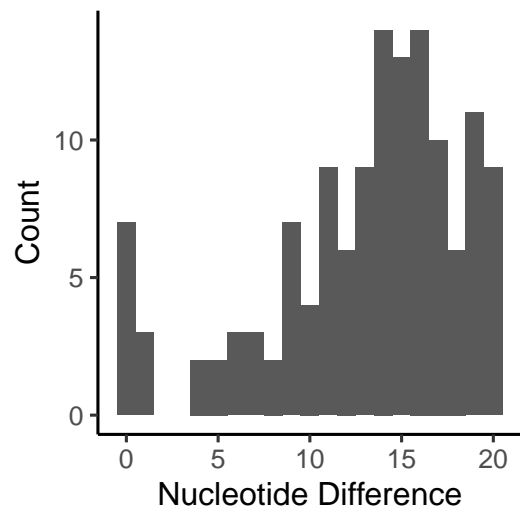


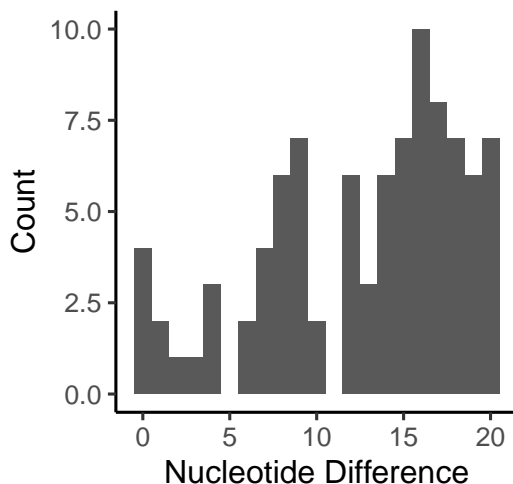
## IGHV1-2\*02

395 sequences assigned  
7 (1.8%) exact matches, in which:  
7 unique CDR3  
4 unique J



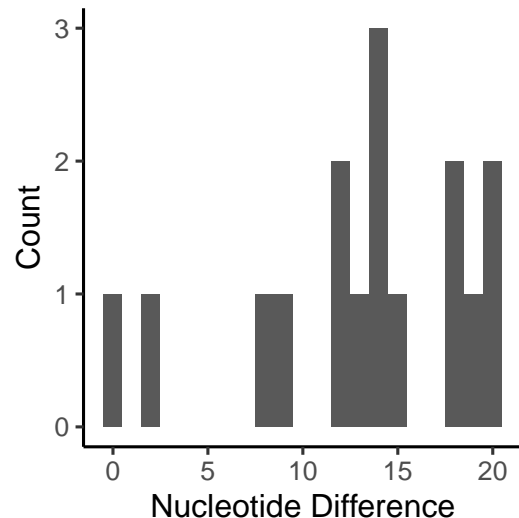
## IGHV1-18\*01

232 sequences assigned  
4 (1.7%) exact matches, in which:  
4 unique CDR3  
3 unique J



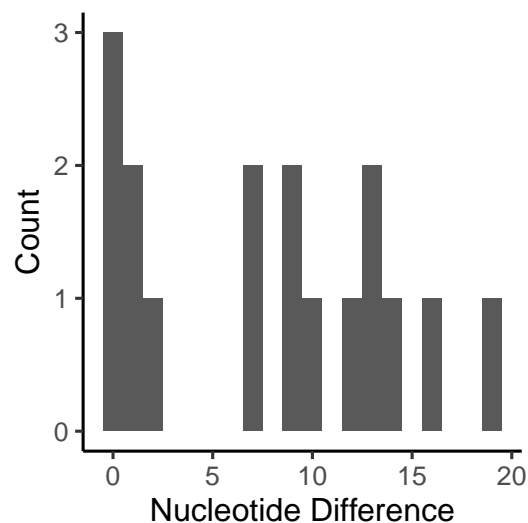
## IGHV1-46\*03

32 sequences assigned  
1 (3.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



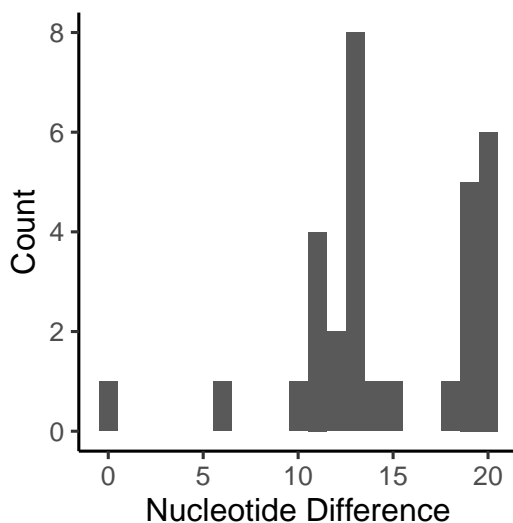
## IGHV1-8\*01

38 sequences assigned  
3 (7.9%) exact matches, in which:  
3 unique CDR3  
2 unique J



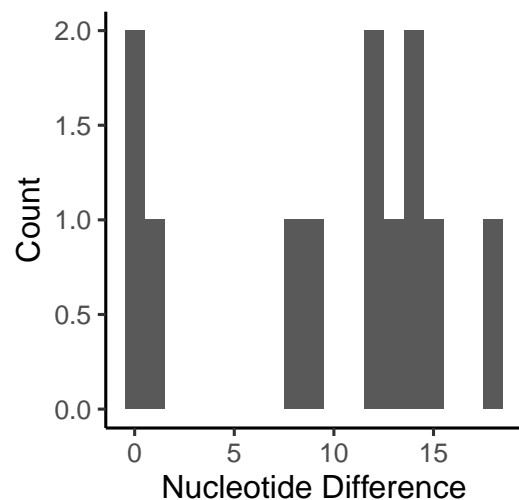
## IGHV1-24\*01

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



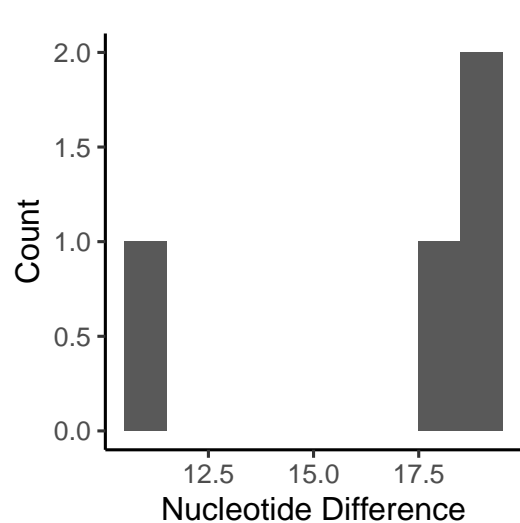
## IGHV1-58\*01

14 sequences assigned  
2 (14.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



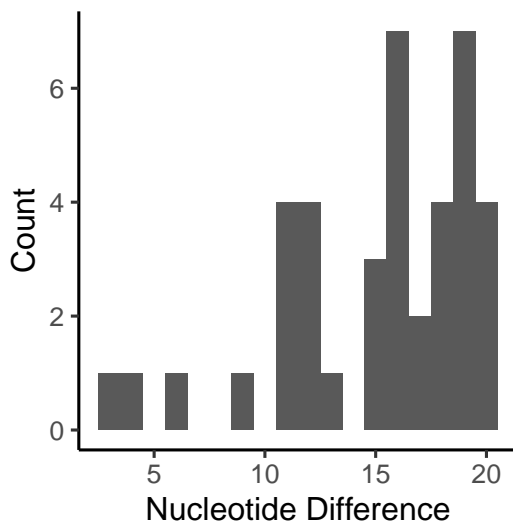
## IGHV1-8\*02

6 sequences assigned  
No exact matches.



