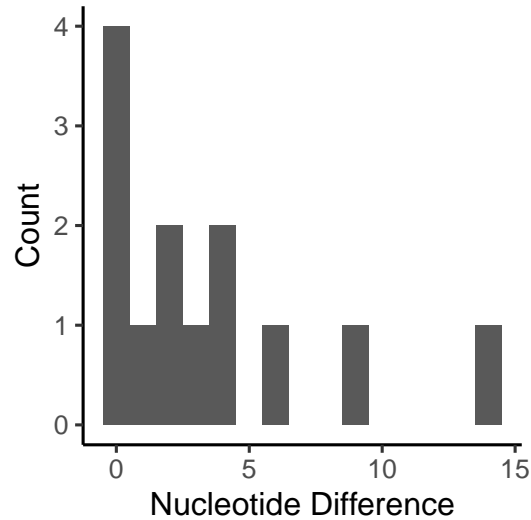


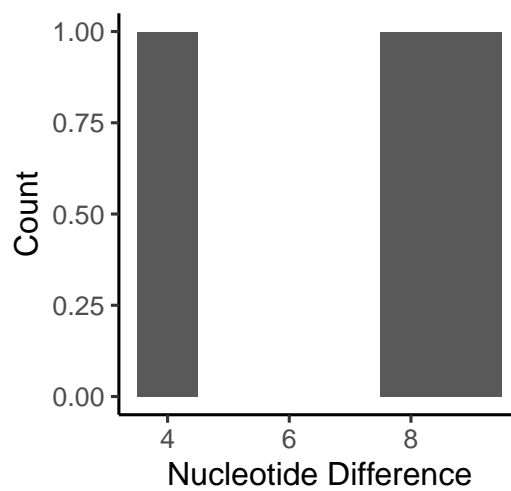
### IGHV1-58\*02

13 sequences assigned  
4 (30.8%) exact matches, in which:  
3 unique CDR3  
1 unique J



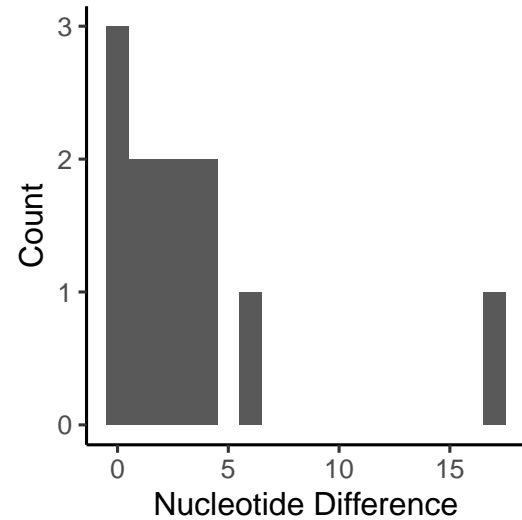
### IGHV1-138\*01\_S3445

3 sequences assigned  
No exact matches.



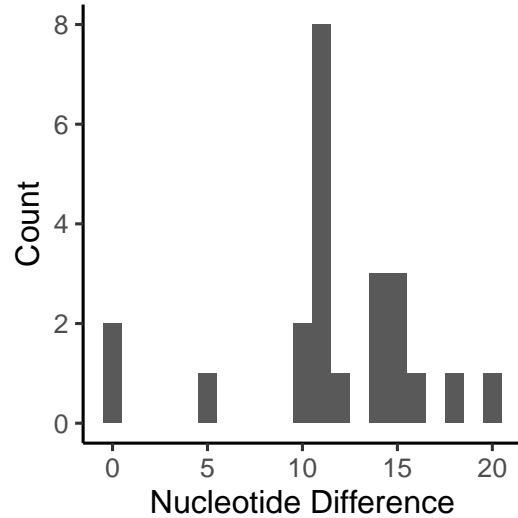
### IGHV1-NL\_1\*01\_S8523

13 sequences assigned  
3 (23.1%) exact matches, in which:  
2 unique CDR3  
1 unique J



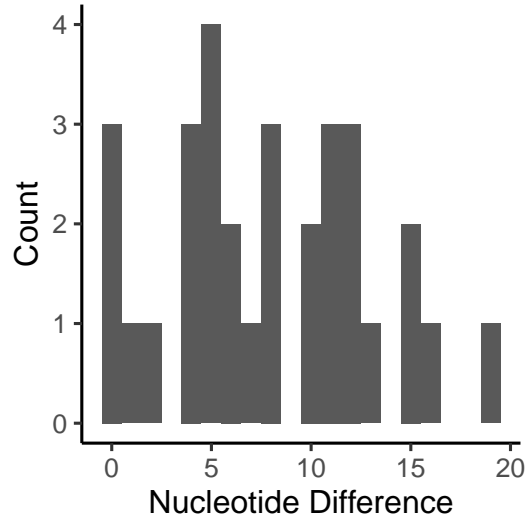
### IGHV1-84\*01\_S2805

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



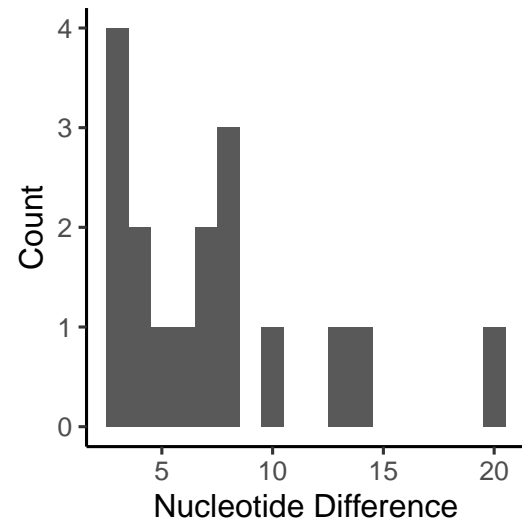
### IGHV1-NL\_1\*01\_S2052

31 sequences assigned  
3 (9.7%) exact matches, in which:  
3 unique CDR3  
1 unique J



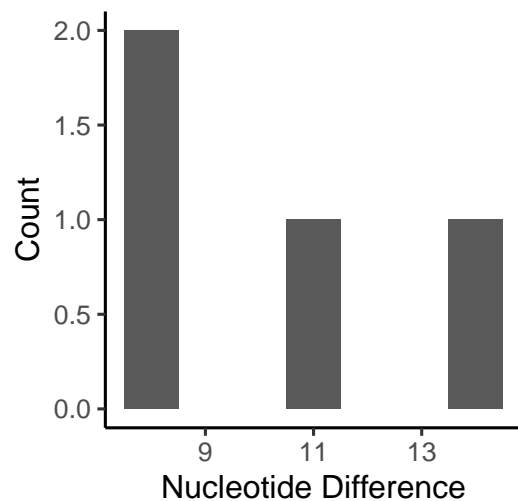
### IGHV2-7\*02\_S1732

18 sequences assigned  
No exact matches.



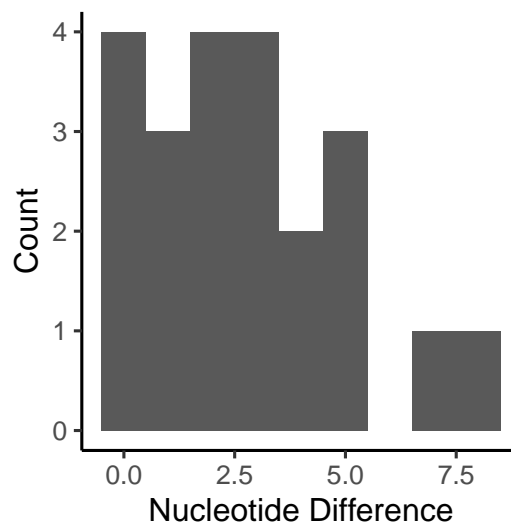
### IGHV1-124\*01\_S1765

4 sequences assigned  
No exact matches.



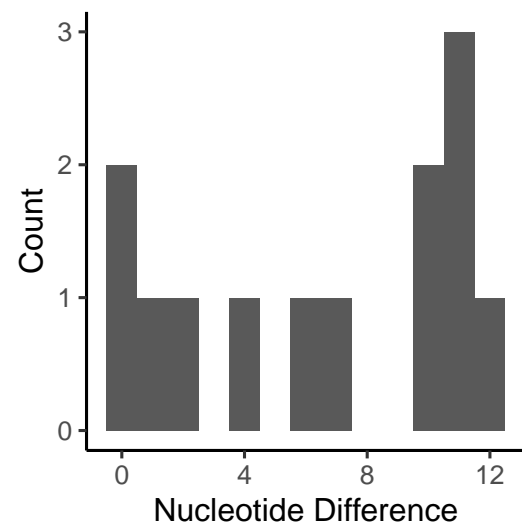
### IGHV1-NL\_1\*01\_S6622

22 sequences assigned  
4 (18.2%) exact matches, in which:  
3 unique CDR3  
1 unique J



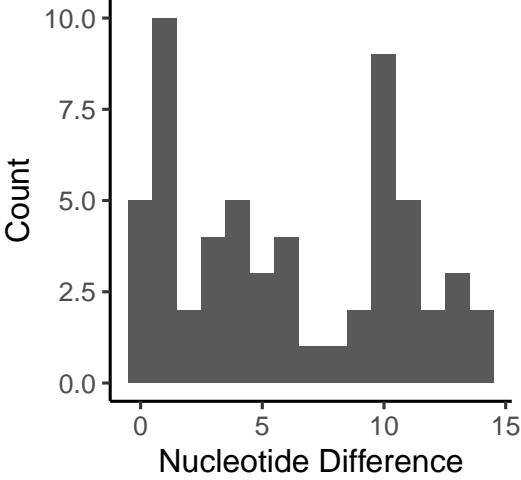
### IGHV2-69\*01\_S2408

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



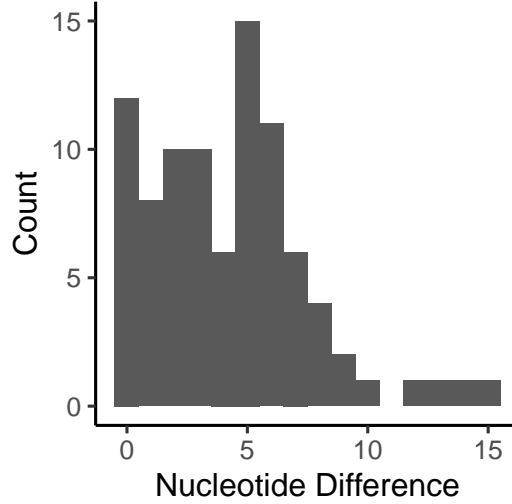
### IGHV2-69\*01\_S6153

58 sequences assigned  
5 (8.6%) exact matches, in which:  
4 unique CDR3  
1 unique J



