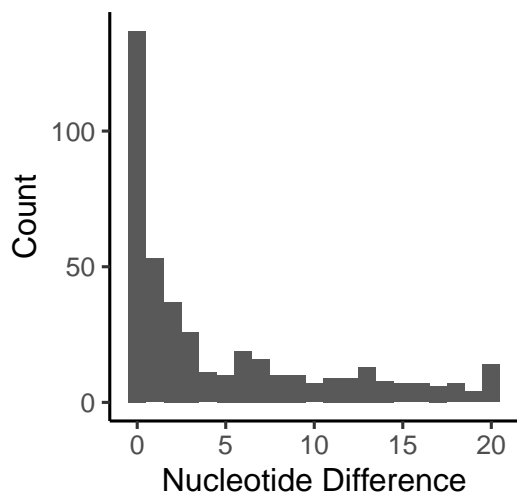


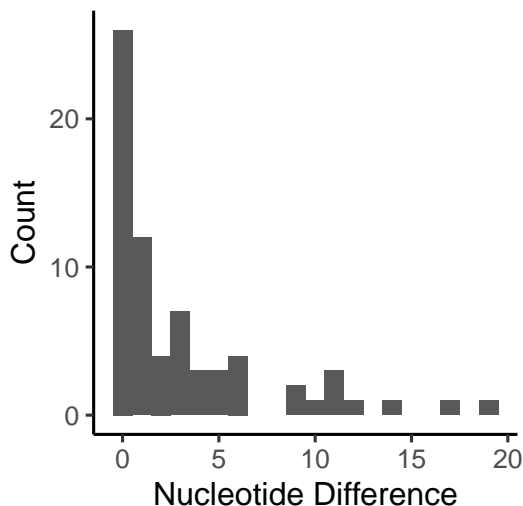
### IGHV1-2\*02

461 sequences assigned  
137 (29.7%) exact matches, in which:  
132 unique CDR3  
6 unique J



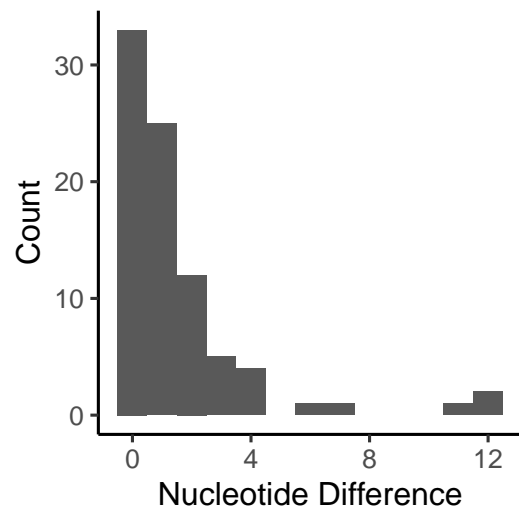
### IGHV1-8\*01

71 sequences assigned  
26 (36.6%) exact matches, in which:  
26 unique CDR3  
5 unique J



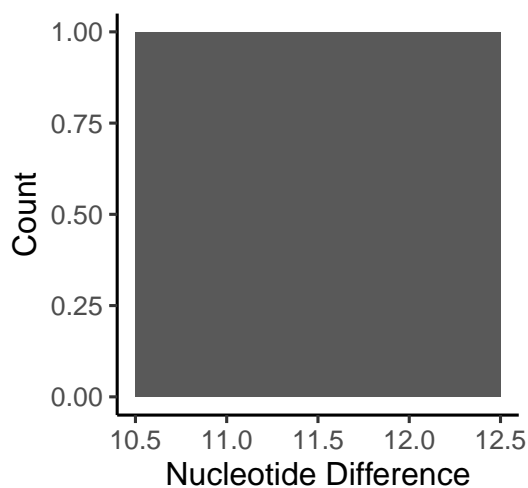
### IGHV1-24\*01

85 sequences assigned  
33 (38.8%) exact matches, in which:  
32 unique CDR3  
6 unique J



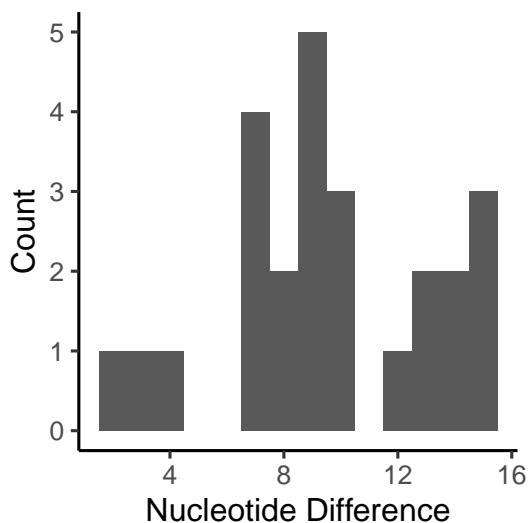
### IGHV1-3\*01

2 sequences assigned  
No exact matches.



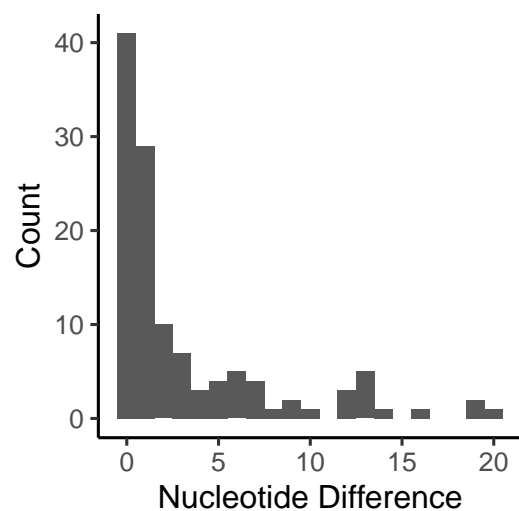
### IGHV1-8\*02

25 sequences assigned  
No exact matches.



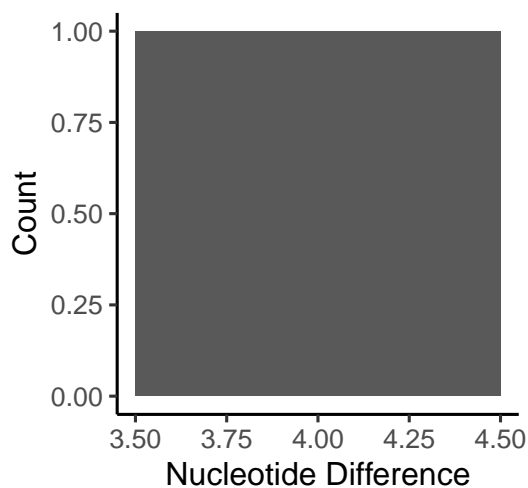
### IGHV1-46\*01

126 sequences assigned  
41 (32.5%) exact matches, in which:  
34 unique CDR3  
4 unique J



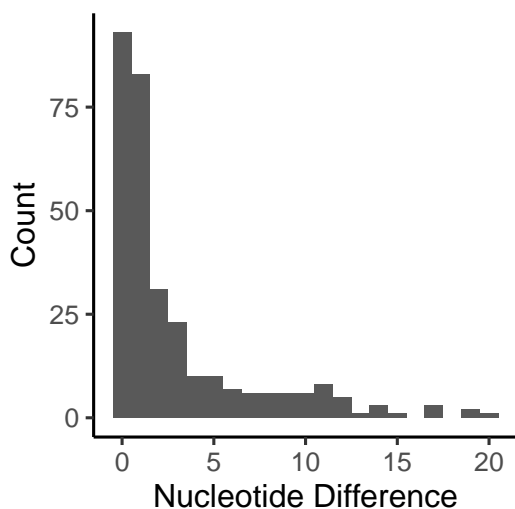
### IGHV1-3\*02

1 sequences assigned  
No exact matches.



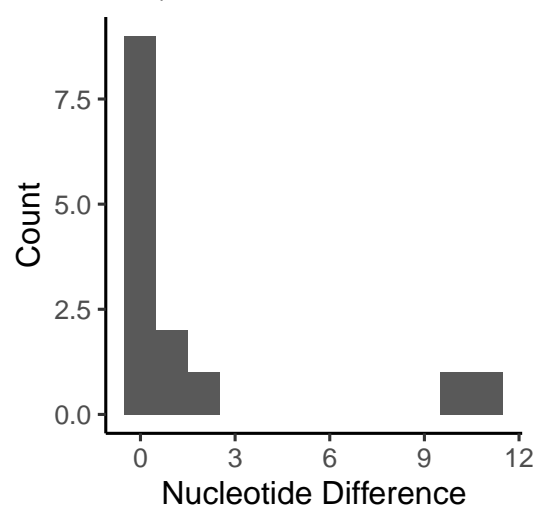
### IGHV1-18\*01

314 sequences assigned  
93 (29.6%) exact matches, in which:  
92 unique CDR3  
5 unique J



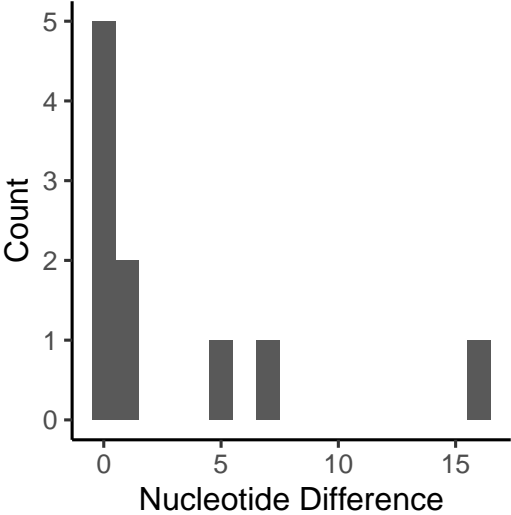
### IGHV1-58\*01

14 sequences assigned  
9 (64.3%) exact matches, in which:  
9 unique CDR3  
4 unique J



