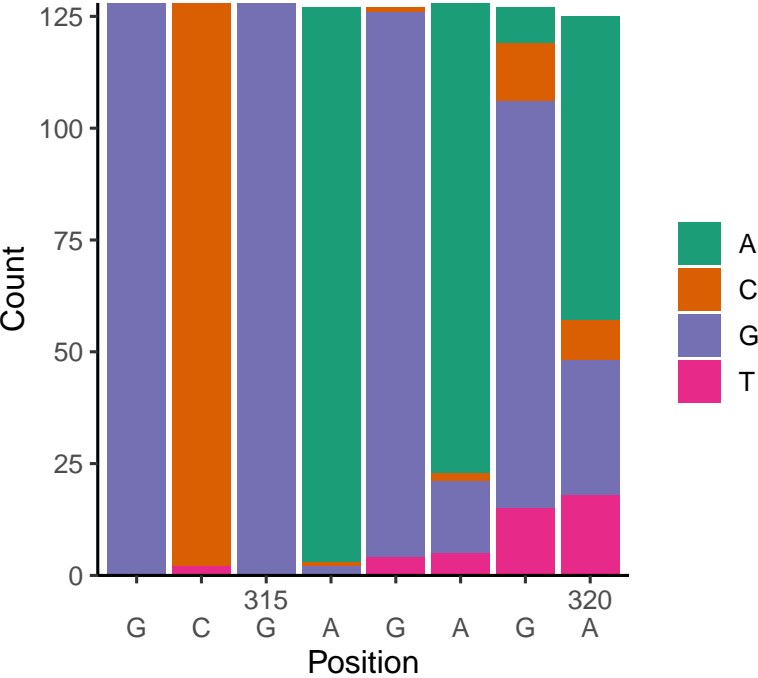
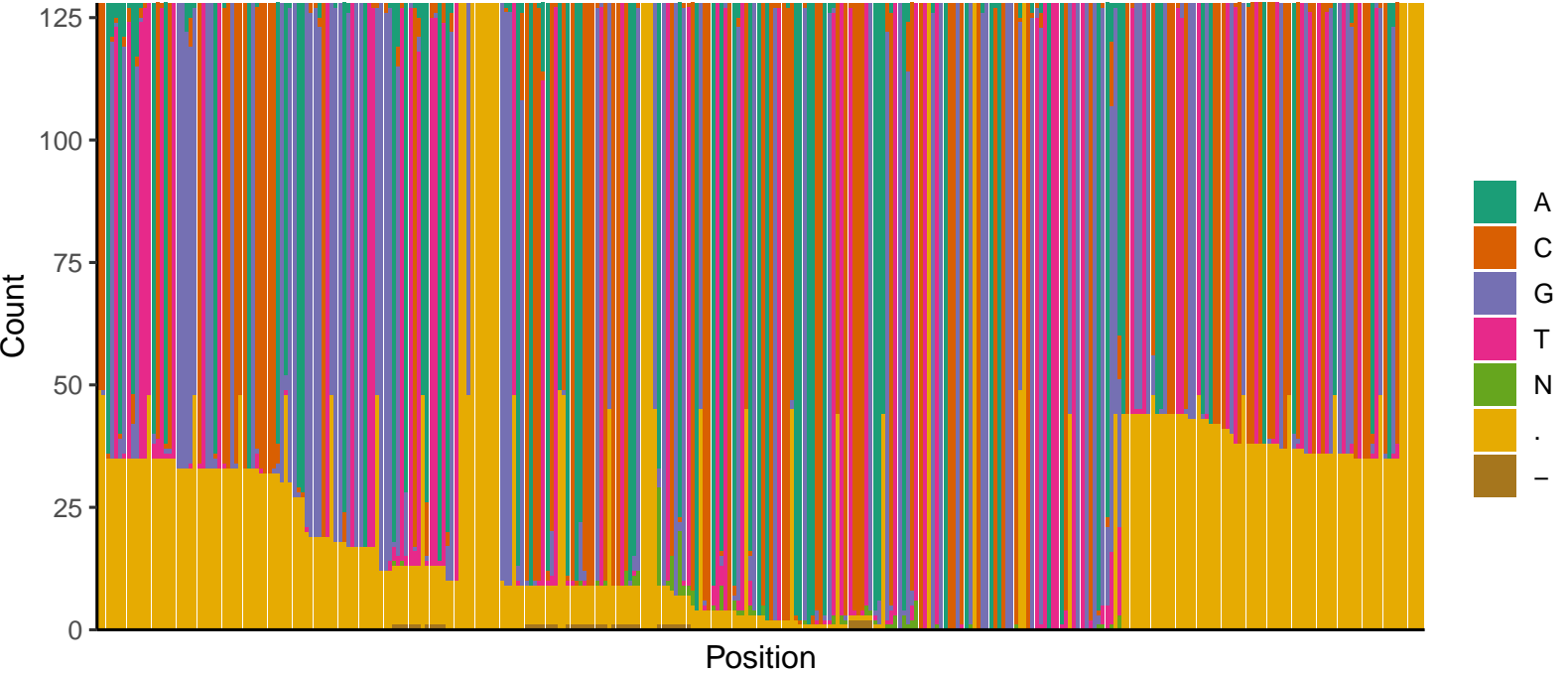


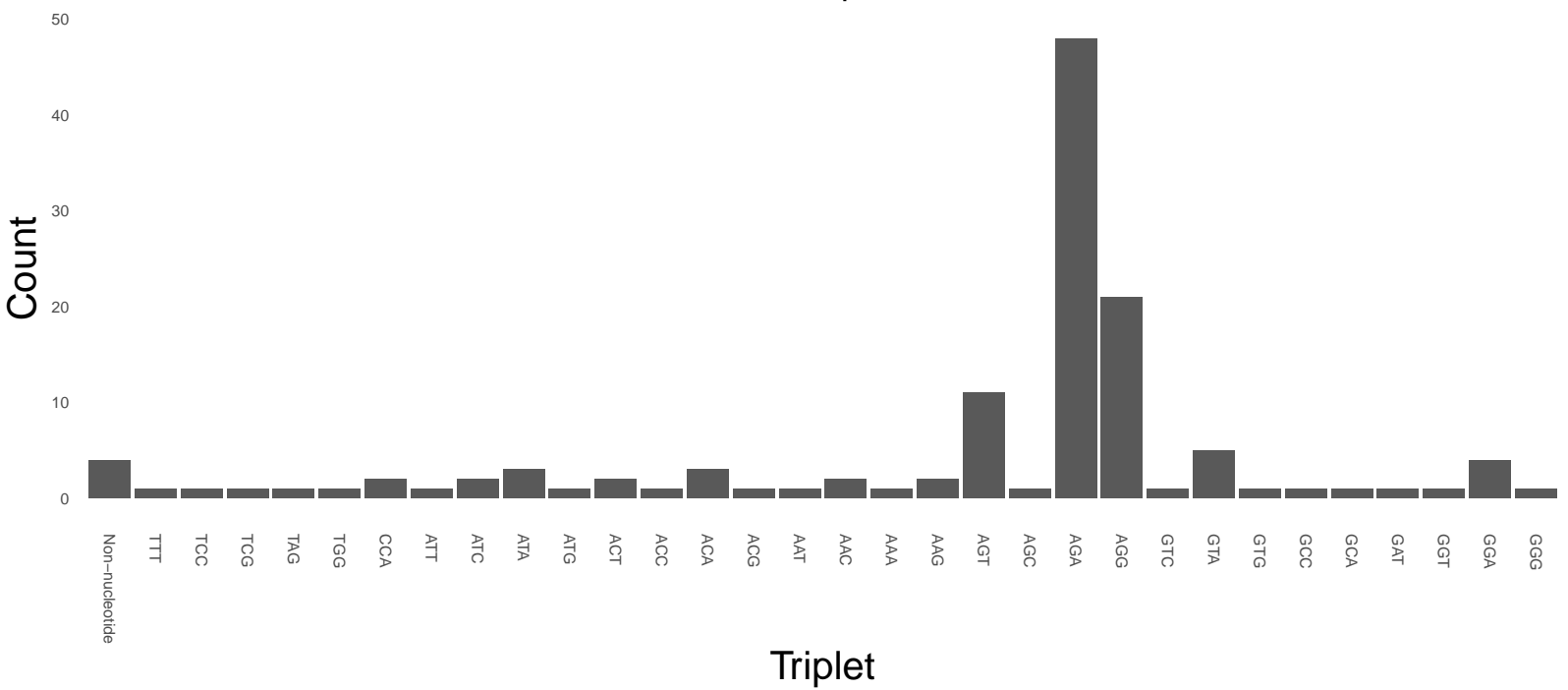
Gene IGHV4-39\*07\_C288A



Gene IGHV4-39\*07\_C288A

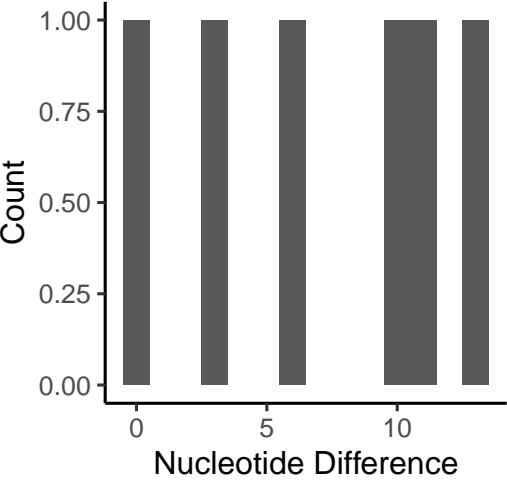


IGHV4-39\*07\_C288A- Final 3 nucleotides as a triplet



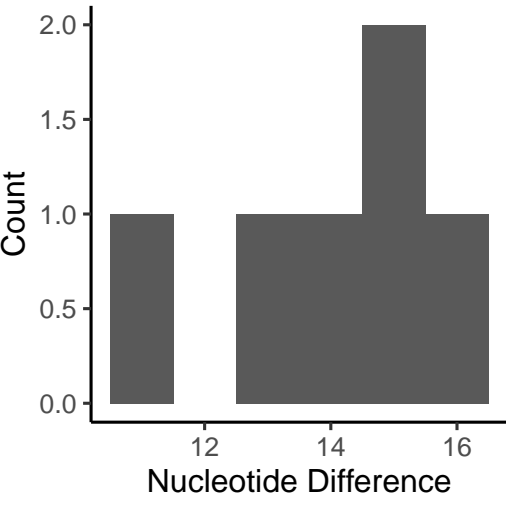
IGHV1-2\*02

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



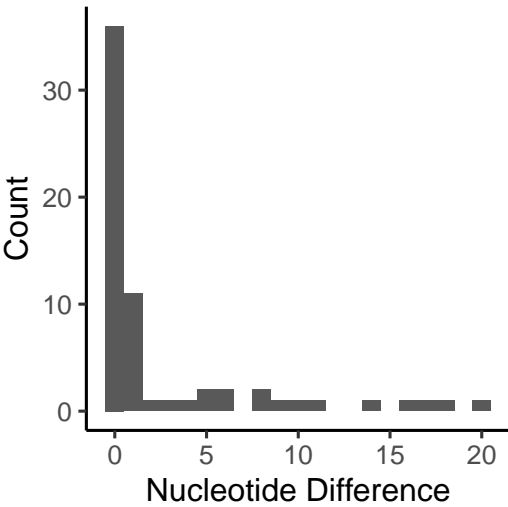
IGHV1-8\*02

6 sequences assigned  
No exact matches.



