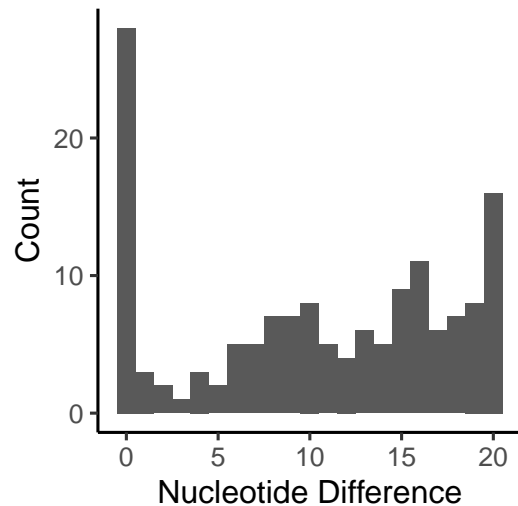


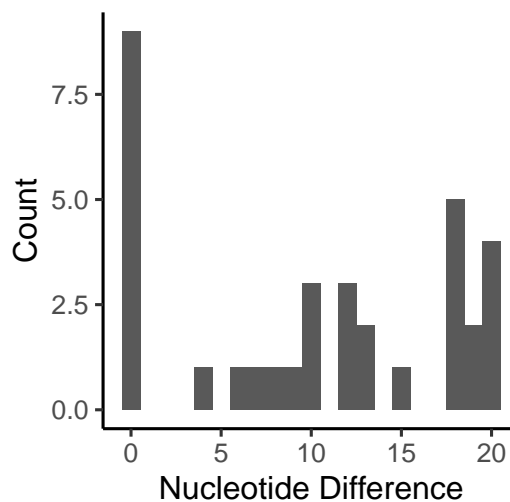
## IGHV1-2\*02

245 sequences assigned  
28 (11.4%) exact matches, in which:  
28 unique CDR3  
6 unique J



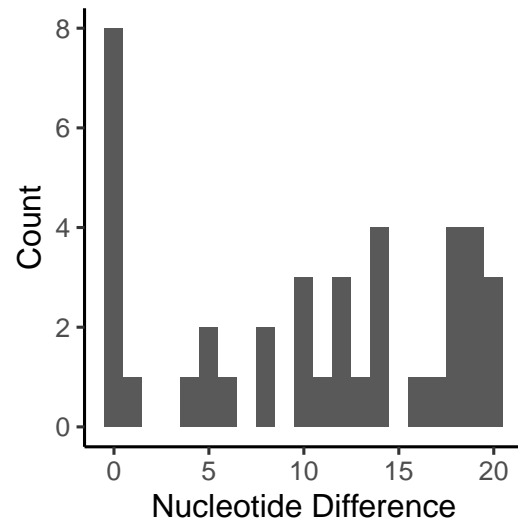
## IGHV1-18\*01

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



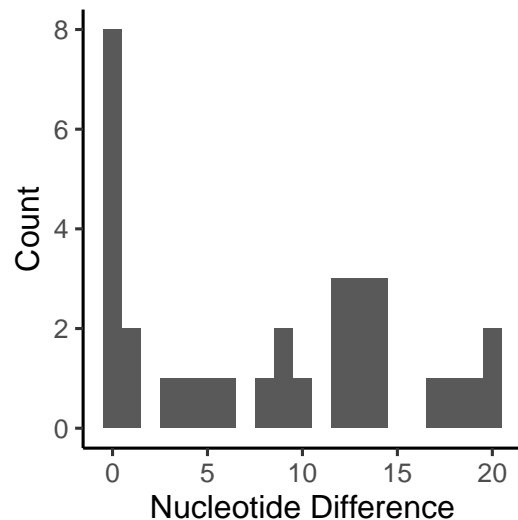
## IGHV1-46\*01

91 sequences assigned  
8 (8.8%) exact matches, in which:  
8 unique CDR3  
4 unique J



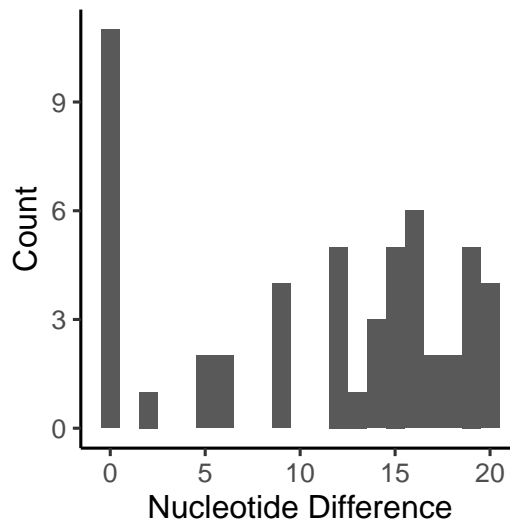
## IGHV1-8\*01

44 sequences assigned  
8 (18.2%) exact matches, in which:  
8 unique CDR3  
3 unique J



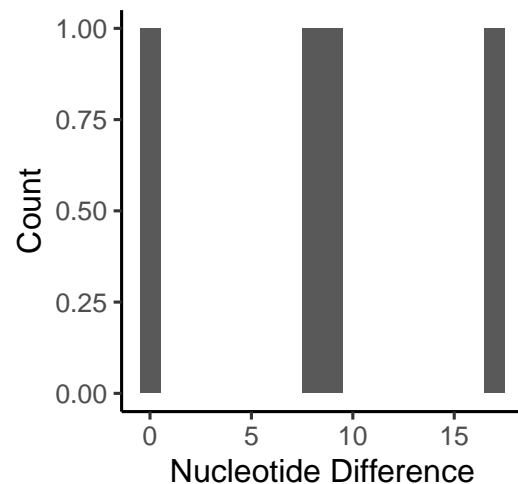
## IGHV1-18\*01\_A190G

88 sequences assigned  
11 (12.5%) exact matches, in which:  
11 unique CDR3  
2 unique J



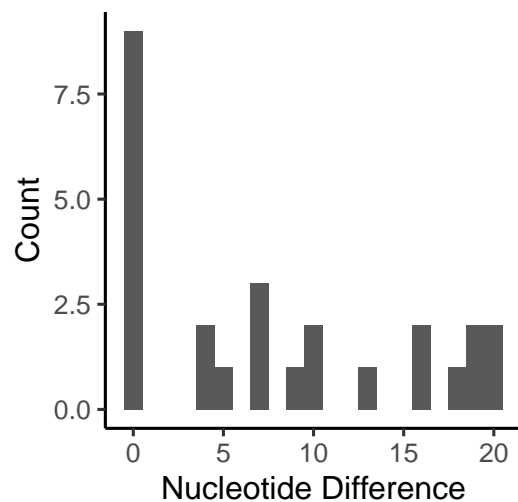
## IGHV1-58\*02

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



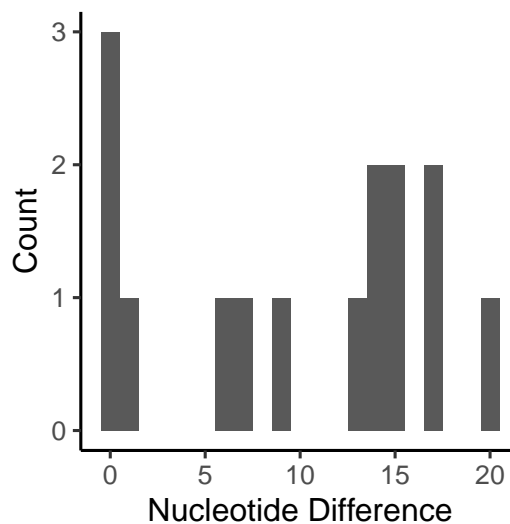
## IGHV1-8\*02

43 sequences assigned  
9 (20.9%) exact matches, in which:  
9 unique CDR3  
3 unique J