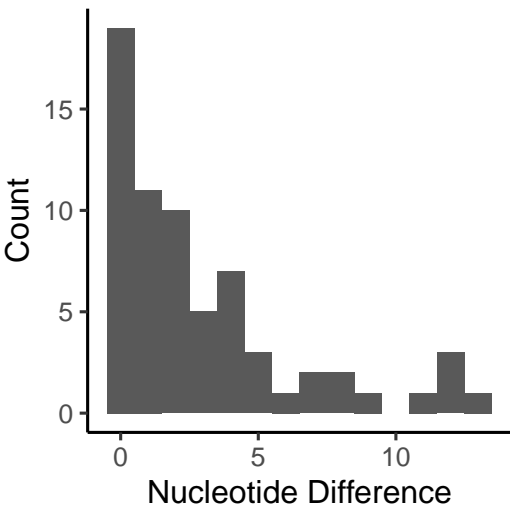
IGHV1-58\*02

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



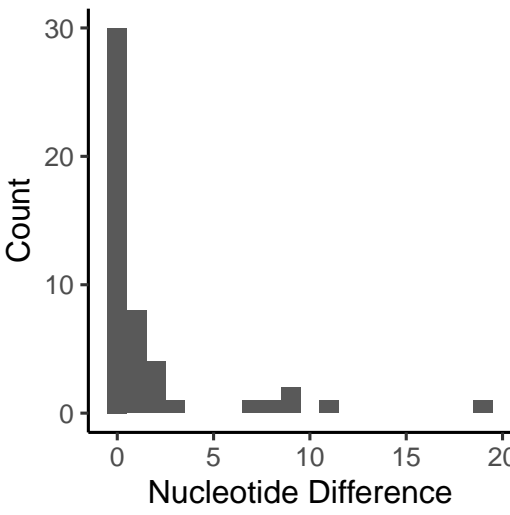
IGHV1-69\*01\_G54A\_A22!

66 sequences assigned  
19 (28.8%) exact matches, in which:  
19 unique CDR3  
5 unique J



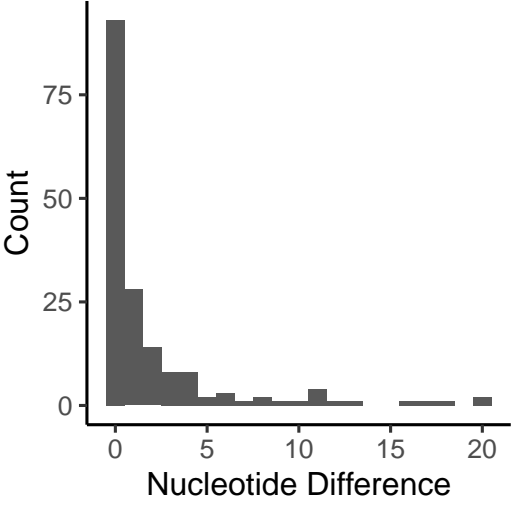
IGHV2-5\*01

50 sequences assigned  
30 (60%) exact matches, in which:  
29 unique CDR3  
4 unique J



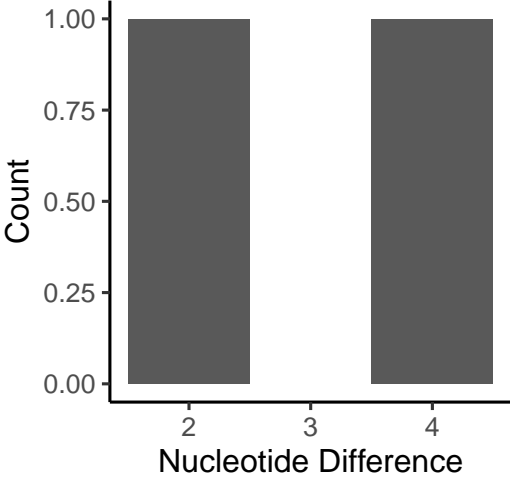
IGHV1-69\*04

178 sequences assigned  
93 (52.2%) exact matches, in which:  
87 unique CDR3  
6 unique J



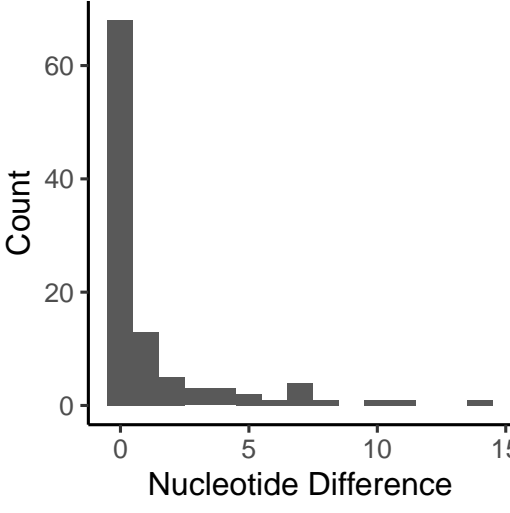
IGHV1-69D\*01

2 sequences assigned  
No exact matches.



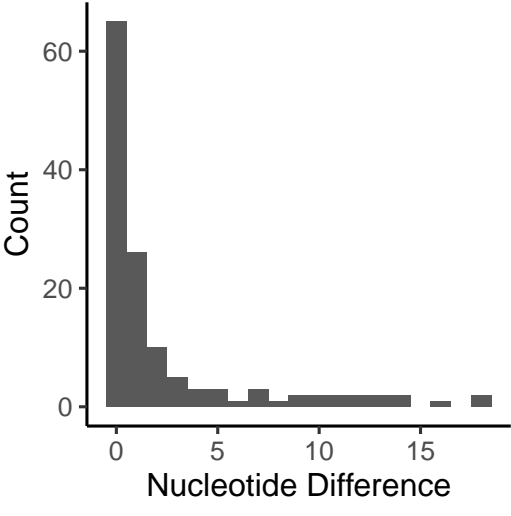
IGHV2-5\*02

104 sequences assigned  
68 (65.4%) exact matches, in which:  
68 unique CDR3  
5 unique J



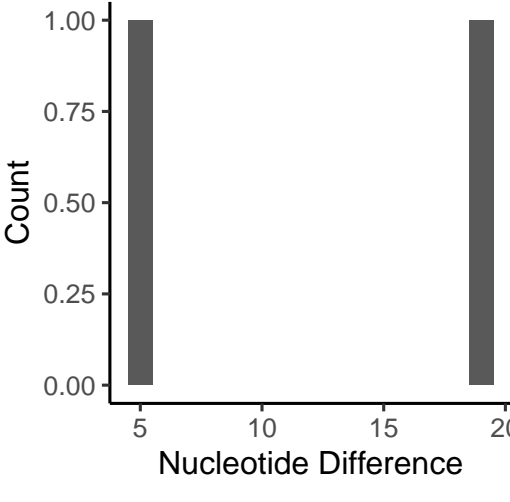
IGHV1-69\*01\_G54A

134 sequences assigned  
65 (48.5%) exact matches, in which:  
64 unique CDR3  
5 unique J



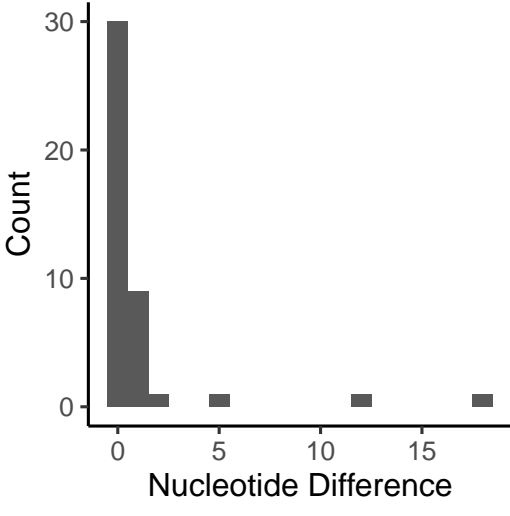
IGHV1-NL1\*01

2 sequences assigned  
No exact matches.