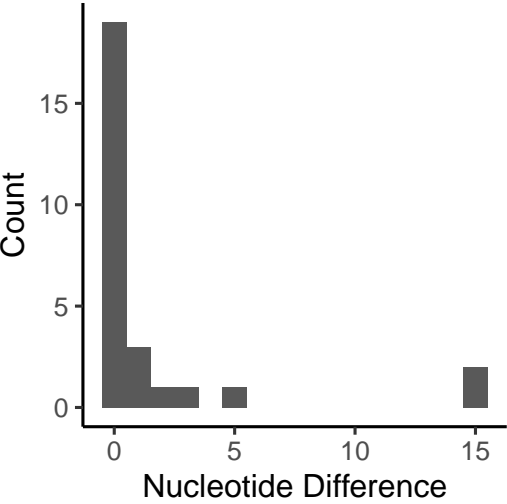
IGHV1-24\*01

64 sequences assigned  
36 (56.2%) exact matches, in which:  
29 unique CDR3  
4 unique J



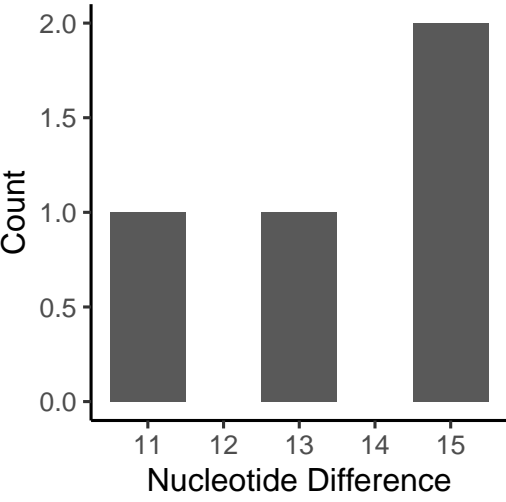
IGHV1-2\*04

27 sequences assigned  
19 (70.4%) exact matches, in which:  
19 unique CDR3  
5 unique J



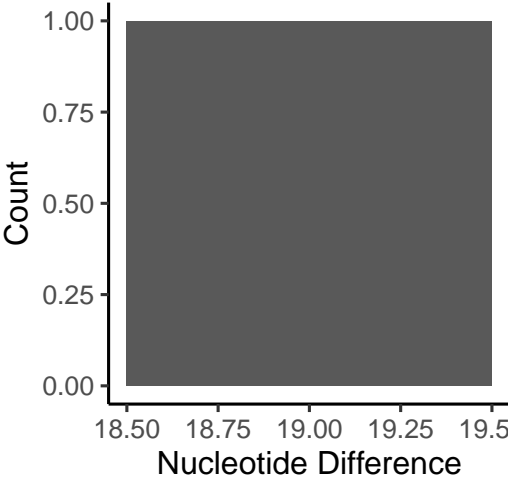
IGHV1-8\*03

4 sequences assigned  
No exact matches.



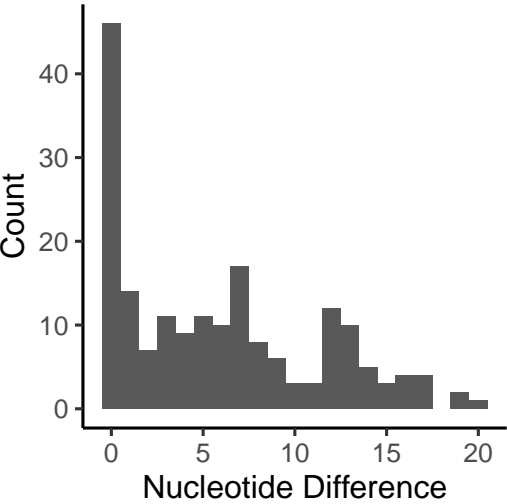
IGHV1-45\*02

1 sequences assigned  
No exact matches.



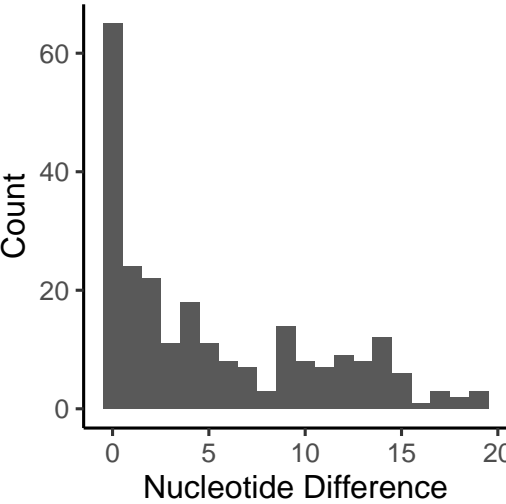
IGHV1-3\*01

196 sequences assigned  
46 (23.5%) exact matches, in which:  
44 unique CDR3  
4 unique J



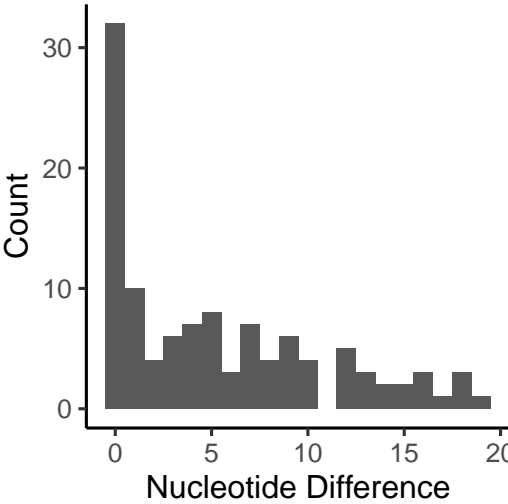
IGHV1-18\*01

258 sequences assigned  
65 (25.2%) exact matches, in which:  
64 unique CDR3  
5 unique J



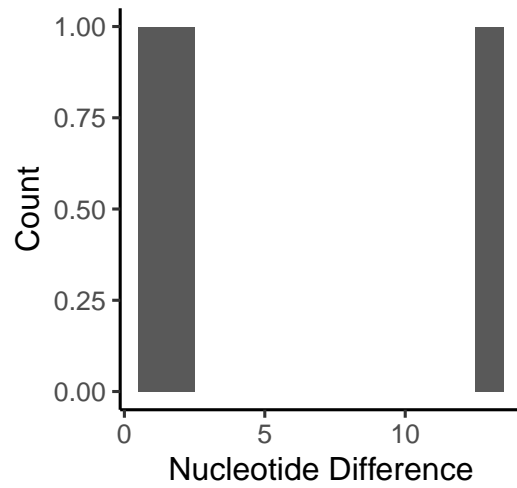
IGHV1-46\*01

117 sequences assigned  
32 (27.4%) exact matches, in which:  
32 unique CDR3  
5 unique J



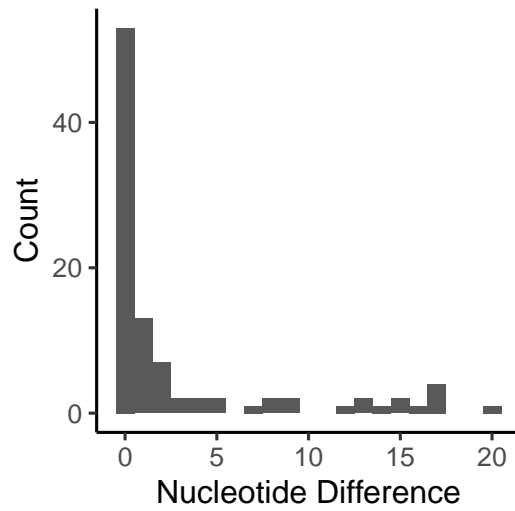
### IGHV1-58\*01

3 sequences assigned  
No exact matches.



