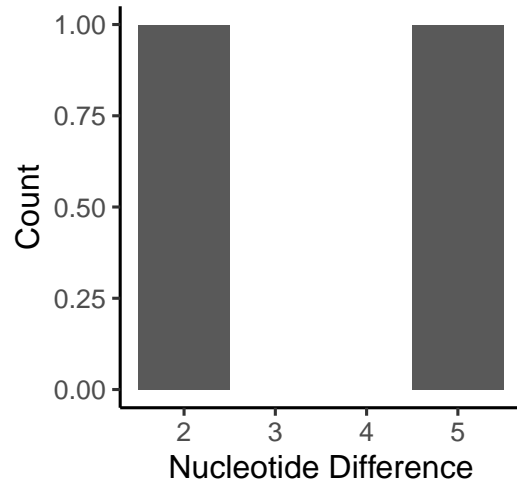


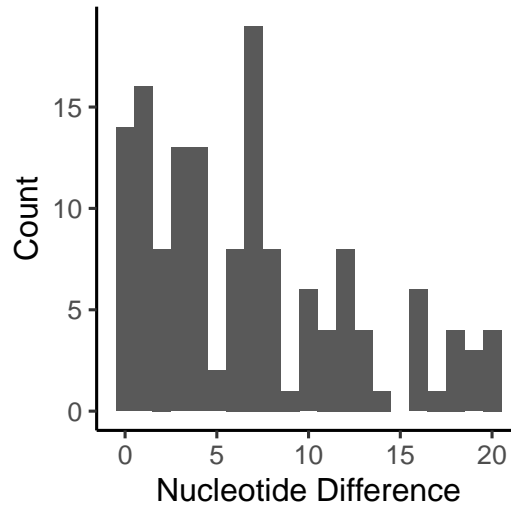
### IGHV1-60\*01\_S7772

2 sequences assigned  
No exact matches.



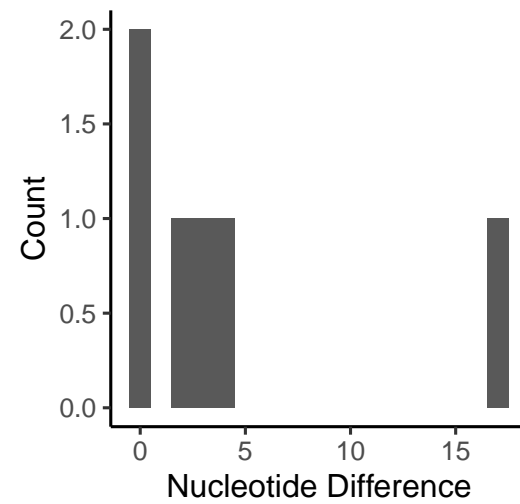
### IGHV1-124\*01\_S6748

164 sequences assigned  
14 (8.5%) exact matches, in which:  
9 unique CDR3  
3 unique J



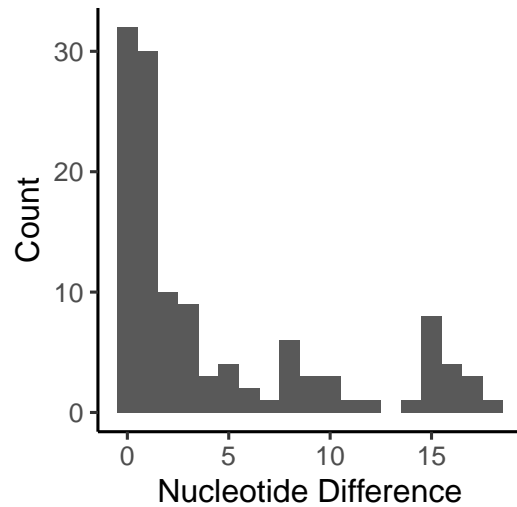
### IGHV1-NL\_2\*01\_S0023

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



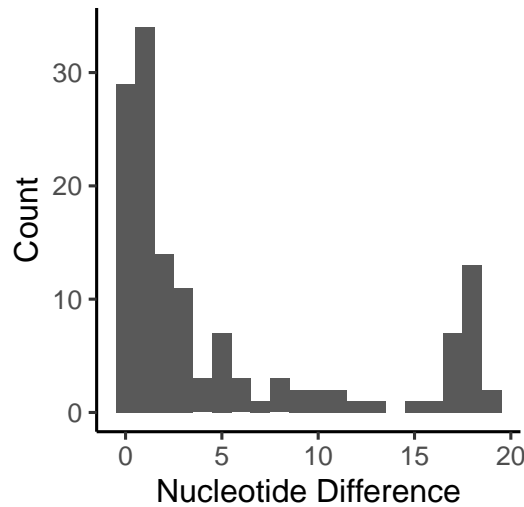
### IGHV1-84\*01\_S0025

122 sequences assigned  
32 (26.2%) exact matches, in which:  
8 unique CDR3  
4 unique J



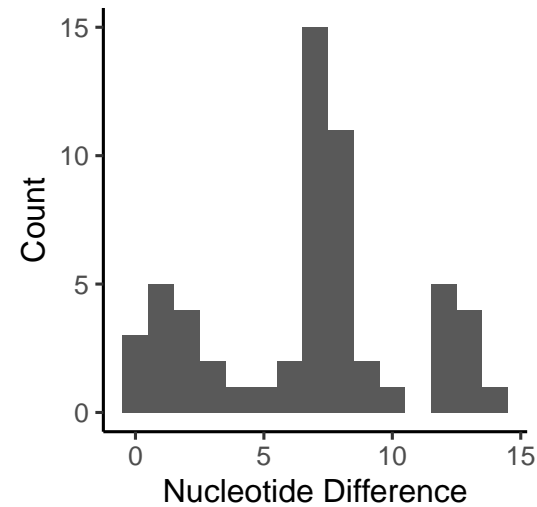
### IGHV1-138\*01\_S8712

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



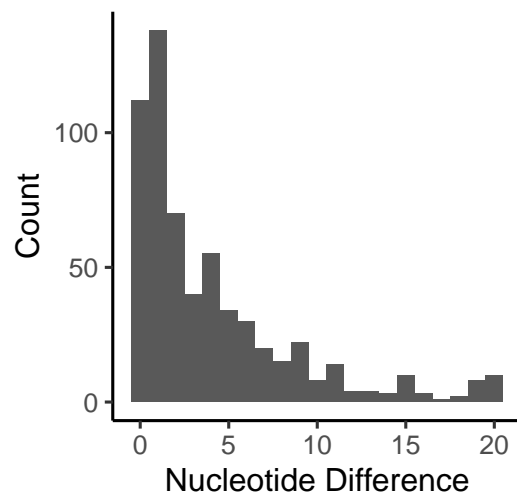
### IGHV1-NL\_2\*01\_S9896

57 sequences assigned  
3 (5.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



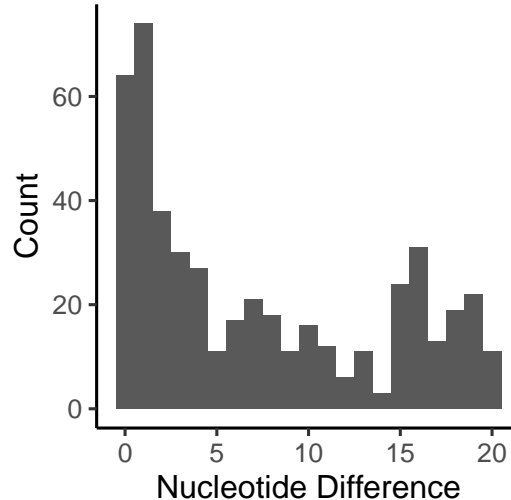
### IGHV1-84\*01\_S2805

622 sequences assigned  
112 (18%) exact matches, in which:  
41 unique CDR3  
4 unique J



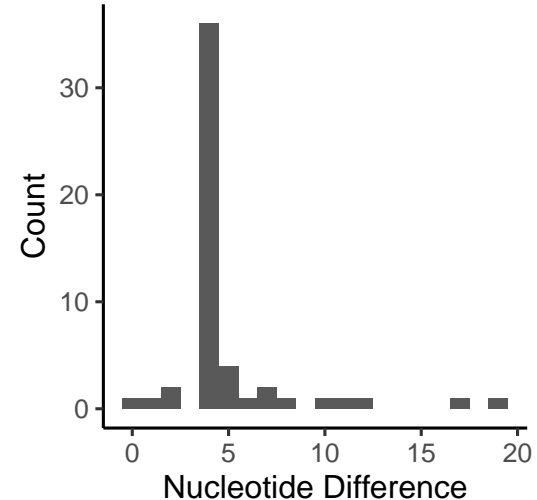
### IGHV1-NL\_1\*01\_S2052

570 sequences assigned  
64 (11.2%) exact matches, in which:  
22 unique CDR3  
4 unique J



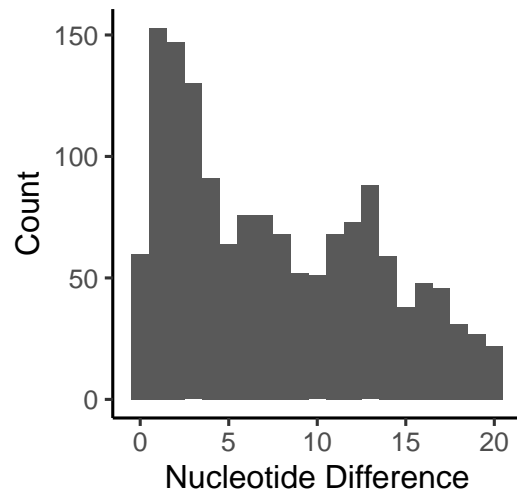
### IGHV2-7\*02\_S1732

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



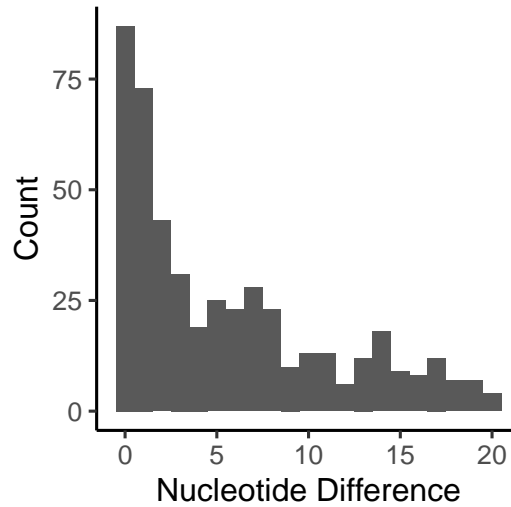
### IGHV2-69\*02\_S0779

1631 sequences assigned  
60 (3.7%) exact matches, in which:  
21 unique CDR3  
6 unique J



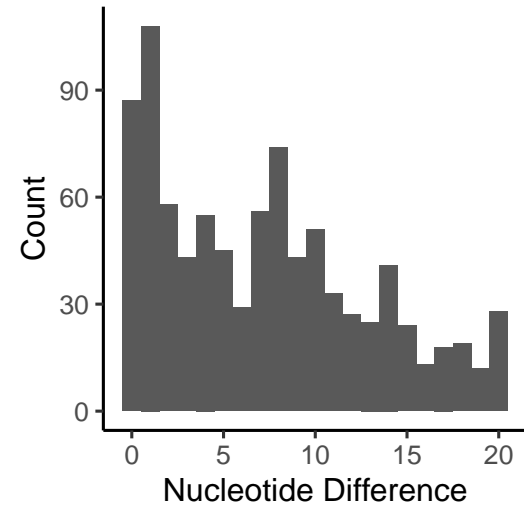
### IGHV2-NL\_1\*01\_S5431\_01

617 sequences assigned  
87 (14.1%) exact matches, in which:  
62 unique CDR3  
7 unique J



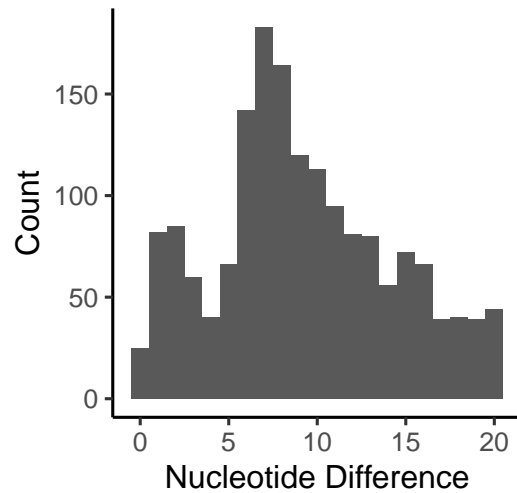
### IGHV3-28\*01\_S3792

1054 sequences assigned  
87 (8.3%) exact matches, in which:  
44 unique CDR3  
6 unique J



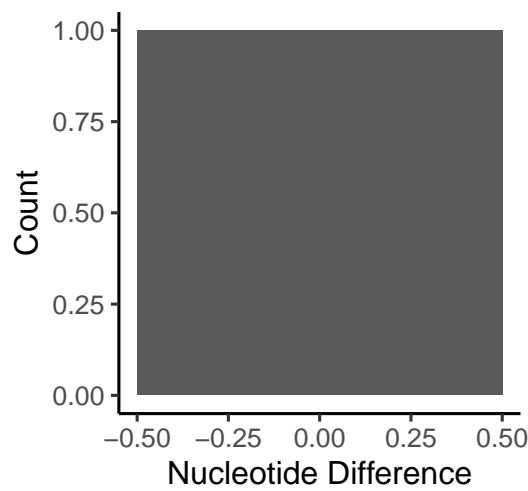
### IGHV2-118\*01\_S3831

2238 sequences assigned  
25 (1.1%) exact matches, in which:  
11 unique CDR3  
2 unique J



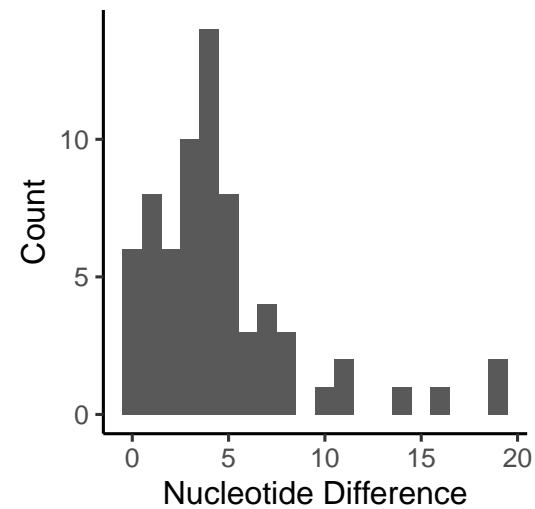
### IGHV2-NL\_2\*01\_S8873

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



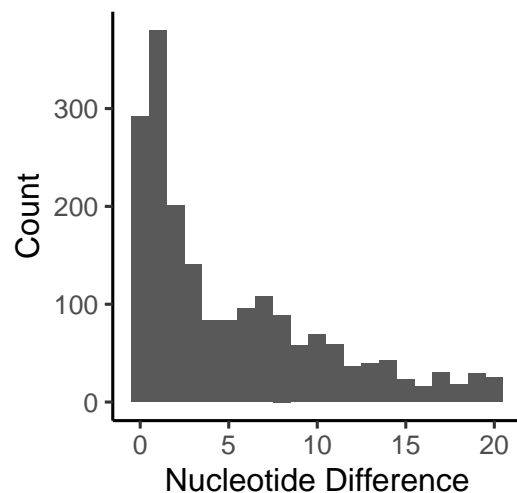
### IGHV3-36\*01\_S5206

72 sequences assigned  
6 (8.3%) exact matches, in which:  
4 unique CDR3  
1 unique J



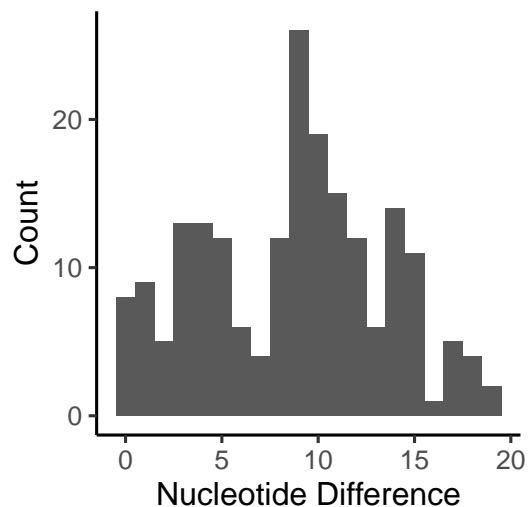
### IGHV2-NL\_1\*01\_S5431

2154 sequences assigned  
292 (13.6%) exact matches, in which:  
112 unique CDR3  
7 unique J



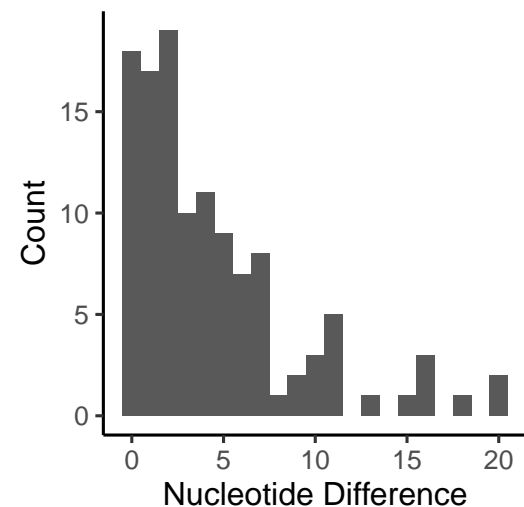
### IGHV3-5\*01\_S0969

211 sequences assigned  
8 (3.8%) exact matches, in which:  
2 unique CDR3  
2 unique J



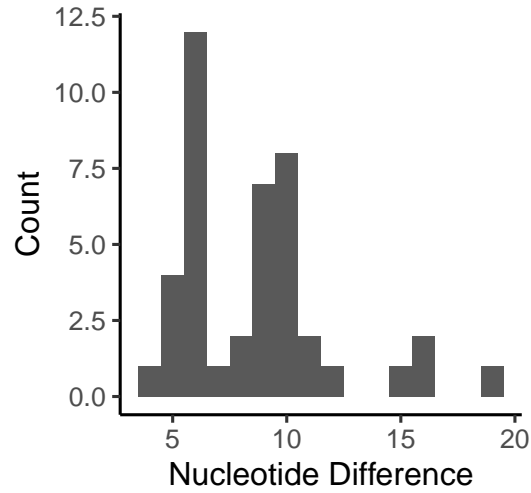
### IGHV3-36\*01\_S9128

120 sequences assigned  
18 (15%) exact matches, in which:  
13 unique CDR3  
2 unique J



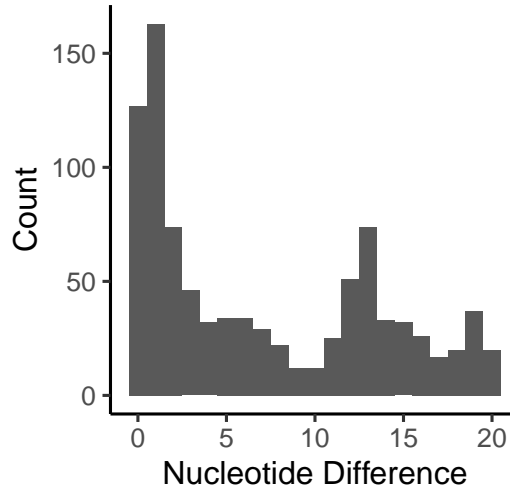
### IGHV3-37\*01\_S6325

45 sequences assigned  
No exact matches.