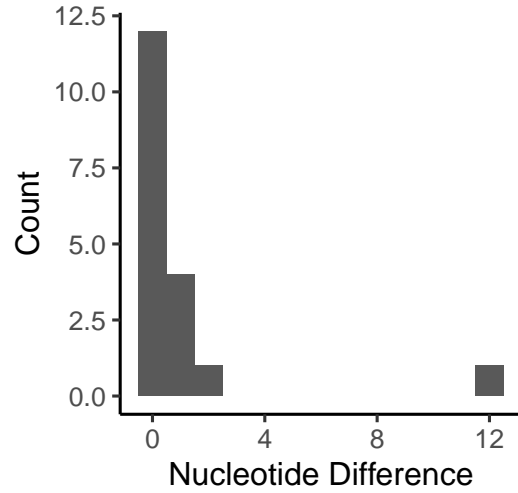
IGHV2-26\*01

44 sequences assigned  
30 (68.2%) exact matches, in which:  
30 unique CDR3  
5 unique J



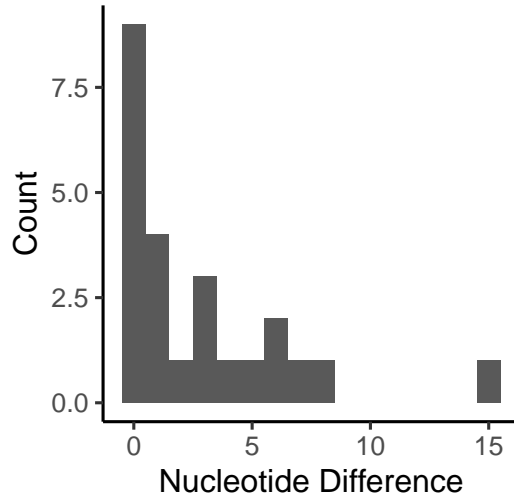
### IGHV2-70\*01

18 sequences assigned  
12 (66.7%) exact matches, in which:  
11 unique CDR3  
4 unique J



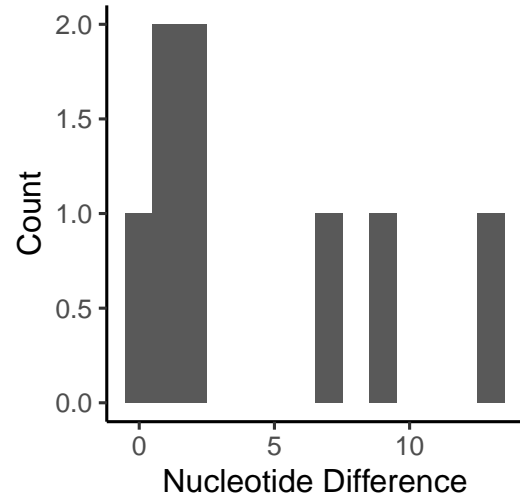
### IGHV3-7\*05

24 sequences assigned  
9 (37.5%) exact matches, in which:  
8 unique CDR3  
2 unique J



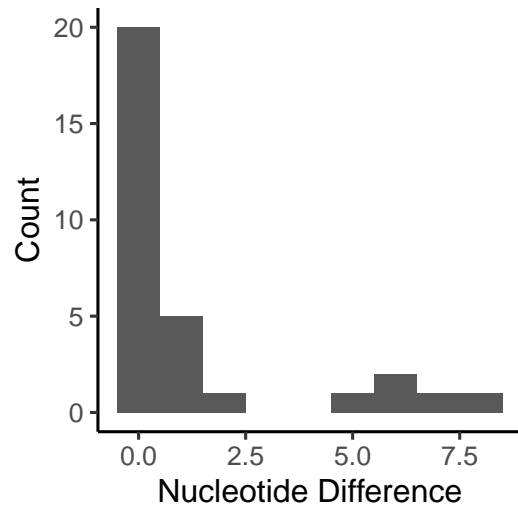
### IGHV3-11\*04

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



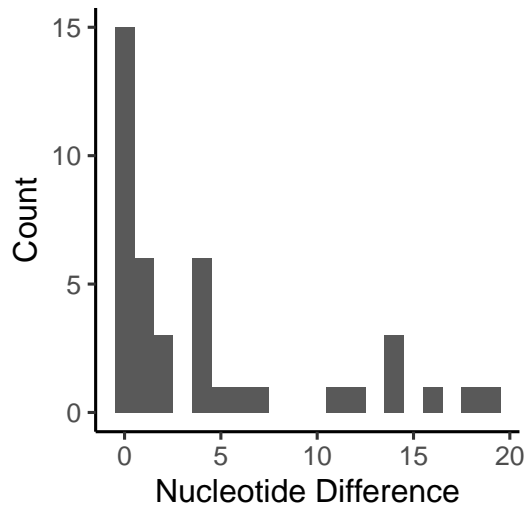
### IGHV2-70\*15

35 sequences assigned  
20 (57.1%) exact matches, in which:  
18 unique CDR3  
4 unique J



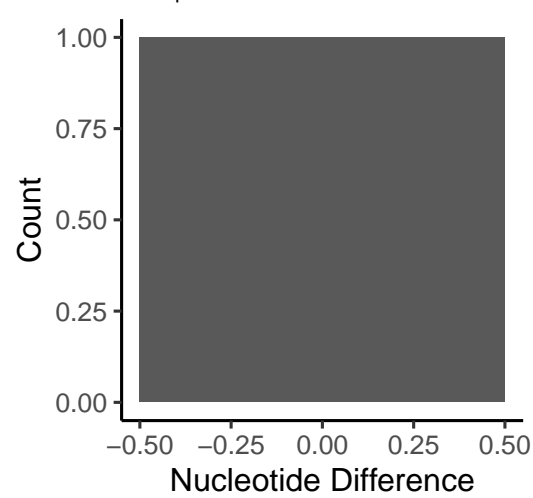
### IGHV3-9\*01

43 sequences assigned  
15 (34.9%) exact matches, in which:  
15 unique CDR3  
3 unique J



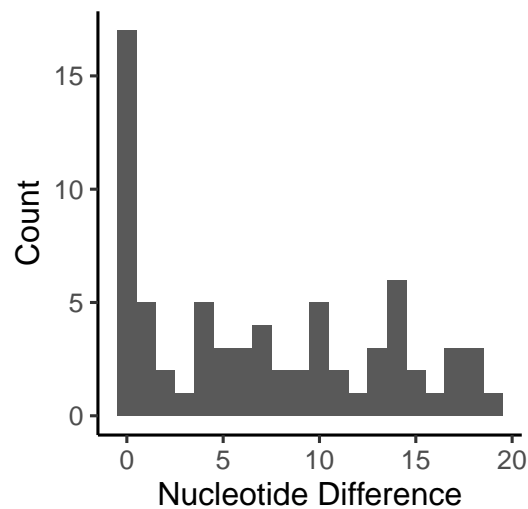
### IGHV3-11\*05

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



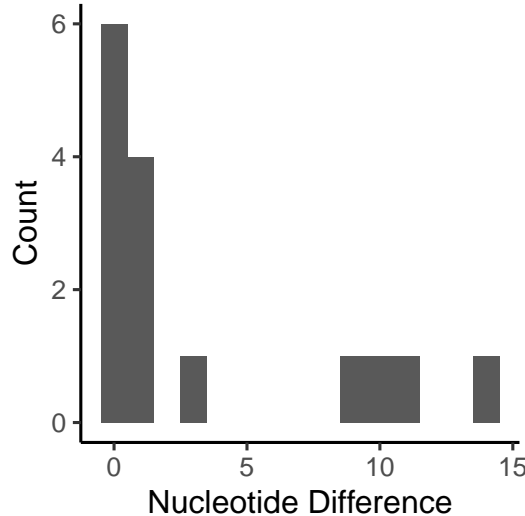
### IGHV3-7\*01

85 sequences assigned  
17 (20%) exact matches, in which:  
16 unique CDR3  
4 unique J



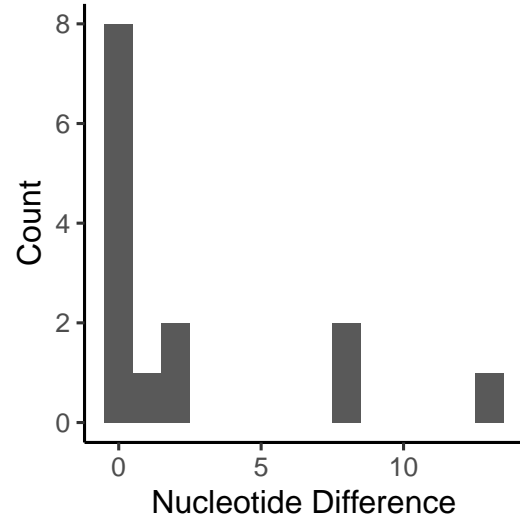
### IGHV3-11\*01

15 sequences assigned  
6 (40%) exact matches, in which:  
6 unique CDR3  
3 unique J



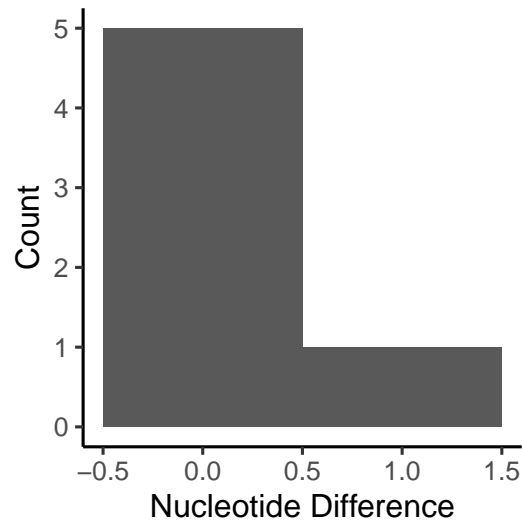
### IGHV3-11\*06

14 sequences assigned  
8 (57.1%) exact matches, in which:  
8 unique CDR3  
3 unique J



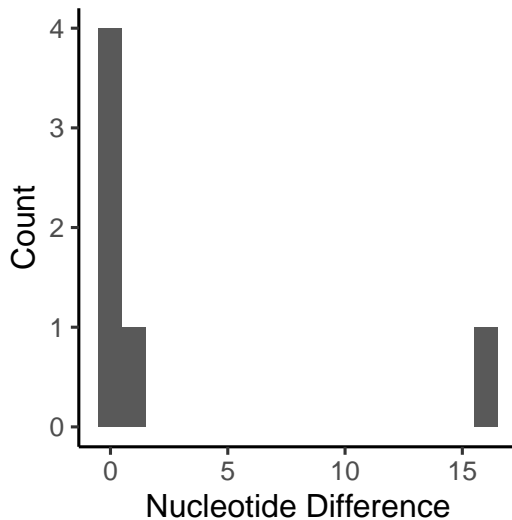
### IGHV3-13\*01

6 sequences assigned  
5 (83.3%) exact matches, in which:  
5 unique CDR3  
3 unique J



