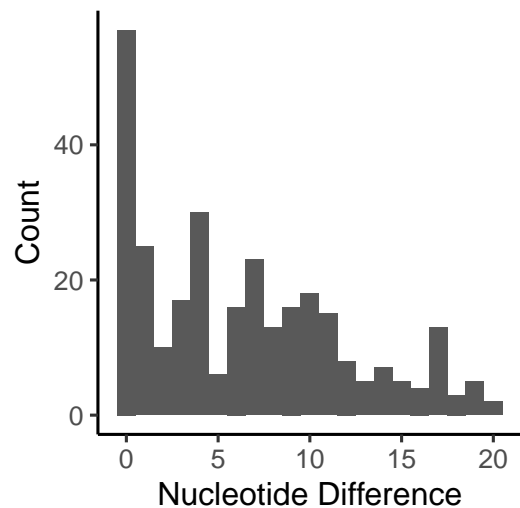


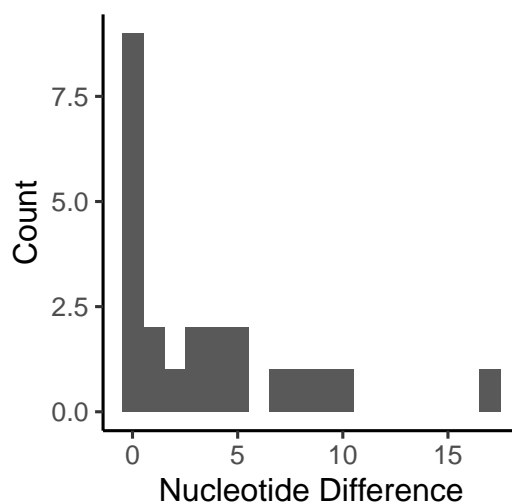
### IGHV1-2\*02

323 sequences assigned  
57 (17.6%) exact matches, in which:  
57 unique CDR3  
5 unique J



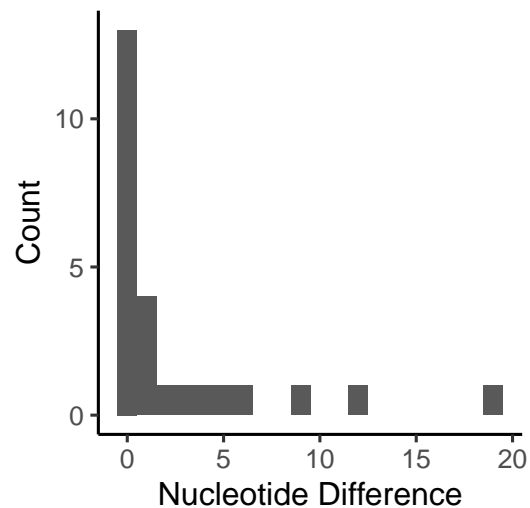
### IGHV1-8\*01

25 sequences assigned  
9 (36%) exact matches, in which:  
7 unique CDR3  
2 unique J



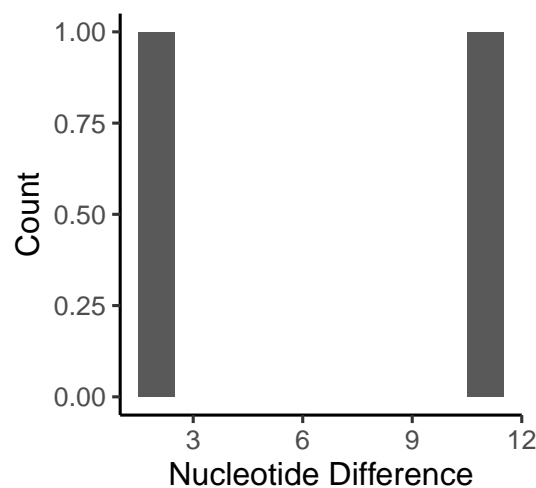
### IGHV1-24\*01

29 sequences assigned  
13 (44.8%) exact matches, in which:  
13 unique CDR3  
4 unique J



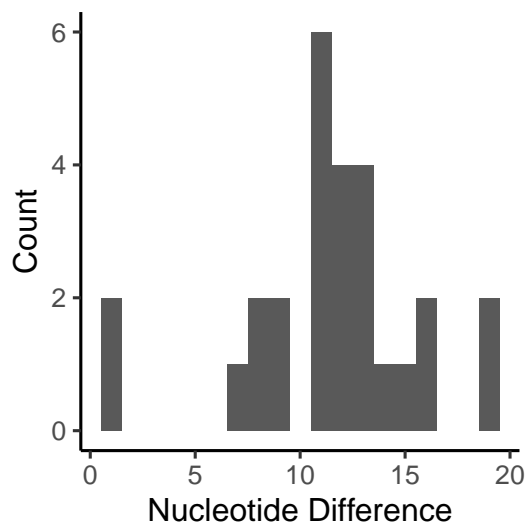
### IGHV1-3\*01

3 sequences assigned  
No exact matches.



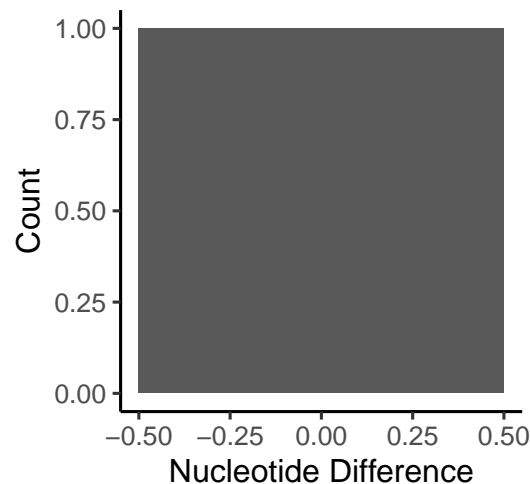
### IGHV1-8\*02

27 sequences assigned  
No exact matches.



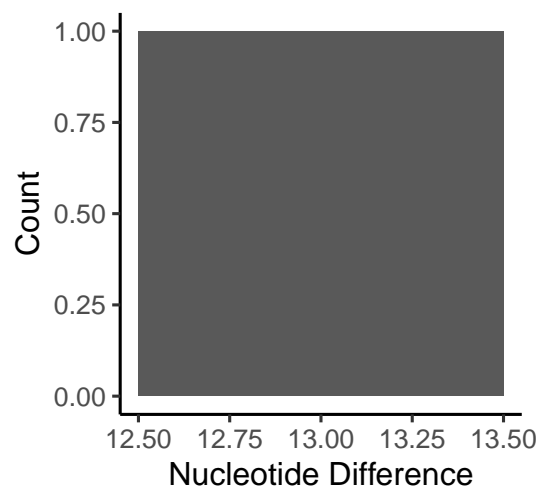
### IGHV1-38-4\*01

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



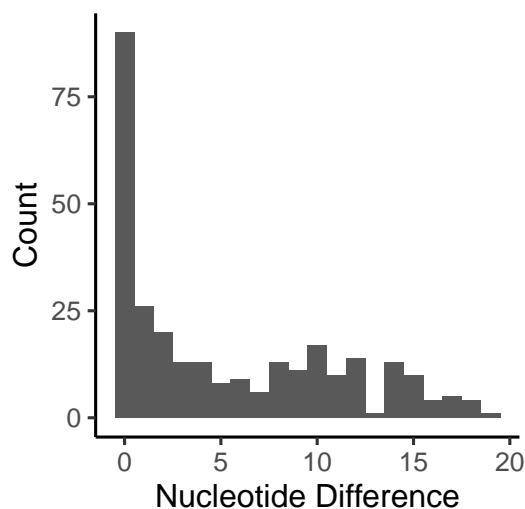
### IGHV1-3\*04

1 sequences assigned  
No exact matches.



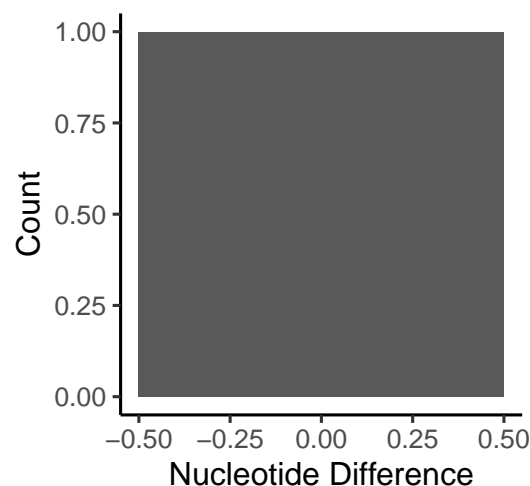
### IGHV1-18\*01

301 sequences assigned  
90 (29.9%) exact matches, in which:  
85 unique CDR3  
7 unique J



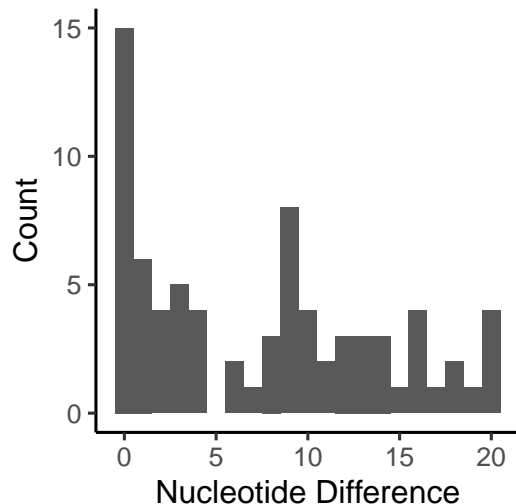
### IGHV1-45\*02

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



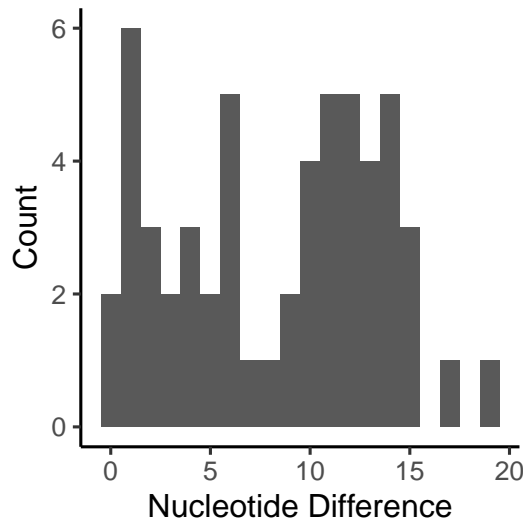
### IGHV1-46\*01

108 sequences assigned  
15 (13.9%) exact matches, in which:  
15 unique CDR3  
5 unique J



