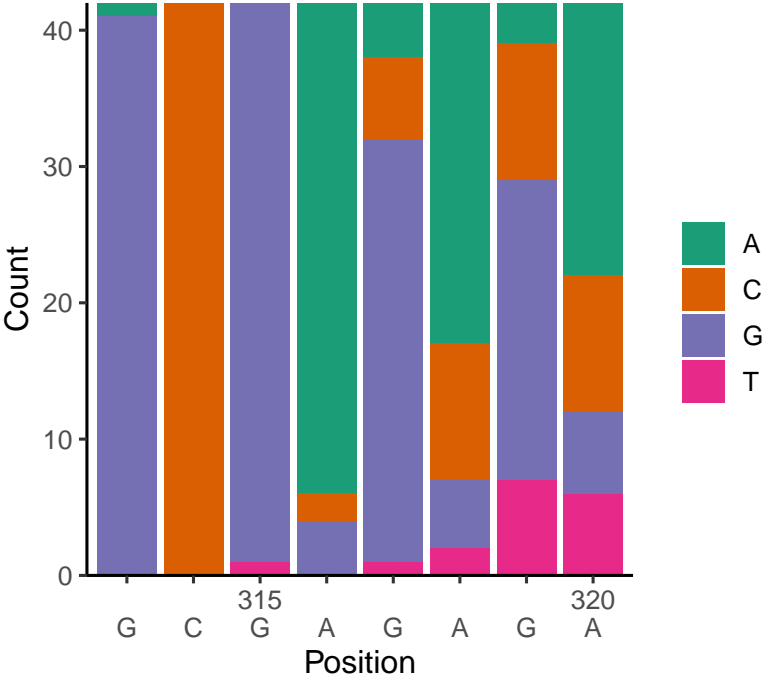


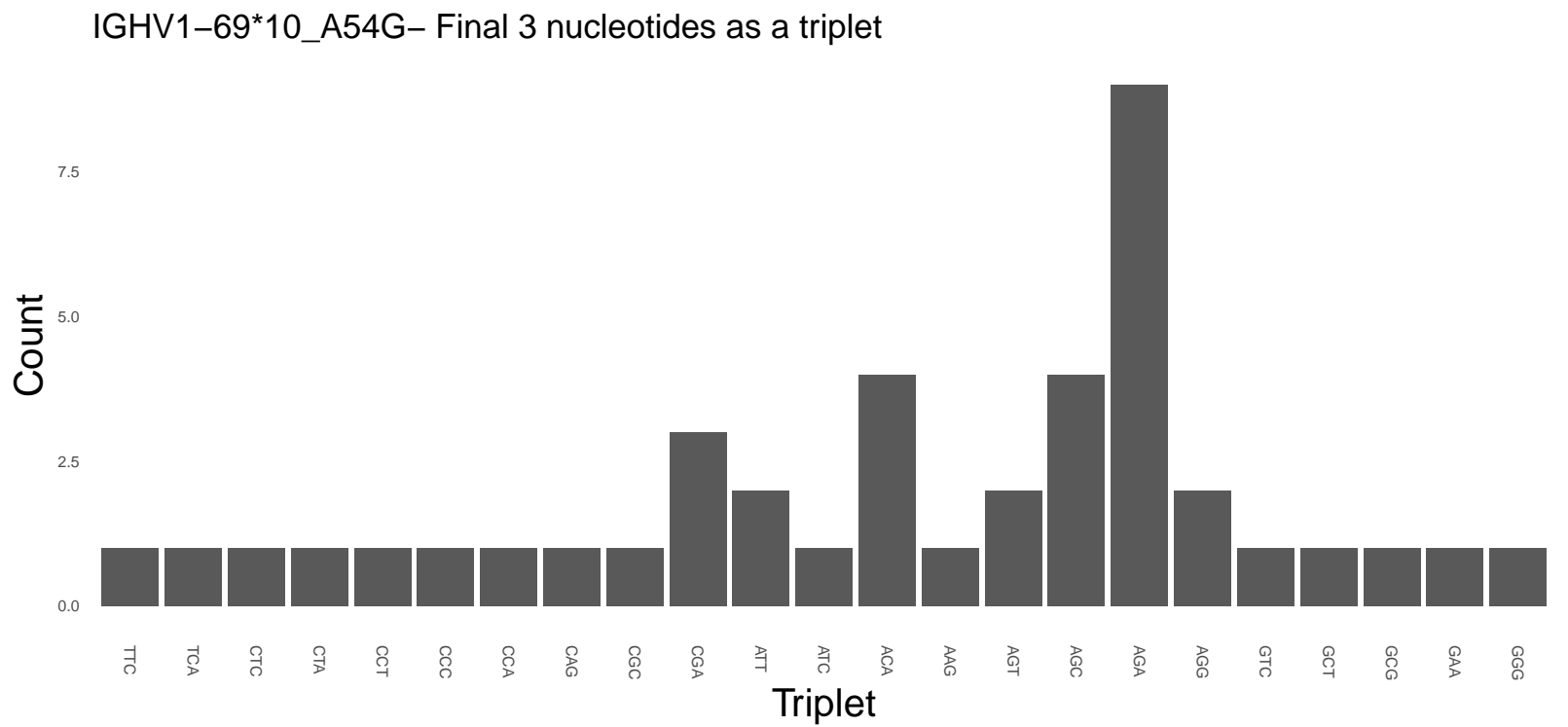
Gene IGHV1-69\*10\_A54G



Gene IGHV1-69\*10\_A54G

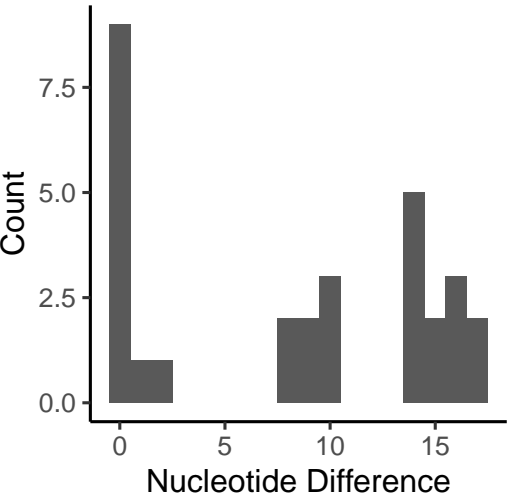


IGHV1-69\*10\_A54G- Final 3 nucleotides as a triplet



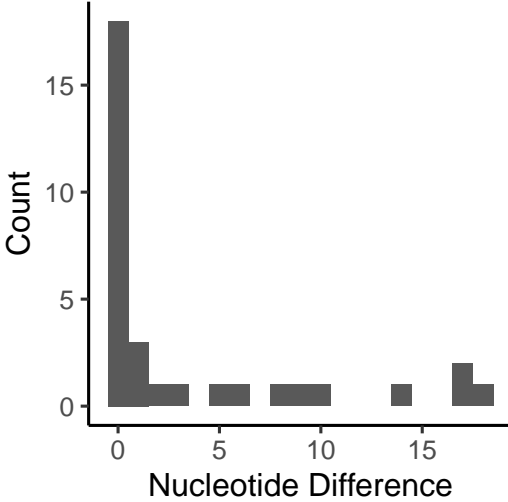
IGHV1-2\*02

58 sequences assigned  
9 (15.5%) exact matches, in which:  
9 unique CDR3  
3 unique J



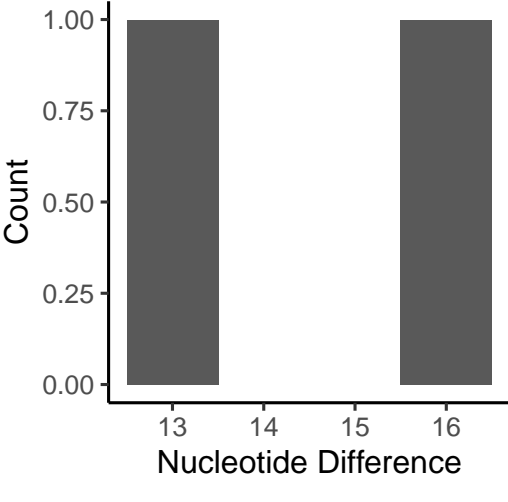
IGHV1-8\*03

40 sequences assigned  
18 (45%) exact matches, in which:  
18 unique CDR3  
5 unique J



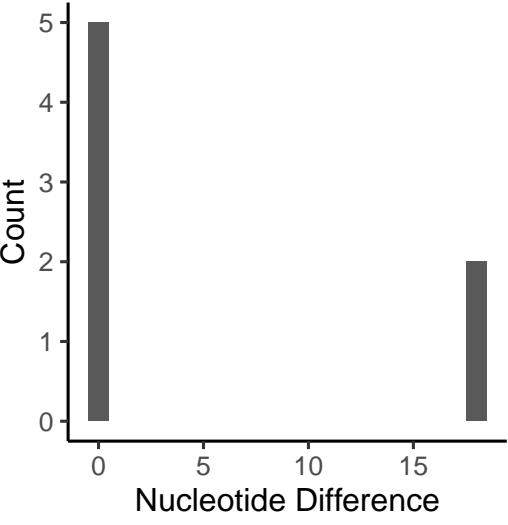
IGHV1-45\*02

2 sequences assigned  
No exact matches.