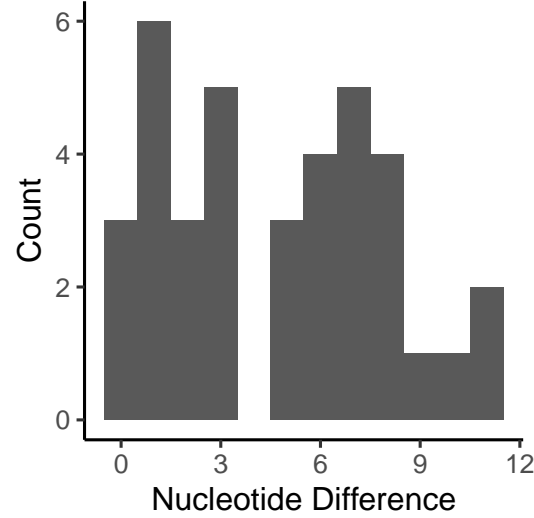
### IGHV3-50\*01\_S9079

89 sequences assigned  
12 (13.5%) exact matches, in which:  
5 unique CDR3  
1 unique J



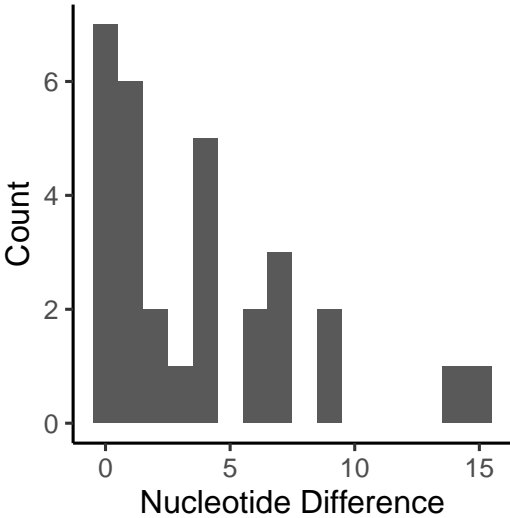
### IGHV3-76\*01\_S4285

38 sequences assigned  
3 (7.9%) exact matches, in which:  
1 unique CDR3  
1 unique J



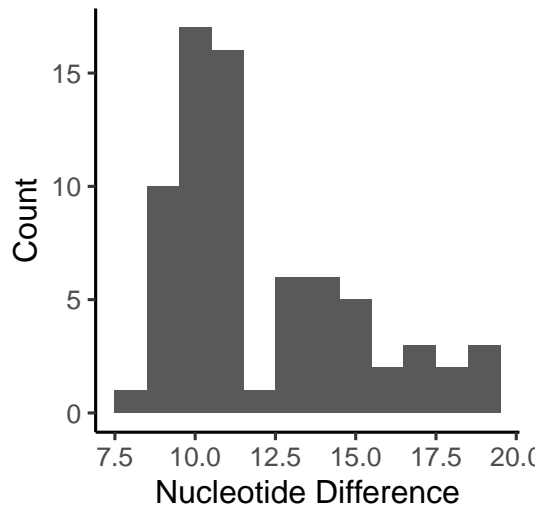
### IGHV2-118\*01\_S4527

35 sequences assigned  
7 (20%) exact matches, in which:  
4 unique CDR3  
1 unique J



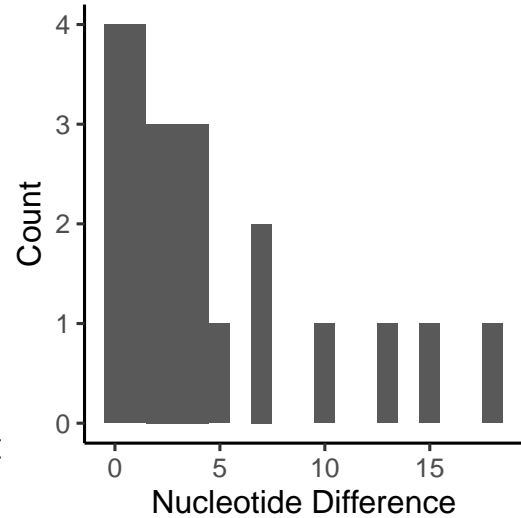
### IGHV3-53\*01\_S0543

78 sequences assigned  
No exact matches.



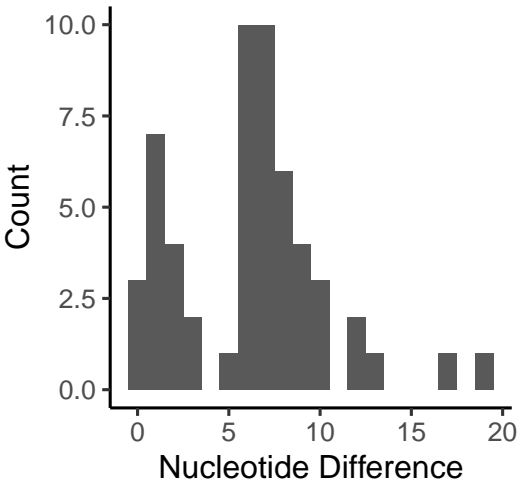
### IGHV3-76\*01\_S5420

24 sequences assigned  
4 (16.7%) exact matches, in which:  
4 unique CDR3  
1 unique J



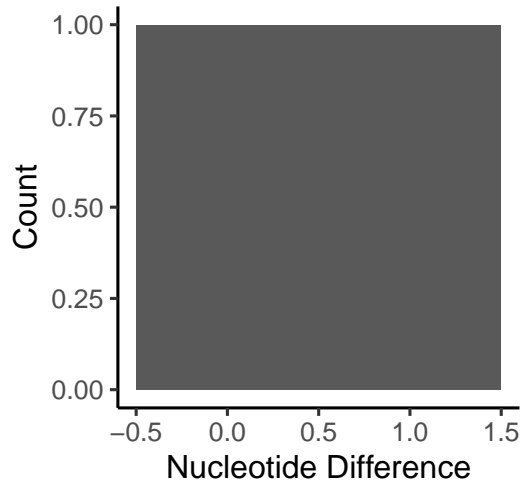
### IGHV2-NL\_1\*01\_S5779

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



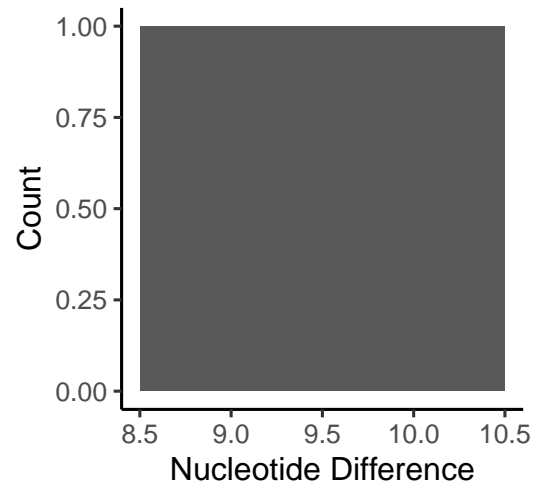
### IGHV3-73\*02\_S8830

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



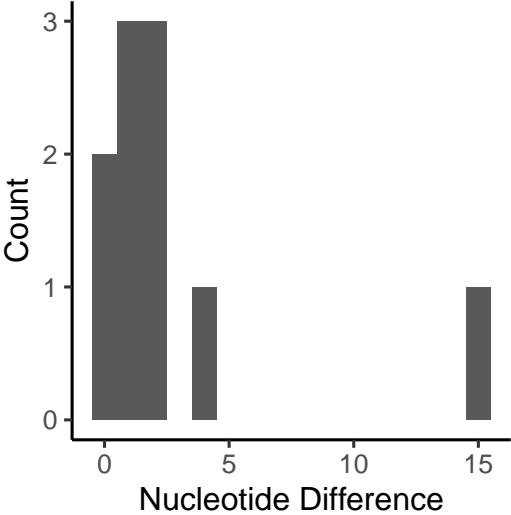
### IGHV3-100\*01\_S4375

2 sequences assigned  
No exact matches.



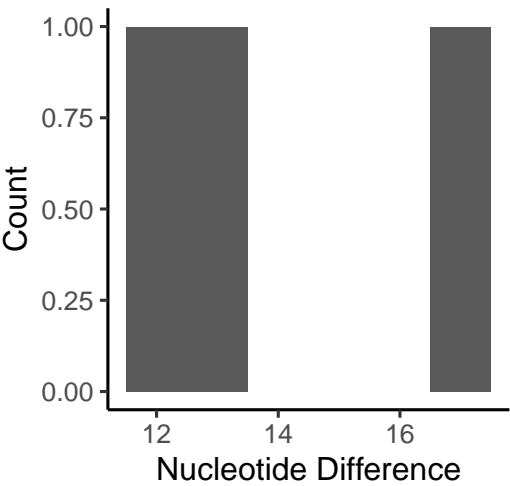
IGHV3-122\*01\_S5299

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



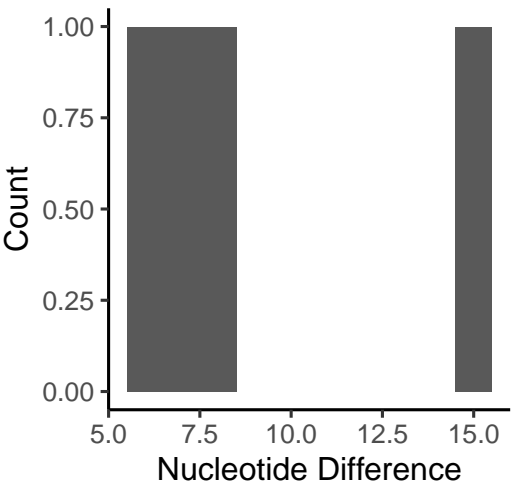
IGHV3-127\*01\_S7059

3 sequences assigned  
No exact matches.