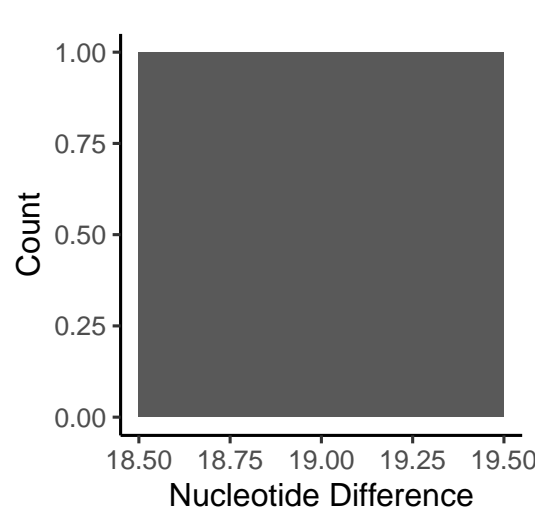
## IGHV1-46\*01

109 sequences assigned  
No exact matches.



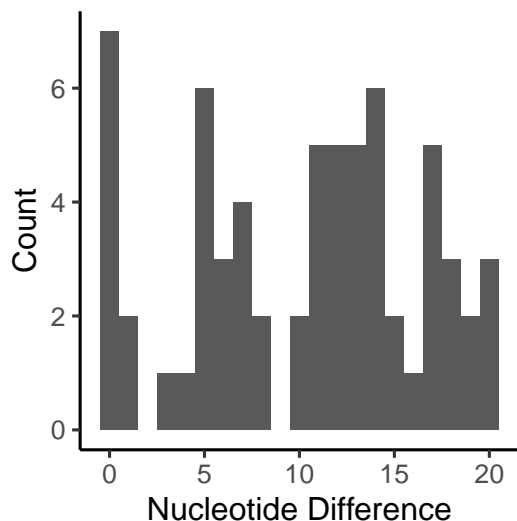
## IGHV1-58\*03

1 sequences assigned  
No exact matches.



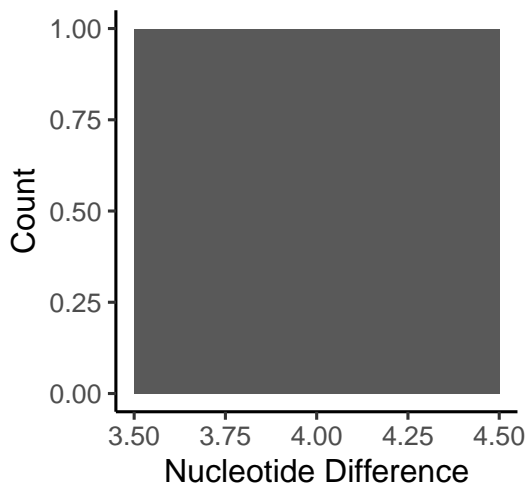
### IGHV2-5\*01

199 sequences assigned  
7 (3.5%) exact matches, in which:  
7 unique CDR3  
2 unique J



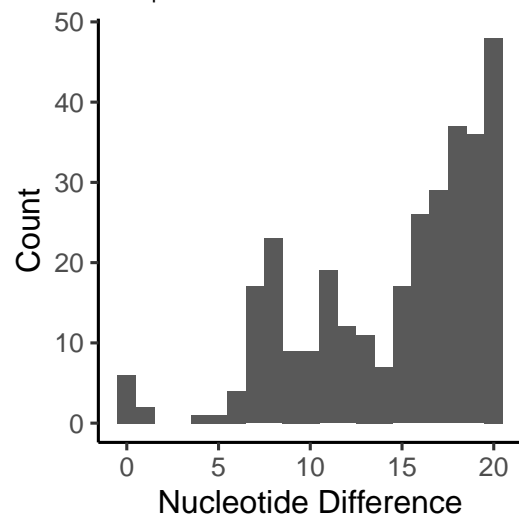
### IGHV2-70\*13

10 sequences assigned  
No exact matches.



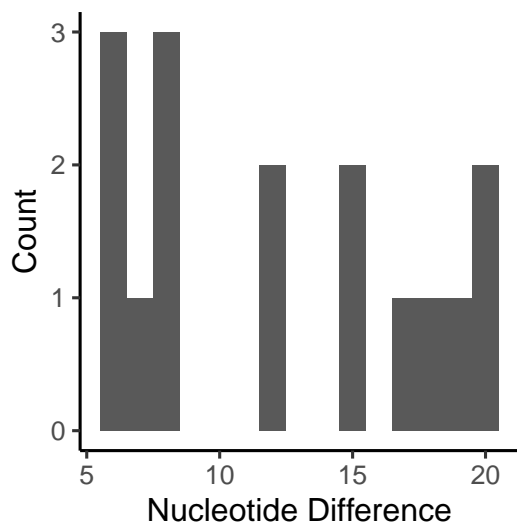
### IGHV3-9\*01

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



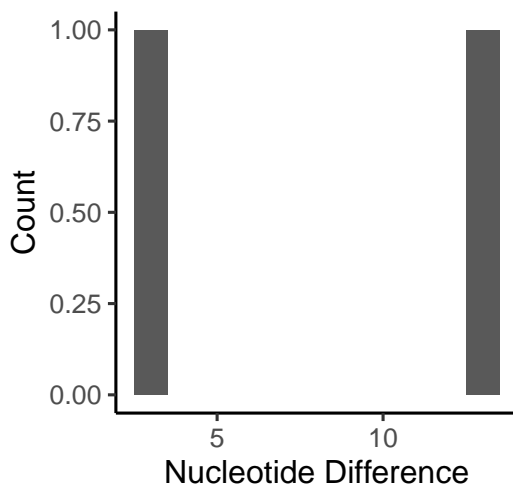
### IGHV2-26\*01

42 sequences assigned  
No exact matches.



