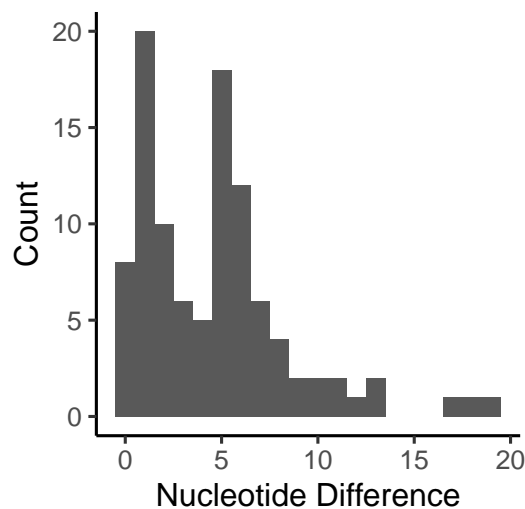
### IGHV3-52\*01\_S8160

65 sequences assigned  
12 (18.5%) exact matches, in which:  
6 unique CDR3  
2 unique J



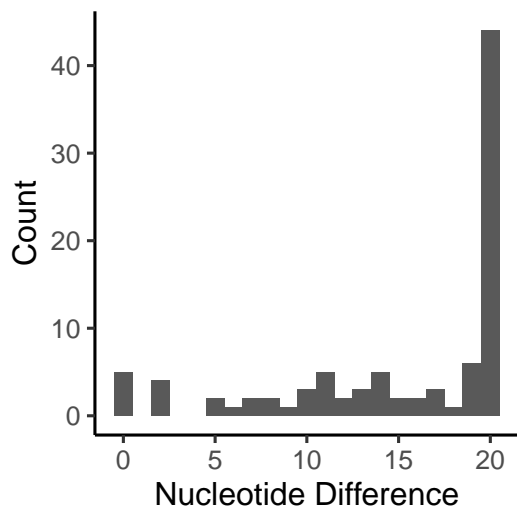
### IGHV3-53\*01\_S4256

103 sequences assigned  
8 (7.8%) exact matches, in which:  
5 unique CDR3  
2 unique J



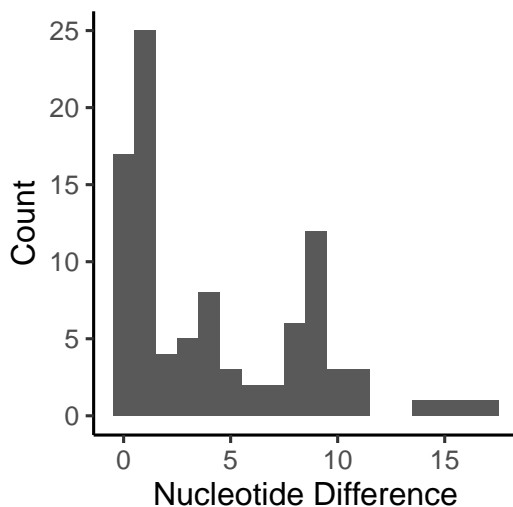
### IGHV3-37\*01\_S6630

395 sequences assigned  
5 (1.3%) exact matches, in which:  
5 unique CDR3  
2 unique J



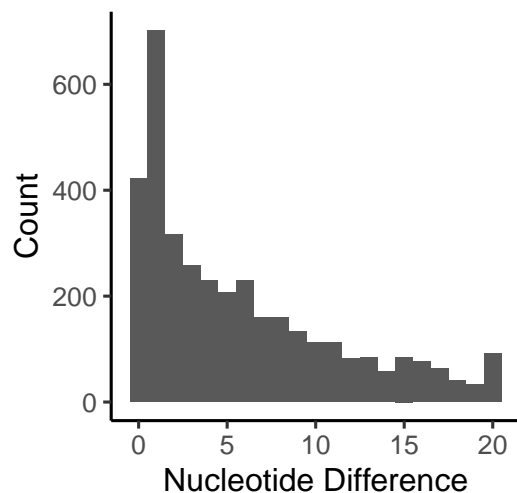
### IGHV3-52\*02\_S5117

95 sequences assigned  
17 (17.9%) exact matches, in which:  
10 unique CDR3  
4 unique J



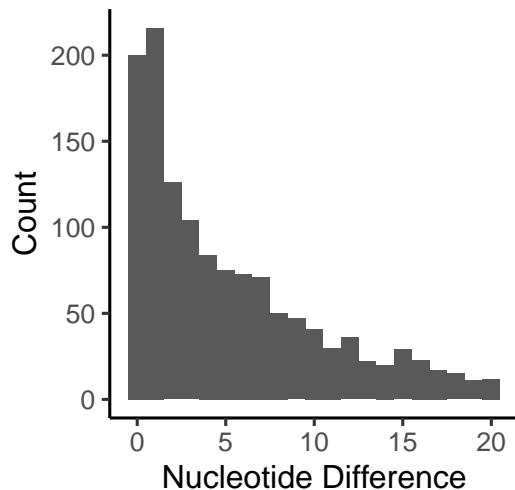
### IGHV3-76\*02\_S4190

4210 sequences assigned  
423 (10%) exact matches, in which:  
269 unique CDR3  
6 unique J



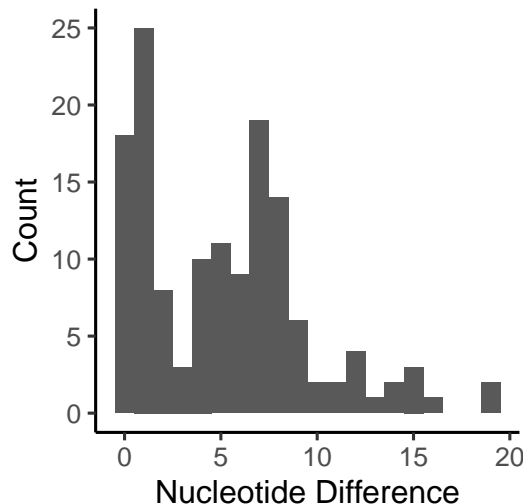
### IGHV3-76\*02\_S4190\_A2

1347 sequences assigned  
200 (14.8%) exact matches, in which:  
167 unique CDR3  
5 unique J



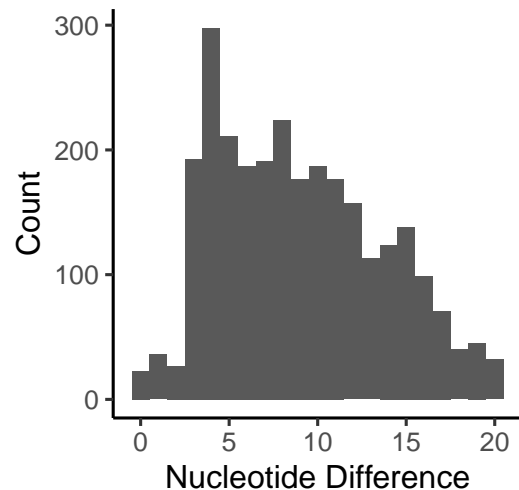
### IGHV3-119\*01\_S9769

144 sequences assigned  
18 (12.5%) exact matches, in which:  
11 unique CDR3  
2 unique J



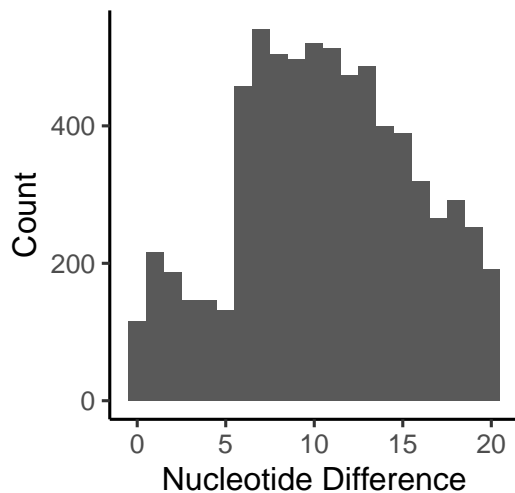
### IGHV3-128\*01\_S6966

2956 sequences assigned  
23 (0.8%) exact matches, in which:  
19 unique CDR3  
3 unique J



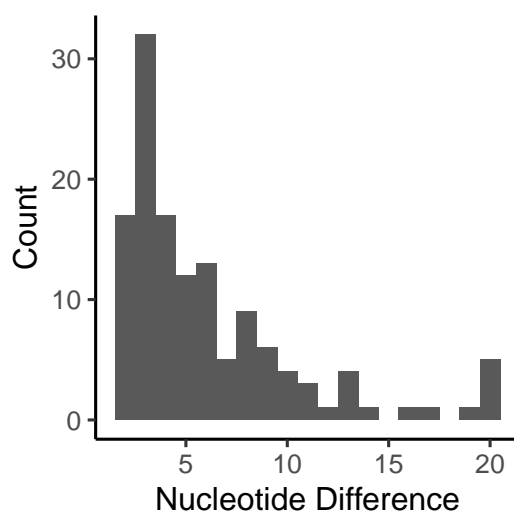
### IGHV3-88\*02\_S9033

8016 sequences assigned  
116 (1.4%) exact matches, in which:  
61 unique CDR3  
4 unique J



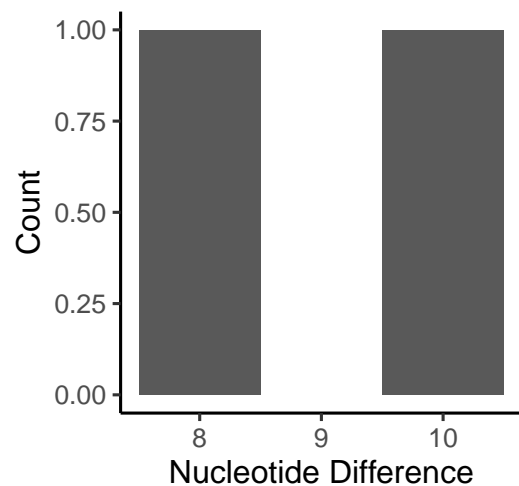
### IGHV3-120\*01\_S4231

173 sequences assigned  
No exact matches.



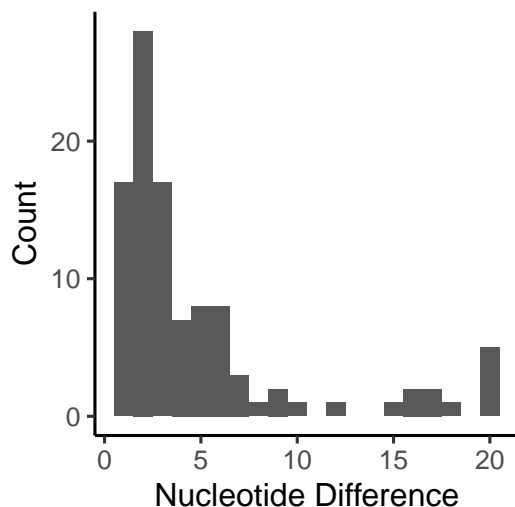
### IGHV3-141\*02\_S4530

2 sequences assigned  
No exact matches.



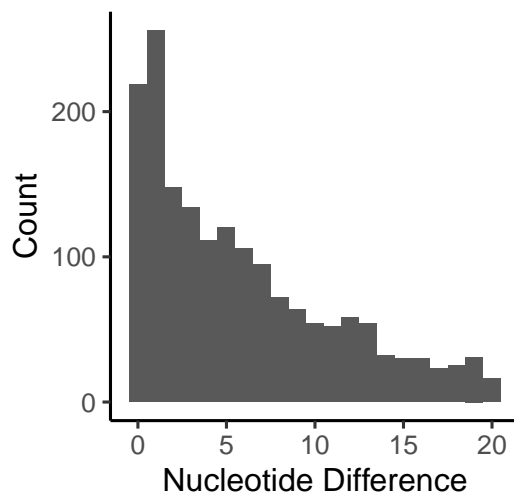
### IGHV3-100\*01\_S4375

141 sequences assigned  
No exact matches.