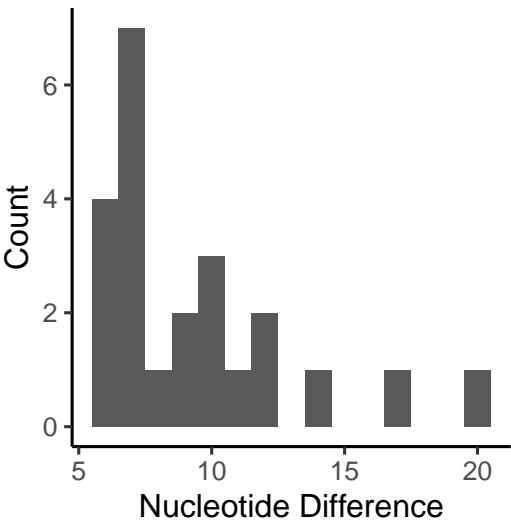
IGHV3-141\*01\_S5017

4 sequences assigned  
No exact matches.



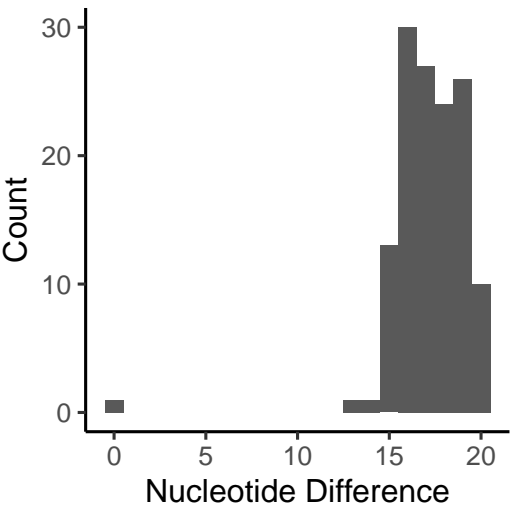
IGHV3-122\*01\_S8388

24 sequences assigned  
No exact matches.



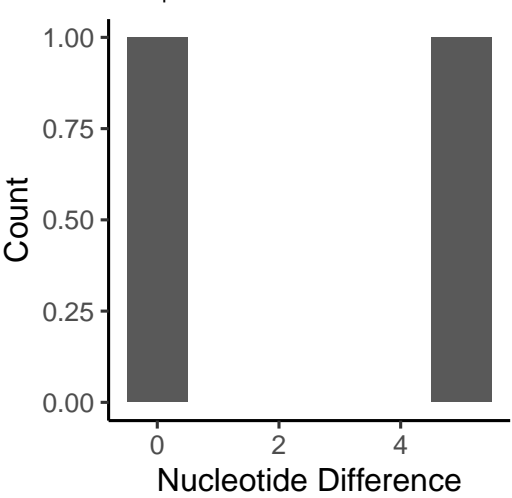
IGHV3-128\*01\_S1128

217 sequences assigned  
1 (0.5%) exact matches, in which:  
1 unique CDR3  
1 unique J



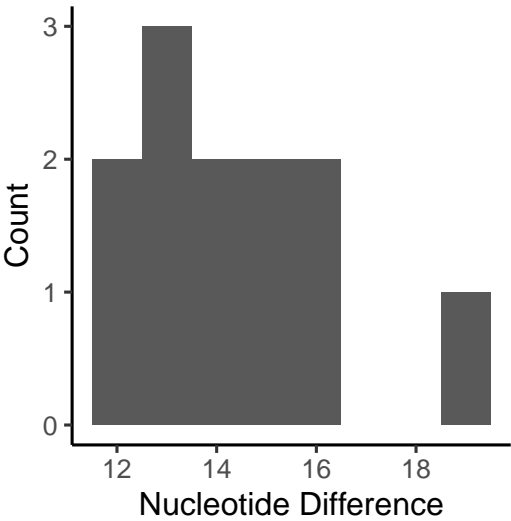
IGHV3-152\*01\_S5891

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



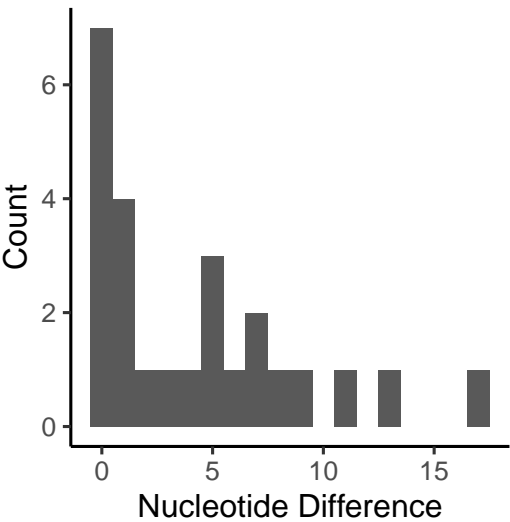
IGHV3-127\*01\_S5171

13 sequences assigned  
No exact matches.



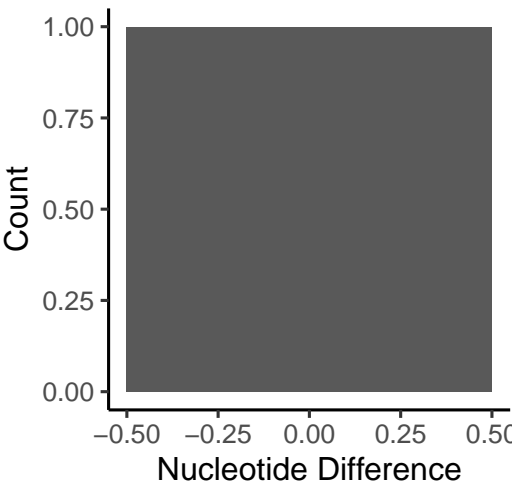
IGHV3-128\*02\_S1570

86 sequences assigned  
7 (8.1%) exact matches, in which:  
4 unique CDR3  
1 unique J



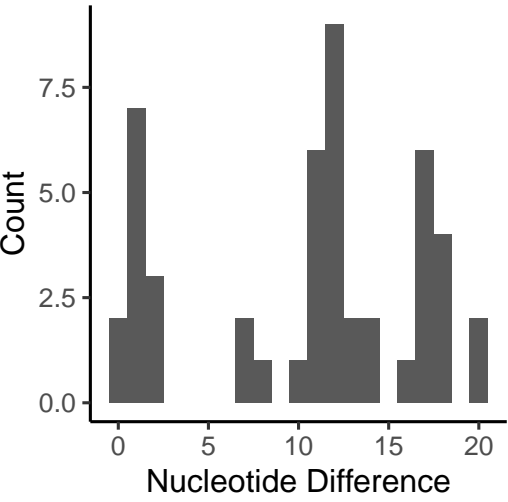
IGHV3-177\*01\_S8970

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



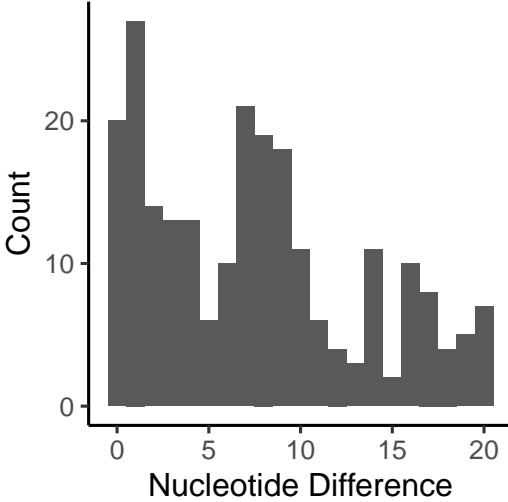
IGHV3-187\*01\_S1133

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



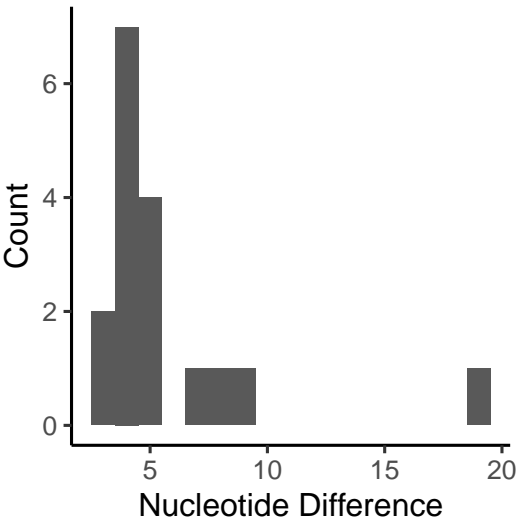
IGHV3-NL\_11\*01\_S3736

281 sequences assigned  
20 (7.1%) exact matches, in which:  
11 unique CDR3  
1 unique J



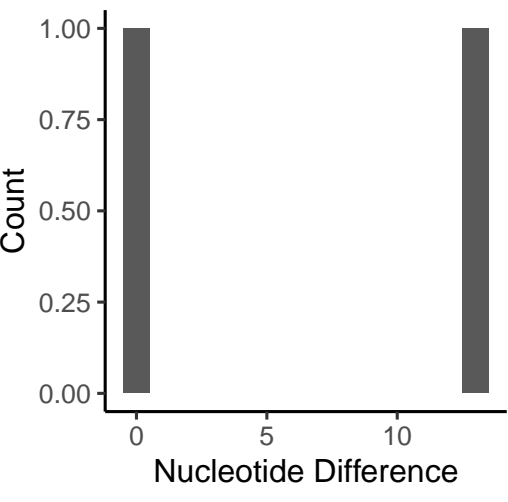
IGHV3-NL\_17\*01\_S4250

17 sequences assigned  
No exact matches.