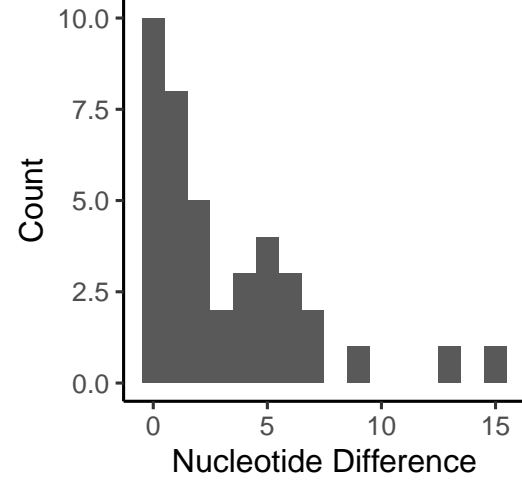
### IGHV3-52\*02\_S2646

993 sequences assigned  
127 (12.8%) exact matches, in which:  
56 unique CDR3  
4 unique J



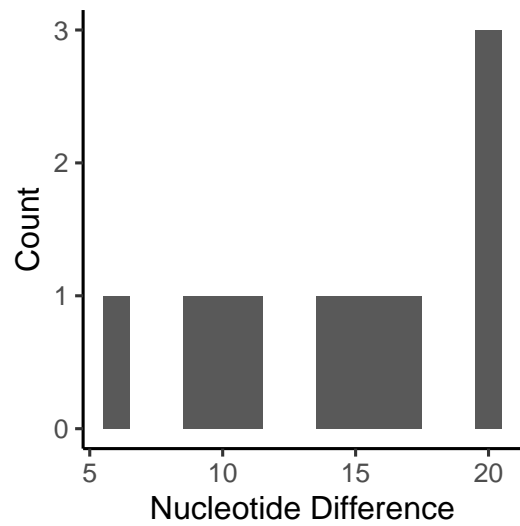
### IGHV3-73\*01\_S6942

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



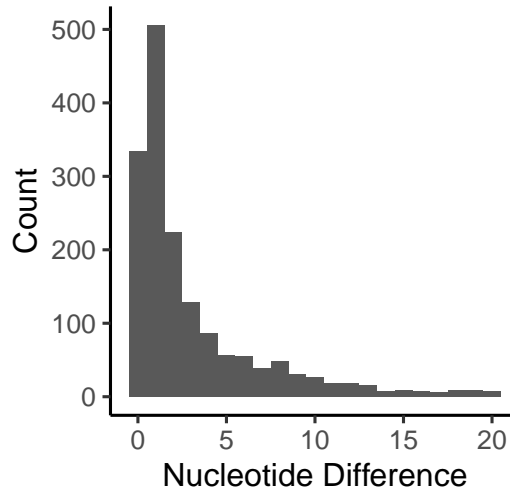
### IGHV3-37\*01\_S6630

43 sequences assigned  
No exact matches.



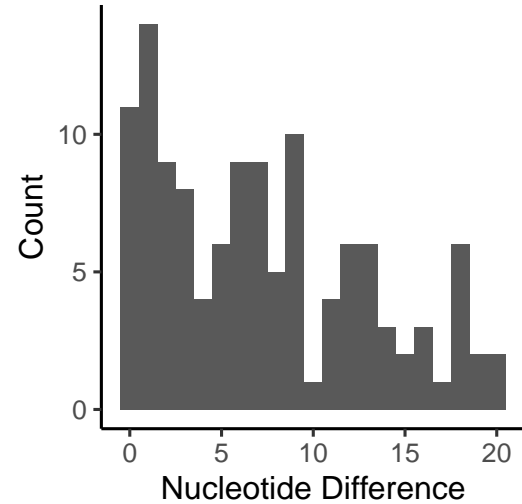
### IGHV3-53\*01\_S4423

1670 sequences assigned  
334 (20%) exact matches, in which:  
128 unique CDR3  
7 unique J



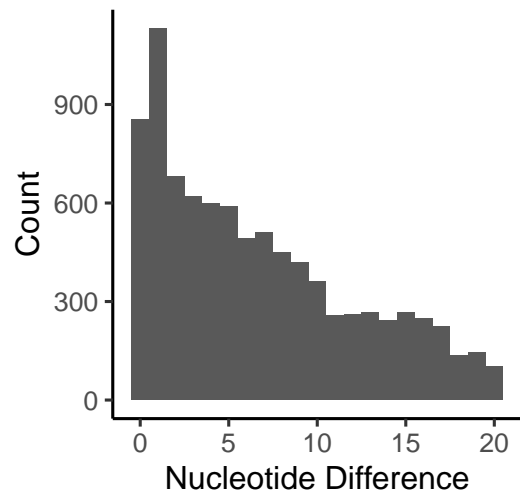
### IGHV3-73\*02\_S5005

140 sequences assigned  
11 (7.9%) exact matches, in which:  
7 unique CDR3  
3 unique J



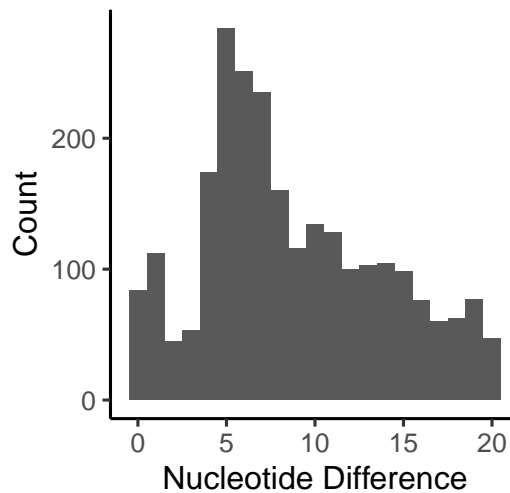
### IGHV3-50\*01\_S7243

9323 sequences assigned  
853 (9.1%) exact matches, in which:  
430 unique CDR3  
8 unique J



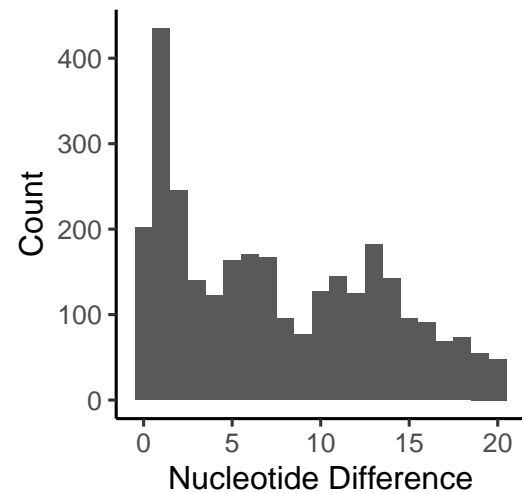
### IGHV3-53\*02\_S0150

2829 sequences assigned  
84 (3%) exact matches, in which:  
36 unique CDR3  
5 unique J



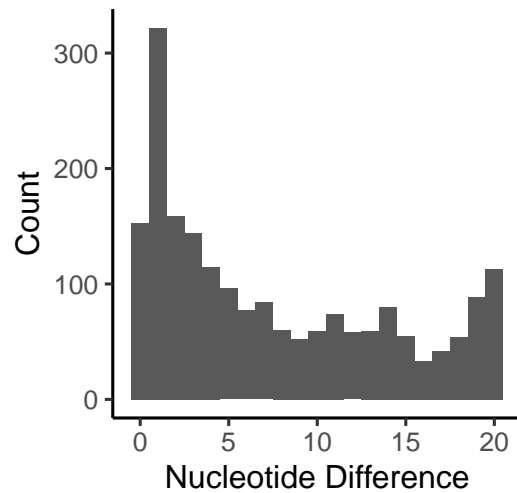
### IGHV3-76\*01\_S4285

3756 sequences assigned  
202 (5.4%) exact matches, in which:  
105 unique CDR3  
6 unique J



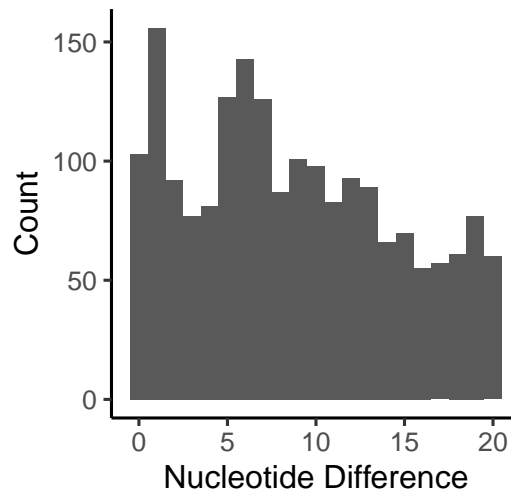
### IGHV3–76\*01\_S6599

3016 sequences assigned  
153 (5.1%) exact matches, in which:  
74 unique CDR3  
6 unique J



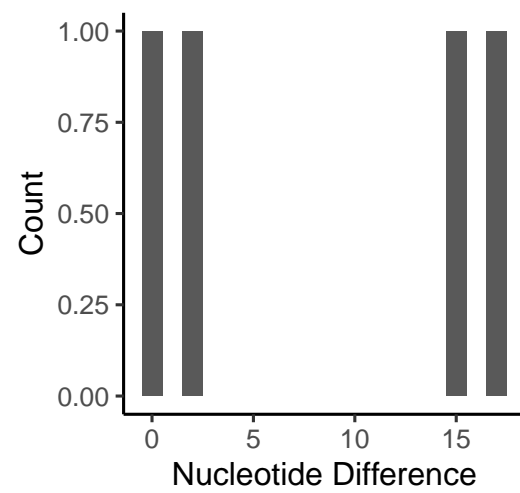
### IGHV3–88\*02\_S5187

2253 sequences assigned  
103 (4.6%) exact matches, in which:  
60 unique CDR3  
4 unique J



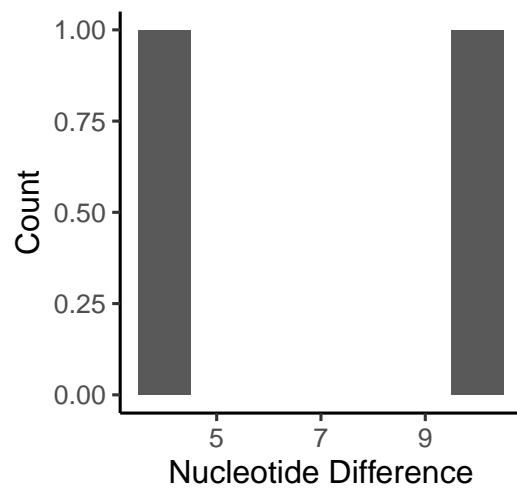
### IGHV3–94\*01\_S3427

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



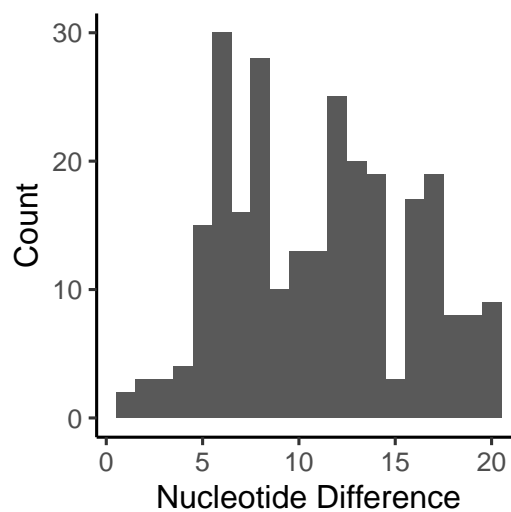
### IGHV3–83\*01\_S5932

2 sequences assigned  
No exact matches.



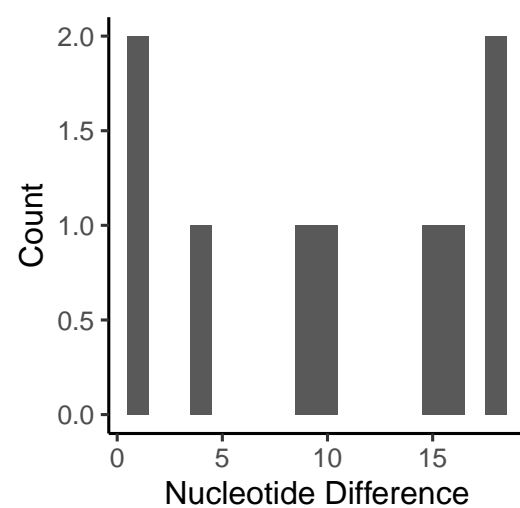
### IGHV3–88\*02\_S7485

656 sequences assigned  
No exact matches.



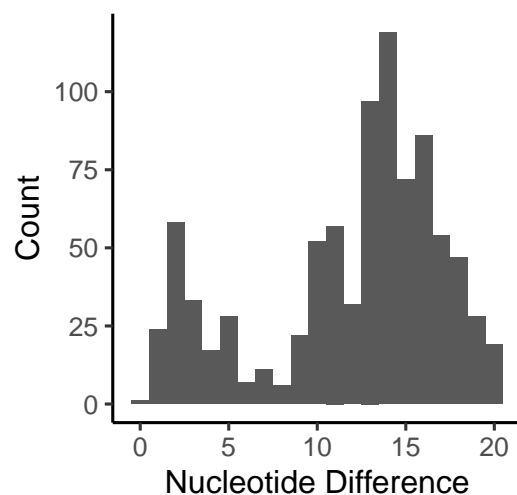
### IGHV3–94\*01\_S4458

12 sequences assigned  
No exact matches.



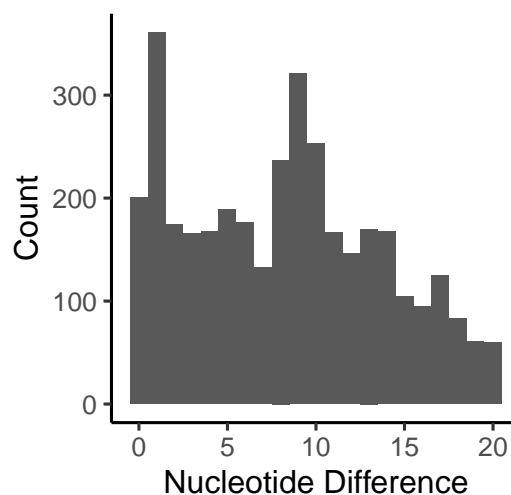
### IGHV3–87\*01\_S6311

935 sequences assigned  
1 (0.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



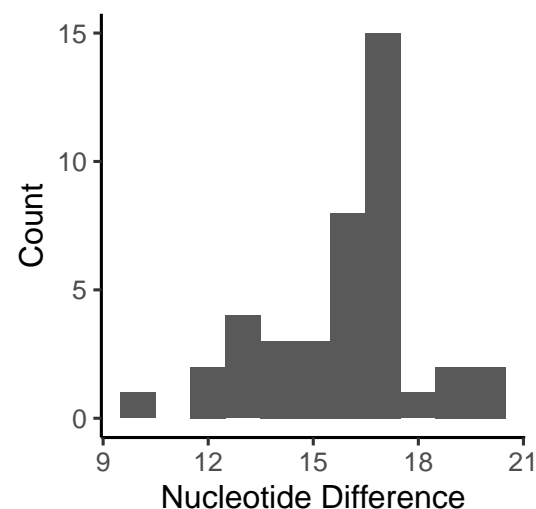
### IGHV3–88\*02\_S9033

4114 sequences assigned  
201 (4.9%) exact matches, in which:  
83 unique CDR3  
6 unique J



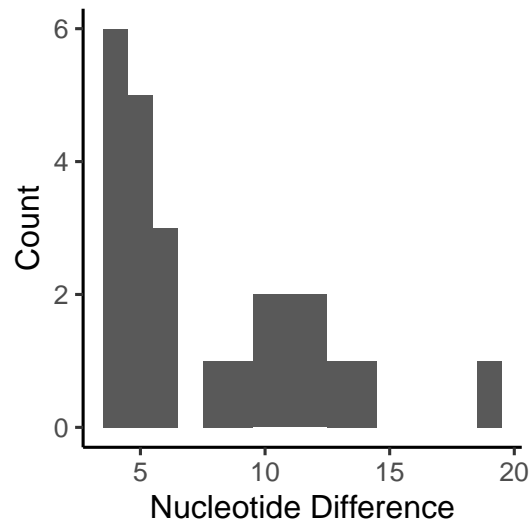
### IGHV3–94\*01\_S7982

54 sequences assigned  
No exact matches.