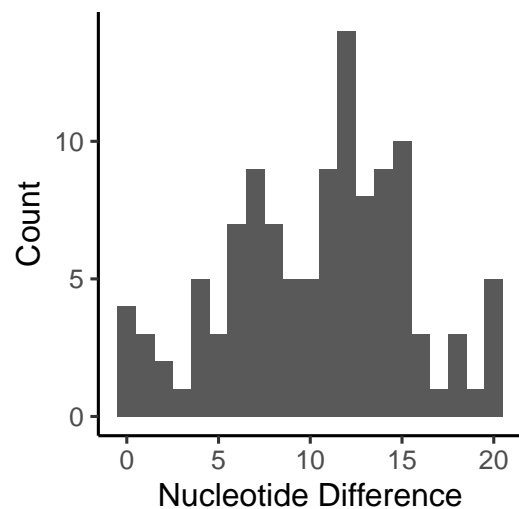
### IGHV2-70\*20

5 sequences assigned  
No exact matches.



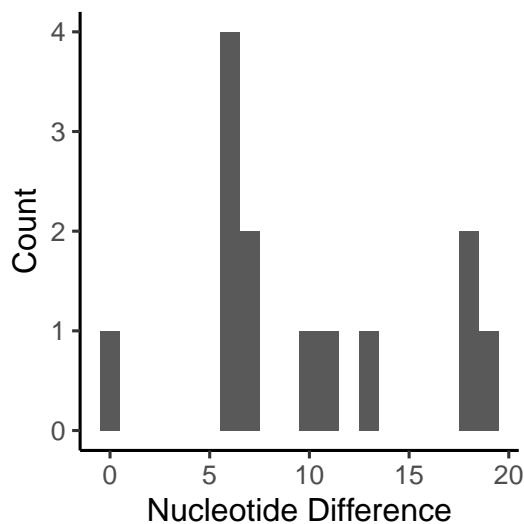
### IGHV3-11\*01

282 sequences assigned  
4 (1.4%) exact matches, in which:  
4 unique CDR3  
2 unique J



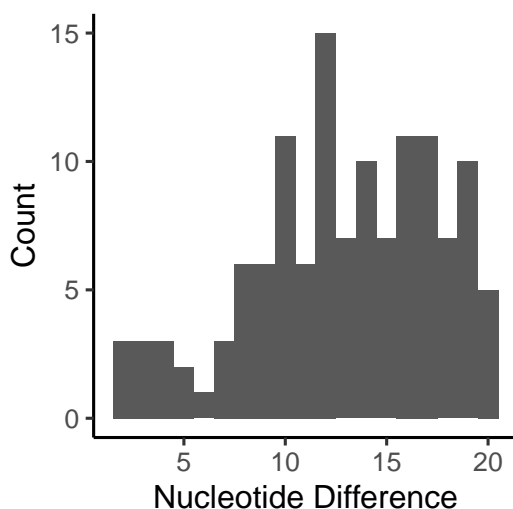
### IGHV2-70\*01

22 sequences assigned  
1 (4.5%) exact matches, in which:  
1 unique CDR3  
1 unique J



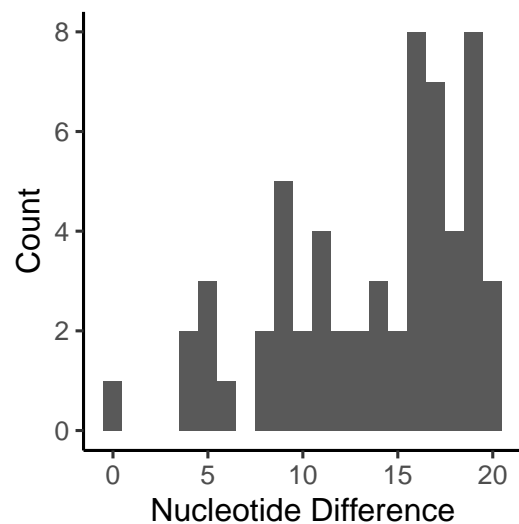
### IGHV3-7\*01

195 sequences assigned  
No exact matches.



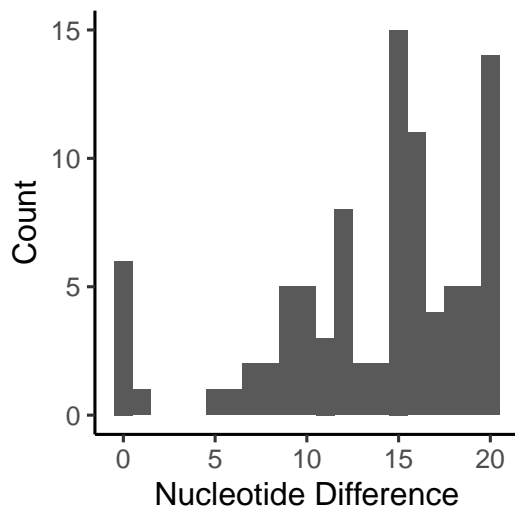
### IGHV3-13\*01

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



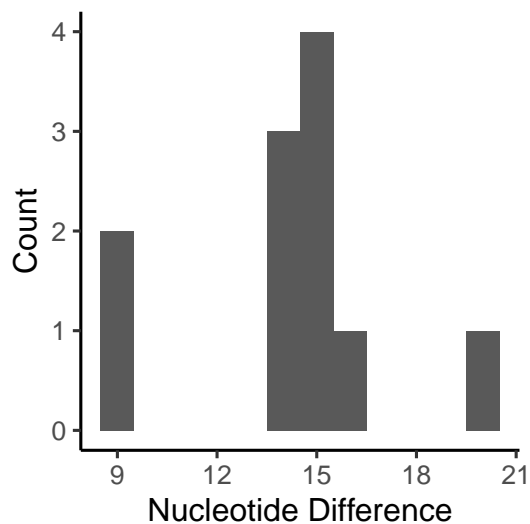
### IGHV3-15\*01

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



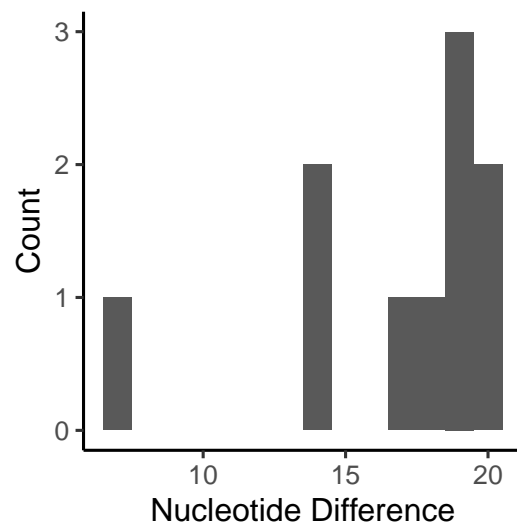
### IGHV3-21\*02

27 sequences assigned  
No exact matches.