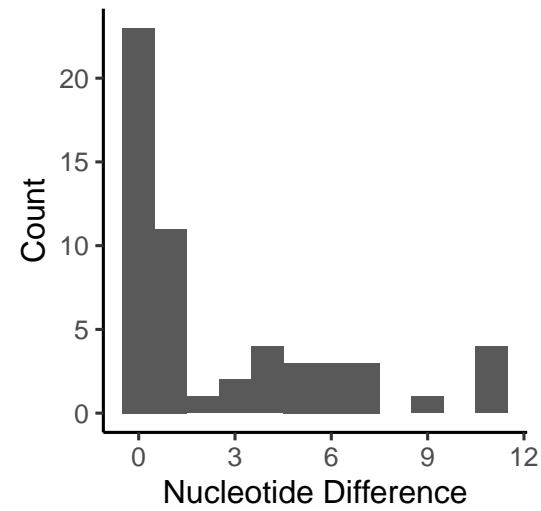
### IGHV1-69\*04

103 sequences assigned  
53 (51.5%) exact matches, in which:  
51 unique CDR3  
4 unique J



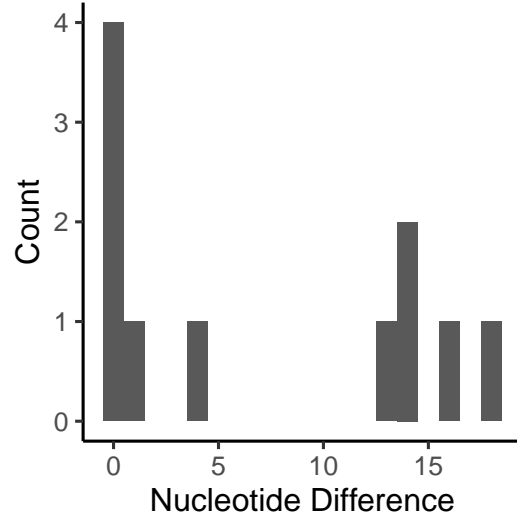
### IGHV2-5\*02

56 sequences assigned  
23 (41.1%) exact matches, in which:  
22 unique CDR3  
4 unique J



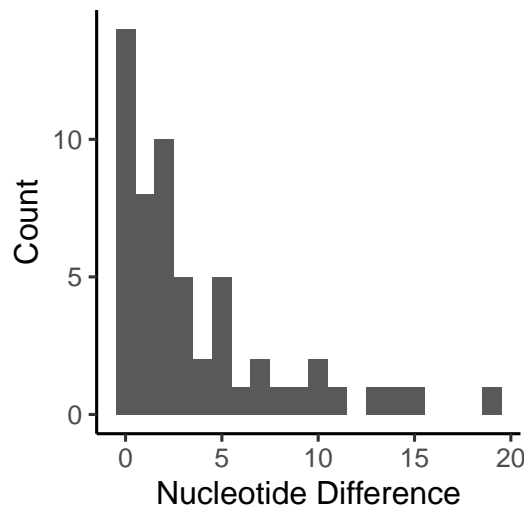
### IGHV1-58\*02

11 sequences assigned  
4 (36.4%) exact matches, in which:  
4 unique CDR3  
3 unique J



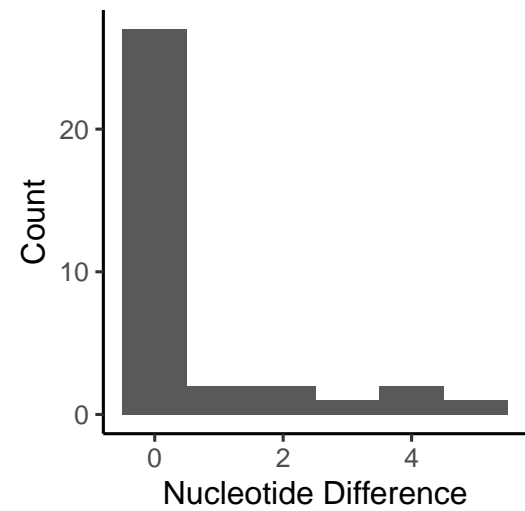
### IGHV1-69\*06

61 sequences assigned  
14 (23%) exact matches, in which:  
14 unique CDR3  
3 unique J



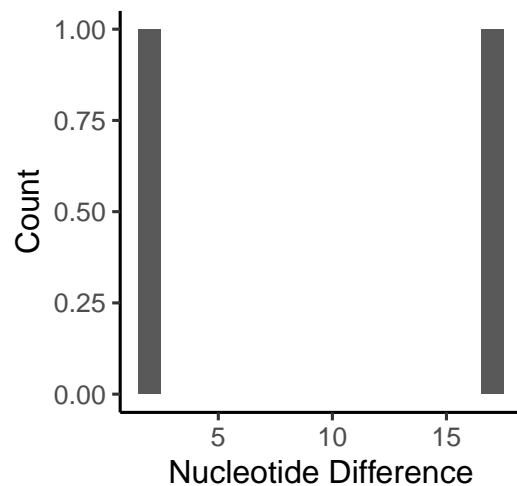
### IGHV2-26\*01

35 sequences assigned  
27 (77.1%) exact matches, in which:  
26 unique CDR3  
5 unique J



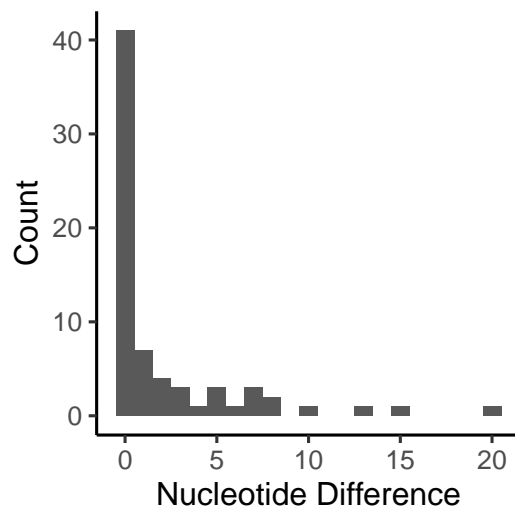
### IGHV1-68\*02

2 sequences assigned  
No exact matches.



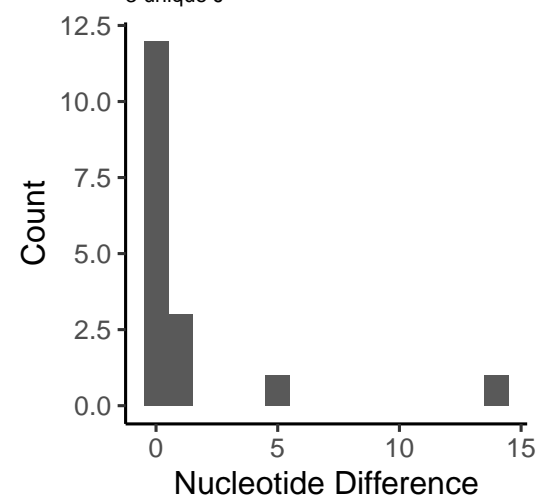
### IGHV2-5\*01

71 sequences assigned  
41 (57.7%) exact matches, in which:  
41 unique CDR3  
5 unique J



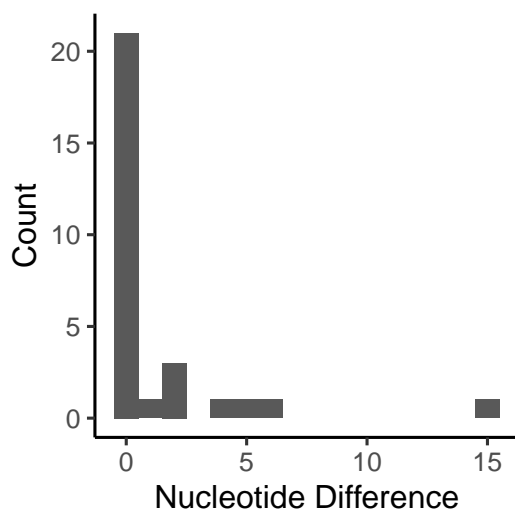
### IGHV2-70\*01

19 sequences assigned  
12 (63.2%) exact matches, in which:  
11 unique CDR3  
3 unique J



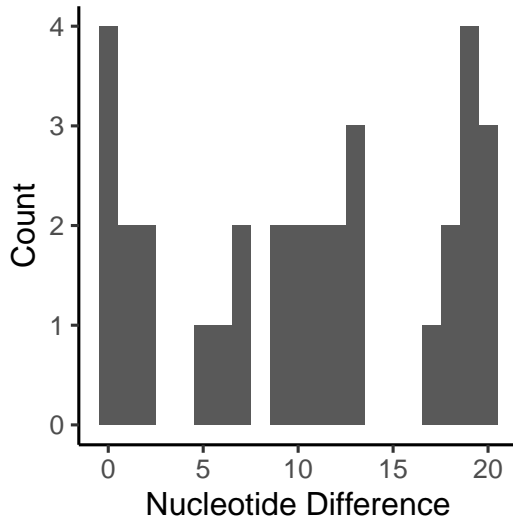
## IGHV2-70\*15

29 sequences assigned  
21 (72.4%) exact matches, in which:  
21 unique CDR3  
4 unique J



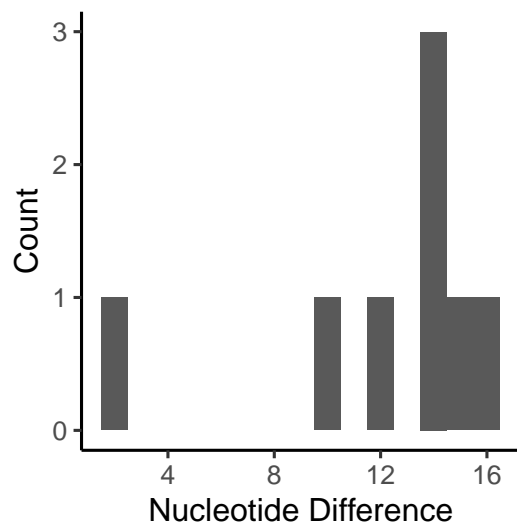
## IGHV3-7\*05

39 sequences assigned  
4 (10.3%) exact matches, in which:  
4 unique CDR3  
4 unique J



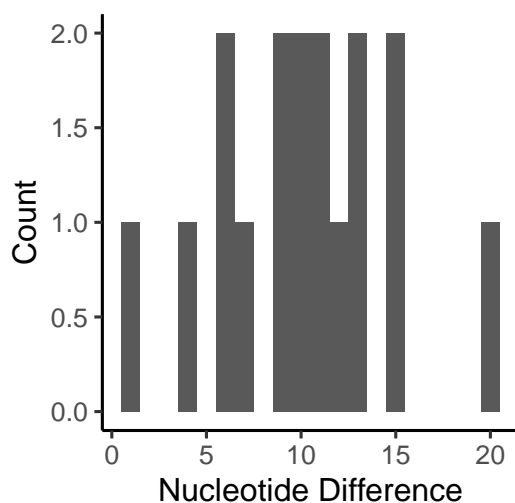
## IGHV3-13\*01

8 sequences assigned  
No exact matches.