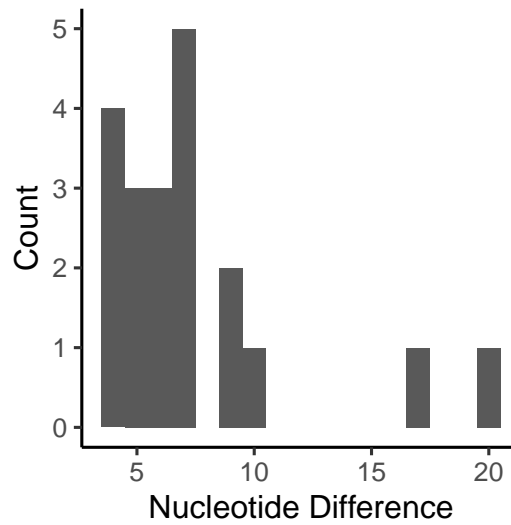
### IGHV3-100\*01\_S4205

25 sequences assigned  
No exact matches.



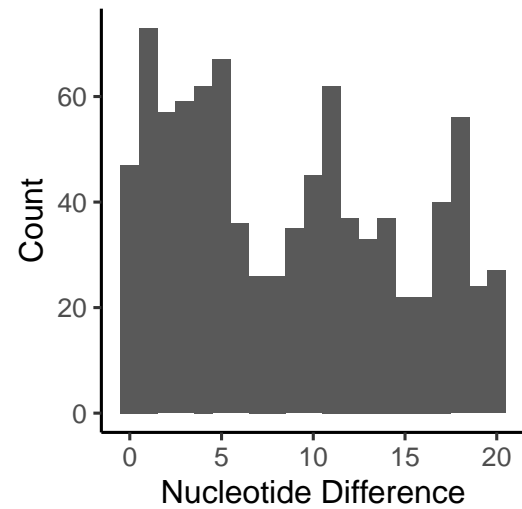
### IGHV3-120\*01\_S4231

20 sequences assigned  
No exact matches.



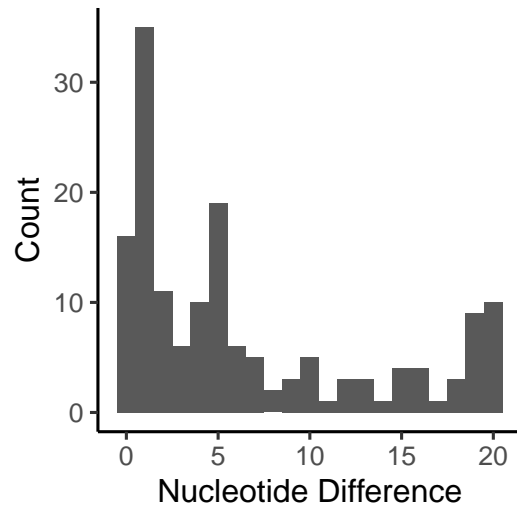
### IGHV3-128\*02\_S0204

1048 sequences assigned  
47 (4.5%) exact matches, in which:  
16 unique CDR3  
5 unique J



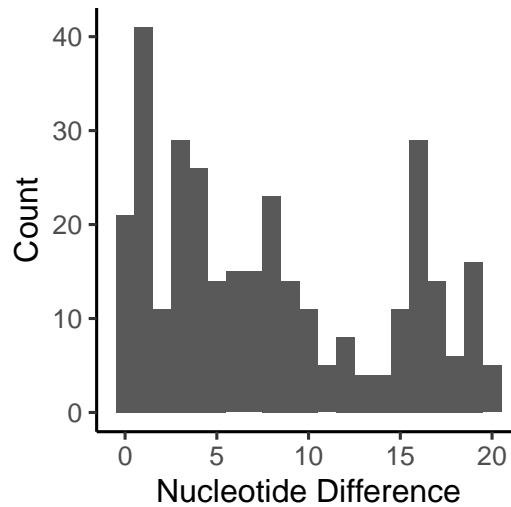
### IGHV3-100\*01\_S4375

200 sequences assigned  
16 (8%) exact matches, in which:  
10 unique CDR3  
3 unique J



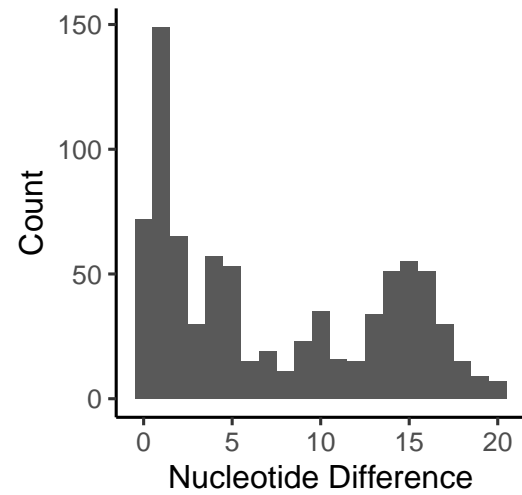
### IGHV3-127\*01\_S1834

344 sequences assigned  
21 (6.1%) exact matches, in which:  
9 unique CDR3  
2 unique J



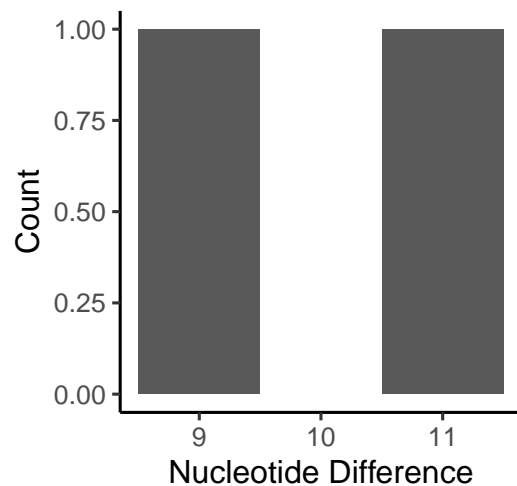
### IGHV3-128\*02\_S3121

1389 sequences assigned  
72 (5.2%) exact matches, in which:  
35 unique CDR3  
4 unique J



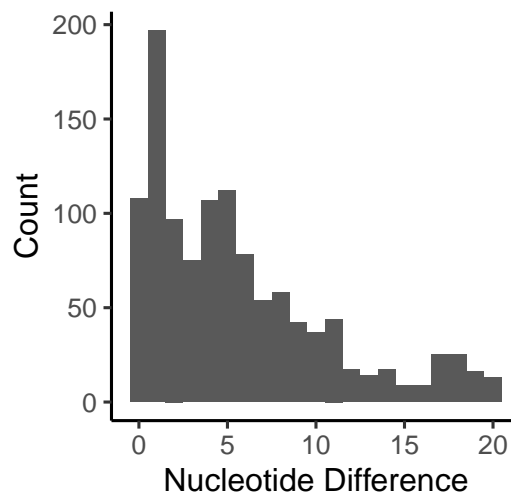
### IGHV3-103\*01\_S2756

2 sequences assigned  
No exact matches.



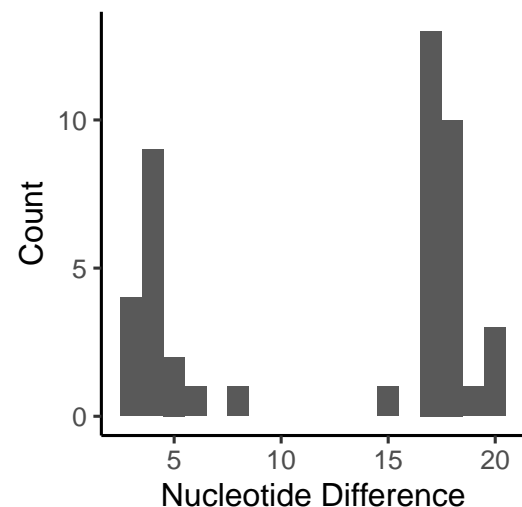
### IGHV3-127\*01\_S7059

1293 sequences assigned  
108 (8.4%) exact matches, in which:  
56 unique CDR3  
6 unique J



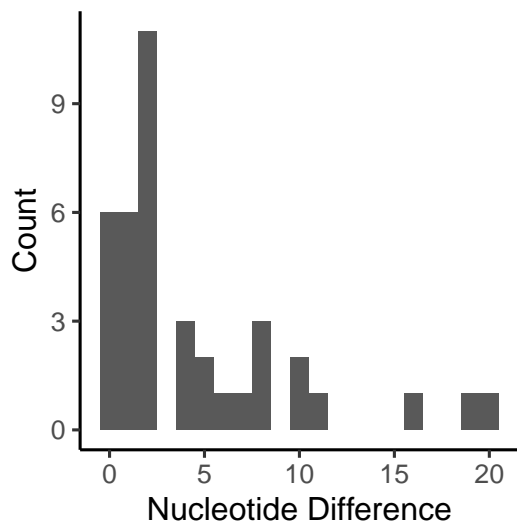
### IGHV3-141\*01\_S4264

69 sequences assigned  
No exact matches.



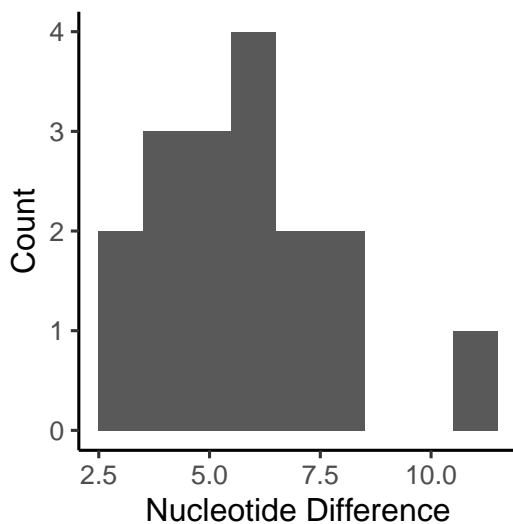
### IGHV3-141\*01\_S8690

39 sequences assigned  
6 (15.4%) exact matches, in which:  
5 unique CDR3  
2 unique J



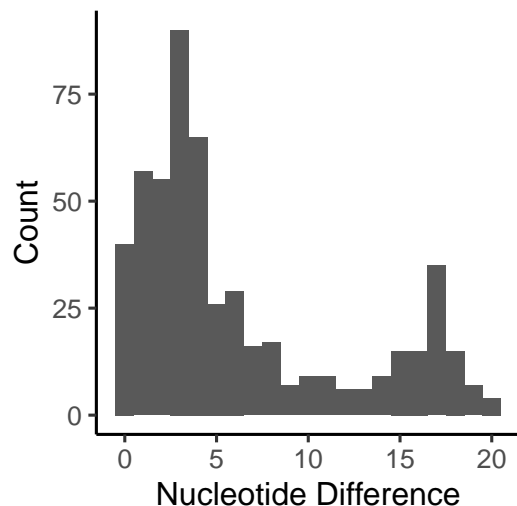
### IGHV3-143\*01\_S1151

44 sequences assigned  
No exact matches.



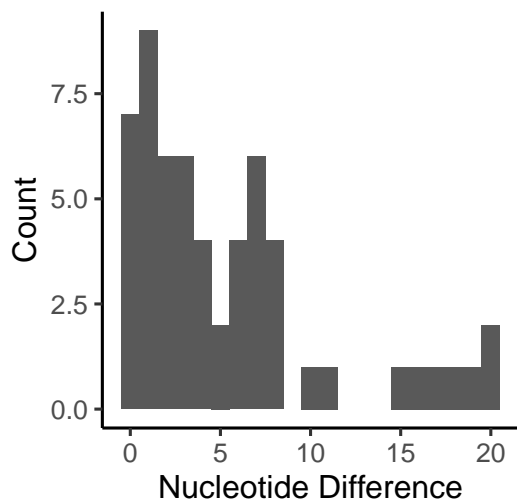
### IGHV3-172\*01\_S8488

561 sequences assigned  
40 (7.1%) exact matches, in which:  
23 unique CDR3  
4 unique J



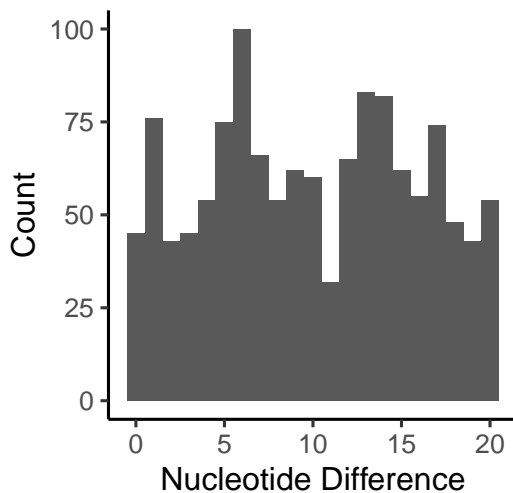
### IGHV3-141\*02\_S1149

57 sequences assigned  
7 (12.3%) exact matches, in which:  
7 unique CDR3  
2 unique J



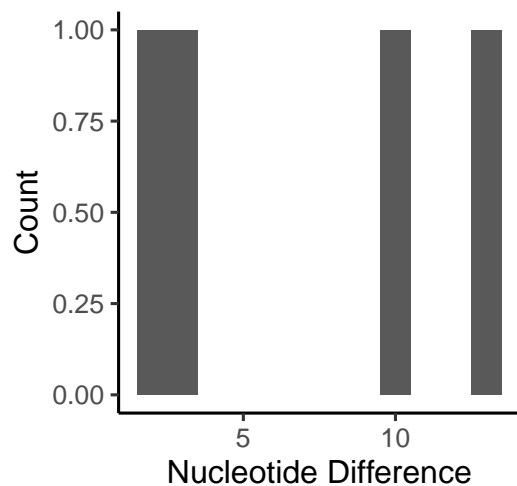
### IGHV3-152\*01\_S7388

1452 sequences assigned  
45 (3.1%) exact matches, in which:  
22 unique CDR3  
4 unique J



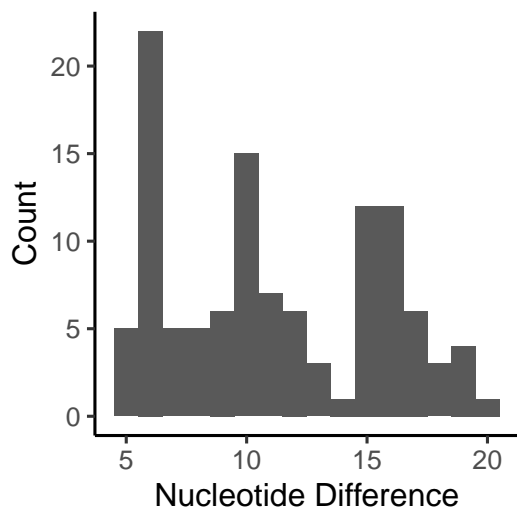
### IGHV3-175\*01\_S1248

12 sequences assigned  
No exact matches.



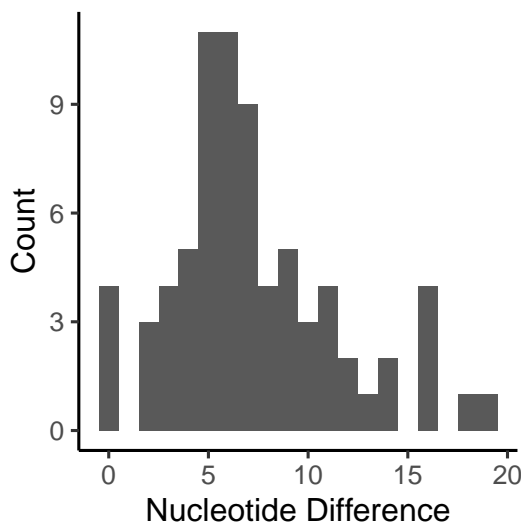
### IGHV3-141\*02\_S4530

123 sequences assigned  
No exact matches.



