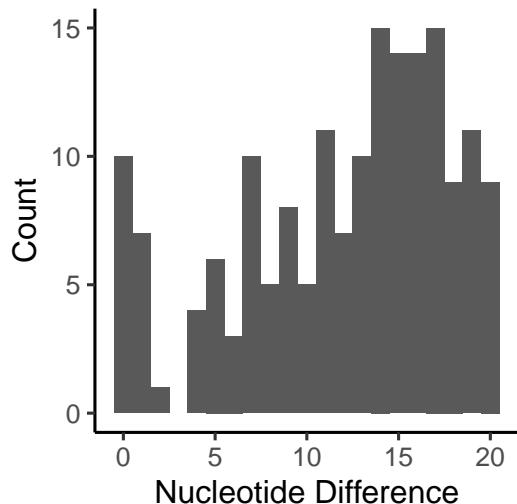


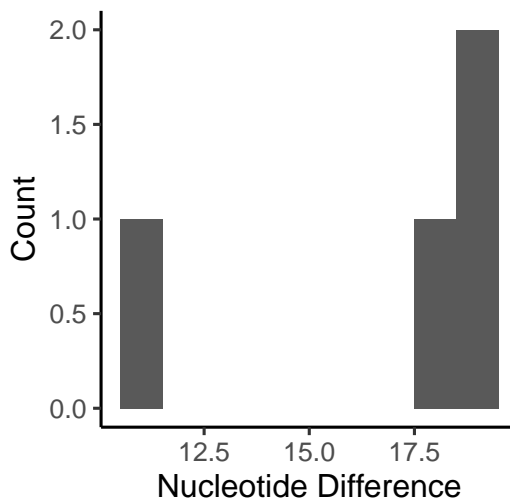
### IGHV1-2\*02

439 sequences assigned  
10 (2.3%) exact matches, in which:  
10 unique CDR3  
4 unique J



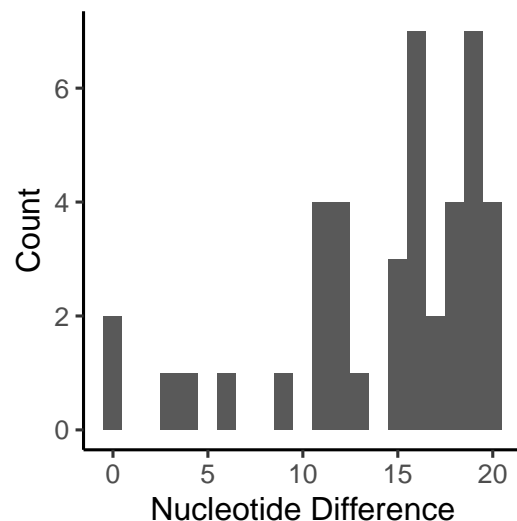
### IGHV1-8\*02

6 sequences assigned  
No exact matches.



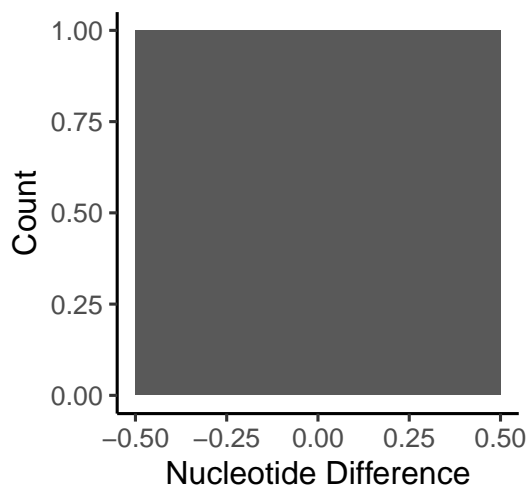
### IGHV1-46\*01

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



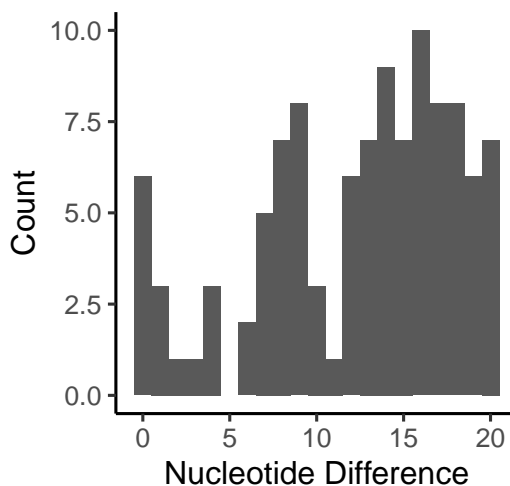
### IGHV1-3\*01

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



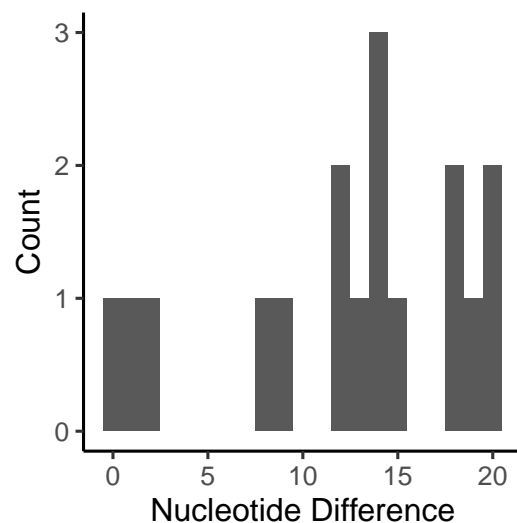
### IGHV1-18\*01

255 sequences assigned  
6 (2.4%) exact matches, in which:  
6 unique CDR3  
4 unique J