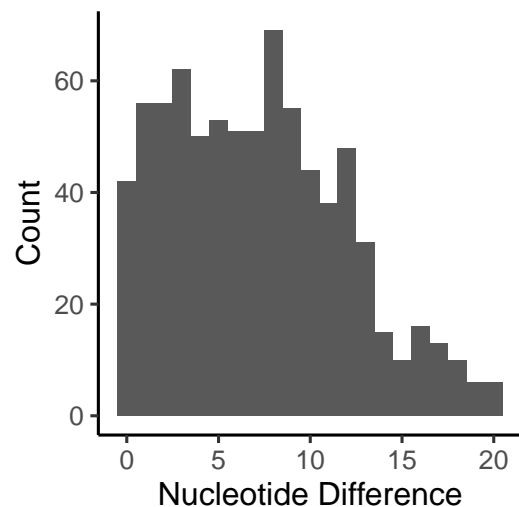
### IGHV3-122\*01\_S8388

1899 sequences assigned  
219 (11.5%) exact matches, in which:  
154 unique CDR3  
7 unique J



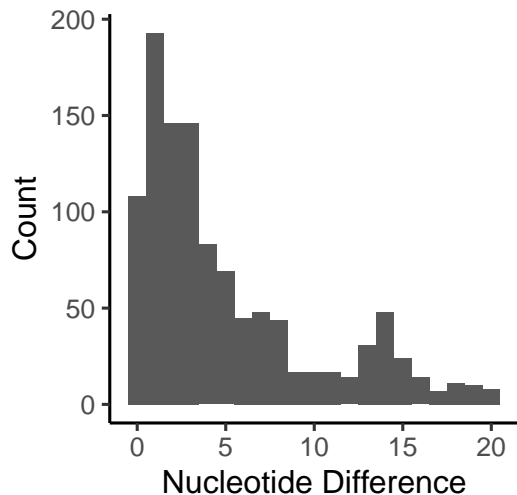
### IGHV3-152\*01\_S5891

846 sequences assigned  
42 (5%) exact matches, in which:  
30 unique CDR3  
3 unique J



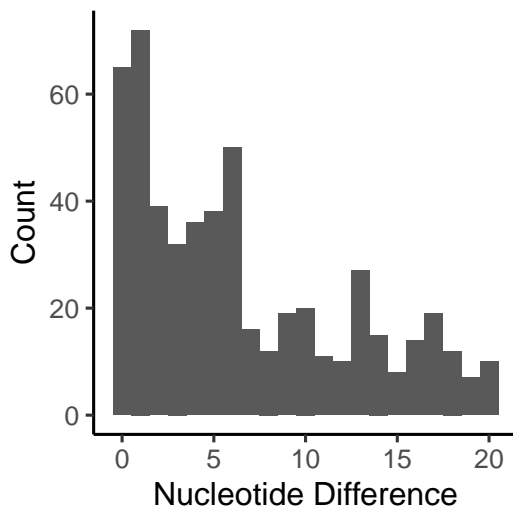
### IGHV3-172\*01\_S2175

1144 sequences assigned  
108 (9.4%) exact matches, in which:  
65 unique CDR3  
5 unique J



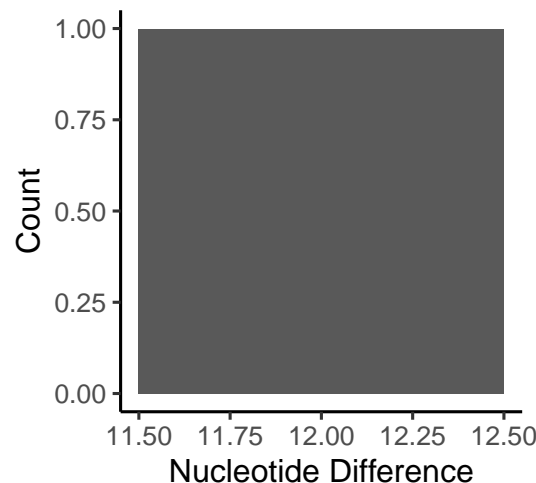
### IGHV3-177\*01\_S5369

597 sequences assigned  
65 (10.9%) exact matches, in which:  
42 unique CDR3  
4 unique J



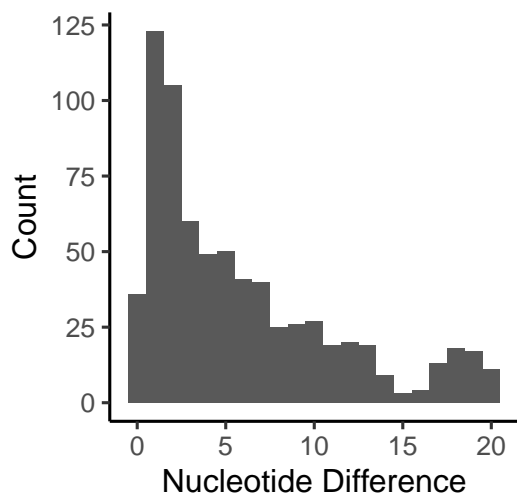
### IGHV3-187\*01\_S6840

1 sequences assigned  
No exact matches.



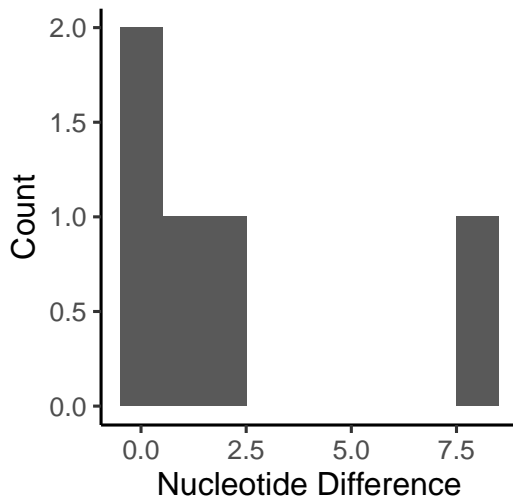
### IGHV3-175\*01\_S1614

902 sequences assigned  
36 (4%) exact matches, in which:  
18 unique CDR3  
2 unique J



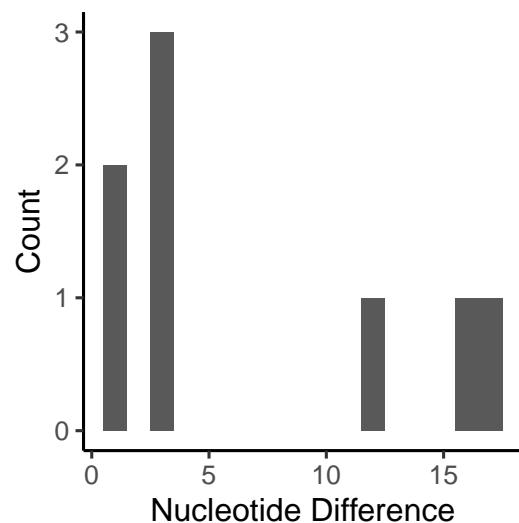
### IGHV3-187\*01\_S1133

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



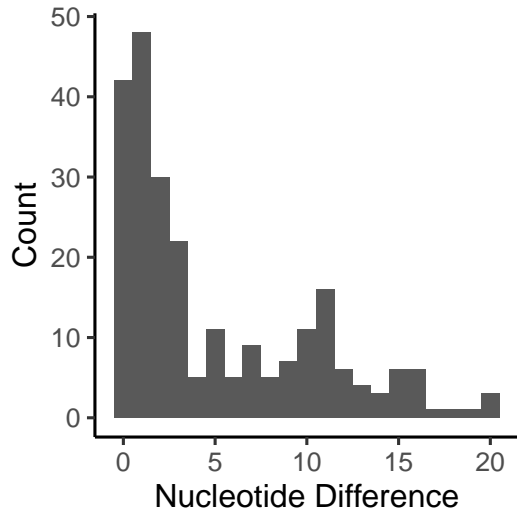
### IGHV3-187\*01\_S8972

12 sequences assigned  
No exact matches.



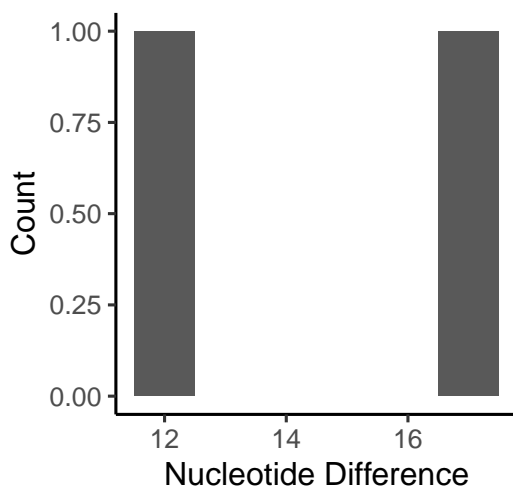
### IGHV3-177\*01\_S1591

279 sequences assigned  
42 (15.1%) exact matches, in which:  
27 unique CDR3  
4 unique J



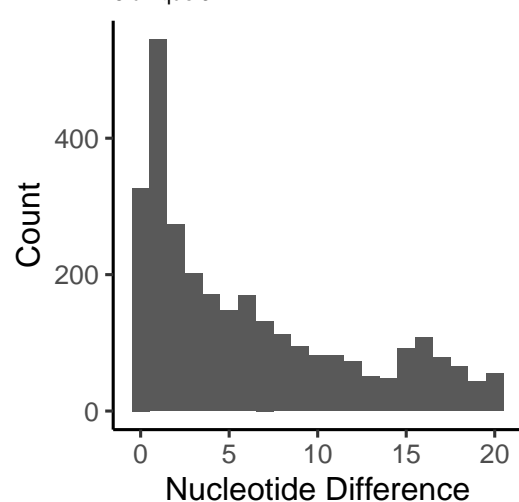
### IGHV3-187\*01\_S2144

15 sequences assigned  
No exact matches.



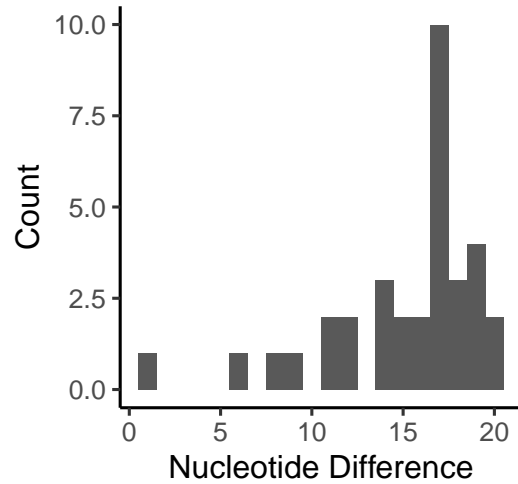
### IGHV3-NL\_1\*01\_S9854

3978 sequences assigned  
327 (8.2%) exact matches, in which:  
203 unique CDR3  
6 unique J



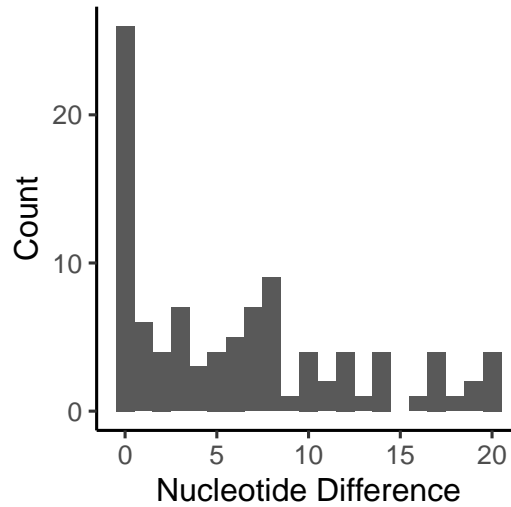
### IGHV3-NL\_10\*02\_S2212

119 sequences assigned  
No exact matches.