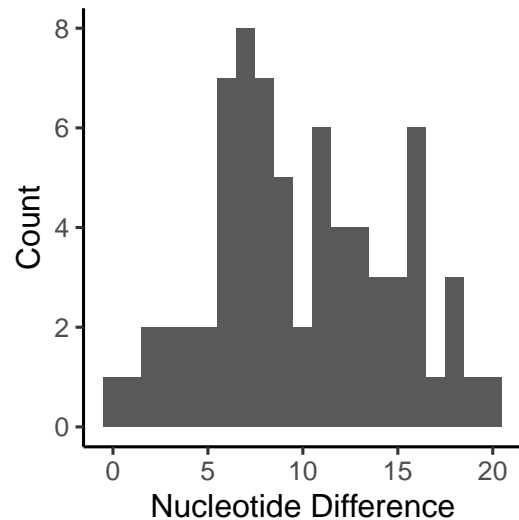
### IGHV3-20\*01

6 sequences assigned  
4 (66.7%) exact matches, in which:  
3 unique CDR3  
2 unique J



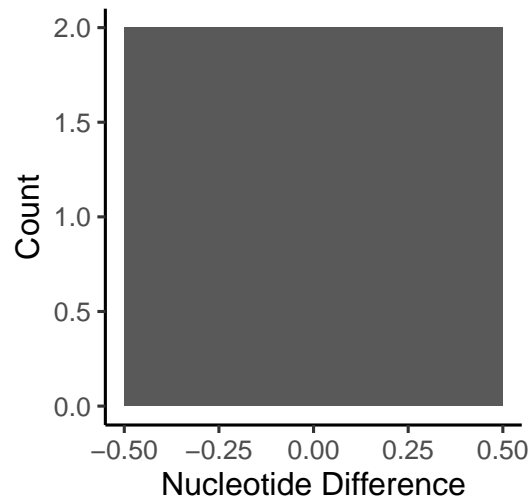
### IGHV3-23\*04

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



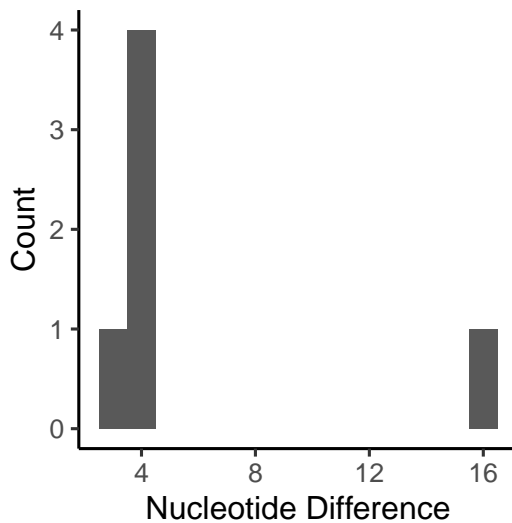
### IGHV3-13\*05

2 sequences assigned  
2 (100%) exact matches, in which:  
2 unique CDR3  
1 unique J



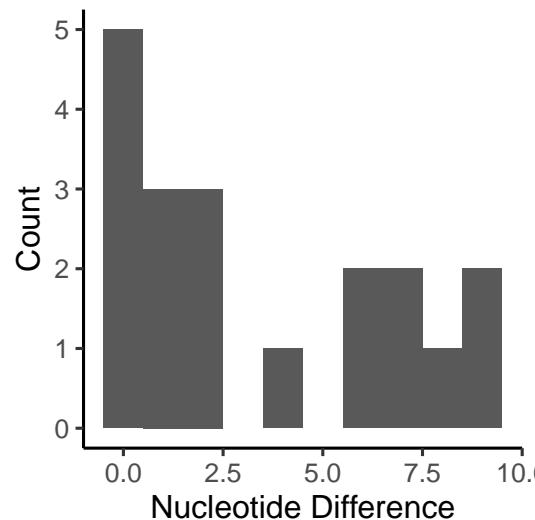
### IGHV3-20\*04

10 sequences assigned  
No exact matches.



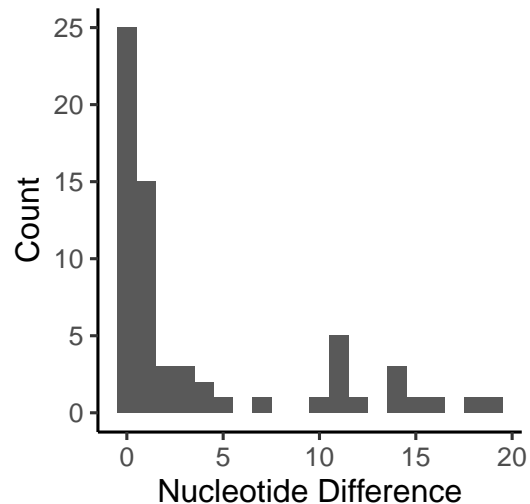
### IGHV3-30\*03

21 sequences assigned  
5 (23.8%) exact matches, in which:  
5 unique CDR3  
2 unique J



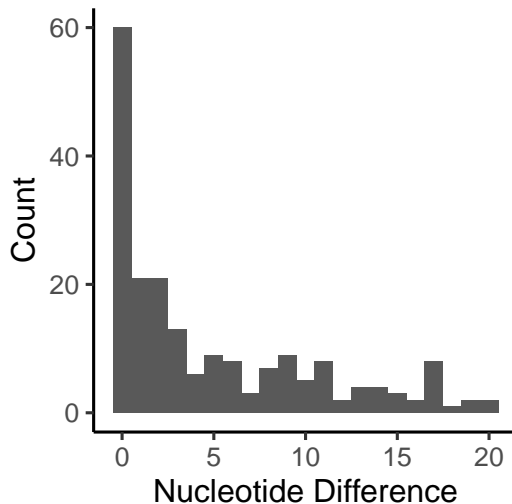
### IGHV3-15\*01

69 sequences assigned  
25 (36.2%) exact matches, in which:  
20 unique CDR3  
6 unique J



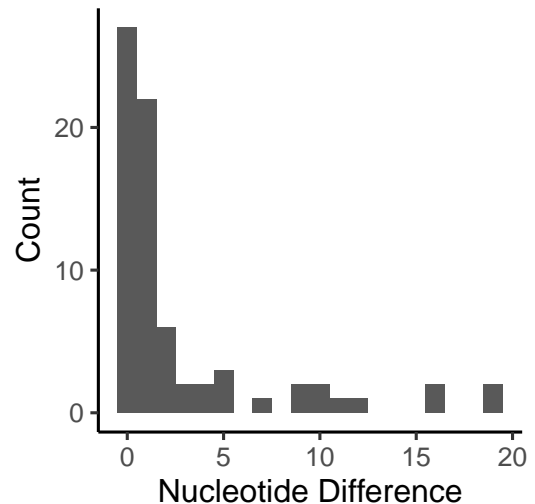
### IGHV3-21\*01

205 sequences assigned  
60 (29.3%) exact matches, in which:  
60 unique CDR3  
5 unique J



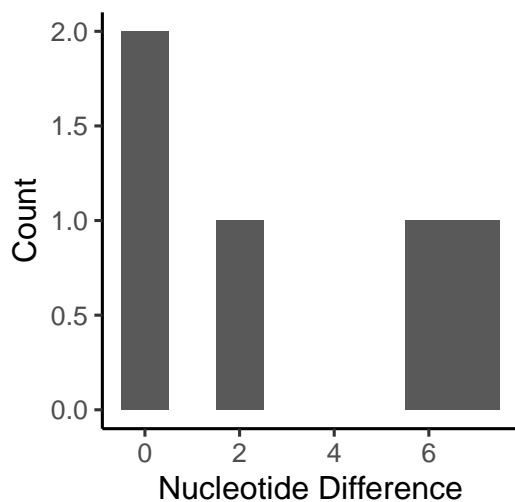
### IGHV3-33\*01

73 sequences assigned  
27 (37%) exact matches, in which:  
24 unique CDR3  
5 unique J