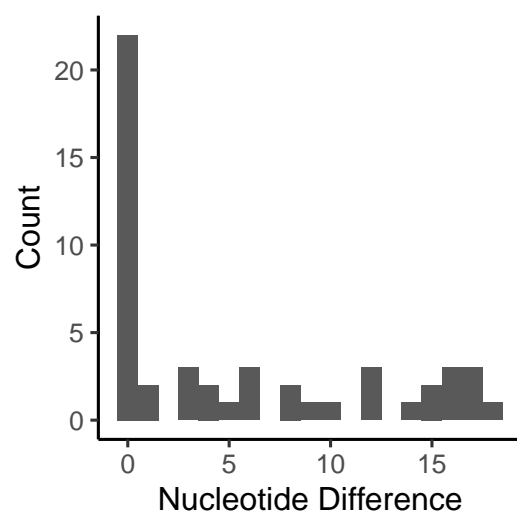
### IGHV1-69\*06

57 sequences assigned  
2 (3.5%) exact matches, in which:  
2 unique CDR3  
2 unique J



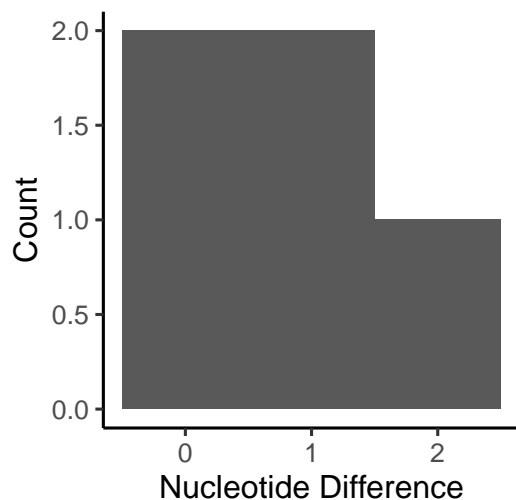
### IGHV2-5\*02

50 sequences assigned  
22 (44%) exact matches, in which:  
22 unique CDR3  
4 unique J



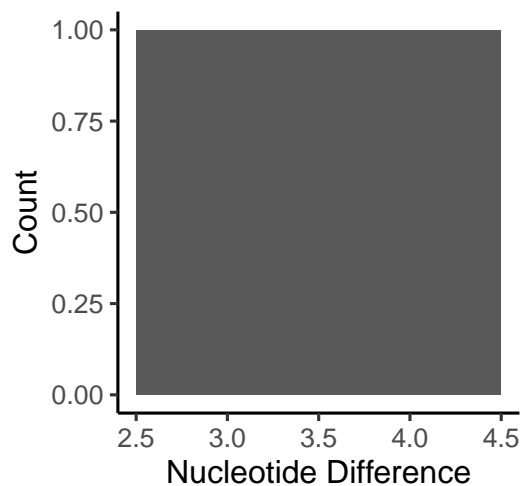
### IGHV1-58\*01

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



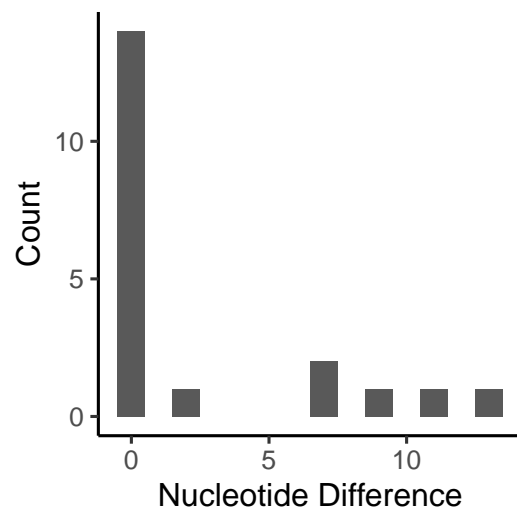
### IGHV1-NL1\*01

2 sequences assigned  
No exact matches.



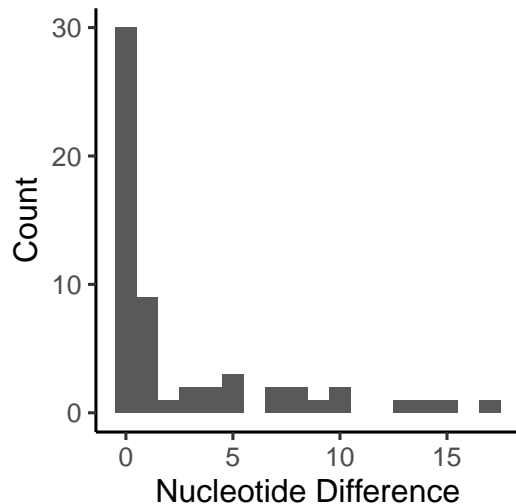
### IGHV2-26\*01

20 sequences assigned  
14 (70%) exact matches, in which:  
14 unique CDR3  
4 unique J



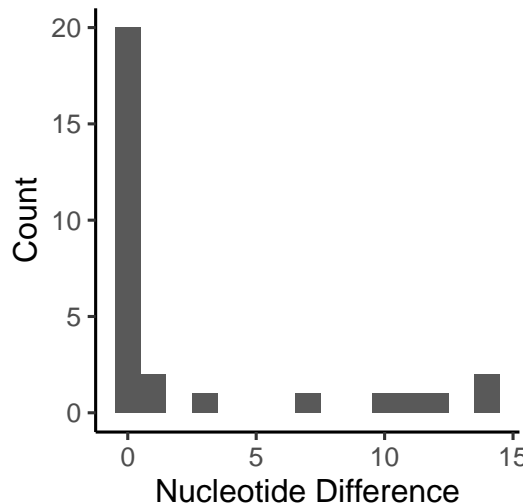
### IGHV1-69\*04

66 sequences assigned  
30 (45.5%) exact matches, in which:  
30 unique CDR3  
5 unique J



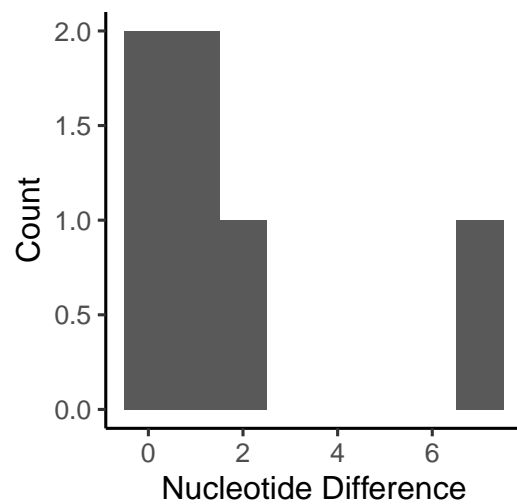
### IGHV2-5\*01

29 sequences assigned  
20 (69%) exact matches, in which:  
19 unique CDR3  
5 unique J



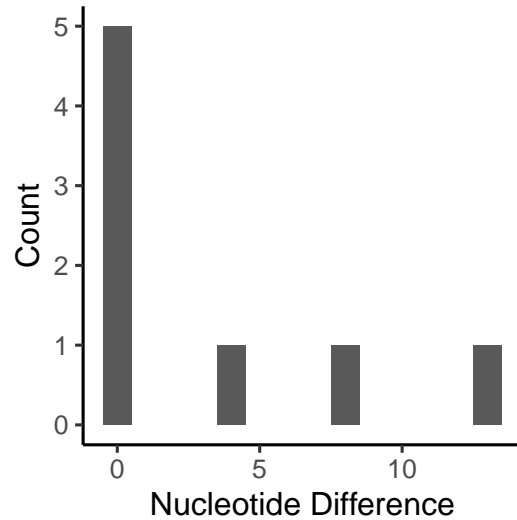
### IGHV2-70\*01

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



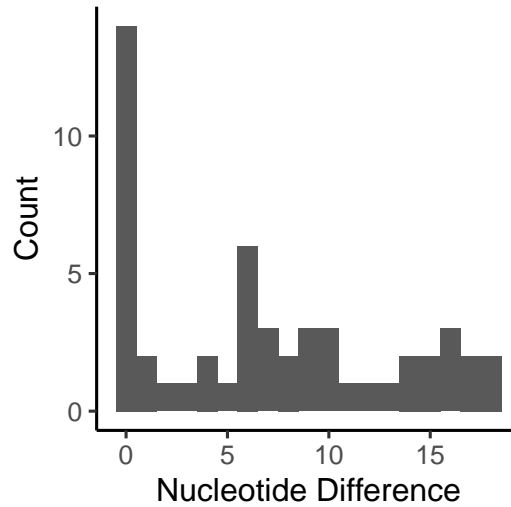
### IGHV2–70\*15

9 sequences assigned  
5 (55.6%) exact matches, in which:  
5 unique CDR3  
3 unique J



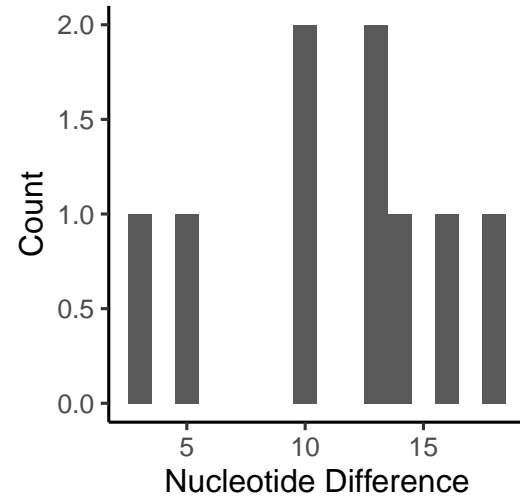
### IGHV3–9\*01

58 sequences assigned  
14 (24.1%) exact matches, in which:  
14 unique CDR3  
4 unique J



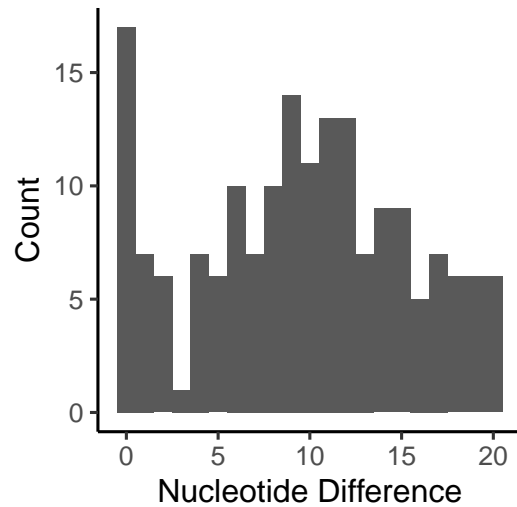
### IGHV3–11\*06

9 sequences assigned  
No exact matches.