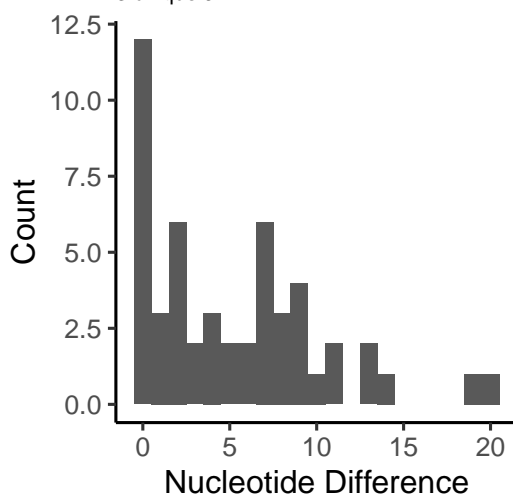
## IGHV3-7\*01

17 sequences assigned  
No exact matches.



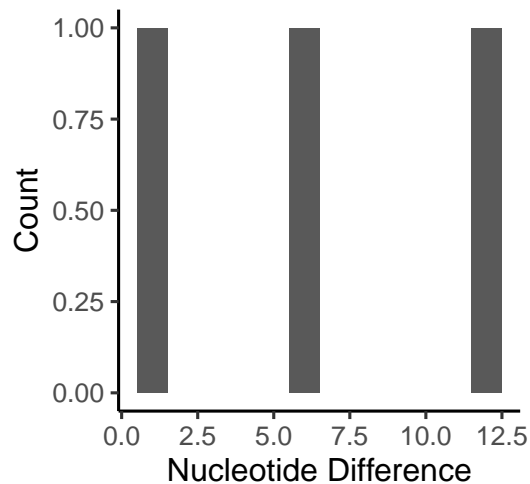
## IGHV3-11\*05

51 sequences assigned  
12 (23.5%) exact matches, in which:  
12 unique CDR3  
3 unique J



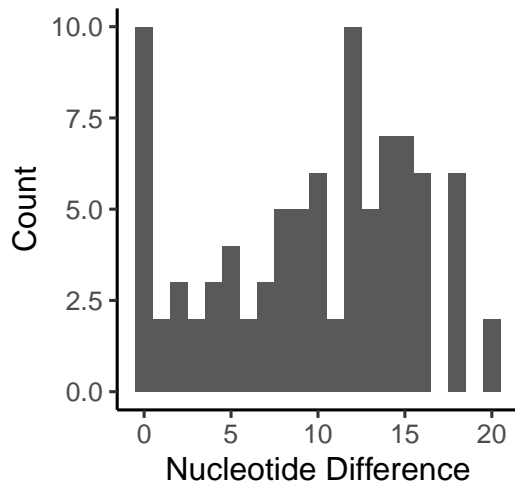
## IGHV3-13\*04

3 sequences assigned  
No exact matches.



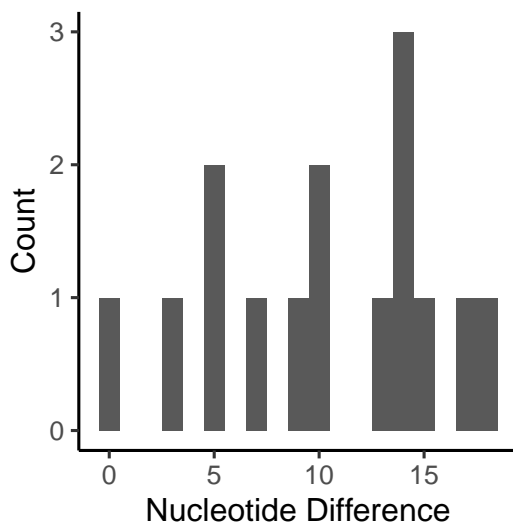
## IGHV3-7\*03

101 sequences assigned  
10 (9.9%) exact matches, in which:  
10 unique CDR3  
4 unique J



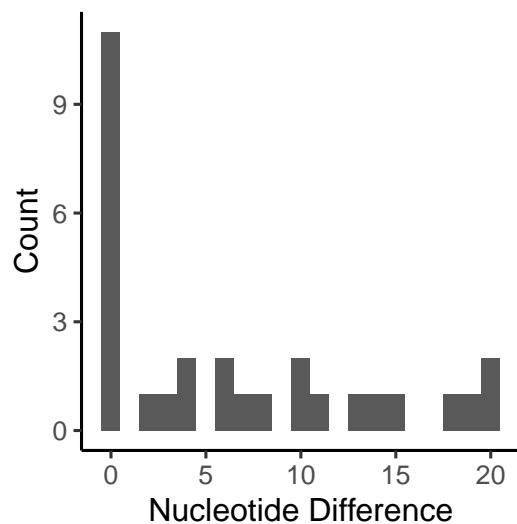
## IGHV3-11\*06

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



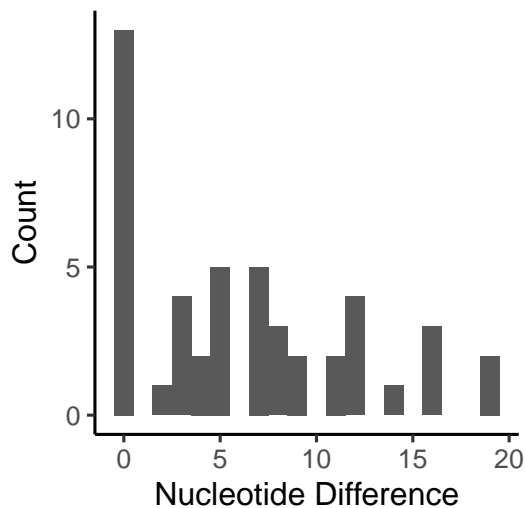
## IGHV3-15\*01

34 sequences assigned  
11 (32.4%) exact matches, in which:  
10 unique CDR3  
3 unique J



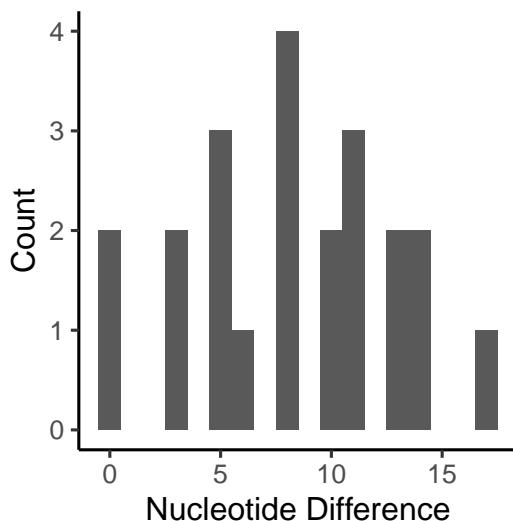
### IGHV3-15\*07

49 sequences assigned  
13 (26.5%) exact matches, in which:  
13 unique CDR3  
4 unique J



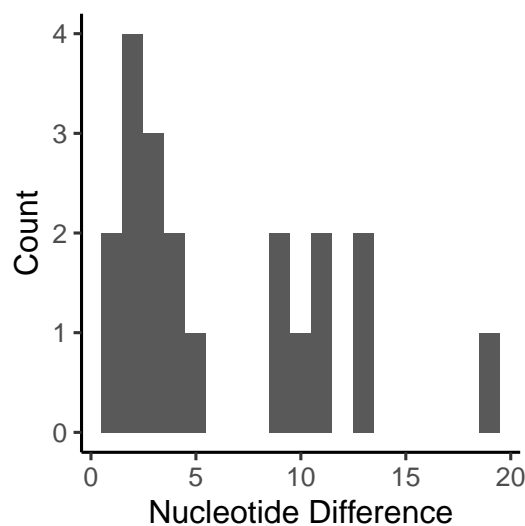
### IGHV3-21\*04

23 sequences assigned  
2 (8.7%) exact matches, in which:  
2 unique CDR3  
2 unique J



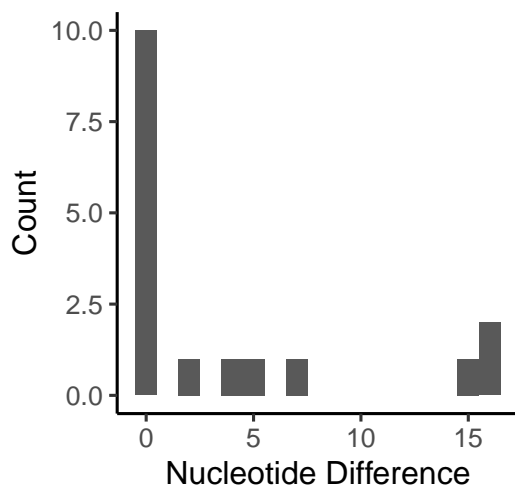
### IGHV3-33\*05

20 sequences assigned  
No exact matches.



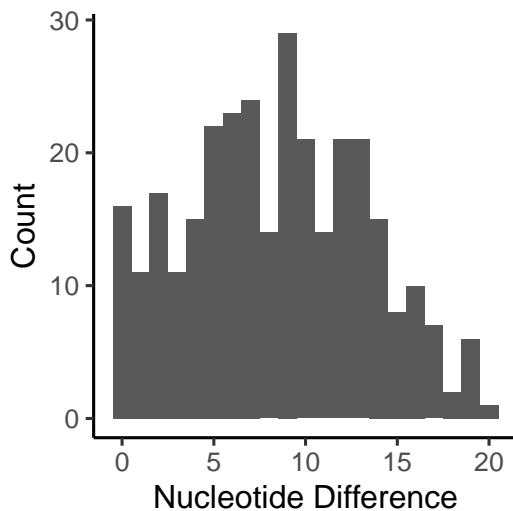
### IGHV3-20\*04

18 sequences assigned  
10 (55.6%) exact matches, in which:  
10 unique CDR3  
3 unique J



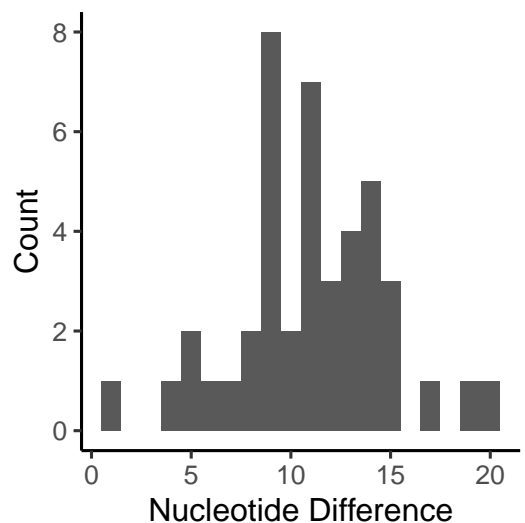
### IGHV3-23\*04

320 sequences assigned  
16 (5%) exact matches, in which:  
16 unique CDR3  
3 unique J



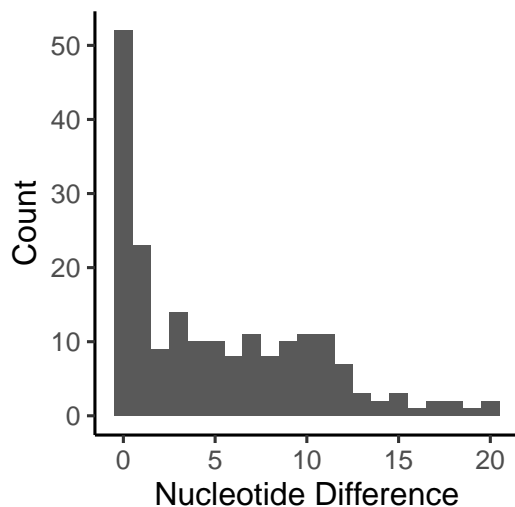
### IGHV3-33\*08

44 sequences assigned  
No exact matches.