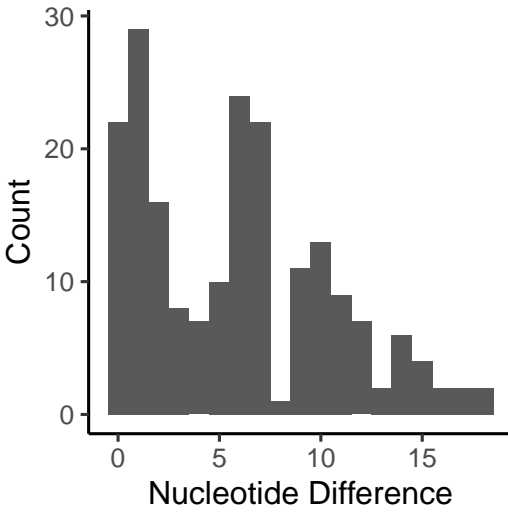
IGHV3-NL\_1\*01\_S2031

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



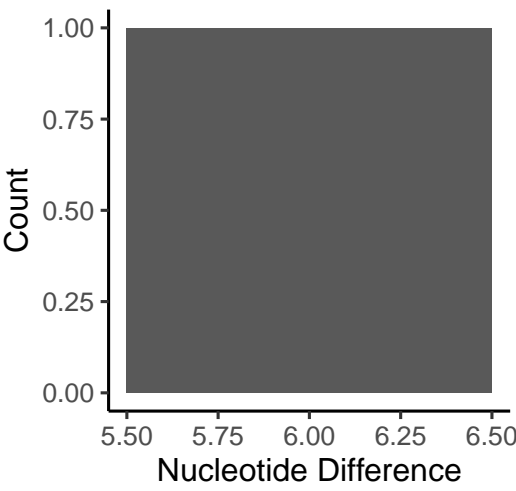
IGHV3-NL\_11\*01\_S4619

208 sequences assigned  
22 (10.6%) exact matches, in which:  
11 unique CDR3  
1 unique J



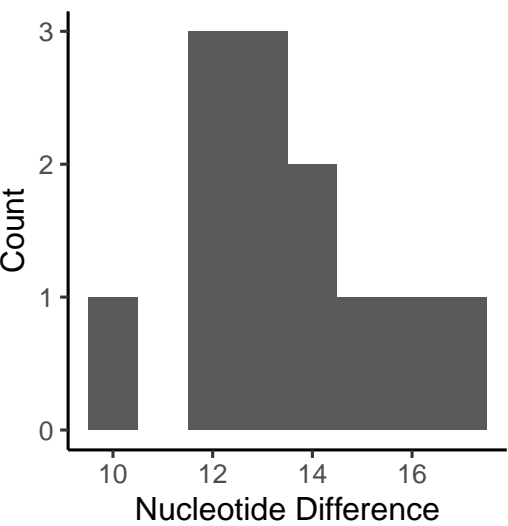
IGHV3-NL\_17\*01\_S4736

1 sequences assigned  
No exact matches.



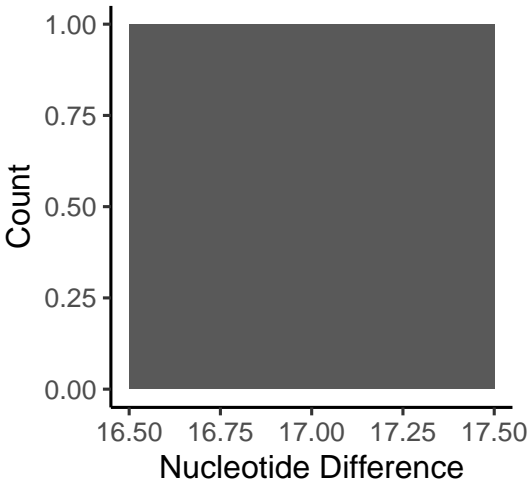
IGHV3-NL\_1\*01\_S5238

12 sequences assigned  
No exact matches.



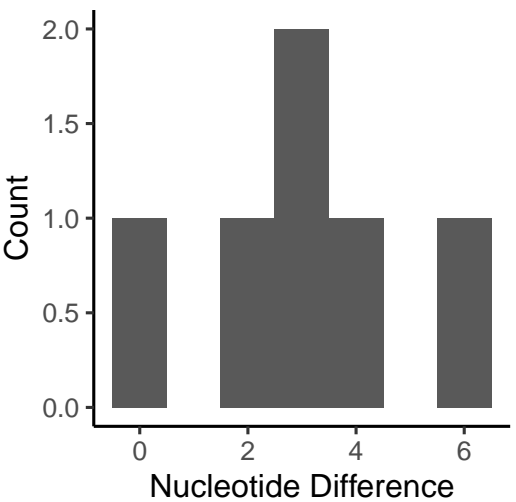
IGHV3-NL\_12\*02\_S6994

44 sequences assigned  
No exact matches.



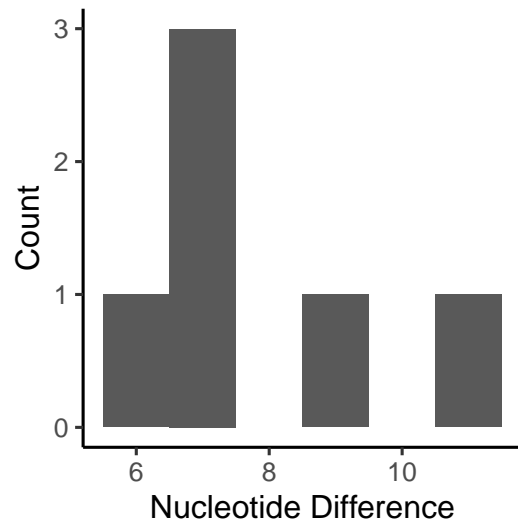
IGHV3-NL\_18\*01\_S0984

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



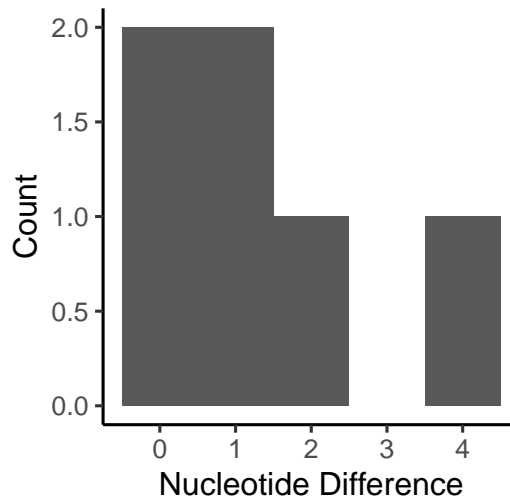
### IGHV3–NL\_18\*01\_S6383

6 sequences assigned  
No exact matches.



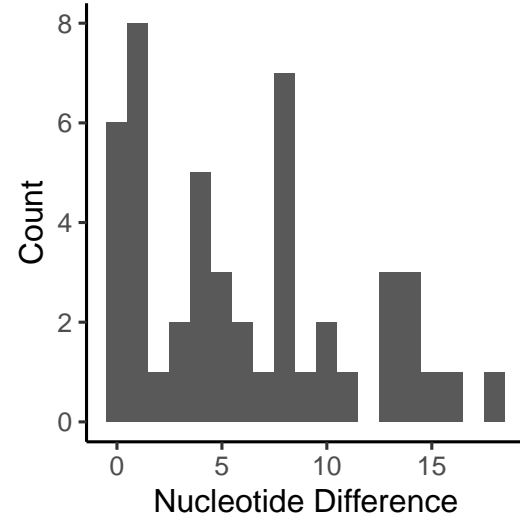
### IGHV4–72\*01\_S8261

6 sequences assigned  
2 (33.3%) exact matches, in which:  
2 unique CDR3  
1 unique J



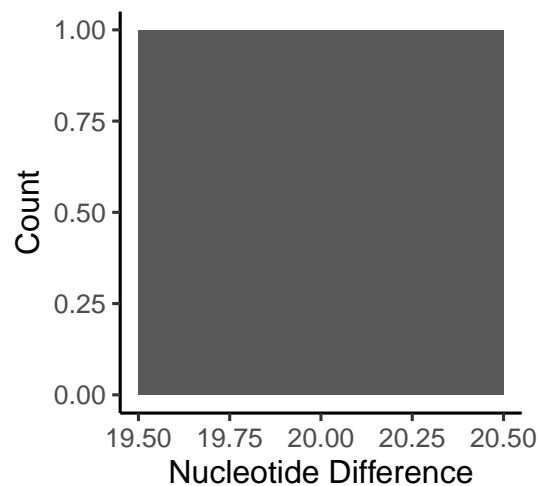
### IGHV4–117\*01\_S0333

50 sequences assigned  
6 (12%) exact matches, in which:  
6 unique CDR3  
1 unique J



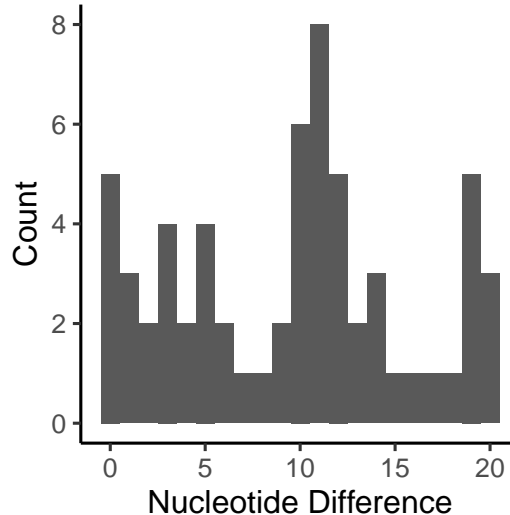
### IGHV3–NL\_9\*01\_S6098

1 sequences assigned  
No exact matches.