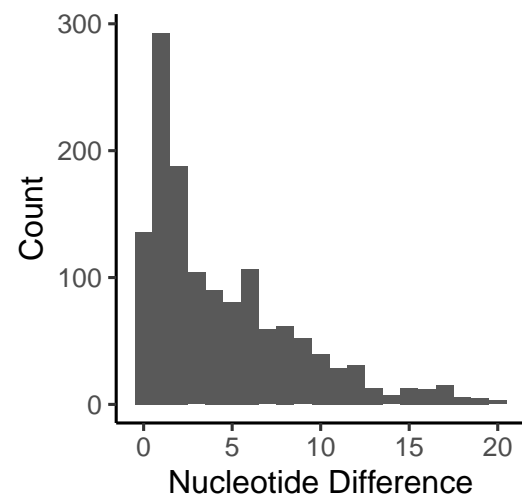
### IGHV3-NL\_11\*01\_S5714

121 sequences assigned  
26 (21.5%) exact matches, in which:  
25 unique CDR3  
6 unique J



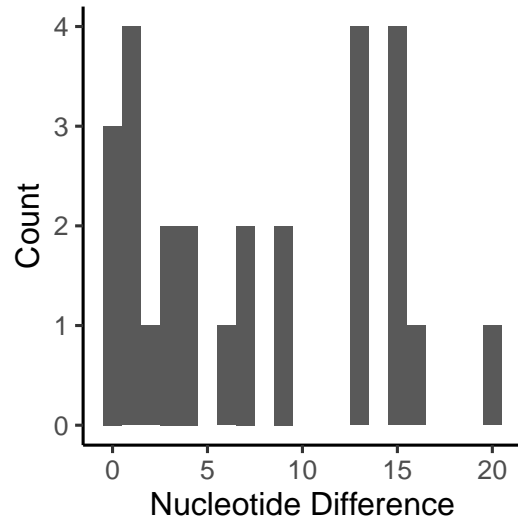
### IGHV3-NL\_14\*01\_S1113

1373 sequences assigned  
136 (9.9%) exact matches, in which:  
88 unique CDR3  
6 unique J



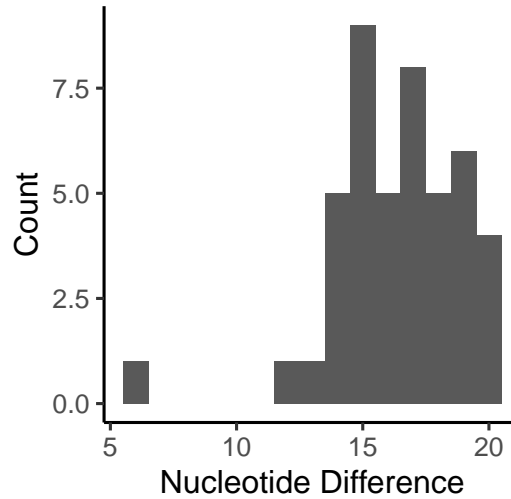
### IGHV3-NL\_11\*01\_S3736

33 sequences assigned  
3 (9.1%) exact matches, in which:  
3 unique CDR3  
2 unique J



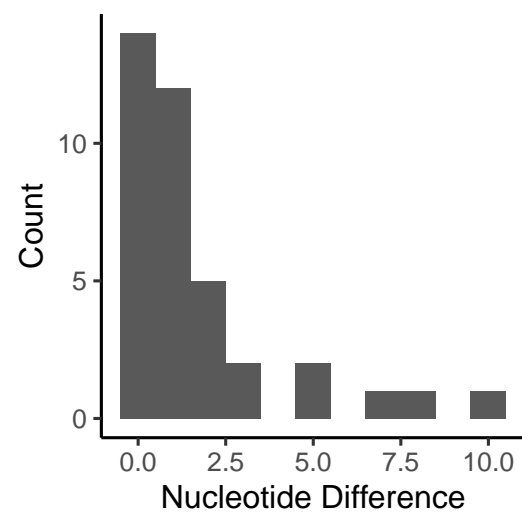
### IGHV3-NL\_13\*01\_S3940

53 sequences assigned  
No exact matches.



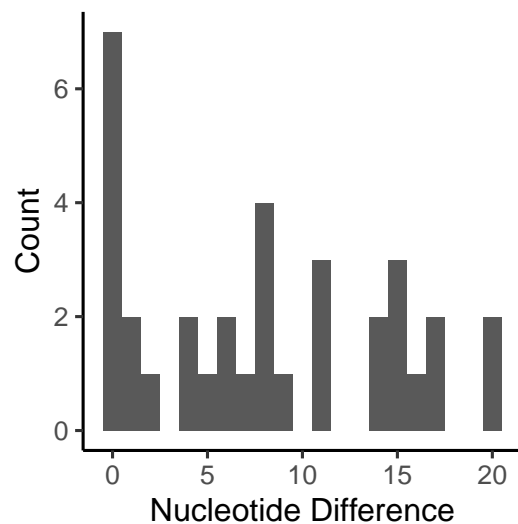
### IGHV3-NL\_16\*01\_S5133

39 sequences assigned  
14 (35.9%) exact matches, in which:  
6 unique CDR3  
1 unique J



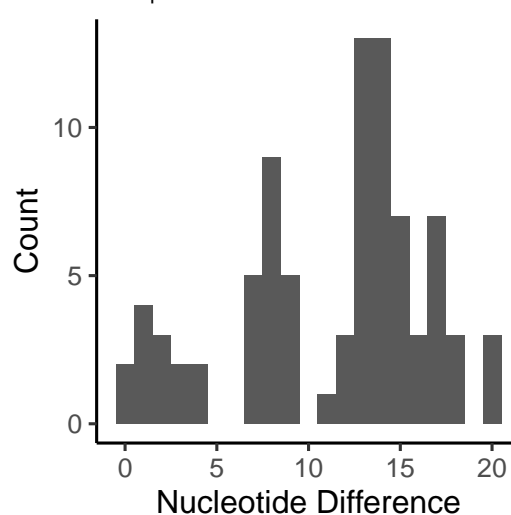
### IGHV3-NL\_11\*01\_S4619

41 sequences assigned  
7 (17.1%) exact matches, in which:  
7 unique CDR3  
5 unique J



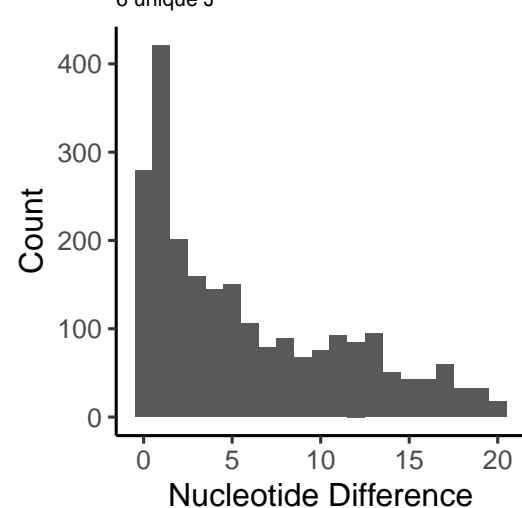
### IGHV3-NL\_13\*01\_S5549

152 sequences assigned  
2 (1.3%) exact matches, in which:  
2 unique CDR3  
1 unique J



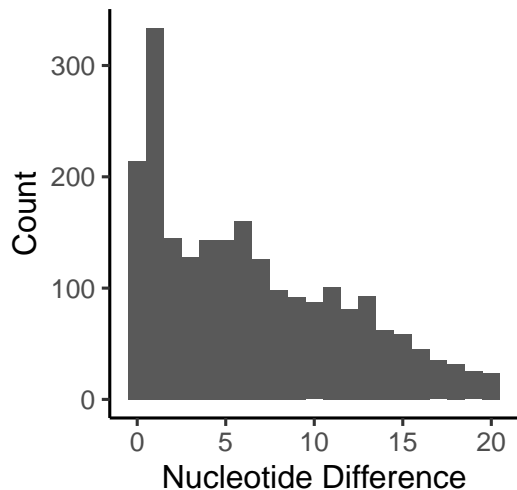
### IGHV3-NL\_17\*01\_S0507

2481 sequences assigned  
279 (11.2%) exact matches, in which:  
154 unique CDR3  
6 unique J



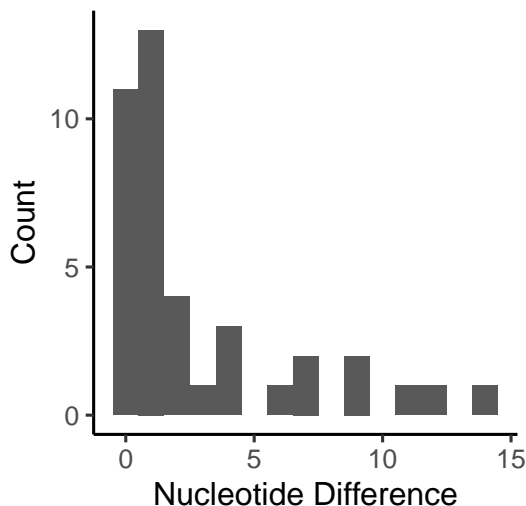
### IGHV3–NL\_17\*01\_S4250

2430 sequences assigned  
214 (8.8%) exact matches, in which:  
140 unique CDR3  
6 unique J



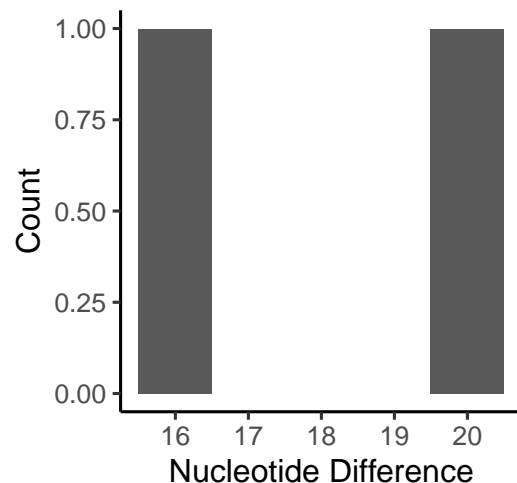
### IGHV3–NL\_2\*01\_S5884

41 sequences assigned  
11 (26.8%) exact matches, in which:  
8 unique CDR3  
3 unique J



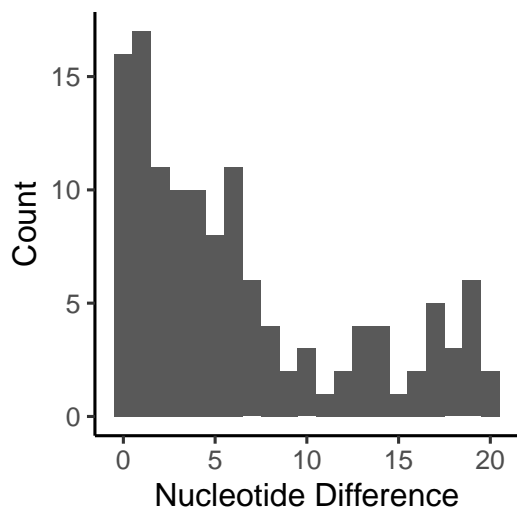
### IGHV3–NL\_5\*01\_S8361

4 sequences assigned  
No exact matches.



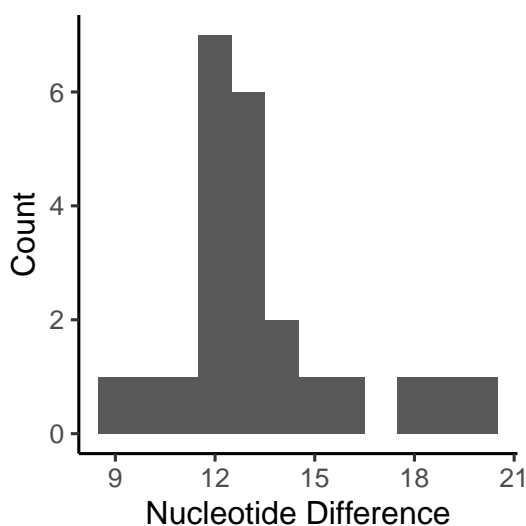
### IGHV3–NL\_18\*01\_S3867

132 sequences assigned  
16 (12.1%) exact matches, in which:  
14 unique CDR3  
6 unique J



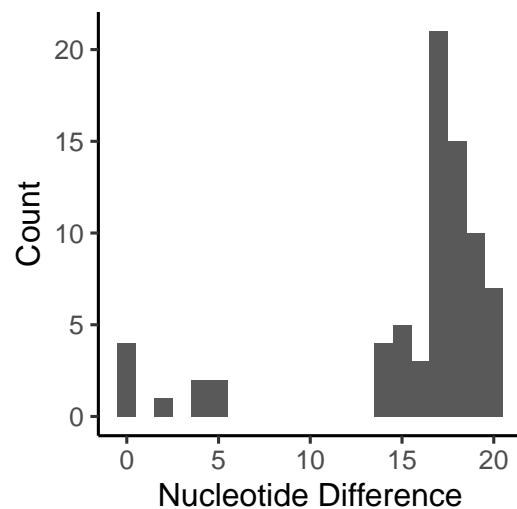
### IGHV3–NL\_4\*01\_S2727

39 sequences assigned  
No exact matches.