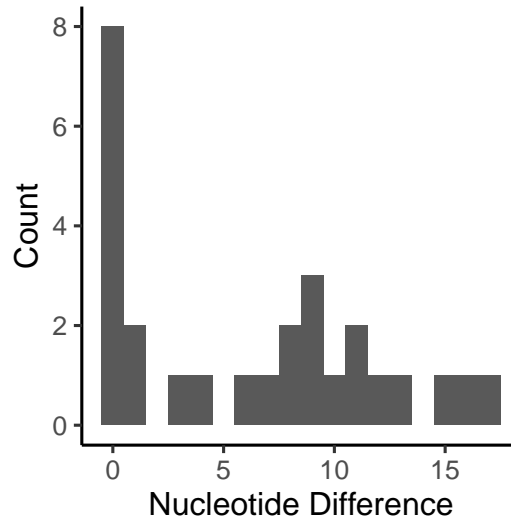
### IGHV3–7\*01

202 sequences assigned  
17 (8.4%) exact matches, in which:  
16 unique CDR3  
4 unique J



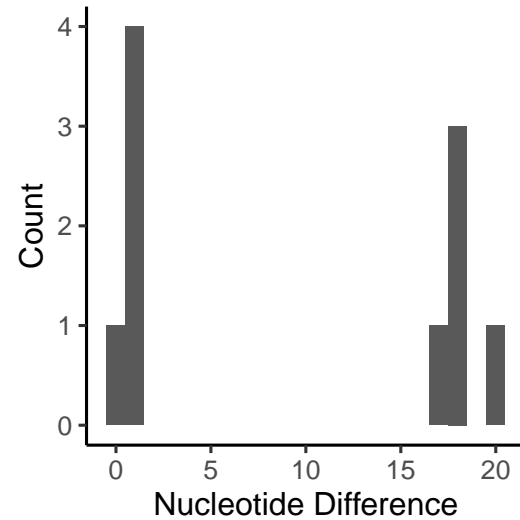
### IGHV3–11\*01

36 sequences assigned  
8 (22.2%) exact matches, in which:  
8 unique CDR3  
4 unique J



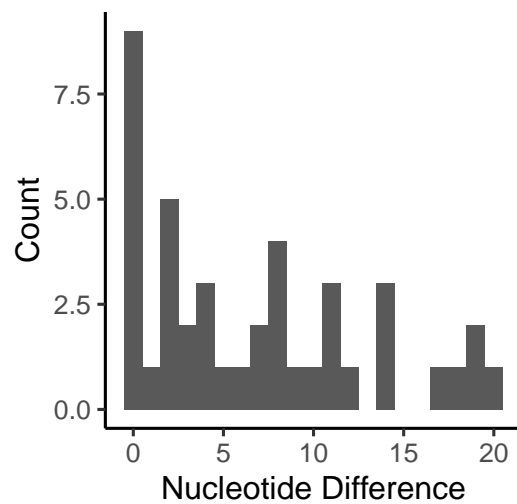
### IGHV3–13\*01

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



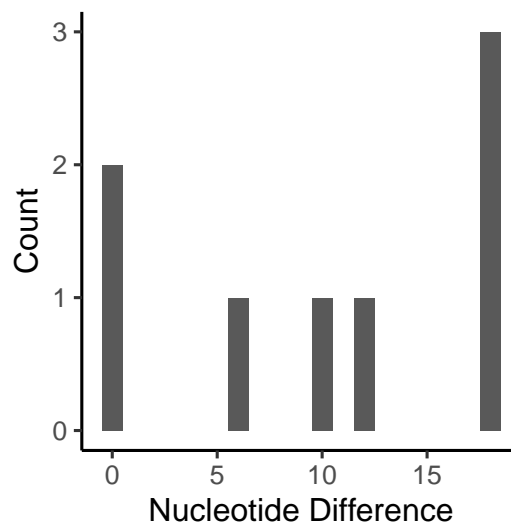
### IGHV3–7\*04

53 sequences assigned  
9 (17%) exact matches, in which:  
9 unique CDR3  
3 unique J



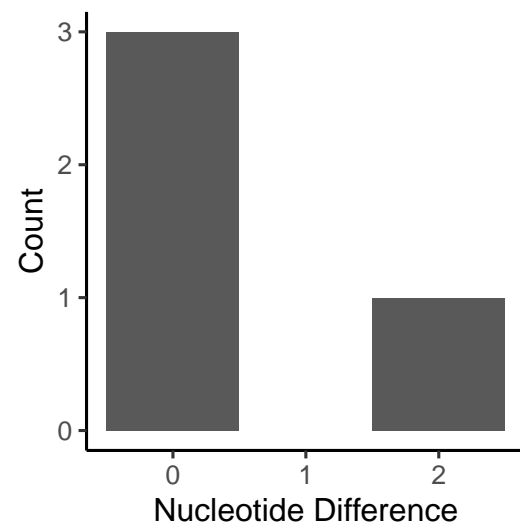
### IGHV3–11\*05

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



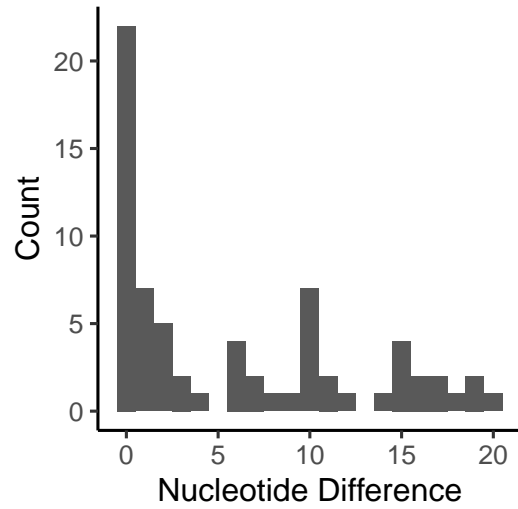
### IGHV3–13\*04

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



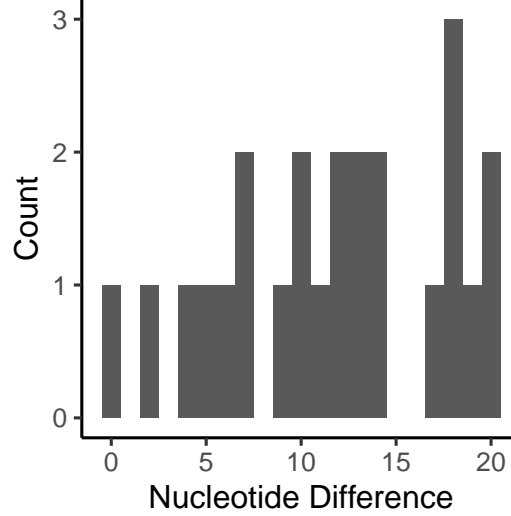
### IGHV3-15\*01

79 sequences assigned  
22 (27.8%) exact matches, in which:  
21 unique CDR3  
6 unique J



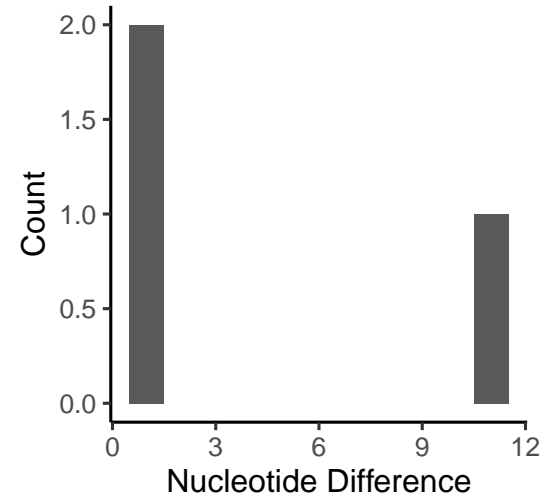
### IGHV3-21\*04

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



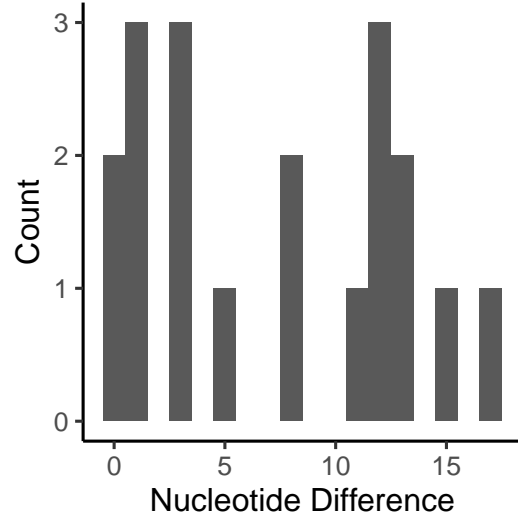
### IGHV3-30\*07

3 sequences assigned  
No exact matches.