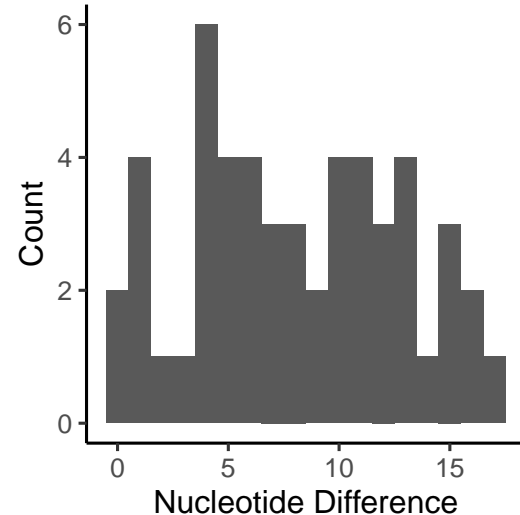
### IGHV4–93\*01\_S8059

71 sequences assigned  
5 (7%) exact matches, in which:  
4 unique CDR3  
1 unique J



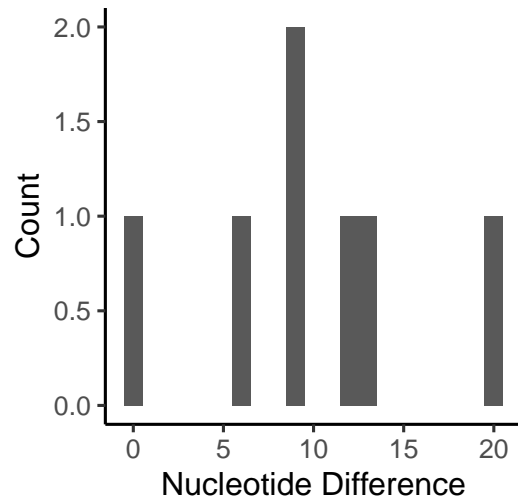
### IGHV4–117\*01\_S3779

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



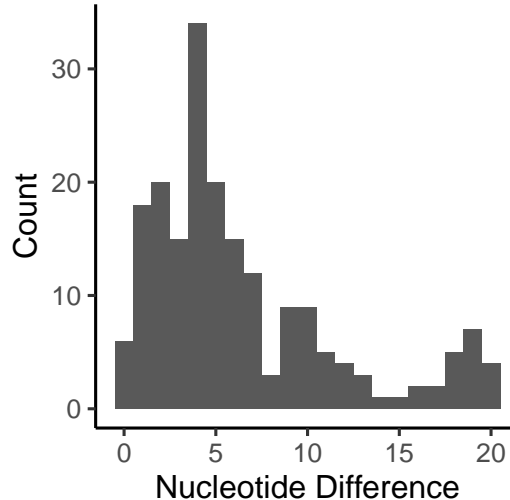
### IGHV4–67\*01\_S6131

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



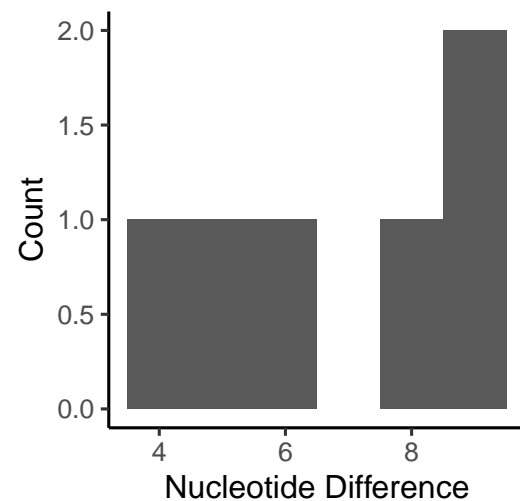
### IGHV4–117\*01\_S0312

247 sequences assigned  
6 (2.4%) exact matches, in which:  
6 unique CDR3  
1 unique J



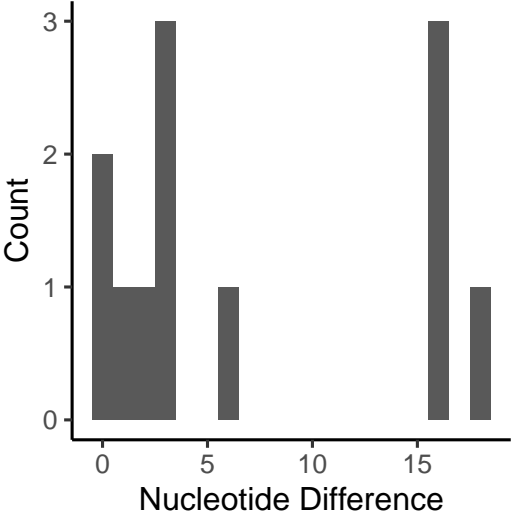
### IGHV4–144\*01\_S2658

6 sequences assigned  
No exact matches.



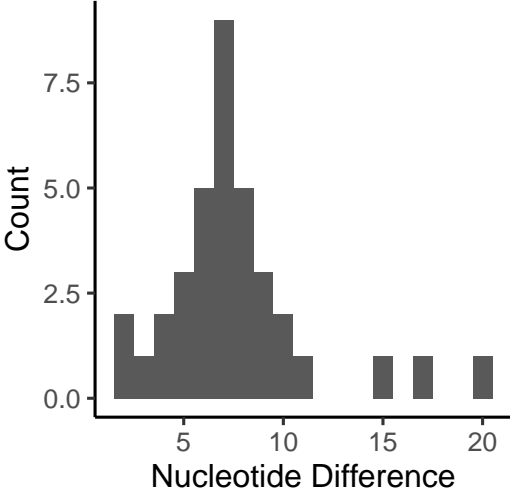
IGHV4-144\*01\_S3008

14 sequences assigned  
2 (14.3%) exact matches, in which:  
2 unique CDR3  
1 unique J



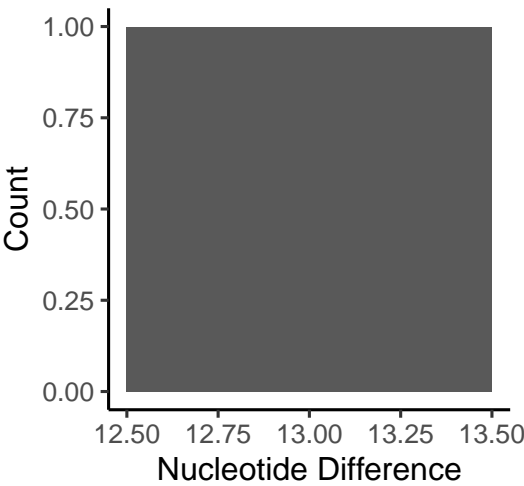
IGHV4-NL\_1\*01\_S8621

37 sequences assigned  
No exact matches.



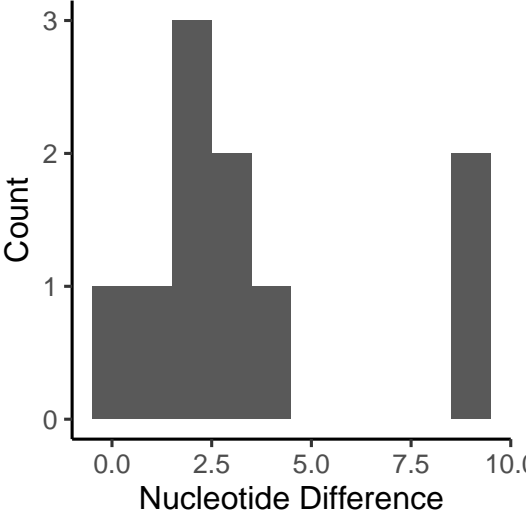
IGHV4-NL\_13\*01\_S9624

2 sequences assigned  
No exact matches.



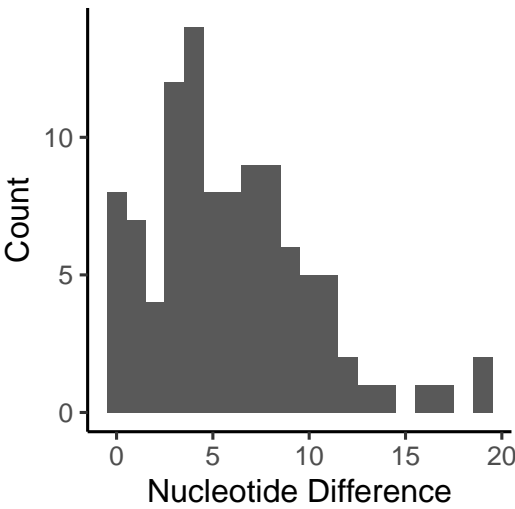
IGHV4-150\*01\_S0749

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



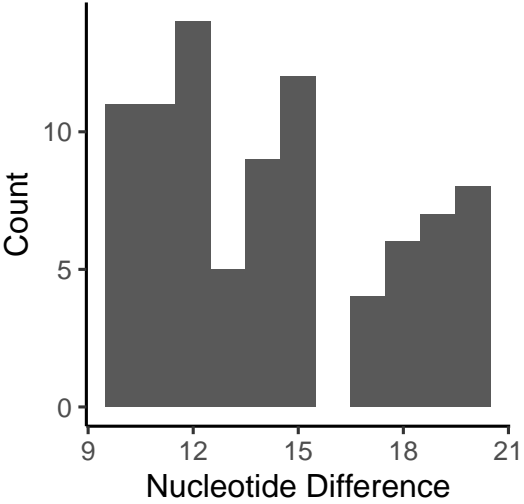
IGHV4-NL\_1\*01\_S9508

105 sequences assigned  
8 (7.6%) exact matches, in which:  
6 unique CDR3  
1 unique J



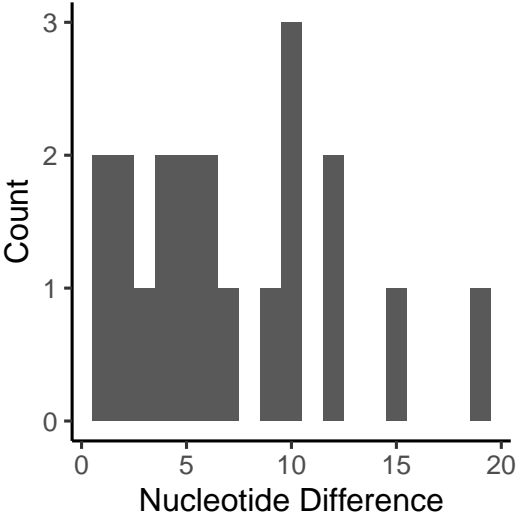
IGHV4-NL\_13\*01\_S9744

116 sequences assigned  
No exact matches.