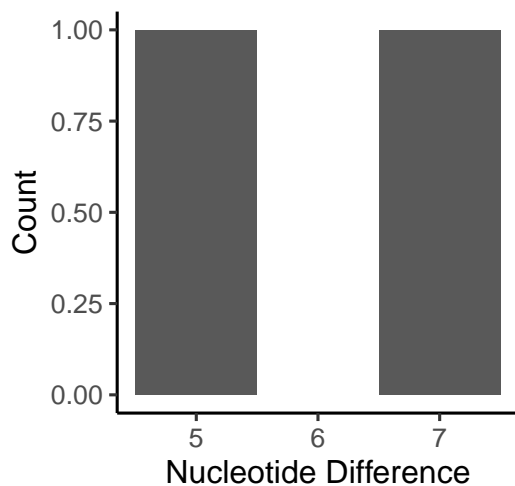
### IGHV3-30\*03

38 sequences assigned  
No exact matches.



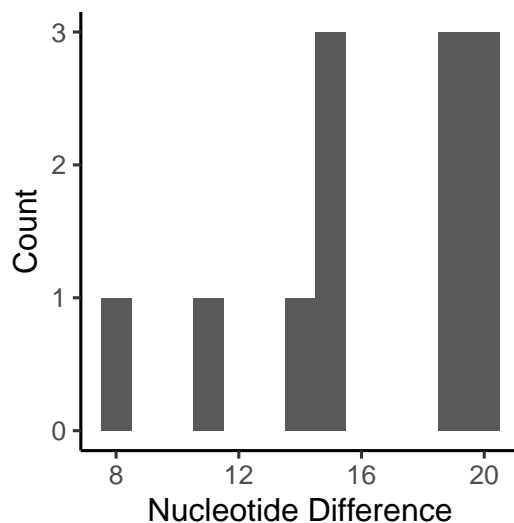
### IGHV3-20\*01

2 sequences assigned  
No exact matches.



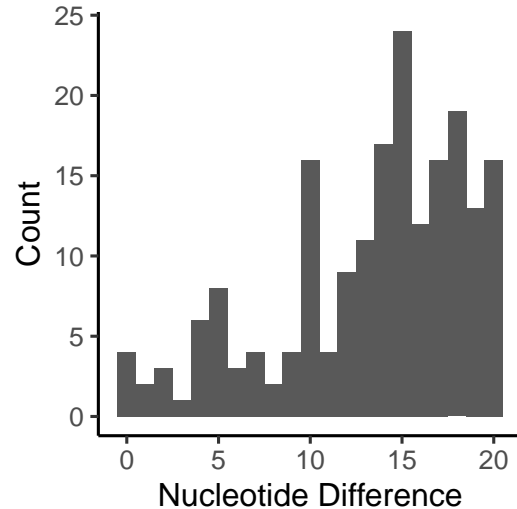
### IGHV3-21\*06

89 sequences assigned  
No exact matches.



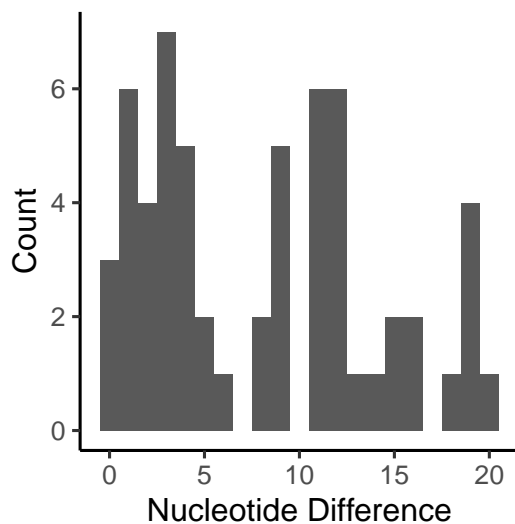
### IGHV3-33\*01

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



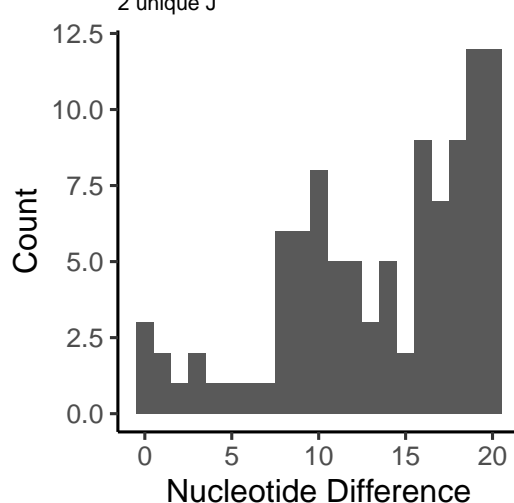
### IGHV3-21\*01

95 sequences assigned  
3 (3.2%) exact matches, in which:  
3 unique CDR3  
1 unique J



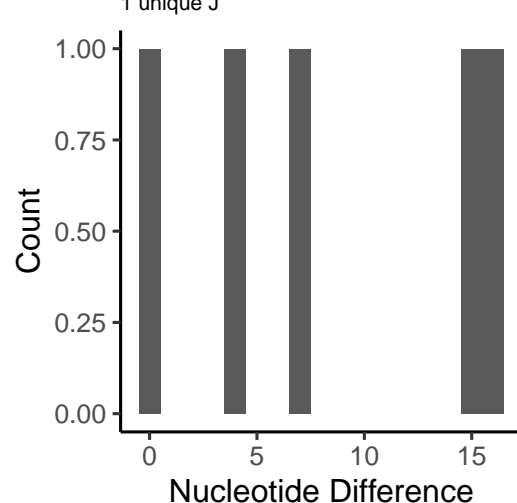
### IGHV3-30-3\*01

335 sequences assigned  
3 (0.9%) exact matches, in which:  
3 unique CDR3  
2 unique J



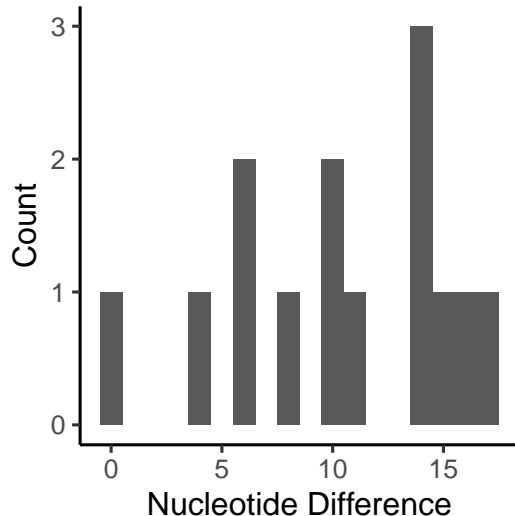
### IGHV3-43\*01

142 sequences assigned  
1 (0.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