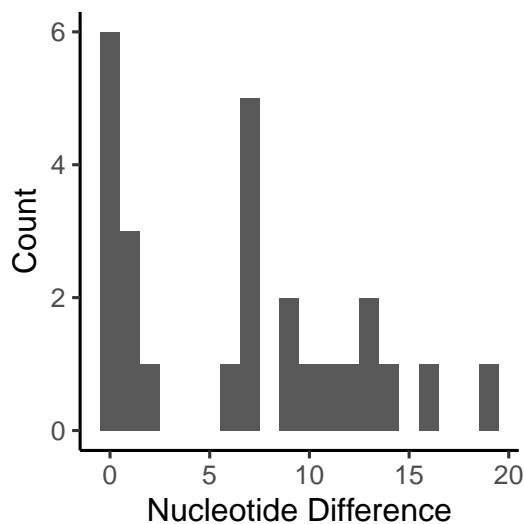
### IGHV1-46\*03

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



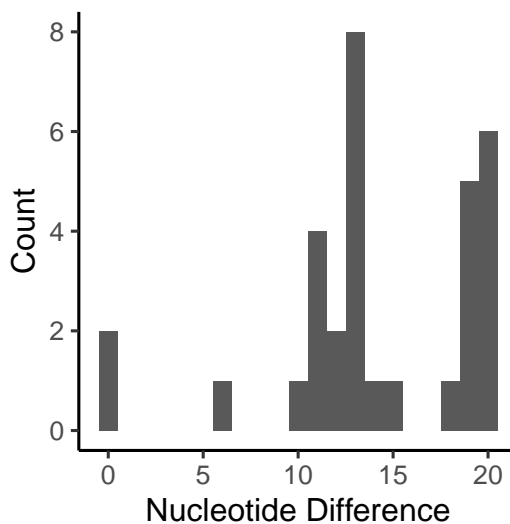
### IGHV1-8\*01

50 sequences assigned  
6 (12%) exact matches, in which:  
6 unique CDR3  
3 unique J



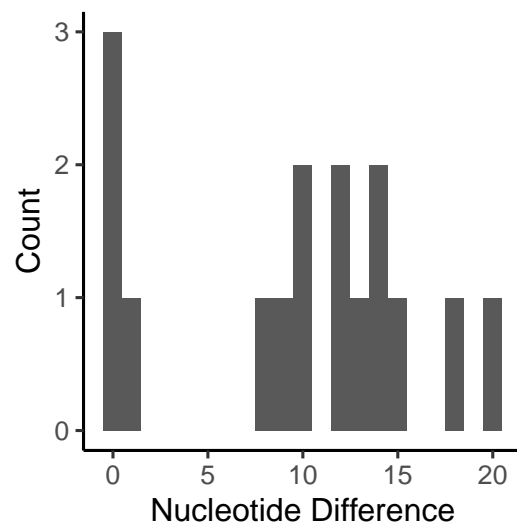
### IGHV1-24\*01

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



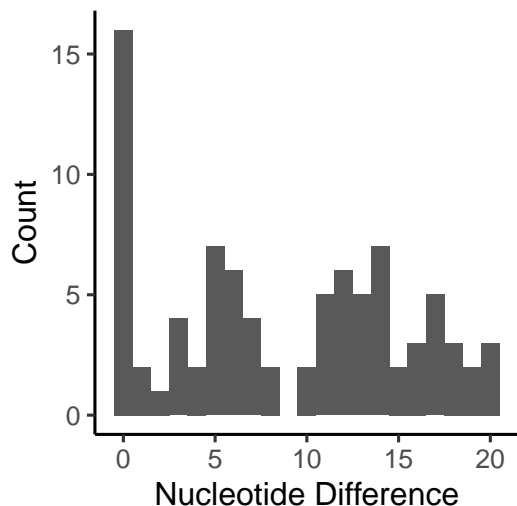
### IGHV1-58\*01

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



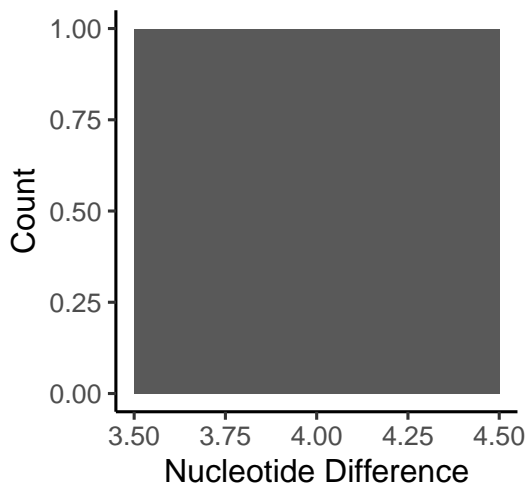
## IGHV2-5\*01

222 sequences assigned  
16 (7.2%) exact matches, in which:  
16 unique CDR3  
4 unique J



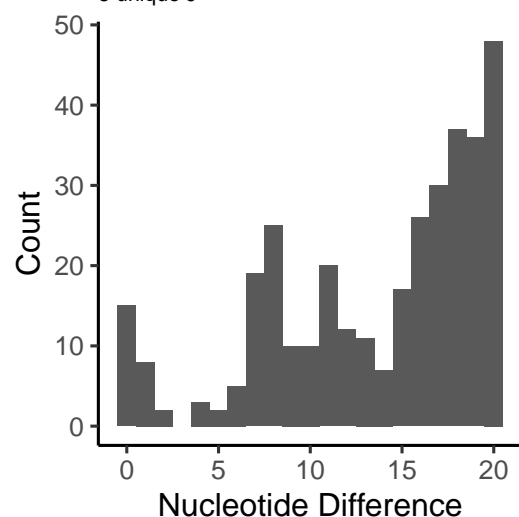
## IGHV2-70\*13

10 sequences assigned  
No exact matches.



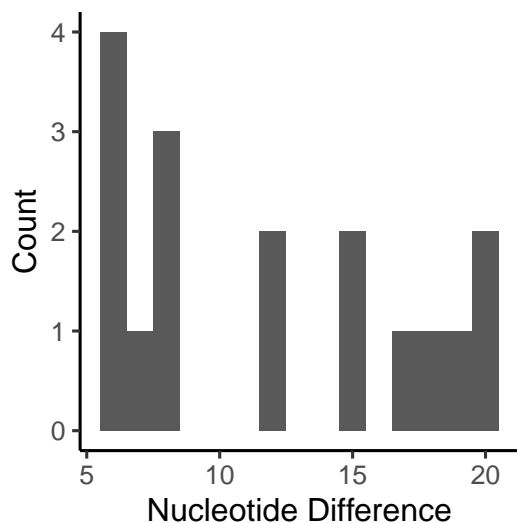
## IGHV3-9\*01

665 sequences assigned  
15 (2.3%) exact matches, in which:  
15 unique CDR3  
5 unique J



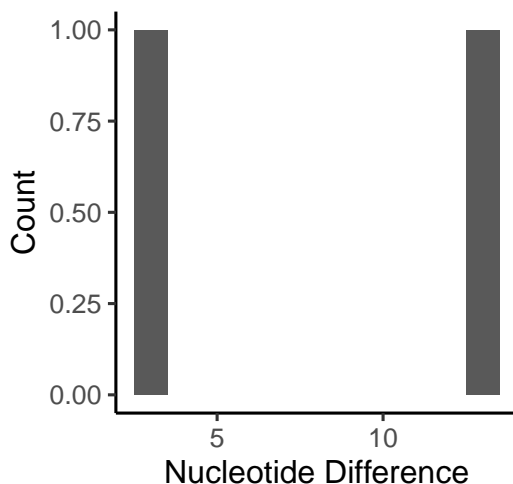
## IGHV2-26\*01

46 sequences assigned  
No exact matches.