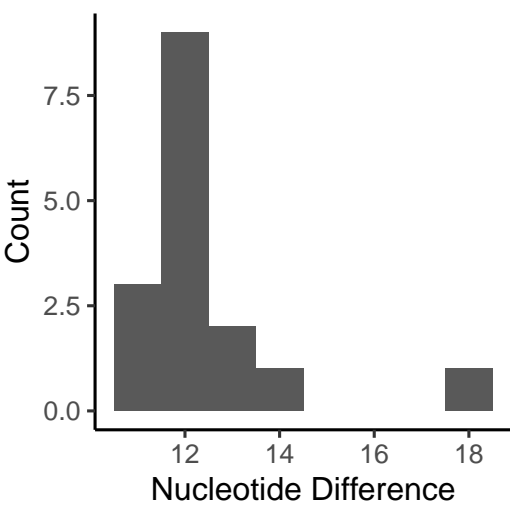
IGHV4-NL\_1\*01\_S4155

20 sequences assigned  
No exact matches.



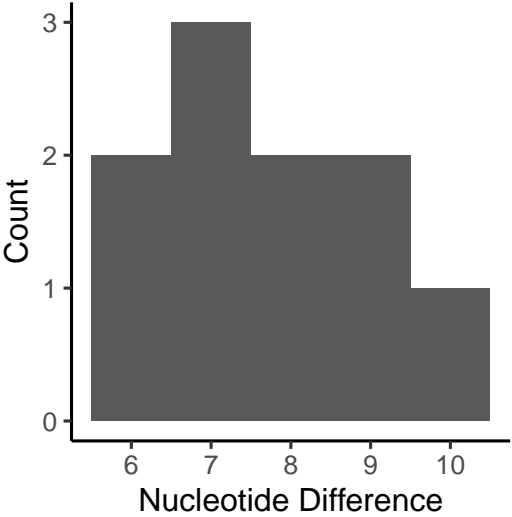
IGHV4-NL\_12\*01\_S8068

17 sequences assigned  
No exact matches.



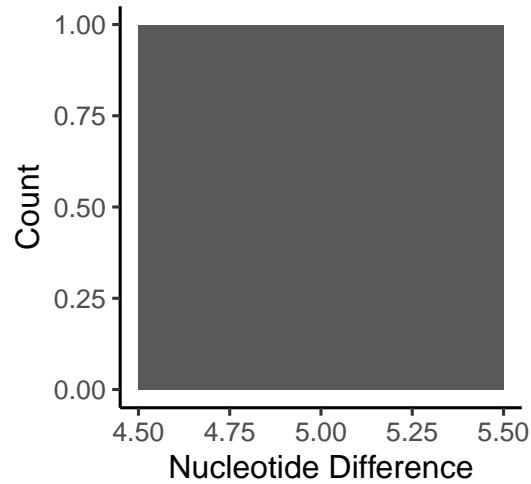
IGHV4-NL\_15\*01\_S7687

10 sequences assigned  
No exact matches.



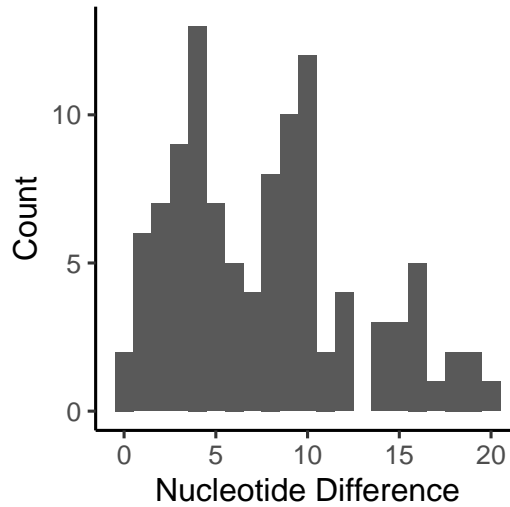
### IGHV4–NL\_16\*01\_S2138

1 sequences assigned  
No exact matches.



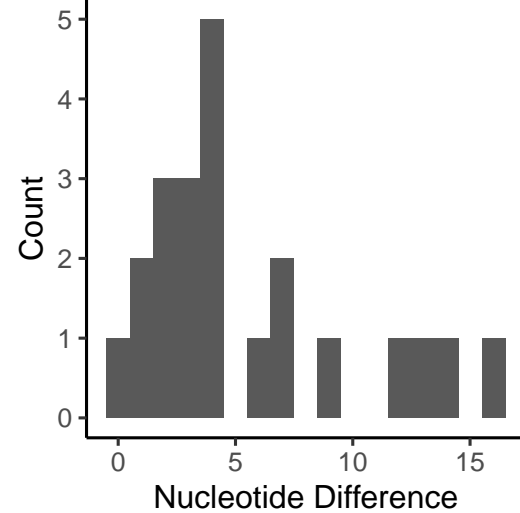
### IGHV4–NL\_21\*01\_S0138

108 sequences assigned  
2 (1.9%) exact matches, in which:  
2 unique CDR3  
1 unique J



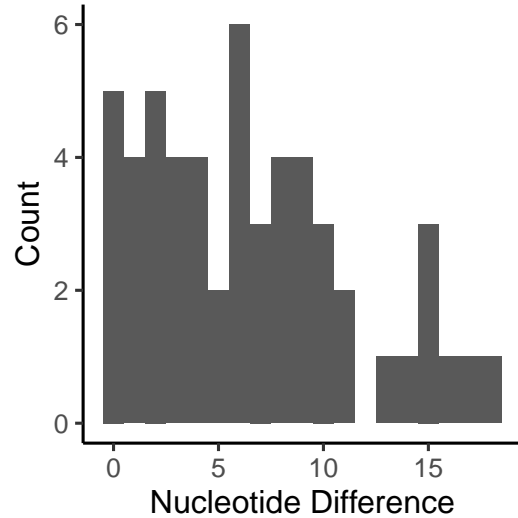
### IGHV4–NL\_22\*01\_S6977

24 sequences assigned  
1 (4.2%) exact matches, in which:  
1 unique CDR3  
1 unique J



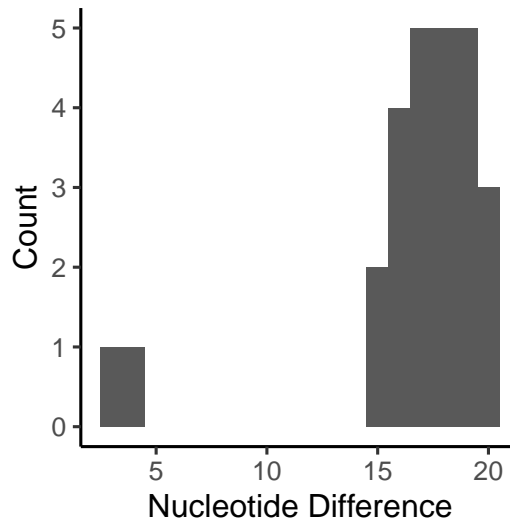
### IGHV4–NL\_17\*01\_S0936

54 sequences assigned  
5 (9.3%) exact matches, in which:  
3 unique CDR3  
1 unique J



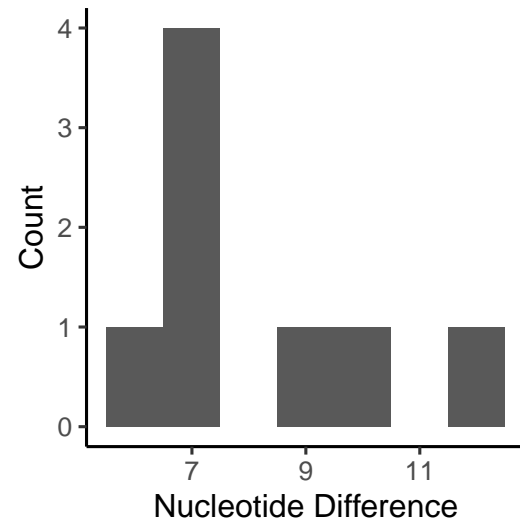
### IGHV4–NL\_21\*01\_S6308

28 sequences assigned  
No exact matches.



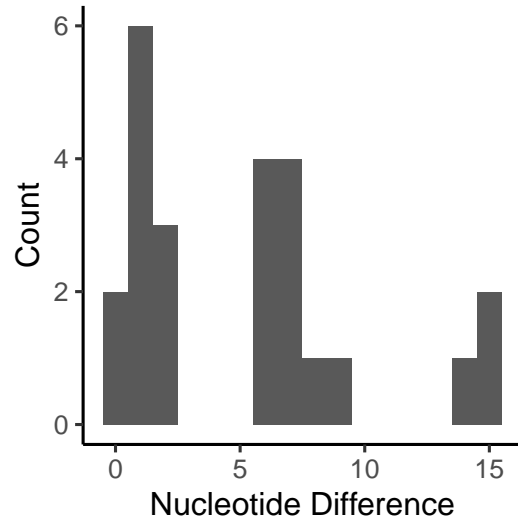
### IGHV4–NL\_24\*01\_S7595

9 sequences assigned  
No exact matches.



