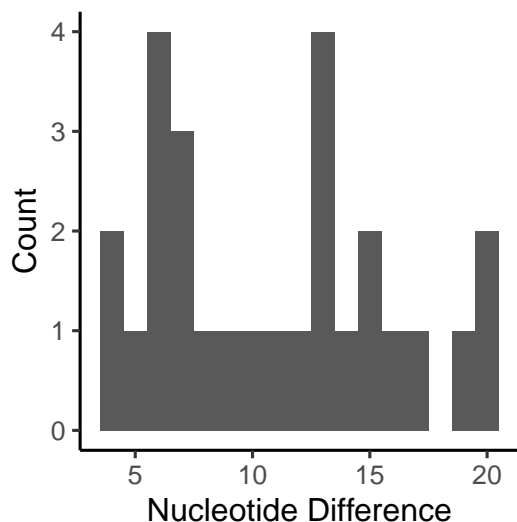


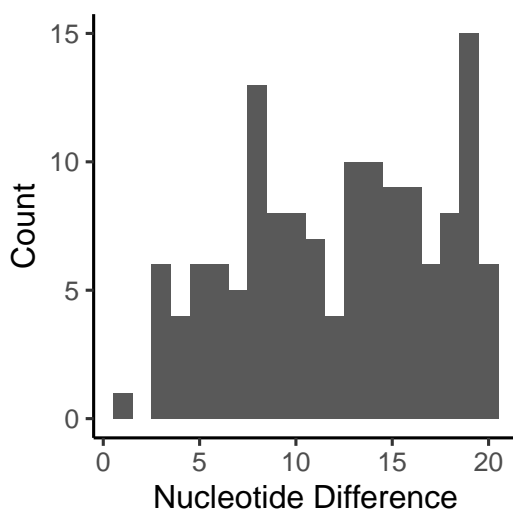
### IGHV1-2\*04

48 sequences assigned  
No exact matches.



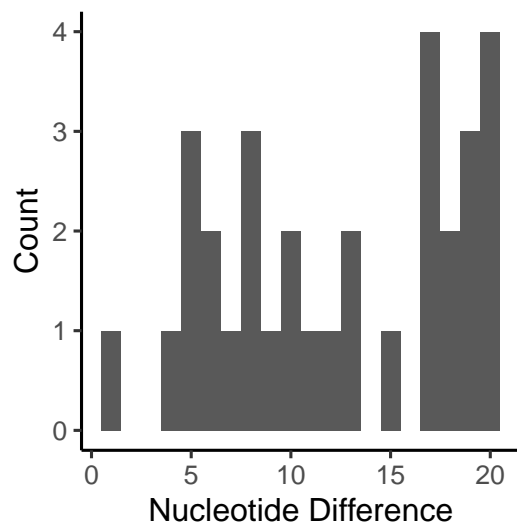
### IGHV1-3\*01\_05

194 sequences assigned  
No exact matches.



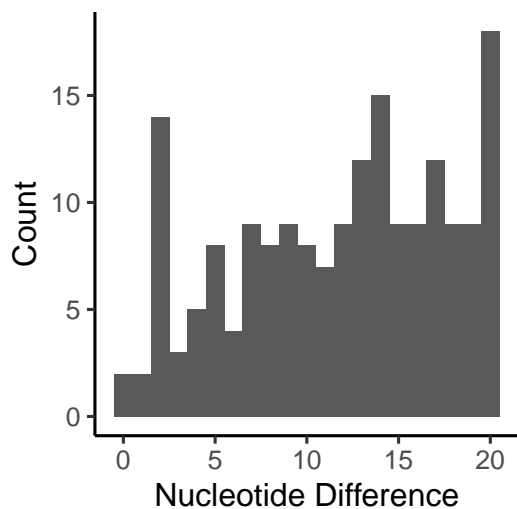
### IGHV1-24\*01

71 sequences assigned  
No exact matches.