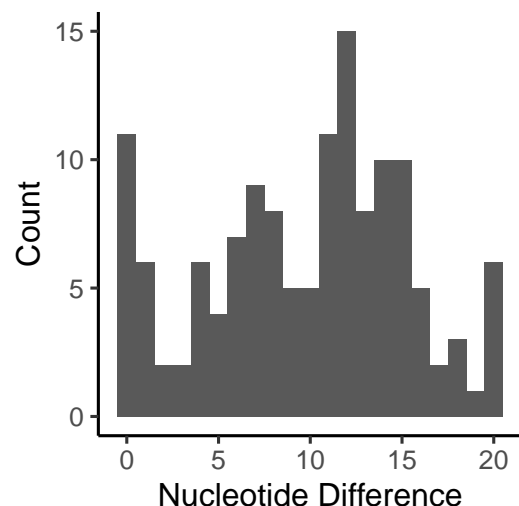
## IGHV2-70\*20

5 sequences assigned  
No exact matches.



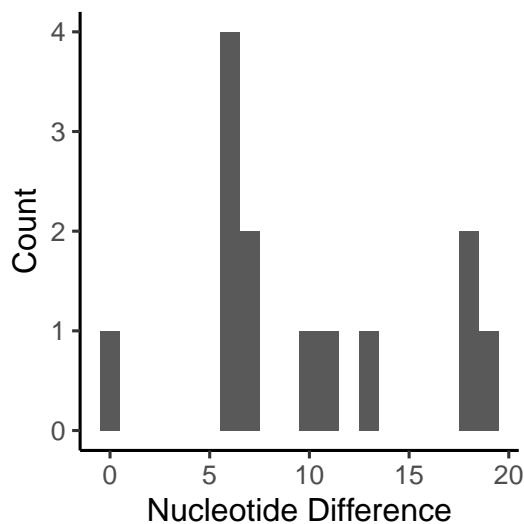
## IGHV3-11\*01

305 sequences assigned  
11 (3.6%) exact matches, in which:  
11 unique CDR3  
4 unique J



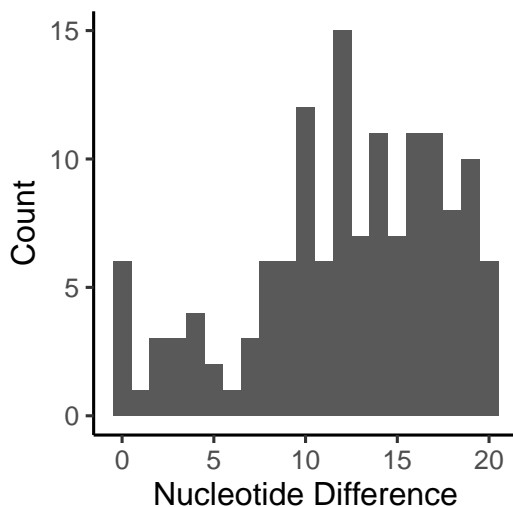
## IGHV2-70\*01

23 sequences assigned  
1 (4.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



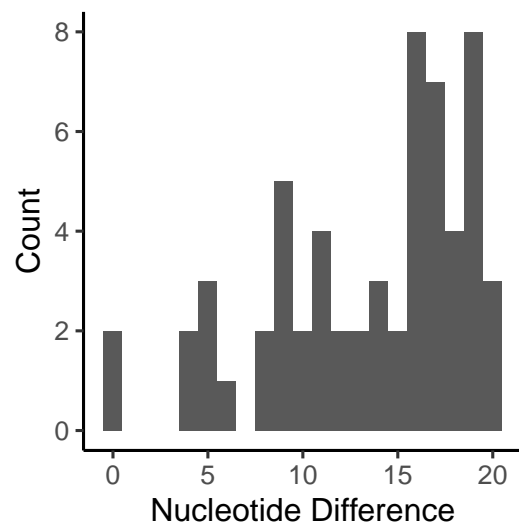
## IGHV3-7\*01

210 sequences assigned  
6 (2.9%) exact matches, in which:  
6 unique CDR3  
4 unique J



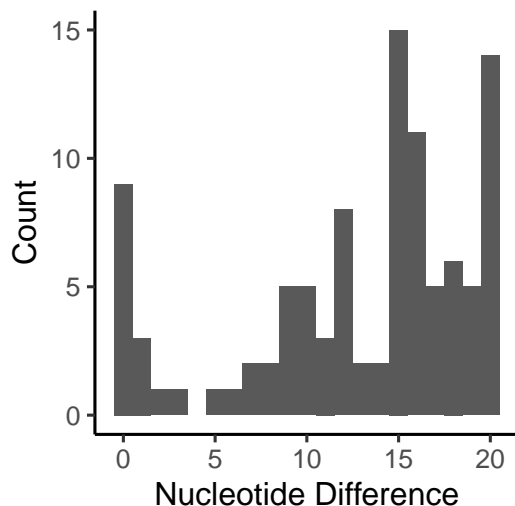
## IGHV3-13\*01

76 sequences assigned  
2 (2.6%) exact matches, in which:  
2 unique CDR3  
2 unique J



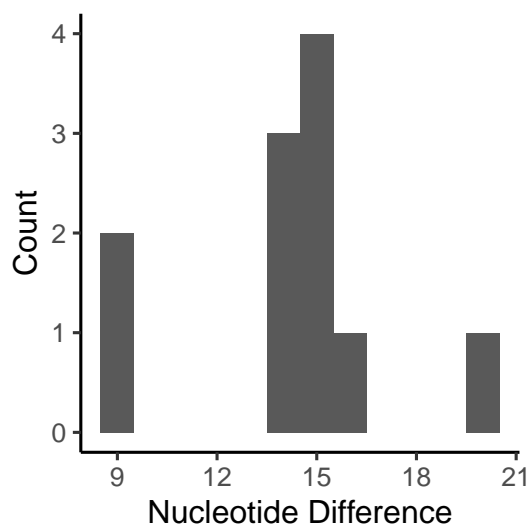
### IGHV3-15\*01

308 sequences assigned  
9 (2.9%) exact matches, in which:  
7 unique CDR3  
2 unique J