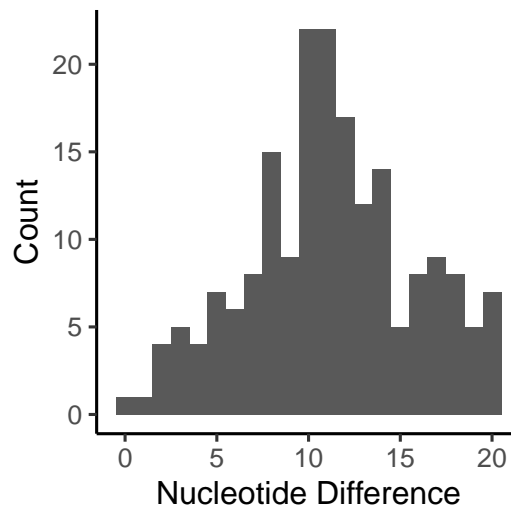
### IGHV3-20\*04

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



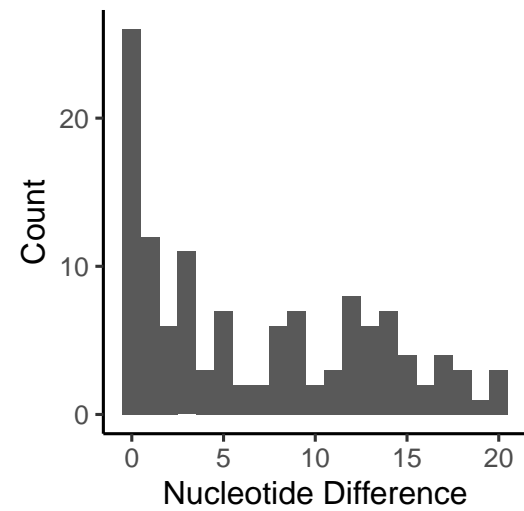
### IGHV3-23\*04

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



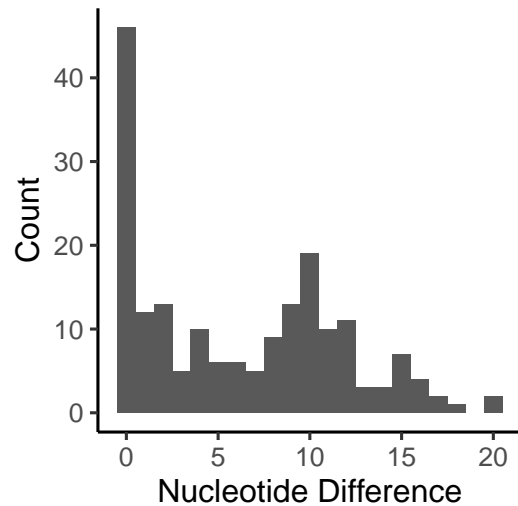
### IGHV3-33\*01

135 sequences assigned  
26 (19.3%) exact matches, in which:  
24 unique CDR3  
5 unique J



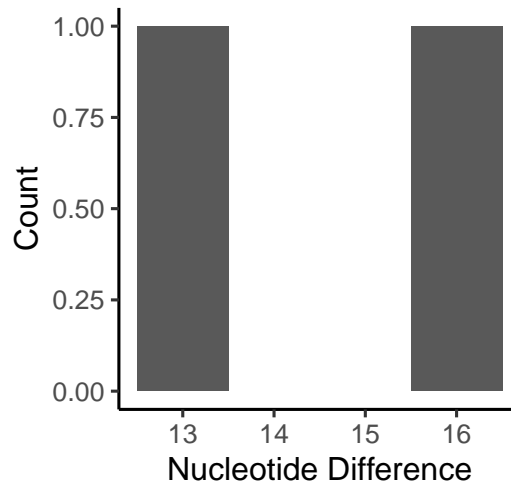
### IGHV3-21\*01

191 sequences assigned  
46 (24.1%) exact matches, in which:  
45 unique CDR3  
5 unique J



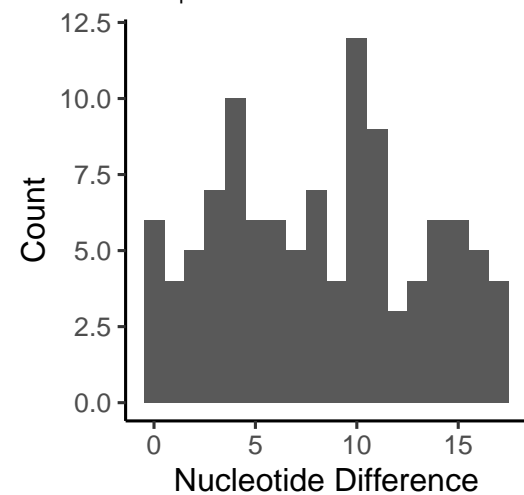
### IGHV3-30-3\*03

2 sequences assigned  
No exact matches.



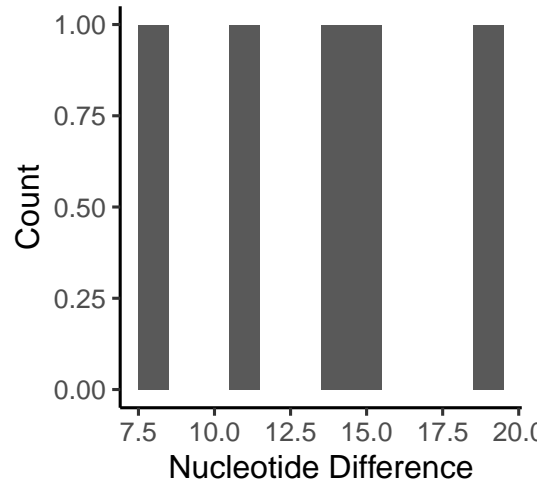
### IGHV3-33\*08

115 sequences assigned  
6 (5.2%) exact matches, in which:  
6 unique CDR3  
2 unique J



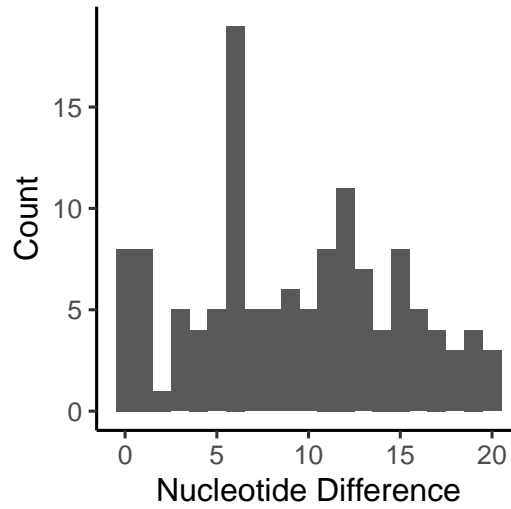
### IGHV3-43\*01

6 sequences assigned  
No exact matches.



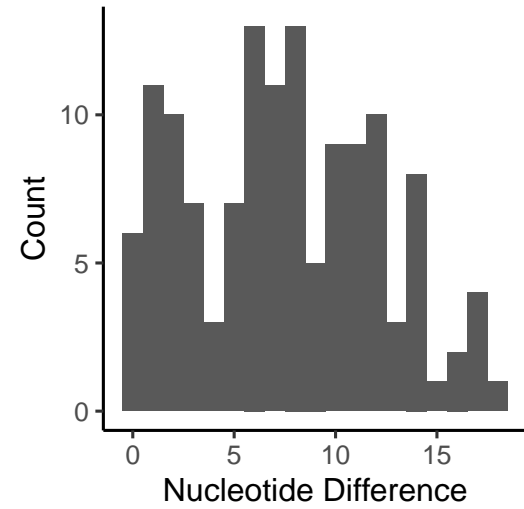
### IGHV3-48\*04

138 sequences assigned  
8 (5.8%) exact matches, in which:  
8 unique CDR3  
3 unique J



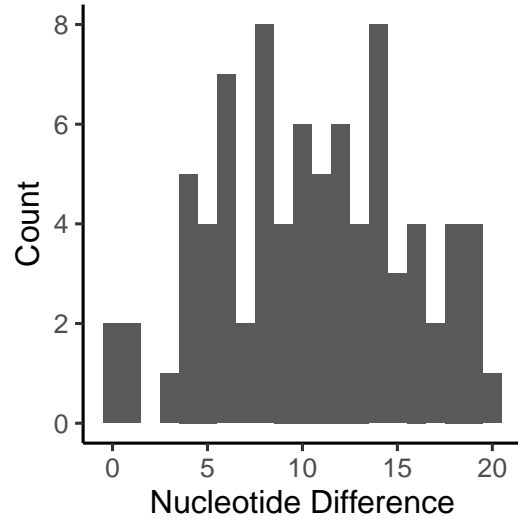
### IGHV3-53\*01

139 sequences assigned  
6 (4.3%) exact matches, in which:  
6 unique CDR3  
2 unique J



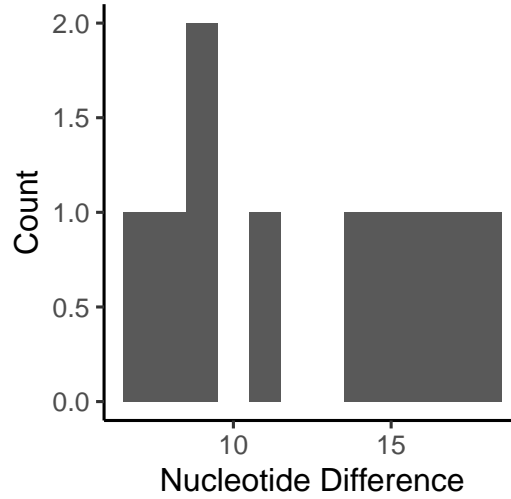
### IGHV3-48\*01

87 sequences assigned  
2 (2.3%) exact matches, in which:  
2 unique CDR3  
2 unique J



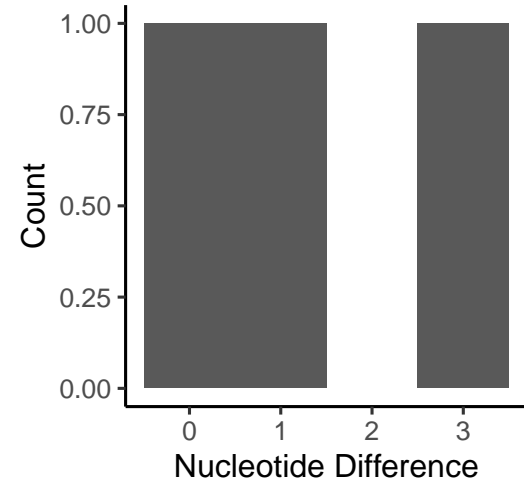
### IGHV3-49\*03

13 sequences assigned  
No exact matches.