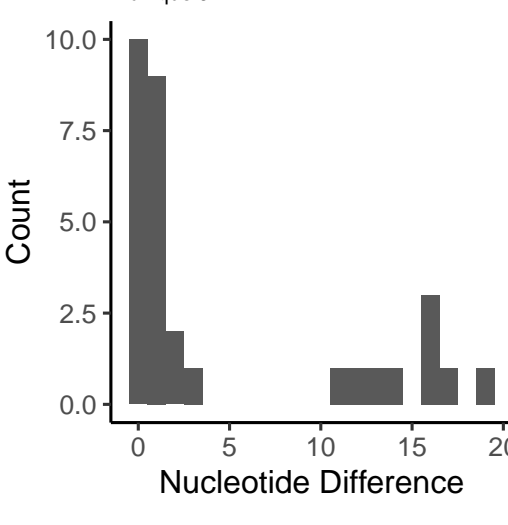
IGHV1-2\*04

10 sequences assigned  
5 (50%) exact matches, in which:  
5 unique CDR3  
3 unique J



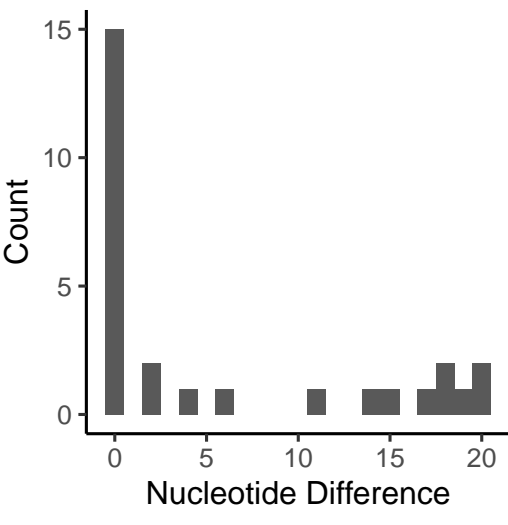
IGHV1-18\*01

51 sequences assigned  
10 (19.6%) exact matches, in which:  
10 unique CDR3  
4 unique J



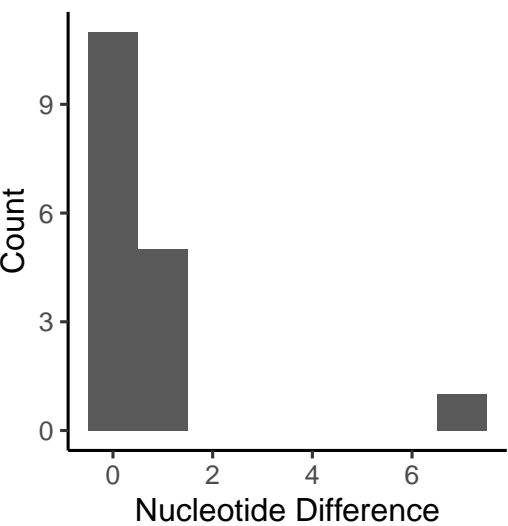
IGHV1-46\*01

41 sequences assigned  
15 (36.6%) exact matches, in which:  
15 unique CDR3  
5 unique J



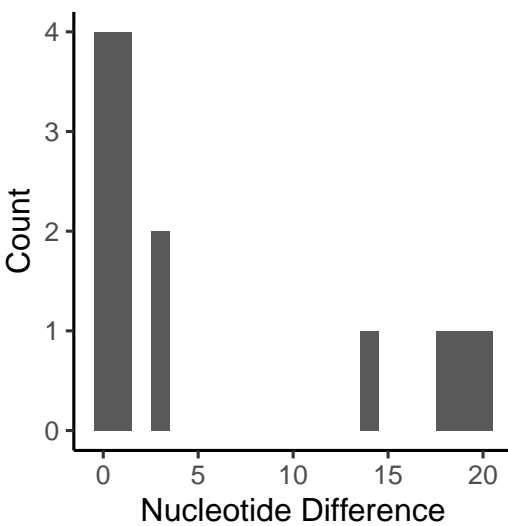
IGHV1-3\*01

25 sequences assigned  
11 (44%) exact matches, in which:  
10 unique CDR3  
3 unique J



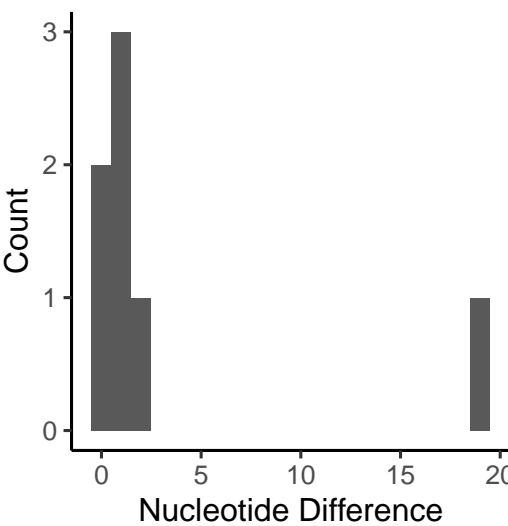
IGHV1-24\*01

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



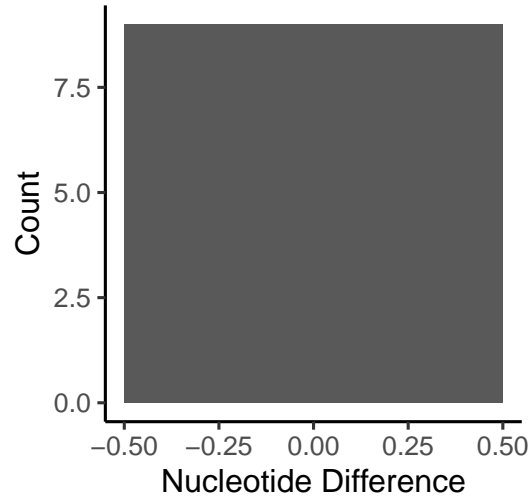
IGHV1-69-2\*01

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



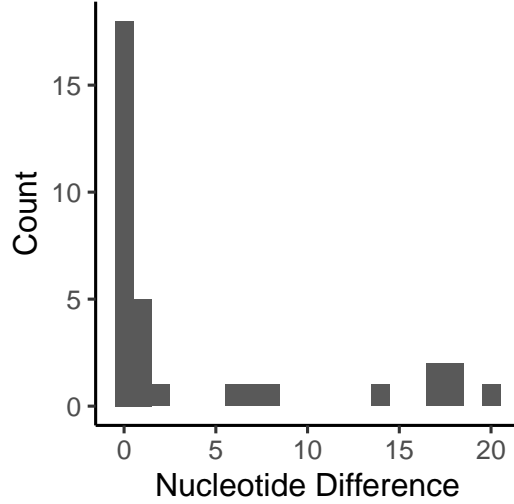
### IGHV1-69\*02

13 sequences assigned  
9 (69.2%) exact matches, in which:  
9 unique CDR3  
4 unique J



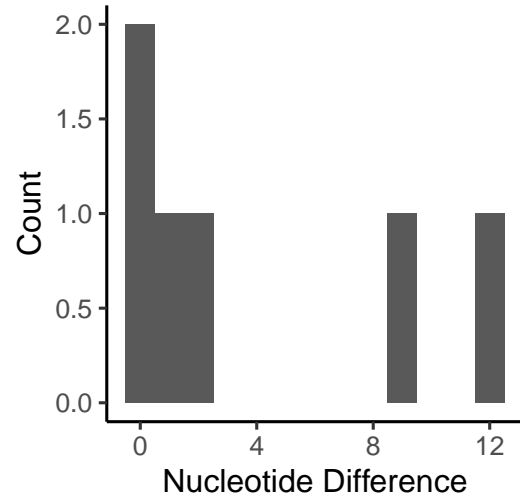
### IGHV1-69\*10\_A54G

42 sequences assigned  
18 (42.9%) exact matches, in which:  
17 unique CDR3  
4 unique J



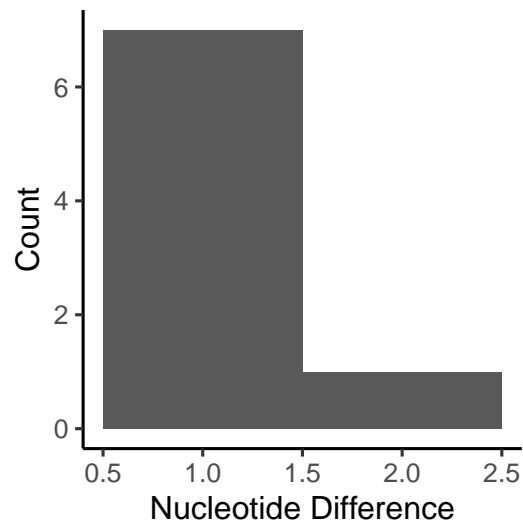
### IGHV2-70\*15

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



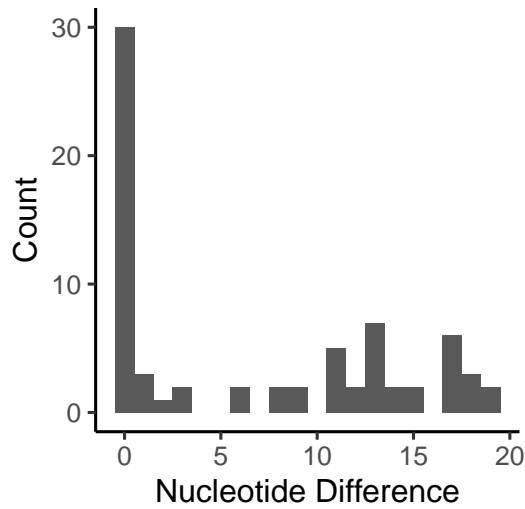
### IGHV1-69\*08

9 sequences assigned  
No exact matches.