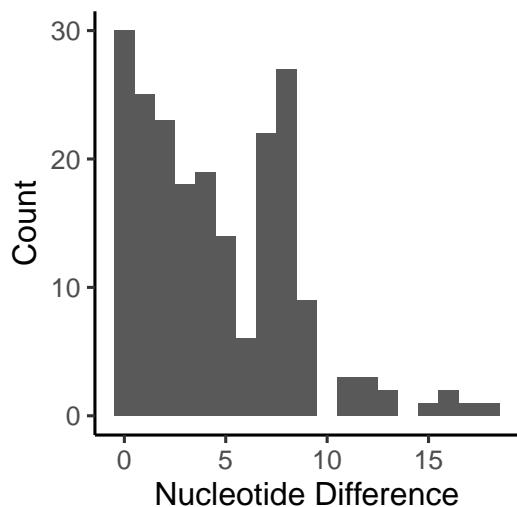
### IGHV3–NL\_6\*02\_S7808

187 sequences assigned  
4 (2.1%) exact matches, in which:  
3 unique CDR3  
2 unique J



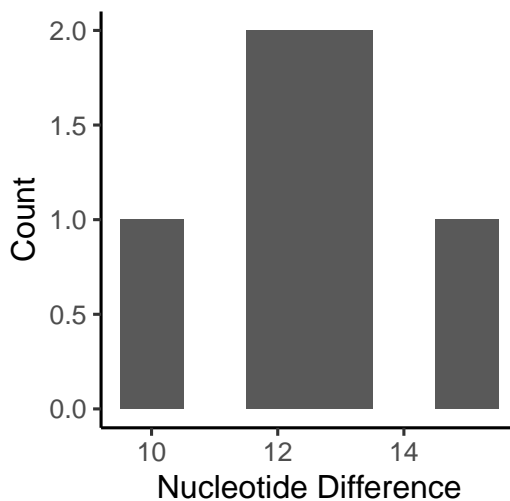
### IGHV3–NL\_19\*01\_S6894

210 sequences assigned  
30 (14.3%) exact matches, in which:  
23 unique CDR3  
3 unique J



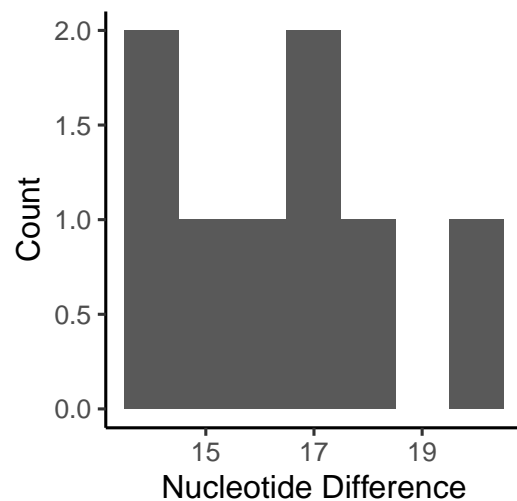
### IGHV3–NL\_4\*01\_S6405

12 sequences assigned  
No exact matches.



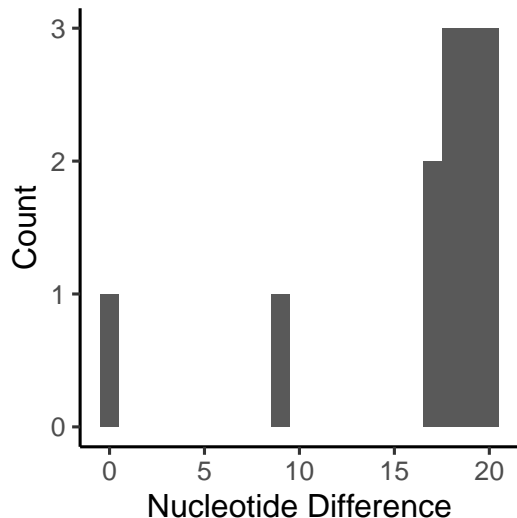
### IGHV3–NL\_7\*01\_S0199

13 sequences assigned  
No exact matches.



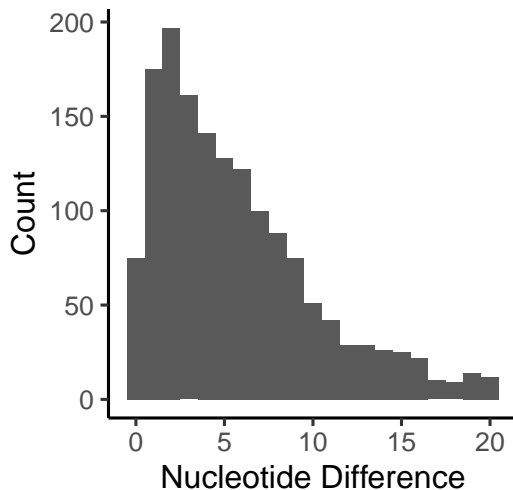
### IGHV3–NL\_8\*01\_S7474

54 sequences assigned  
1 (1.9%) exact matches, in which:  
1 unique CDR3  
1 unique J



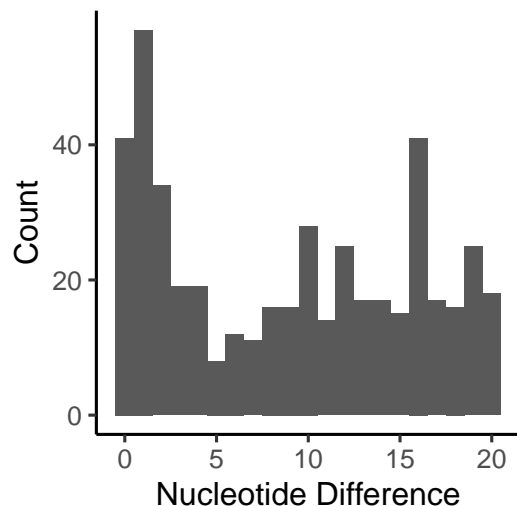
### IGHV4–72\*01\_S8261

1657 sequences assigned  
75 (4.5%) exact matches, in which:  
52 unique CDR3  
5 unique J



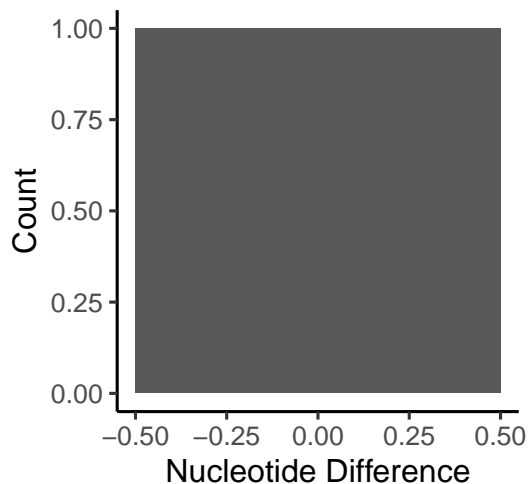
### IGHV4–144\*01\_S4873

665 sequences assigned  
41 (6.2%) exact matches, in which:  
32 unique CDR3  
5 unique J



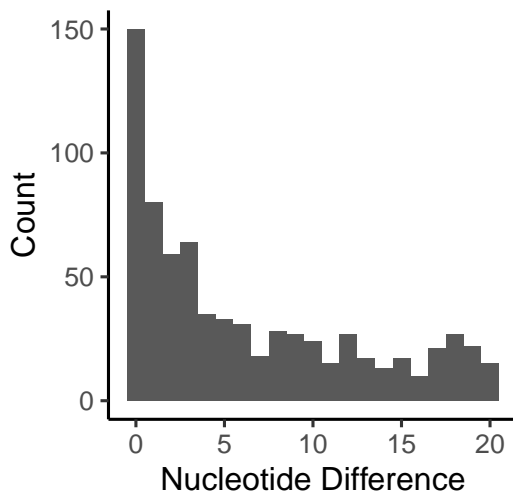
### IGHV3–NL\_8\*01\_S7860

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



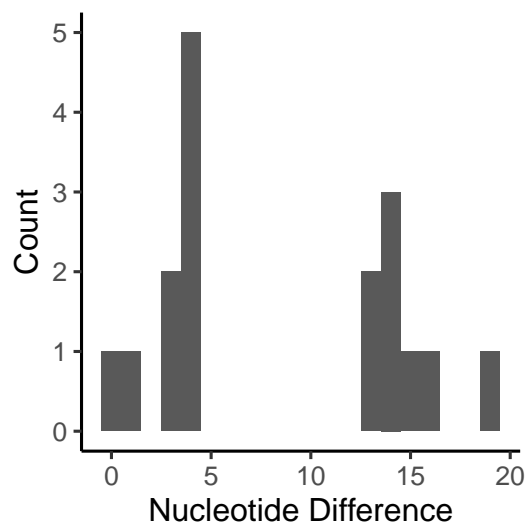
### IGHV4–79\*02\_S9501

836 sequences assigned  
150 (17.9%) exact matches, in which:  
128 unique CDR3  
5 unique J



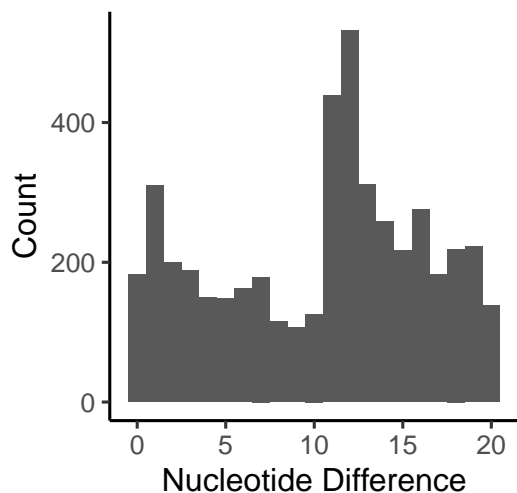
### IGHV4–149\*01\_S0794

23 sequences assigned  
1 (4.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



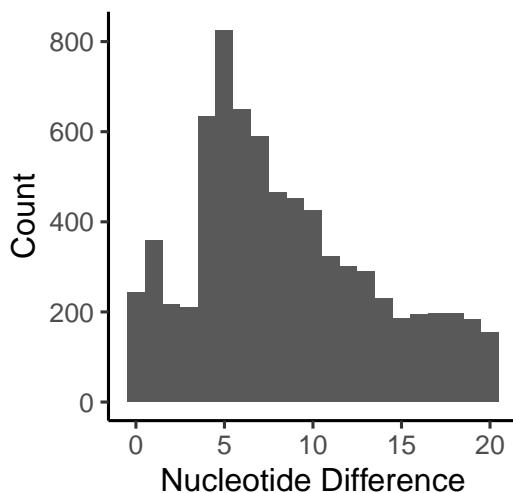
### IGHV3–NL\_9\*01\_S6098

5514 sequences assigned  
182 (3.3%) exact matches, in which:  
124 unique CDR3  
6 unique J



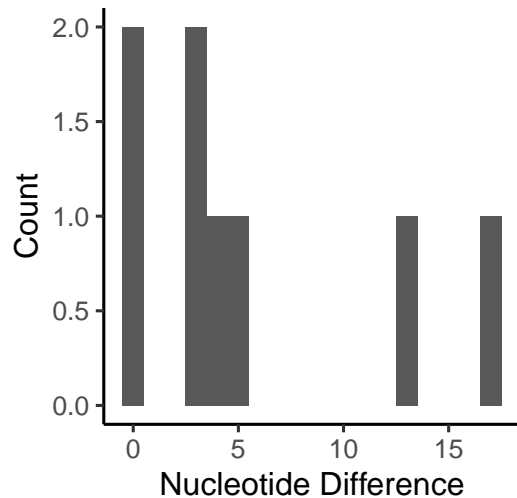
### IGHV4–117\*01\_S4879

8267 sequences assigned  
243 (2.9%) exact matches, in which:  
185 unique CDR3  
5 unique J