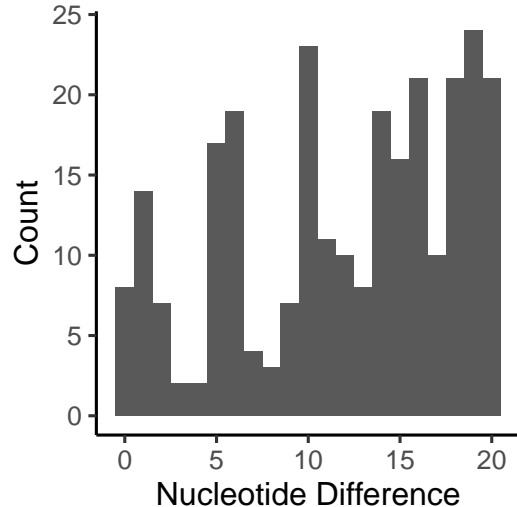
### IGHV3-172\*01\_S1597

79 sequences assigned  
4 (5.1%) exact matches, in which:  
4 unique CDR3  
2 unique J



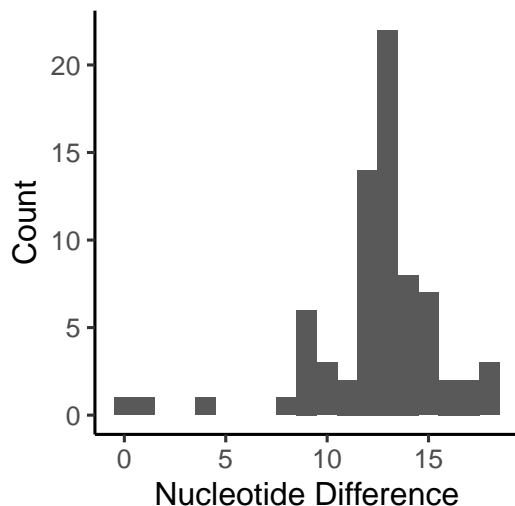
### IGHV3-177\*01\_S4102

439 sequences assigned  
8 (1.8%) exact matches, in which:  
3 unique CDR3  
1 unique J



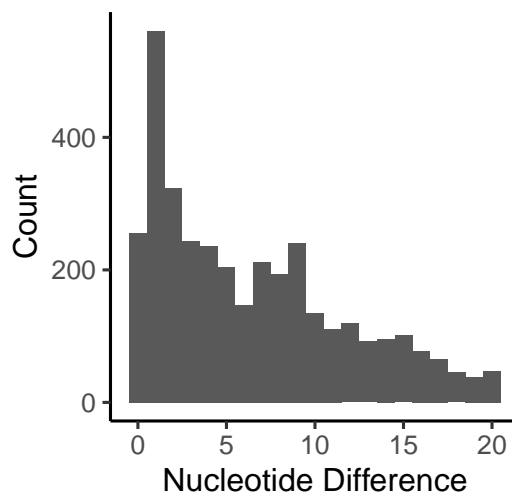
### IGHV3-177\*01\_S5369

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



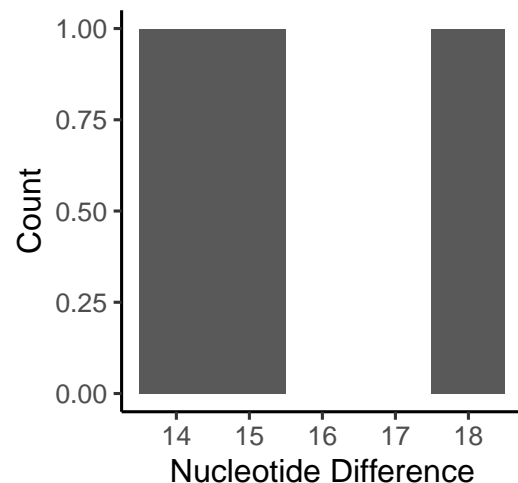
### IGHV3-NL\_1\*01\_S2031

4242 sequences assigned  
256 (6%) exact matches, in which:  
122 unique CDR3  
7 unique J



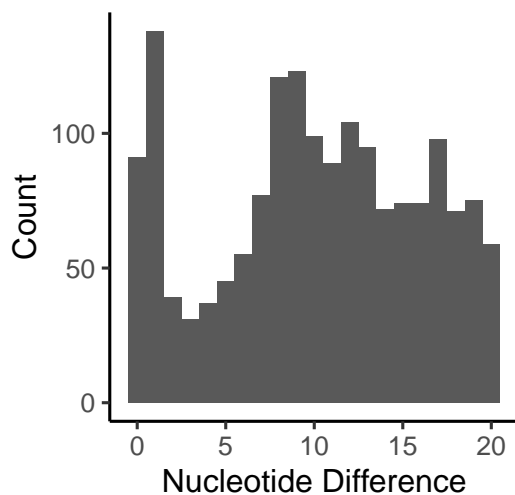
### IGHV3-NL\_10\*02\_S2212

4 sequences assigned  
No exact matches.



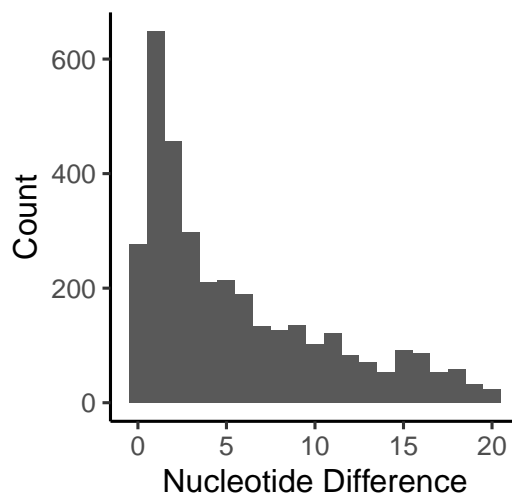
### IGHV3-187\*01\_S3395

2494 sequences assigned  
91 (3.6%) exact matches, in which:  
47 unique CDR3  
3 unique J



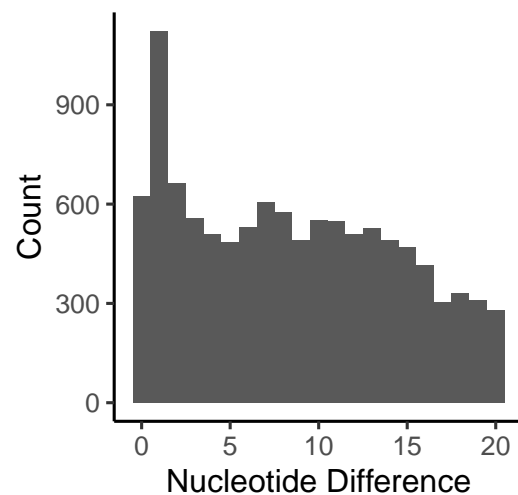
### IGHV3-NL\_1\*01\_S9854

3850 sequences assigned  
277 (7.2%) exact matches, in which:  
130 unique CDR3  
6 unique J



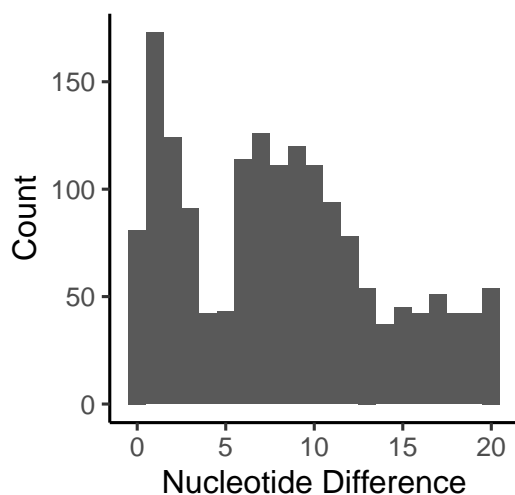
### IGHV3-NL\_11\*01\_S3736

12960 sequences assigned  
625 (4.8%) exact matches, in which:  
302 unique CDR3  
8 unique J



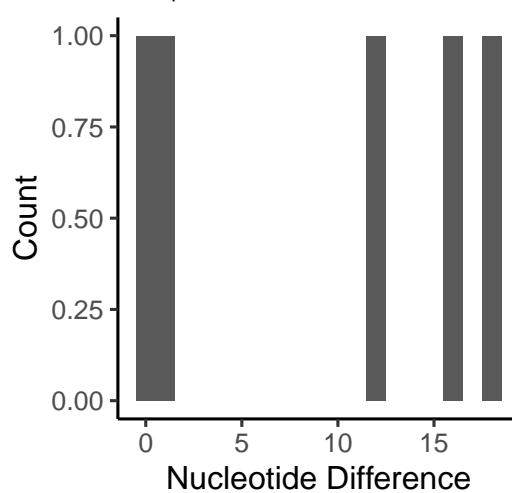
### IGHV3-187\*01\_S9930

1951 sequences assigned  
81 (4.2%) exact matches, in which:  
42 unique CDR3  
7 unique J



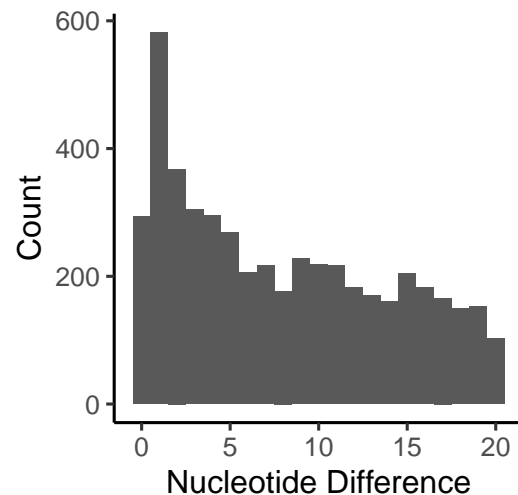
### IGHV3-NL\_10\*02\_S1970

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



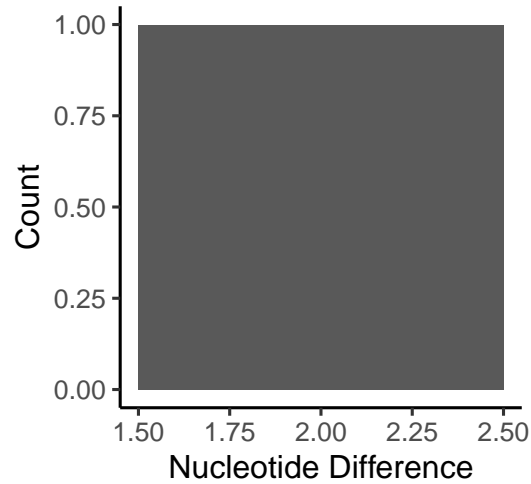
### IGHV3-NL\_11\*01\_S5714

5688 sequences assigned  
294 (5.2%) exact matches, in which:  
141 unique CDR3  
5 unique J



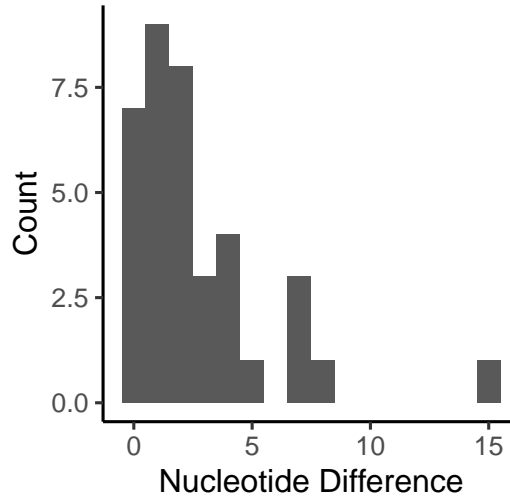
### IGHV3–NL\_12\*02\_S5864

2 sequences assigned  
No exact matches.



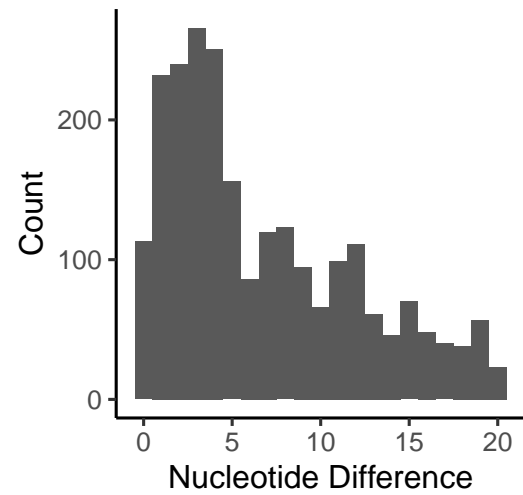
### IGHV3–NL\_15\*01\_S5125

39 sequences assigned  
7 (17.9%) exact matches, in which:  
2 unique CDR3  
1 unique J



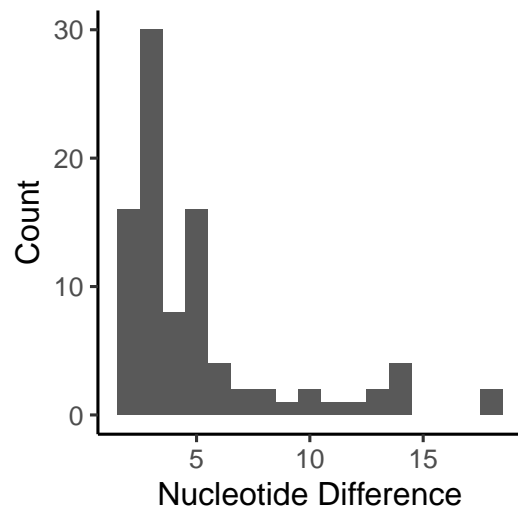
### IGHV3–NL\_17\*01\_S4257

2633 sequences assigned  
113 (4.3%) exact matches, in which:  
56 unique CDR3  
6 unique J



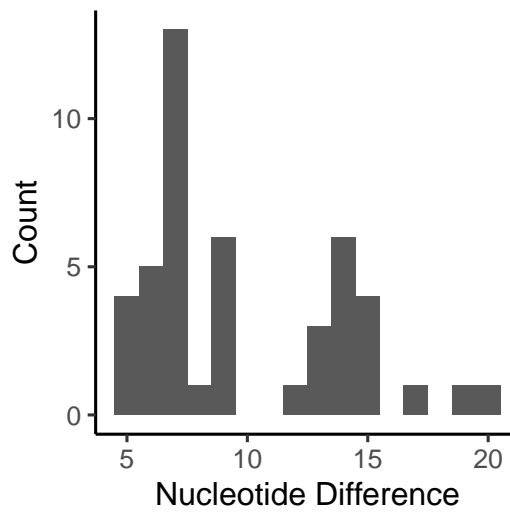
### IGHV3–NL\_13\*01\_S2791

93 sequences assigned  
No exact matches.



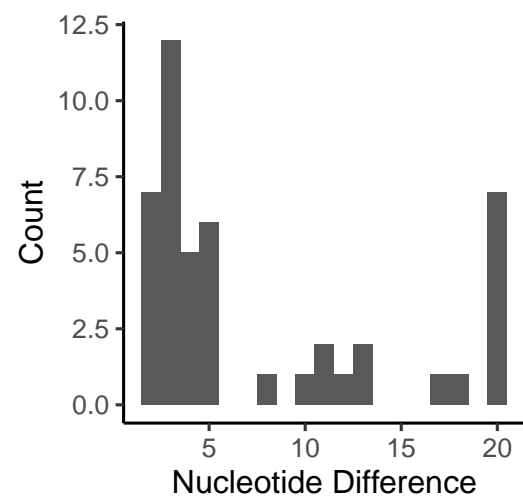
### IGHV3–NL\_16\*01\_S5133

49 sequences assigned  
No exact matches.



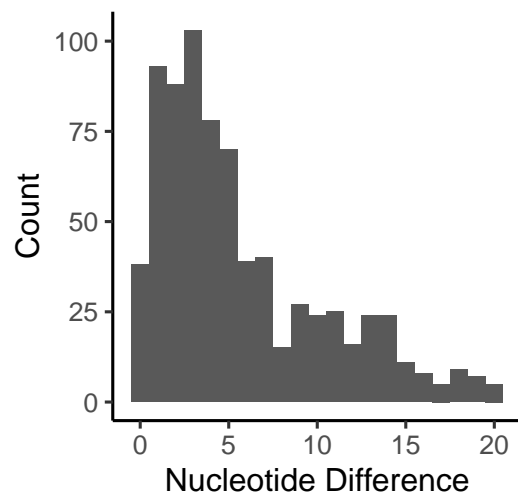
### IGHV3–NL\_18\*01\_S5825

67 sequences assigned  
No exact matches.



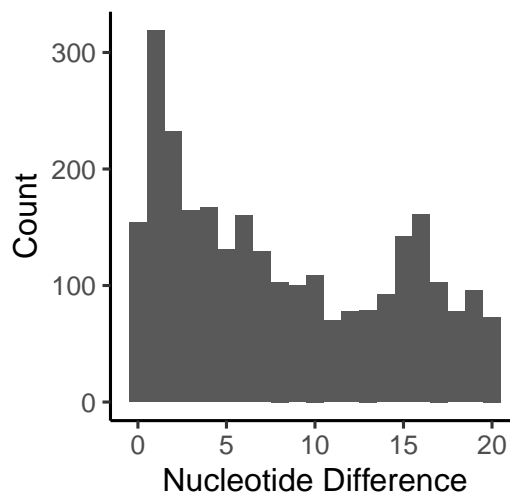
### IGHV3–NL\_14\*01\_S7643

772 sequences assigned  
38 (4.9%) exact matches, in which:  
24 unique CDR3  
2 unique J



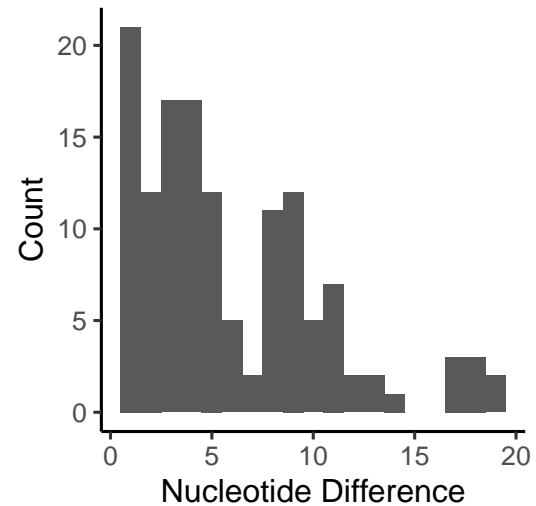
### IGHV3–NL\_17\*01\_S1160

3001 sequences assigned  
154 (5.1%) exact matches, in which:  
65 unique CDR3  
3 unique J



### IGHV3–NL\_18\*01\_S7053

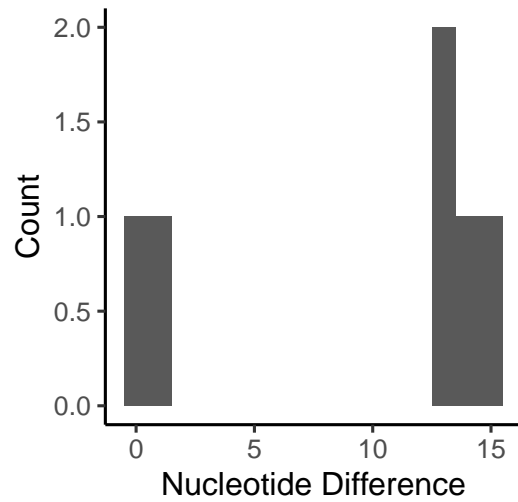
135 sequences assigned  
No exact matches.