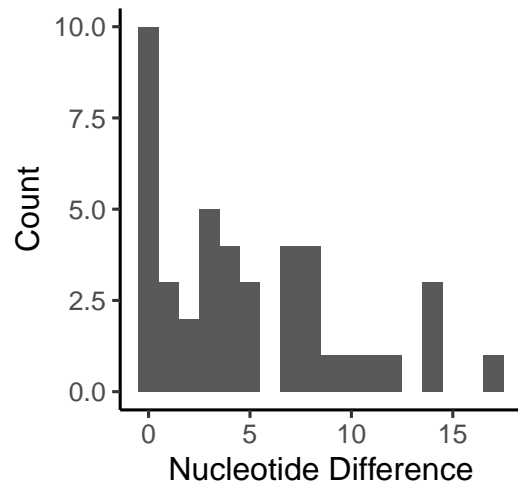
### IGHV3-64\*01

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



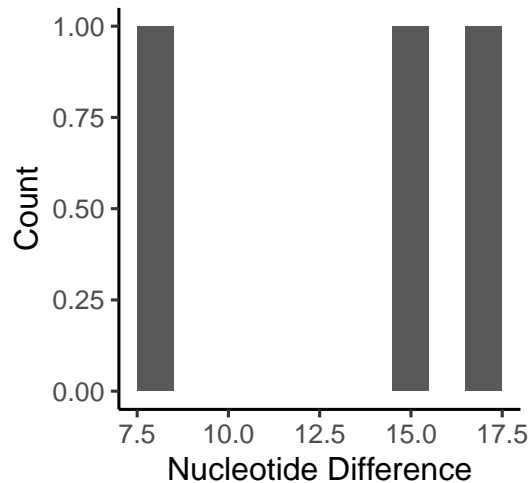
### IGHV3-48\*02

44 sequences assigned  
10 (22.7%) exact matches, in which:  
10 unique CDR3  
5 unique J



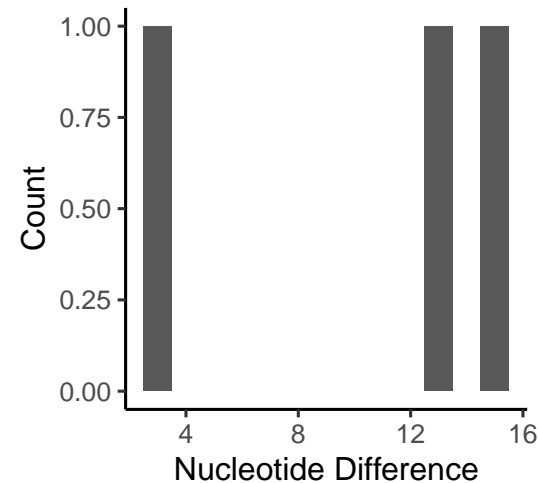
### IGHV3-49\*05

3 sequences assigned  
No exact matches.



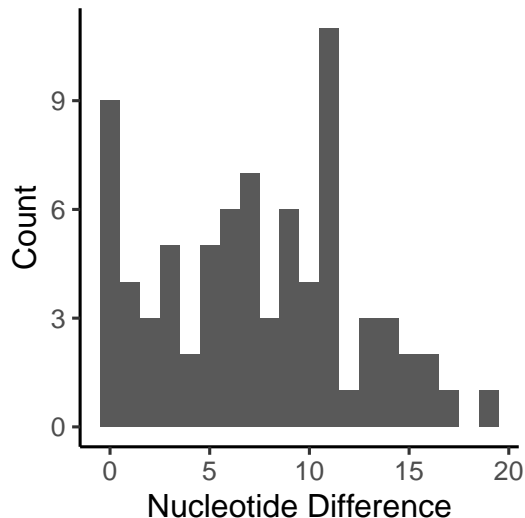
### IGHV3-64\*04

3 sequences assigned  
No exact matches.



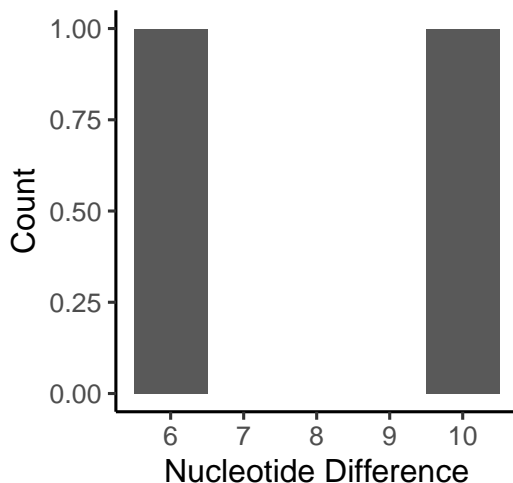
### IGHV3-66\*01

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



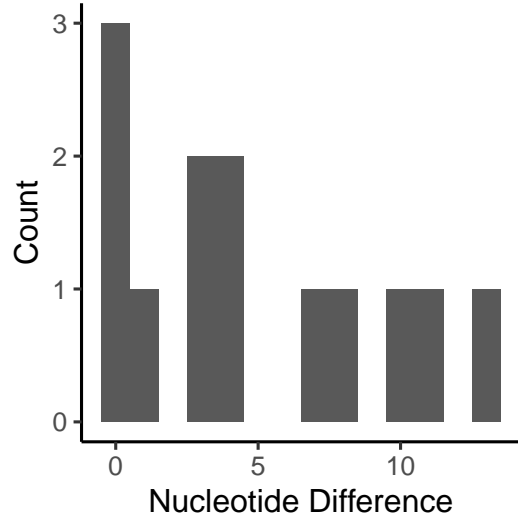
### IGHV3-73\*01

2 sequences assigned  
No exact matches.



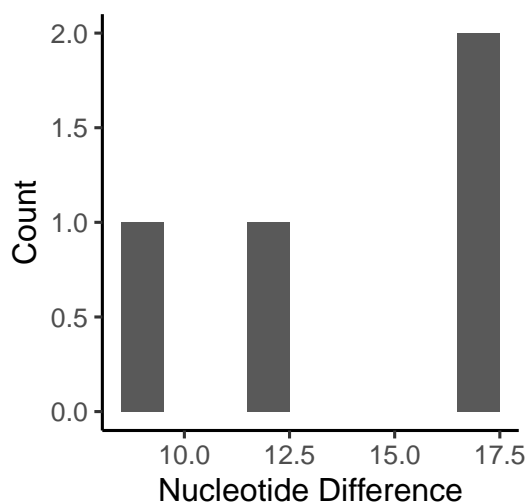
### IGHV3-64D\*06

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



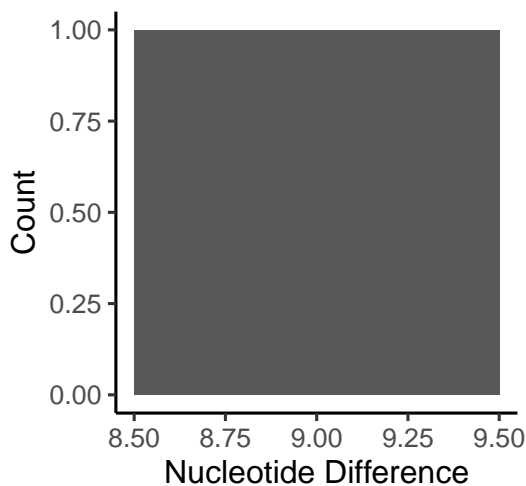
### IGHV3-69-1\*01

4 sequences assigned  
No exact matches.



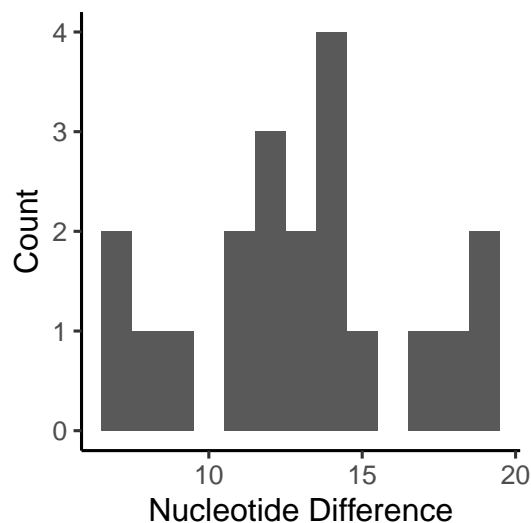
### IGHV3-73\*02

1 sequences assigned  
No exact matches.



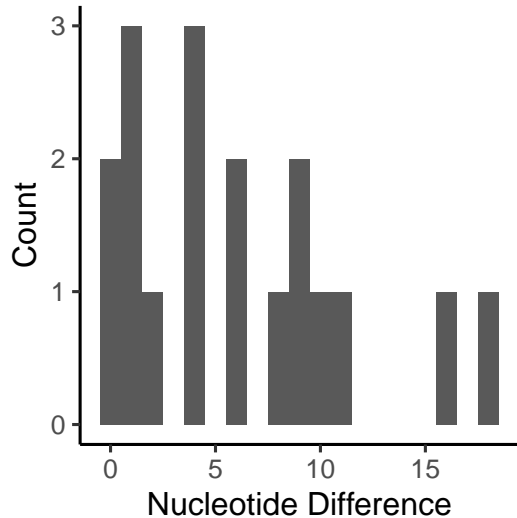
### IGHV3-NL1\*01

22 sequences assigned  
No exact matches.