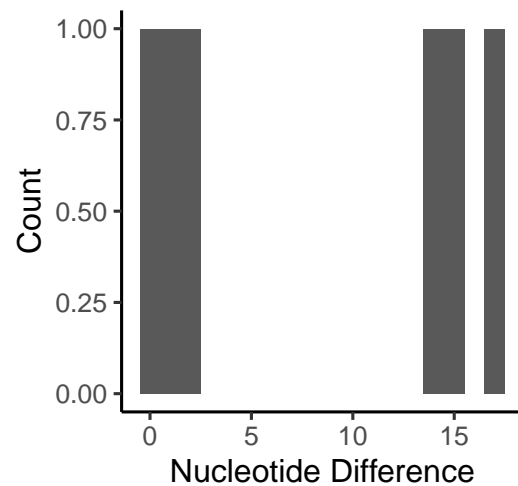
## IGHV1-24\*01

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



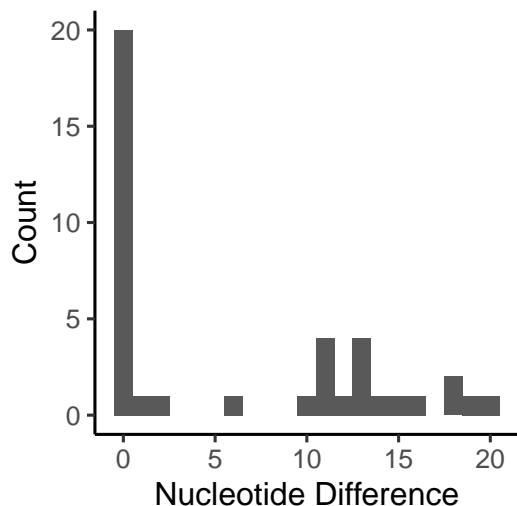
## IGHV1-69-2\*01

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



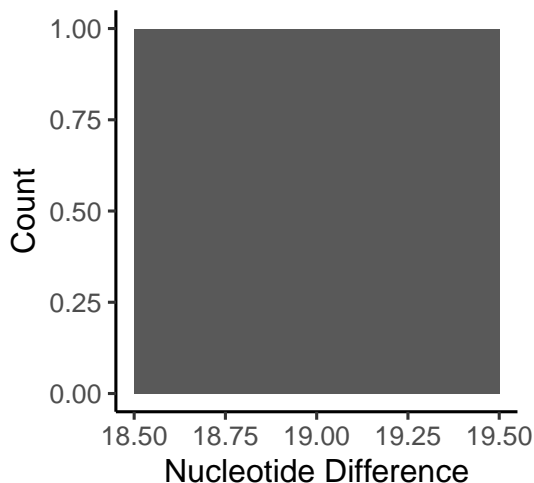
### IGHV1-69\*04

79 sequences assigned  
20 (25.3%) exact matches, in which:  
20 unique CDR3  
3 unique J



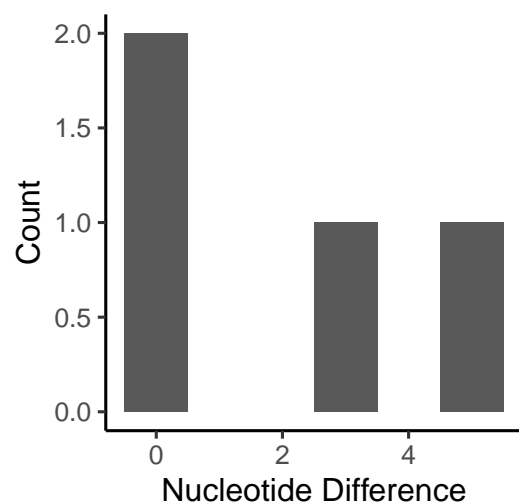
### IGHV1-NL1\*01

1 sequences assigned  
No exact matches.



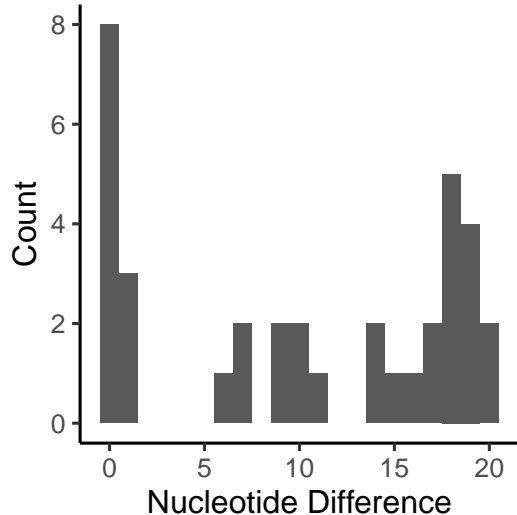
### IGHV2-26\*01

11 sequences assigned  
2 (18.2%) exact matches, in which:  
2 unique CDR3  
2 unique J



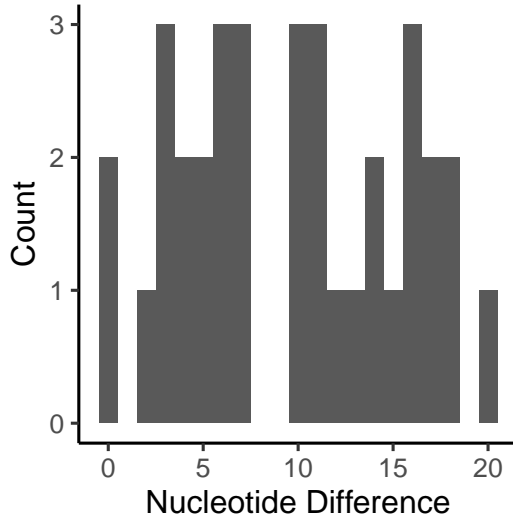
### IGHV1-69\*10

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



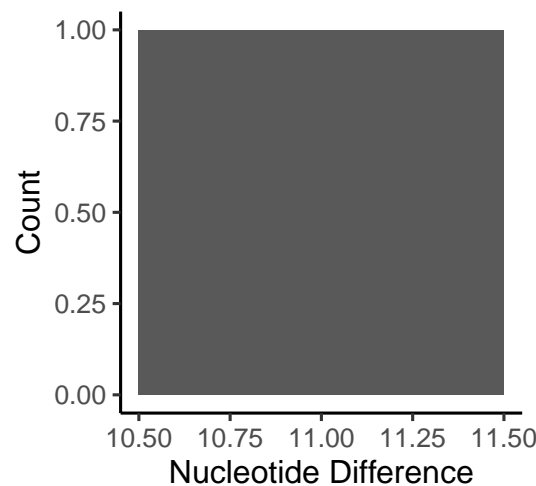
### IGHV2-5\*02

48 sequences assigned  
2 (4.2%) exact matches, in which:  
2 unique CDR3  
2 unique J



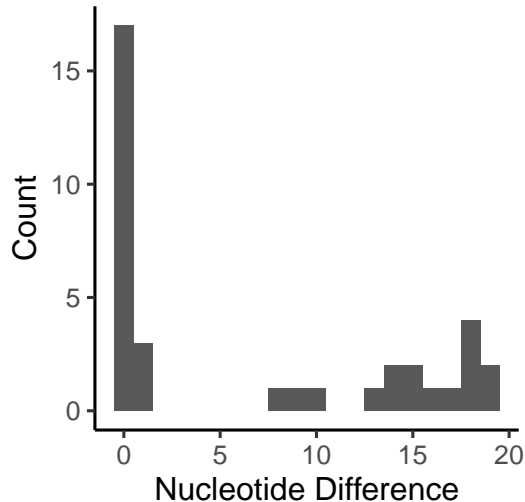
### IGHV2-26\*02

2 sequences assigned  
No exact matches.



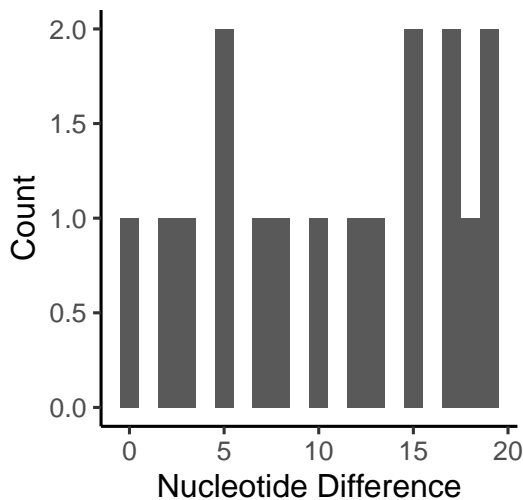
### IGHV1-69\*04\_G48A\_A16:

59 sequences assigned  
17 (28.8%) exact matches, in which:  
17 unique CDR3  
6 unique J