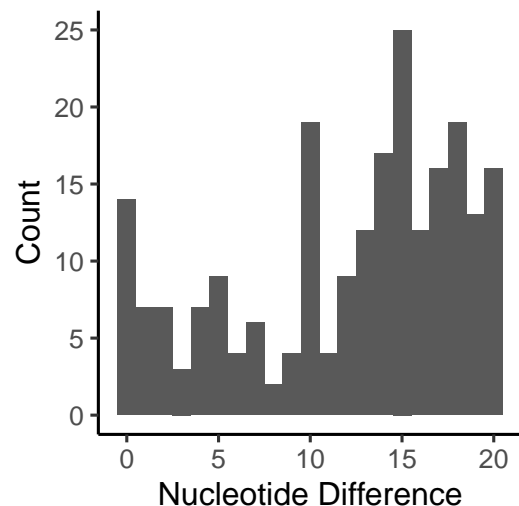
### IGHV3-21\*02

29 sequences assigned  
No exact matches.



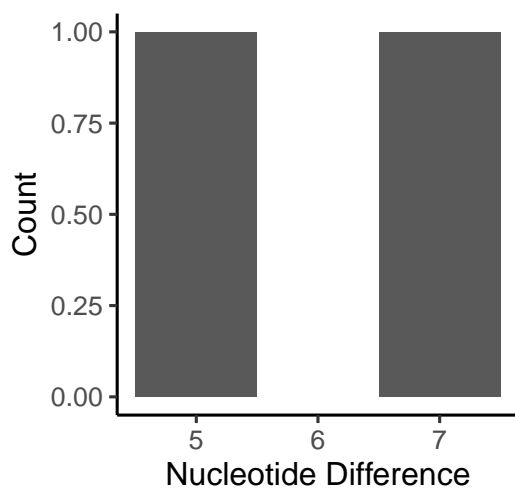
### IGHV3-33\*01

457 sequences assigned  
14 (3.1%) exact matches, in which:  
14 unique CDR3  
5 unique J



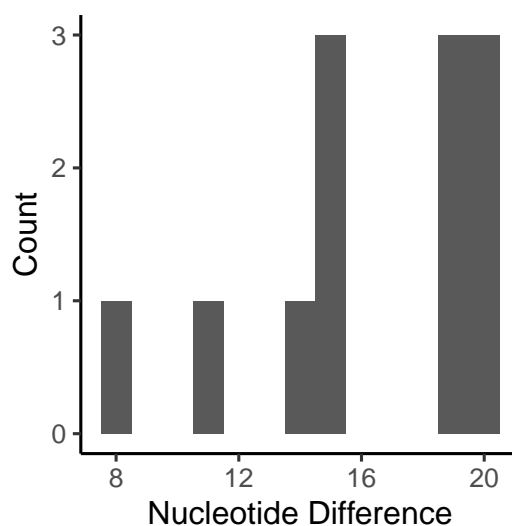
### IGHV3-20\*01

2 sequences assigned  
No exact matches.



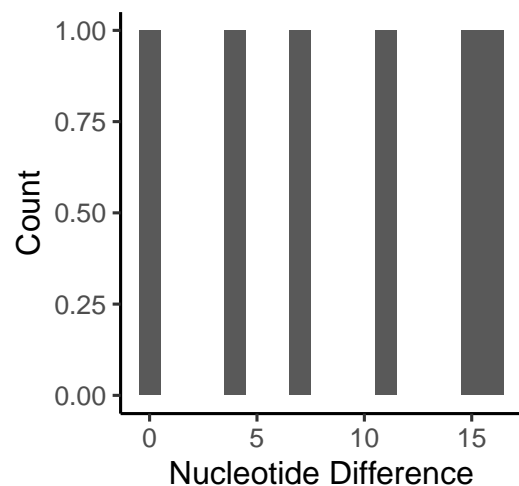
### IGHV3-21\*06

91 sequences assigned  
No exact matches.



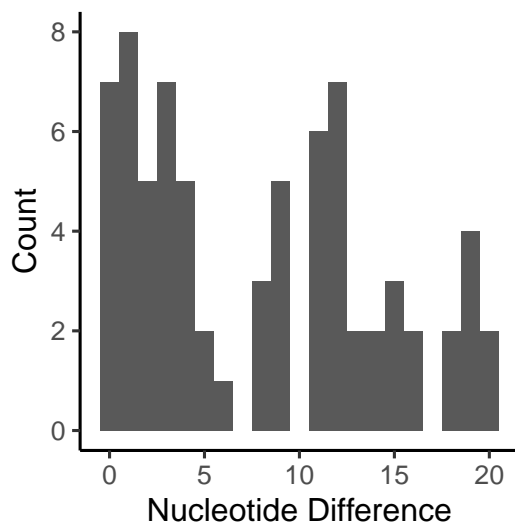
### IGHV3-43\*01

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



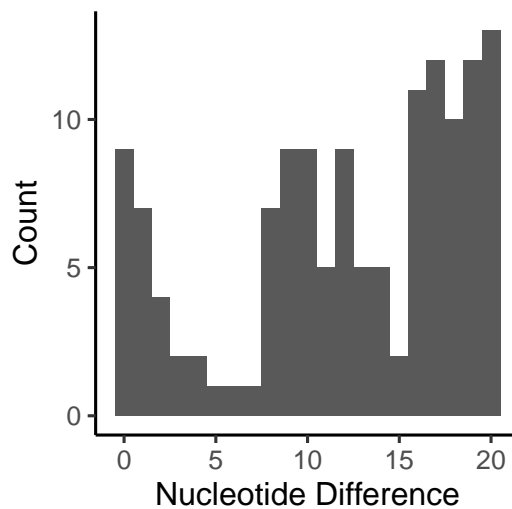
### IGHV3-21\*01

111 sequences assigned  
7 (6.3%) exact matches, in which:  
7 unique CDR3  
2 unique J