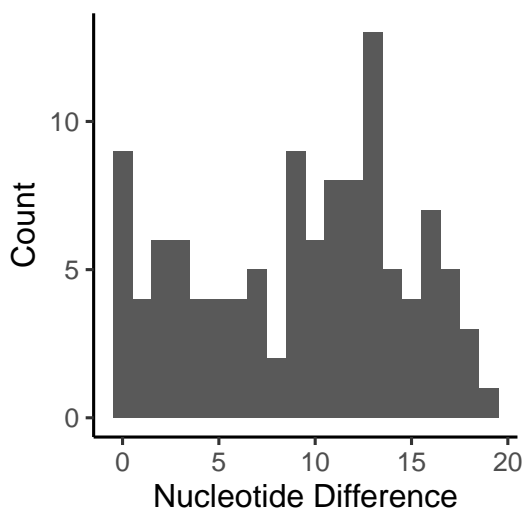
### IGHV3-72\*01

19 sequences assigned  
2 (10.5%) exact matches, in which:  
2 unique CDR3  
2 unique J



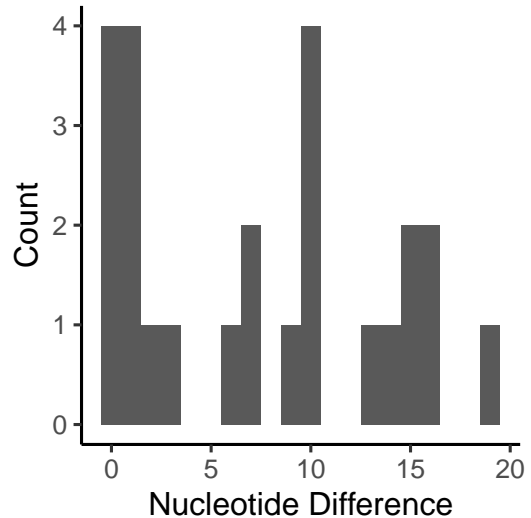
### IGHV3-74\*01

126 sequences assigned  
9 (7.1%) exact matches, in which:  
9 unique CDR3  
5 unique J



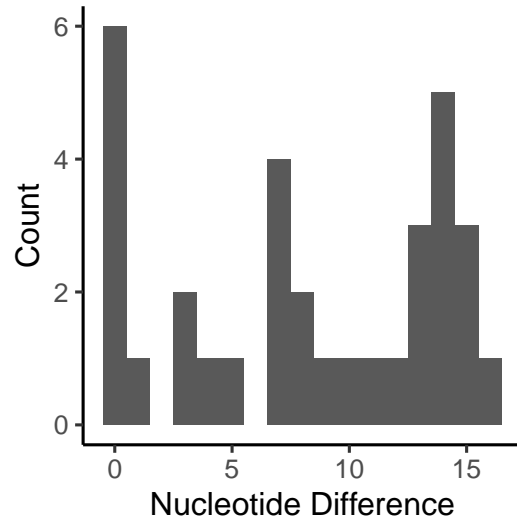
### IGHV4-4\*02

30 sequences assigned  
4 (13.3%) exact matches, in which:  
4 unique CDR3  
2 unique J



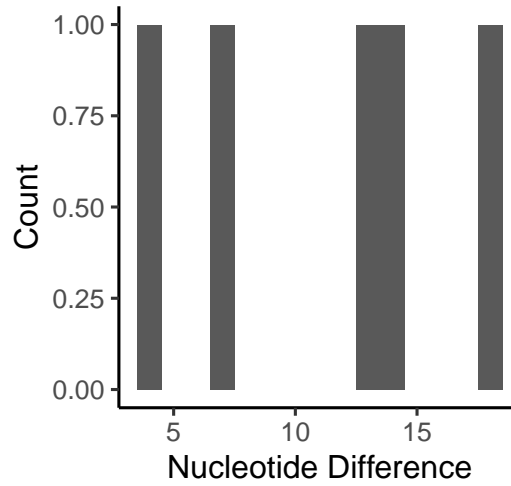
### IGHV4-4\*07

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



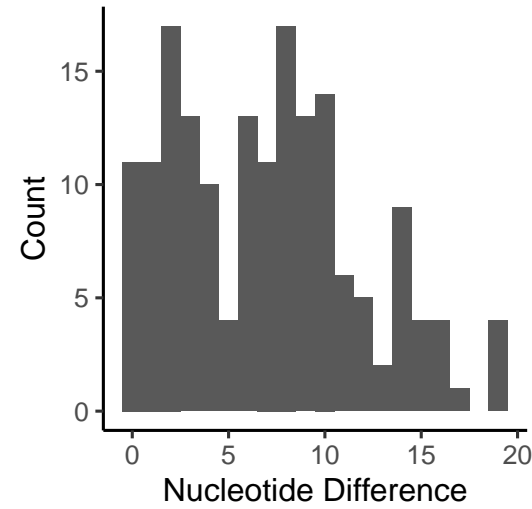
### IGHV4-30-4\*08

5 sequences assigned  
No exact matches.



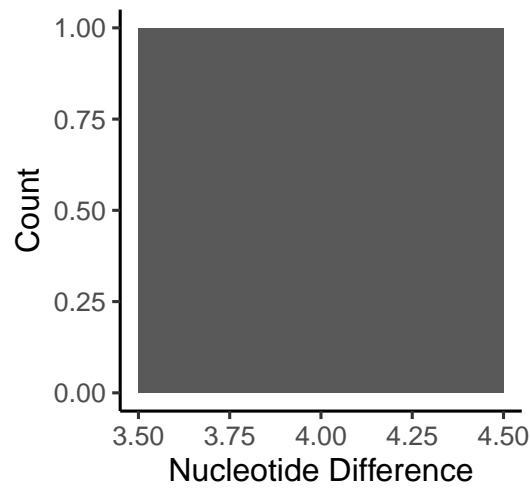
### IGHV4-38-2\*02

176 sequences assigned  
11 (6.2%) exact matches, in which:  
11 unique CDR3  
4 unique J



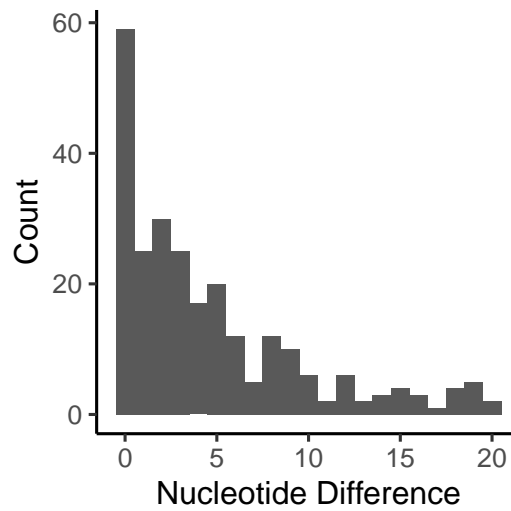
### IGHV4-30-2\*04

1 sequences assigned  
No exact matches.



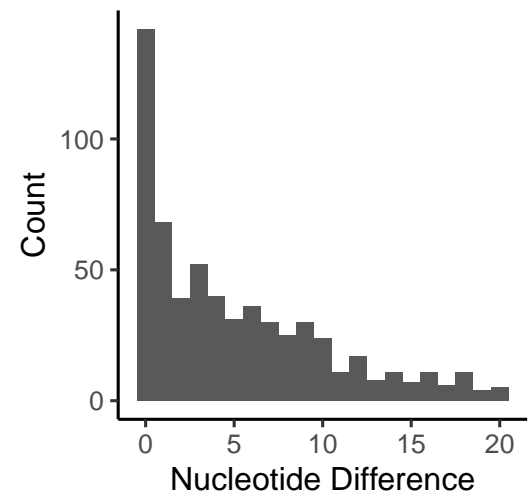
### IGHV4-31\*03

267 sequences assigned  
59 (22.1%) exact matches, in which:  
56 unique CDR3  
6 unique J



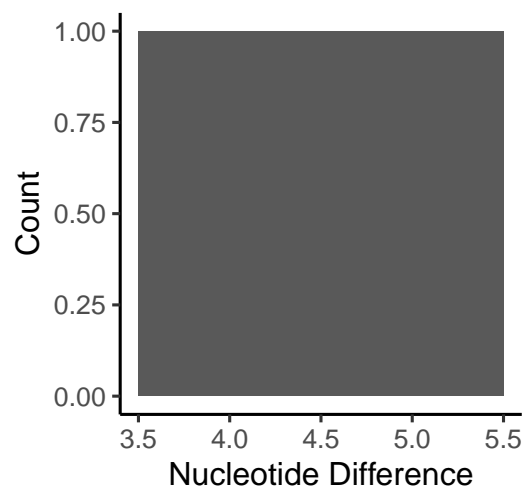
### IGHV4-39\*01

655 sequences assigned  
142 (21.7%) exact matches, in which:  
141 unique CDR3  
7 unique J



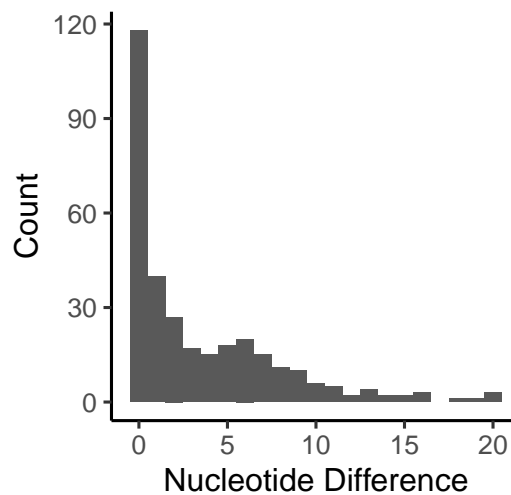
### IGHV4-30-4\*07

2 sequences assigned  
No exact matches.