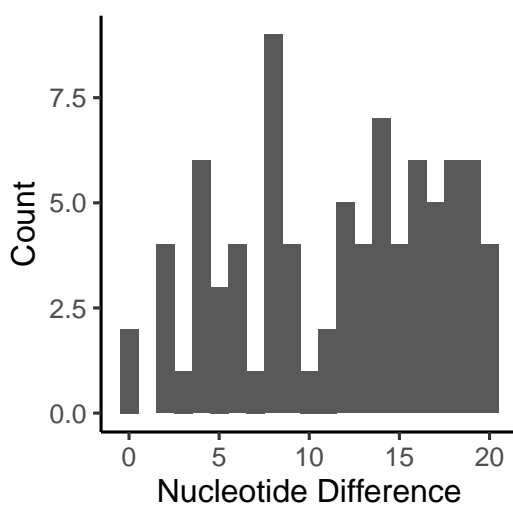
### IGHV1-2\*06

304 sequences assigned  
2 (0.7%) exact matches, in which:  
2 unique CDR3  
2 unique J



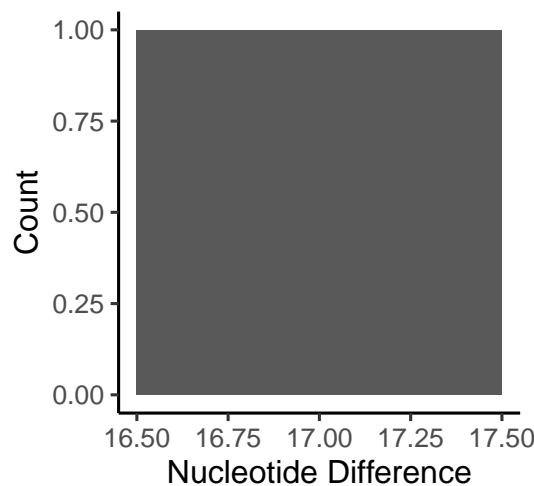
### IGHV1-8\*01

136 sequences assigned  
2 (1.5%) exact matches, in which:  
2 unique CDR3  
1 unique J



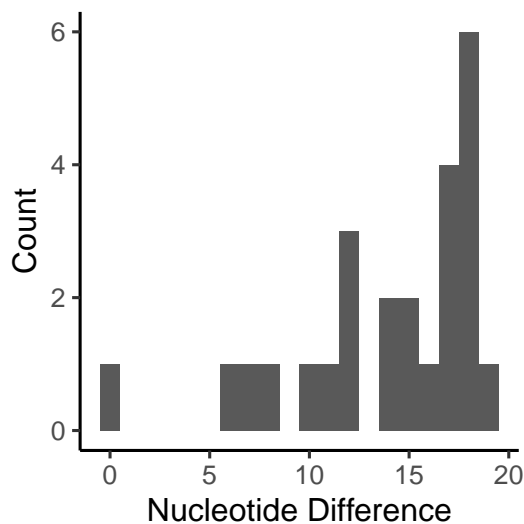
### IGHV1-45\*02

1 sequences assigned  
No exact matches.



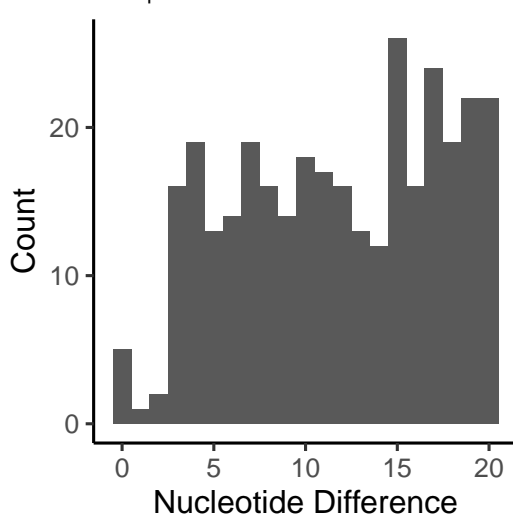
### IGHV1-3\*04

46 sequences assigned  
1 (2.2%) exact matches, in which:  
1 unique CDR3  
1 unique J