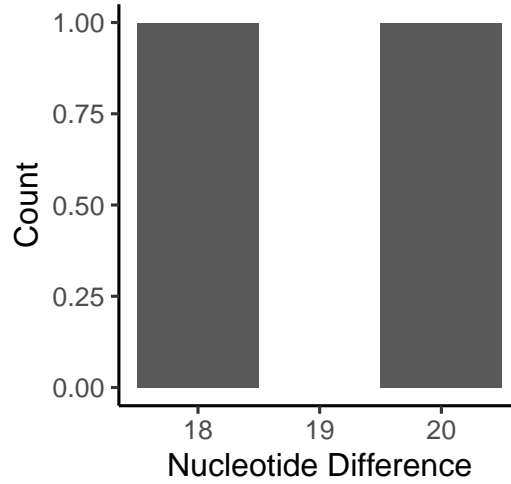
### IGHV3–NL\_2\*01\_S1693

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



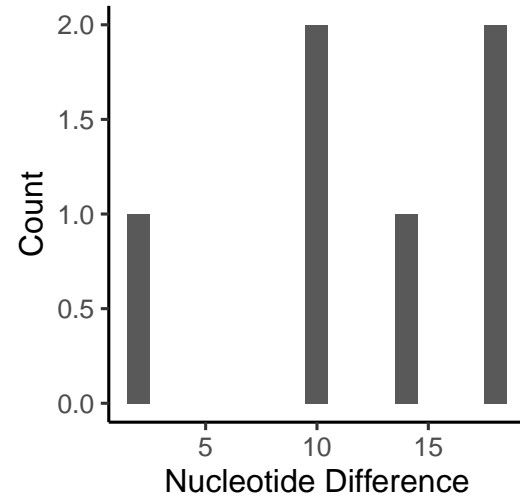
### IGHV3–NL\_5\*01\_S8361

9 sequences assigned  
No exact matches.



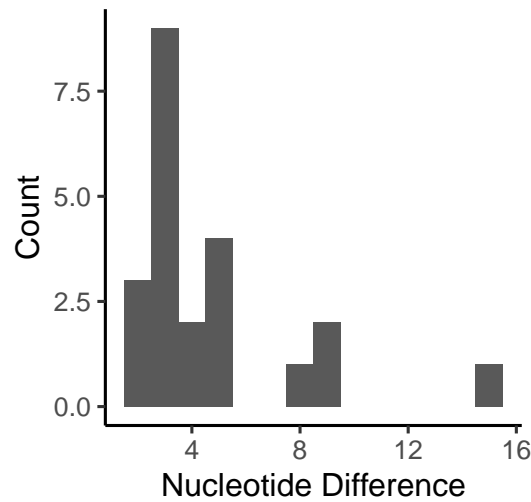
### IGHV3–NL\_9\*01\_S6098

10 sequences assigned  
No exact matches.



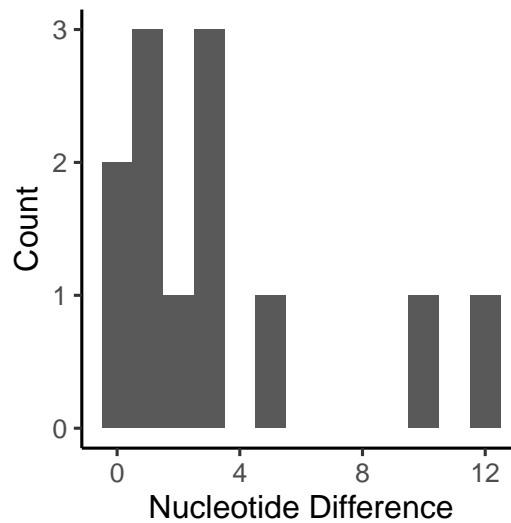
### IGHV3–NL\_2\*01\_S6117

22 sequences assigned  
No exact matches.



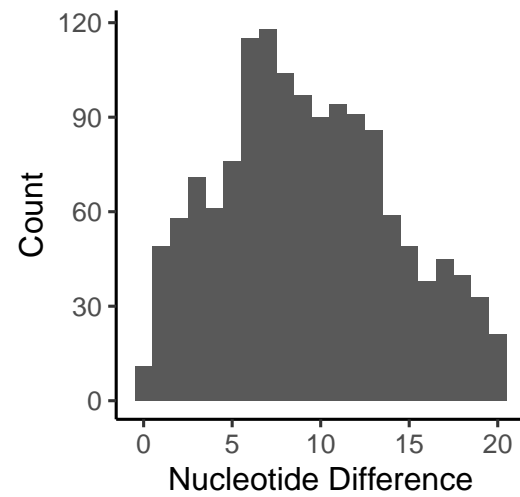
### IGHV3–NL\_6\*02\_S7808

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



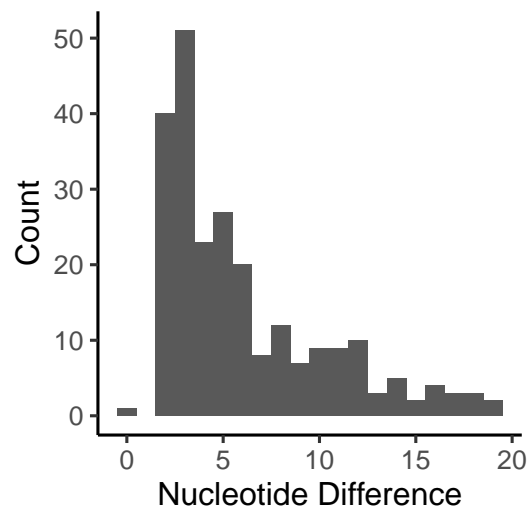
### IGHV4–72\*01\_S2051

1609 sequences assigned  
11 (0.7%) exact matches, in which:  
9 unique CDR3  
3 unique J



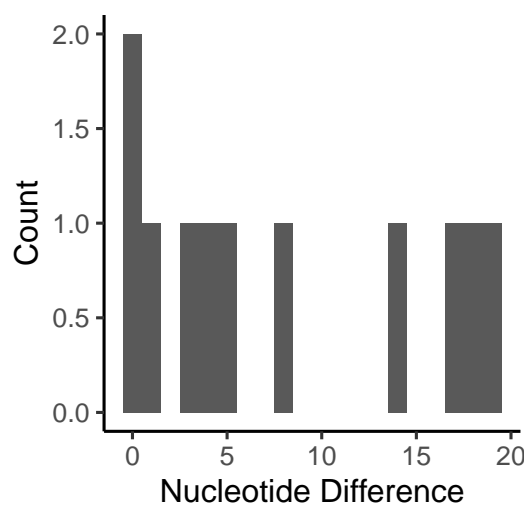
### IGHV3–NL\_4\*01\_S9067

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



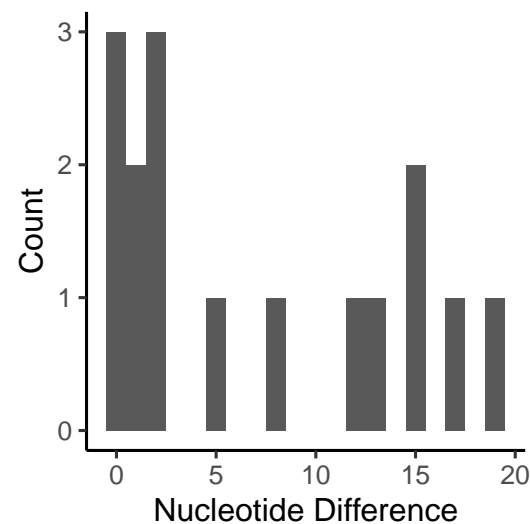
### IGHV3–NL\_7\*01\_S0199

12 sequences assigned  
2 (16.7%) exact matches, in which:  
2 unique CDR3  
2 unique J



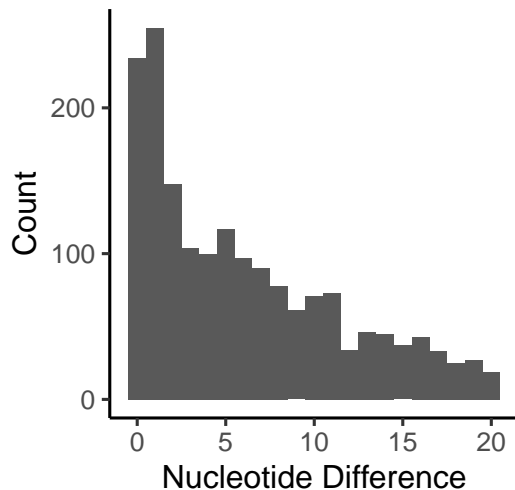
### IGHV4–79\*02\_S9501

23 sequences assigned  
3 (13%) exact matches, in which:  
2 unique CDR3  
2 unique J



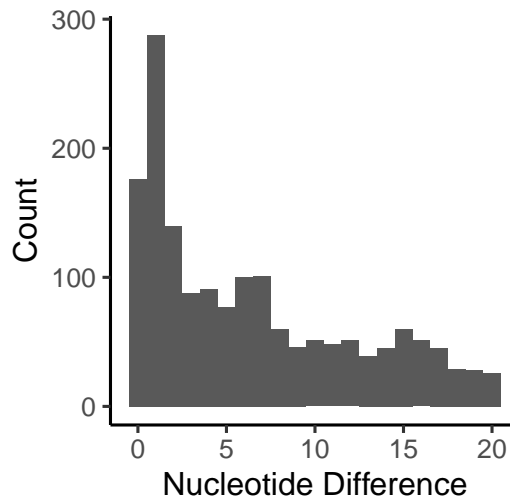
### IGHV4-117\*01\_S6342

1975 sequences assigned  
234 (11.8%) exact matches, in which:  
159 unique CDR3  
8 unique J



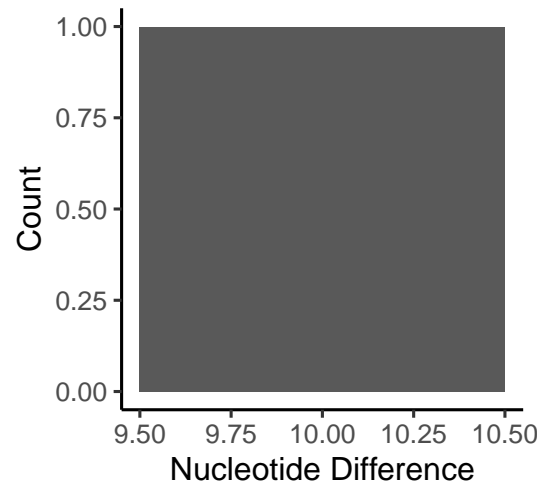
### IGHV4-149\*01\_S1430

2294 sequences assigned  
176 (7.7%) exact matches, in which:  
100 unique CDR3  
7 unique J



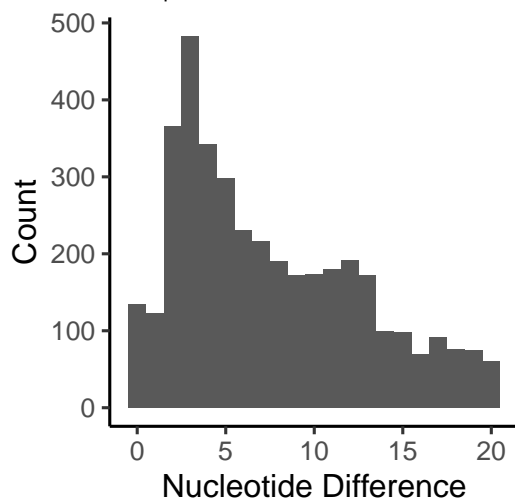
### IGHV4-150\*01\_S6885

2 sequences assigned  
No exact matches.



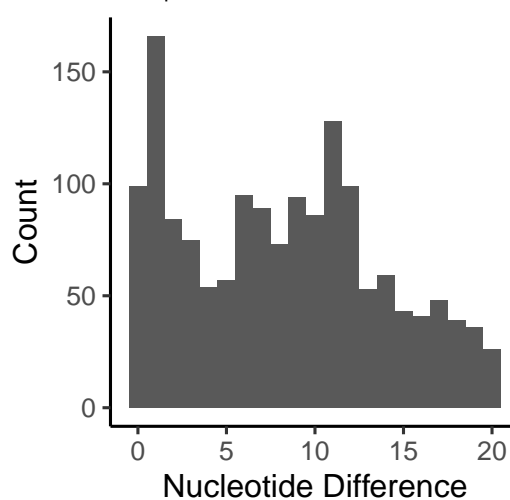
### IGHV4-117\*01\_S6852

4157 sequences assigned  
135 (3.2%) exact matches, in which:  
103 unique CDR3  
7 unique J



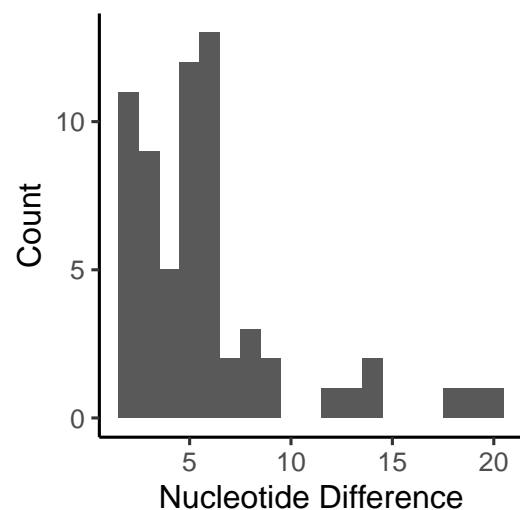
### IGHV4-149\*01\_S5636

1988 sequences assigned  
99 (5%) exact matches, in which:  
59 unique CDR3  
5 unique J



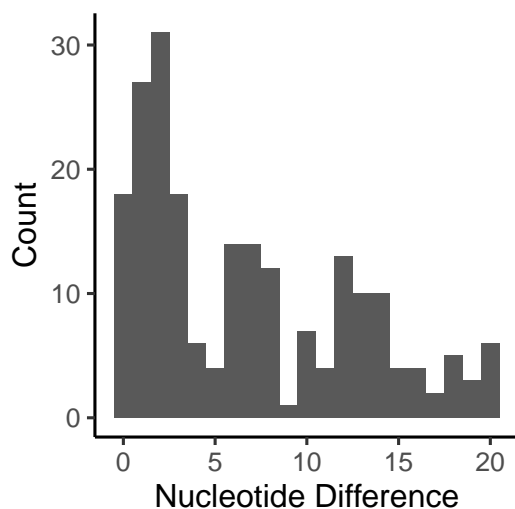
### IGHV4-174\*02\_S5400

66 sequences assigned  
No exact matches.