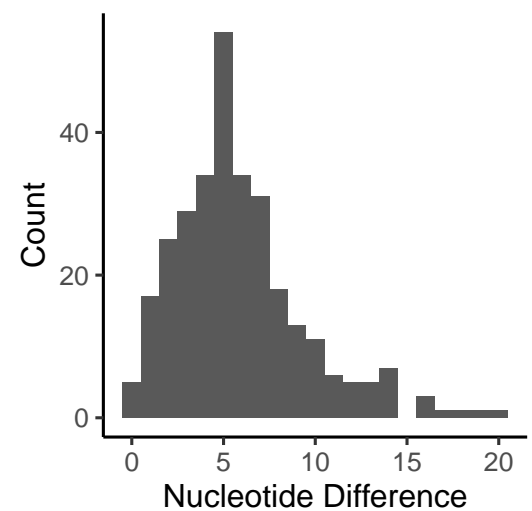
### IGHV4-34\*01

338 sequences assigned  
118 (34.9%) exact matches, in which:  
112 unique CDR3  
6 unique J



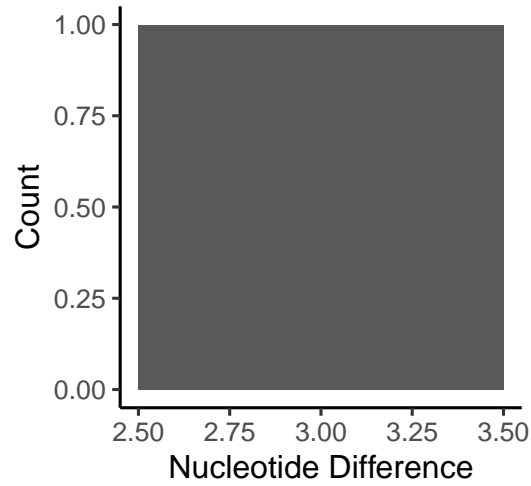
### IGHV4-39\*07

304 sequences assigned  
5 (1.6%) exact matches, in which:  
5 unique CDR3  
3 unique J



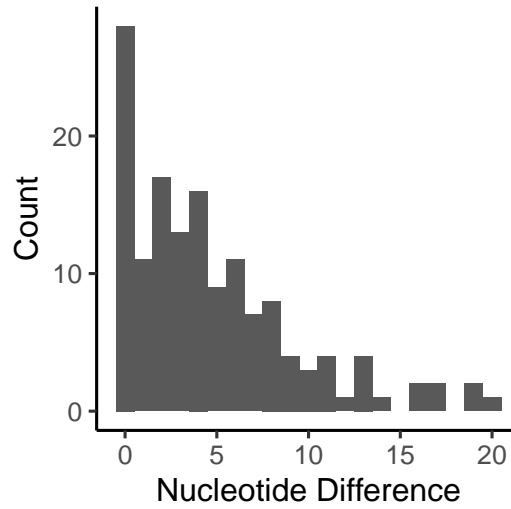
### IGHV4-55\*08

1 sequences assigned  
No exact matches.



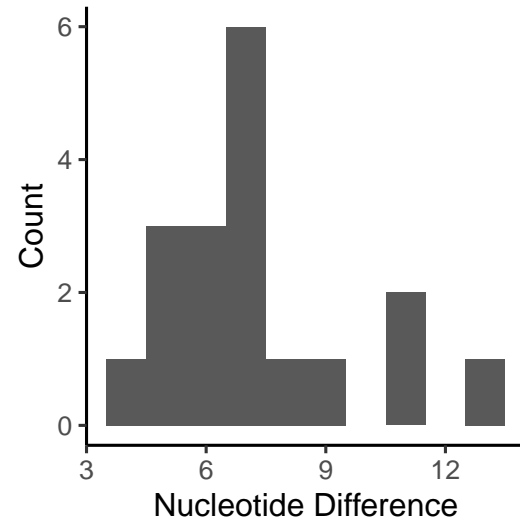
### IGHV4-59\*12

152 sequences assigned  
28 (18.4%) exact matches, in which:  
28 unique CDR3  
6 unique J



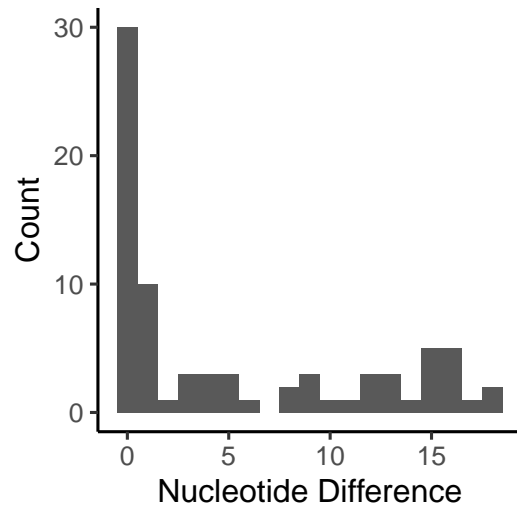
### IGHV4-61\*08

18 sequences assigned  
No exact matches.



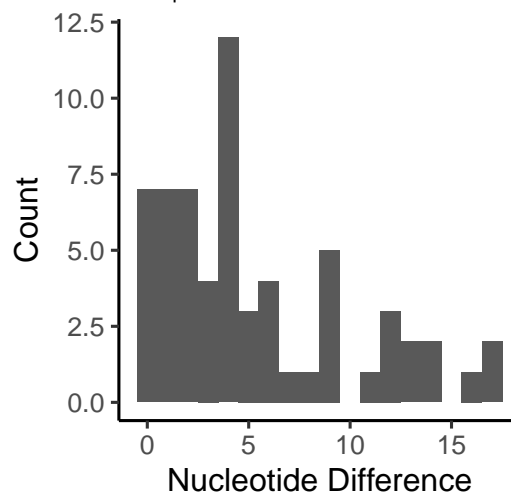
### IGHV4-59\*01

81 sequences assigned  
30 (37%) exact matches, in which:  
29 unique CDR3  
5 unique J



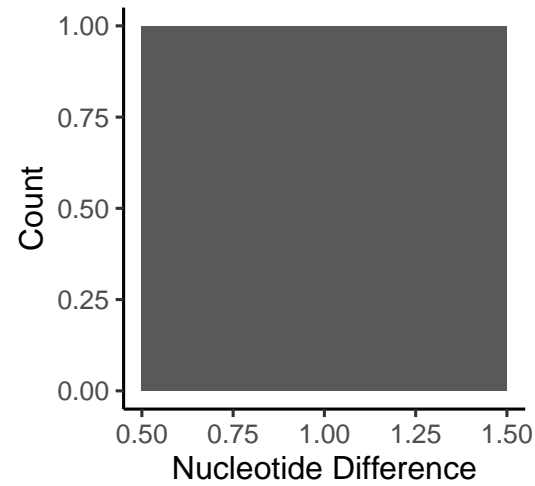
### IGHV4-59\*08\_A291G

68 sequences assigned  
7 (10.3%) exact matches, in which:  
5 unique CDR3  
3 unique J



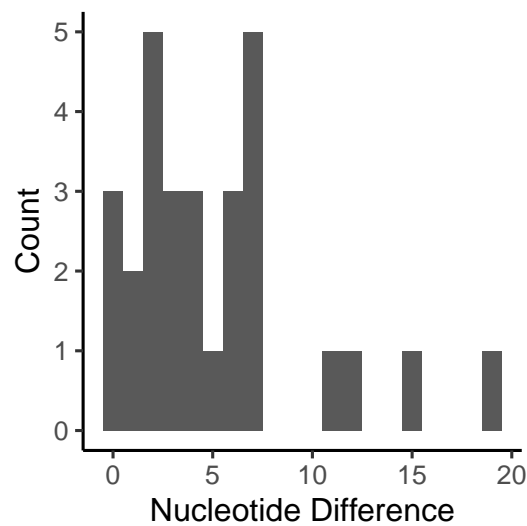
### IGHV4-61\*07\_T288C

1 sequences assigned  
No exact matches.



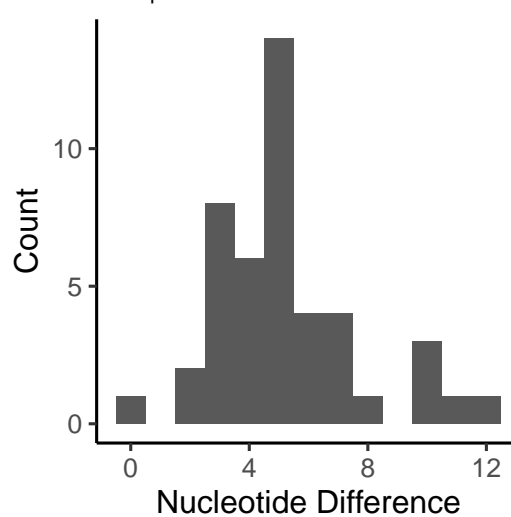
### IGHV4-59\*08

32 sequences assigned  
3 (9.4%) exact matches, in which:  
3 unique CDR3  
2 unique J



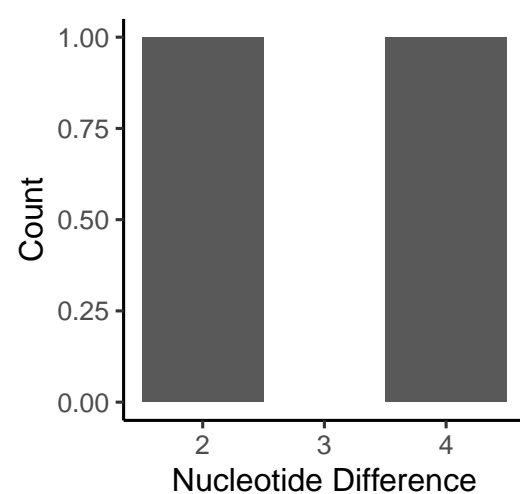
### IGHV4-61\*01

47 sequences assigned  
1 (2.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



### IGHV4/OR15-8\*03

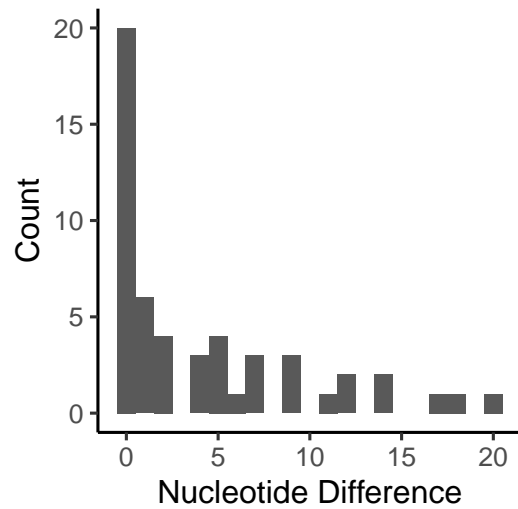
2 sequences assigned  
No exact matches.