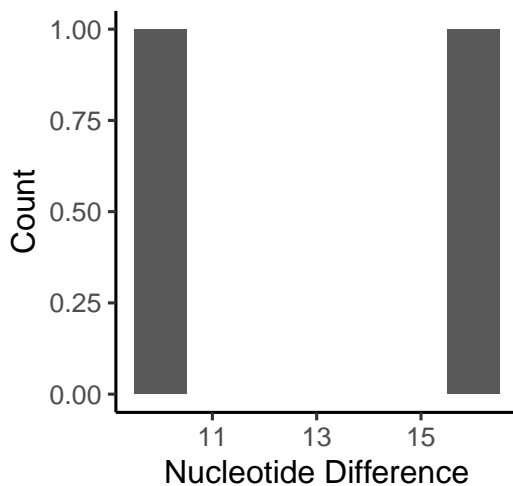
### IGHV3-21\*01

203 sequences assigned  
52 (25.6%) exact matches, in which:  
50 unique CDR3  
5 unique J



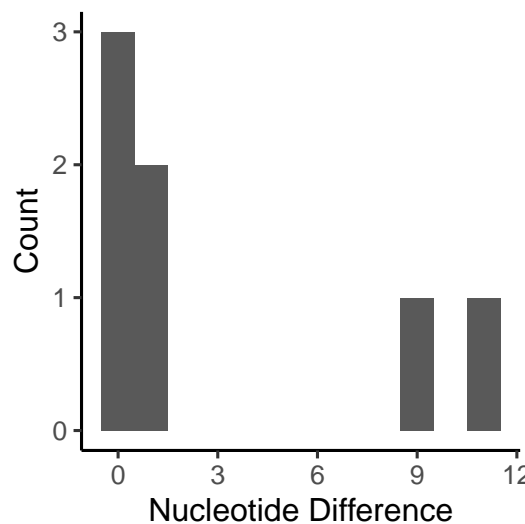
### IGHV3-33\*01

2 sequences assigned  
No exact matches.



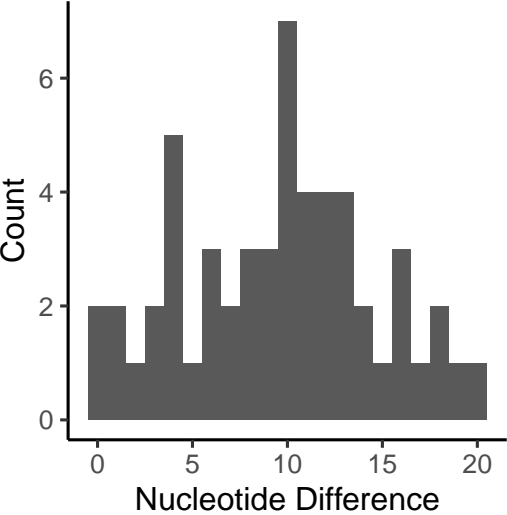
### IGHV3-43\*01

8 sequences assigned  
3 (37.5%) exact matches, in which:  
3 unique CDR3  
2 unique J



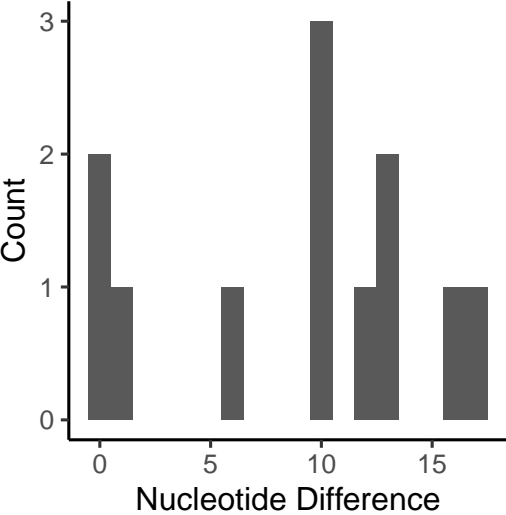
IGHV3-48\*01

58 sequences assigned  
2 (3.4%) exact matches, in which:  
2 unique CDR3  
2 unique J



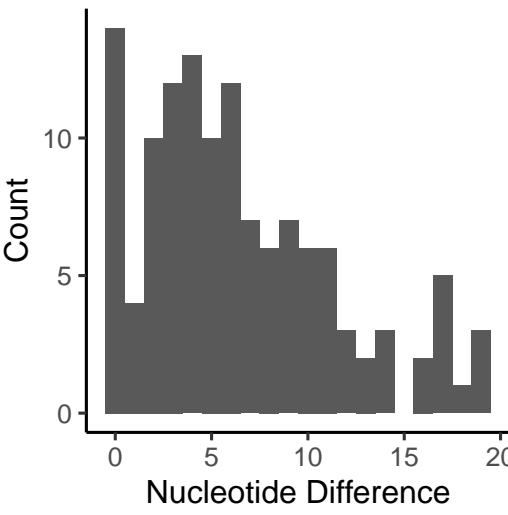
IGHV3-49\*03

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



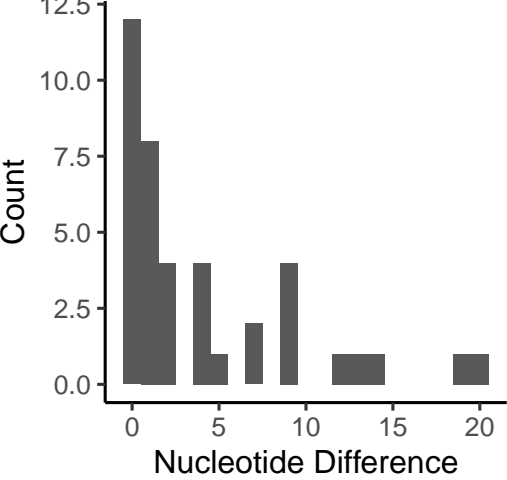
IGHV3-53\*01

137 sequences assigned  
14 (10.2%) exact matches, in which:  
13 unique CDR3  
3 unique J



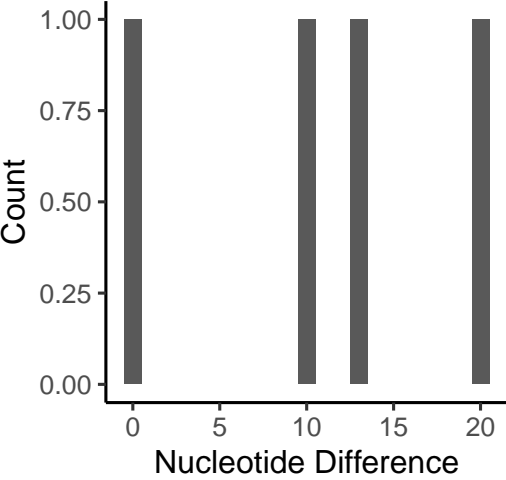
IGHV3-48\*02

42 sequences assigned  
12 (28.6%) exact matches, in which:  
11 unique CDR3  
3 unique J