### IGHV4–149\*01\_S1992

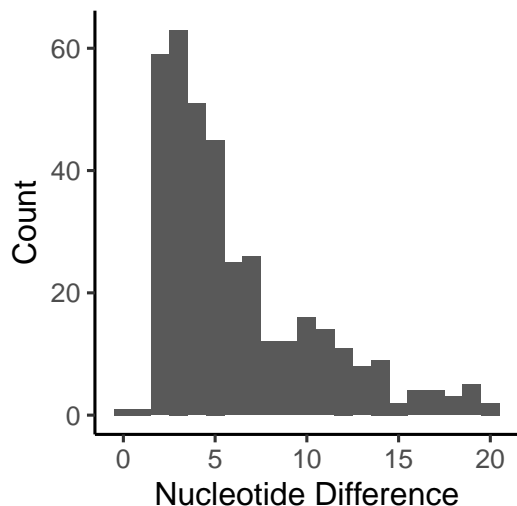
9 sequences assigned  
2 (22.2%) exact matches, in which:  
2 unique CDR3  
2 unique J





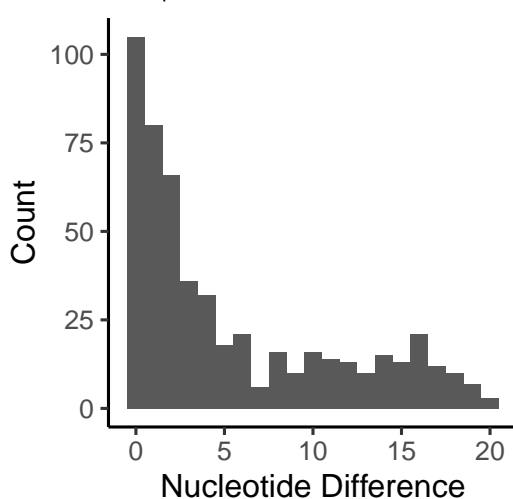
### IGHV4-149\*02\_S6878

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



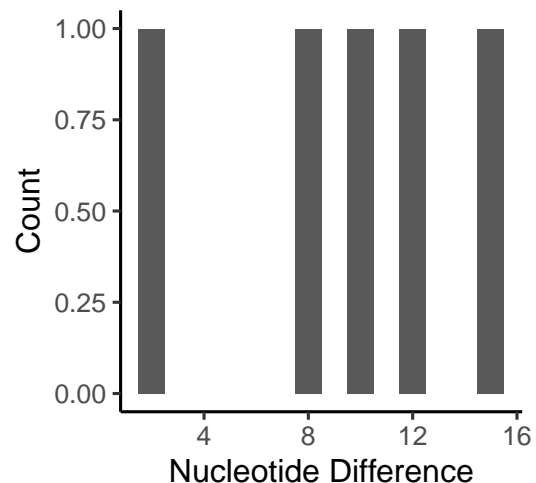
### IGHV4-NL\_1\*01\_S7297

548 sequences assigned  
105 (19.2%) exact matches, in which:  
92 unique CDR3  
7 unique J



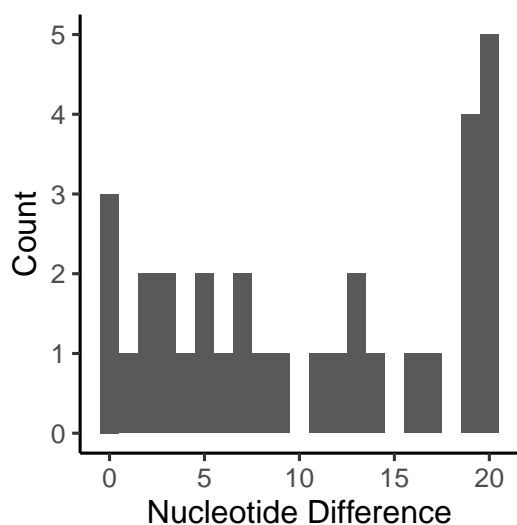
### IGHV4-NL\_11\*01\_S5570

7 sequences assigned  
No exact matches.



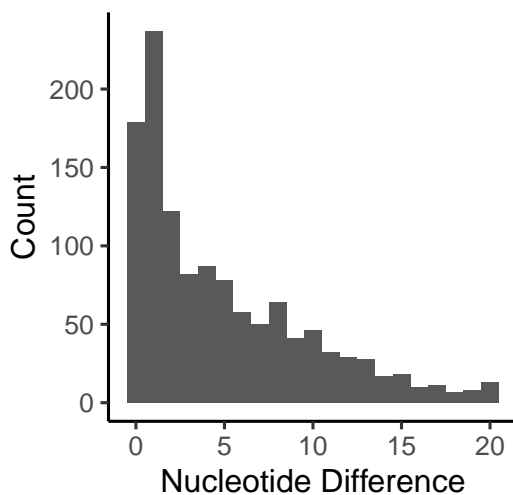
### IGHV4-149\*02\_S8521

47 sequences assigned  
3 (6.4%) exact matches, in which:  
3 unique CDR3  
2 unique J



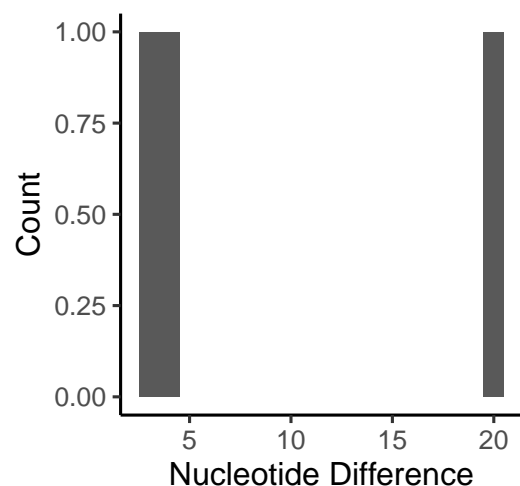
### IGHV4-NL\_1\*01\_S8720

1307 sequences assigned  
179 (13.7%) exact matches, in which:  
141 unique CDR3  
7 unique J



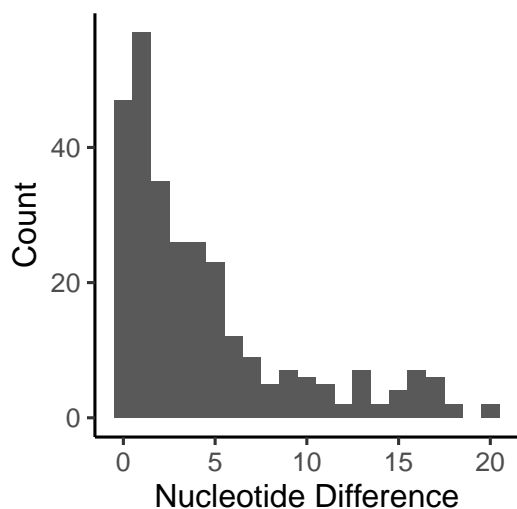
### IGHV4-NL\_11\*01\_S9942

13 sequences assigned  
No exact matches.



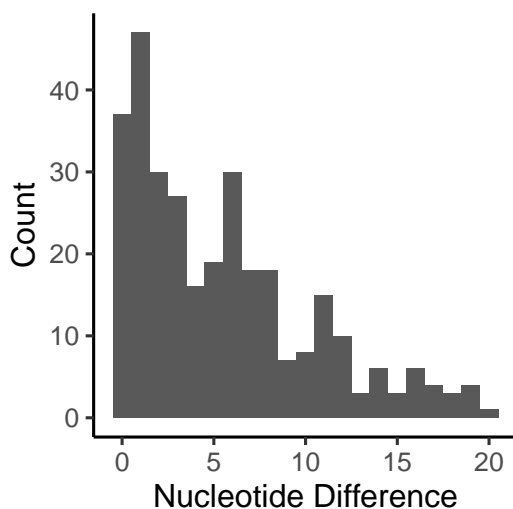
### IGHV4-150\*01\_S1985

310 sequences assigned  
47 (15.2%) exact matches, in which:  
31 unique CDR3  
4 unique J



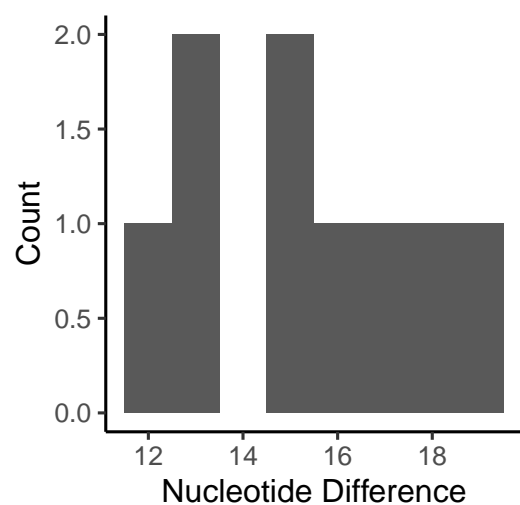
### IGHV4-NL\_1\*02\_S5113\_1

356 sequences assigned  
37 (10.4%) exact matches, in which:  
31 unique CDR3  
4 unique J



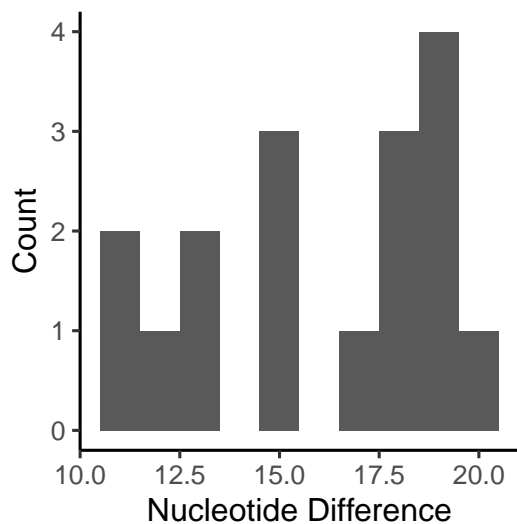
### IGHV4-NL\_12\*01\_S5174

51 sequences assigned  
No exact matches.



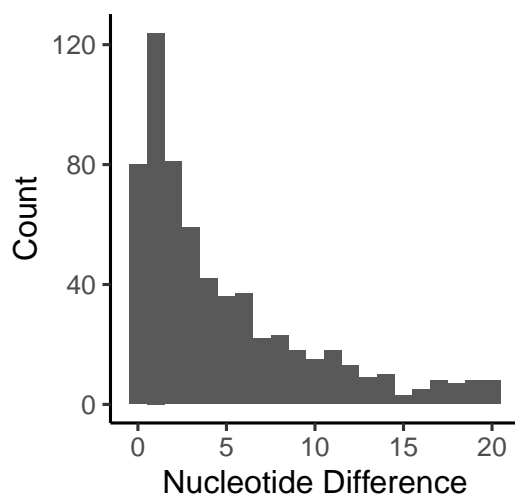
### IGHV4–NL\_12\*01\_S8068

25 sequences assigned  
No exact matches.