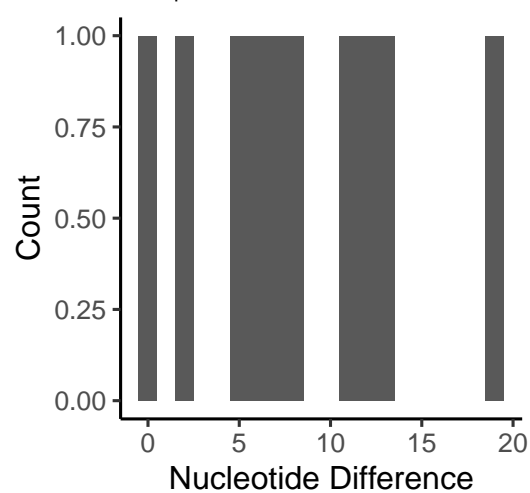
### IGHV2-5\*05

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



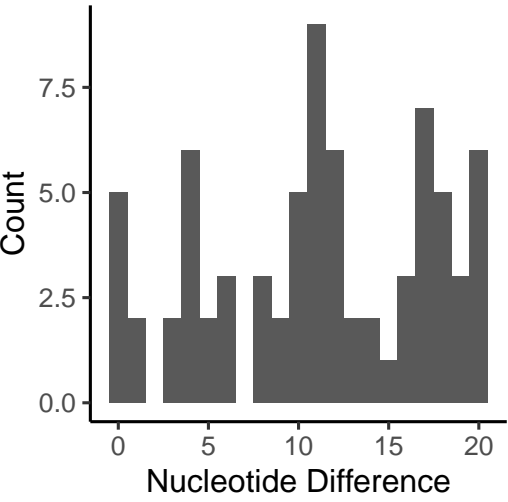
### IGHV2-70\*15

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



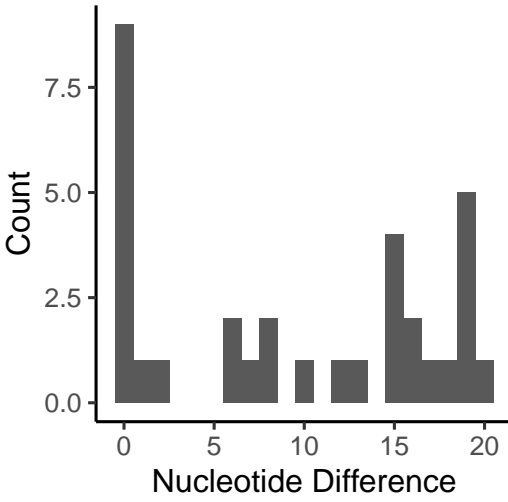
IGHV3-7\*01

104 sequences assigned  
5 (4.8%) exact matches, in which:  
5 unique CDR3  
2 unique J



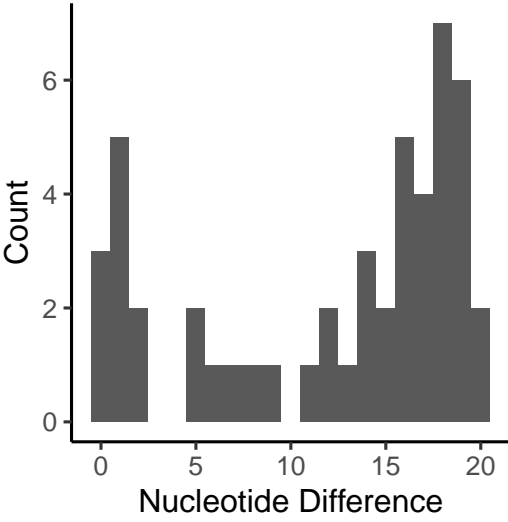
IGHV3-11\*01

50 sequences assigned  
9 (18%) exact matches, in which:  
9 unique CDR3  
3 unique J



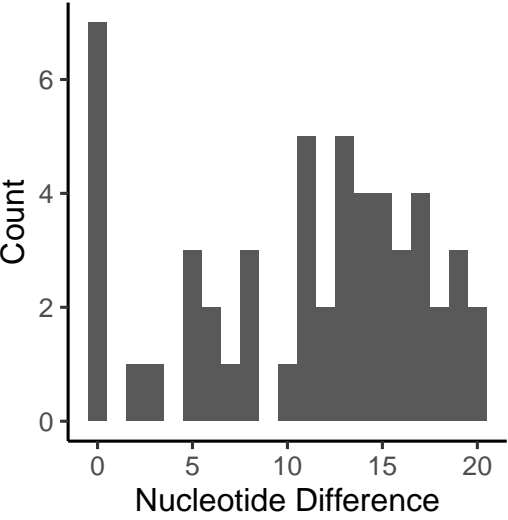
IGHV3-15\*01

102 sequences assigned  
3 (2.9%) exact matches, in which:  
3 unique CDR3  
2 unique J



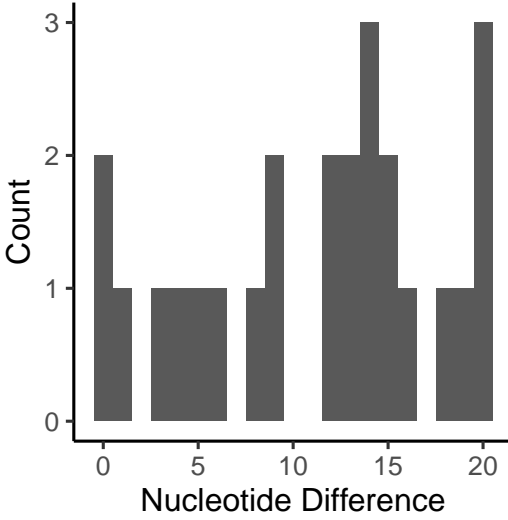
IGHV3-7\*01\_A8G

69 sequences assigned  
7 (10.1%) exact matches, in which:  
7 unique CDR3  
2 unique J



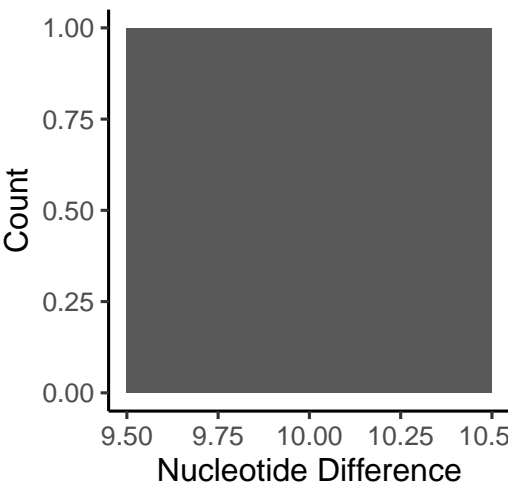
IGHV3-11\*04

33 sequences assigned  
2 (6.1%) exact matches, in which:  
2 unique CDR3  
1 unique J



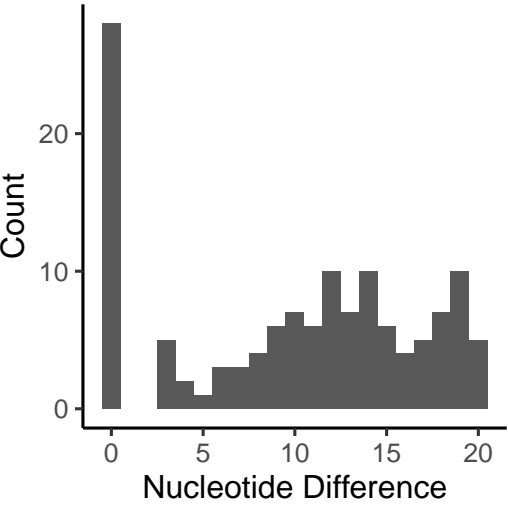
IGHV3-20\*01

1 sequences assigned  
No exact matches.