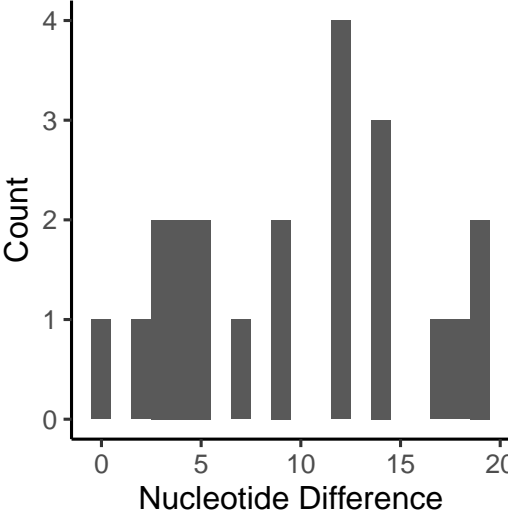
IGHV3-49\*05

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



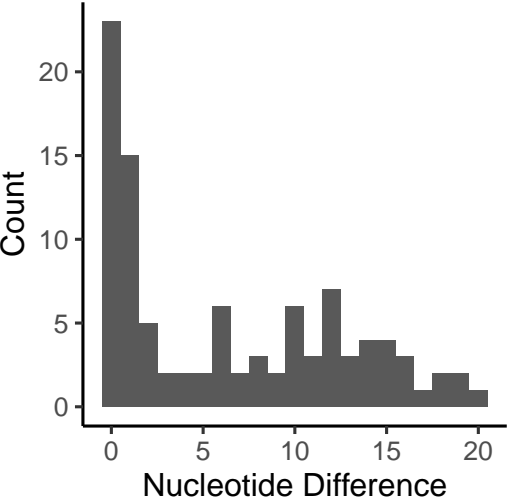
IGHV3-64\*04

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



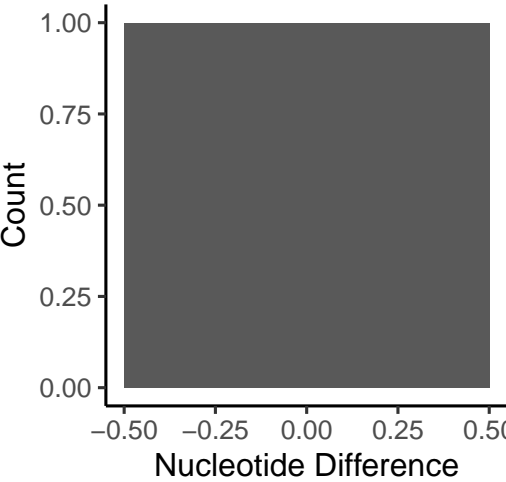
IGHV3-48\*04

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



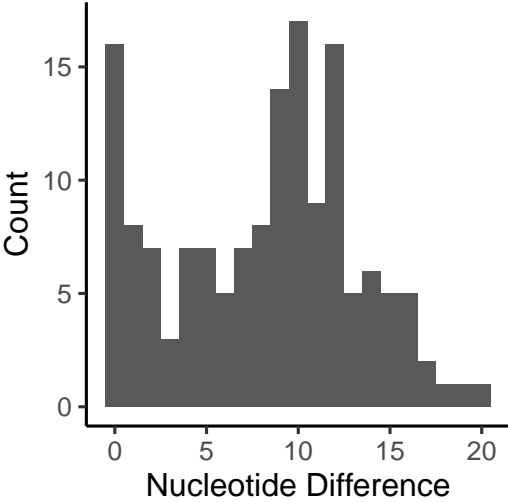
IGHV3-52\*01

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



IGHV3-66\*01

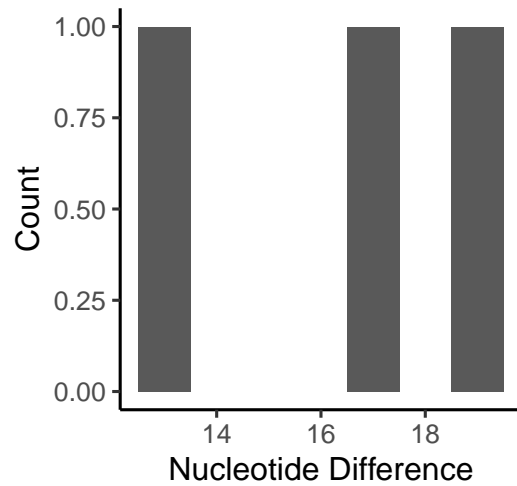
154 sequences assigned  
16 (10.4%) exact matches, in which:  
15 unique CDR3  
4 unique J





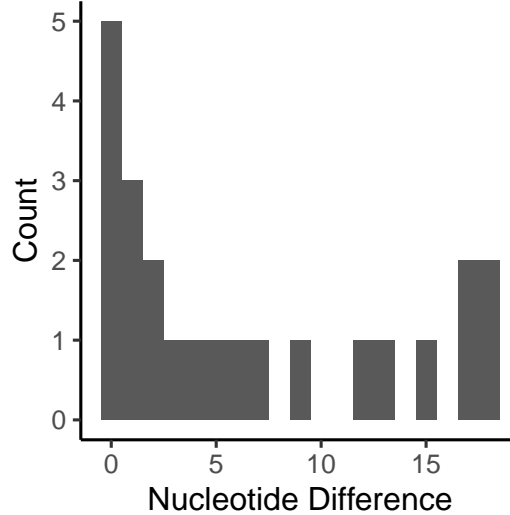
### IGHV3-69-1\*01

3 sequences assigned  
No exact matches.



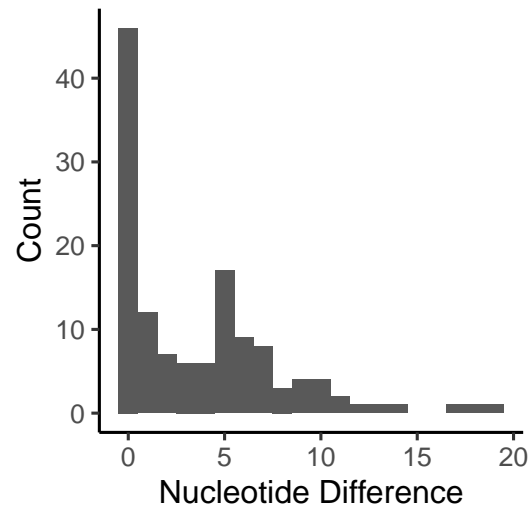
### IGHV3-64D\*06

23 sequences assigned  
5 (21.7%) exact matches, in which:  
4 unique CDR3  
3 unique J



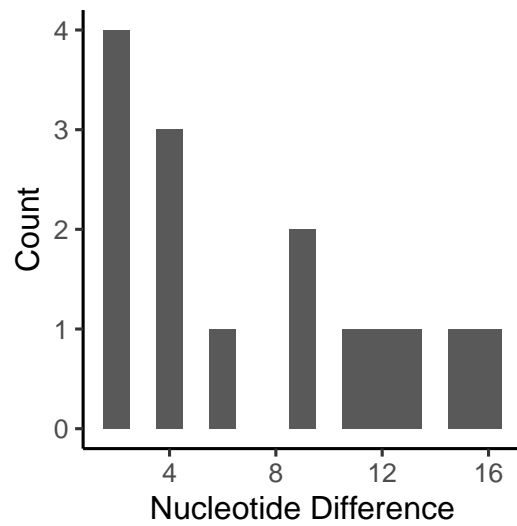
### IGHV4-4\*02

133 sequences assigned  
46 (34.6%) exact matches, in which:  
46 unique CDR3  
5 unique J



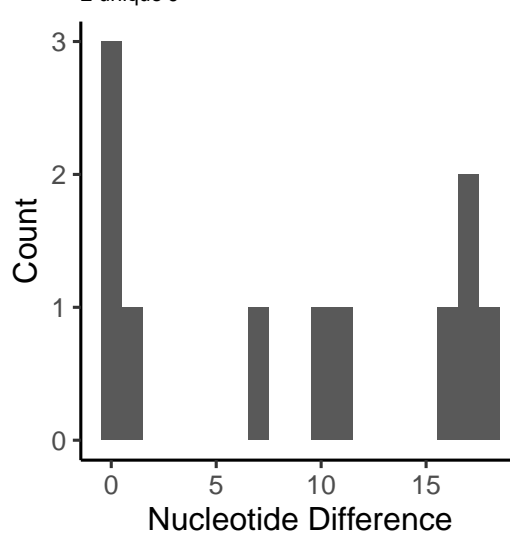
### IGHV3-72\*01

15 sequences assigned  
No exact matches.



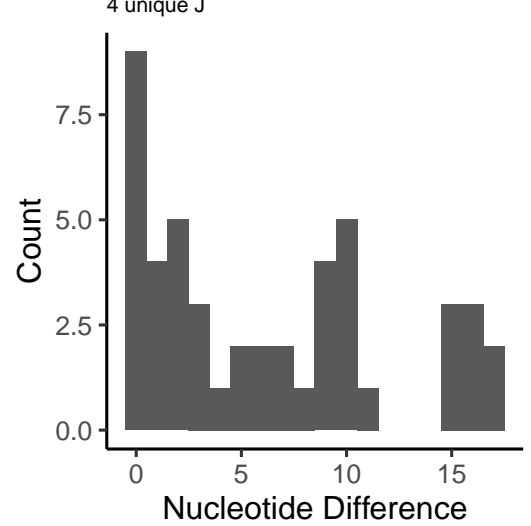
### IGHV3-64D\*09

11 sequences assigned  
3 (27.3%) exact matches, in which:  
3 unique CDR3  
2 unique J



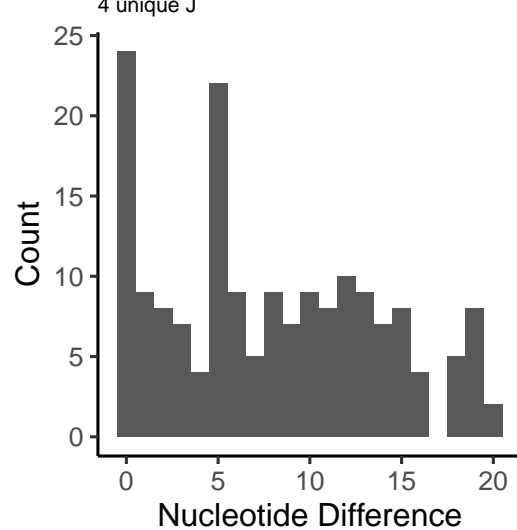
### IGHV4-30-2\*01

47 sequences assigned  
9 (19.1%) exact matches, in which:  
9 unique CDR3  
4 unique J



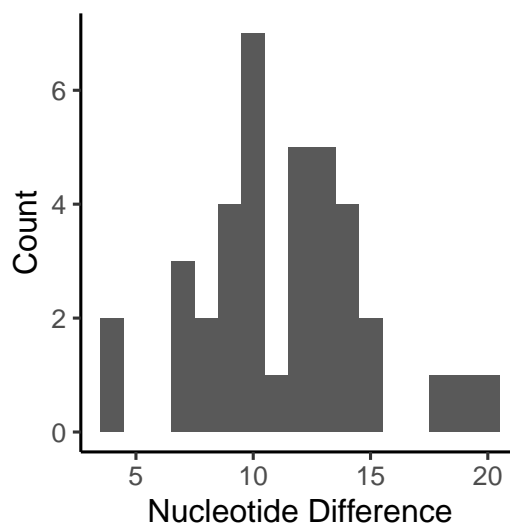
### IGHV3-74\*01

179 sequences assigned  
24 (13.4%) exact matches, in which:  
23 unique CDR3  
4 unique J



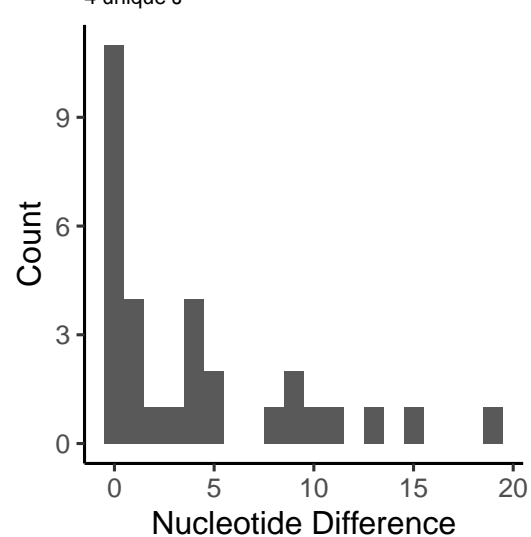
### IGHV3-NL1\*01

39 sequences assigned  
No exact matches.