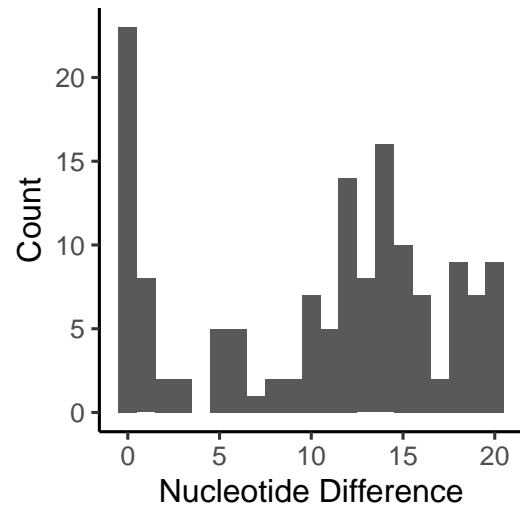
### IGHV2-5\*01

78 sequences assigned  
30 (38.5%) exact matches, in which:  
29 unique CDR3  
4 unique J



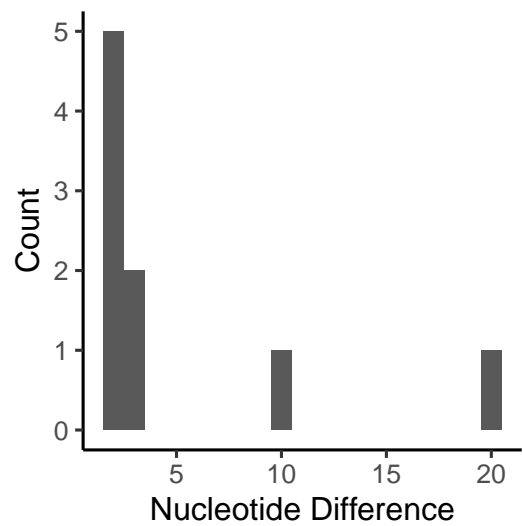
### IGHV3-7\*01

187 sequences assigned  
23 (12.3%) exact matches, in which:  
23 unique CDR3  
6 unique J



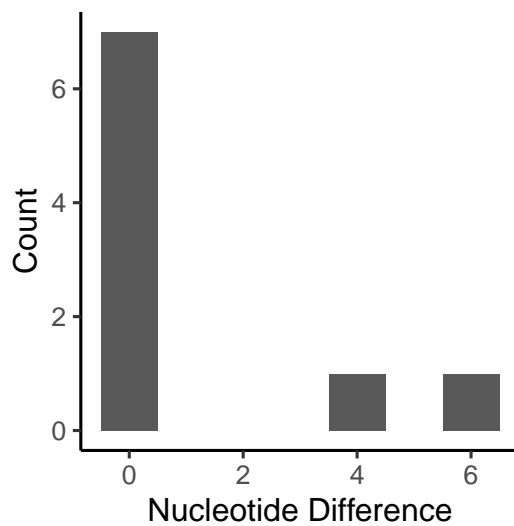
### IGHV1-69\*11

19 sequences assigned  
No exact matches.



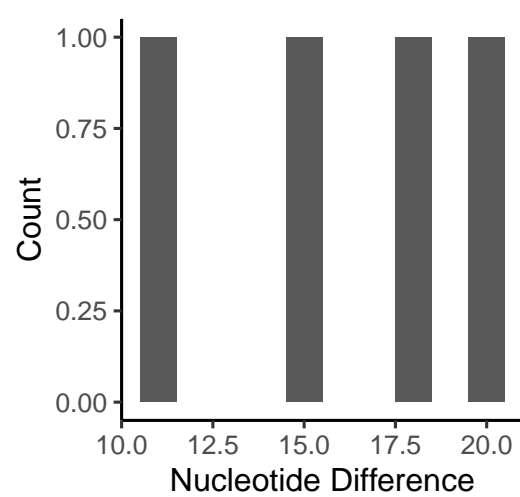
### IGHV2-26\*01

12 sequences assigned  
7 (58.3%) exact matches, in which:  
7 unique CDR3  
4 unique J



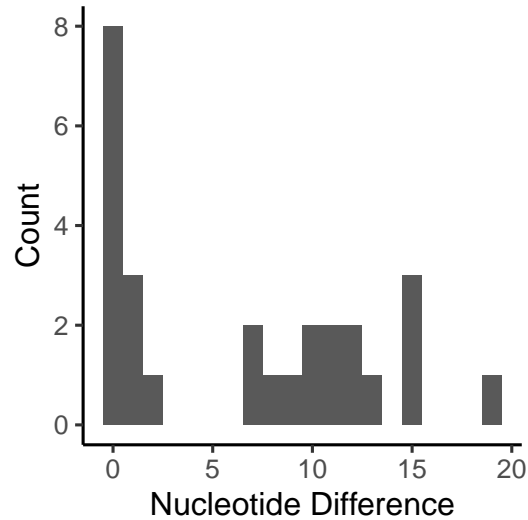
### IGHV3-9\*01

8 sequences assigned  
No exact matches.



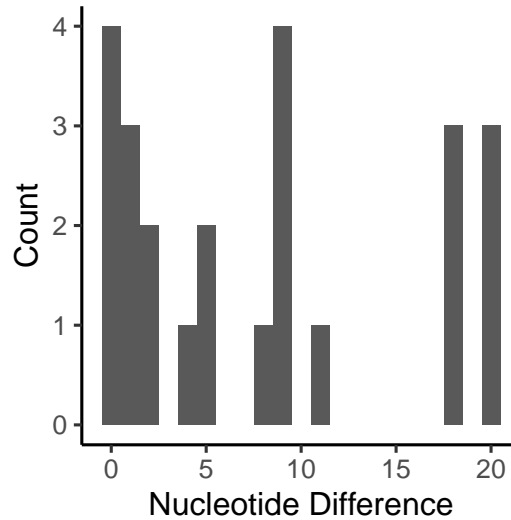
### IGHV3-9\*03

29 sequences assigned  
8 (27.6%) exact matches, in which:  
8 unique CDR3  
2 unique J



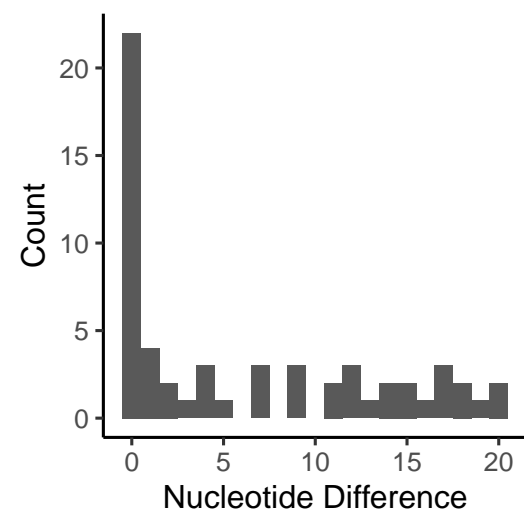
### IGHV3-20\*04

31 sequences assigned  
4 (12.9%) exact matches, in which:  
4 unique CDR3  
3 unique J



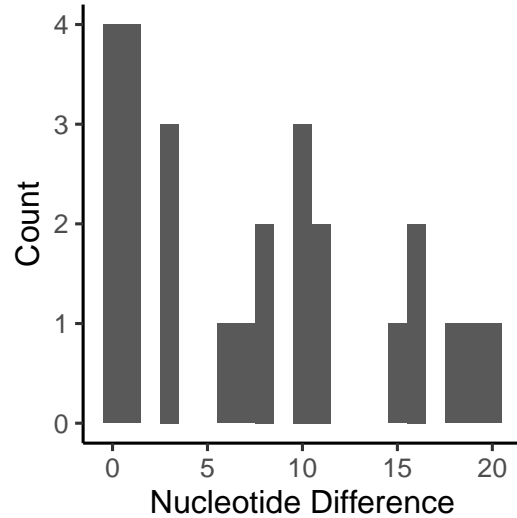
### IGHV3-30\*01

68 sequences assigned  
22 (32.4%) exact matches, in which:  
22 unique CDR3  
4 unique J