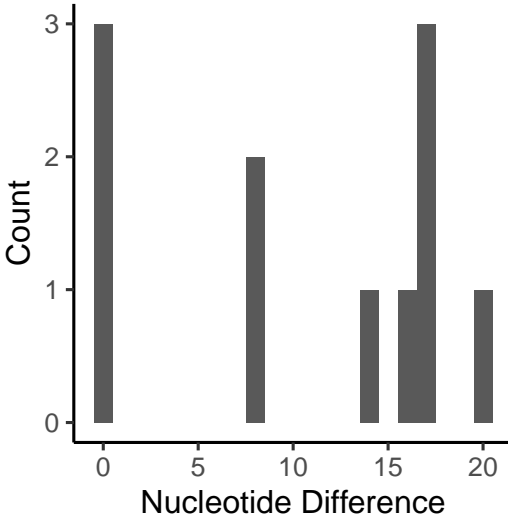
IGHV3-9\*01

176 sequences assigned  
28 (15.9%) exact matches, in which:  
28 unique CDR3  
5 unique J



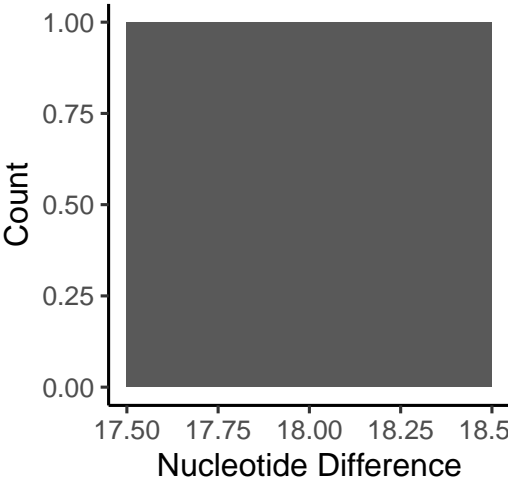
IGHV3-13\*01

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



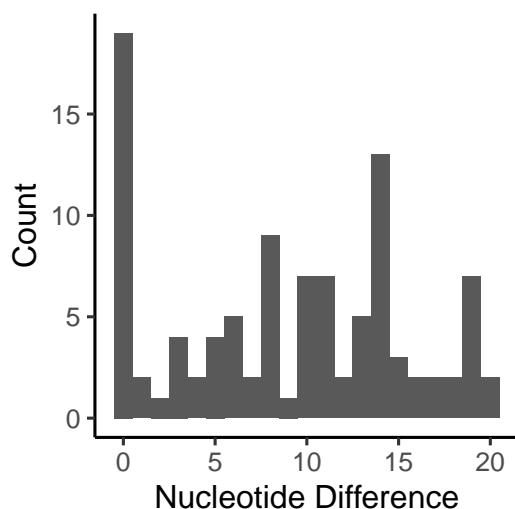
IGHV3-20\*04

5 sequences assigned  
No exact matches.



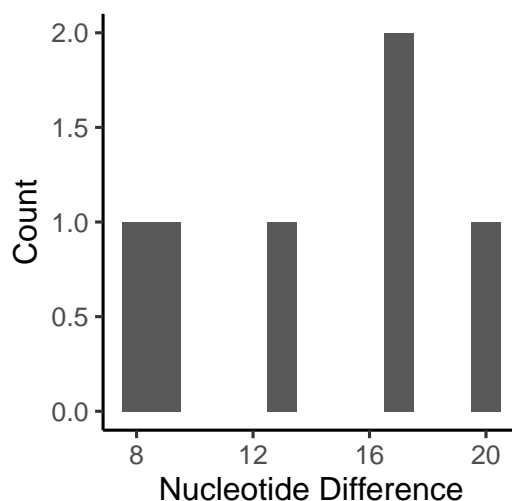
### IGHV3-21\*01

126 sequences assigned  
19 (15.1%) exact matches, in which:  
19 unique CDR3  
6 unique J



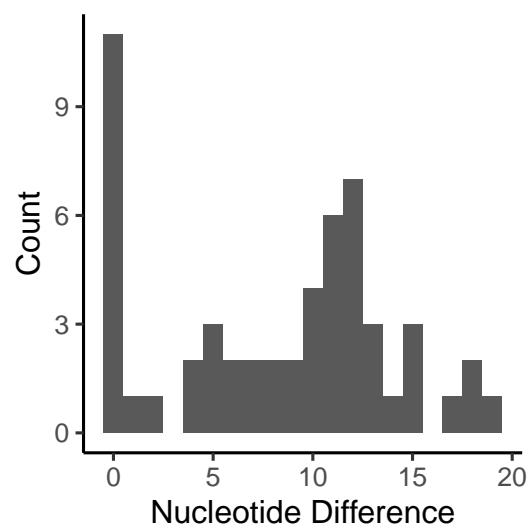
### IGHV3-33\*03

13 sequences assigned  
No exact matches.



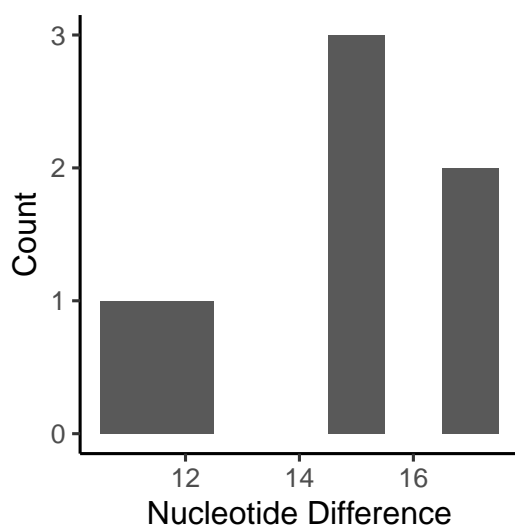
### IGHV3-48\*03

94 sequences assigned  
11 (11.7%) exact matches, in which:  
11 unique CDR3  
4 unique J



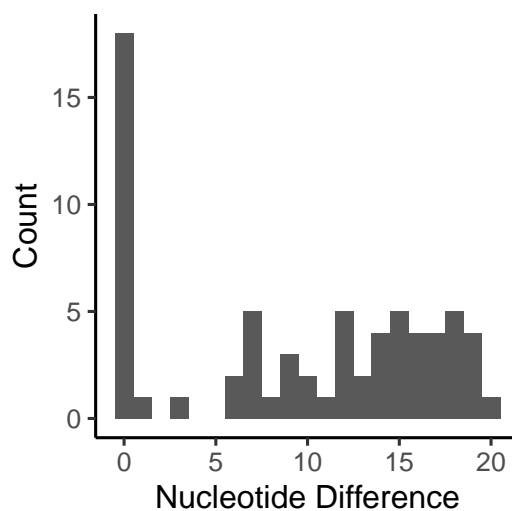
### IGHV3-21\*02

28 sequences assigned  
No exact matches.



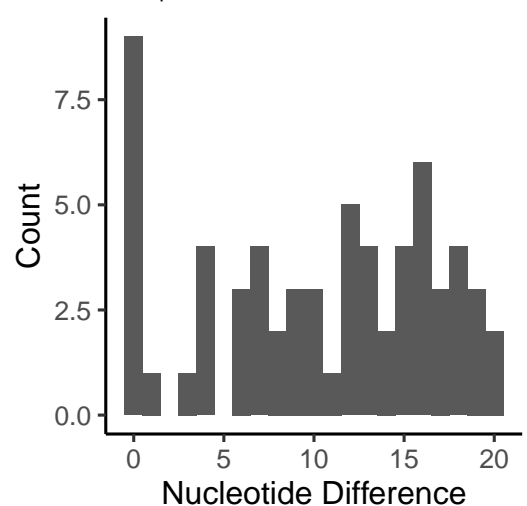
### IGHV3-33\*06

81 sequences assigned  
18 (22.2%) exact matches, in which:  
18 unique CDR3  
6 unique J



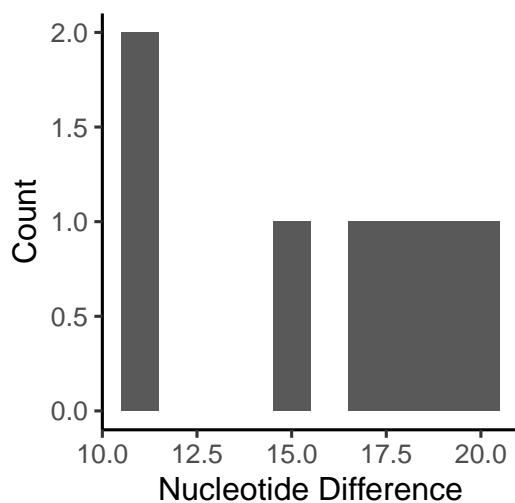
### IGHV3-48\*04

87 sequences assigned  
9 (10.3%) exact matches, in which:  
9 unique CDR3  
4 unique J



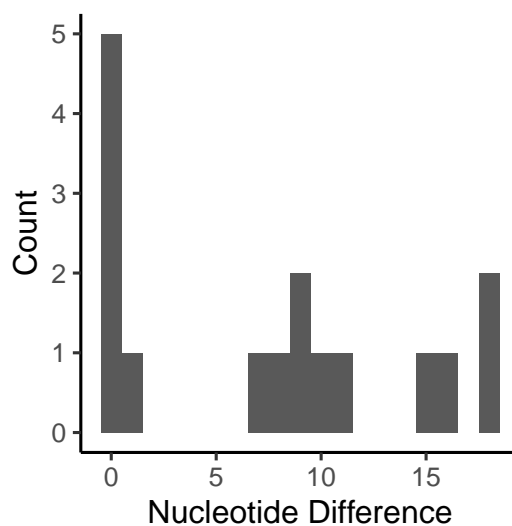
### IGHV3-33\*01

15 sequences assigned  
No exact matches.