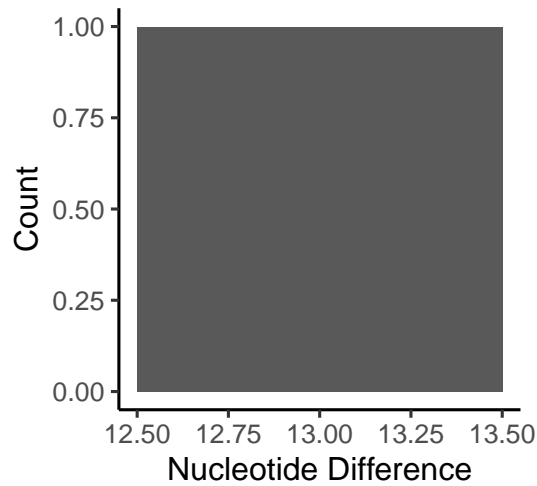
## IGHV5-10-1\*01

54 sequences assigned  
20 (37%) exact matches, in which:  
17 unique CDR3  
5 unique J



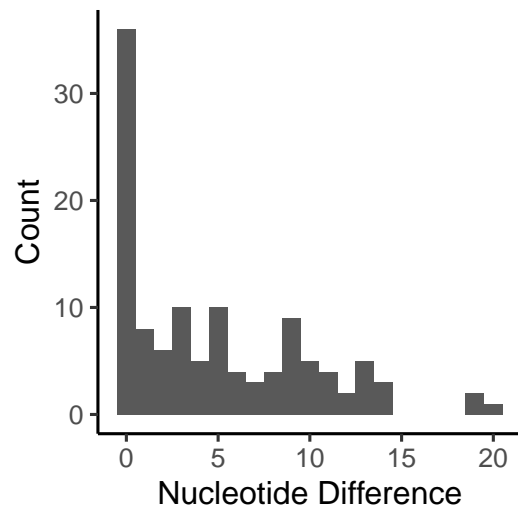
## IGHV3/OR16-6\*02

1 sequences assigned  
No exact matches.



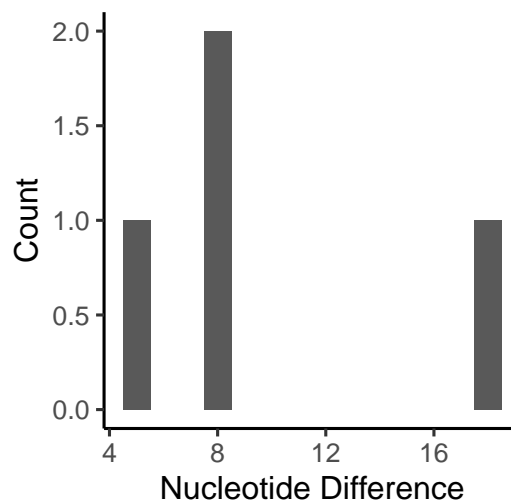
## IGHV5-51\*01

123 sequences assigned  
36 (29.3%) exact matches, in which:  
34 unique CDR3  
6 unique J



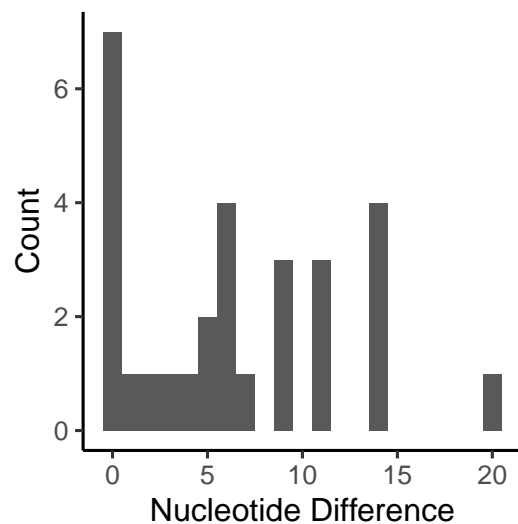
## IGHV7-4-1\*02

4 sequences assigned  
No exact matches.

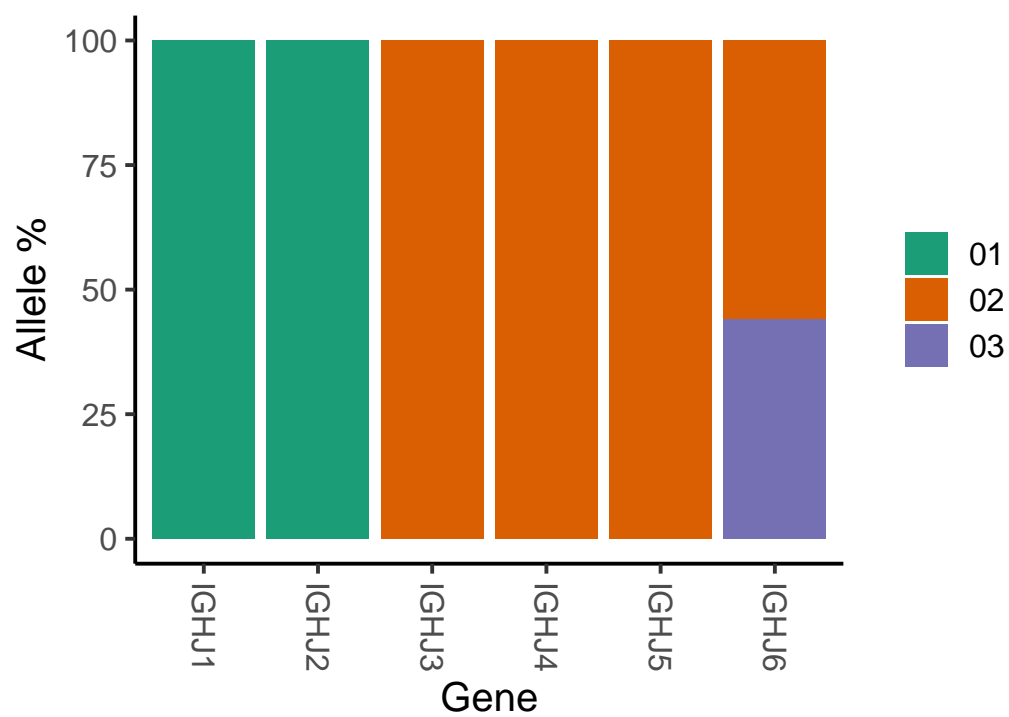


## IGHV6-1\*01

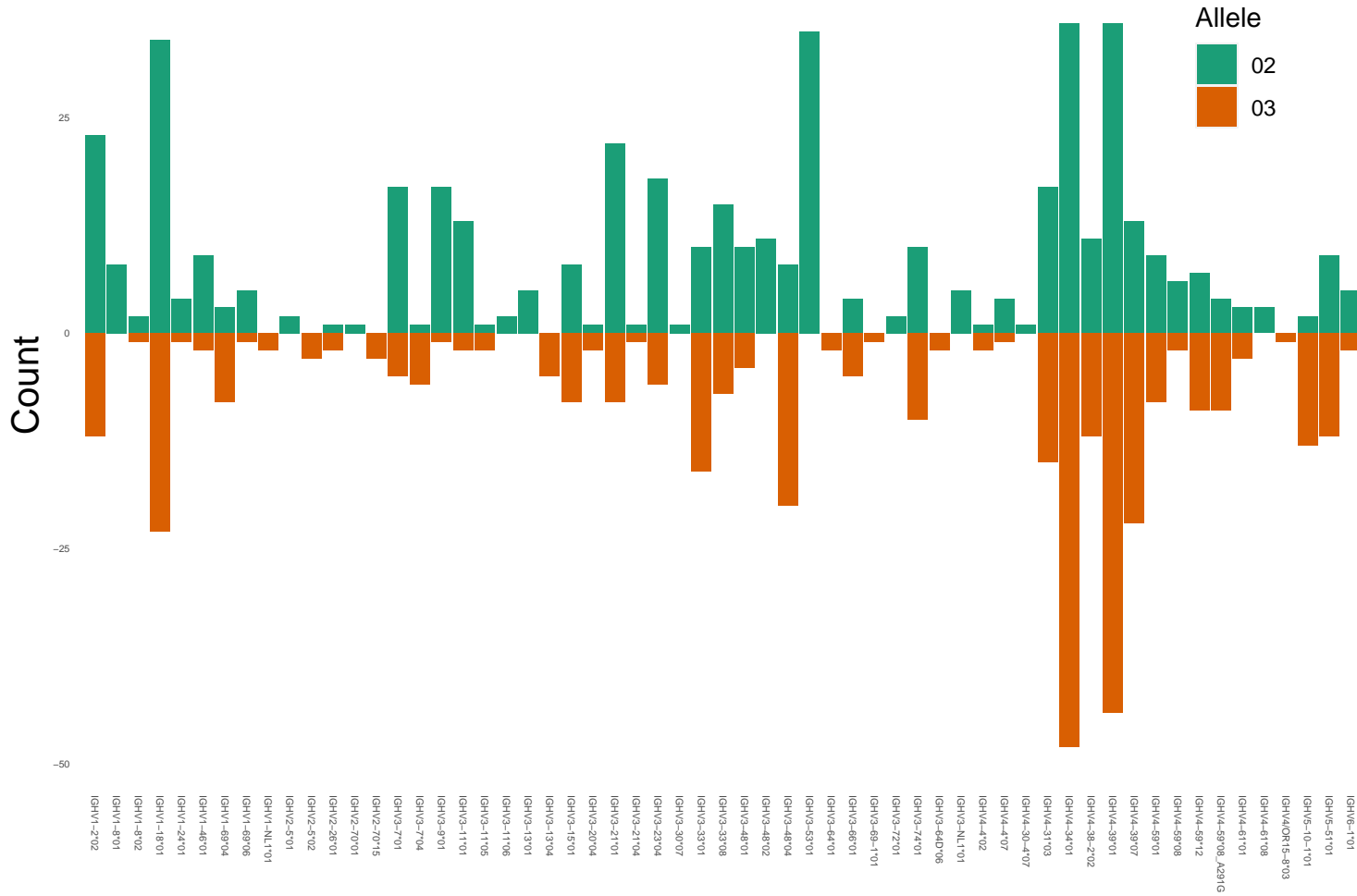
29 sequences assigned  
7 (24.1%) exact matches, in which:  
7 unique CDR3  
3 unique J



Allele Usage



Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.