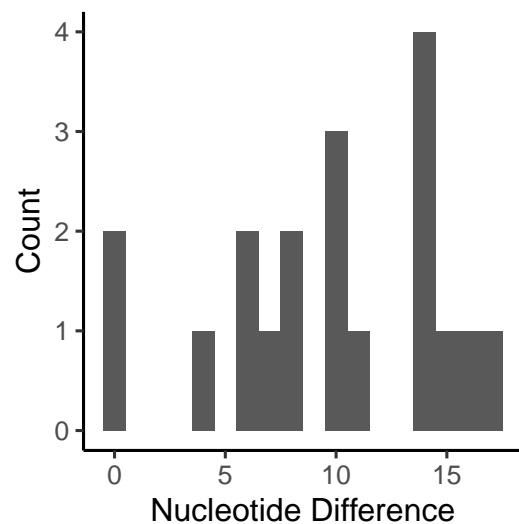
### IGHV3-30-3\*01

389 sequences assigned  
9 (2.3%) exact matches, in which:  
9 unique CDR3  
4 unique J



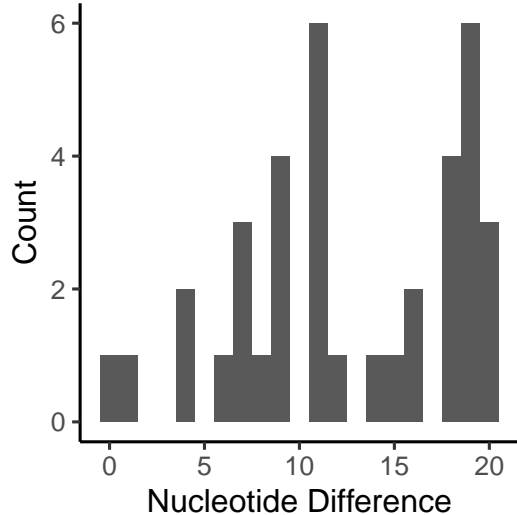
### IGHV3-48\*01

32 sequences assigned  
2 (6.2%) exact matches, in which:  
2 unique CDR3  
1 unique J



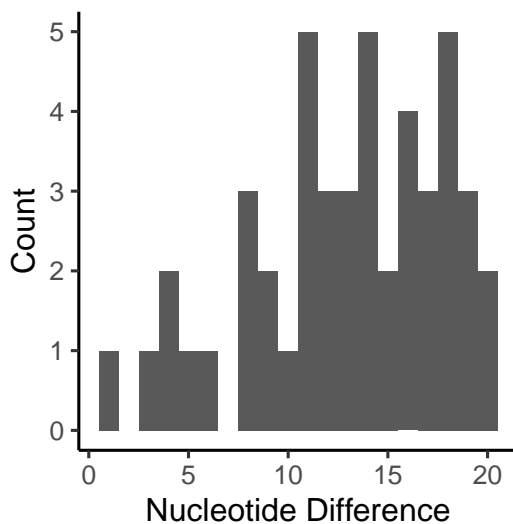
### IGHV3-48\*02

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



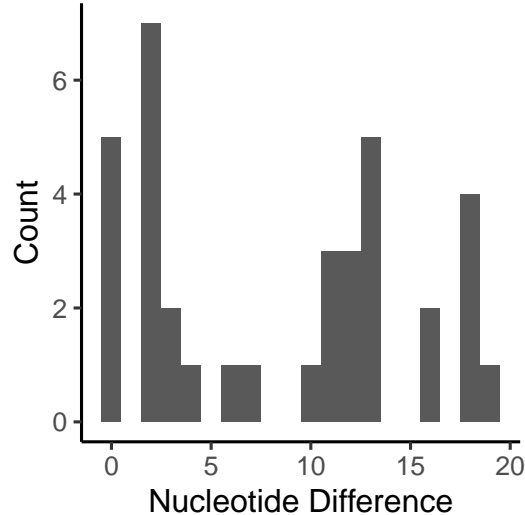
### IGHV3-53\*01

97 sequences assigned  
No exact matches.



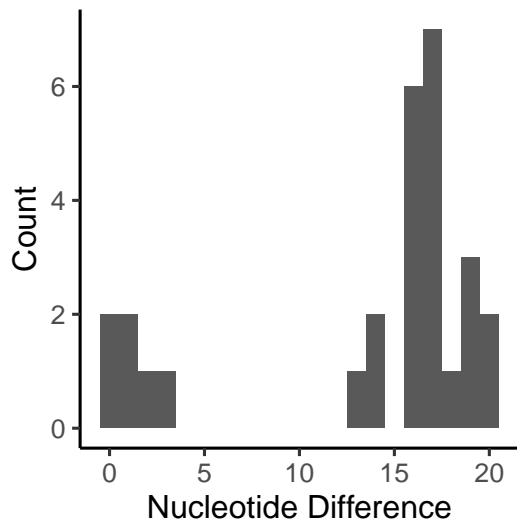
### IGHV3-73\*02

133 sequences assigned  
5 (3.8%) exact matches, in which:  
3 unique CDR3  
2 unique J



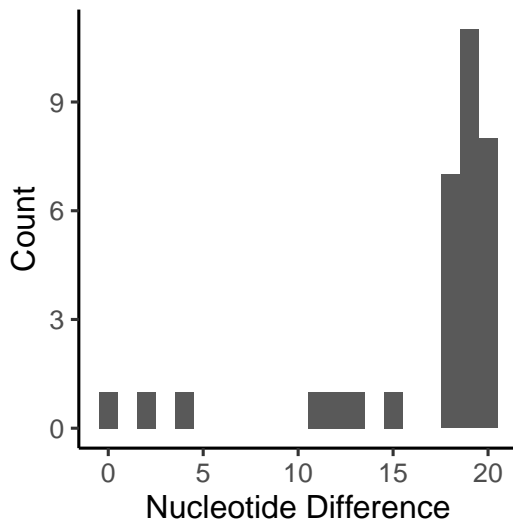
### IGHV3-49\*03

31 sequences assigned  
2 (6.5%) exact matches, in which:  
1 unique CDR3  
1 unique J