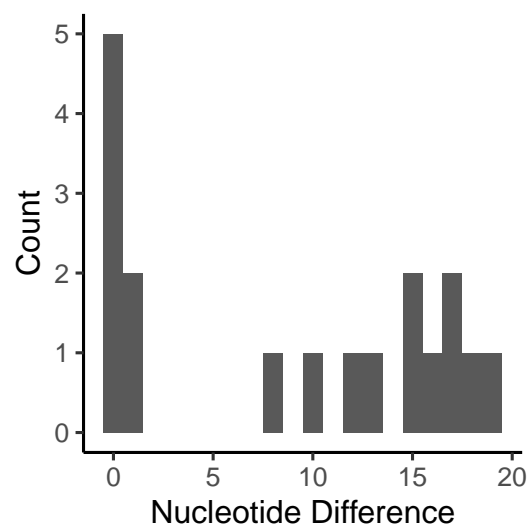
### IGHV3-43\*01

22 sequences assigned  
5 (22.7%) exact matches, in which:  
4 unique CDR3  
2 unique J



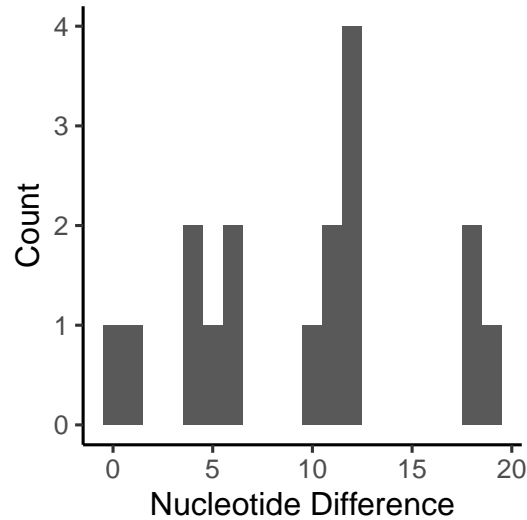
### IGHV3-49\*03

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



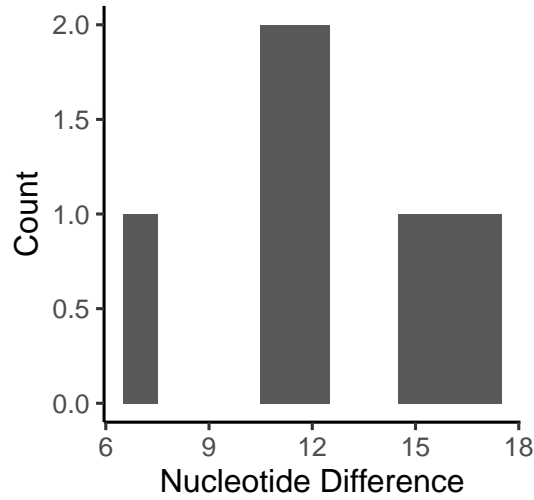
### IGHV3-49\*04

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



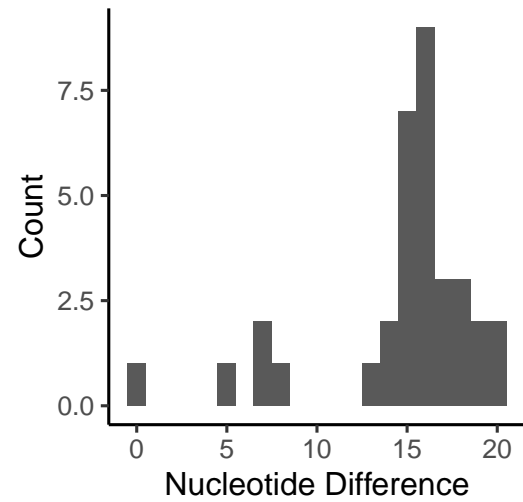
### IGHV3-64\*01

12 sequences assigned  
No exact matches.



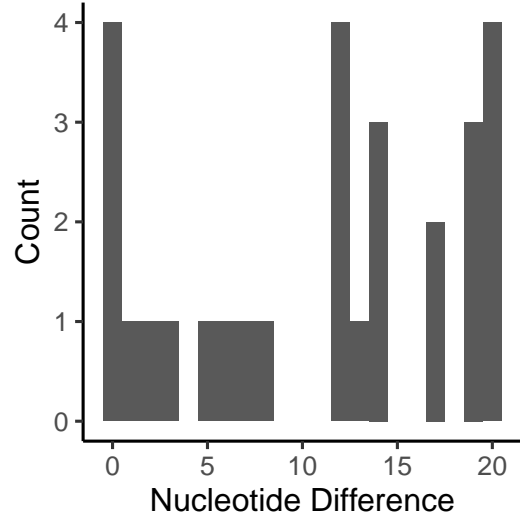
### IGHV3-73\*01

57 sequences assigned  
1 (1.8%) exact matches, in which:  
1 unique CDR3  
1 unique J



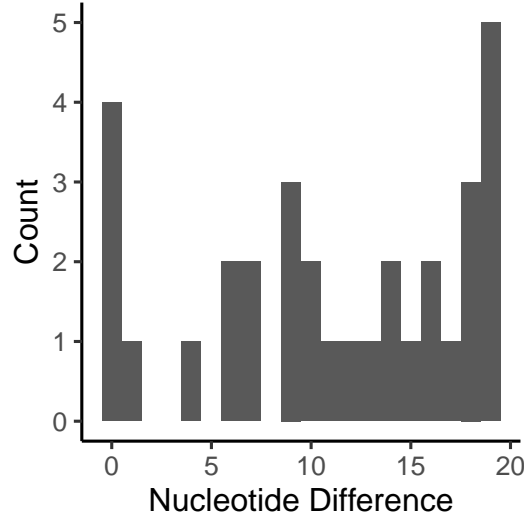
### IGHV3-53\*01

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



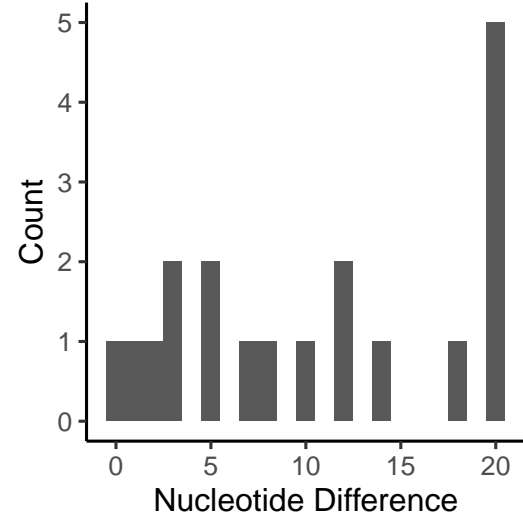
### IGHV3-66\*01

49 sequences assigned  
4 (8.2%) exact matches, in which:  
4 unique CDR3  
3 unique J



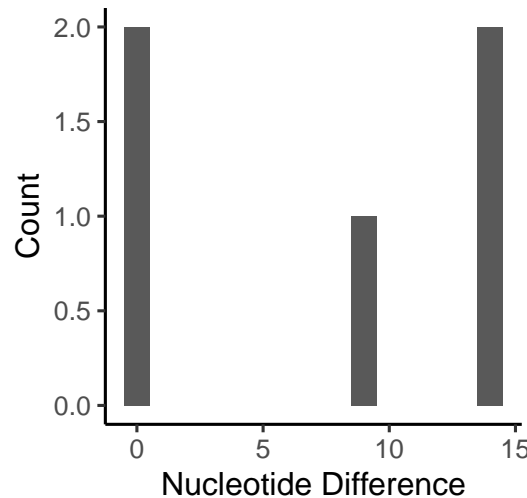
### IGHV3-73\*02

27 sequences assigned  
1 (3.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