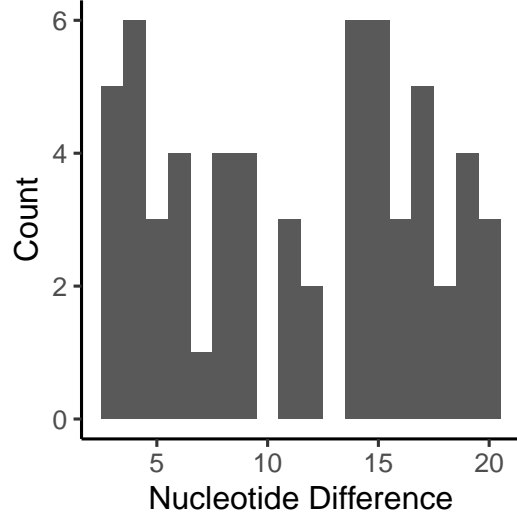
### IGHV1-18\*01

570 sequences assigned  
5 (0.9%) exact matches, in which:  
5 unique CDR3  
3 unique J



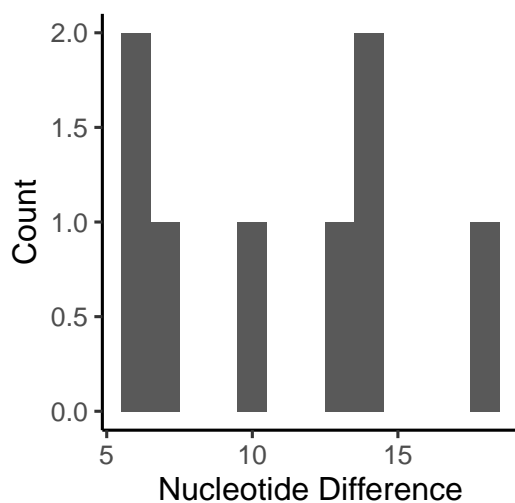
### IGHV1-46\*03

109 sequences assigned  
No exact matches.



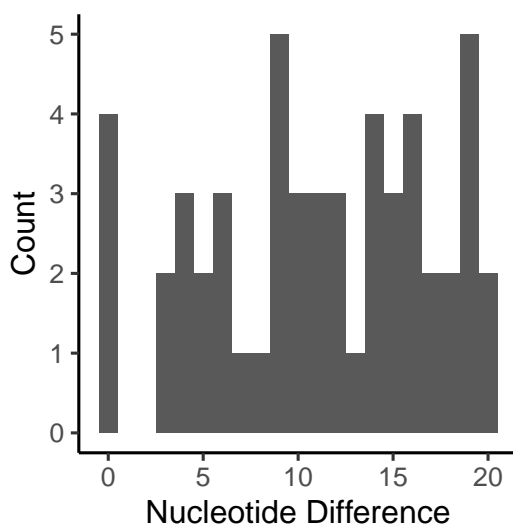
### IGHV1-58\*02

11 sequences assigned  
No exact matches.



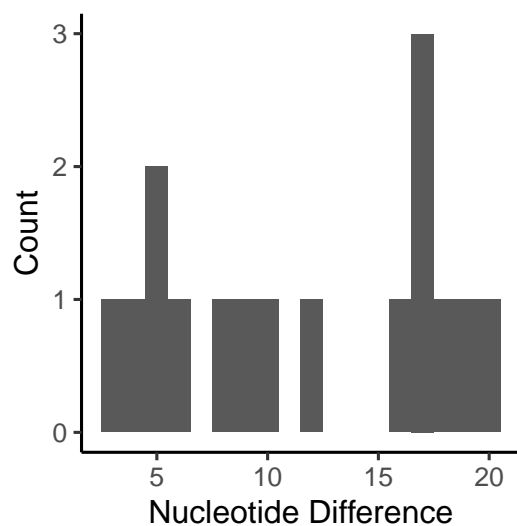
### IGHV1-69\*04\_09

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



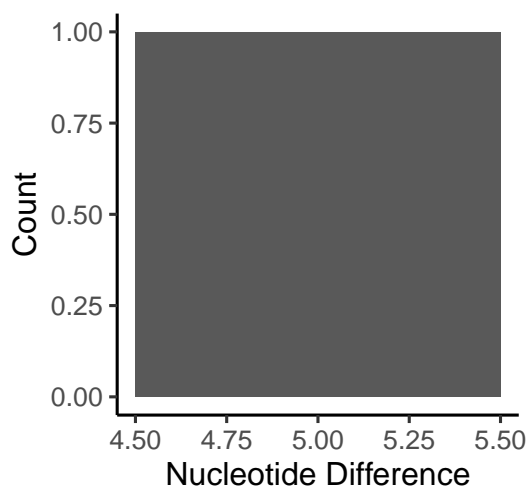
### IGHV2-70\*01

21 sequences assigned  
No exact matches.