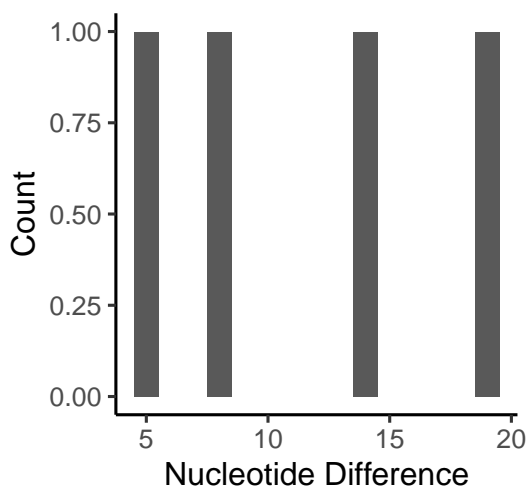
### IGHV3-48\*01

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



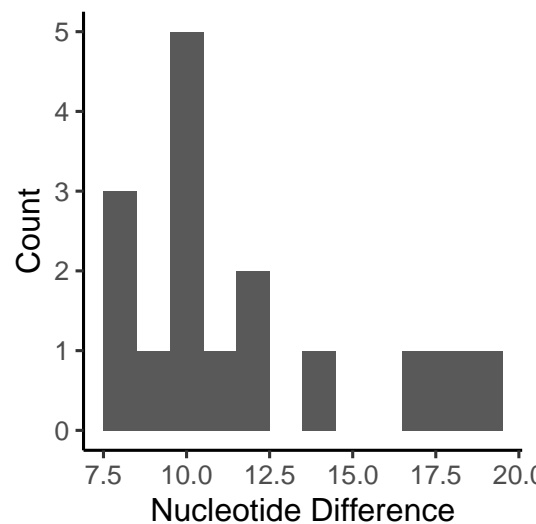
### IGHV3-49\*05

20 sequences assigned  
No exact matches.



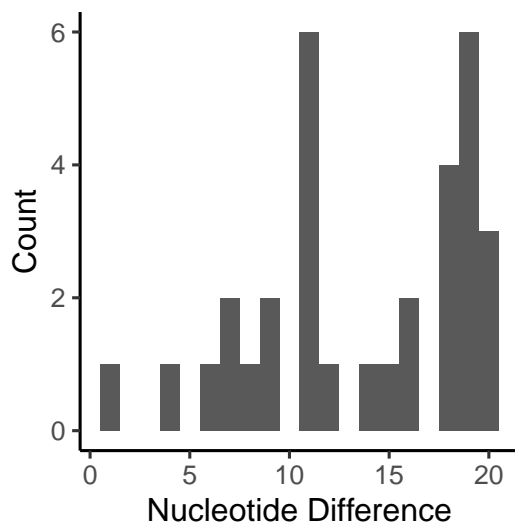
### IGHV3-72\*01

29 sequences assigned  
No exact matches.



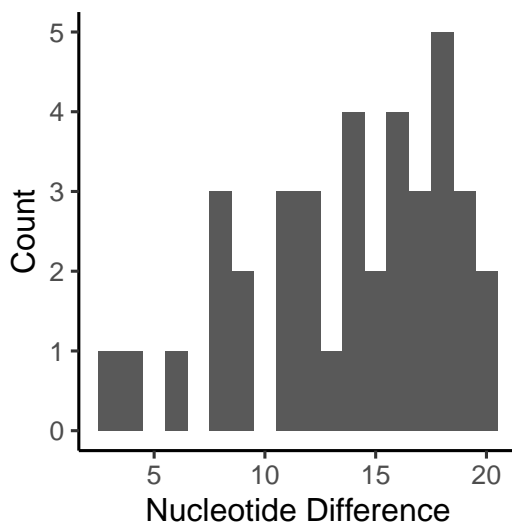
### IGHV3-48\*02

45 sequences assigned  
No exact matches.



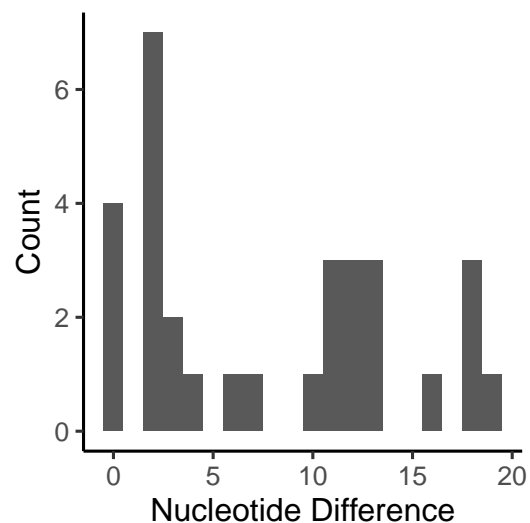
### IGHV3-53\*01

87 sequences assigned  
No exact matches.



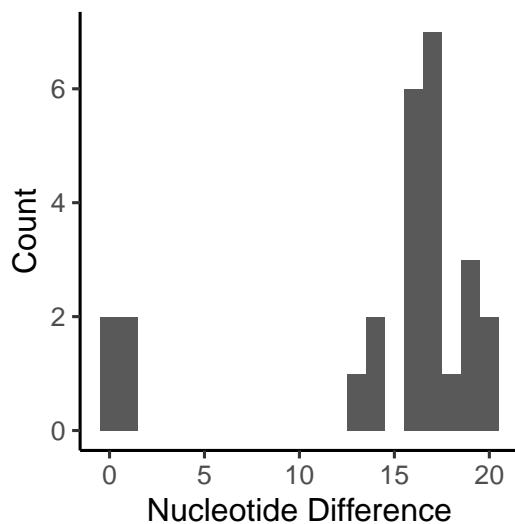
### IGHV3-73\*02

125 sequences assigned  
4 (3.2%) exact matches, in which:  
2 unique CDR3  
1 unique J



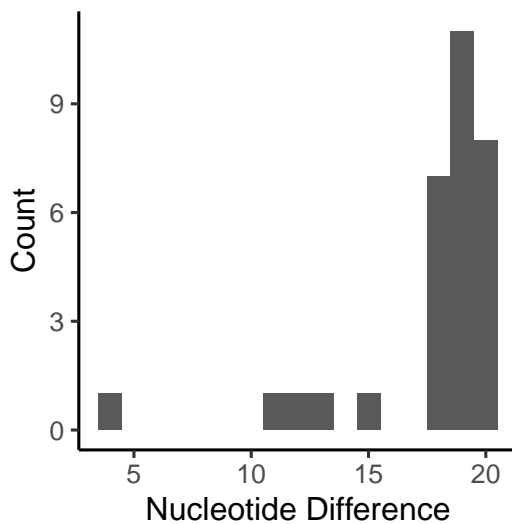
### IGHV3-49\*03

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



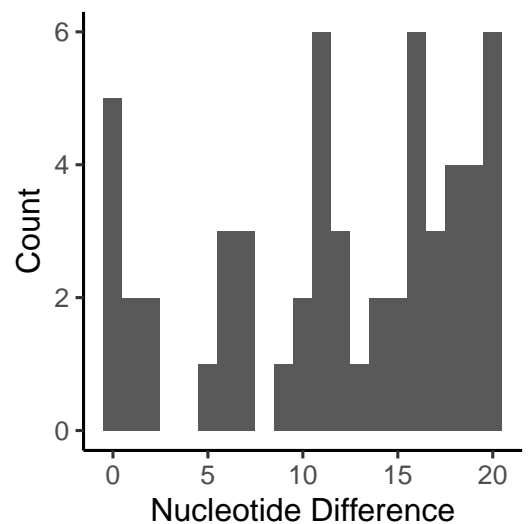
### IGHV3-53\*02

95 sequences assigned  
No exact matches.