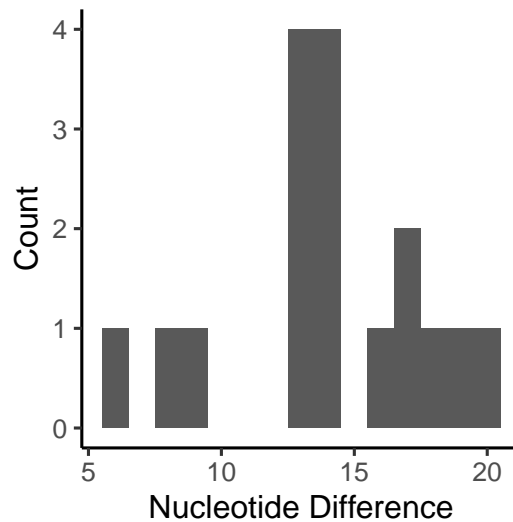
### IGHV3-53\*04

11 sequences assigned  
2 (18.2%) exact matches, in which:  
2 unique CDR3  
1 unique J



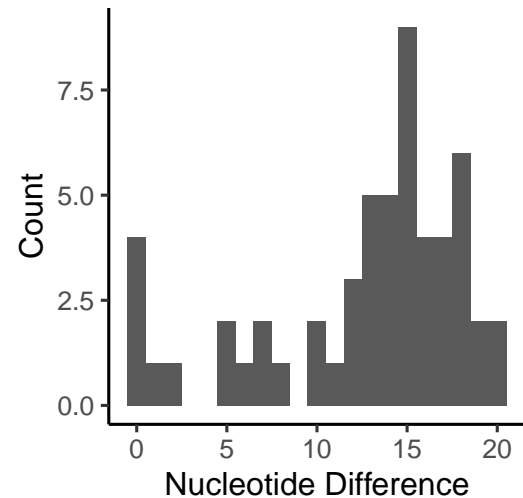
### IGHV3-72\*01

26 sequences assigned  
No exact matches.



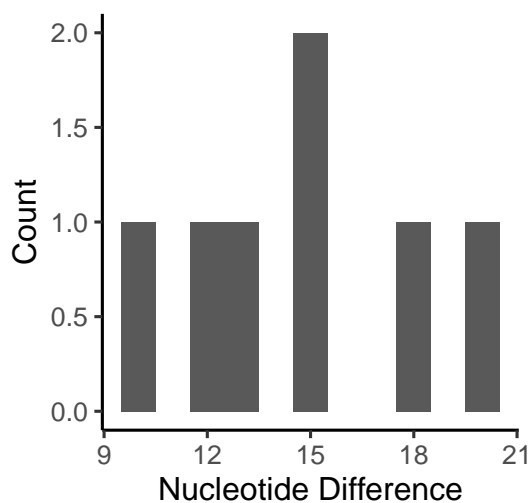
### IGHV3-74\*01

83 sequences assigned  
4 (4.8%) exact matches, in which:  
4 unique CDR3  
2 unique J



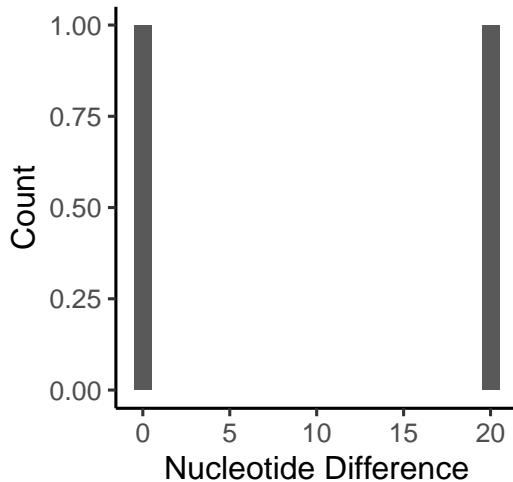
### IGHV3-74\*03

12 sequences assigned  
No exact matches.



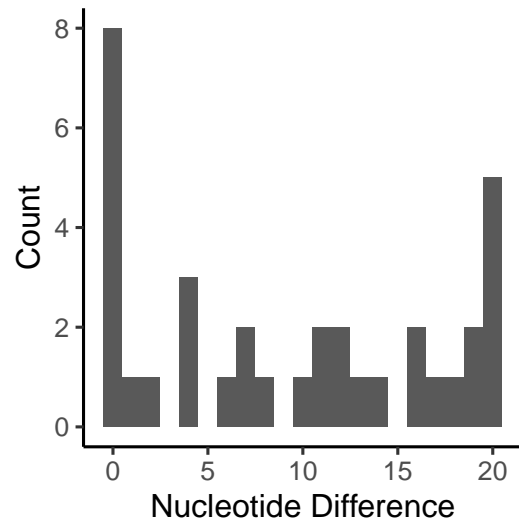
### IGHV4-28\*05

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



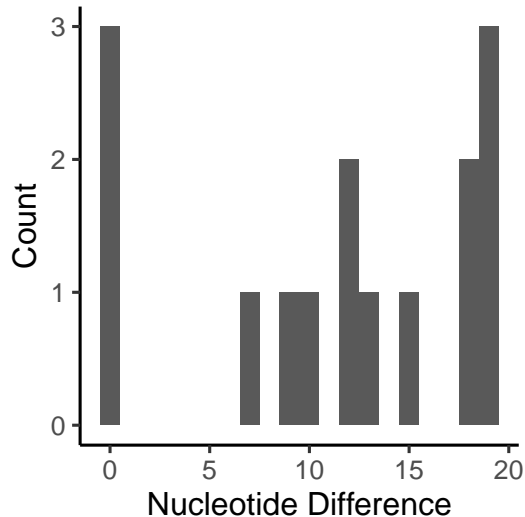
### IGHV4-38-2\*02

64 sequences assigned  
8 (12.5%) exact matches, in which:  
8 unique CDR3  
3 unique J



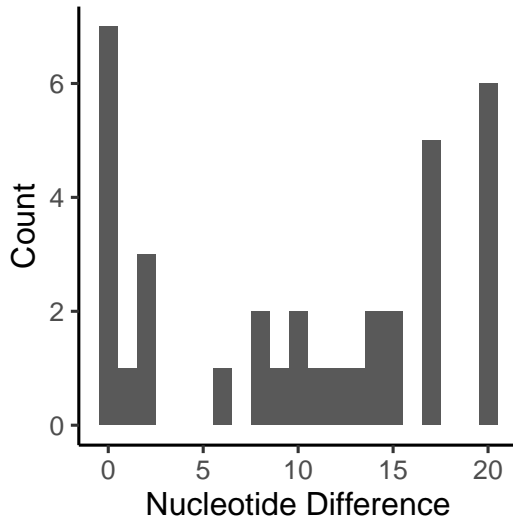
### IGHV3-43D\*03

16 sequences assigned  
3 (18.8%) exact matches, in which:  
3 unique CDR3  
2 unique J



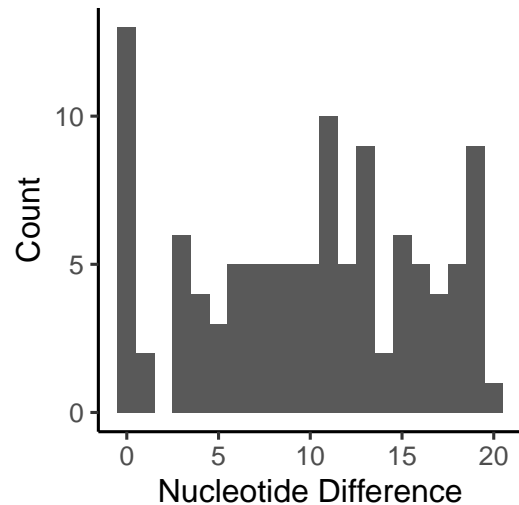
### IGHV4-31\*03

72 sequences assigned  
7 (9.7%) exact matches, in which:  
7 unique CDR3  
3 unique J



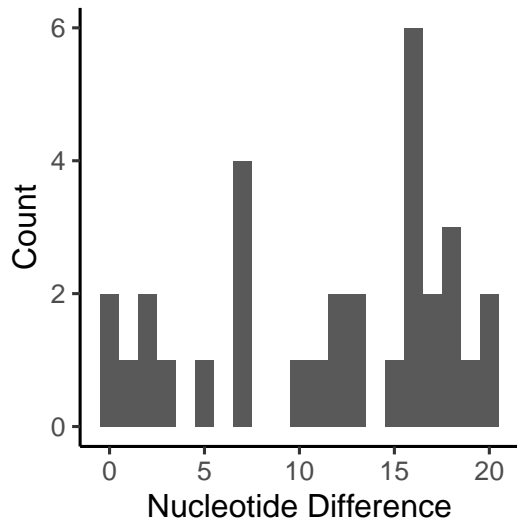
### IGHV4-39\*01

178 sequences assigned  
13 (7.3%) exact matches, in which:  
13 unique CDR3  
5 unique J