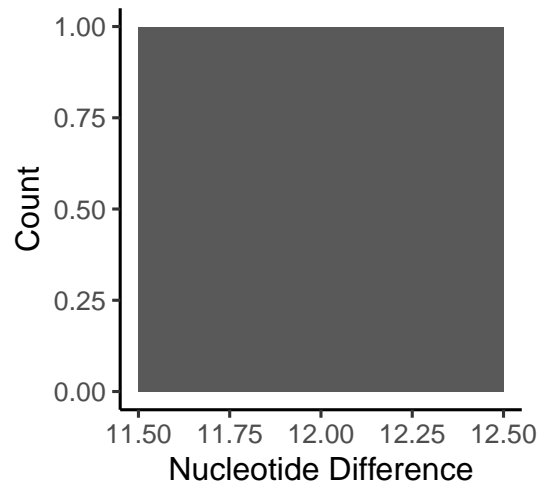
### IGHV4-30-4\*07

33 sequences assigned  
11 (33.3%) exact matches, in which:  
11 unique CDR3  
4 unique J



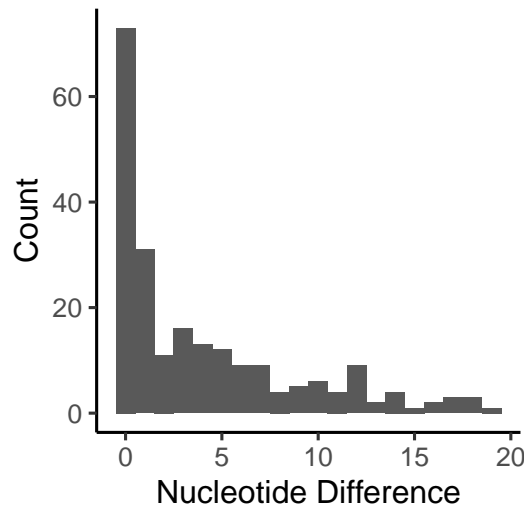
### IGHV4-31\*11

1 sequences assigned  
No exact matches.



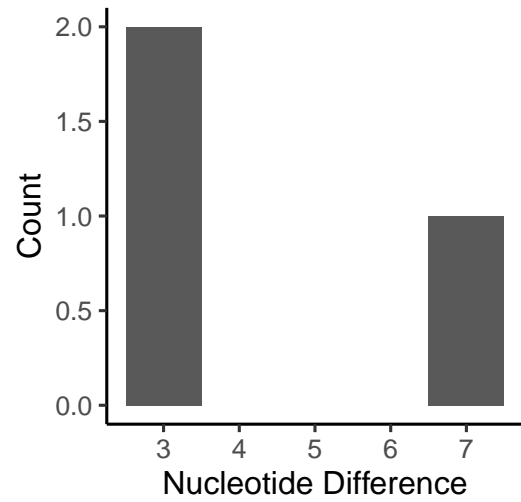
### IGHV4-39\*01

226 sequences assigned  
73 (32.3%) exact matches, in which:  
69 unique CDR3  
4 unique J



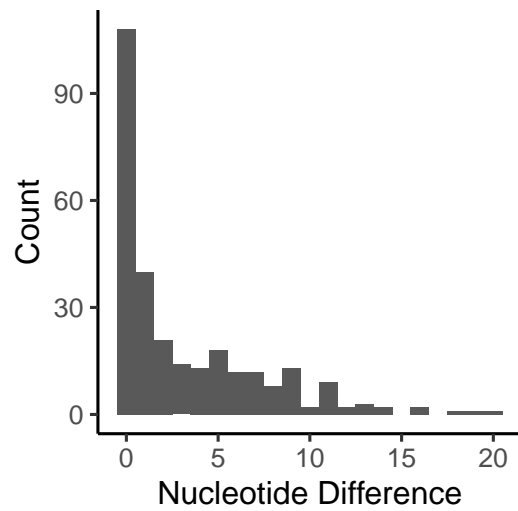
### IGHV4-55\*08

3 sequences assigned  
No exact matches.



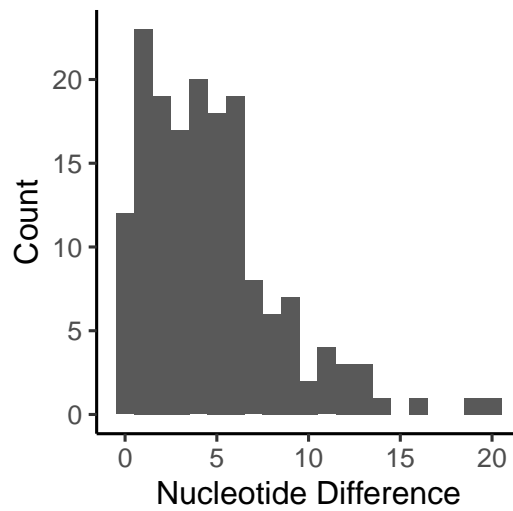
### IGHV4-34\*01

289 sequences assigned  
108 (37.4%) exact matches, in which:  
104 unique CDR3  
5 unique J



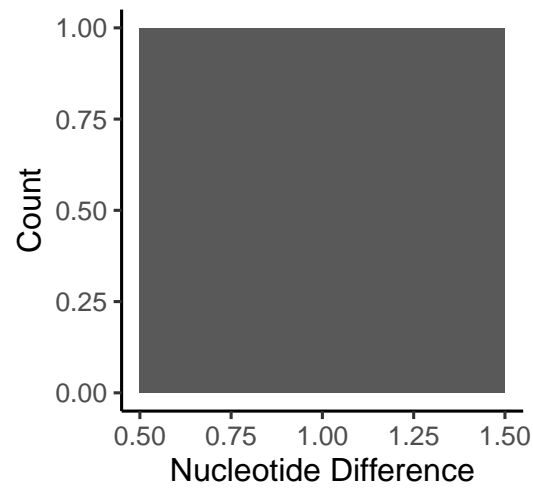
### IGHV4-39\*07

167 sequences assigned  
12 (7.2%) exact matches, in which:  
12 unique CDR3  
3 unique J



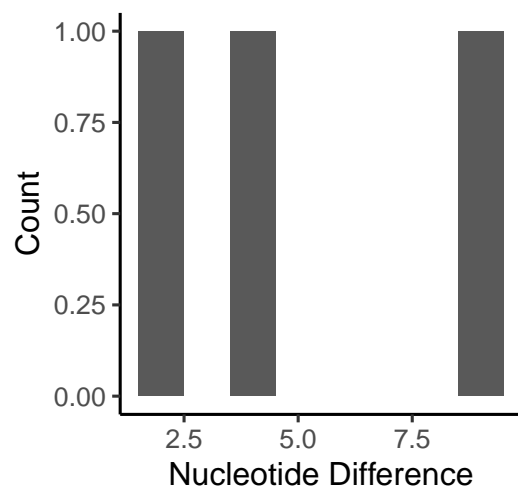
### IGHV4-55\*09

1 sequences assigned  
No exact matches.



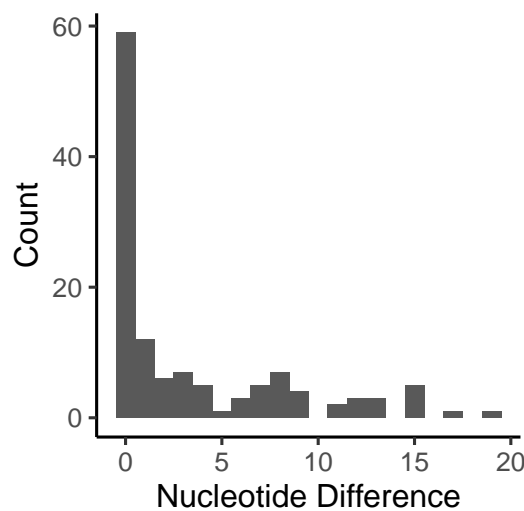
### IGHV4-38-2\*02

3 sequences assigned  
No exact matches.



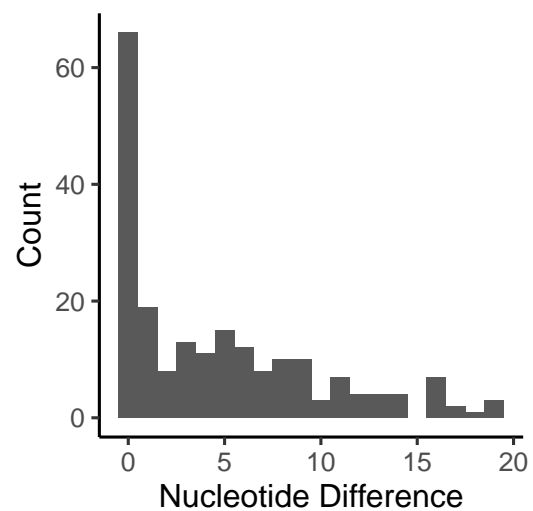
### IGHV4-39\*07\_C288A

128 sequences assigned  
59 (46.1%) exact matches, in which:  
59 unique CDR3  
4 unique J



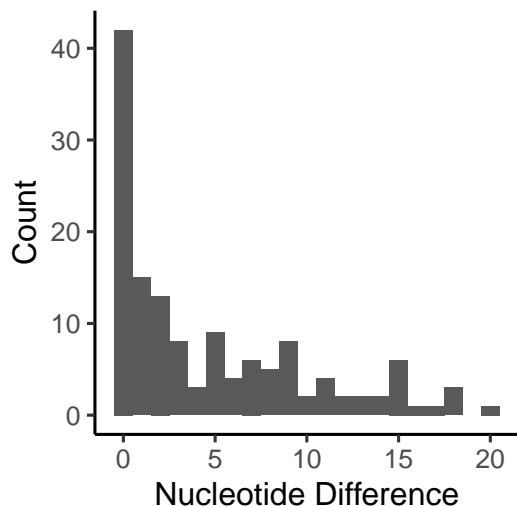
### IGHV4-59\*01

214 sequences assigned  
66 (30.8%) exact matches, in which:  
66 unique CDR3  
6 unique J