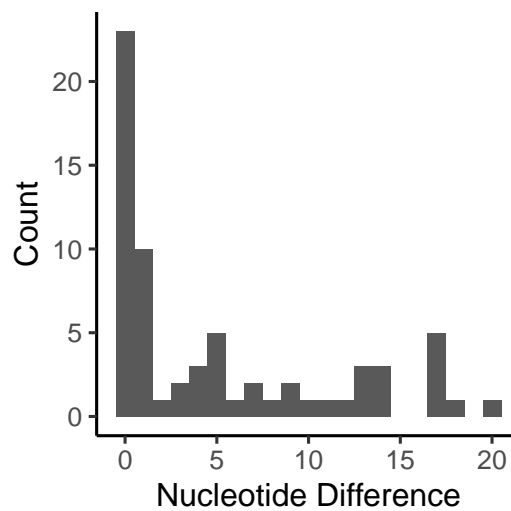
### IGHV3-11\*04

42 sequences assigned  
4 (9.5%) exact matches, in which:  
4 unique CDR3  
2 unique J



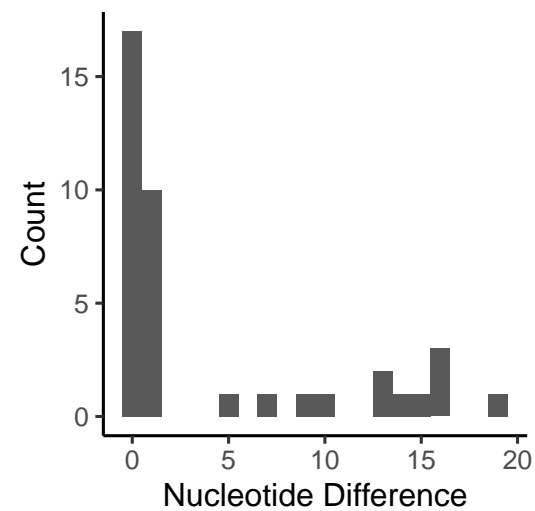
### IGHV3-21\*01

82 sequences assigned  
23 (28%) exact matches, in which:  
23 unique CDR3  
4 unique J



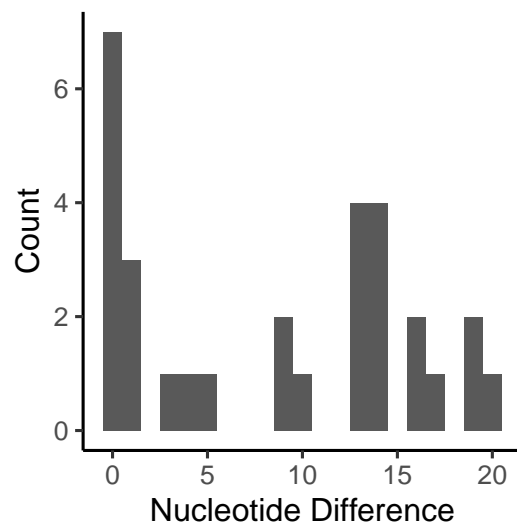
### IGHV3-30-3\*01

56 sequences assigned  
17 (30.4%) exact matches, in which:  
17 unique CDR3  
3 unique J



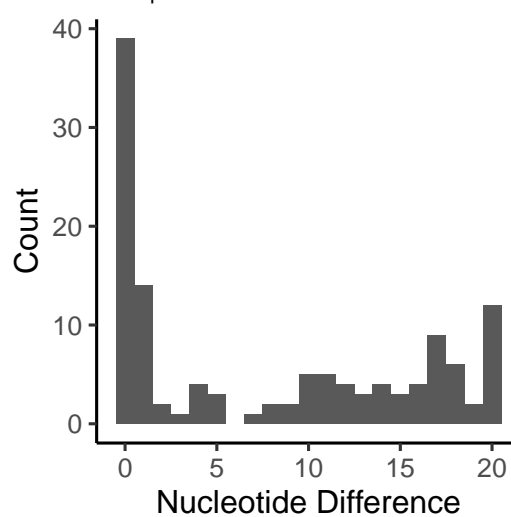
### IGHV3-15\*01

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



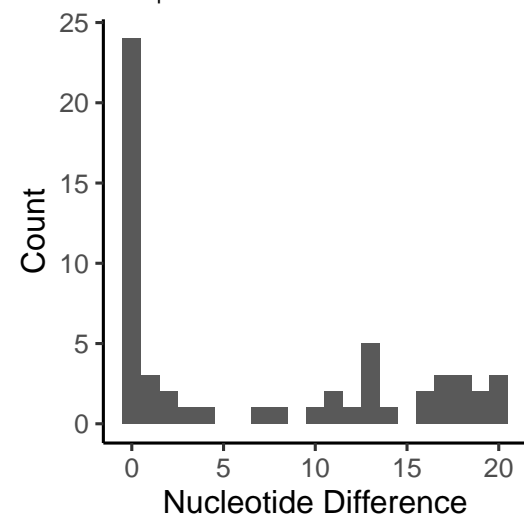
### IGHV3-23\*01

196 sequences assigned  
39 (19.9%) exact matches, in which:  
39 unique CDR3  
5 unique J



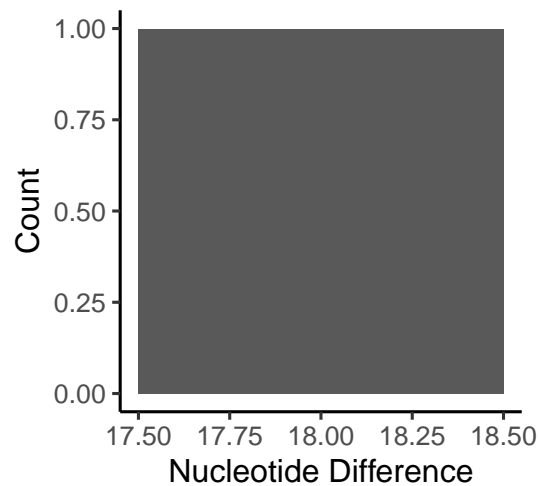
### IGHV3-30\*02

77 sequences assigned  
24 (31.2%) exact matches, in which:  
23 unique CDR3  
4 unique J



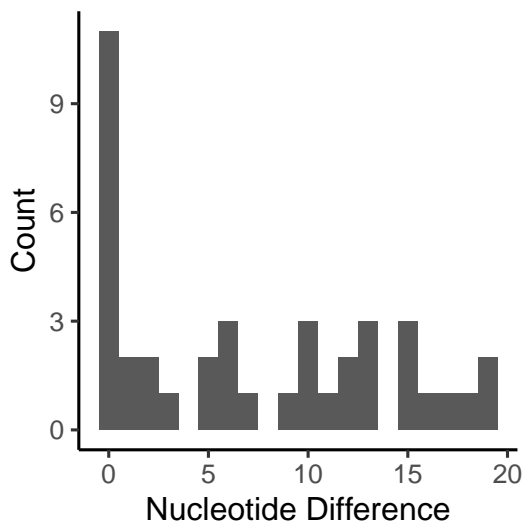
### IGHV3-30\*04

10 sequences assigned  
No exact matches.



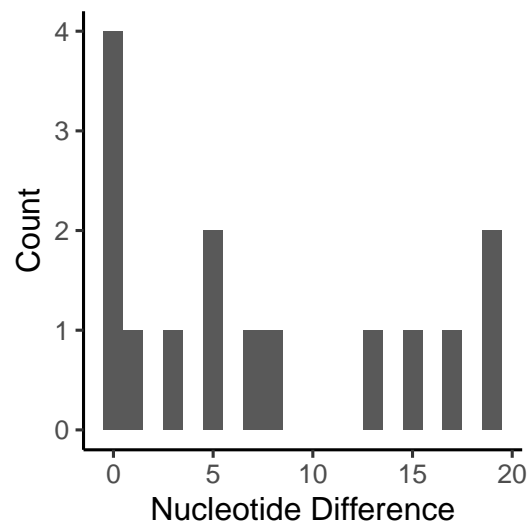
### IGHV3-48\*03

60 sequences assigned  
11 (18.3%) exact matches, in which:  
11 unique CDR3  
3 unique J



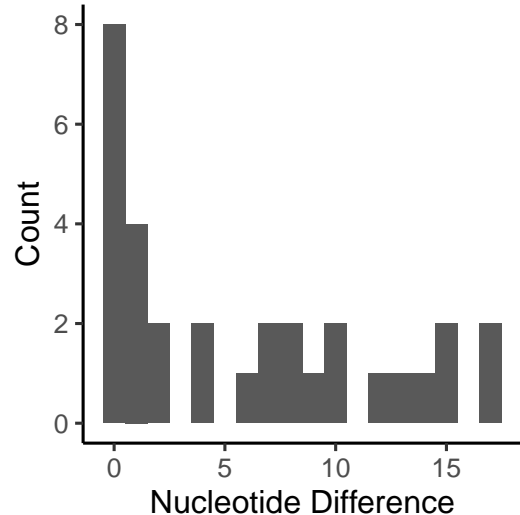
### IGHV3-49\*04

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



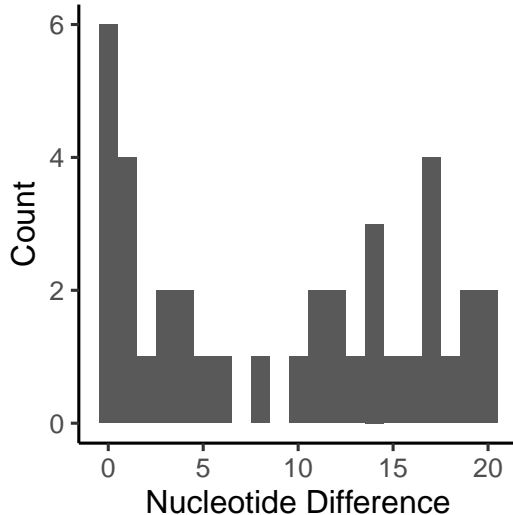
### IGHV3-33\*06

38 sequences assigned  
8 (21.1%) exact matches, in which:  
8 unique CDR3  
4 unique J