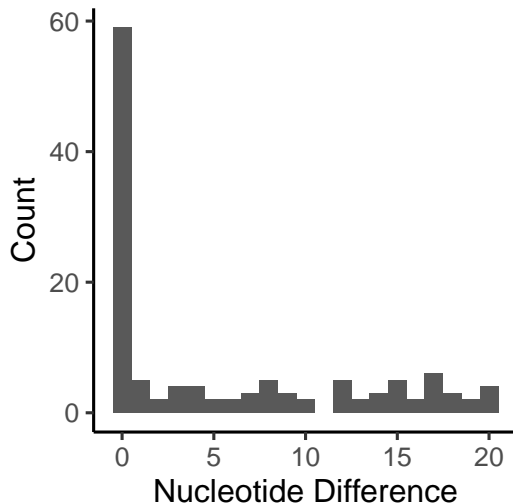
### IGHV4-4\*07

64 sequences assigned  
2 (3.1%) exact matches, in which:  
2 unique CDR3  
2 unique J



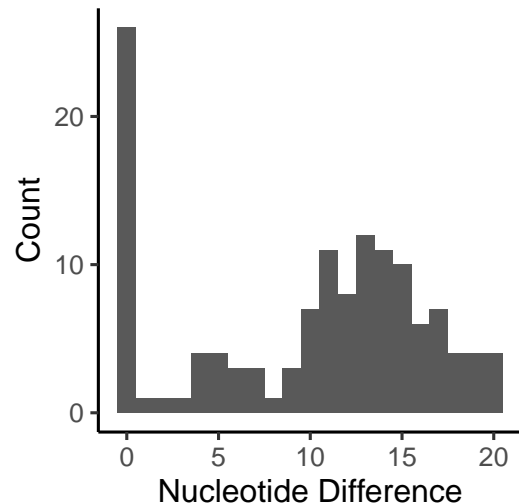
### IGHV4-34\*01

202 sequences assigned  
59 (29.2%) exact matches, in which:  
58 unique CDR3  
5 unique J



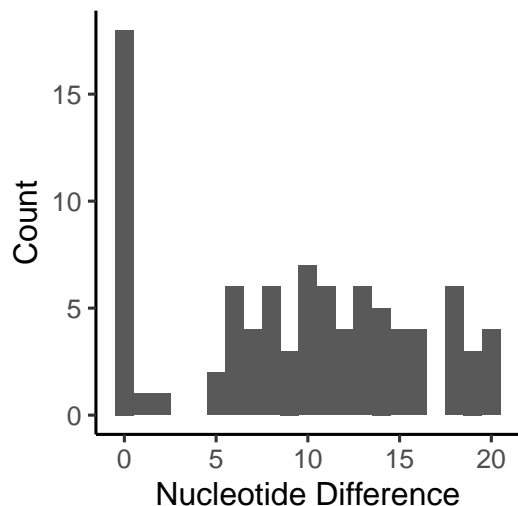
### IGHV4-39\*07

246 sequences assigned  
26 (10.6%) exact matches, in which:  
26 unique CDR3  
5 unique J



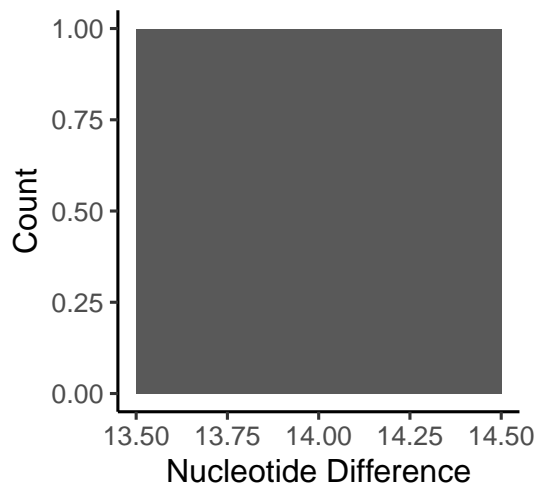
### IGHV4-59\*01

135 sequences assigned  
18 (13.3%) exact matches, in which:  
18 unique CDR3  
4 unique J



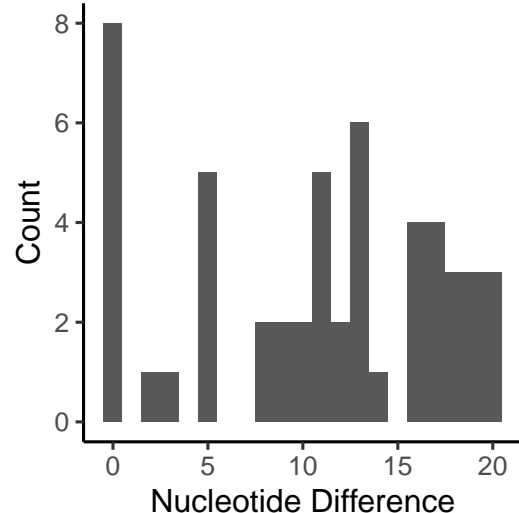
### IGHV4-61\*02

2 sequences assigned  
No exact matches.



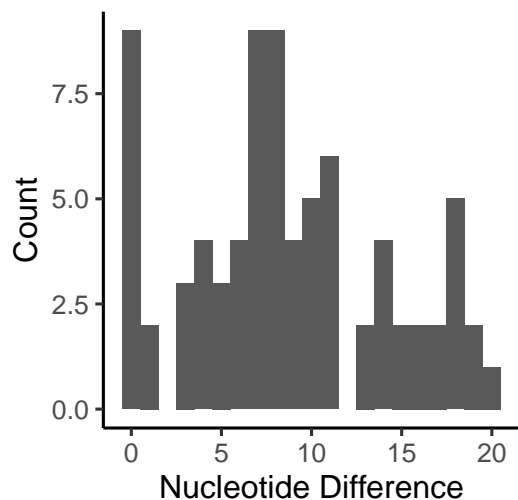
### IGHV5-51\*03

76 sequences assigned  
8 (10.5%) exact matches, in which:  
8 unique CDR3  
3 unique J



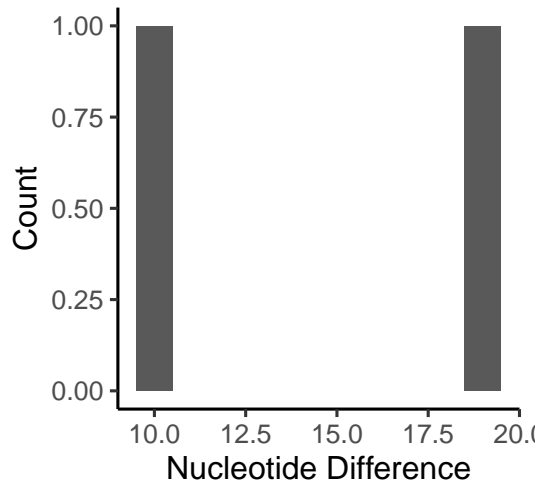
### IGHV4-59\*08

105 sequences assigned  
9 (8.6%) exact matches, in which:  
9 unique CDR3  
4 unique J



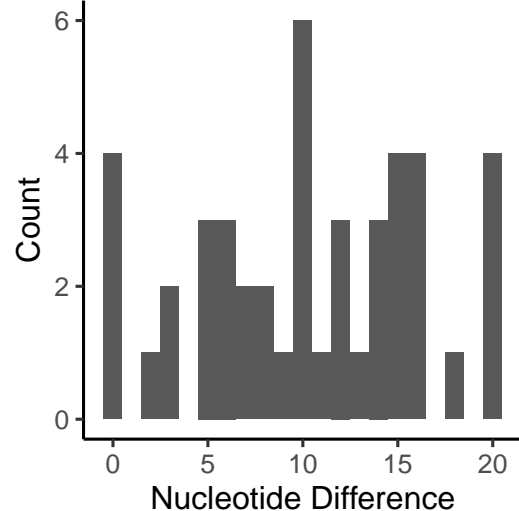
### IGHV4-61\*05

2 sequences assigned  
No exact matches.