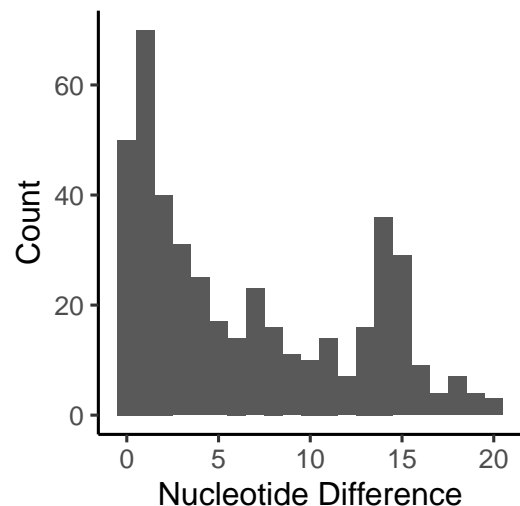
### IGHV4–NL\_16\*01\_S2324

650 sequences assigned  
80 (12.3%) exact matches, in which:  
63 unique CDR3  
7 unique J



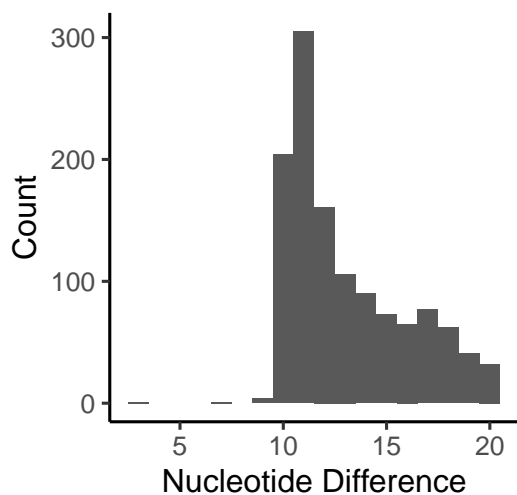
### IGHV4–NL\_17\*01\_S5431

475 sequences assigned  
50 (10.5%) exact matches, in which:  
40 unique CDR3  
5 unique J



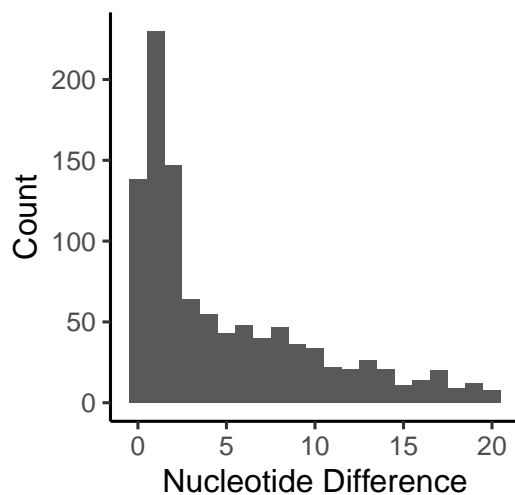
### IGHV4–NL\_13\*01\_S9744

1427 sequences assigned  
No exact matches.



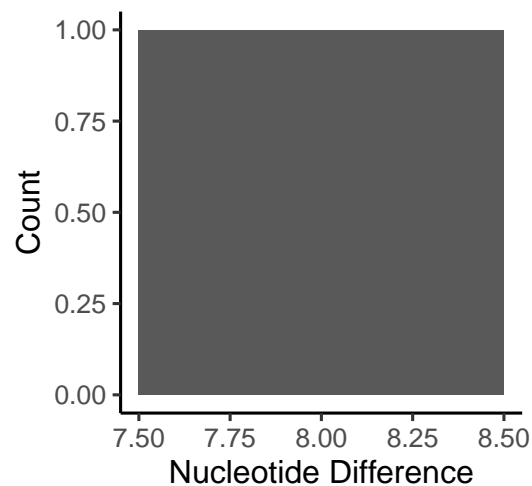
### IGHV4–NL\_17\*01\_S2333

1105 sequences assigned  
138 (12.5%) exact matches, in which:  
105 unique CDR3  
5 unique J



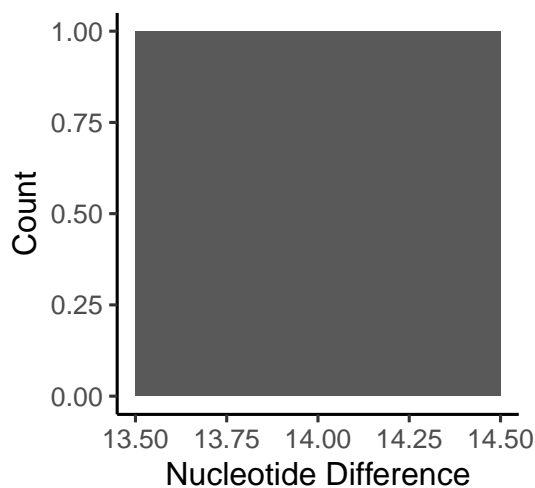
### IGHV4–NL\_20\*01\_S0030

11 sequences assigned  
No exact matches.



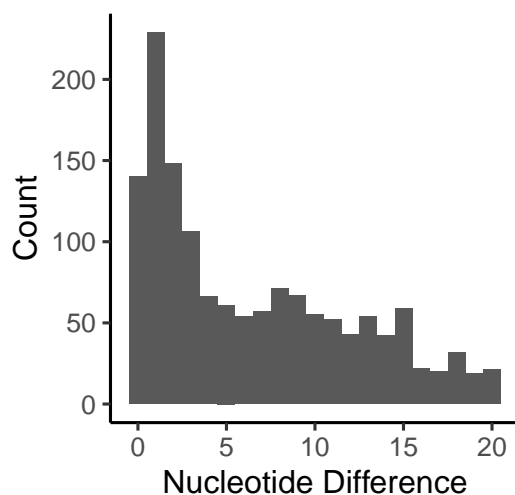
### IGHV4–NL\_15\*01\_S5717

1 sequences assigned  
No exact matches.



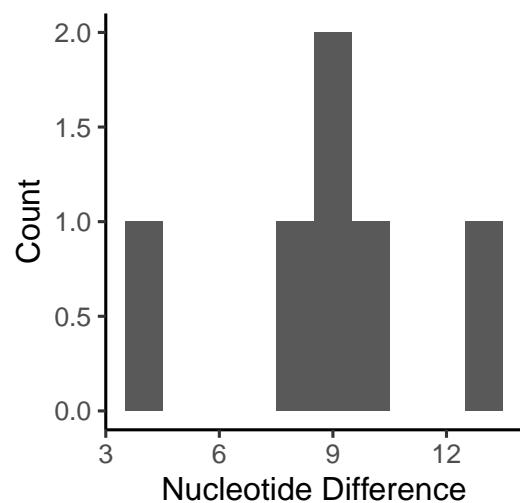
### IGHV4–NL\_17\*01\_S4099

1549 sequences assigned  
140 (9%) exact matches, in which:  
112 unique CDR3  
7 unique J



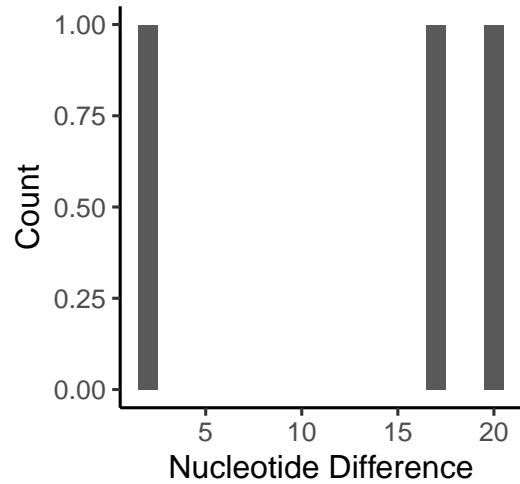
### IGHV4–NL\_20\*01\_S3868

10 sequences assigned  
No exact matches.



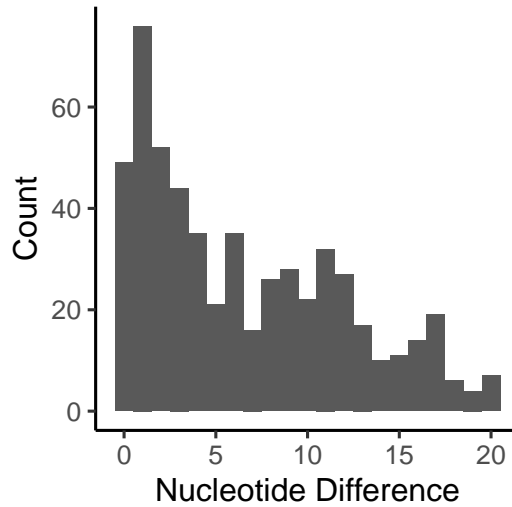
### IGHV4-NL\_20\*01\_S724

4 sequences assigned  
No exact matches.



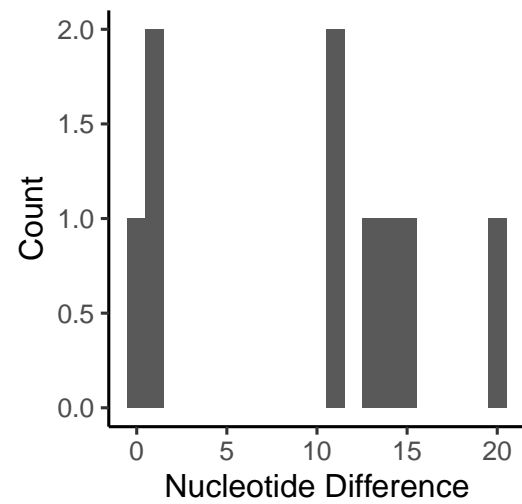
### IGHV4-NL\_22\*01\_S6977

586 sequences assigned  
49 (8.4%) exact matches, in which:  
40 unique CDR3  
5 unique J



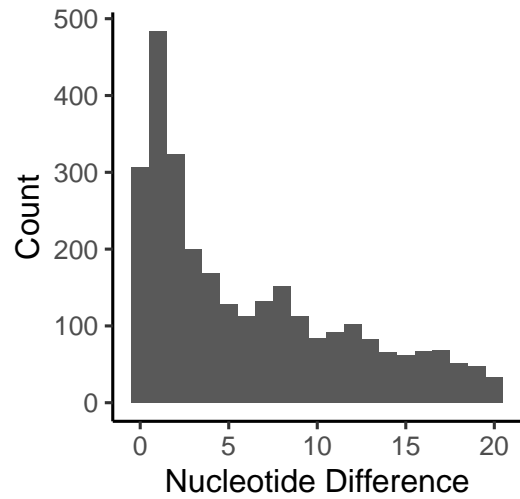
### IGHV4-NL\_25\*01\_S2780

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



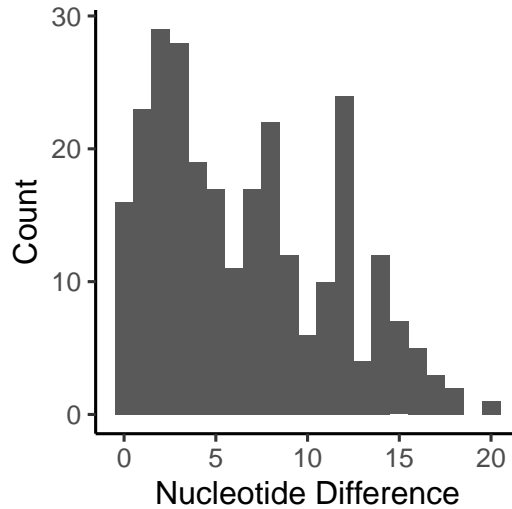
### IGHV4-NL\_21\*01\_S0138

3202 sequences assigned  
306 (9.6%) exact matches, in which:  
240 unique CDR3  
7 unique J



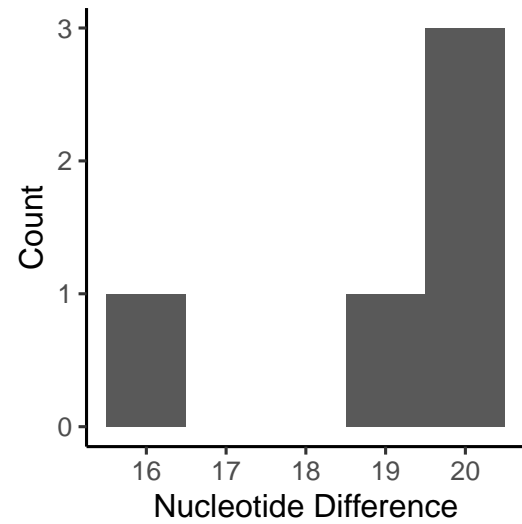
### IGHV4-NL\_23\*01\_S1296

279 sequences assigned  
16 (5.7%) exact matches, in which:  
14 unique CDR3  
4 unique J



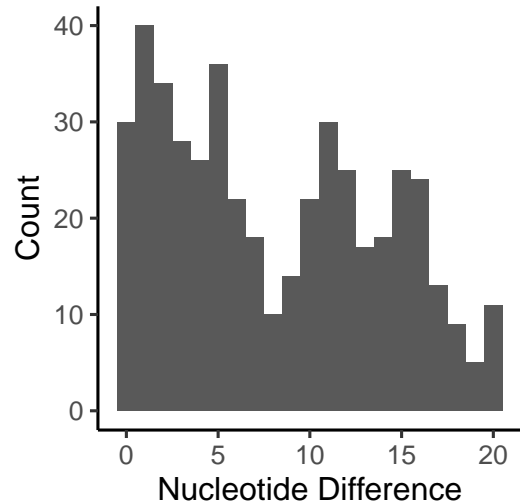
### IGHV4-NL\_25\*01\_S6200

49 sequences assigned  
No exact matches.