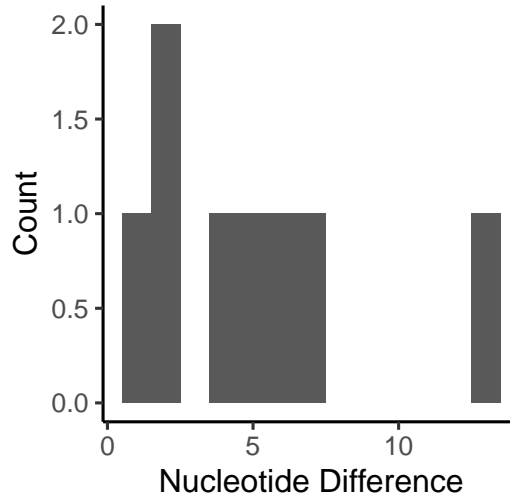
### IGHV4–NL\_17\*01\_S5431

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



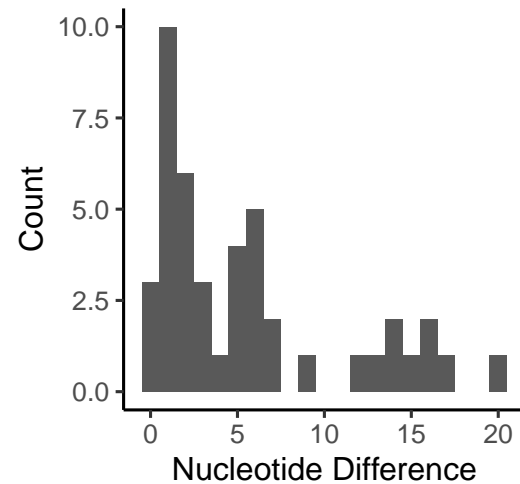
### IGHV4–NL\_22\*01\_S5234

11 sequences assigned  
No exact matches.



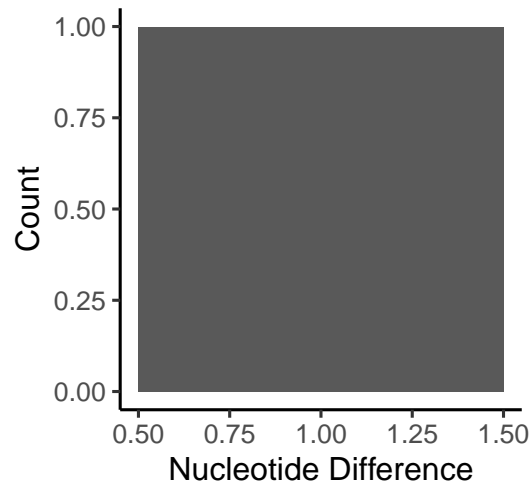
### IGHV4–NL\_27\*01\_S7150

45 sequences assigned  
3 (6.7%) exact matches, in which:  
3 unique CDR3  
1 unique J



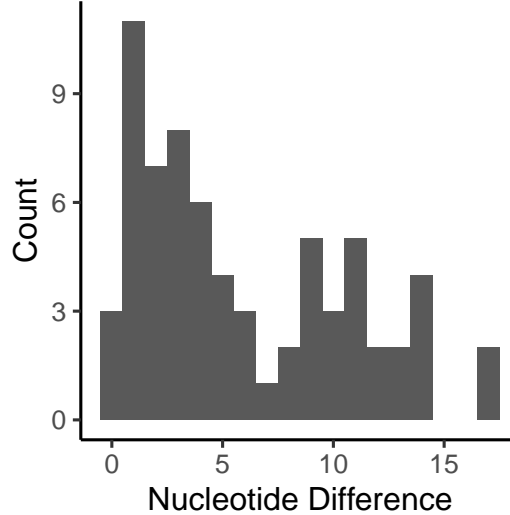
### IGHV4-NL\_28\*01\_S2610

1 sequences assigned  
No exact matches.



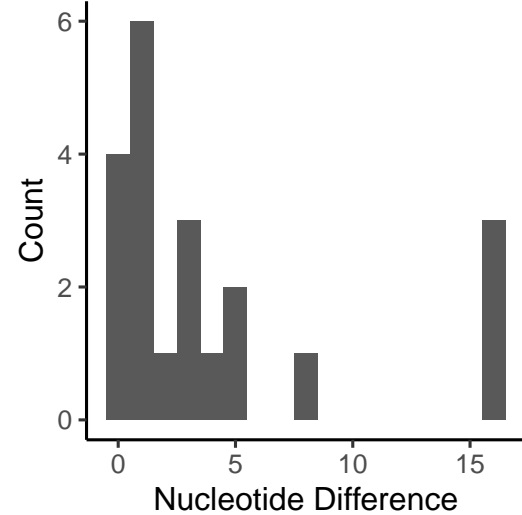
### IGHV4-NL\_33\*01\_S4467

90 sequences assigned  
3 (3.3%) exact matches, in which:  
3 unique CDR3  
1 unique J



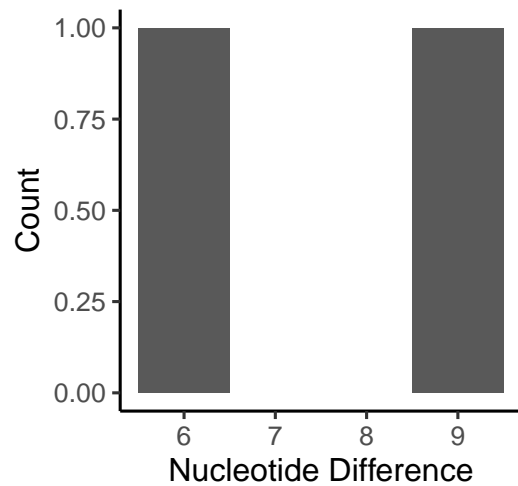
### IGHV4-NL\_36\*01\_S5847

22 sequences assigned  
4 (18.2%) exact matches, in which:  
3 unique CDR3  
1 unique J



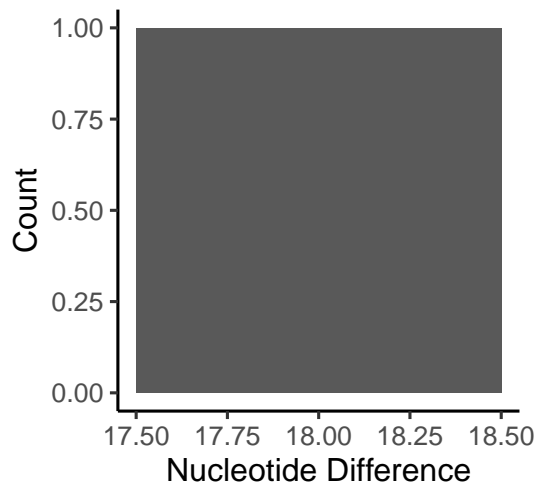
### IGHV4-NL\_28\*01\_S8057

2 sequences assigned  
No exact matches.



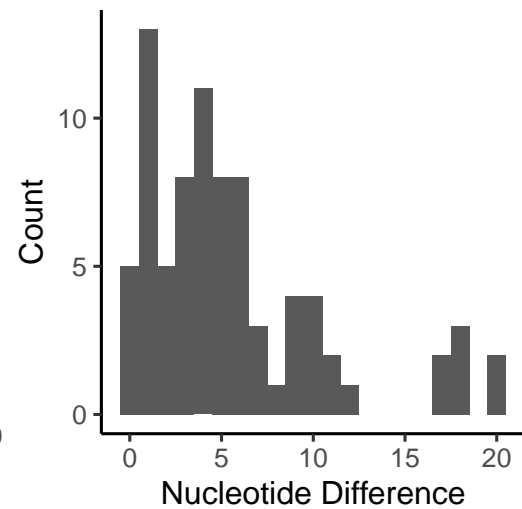
### IGHV4-NL\_34\*01\_S4749

1 sequences assigned  
No exact matches.



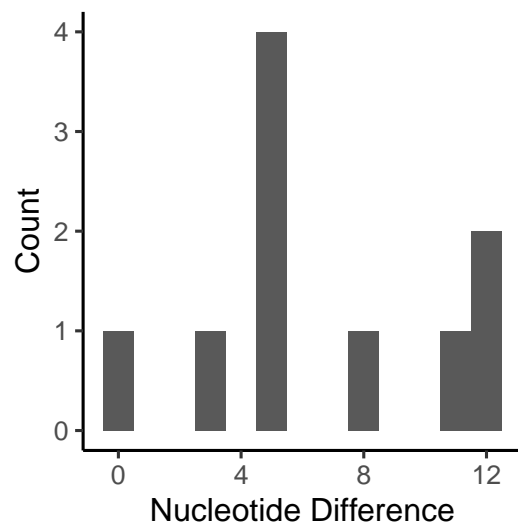
### IGHV4-NL\_38\*01\_S2187

84 sequences assigned  
5 (6%) exact matches, in which:  
4 unique CDR3  
1 unique J



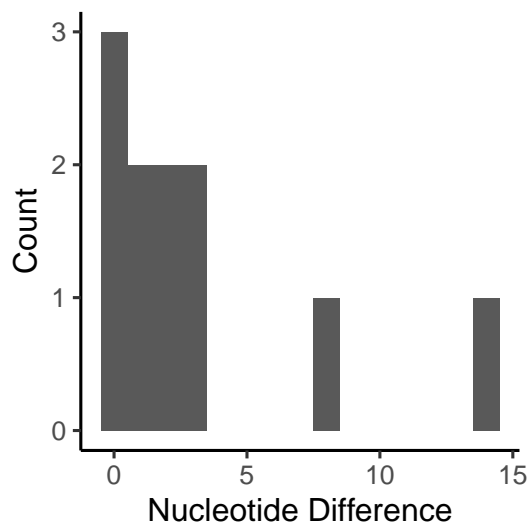
### IGHV4-NL\_29\*01\_S3761

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



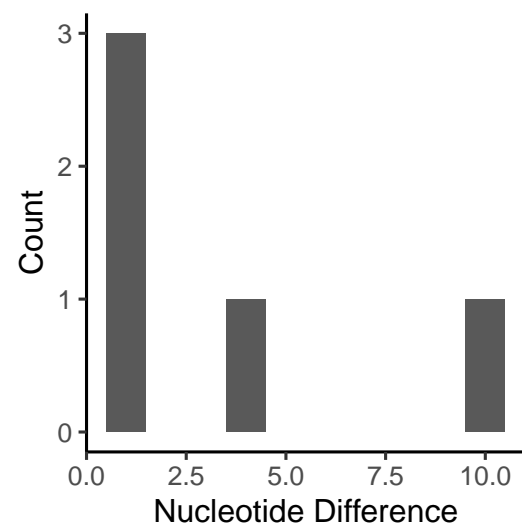
### IGHV4-NL\_36\*01\_S5000

19 sequences assigned  
3 (15.8%) exact matches, in which:  
3 unique CDR3  
1 unique J



### IGHV4-NL\_40\*01\_S9974

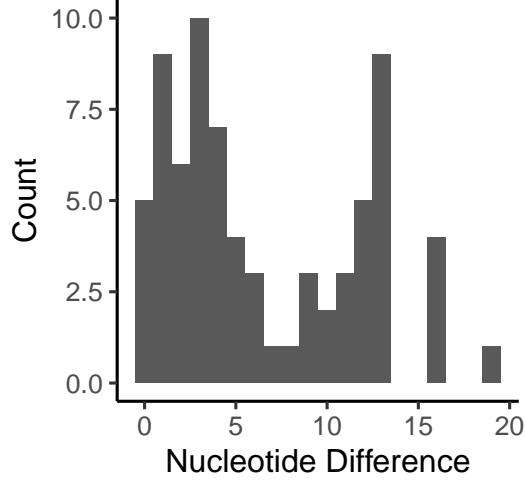
5 sequences assigned  
No exact matches.