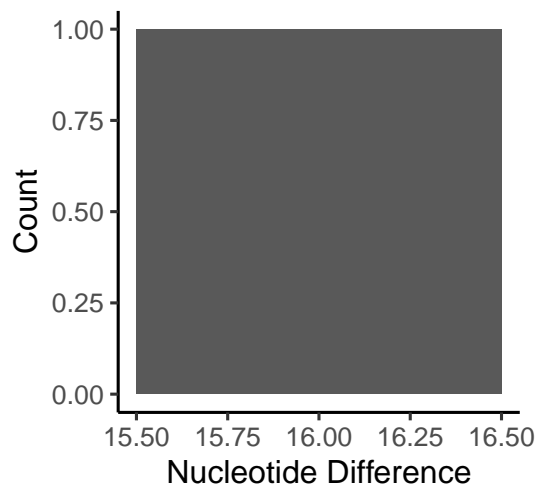
### IGHV6-1\*01

58 sequences assigned  
4 (6.9%) exact matches, in which:  
4 unique CDR3  
2 unique J



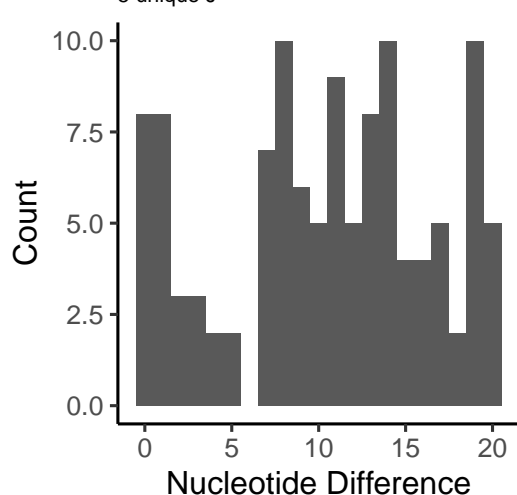
### IGHV4-61\*01

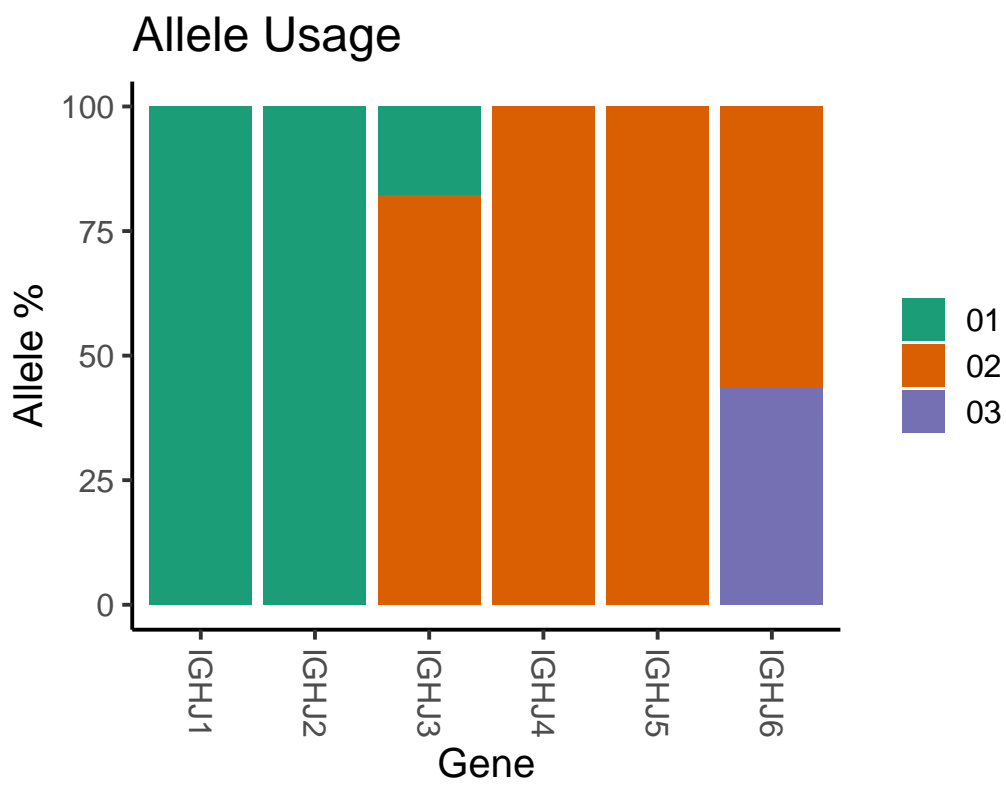
1 sequences assigned  
No exact matches.



### IGHV5-51\*01

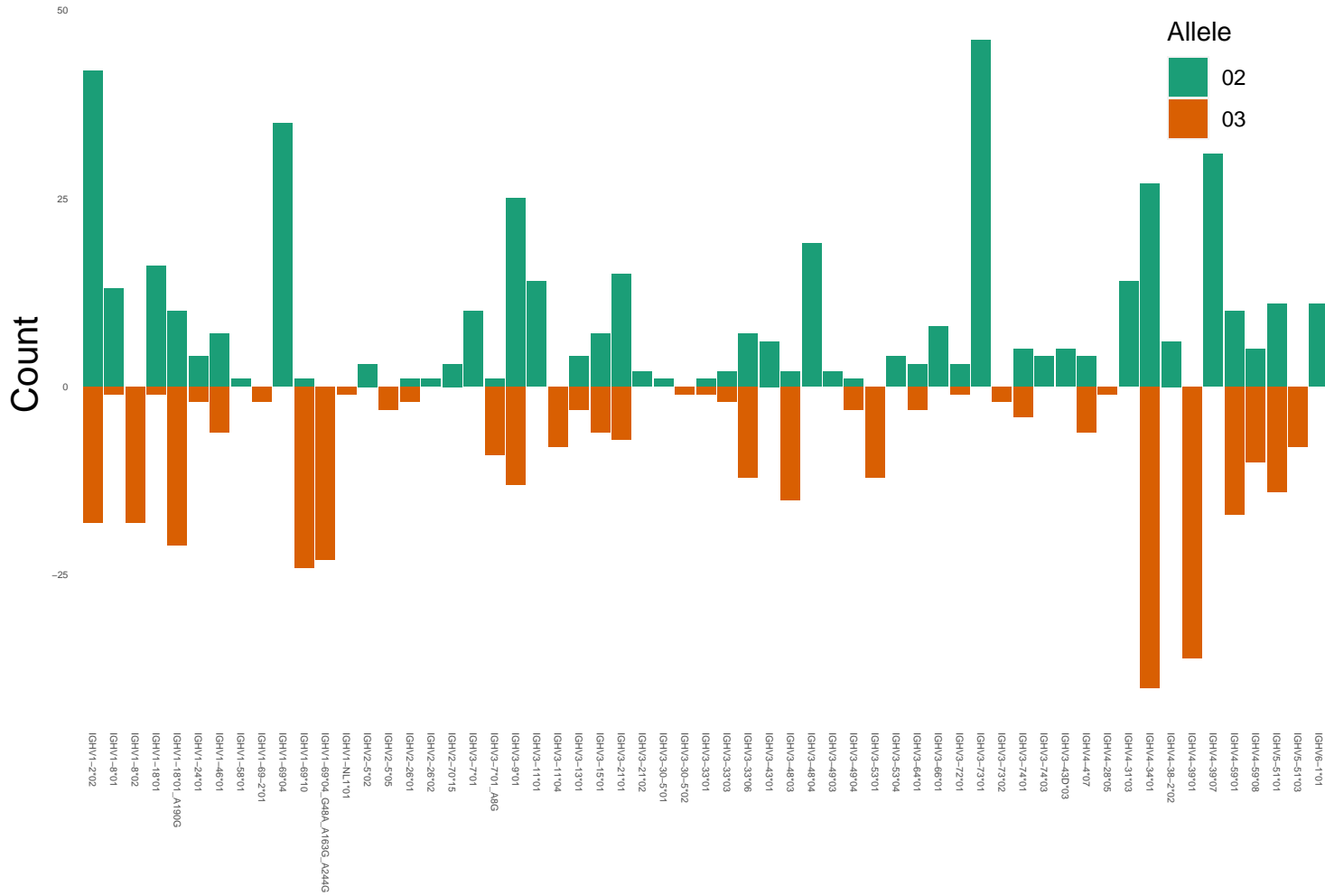
163 sequences assigned  
8 (4.9%) exact matches, in which:  
8 unique CDR3  
5 unique J







Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.