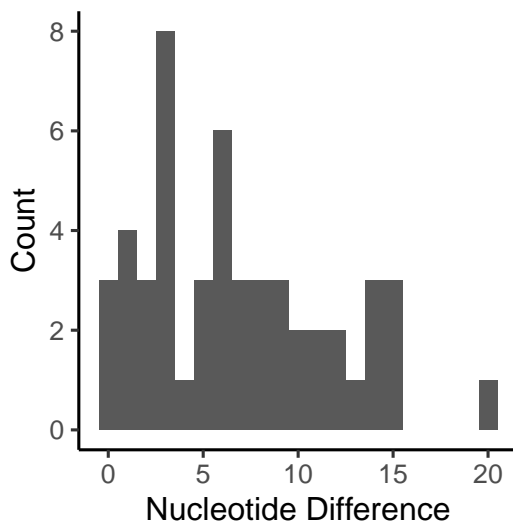
### IGHV3–33\*05

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



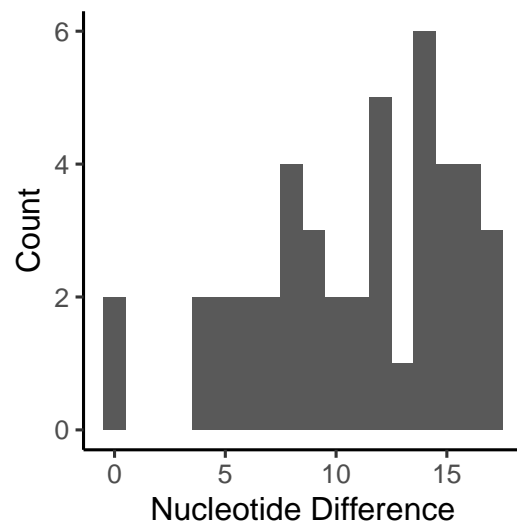
### IGHV3–48\*01

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



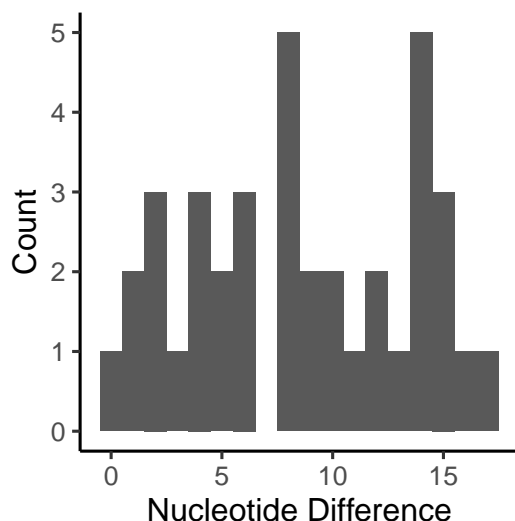
### IGHV3–48\*04

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



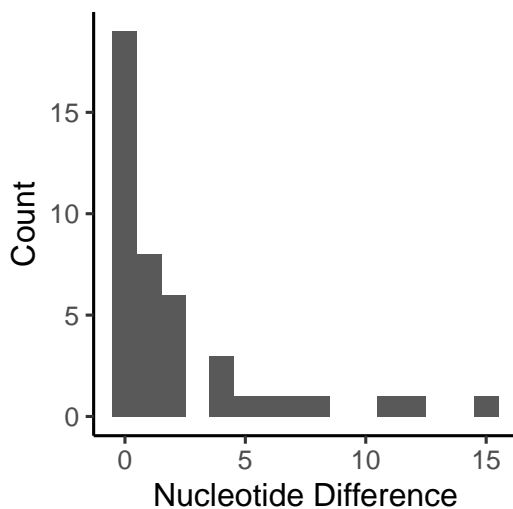
### IGHV3–33\*08

39 sequences assigned  
1 (2.6%) exact matches, in which:  
1 unique CDR3  
1 unique J



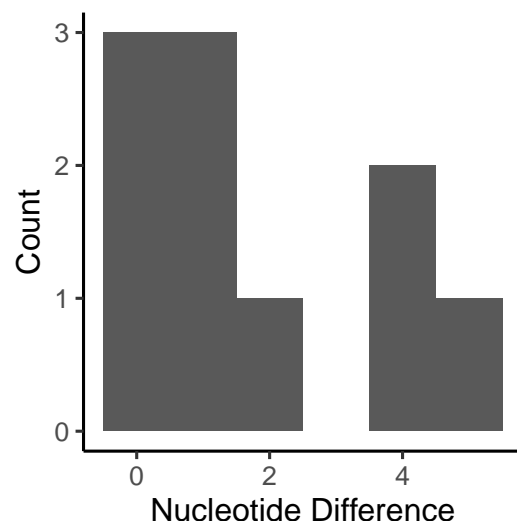
### IGHV3–48\*02

43 sequences assigned  
19 (44.2%) exact matches, in which:  
19 unique CDR3  
3 unique J



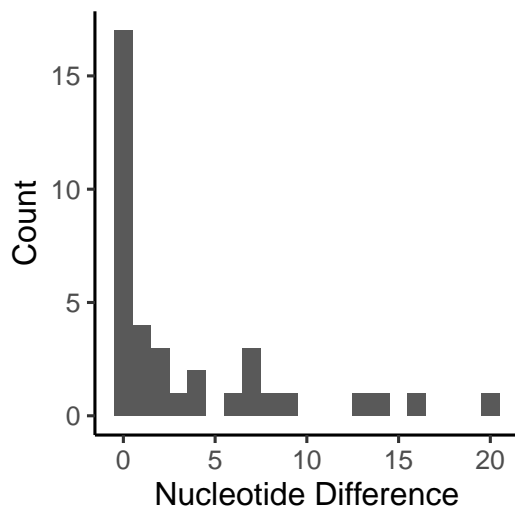
### IGHV3–49\*04

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



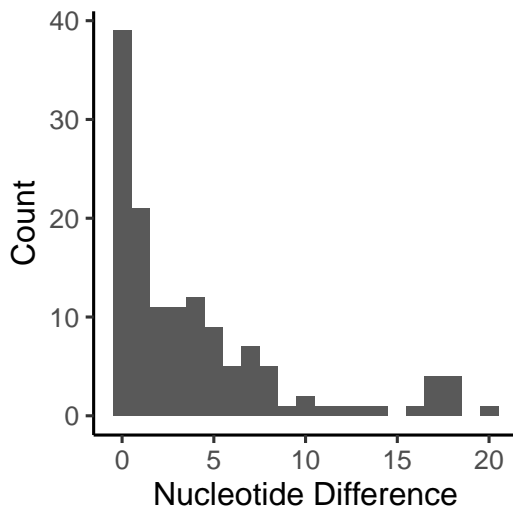
### IGHV3–43\*02

38 sequences assigned  
17 (44.7%) exact matches, in which:  
16 unique CDR3  
5 unique J



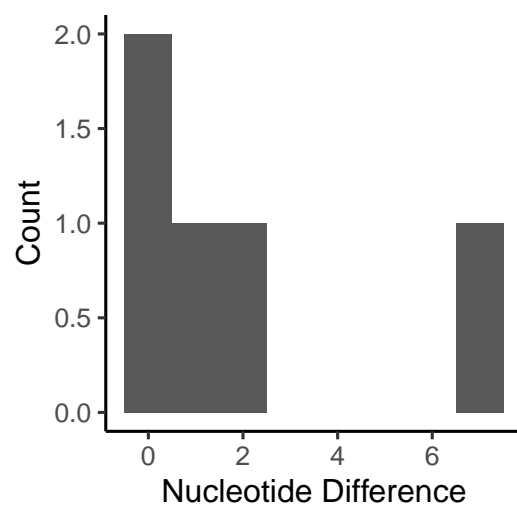
### IGHV3–48\*03

143 sequences assigned  
39 (27.3%) exact matches, in which:  
38 unique CDR3  
5 unique J



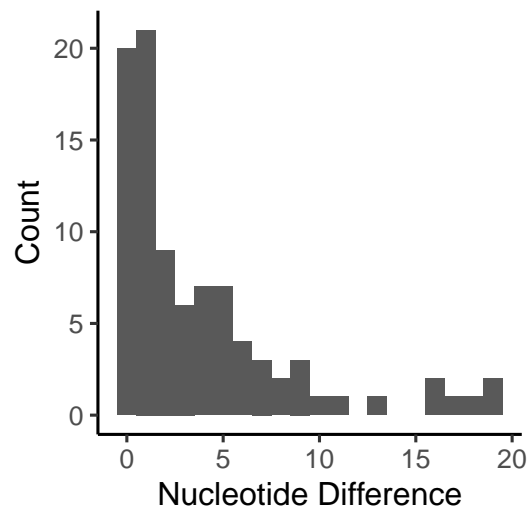
### IGHV3–49\*05

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



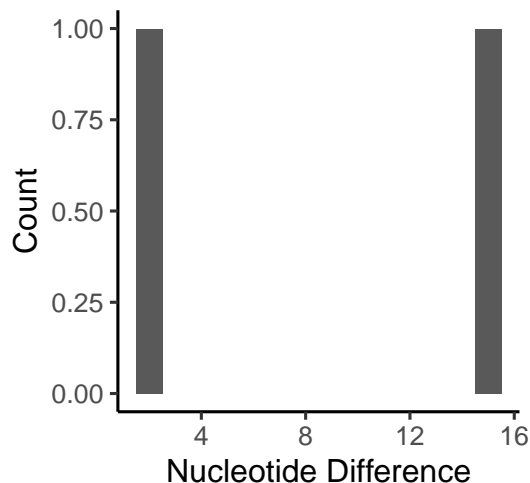
### IGHV3-53\*01

93 sequences assigned  
20 (21.5%) exact matches, in which:  
18 unique CDR3  
4 unique J



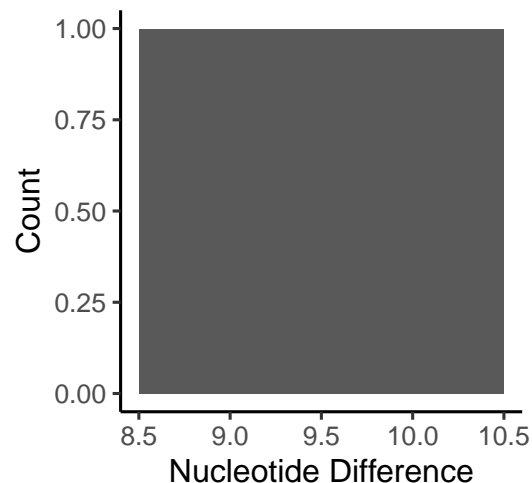
### IGHV3-64\*04

3 sequences assigned  
No exact matches.