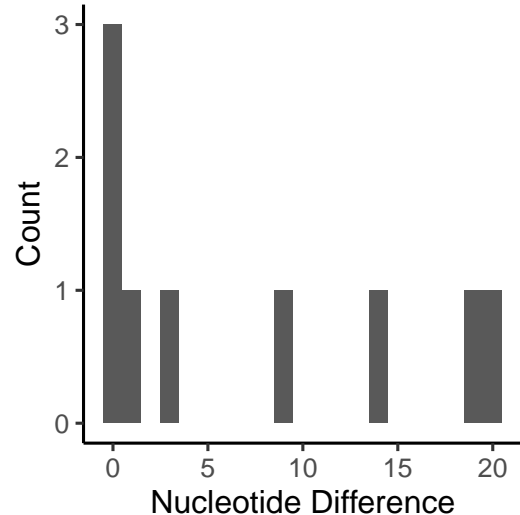
### IGHV3-48\*04

53 sequences assigned  
6 (11.3%) exact matches, in which:  
6 unique CDR3  
4 unique J



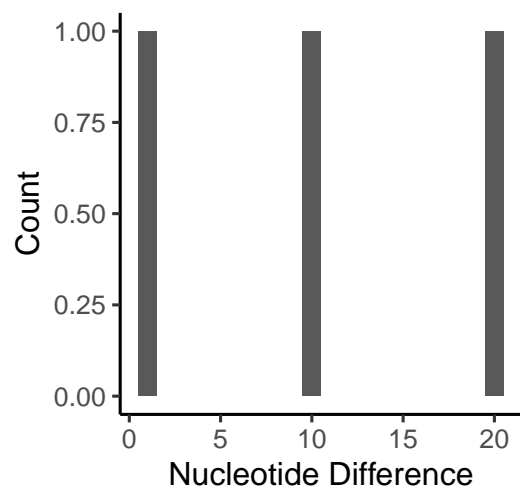
### IGHV3-53\*01

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



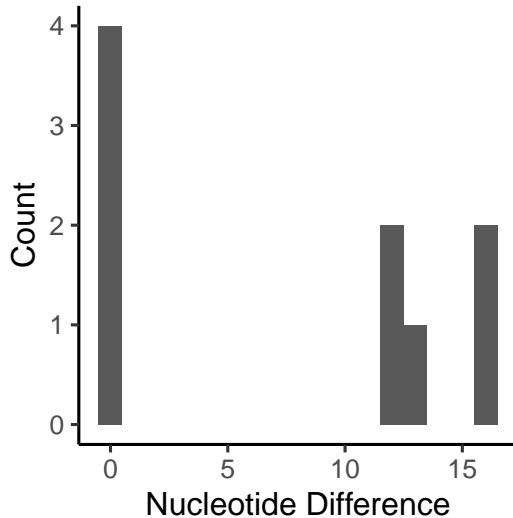
### IGHV3-43\*01

5 sequences assigned  
No exact matches.



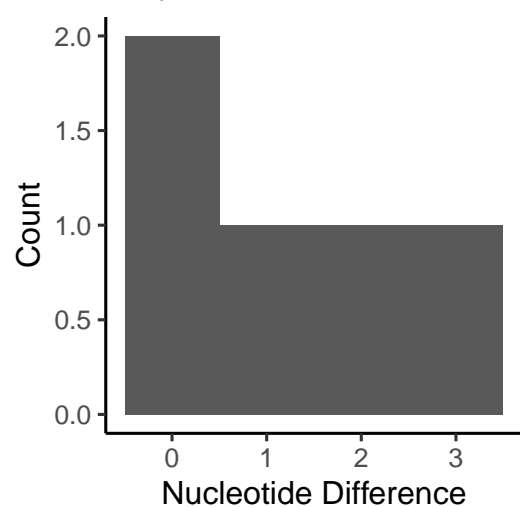
### IGHV3-49\*03

14 sequences assigned  
4 (28.6%) exact matches, in which:  
4 unique CDR3  
3 unique J



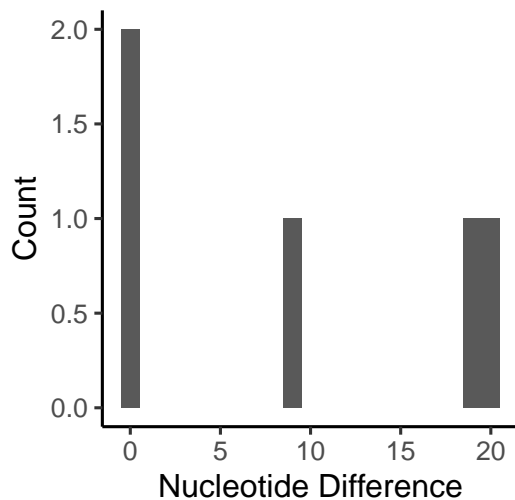
### IGHV3-53\*04

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



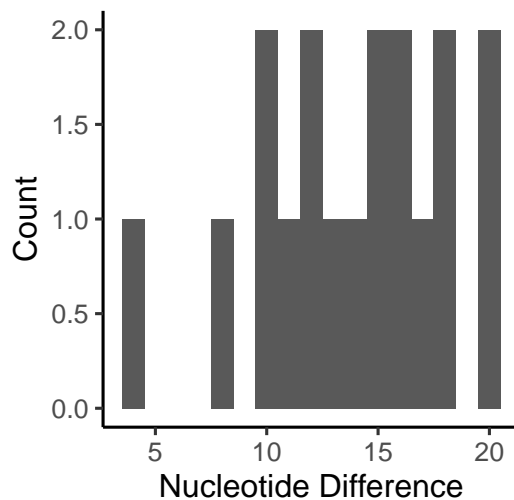
### IGHV3-64\*01

7 sequences assigned  
2 (28.6%) exact matches, in which:  
2 unique CDR3  
1 unique J



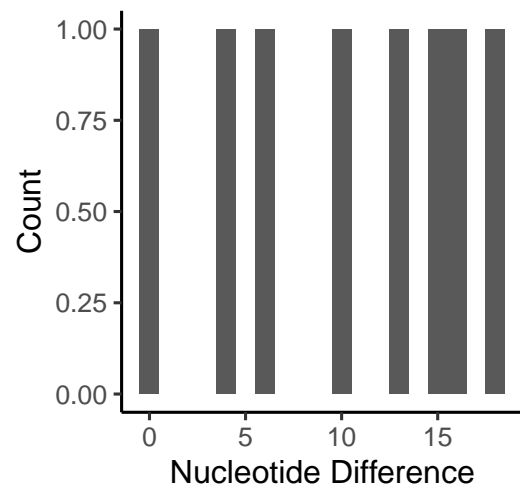
### IGHV3-72\*01

29 sequences assigned  
No exact matches.



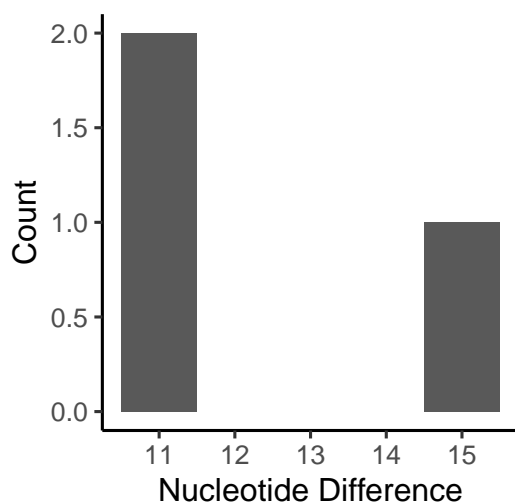
### IGHV3-74\*02

9 sequences assigned  
1 (11.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



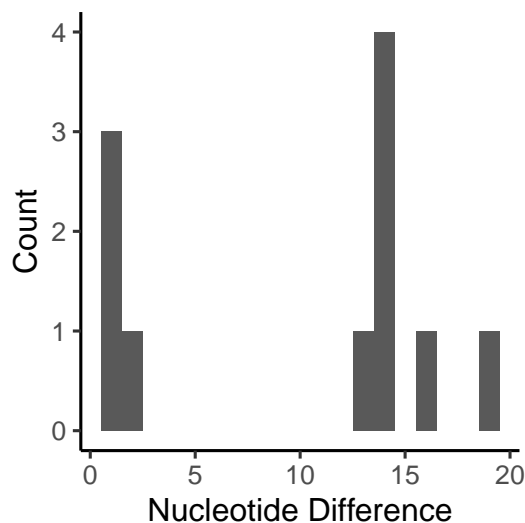
### IGHV3-64\*07

3 sequences assigned  
No exact matches.