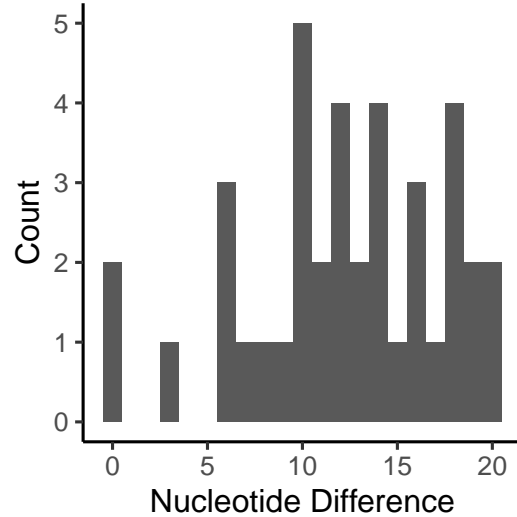
### IGHV3-74\*01

94 sequences assigned  
5 (5.3%) exact matches, in which:  
3 unique CDR3  
3 unique J



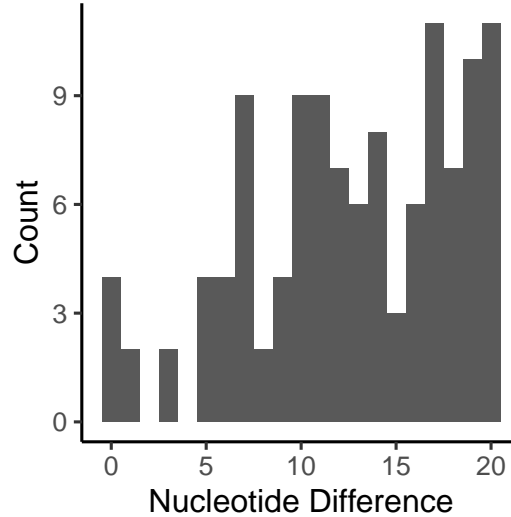
### IGHV4-4\*07

109 sequences assigned  
2 (1.8%) exact matches, in which:  
2 unique CDR3  
1 unique J



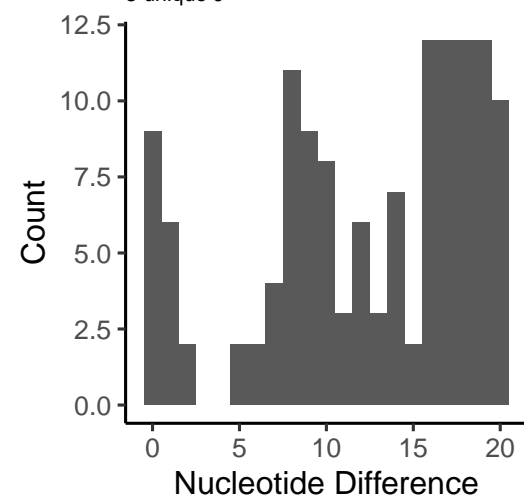
### IGHV4-31\*03

261 sequences assigned  
4 (1.5%) exact matches, in which:  
3 unique CDR3  
2 unique J



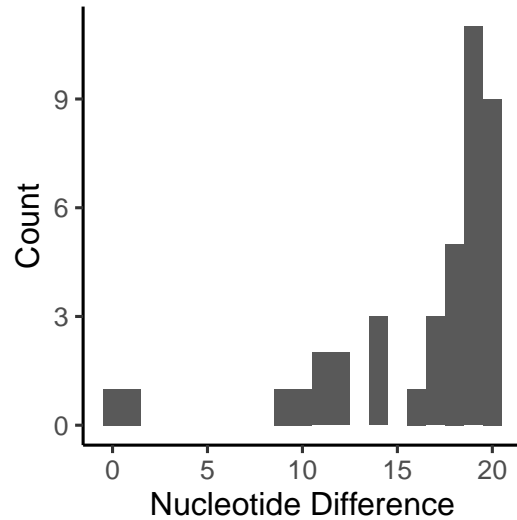
### IGHV4-39\*01

489 sequences assigned  
9 (1.8%) exact matches, in which:  
7 unique CDR3  
3 unique J



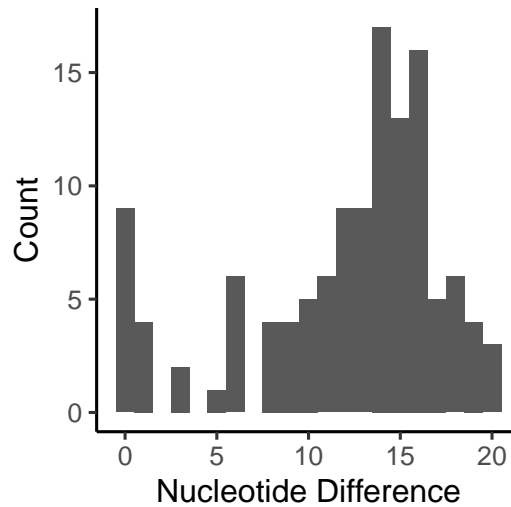
### IGHV4-30-4\*01

164 sequences assigned  
1 (0.6%) exact matches, in which:  
1 unique CDR3  
1 unique J



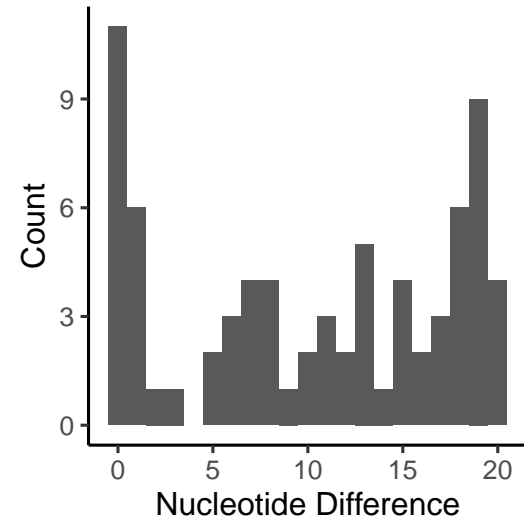
### IGHV4-34\*01

251 sequences assigned  
9 (3.6%) exact matches, in which:  
9 unique CDR3  
3 unique J