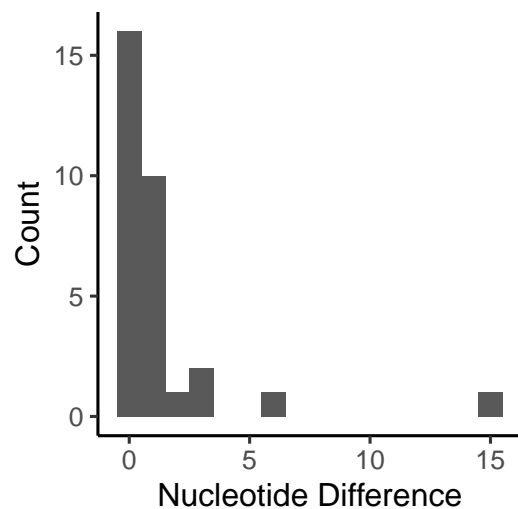
### IGHV3-69-1\*01

3 sequences assigned  
No exact matches.



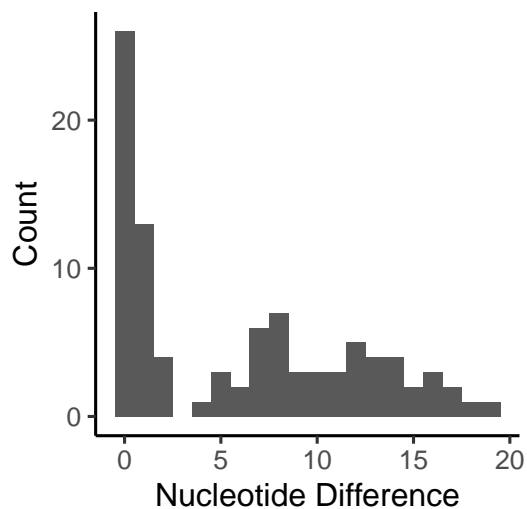
### IGHV3-53\*04

32 sequences assigned  
16 (50%) exact matches, in which:  
13 unique CDR3  
4 unique J



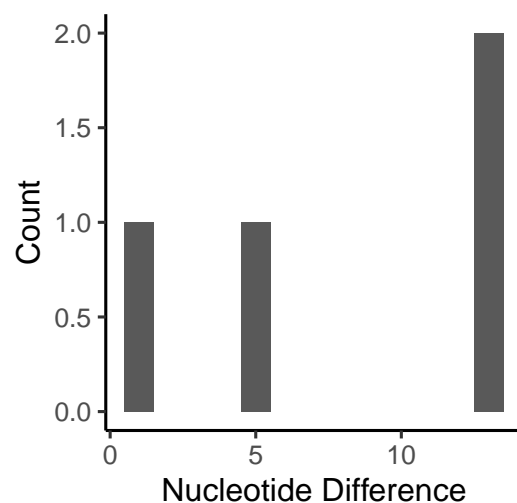
### IGHV3-66\*01

108 sequences assigned  
26 (24.1%) exact matches, in which:  
23 unique CDR3  
4 unique J



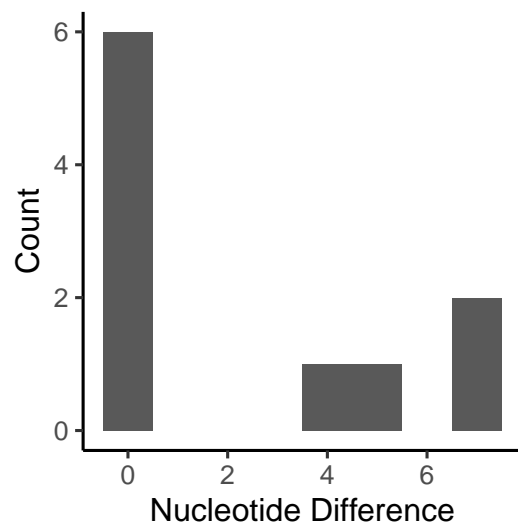
### IGHV3-72\*01

5 sequences assigned  
No exact matches.



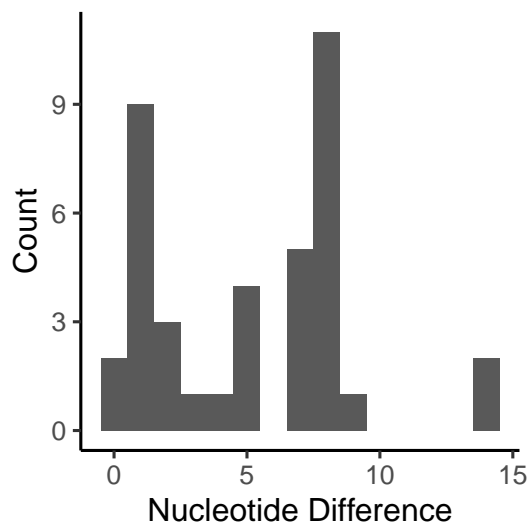
### IGHV3-64\*01

10 sequences assigned  
6 (60%) exact matches, in which:  
6 unique CDR3  
3 unique J



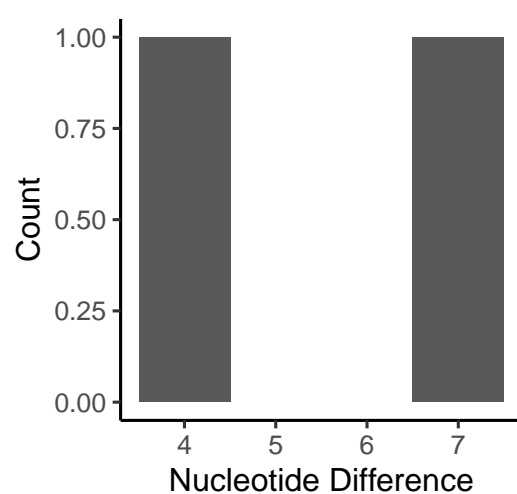
### IGHV3-66\*03

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



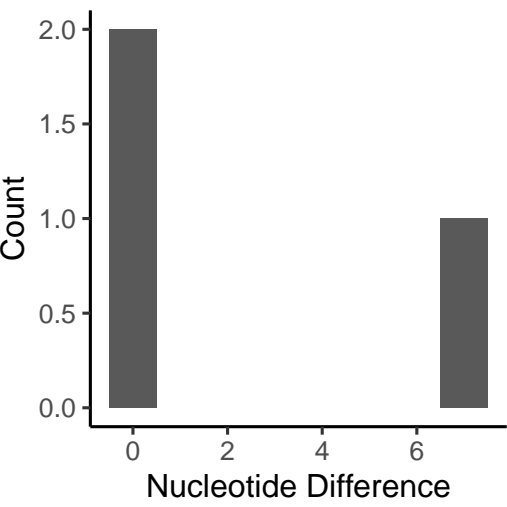
### IGHV3-73\*01

3 sequences assigned  
No exact matches.



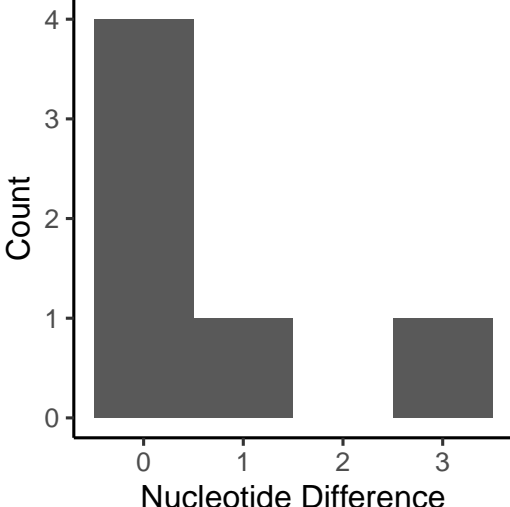
IGHV3-73\*02

3 sequences assigned  
2 (66.7%) exact matches, in which:  
2 unique CDR3  
2 unique J



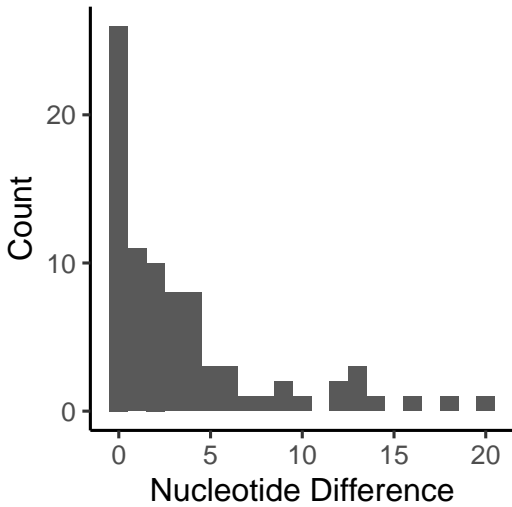
IGHV3-64D\*09

6 sequences assigned  
4 (66.7%) exact matches, in which:  
4 unique CDR3  
2 unique J