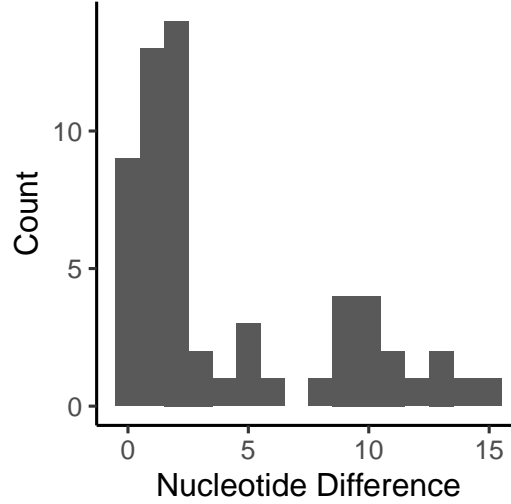
### IGHV4–NL\_5\*01\_S8645

81 sequences assigned  
5 (6.2%) exact matches, in which:  
4 unique CDR3  
1 unique J



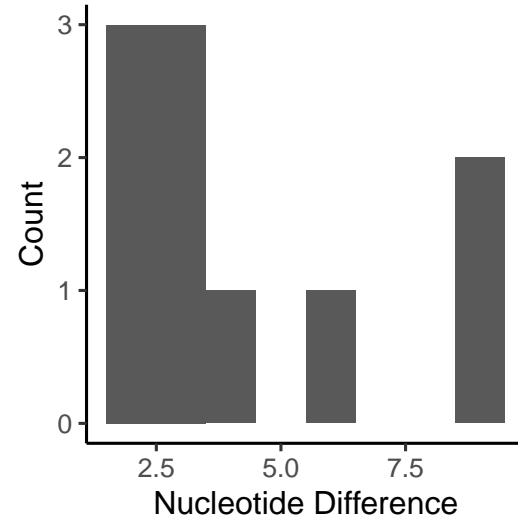
### IGHV5–157\*01\_S8626

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



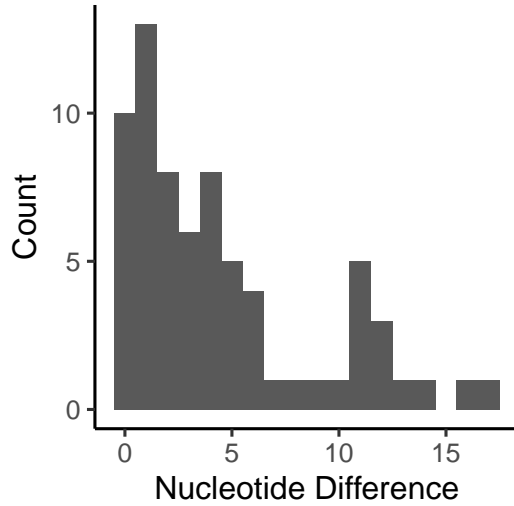
### IGHV7–135\*02\_S1424

10 sequences assigned  
No exact matches.



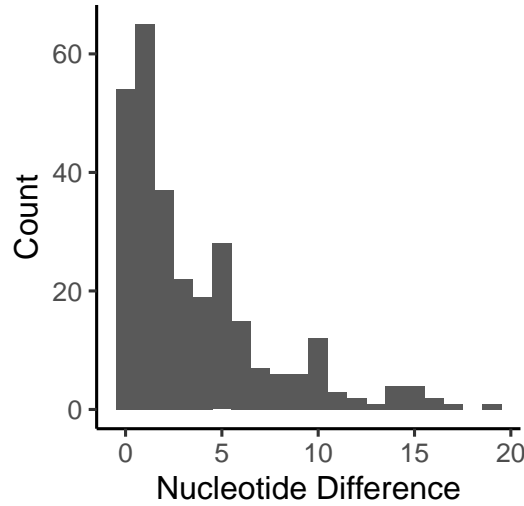
### IGHV5–15\*01\_S0308

71 sequences assigned  
10 (14.1%) exact matches, in which:  
7 unique CDR3  
1 unique J



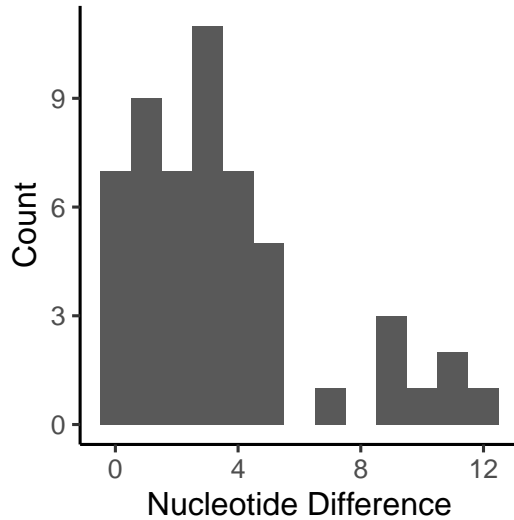
### IGHV5–157\*02\_S8705

307 sequences assigned  
54 (17.6%) exact matches, in which:  
29 unique CDR3  
1 unique J



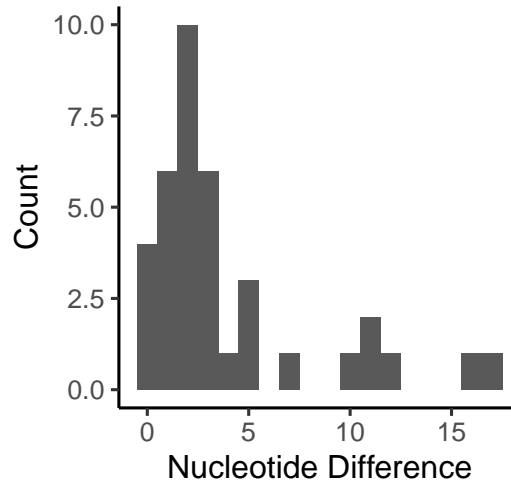
### IGHV5–15\*01\_S4790

55 sequences assigned  
7 (12.7%) exact matches, in which:  
4 unique CDR3  
1 unique J

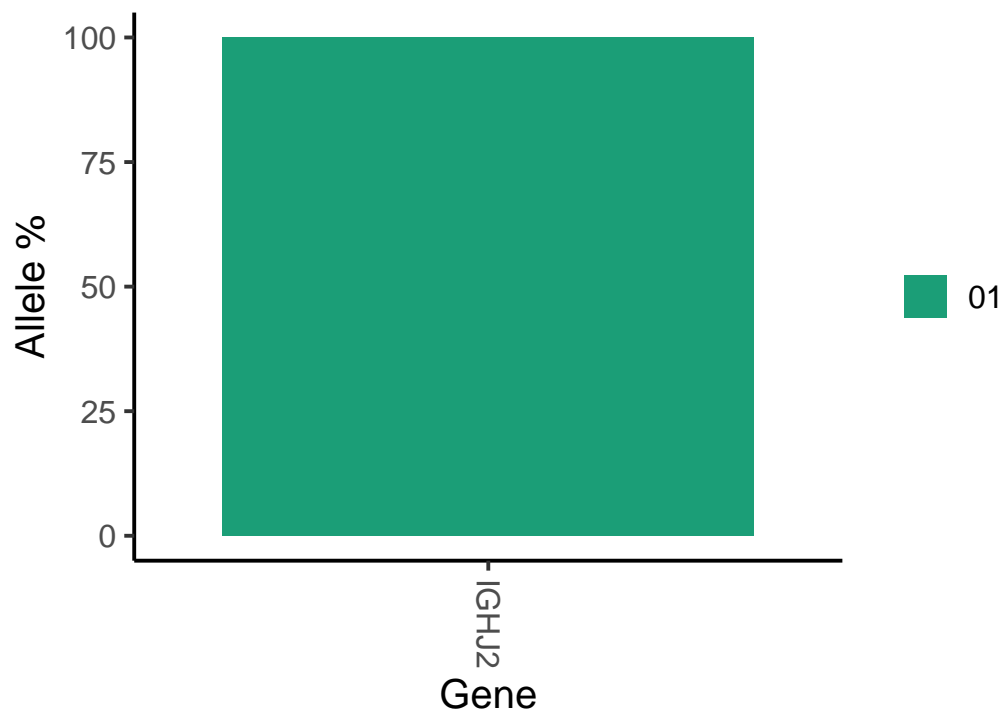


### IGHV7–86\*01\_S0200

38 sequences assigned  
4 (10.5%) exact matches, in which:  
3 unique CDR3  
1 unique J



# Allele Usage



Warning – no inferred sequences found.