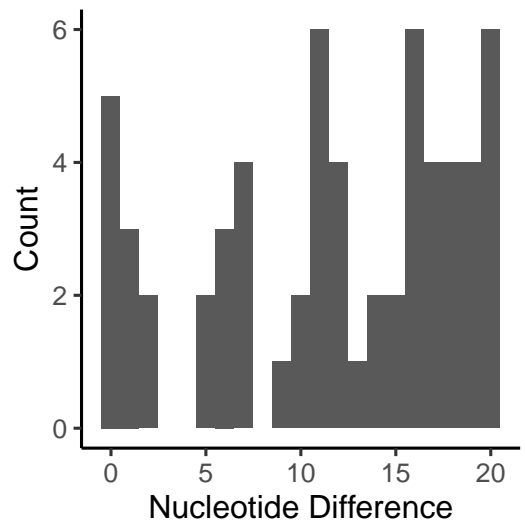
### IGHV3-53\*02

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



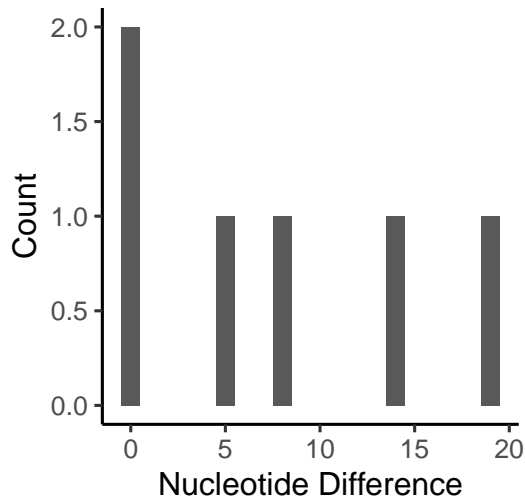
### IGHV3-74\*01

99 sequences assigned  
5 (5.1%) exact matches, in which:  
3 unique CDR3  
3 unique J



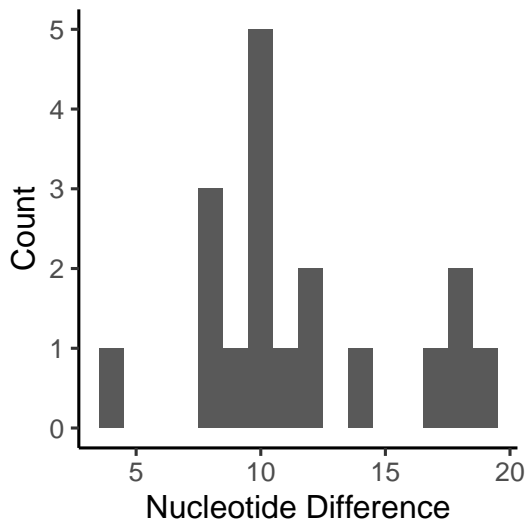
### IGHV3-49\*05

22 sequences assigned  
2 (9.1%) exact matches, in which:  
2 unique CDR3  
1 unique J



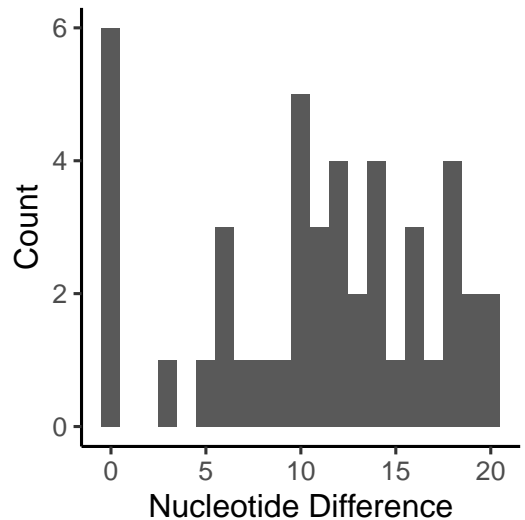
### IGHV3-72\*01

33 sequences assigned  
No exact matches.



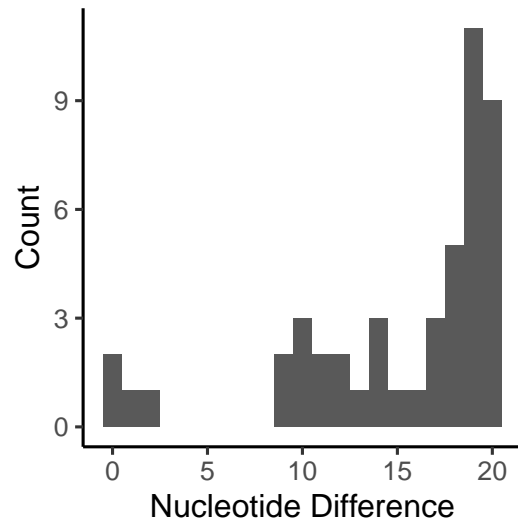
### IGHV4-4\*07

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



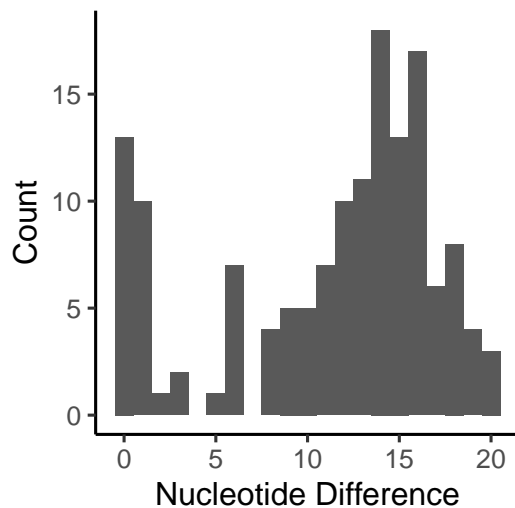
### IGHV4-30-4\*01

171 sequences assigned  
2 (1.2%) exact matches, in which:  
2 unique CDR3  
2 unique J



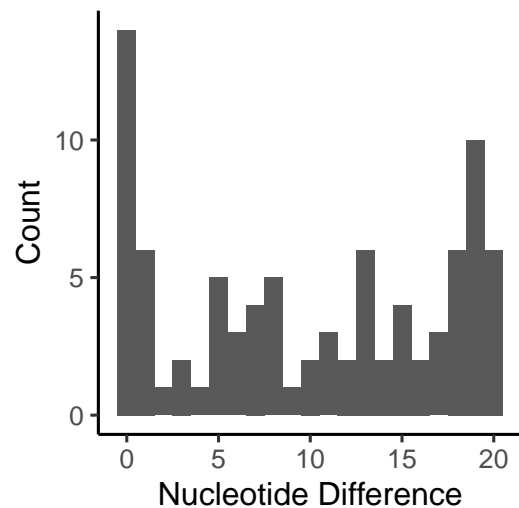
### IGHV4-34\*01

279 sequences assigned  
13 (4.7%) exact matches, in which:  
13 unique CDR3  
4 unique J