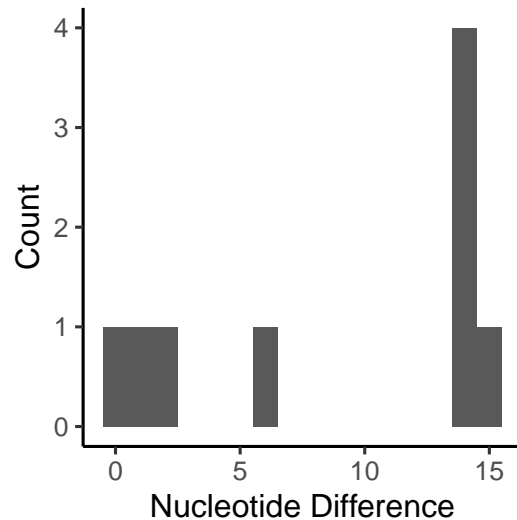
### IGHV4-59\*01

136 sequences assigned  
11 (8.1%) exact matches, in which:  
11 unique CDR3  
4 unique J



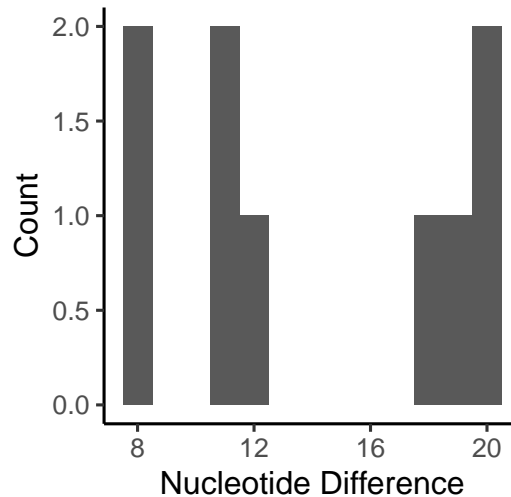
### IGHV4-30-2\*01

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



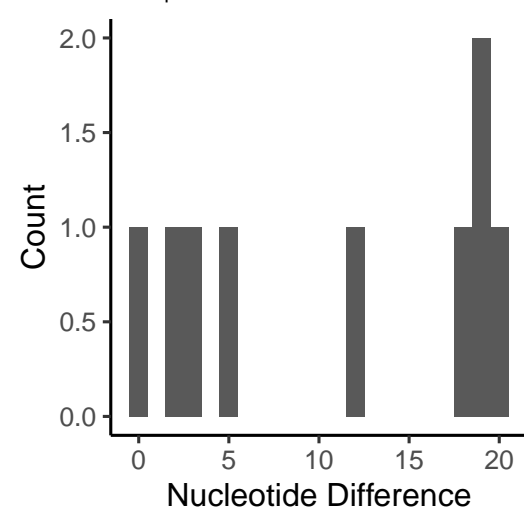
### IGHV4-34\*02

62 sequences assigned  
No exact matches.



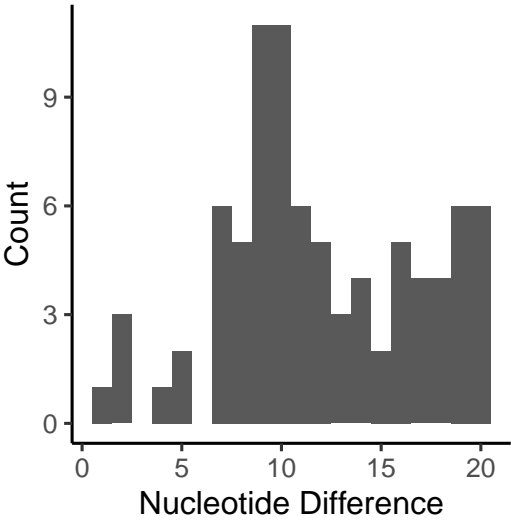
### IGHV4-61\*01

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



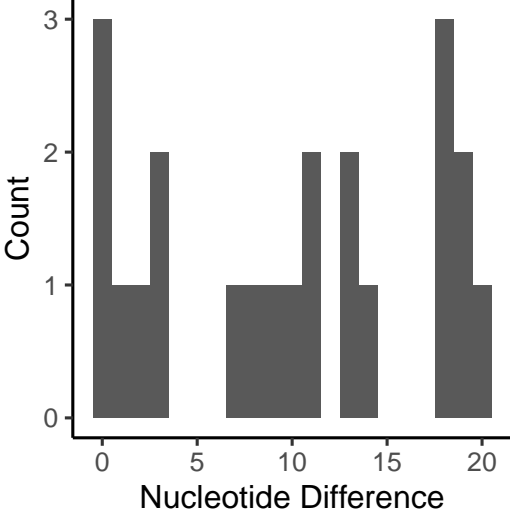
IGHV4–61\*02

147 sequences assigned  
No exact matches.



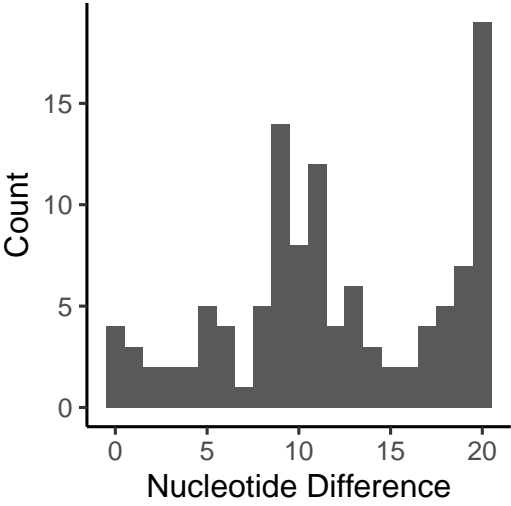
IGHV6–1\*01

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



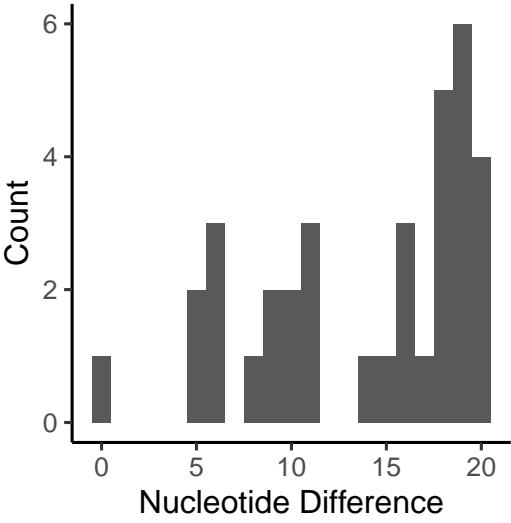
IGHV5–51\*01

183 sequences assigned  
4 (2.2%) exact matches, in which:  
2 unique CDR3  
2 unique J