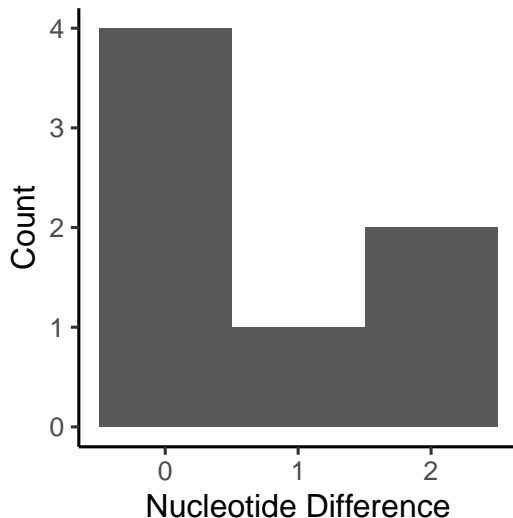
### IGHV4-59\*08

142 sequences assigned  
42 (29.6%) exact matches, in which:  
41 unique CDR3  
6 unique J



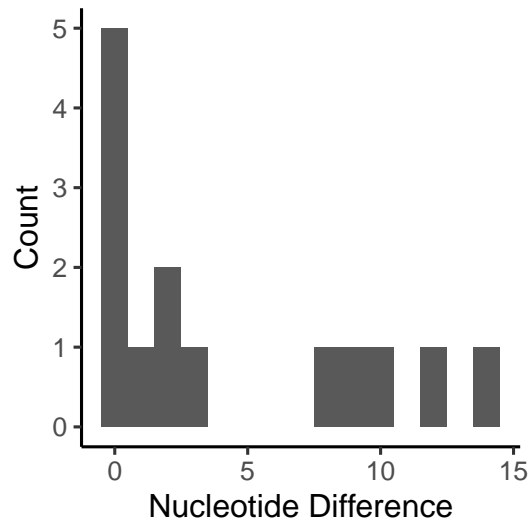
### IGHV4-61\*07

7 sequences assigned  
4 (57.1%) exact matches, in which:  
4 unique CDR3  
2 unique J



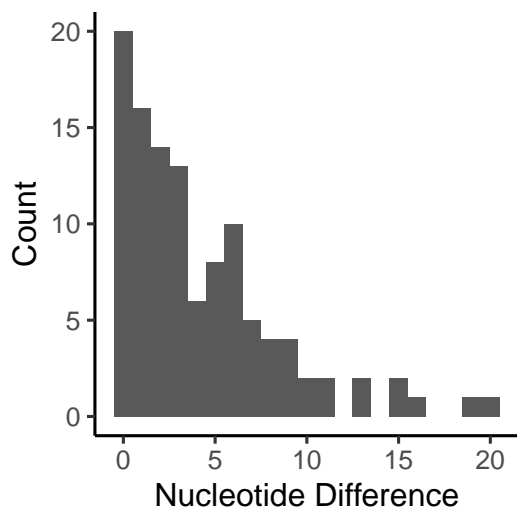
### IGHV5-10-1\*03

14 sequences assigned  
5 (35.7%) exact matches, in which:  
5 unique CDR3  
2 unique J



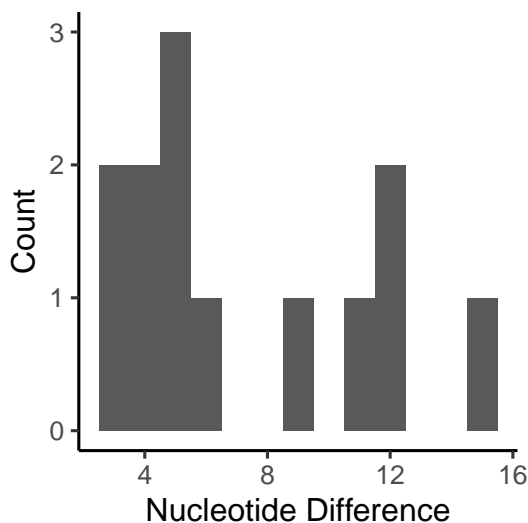
### IGHV4-59\*12

112 sequences assigned  
20 (17.9%) exact matches, in which:  
20 unique CDR3  
4 unique J



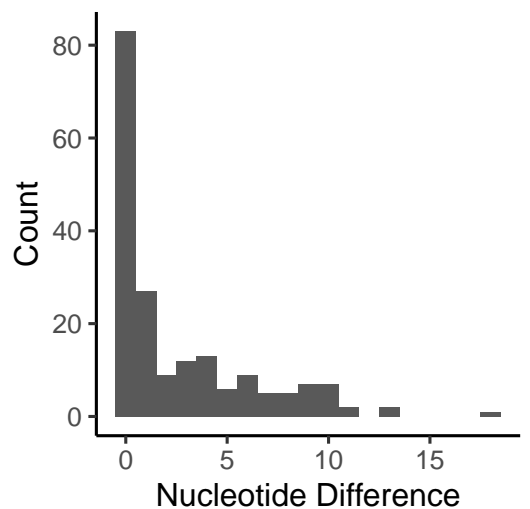
### IGHV4-61\*08

13 sequences assigned  
No exact matches.



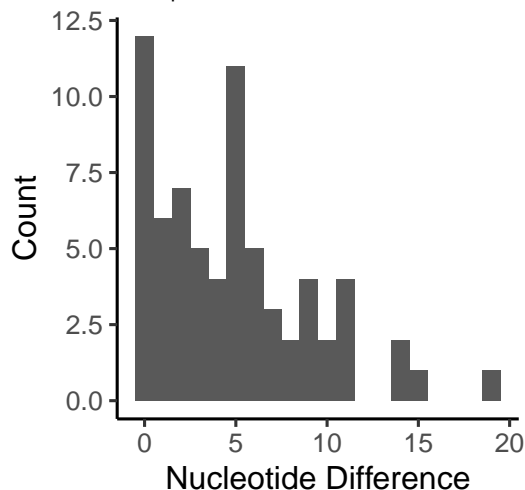
### IGHV5-51\*01

191 sequences assigned  
83 (43.5%) exact matches, in which:  
82 unique CDR3  
6 unique J



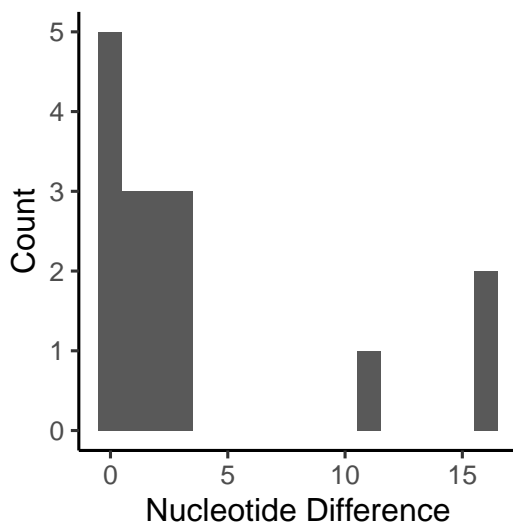
### IGHV4-61\*01

69 sequences assigned  
12 (17.4%) exact matches, in which:  
12 unique CDR3  
4 unique J



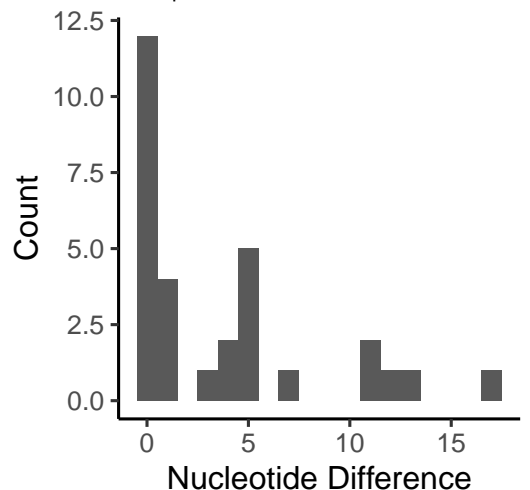
### IGHV5-10-1\*01

18 sequences assigned  
5 (27.8%) exact matches, in which:  
5 unique CDR3  
2 unique J



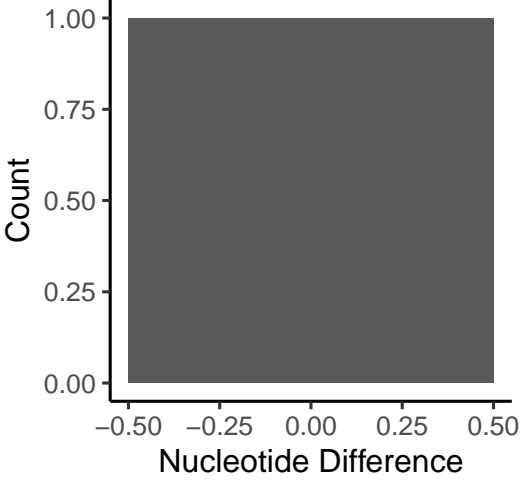
### IGHV6-1\*01

32 sequences assigned  
12 (37.5%) exact matches, in which:  
11 unique CDR3  
5 unique J

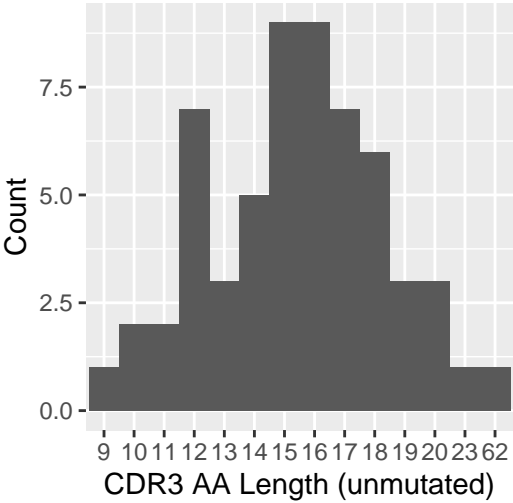


IGHV7-4-1\*01

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



IGHV4-39\*07\_C288A





[illegible]