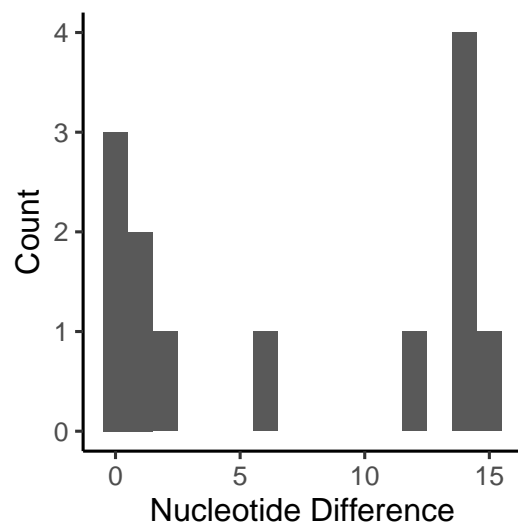
### IGHV4-59\*01

151 sequences assigned  
14 (9.3%) exact matches, in which:  
14 unique CDR3  
5 unique J



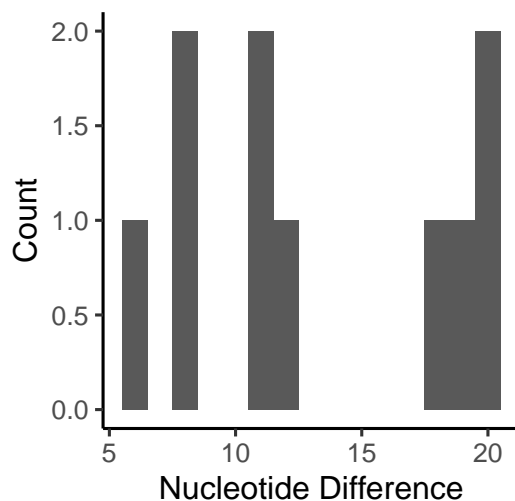
### IGHV4-30-2\*01

54 sequences assigned  
3 (5.6%) exact matches, in which:  
3 unique CDR3  
2 unique J



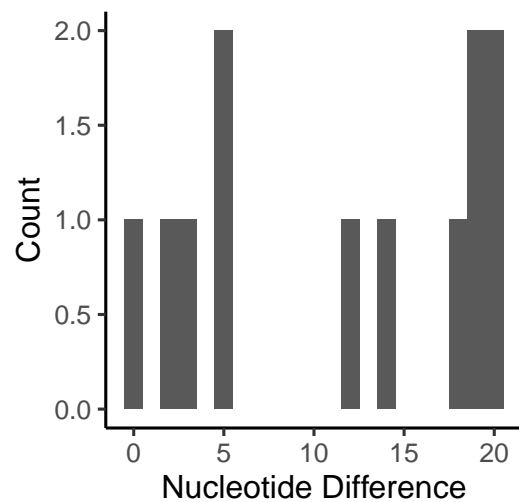
### IGHV4-34\*02

69 sequences assigned  
No exact matches.



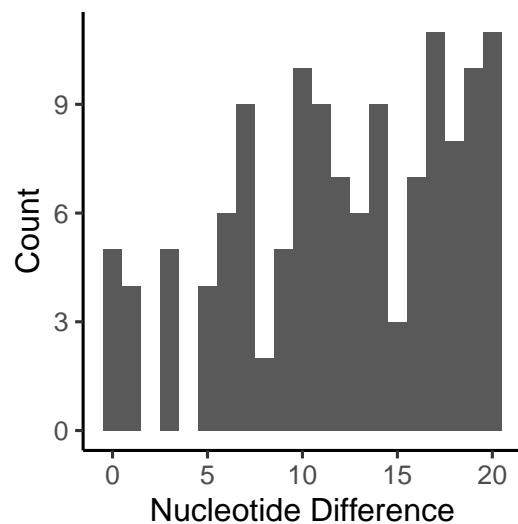
### IGHV4-61\*01

28 sequences assigned  
1 (3.6%) exact matches, in which:  
1 unique CDR3  
1 unique J



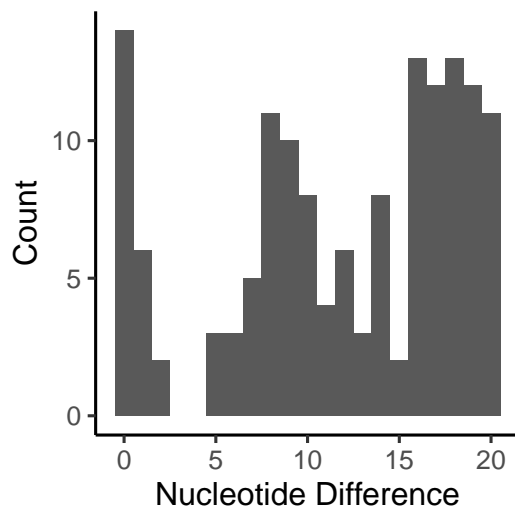
### IGHV4-31\*03

277 sequences assigned  
5 (1.8%) exact matches, in which:  
4 unique CDR3  
2 unique J



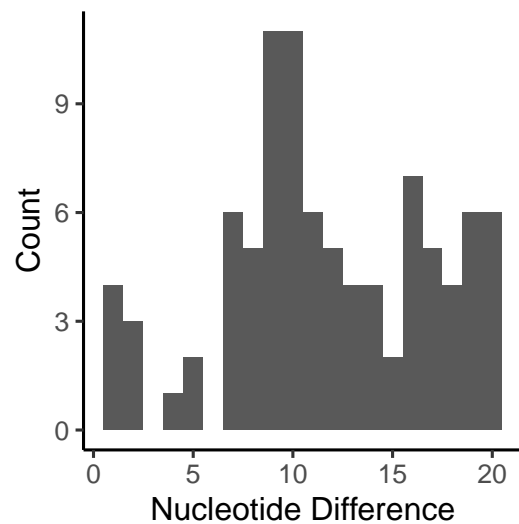
### IGHV4-39\*01

506 sequences assigned  
14 (2.8%) exact matches, in which:  
12 unique CDR3  
4 unique J



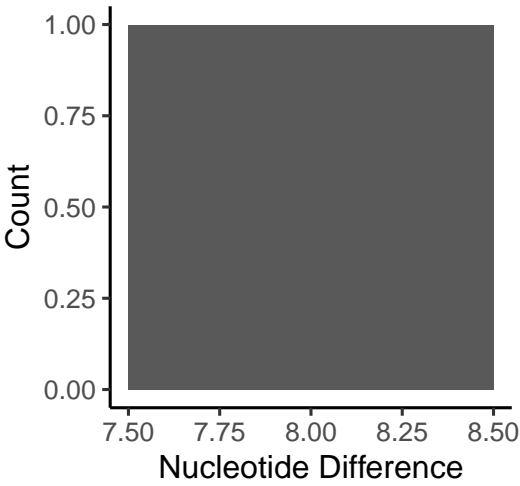
### IGHV4-61\*02

156 sequences assigned  
No exact matches.