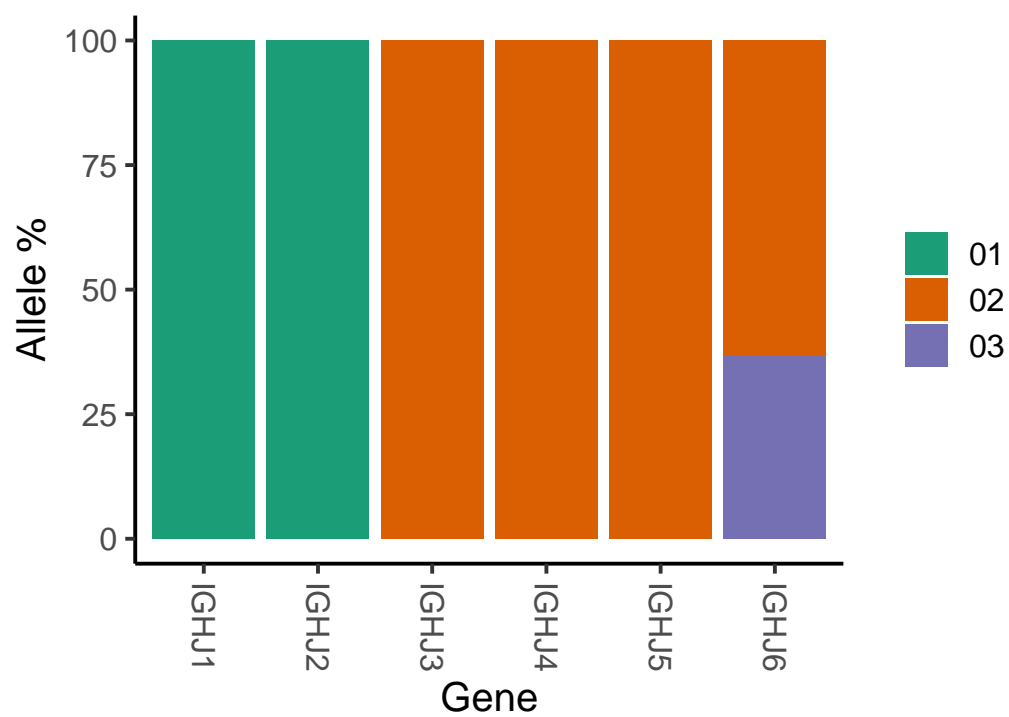


IGHV5–51\*03

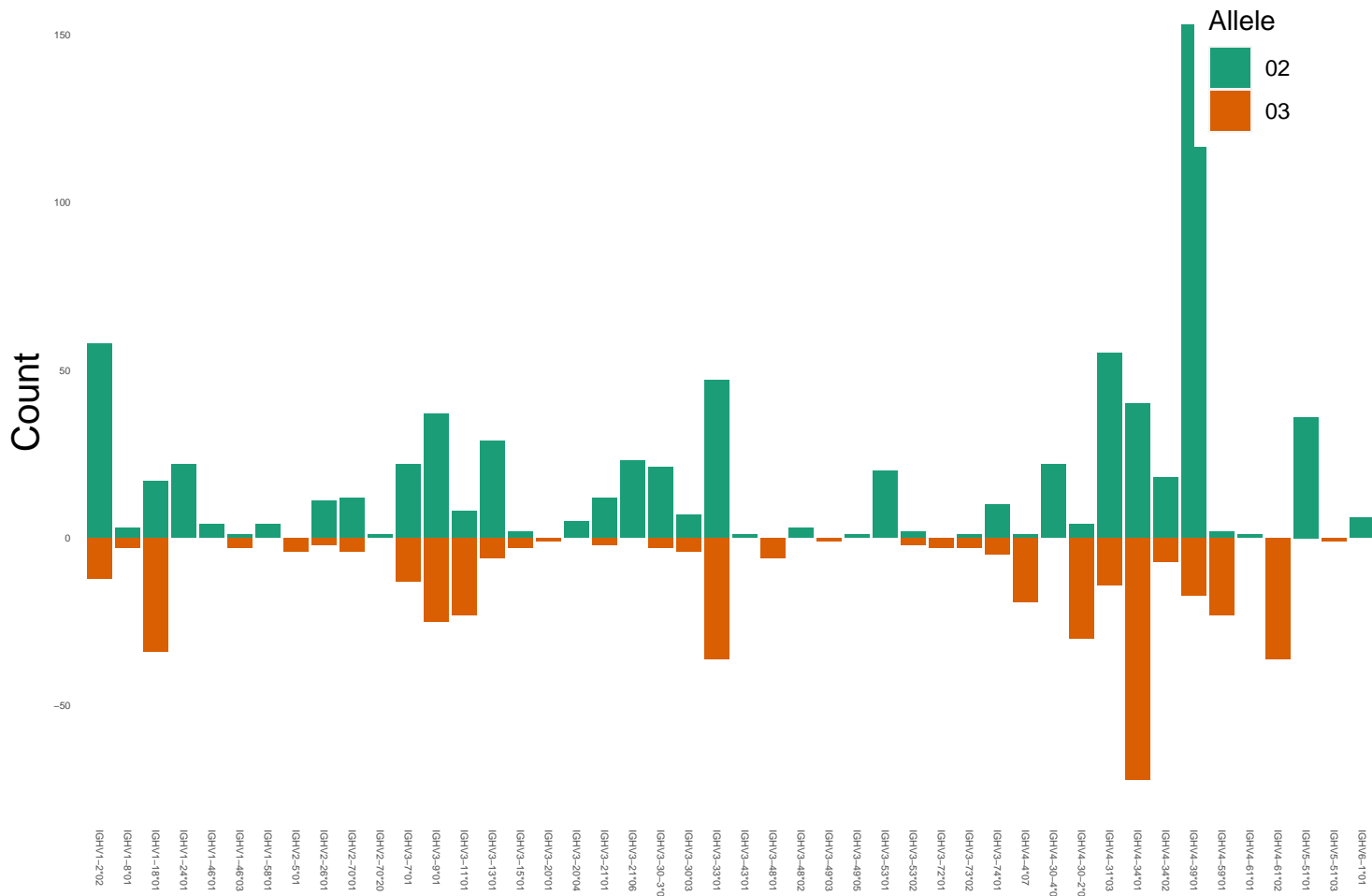
60 sequences assigned  
1 (1.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



Allele Usage



Sequence Count by IGHJ6 allele usage





[illegible]