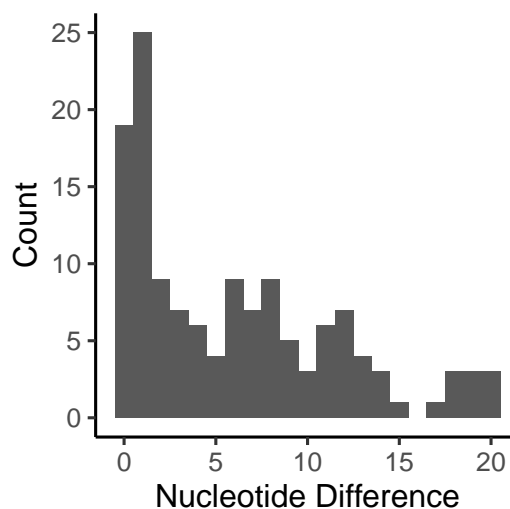
### IGHV4-144\*01\_S5374

292 sequences assigned  
18 (6.2%) exact matches, in which:  
15 unique CDR3  
2 unique J



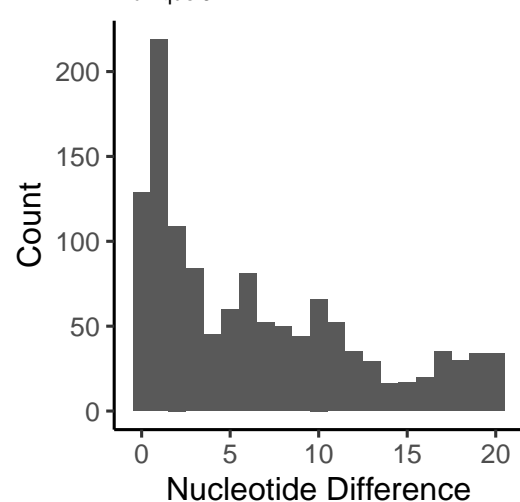
### IGHV4-150\*01\_S2067

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



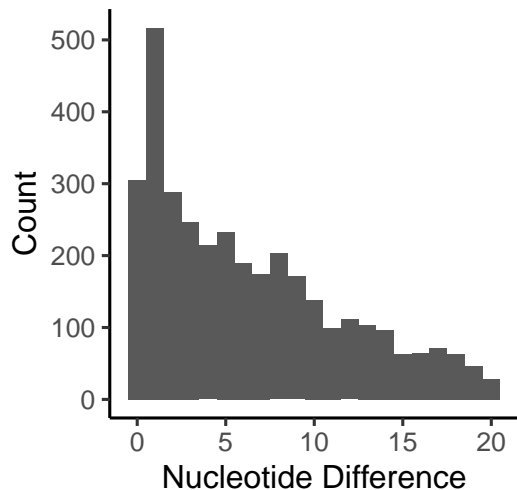
### IGHV4-NL\_1\*01\_S1593

1492 sequences assigned  
129 (8.6%) exact matches, in which:  
73 unique CDR3  
7 unique J



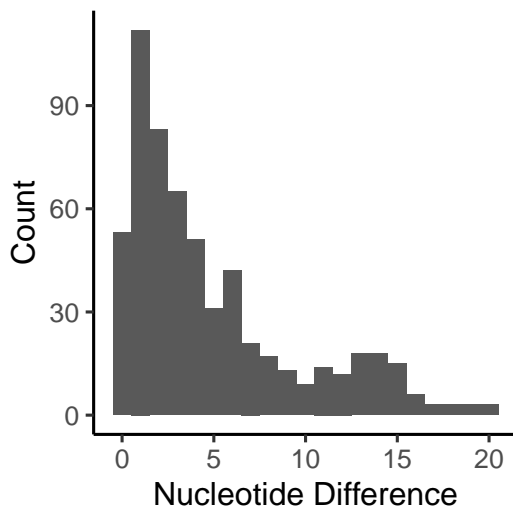
### IGHV4–NL\_1\*01\_S8446

4179 sequences assigned  
305 (7.3%) exact matches, in which:  
181 unique CDR3  
8 unique J



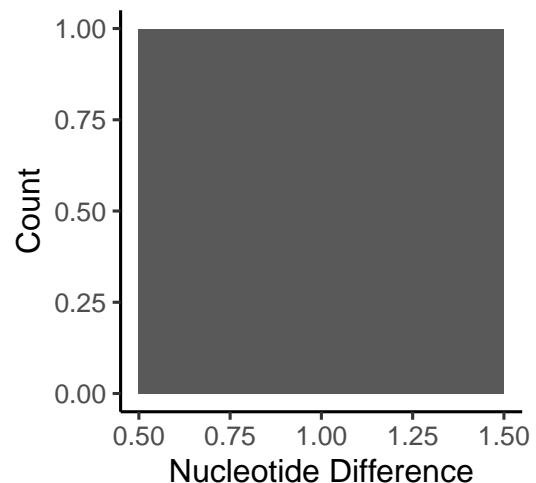
### IGHV4–NL\_11\*01\_S0325

628 sequences assigned  
53 (8.4%) exact matches, in which:  
34 unique CDR3  
7 unique J



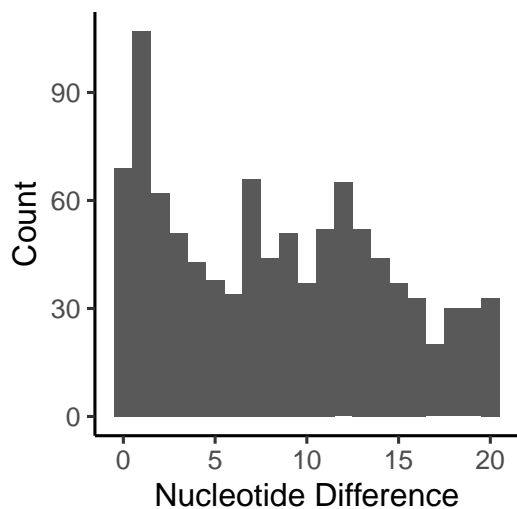
### IGHV4–NL\_15\*01\_S5717

2 sequences assigned  
No exact matches.



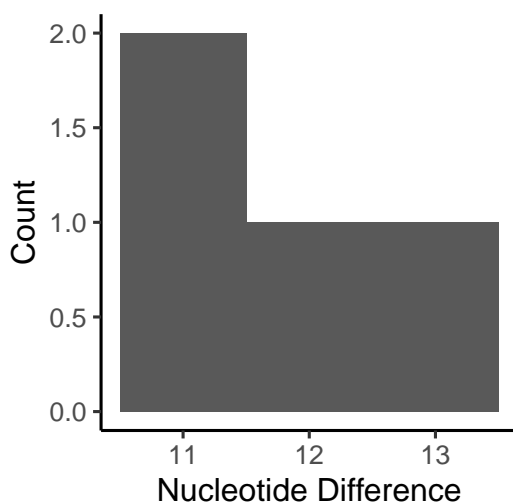
### IGHV4–NL\_1\*02\_S2275

1190 sequences assigned  
69 (5.8%) exact matches, in which:  
45 unique CDR3  
5 unique J



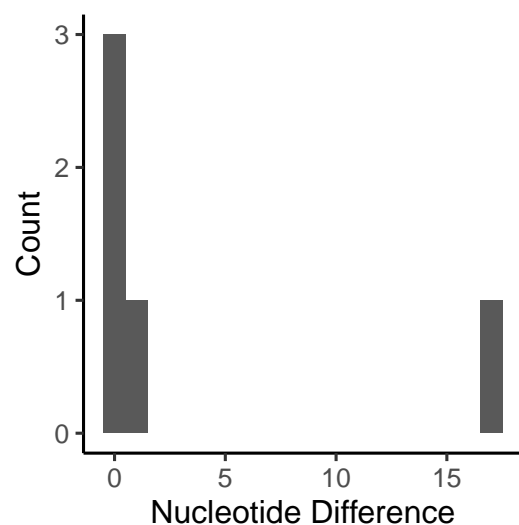
### IGHV4–NL\_12\*01\_S8068

8 sequences assigned  
No exact matches.



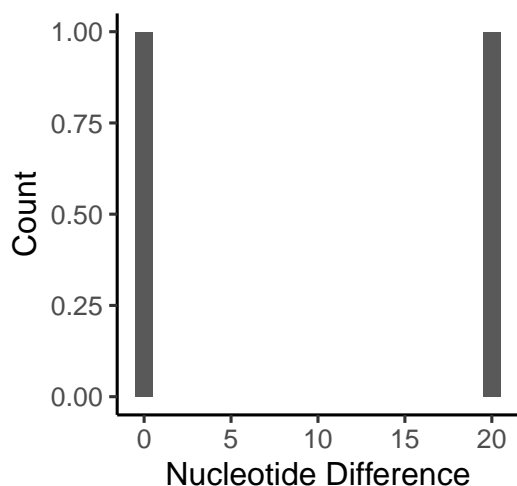
### IGHV4–NL\_16\*01\_S2138

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



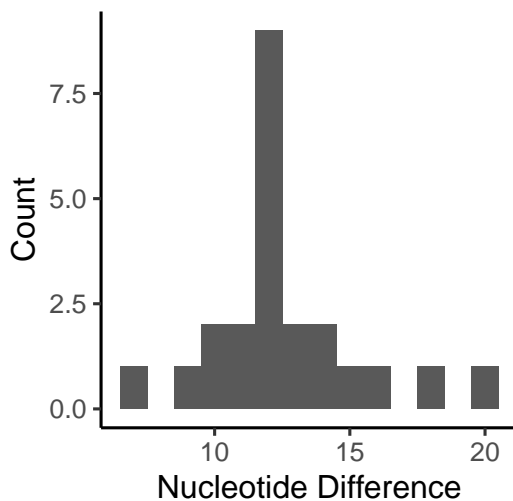
### IGHV4–NL\_10\*01\_S7684

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



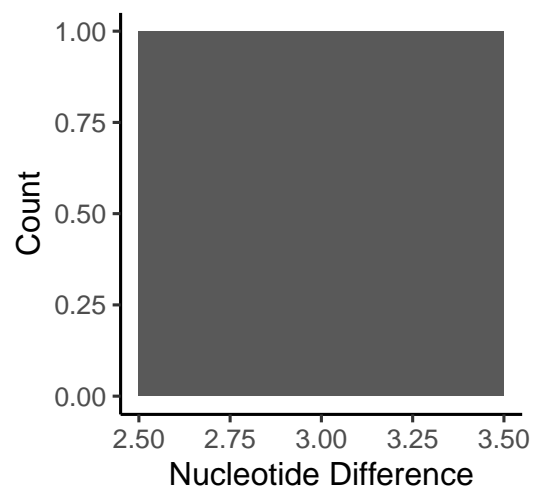
### IGHV4–NL\_13\*01\_S9744

25 sequences assigned  
No exact matches.



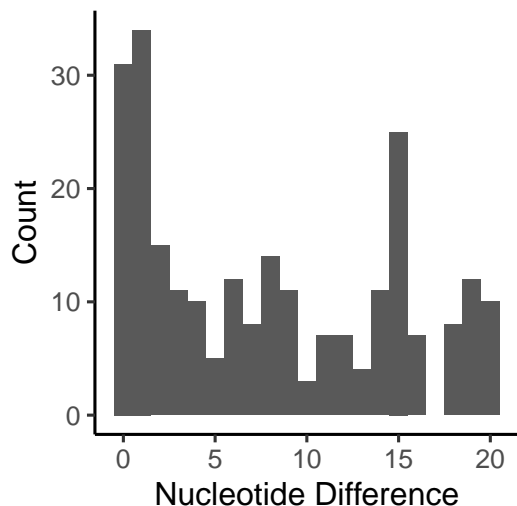
### IGHV4–NL\_16\*01\_S3062

1 sequences assigned  
No exact matches.



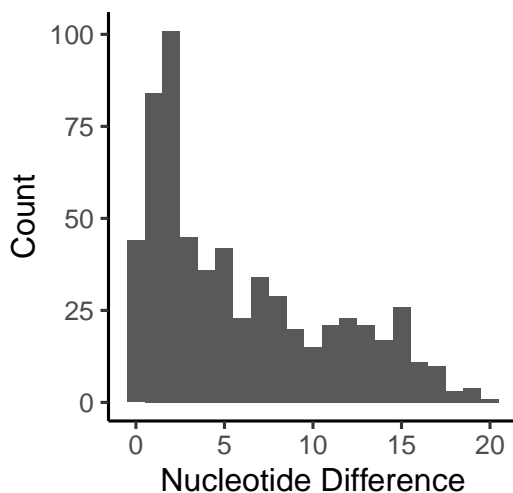
### IGHV4–NL\_17\*01\_S2814

265 sequences assigned  
31 (11.7%) exact matches, in which:  
20 unique CDR3  
3 unique J



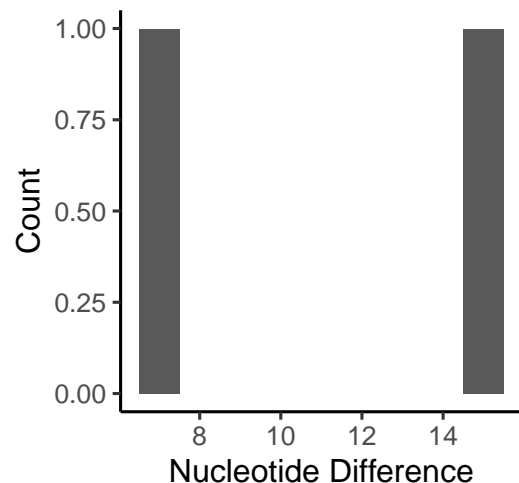
### IGHV4–NL\_20\*01\_S5229

672 sequences assigned  
44 (6.5%) exact matches, in which:  
33 unique CDR3  
4 unique J



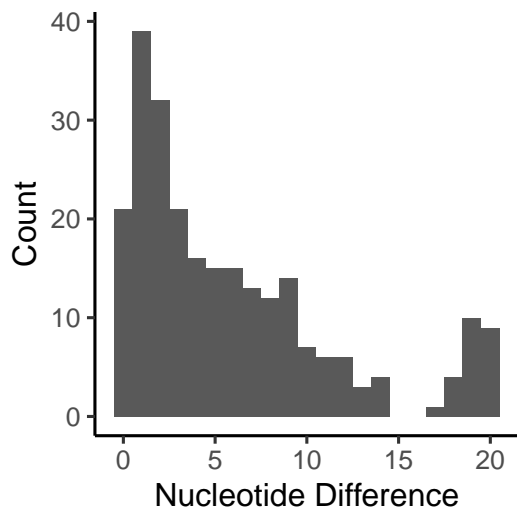
### IGHV4–NL\_21\*01\_S1118

3 sequences assigned  
No exact matches.



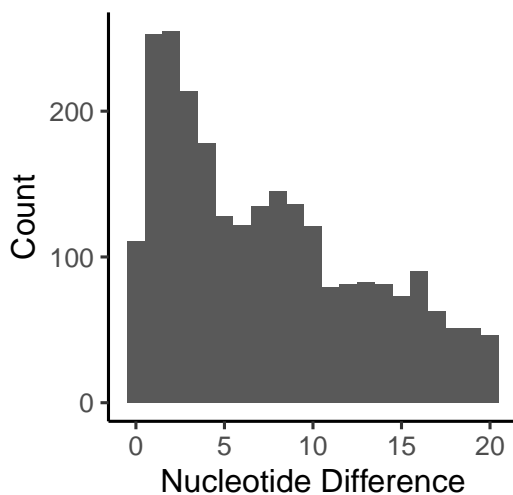
### IGHV4–NL\_17\*01\_S3082

292 sequences assigned  
21 (7.2%) exact matches, in which:  
13 unique CDR3  
4 unique J



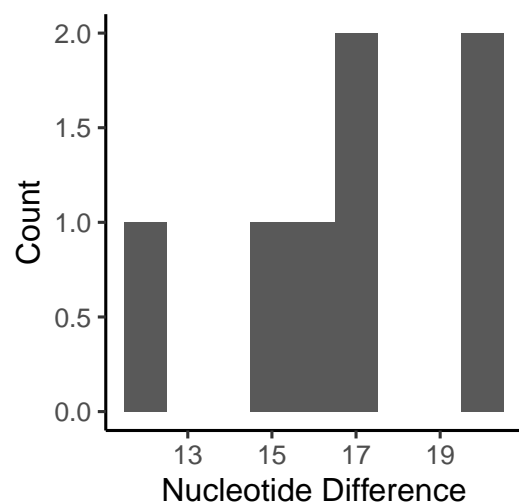
### IGHV4–NL\_20\*01\_S7244

2975 sequences assigned  
111 (3.7%) exact matches, in which:  
82 unique CDR3  
7 unique J



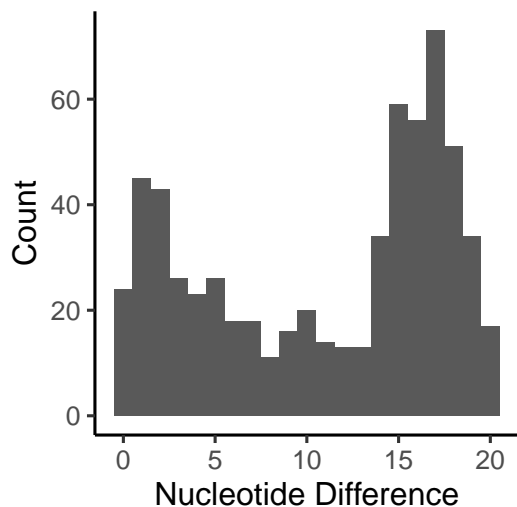
### IGHV4–NL\_21\*01\_S6468

69 sequences assigned  
No exact matches.



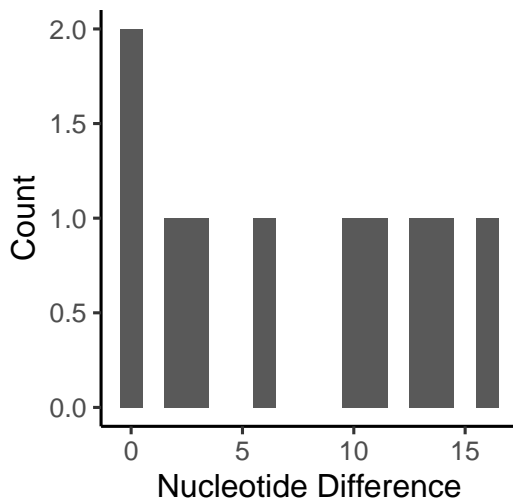
### IGHV4–NL\_17\*01\_S5431

788 sequences assigned  
24 (3%) exact matches, in which:  
17 unique CDR3  
3 unique J



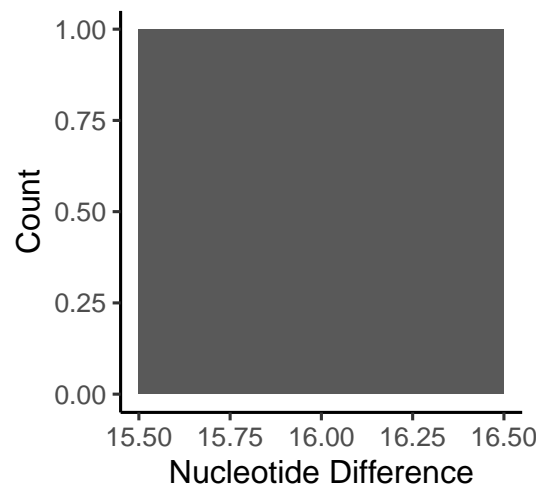
### IGHV4–NL\_21\*01\_S0138

10 sequences assigned  
2 (20%) exact matches, in which:  
2 unique CDR3  
2 unique J



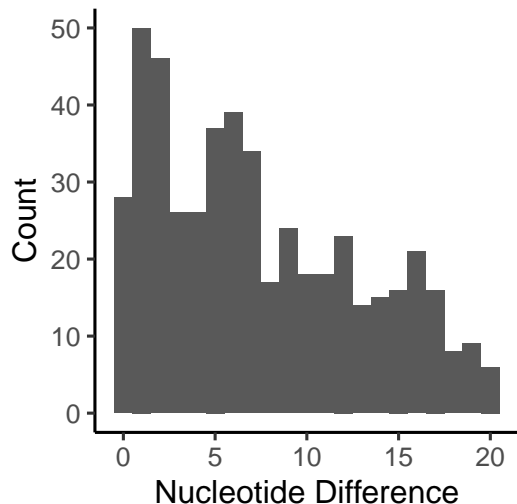
### IGHV4–NL\_21\*01\_S9849

1 sequences assigned  
No exact matches.