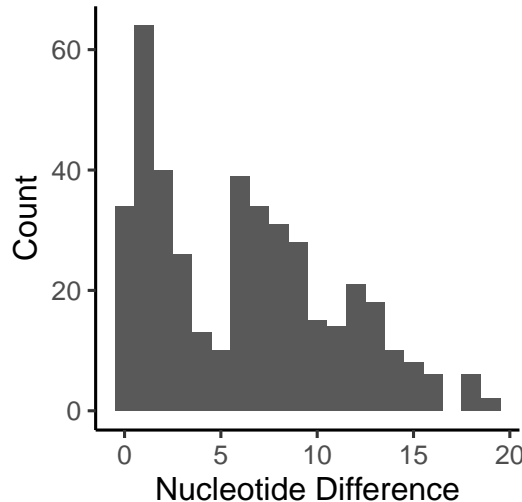
### IGHV4-NL\_21\*01\_S6308

506 sequences assigned  
30 (5.9%) exact matches, in which:  
25 unique CDR3  
6 unique J



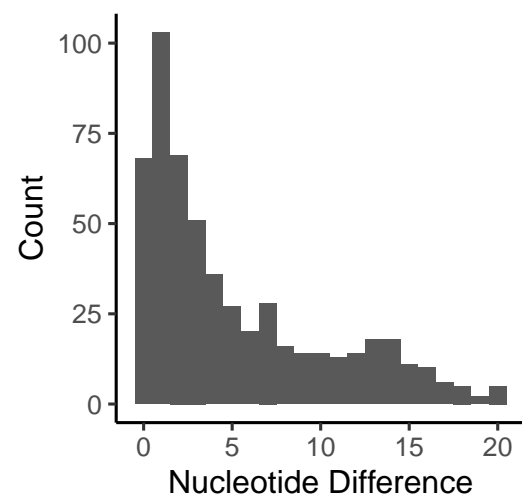
### IGHV4-NL\_24\*01\_S7595

430 sequences assigned  
34 (7.9%) exact matches, in which:  
29 unique CDR3  
4 unique J



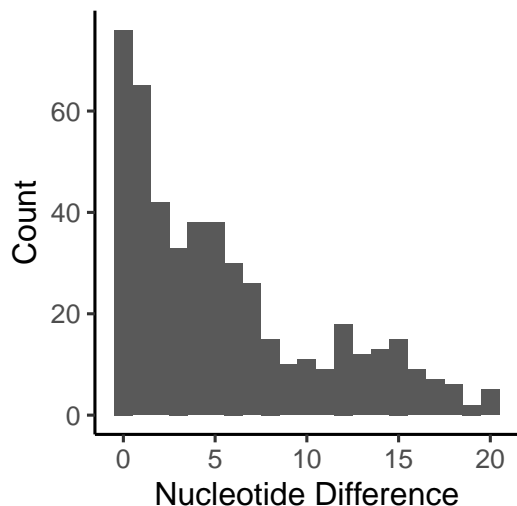
### IGHV4-NL\_27\*01\_S1458

577 sequences assigned  
68 (11.8%) exact matches, in which:  
54 unique CDR3  
5 unique J



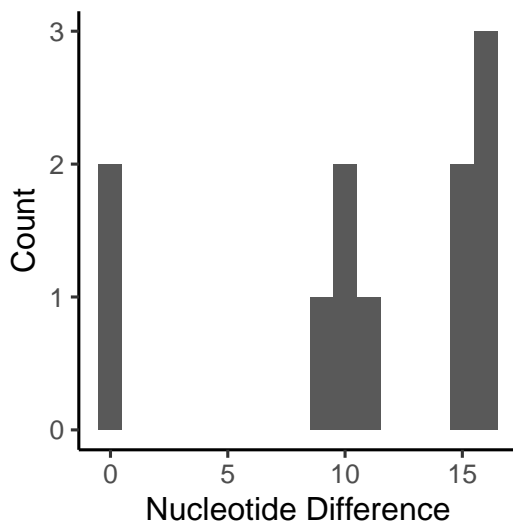
### IGHV4–NL\_29\*01\_S3761

505 sequences assigned  
76 (15%) exact matches, in which:  
62 unique CDR3  
4 unique J



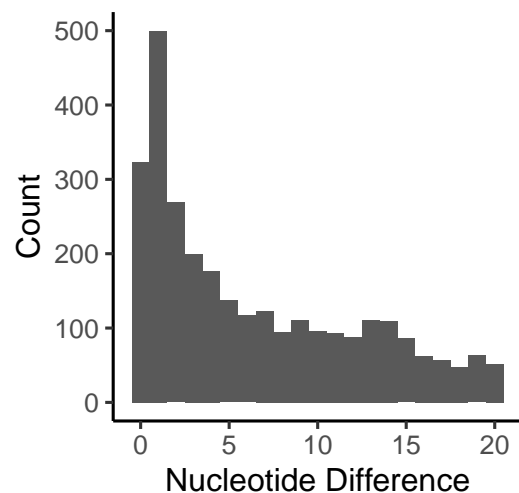
### IGHV4–NL\_31\*01\_S7693

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



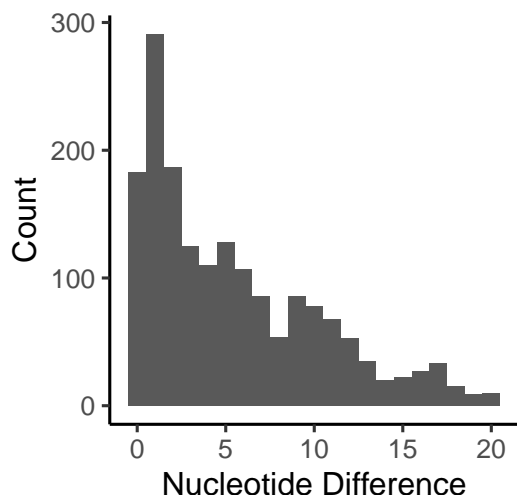
### IGHV4–NL\_33\*01\_S4377

3248 sequences assigned  
323 (9.9%) exact matches, in which:  
238 unique CDR3  
7 unique J



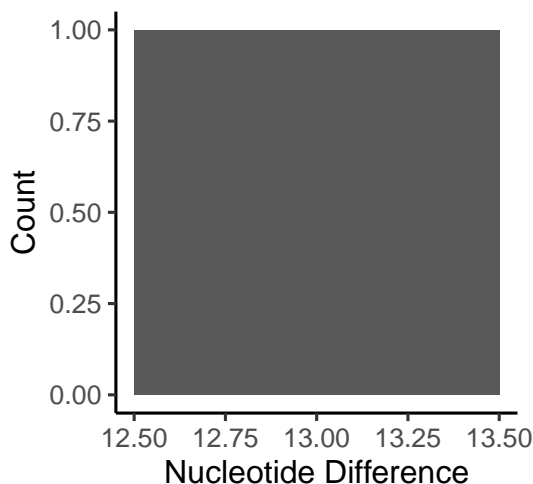
### IGHV4–NL\_3\*01\_S7864

1861 sequences assigned  
183 (9.8%) exact matches, in which:  
140 unique CDR3  
5 unique J



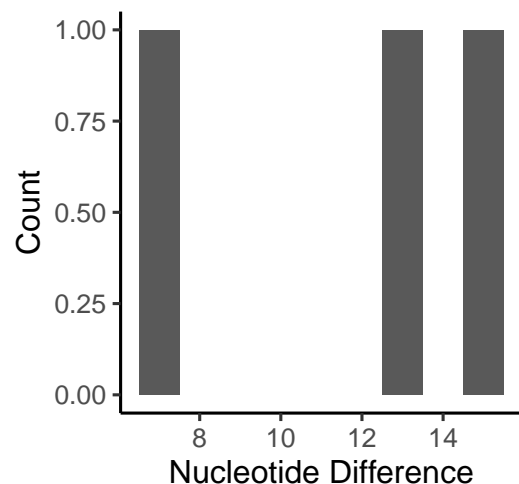
### IGHV4–NL\_32\*01\_S3033

1 sequences assigned  
No exact matches.



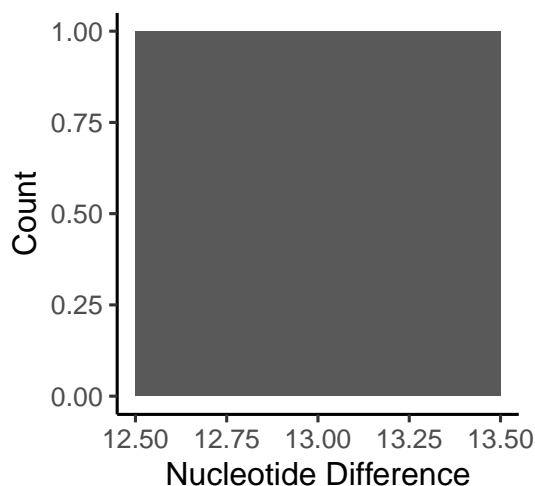
### IGHV4–NL\_34\*01\_S4637

4 sequences assigned  
No exact matches.



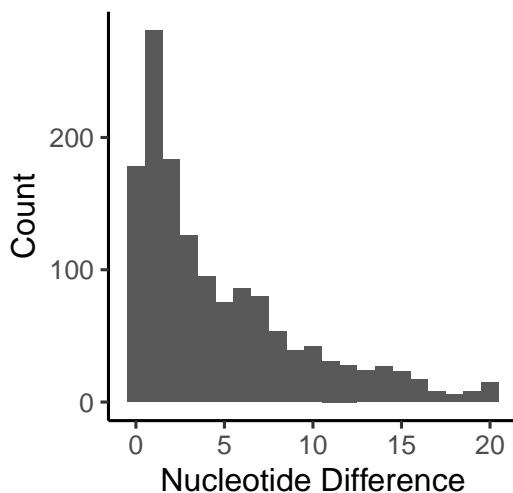
### IGHV4–NL\_30\*01\_S4257

1 sequences assigned  
No exact matches.



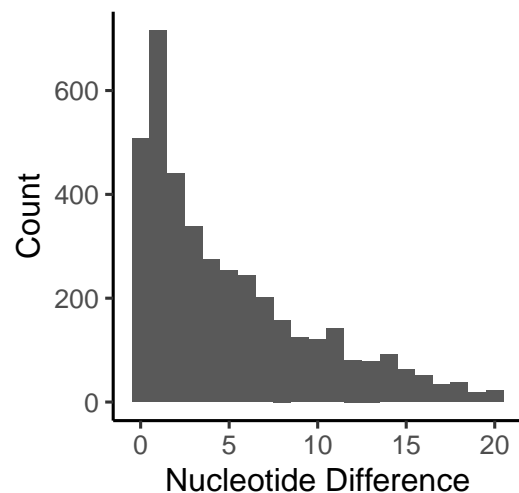
### IGHV4–NL\_33\*01\_S4143

1506 sequences assigned  
178 (11.8%) exact matches, in which:  
140 unique CDR3  
5 unique J



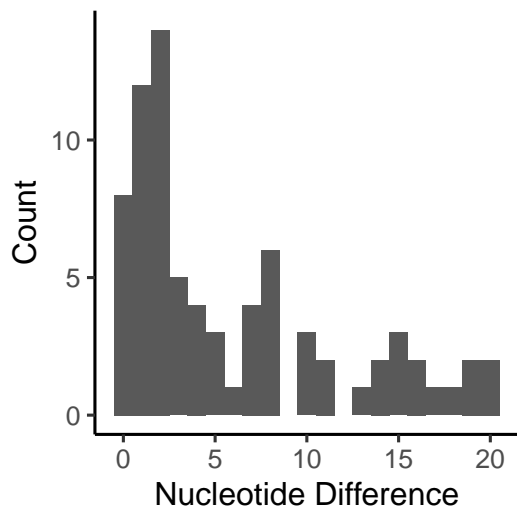
### IGHV4–NL\_36\*01\_S8200

4145 sequences assigned  
508 (12.3%) exact matches, in which:  
378 unique CDR3  
7 unique J