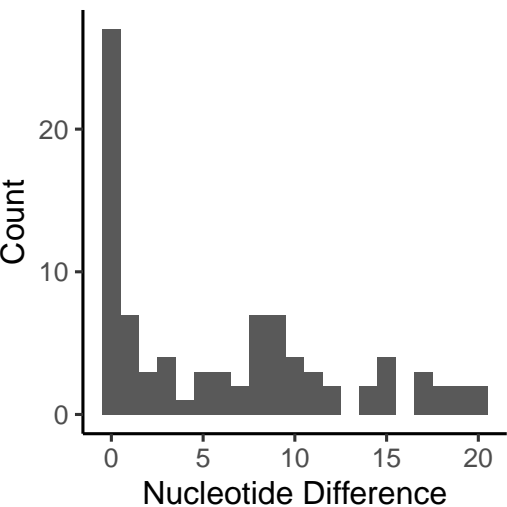
IGHV4-31\*03

84 sequences assigned  
26 (31%) exact matches, in which:  
25 unique CDR3  
5 unique J



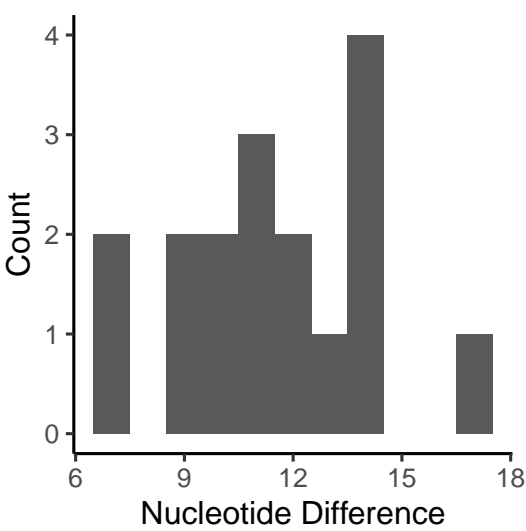
IGHV3-74\*01

93 sequences assigned  
27 (29%) exact matches, in which:  
26 unique CDR3  
4 unique J



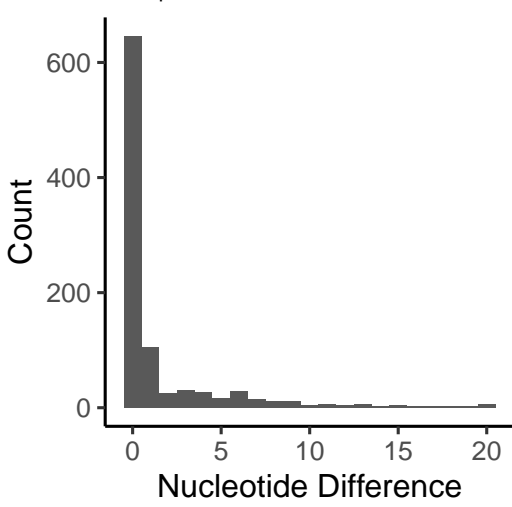
IGHV3-NL1\*01

18 sequences assigned  
No exact matches.



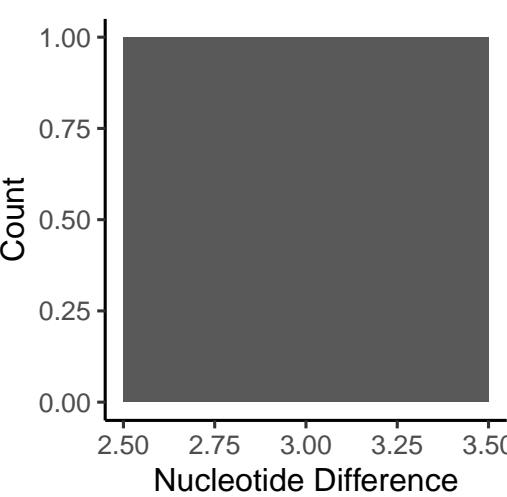
IGHV4-34\*01

981 sequences assigned  
646 (65.9%) exact matches, in which:  
623 unique CDR3  
6 unique J



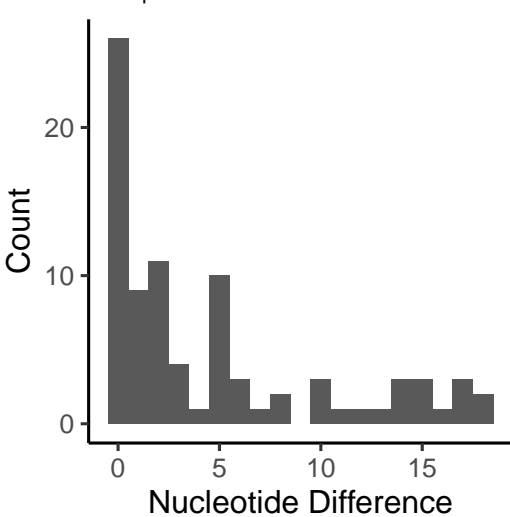
IGHV3-64D\*06

1 sequences assigned  
No exact matches.



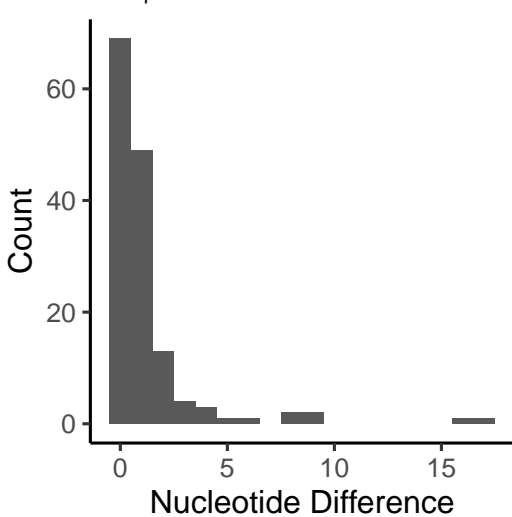
IGHV4-4\*07

85 sequences assigned  
26 (30.6%) exact matches, in which:  
25 unique CDR3  
5 unique J



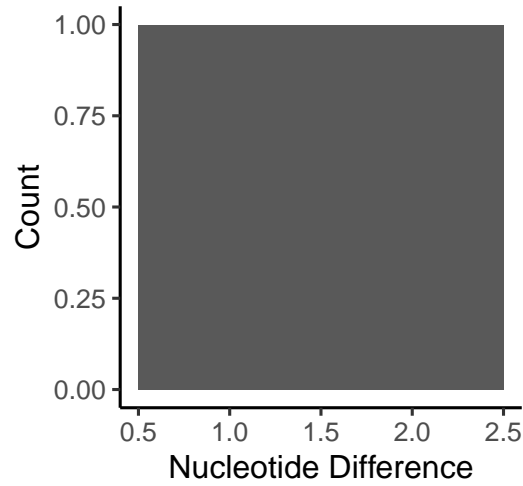
IGHV4-34\*01\_A220G\_A2

148 sequences assigned  
69 (46.6%) exact matches, in which:  
68 unique CDR3  
6 unique J



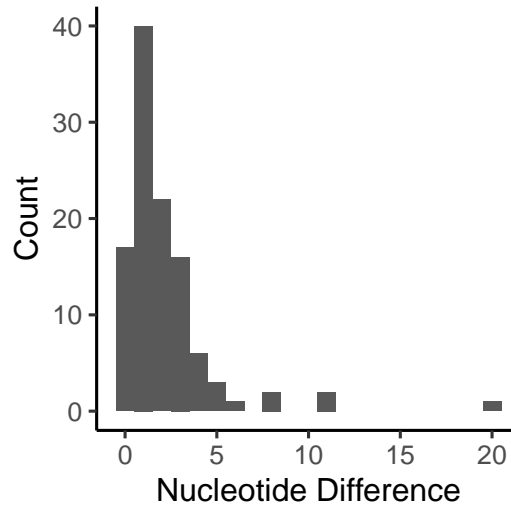
### IGHV4-38-2\*02

2 sequences assigned  
No exact matches.



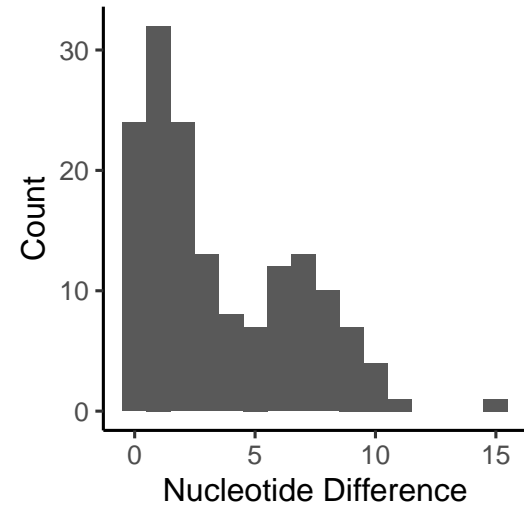
### IGHV4-39\*01\_A220G

115 sequences assigned  
17 (14.8%) exact matches, in which:  
17 unique CDR3  
5 unique J



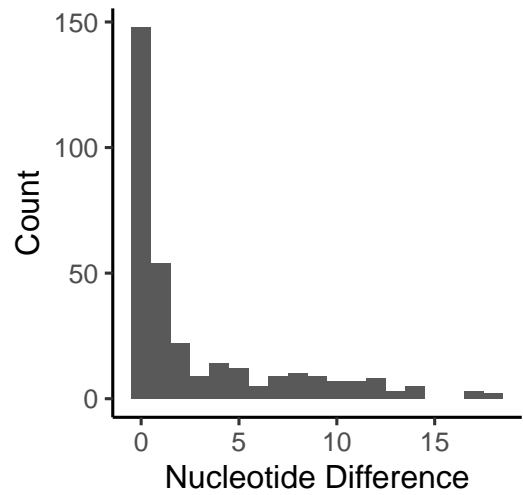
### IGHV4-59\*12

157 sequences assigned  
24 (15.3%) exact matches, in which:  
24 unique CDR3  
4 unique J