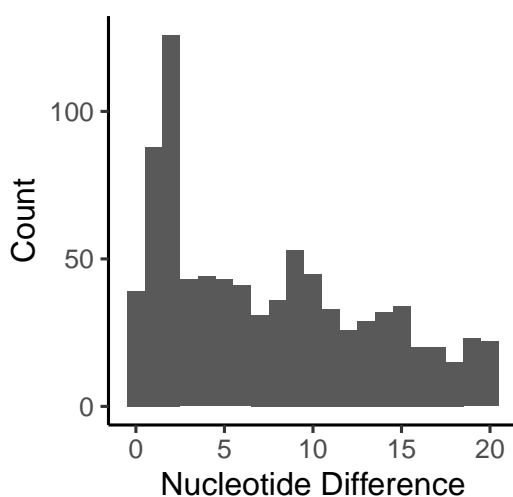
### IGHV4–NL\_22\*01\_S6977

539 sequences assigned  
28 (5.2%) exact matches, in which:  
22 unique CDR3  
5 unique J



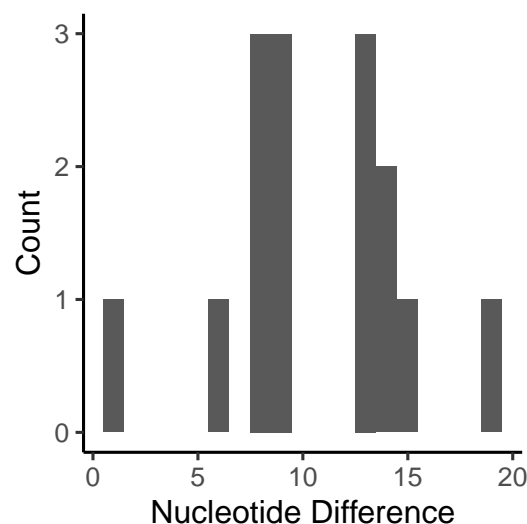
### IGHV4–NL\_26\*01\_S2261

1275 sequences assigned  
39 (3.1%) exact matches, in which:  
32 unique CDR3  
6 unique J



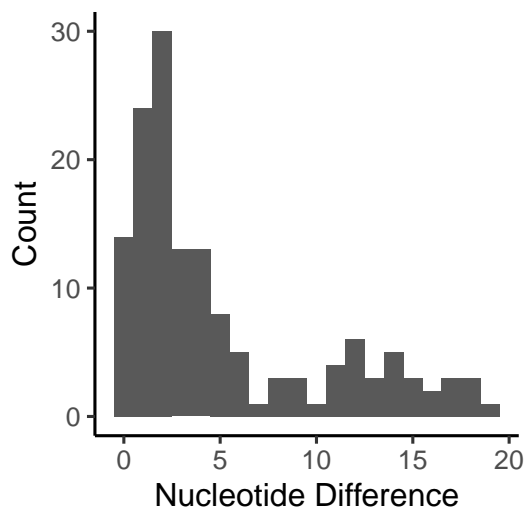
### IGHV4–NL\_27\*01\_S5706

32 sequences assigned  
No exact matches.



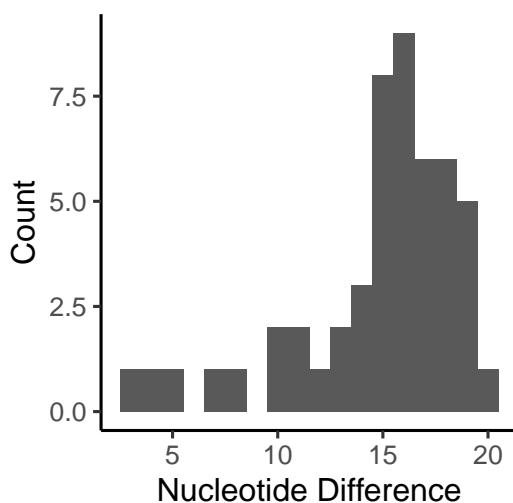
### IGHV4–NL\_24\*01\_S1628

159 sequences assigned  
14 (8.8%) exact matches, in which:  
7 unique CDR3  
4 unique J



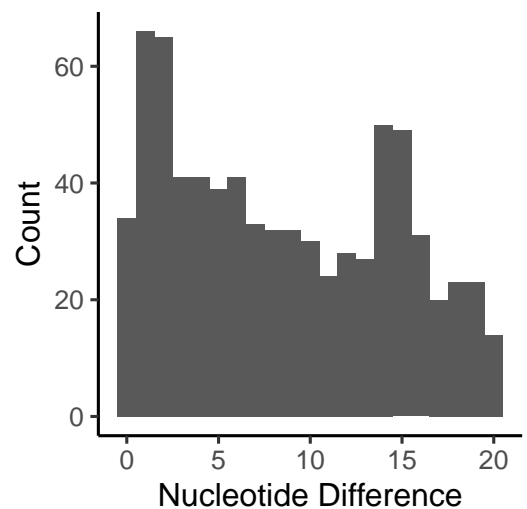
### IGHV4–NL\_27\*01\_S1458

83 sequences assigned  
No exact matches.



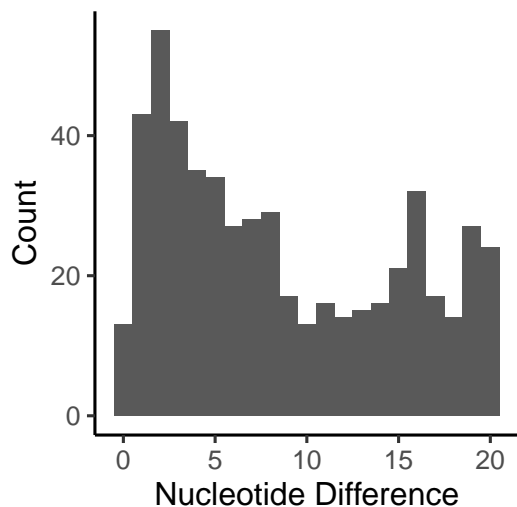
### IGHV4–NL\_27\*01\_S7150

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



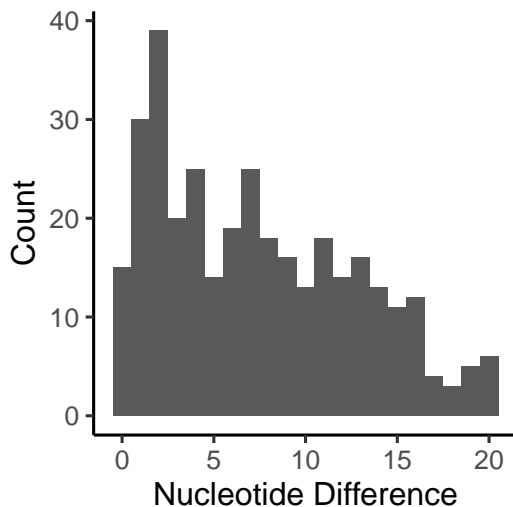
### IGHV4–NL\_25\*01\_S9478

842 sequences assigned  
13 (1.5%) exact matches, in which:  
10 unique CDR3  
2 unique J



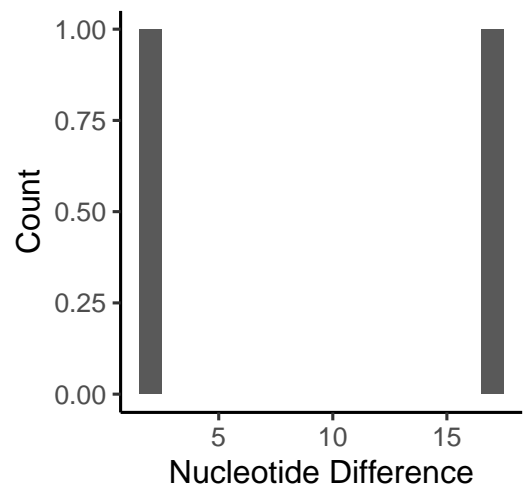
### IGHV4–NL\_27\*01\_S3198

678 sequences assigned  
15 (2.2%) exact matches, in which:  
6 unique CDR3  
1 unique J



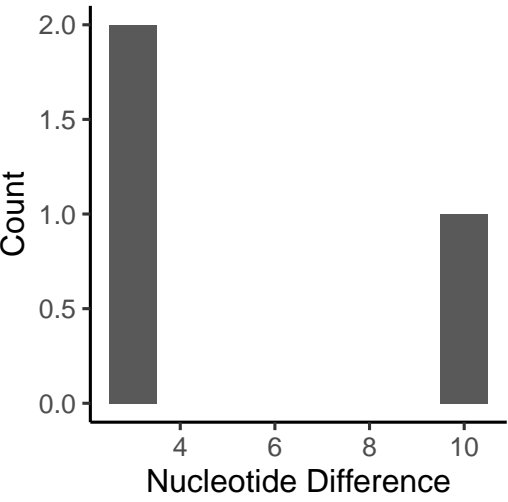
### IGHV4–NL\_28\*01\_S1050

2 sequences assigned  
No exact matches.



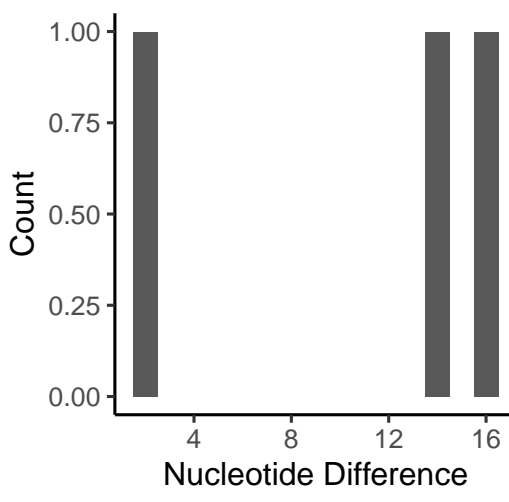
IGHV4-NL\_29\*01\_S3761

4 sequences assigned  
No exact matches.



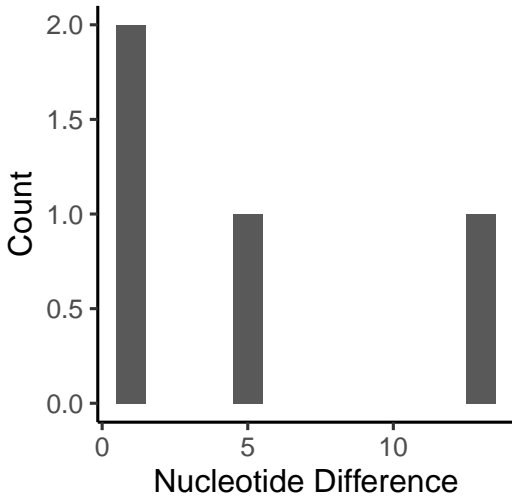
IGHV4-NL\_33\*01\_S1148

5 sequences assigned  
No exact matches.



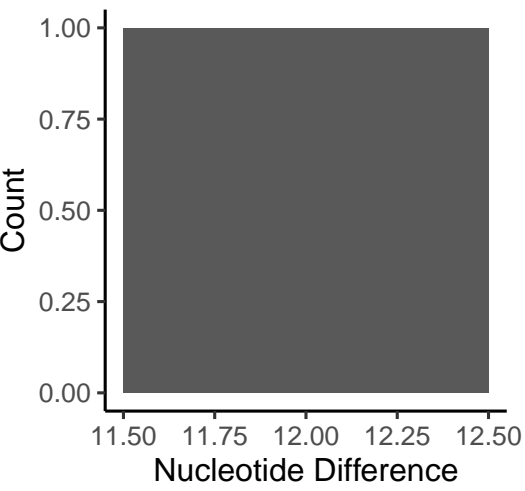
IGHV4-NL\_33\*01\_S9428

4 sequences assigned  
No exact matches.



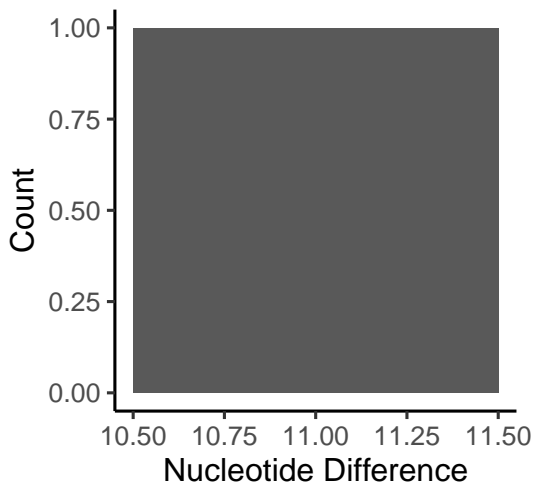
IGHV4-NL\_29\*01\_S9610

2 sequences assigned  
No exact matches.



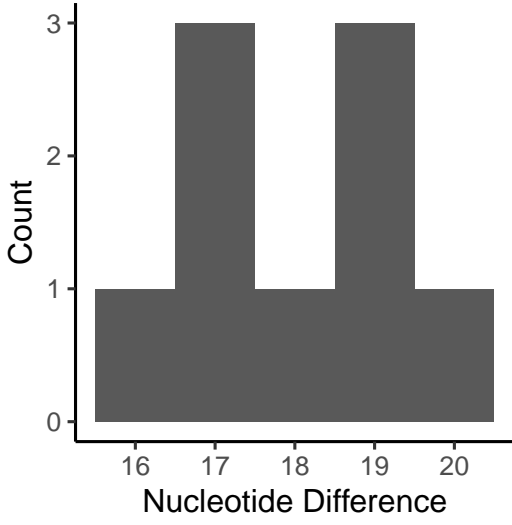
IGHV4-NL\_33\*01\_S2532

2 sequences assigned  
No exact matches.



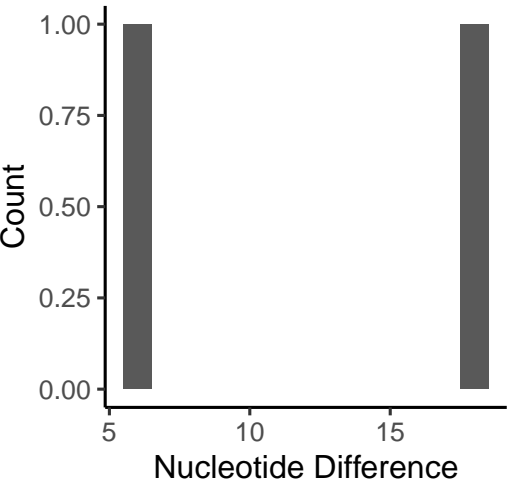
IGHV4-NL\_34\*01\_S4749

14 sequences assigned  
No exact matches.



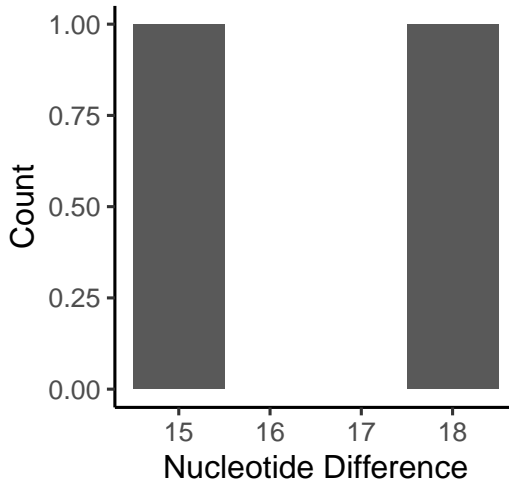
IGHV4-NL\_3\*01\_S7576

3 sequences assigned  
No exact matches.



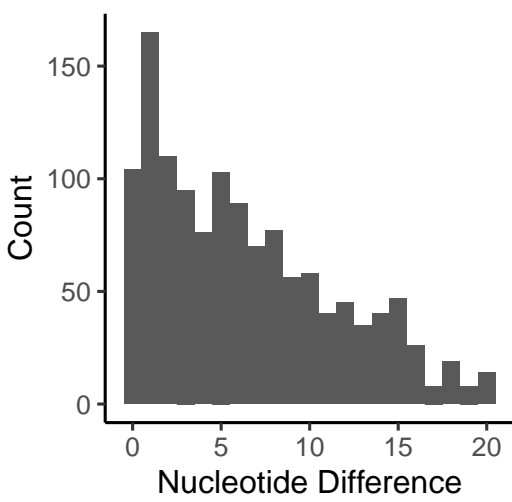
IGHV4-NL\_33\*01\_S4467

243 sequences assigned  
No exact matches.