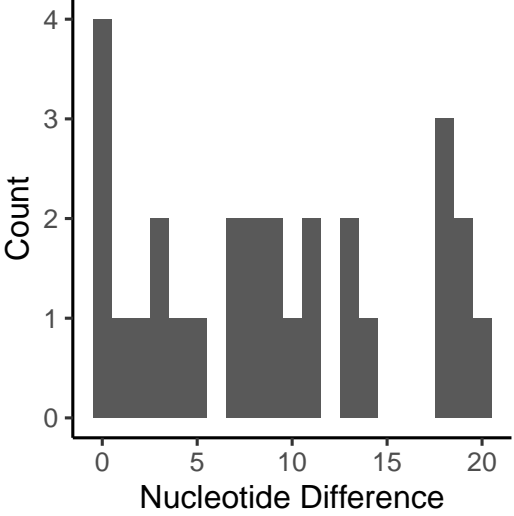
IGHV5-10-1\*03

2 sequences assigned  
No exact matches.



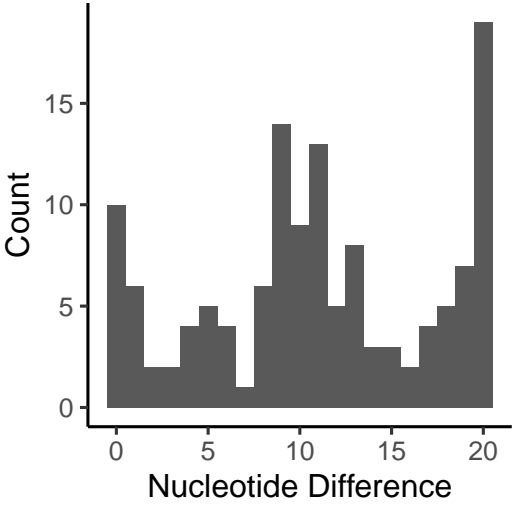
IGHV6-1\*01

31 sequences assigned  
4 (12.9%) exact matches, in which:  
4 unique CDR3  
3 unique J



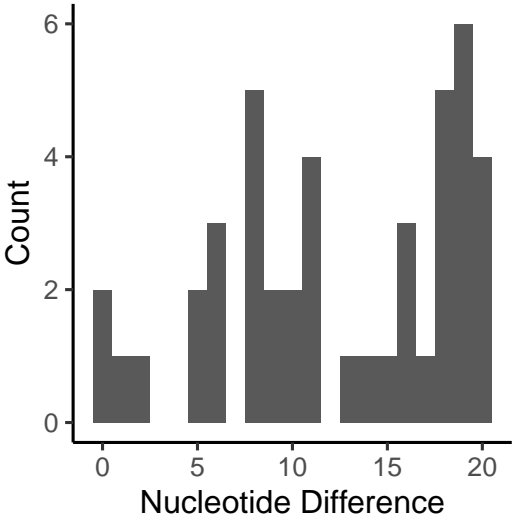
IGHV5-51\*01

205 sequences assigned  
10 (4.9%) exact matches, in which:  
8 unique CDR3  
3 unique J

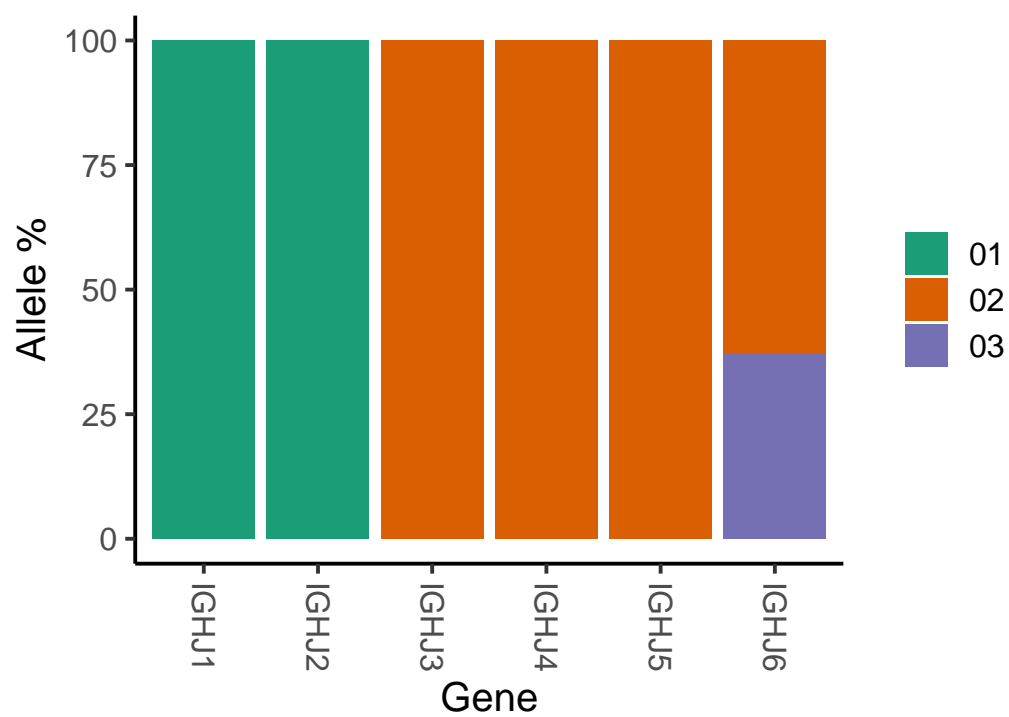


IGHV5-51\*03

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



Allele Usage



Sequence Count by IGHJ6 allele usage