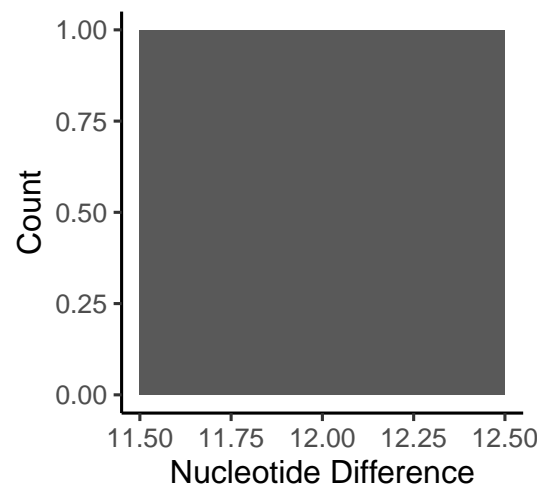
### IGHV3-73\*01

15 sequences assigned  
No exact matches.



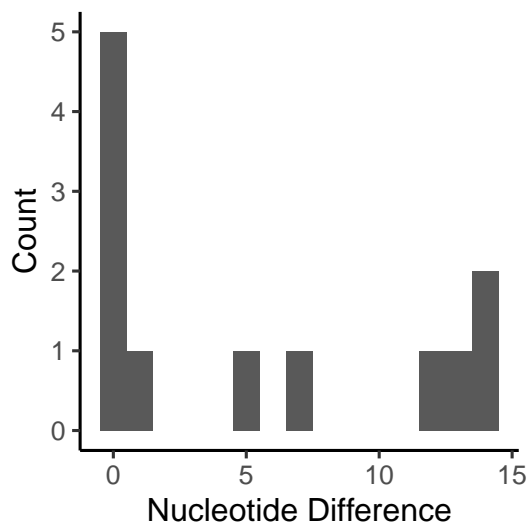
### IGHV3-74\*03

2 sequences assigned  
No exact matches.



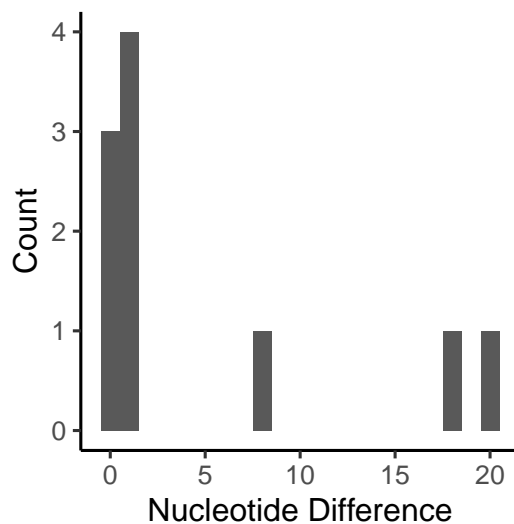
### IGHV3-66\*02

15 sequences assigned  
5 (33.3%) exact matches, in which:  
5 unique CDR3  
3 unique J



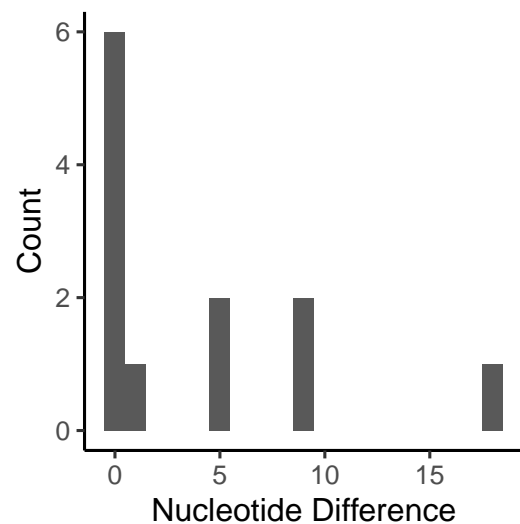
### IGHV3-74\*01

14 sequences assigned  
3 (21.4%) exact matches, in which:  
3 unique CDR3  
3 unique J



### IGHV3-43D\*04

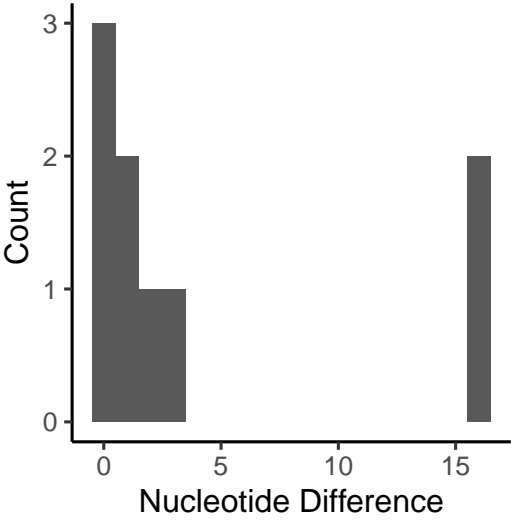
13 sequences assigned  
6 (46.2%) exact matches, in which:  
6 unique CDR3  
1 unique J





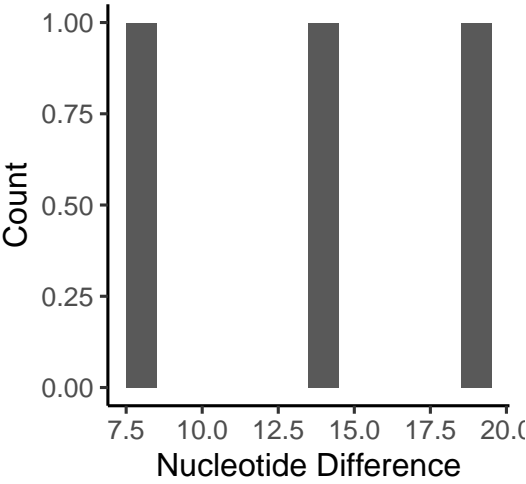
IGHV4-4\*02

17 sequences assigned  
3 (17.6%) exact matches, in which:  
3 unique CDR3  
3 unique J



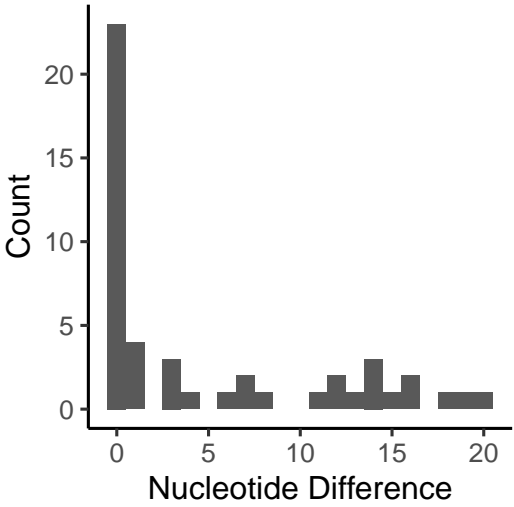
IGHV4-30-4\*01

5 sequences assigned  
No exact matches.



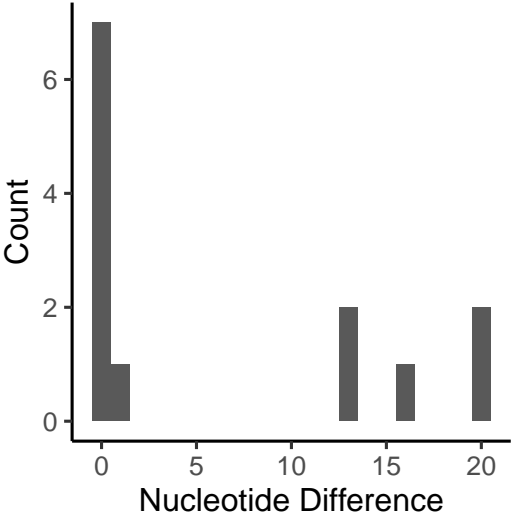
IGHV4-34\*01

65 sequences assigned  
23 (35.4%) exact matches, in which:  
23 unique CDR3  
5 unique J



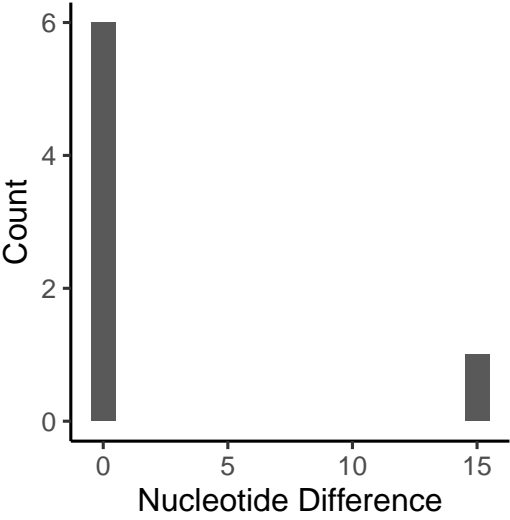
IGHV4-4\*07

23 sequences assigned  
7 (30.4%) exact matches, in which:  
7 unique CDR3  
5 unique J