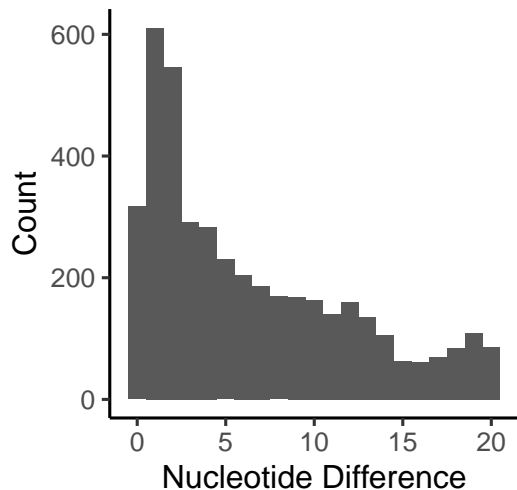
IGHV4-NL\_36\*01\_S5847

1421 sequences assigned  
104 (7.3%) exact matches, in which:  
62 unique CDR3  
7 unique J



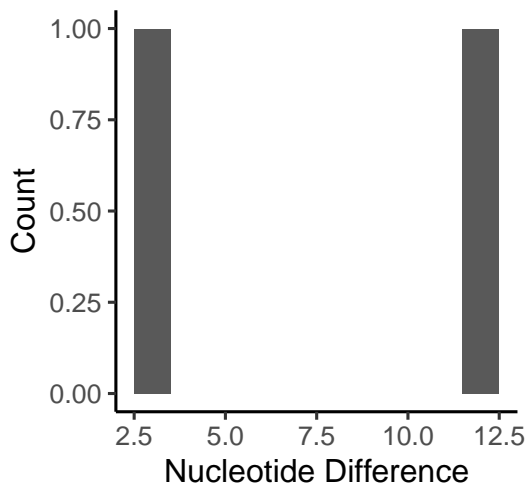
### IGHV4–NL\_38\*01\_S8437

4964 sequences assigned  
317 (6.4%) exact matches, in which:  
214 unique CDR3  
8 unique J



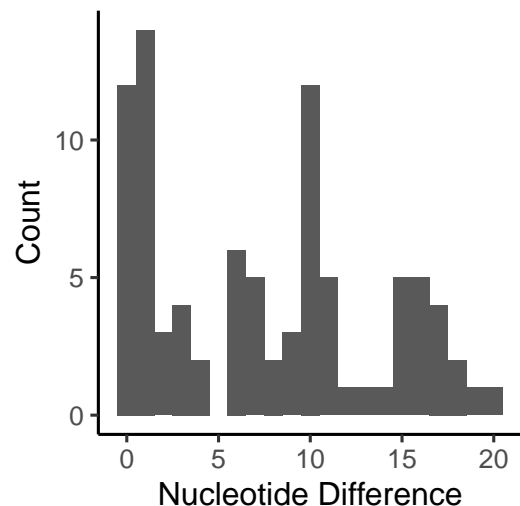
### IGHV4–NL\_42\*01\_S3076

2 sequences assigned  
No exact matches.



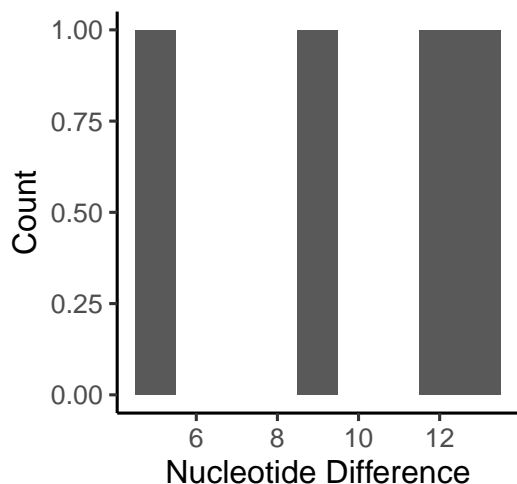
### IGHV4–NL\_5\*01\_S4603

103 sequences assigned  
12 (11.7%) exact matches, in which:  
8 unique CDR3  
5 unique J



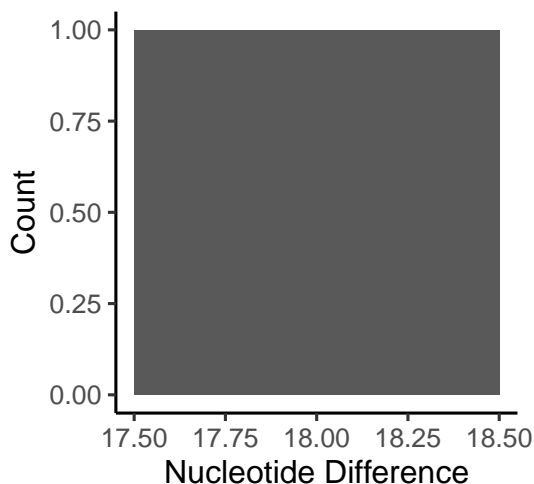
### IGHV4–NL\_4\*01\_S8866

12 sequences assigned  
No exact matches.



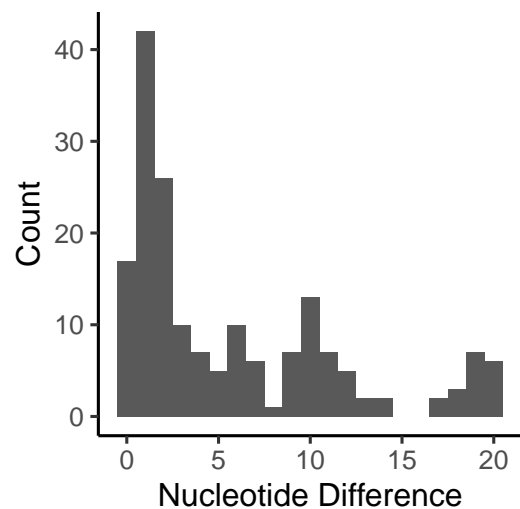
### IGHV4–NL\_42\*01\_S3576

1 sequences assigned  
No exact matches.



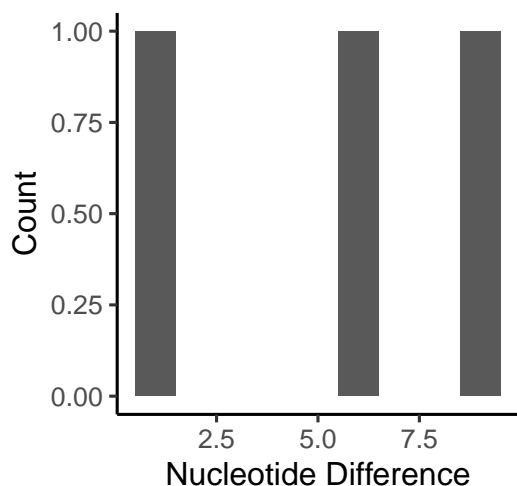
### IGHV4–NL\_5\*01\_S5158

190 sequences assigned  
17 (8.9%) exact matches, in which:  
13 unique CDR3  
3 unique J



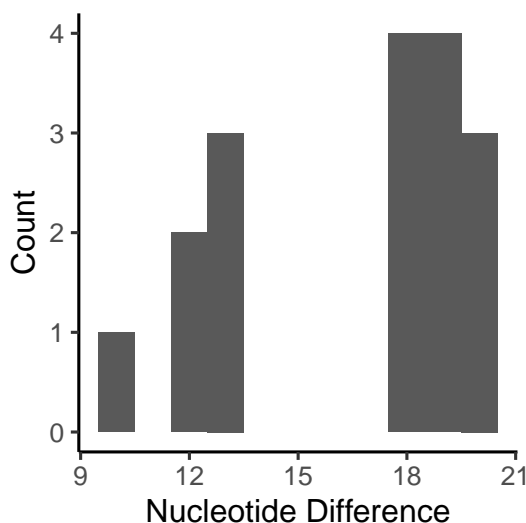
### IGHV4–NL\_40\*01\_S0696

4 sequences assigned  
No exact matches.



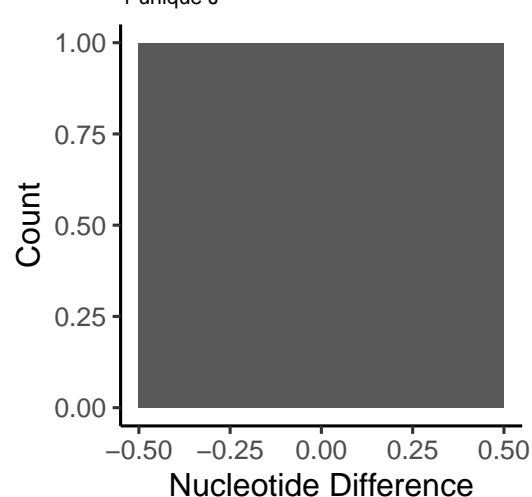
### IGHV4–NL\_43\*01\_S4510

65 sequences assigned  
No exact matches.



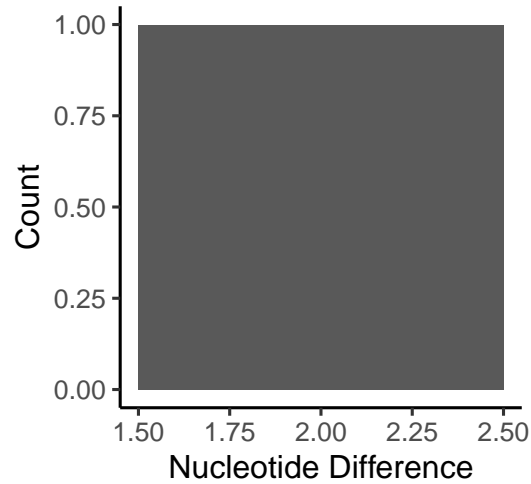
### IGHV4–NL\_6\*01\_S5805

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



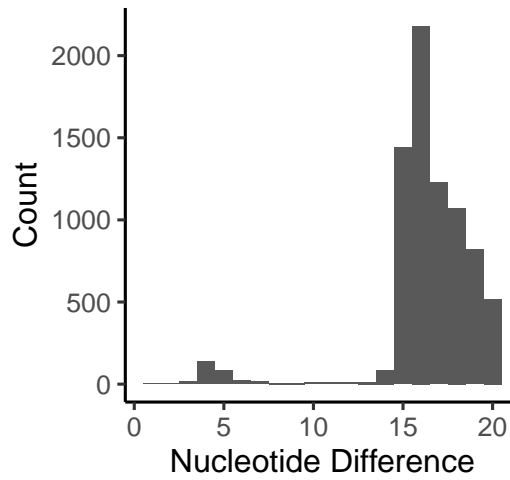
### IGHV4-NL\_7\*02\_S0143

1 sequences assigned  
No exact matches.



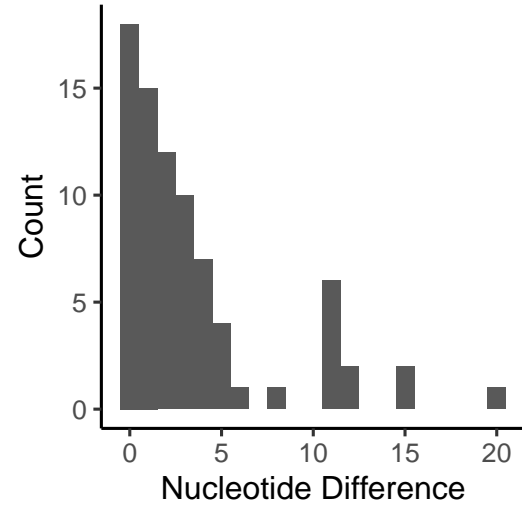
### IGHV5-15\*01\_S2502

10087 sequences assigned  
No exact matches.



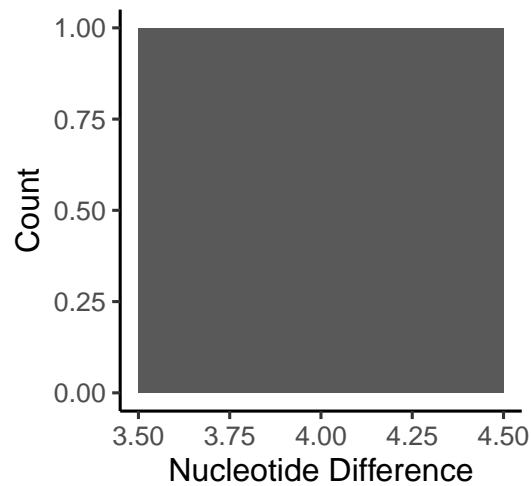
### IGHV7-135\*01\_S4281

79 sequences assigned  
18 (22.8%) exact matches, in which:  
10 unique CDR3  
4 unique J



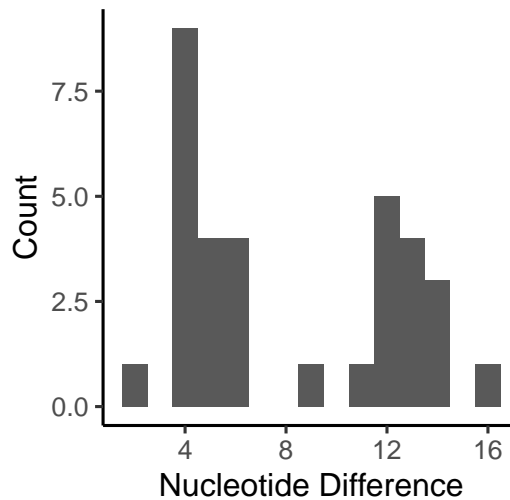
### IGHV4-NL\_9\*01\_S3502

2 sequences assigned  
No exact matches.



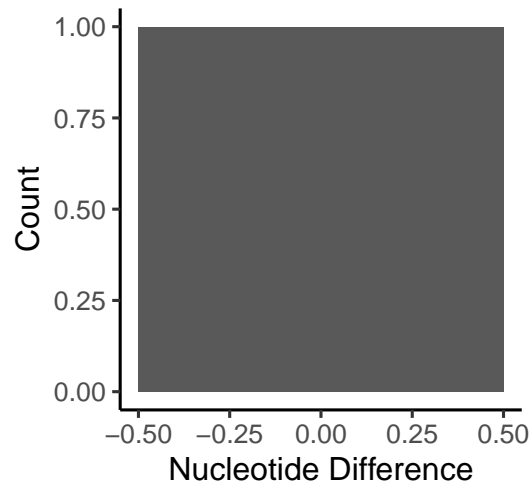
### IGHV7-86\*01\_S0200

35 sequences assigned  
No exact matches.



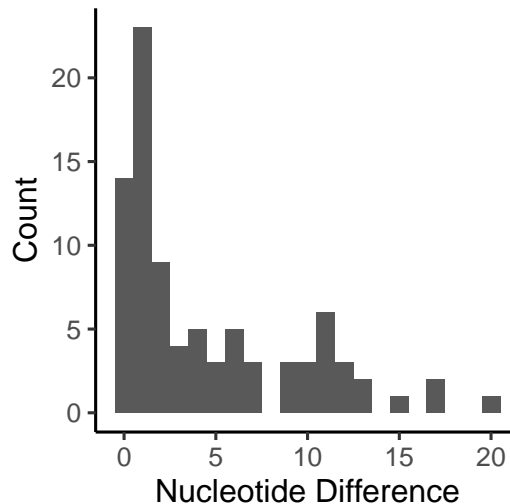
### IGHV4-NL\_9\*01\_S4906

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

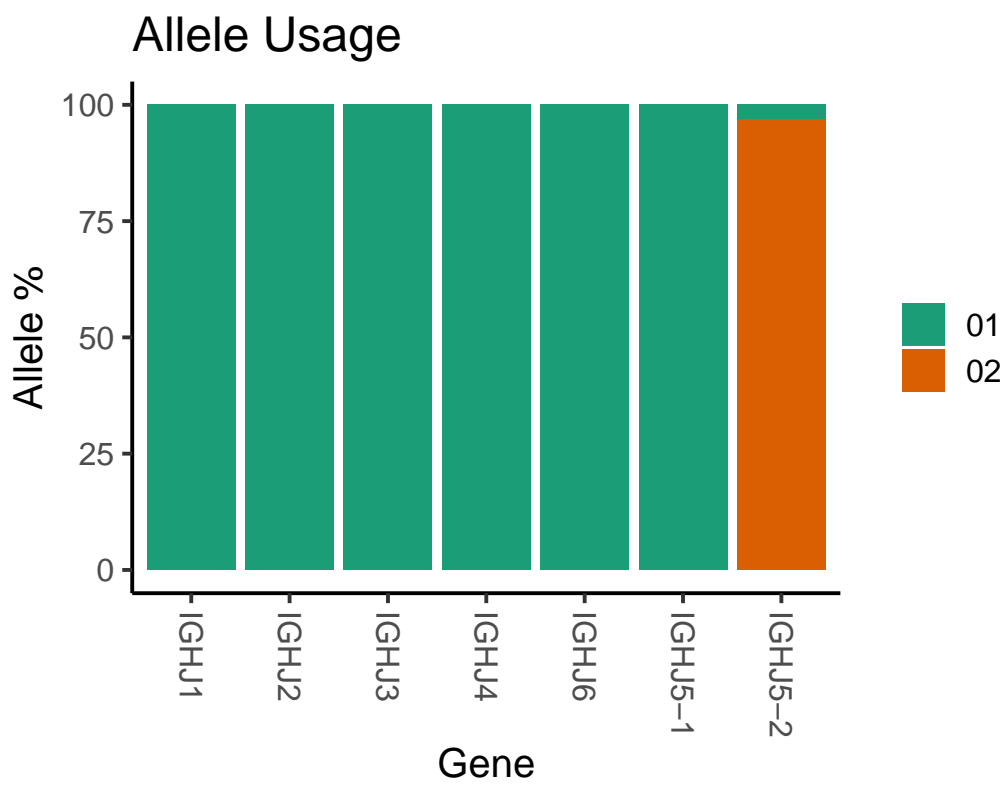


### IGHV7-86\*01\_S3619

91 sequences assigned  
14 (15.4%) exact matches, in which:  
4 unique CDR3  
2 unique J







Warning – no inferred sequences found.