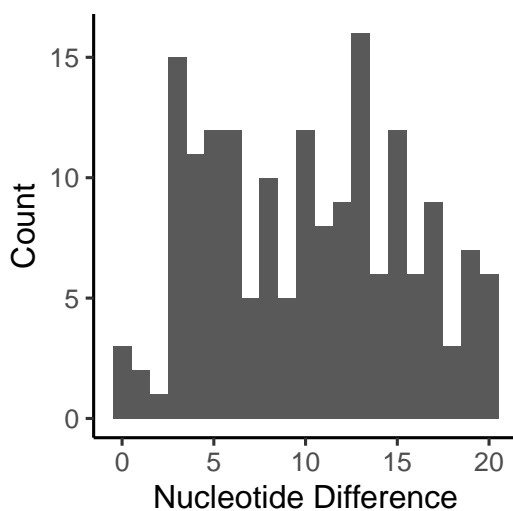
### IGHV1-58\*01\_03

5 sequences assigned  
No exact matches.



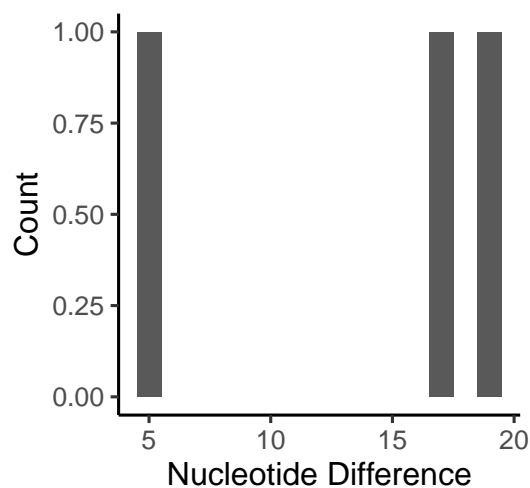
### IGHV2-5\*02

235 sequences assigned  
3 (1.3%) exact matches, in which:  
3 unique CDR3  
2 unique J



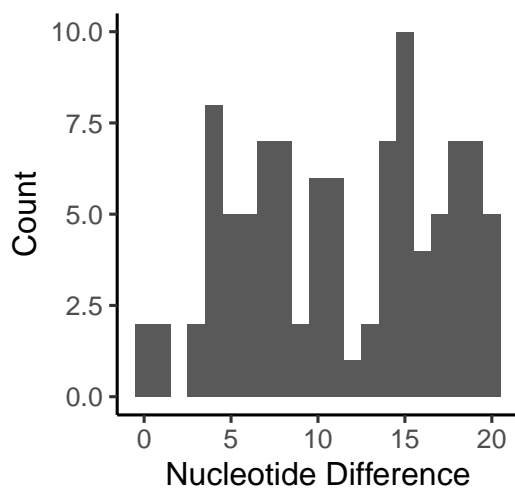
### IGHV2-70\*13

9 sequences assigned  
No exact matches.