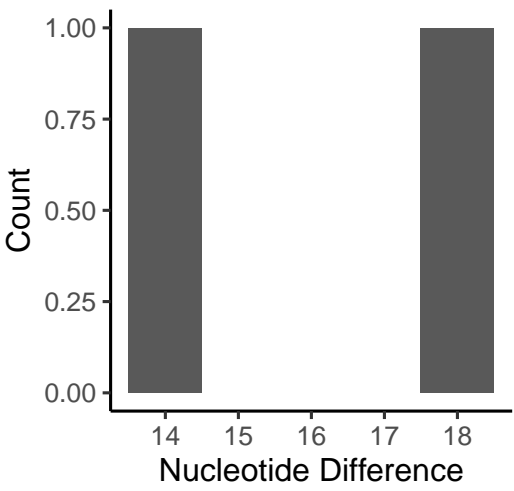
IGHV4-30-4\*08

8 sequences assigned  
6 (75%) exact matches, in which:  
6 unique CDR3  
4 unique J



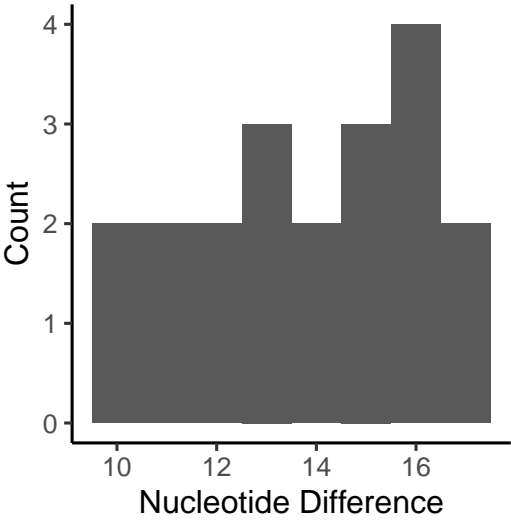
IGHV4-34\*02

12 sequences assigned  
No exact matches.



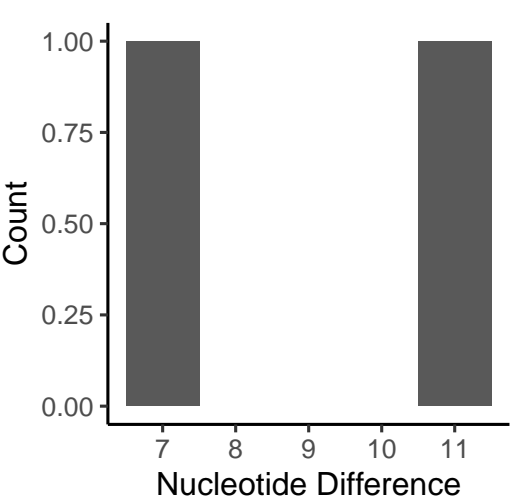
IGHV4-28\*01

21 sequences assigned  
No exact matches.



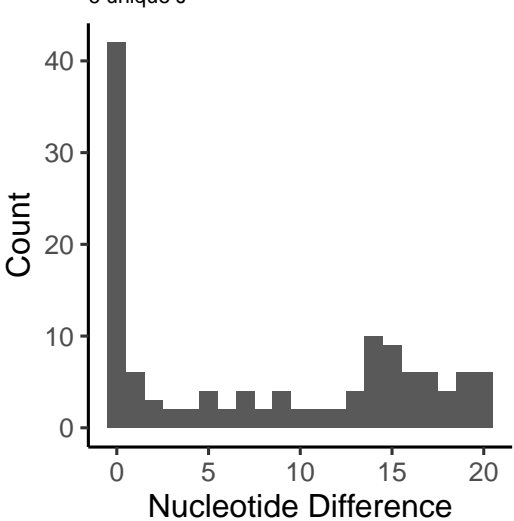
IGHV4-31\*01

3 sequences assigned  
No exact matches.



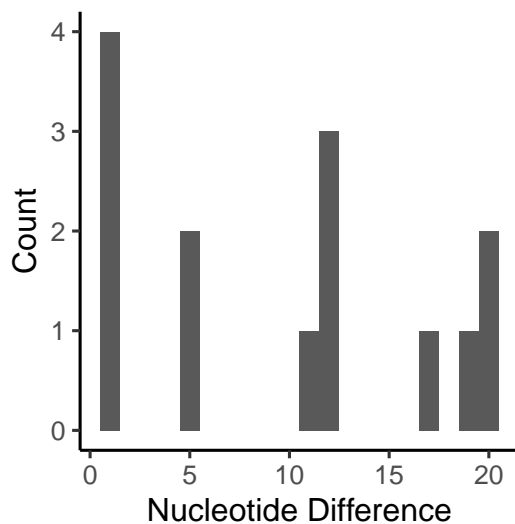
IGHV4-38-2\*01

169 sequences assigned  
42 (24.9%) exact matches, in which:  
42 unique CDR3  
6 unique J



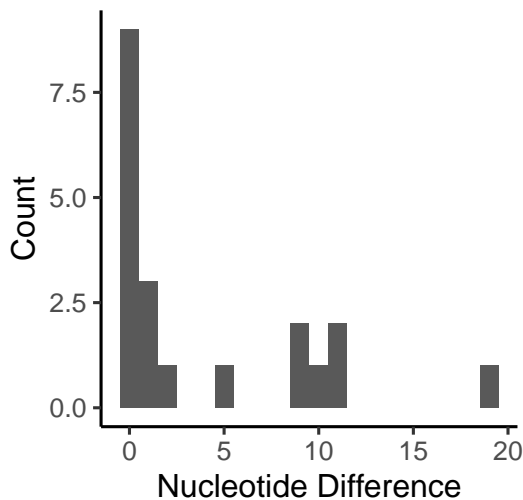
### IGHV4-38-2\*02

36 sequences assigned  
No exact matches.



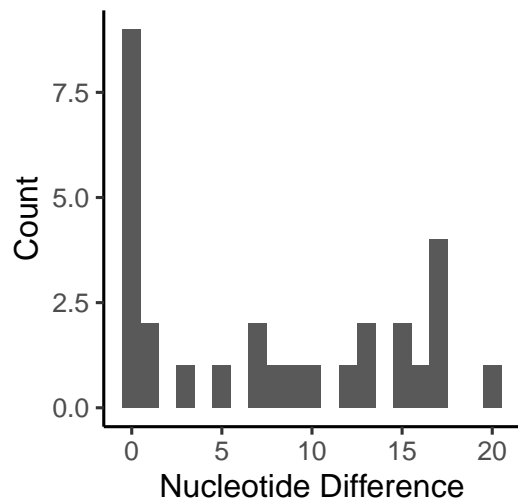
### IGHV4-59\*01

28 sequences assigned  
9 (32.1%) exact matches, in which:  
9 unique CDR3  
4 unique J



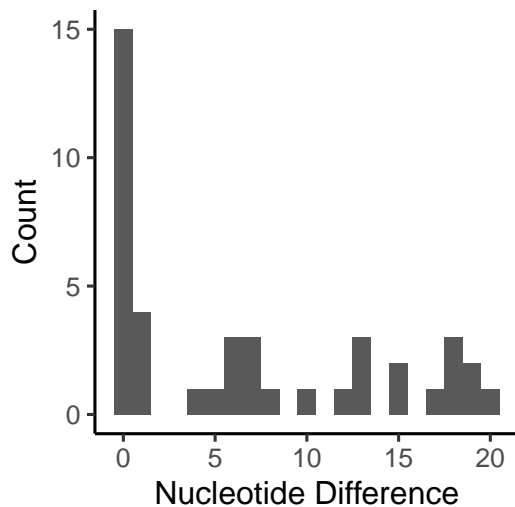
### IGHV4-61\*02

44 sequences assigned  
9 (20.5%) exact matches, in which:  
9 unique CDR3  
3 unique J



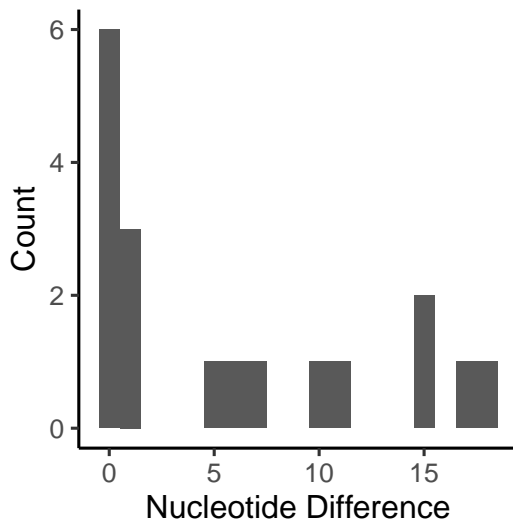
### IGHV4-39\*01

70 sequences assigned  
15 (21.4%) exact matches, in which:  
14 unique CDR3  
5 unique J



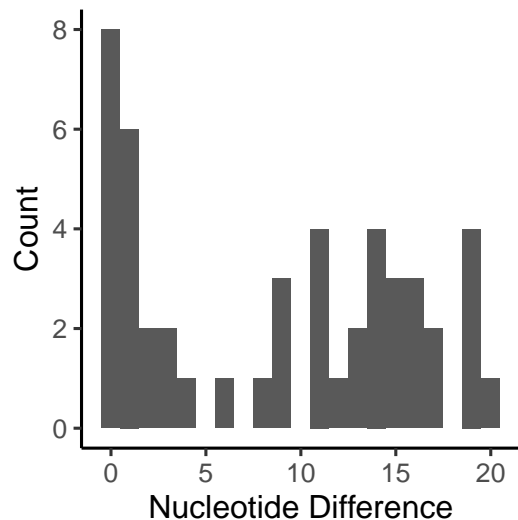
### IGHV4-59\*08

27 sequences assigned  
6 (22.2%) exact matches, in which:  
6 unique CDR3  
3 unique J