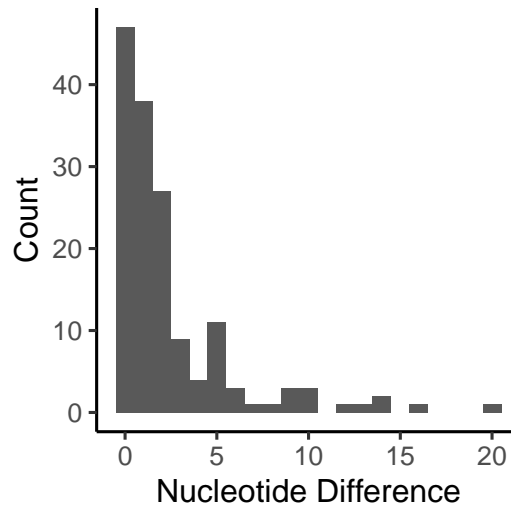
### IGHV4-39\*01

340 sequences assigned  
148 (43.5%) exact matches, in which:  
143 unique CDR3  
6 unique J



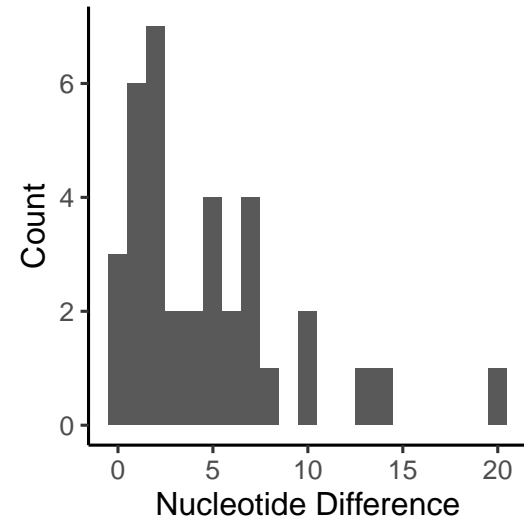
### IGHV4-59\*01

153 sequences assigned  
47 (30.7%) exact matches, in which:  
47 unique CDR3  
6 unique J



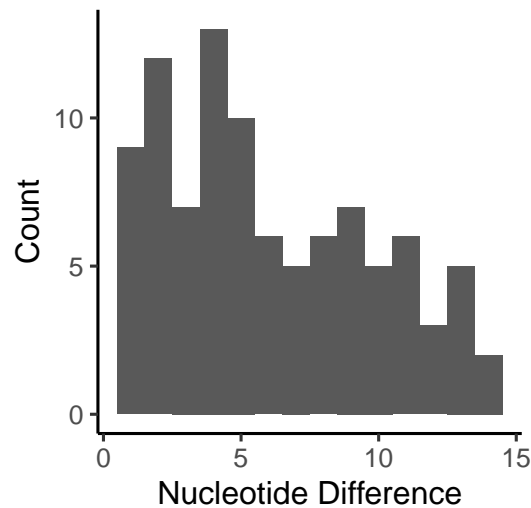
### IGHV4-61\*01

36 sequences assigned  
3 (8.3%) exact matches, in which:  
3 unique CDR3  
2 unique J



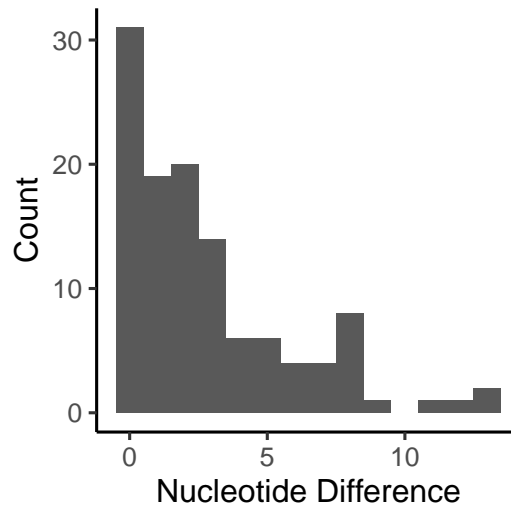
### IGHV4-39\*07

98 sequences assigned  
No exact matches.



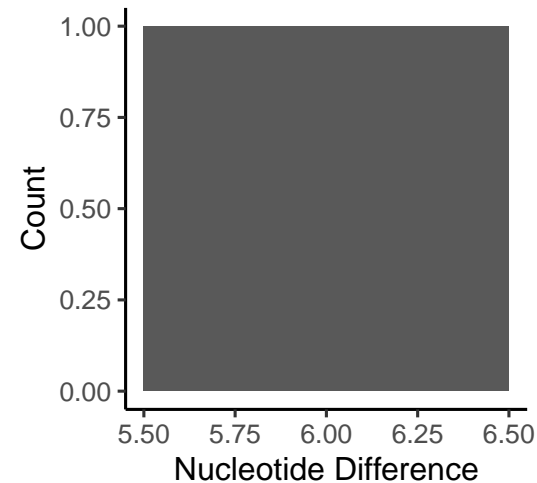
### IGHV4-59\*08

121 sequences assigned  
31 (25.6%) exact matches, in which:  
31 unique CDR3  
5 unique J



### IGHV4/OR15-8\*01

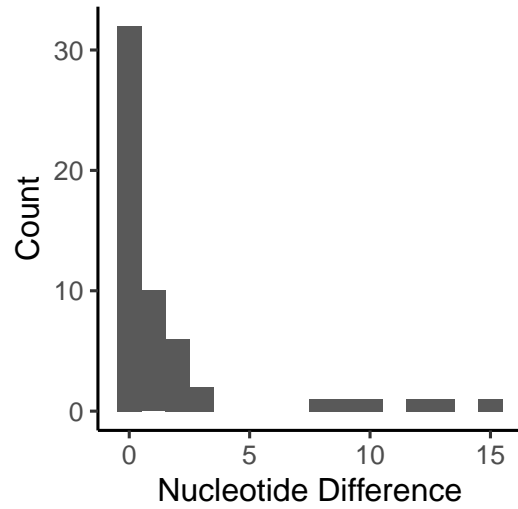
1 sequences assigned  
No exact matches.





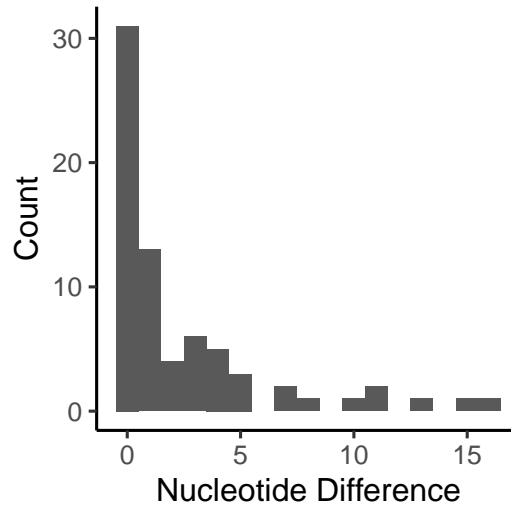
## IGHV5-10-1\*03

56 sequences assigned  
32 (57.1%) exact matches, in which:  
31 unique CDR3  
4 unique J



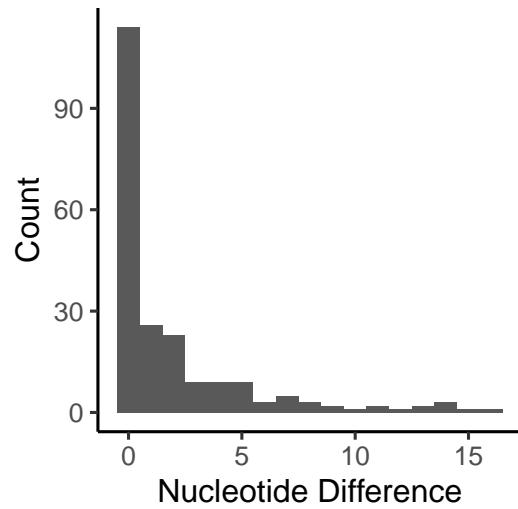
## IGHV7-4-1\*02

73 sequences assigned  
31 (42.5%) exact matches, in which:  
30 unique CDR3  
5 unique J



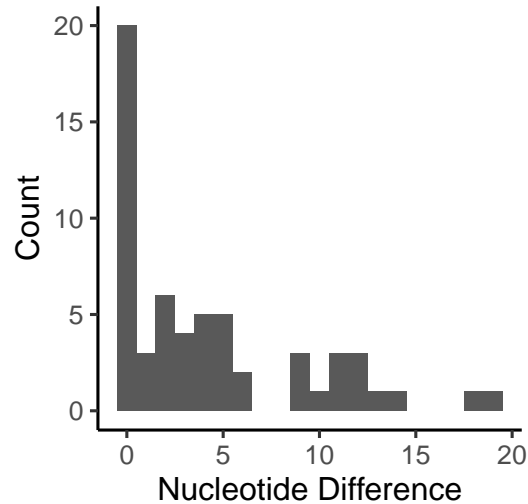
## IGHV5-51\*01

216 sequences assigned  
114 (52.8%) exact matches, in which:  
106 unique CDR3  
6 unique J



## IGHV6-1\*01

61 sequences assigned  
20 (32.8%) exact matches, in which:  
20 unique CDR3  
5 unique J





Warning – no inferred sequences found.