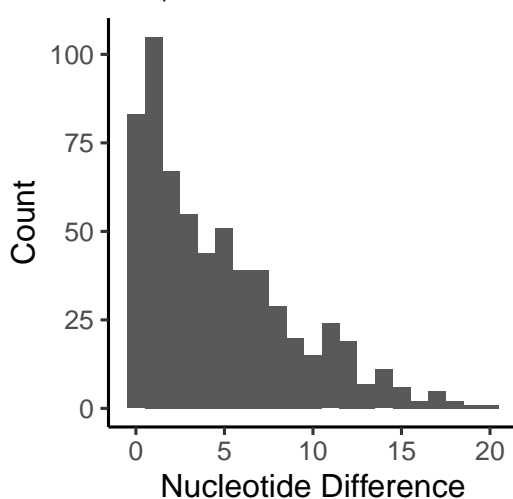
### IGHV4–NL\_38\*01\_S8437

82 sequences assigned  
8 (9.8%) exact matches, in which:  
8 unique CDR3  
5 unique J



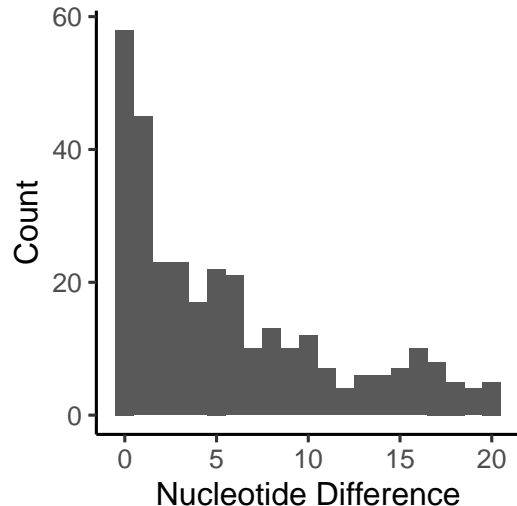
### IGHV4–NL\_42\*01\_S3572

639 sequences assigned  
83 (13%) exact matches, in which:  
71 unique CDR3  
5 unique J



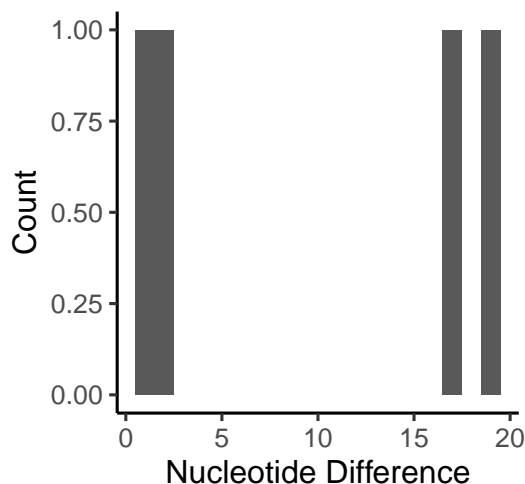
### IGHV4–NL\_5\*01\_S7147

360 sequences assigned  
58 (16.1%) exact matches, in which:  
49 unique CDR3  
5 unique J



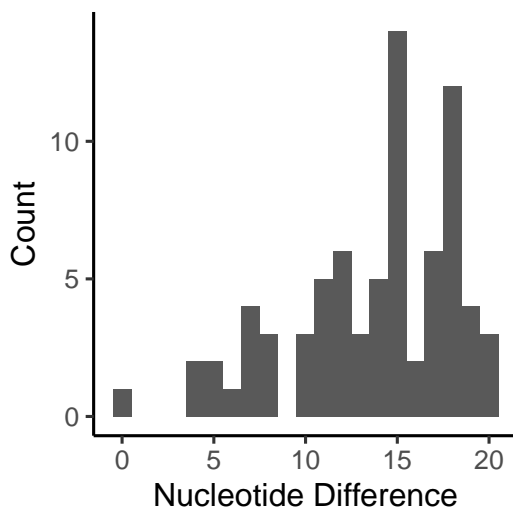
### IGHV4–NL\_4\*01\_S8866

23 sequences assigned  
No exact matches.



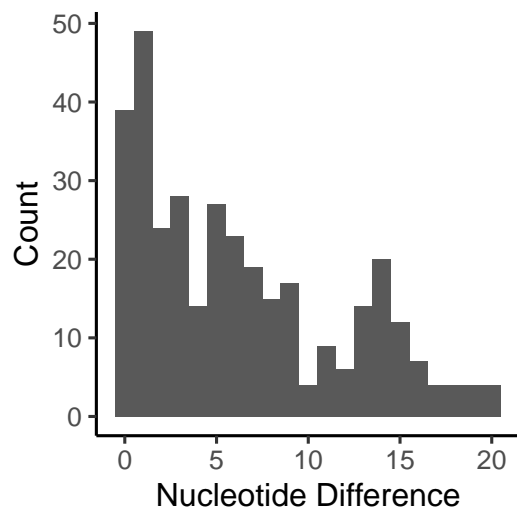
### IGHV4–NL\_42\*01\_S3666

88 sequences assigned  
1 (1.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



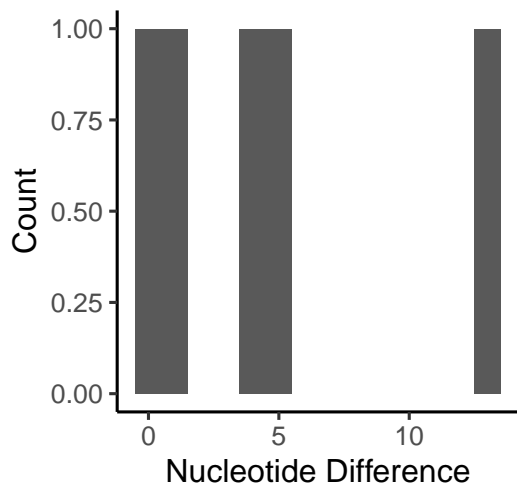
### IGHV4–NL\_9\*01\_S3502

369 sequences assigned  
39 (10.6%) exact matches, in which:  
32 unique CDR3  
4 unique J



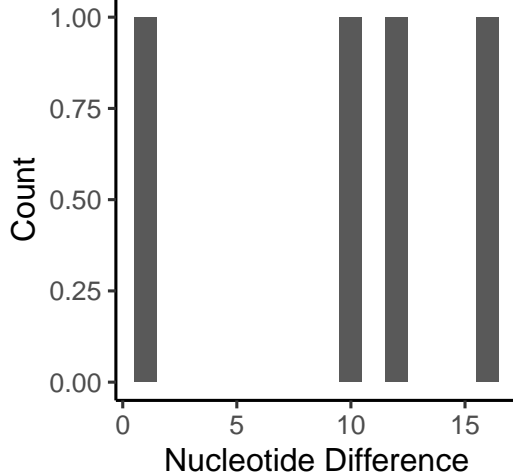
### IGHV4–NL\_40\*01\_S0696

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



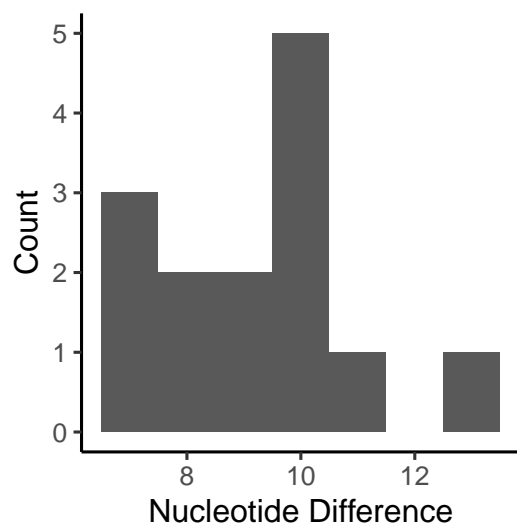
### IGHV4–NL\_43\*01\_S4510

6 sequences assigned  
No exact matches.



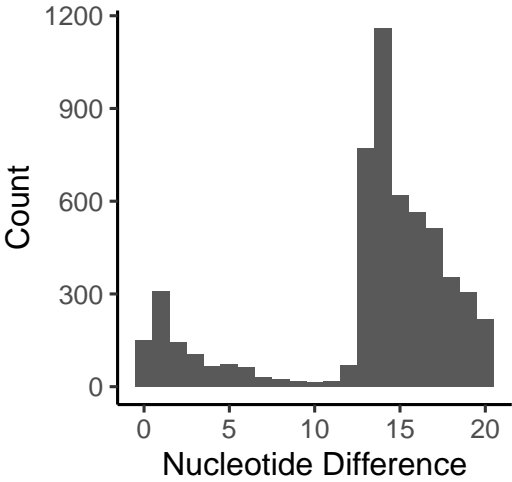
### IGHV4–NL\_9\*01\_S6142

20 sequences assigned  
No exact matches.



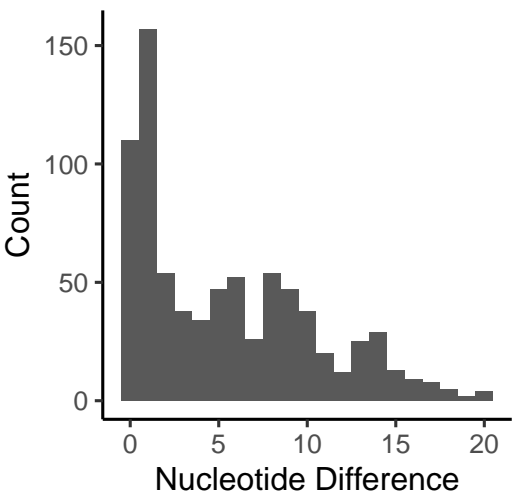
# IGHV5-157\*01\_S3631

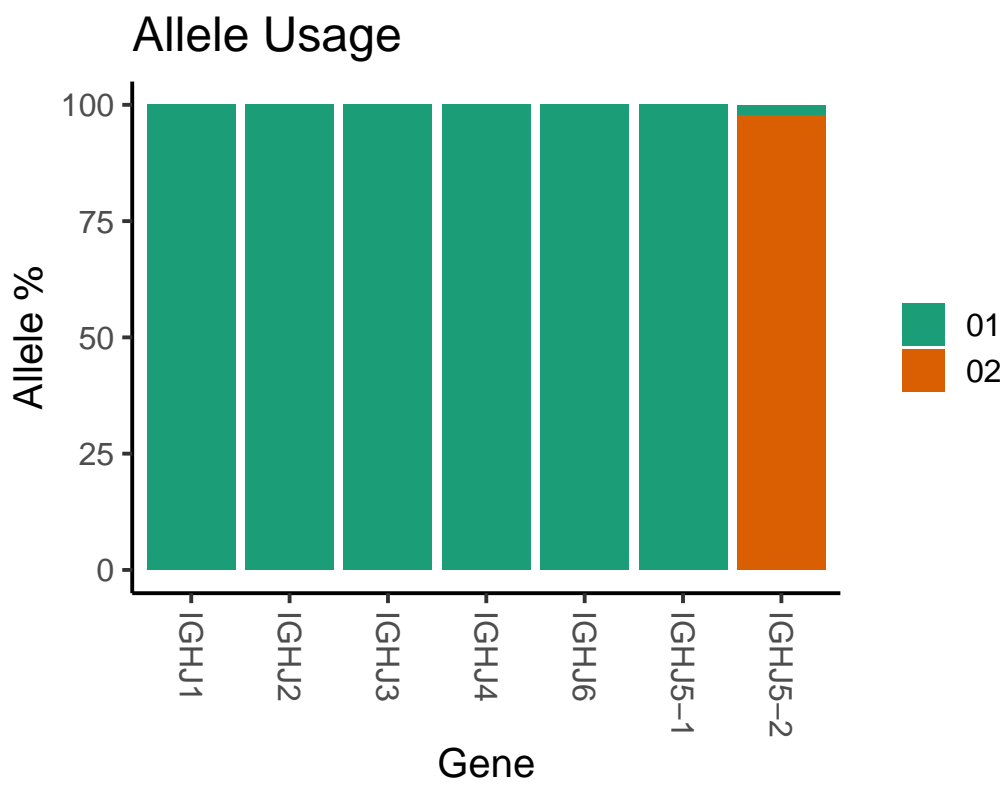
6919 sequences assigned  
152 (2.2%) exact matches, in which:  
81 unique CDR3  
5 unique J



# IGHV5-157\*01\_S6479

839 sequences assigned  
110 (13.1%) exact matches, in which:  
64 unique CDR3  
4 unique J





Warning – no inferred sequences found.