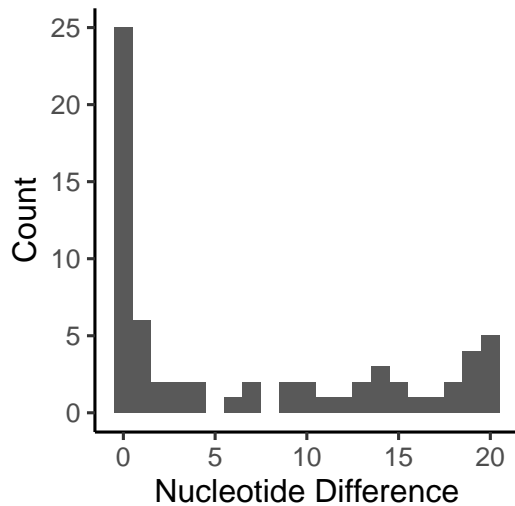
### IGHV5-51\*01

60 sequences assigned  
8 (13.3%) exact matches, in which:  
8 unique CDR3  
2 unique J



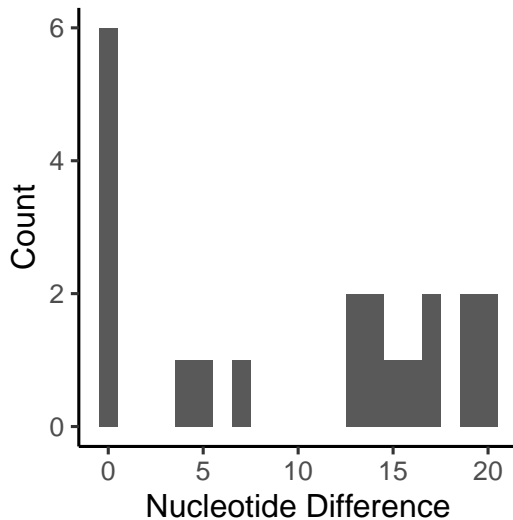
### IGHV4-39\*07

103 sequences assigned  
25 (24.3%) exact matches, in which:  
25 unique CDR3  
5 unique J



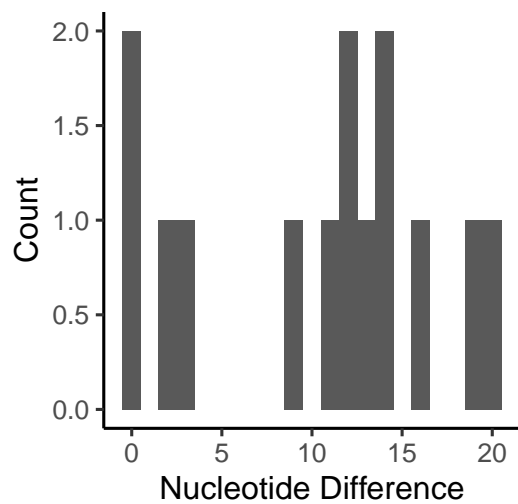
### IGHV4-59\*11

34 sequences assigned  
6 (17.6%) exact matches, in which:  
6 unique CDR3  
4 unique J



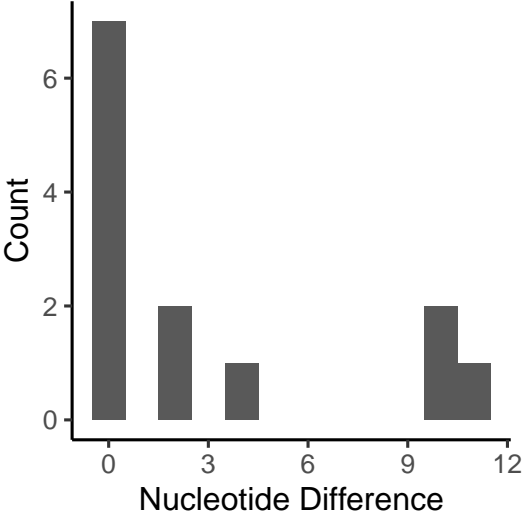
### IGHV5-51\*03

17 sequences assigned  
2 (11.8%) exact matches, in which:  
2 unique CDR3  
2 unique J



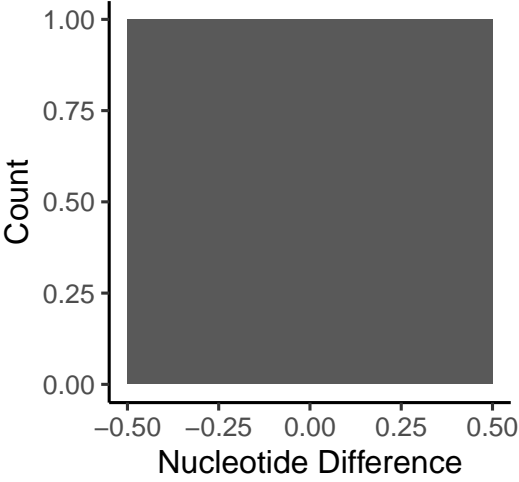
# IGHV6-1\*01

17 sequences assigned  
7 (41.2%) exact matches, in which:  
7 unique CDR3  
3 unique J

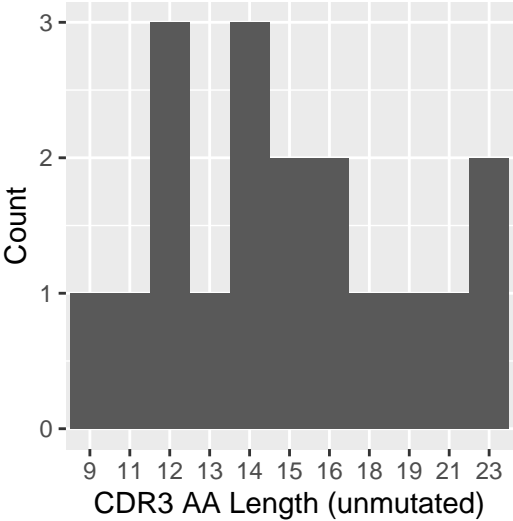


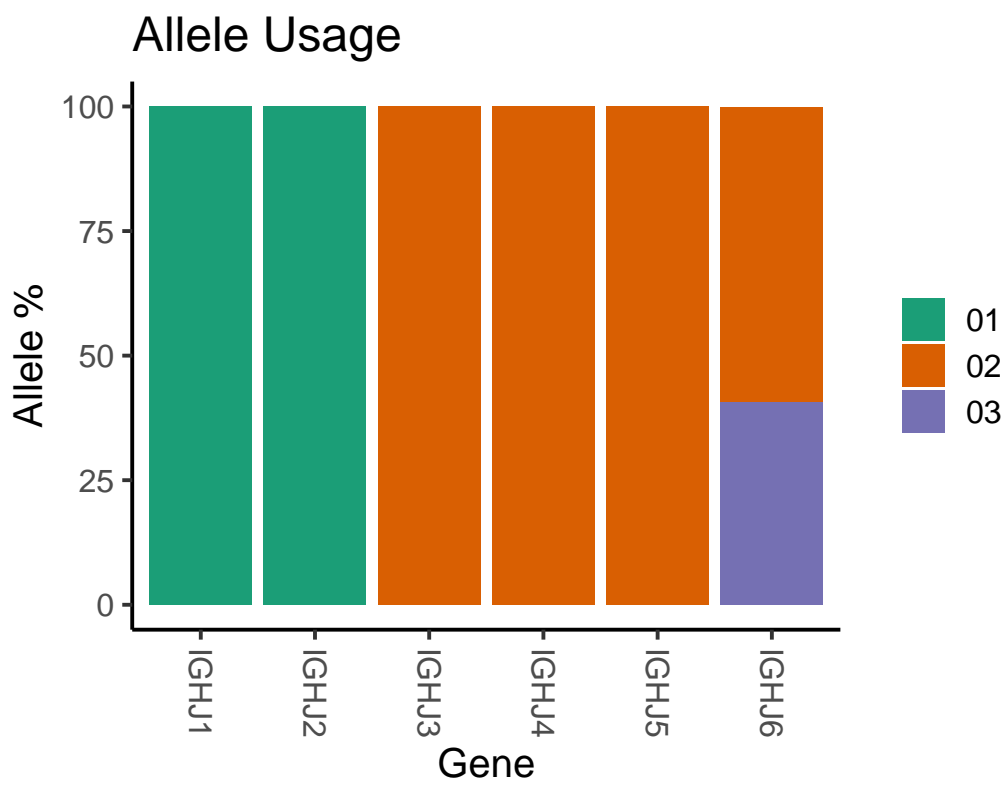
# IGHV7-4-1\*01

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



IGHV1-69\*10\_A54G





Sequence Count by IGHJ6 allele usage