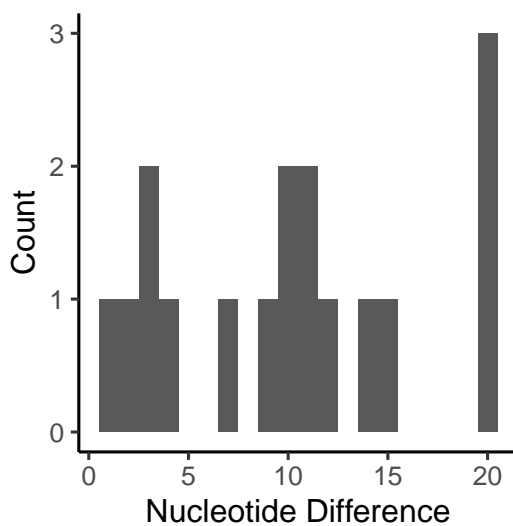
### IGHV1-69\*01\_12\_13

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



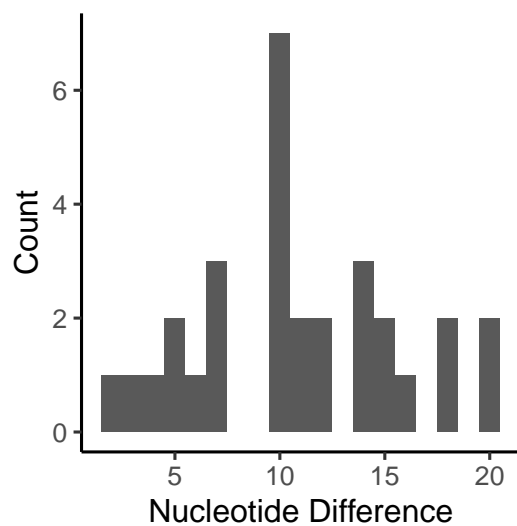
### IGHV2-26\*01

22 sequences assigned  
No exact matches.



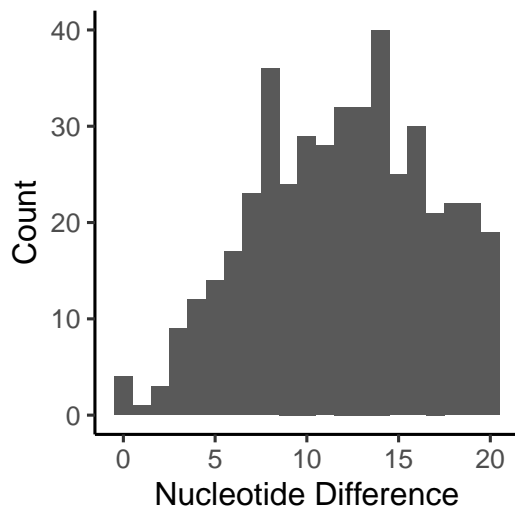
### IGHV2-70\*11\_15

36 sequences assigned  
No exact matches.



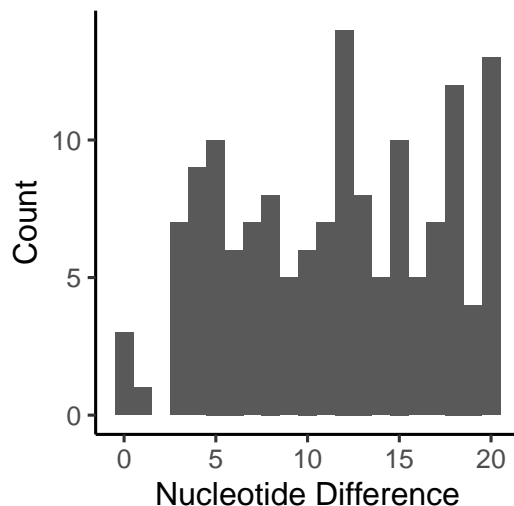
### IGHV3-7\*01

556 sequences assigned  
4 (0.7%) exact matches, in which:  
4 unique CDR3  
2 unique J



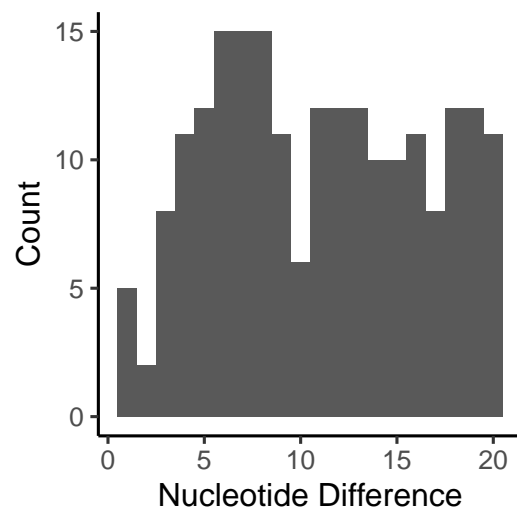
### IGHV3-11\*01

230 sequences assigned  
3 (1.3%) exact matches, in which:  
3 unique CDR3  
2 unique J



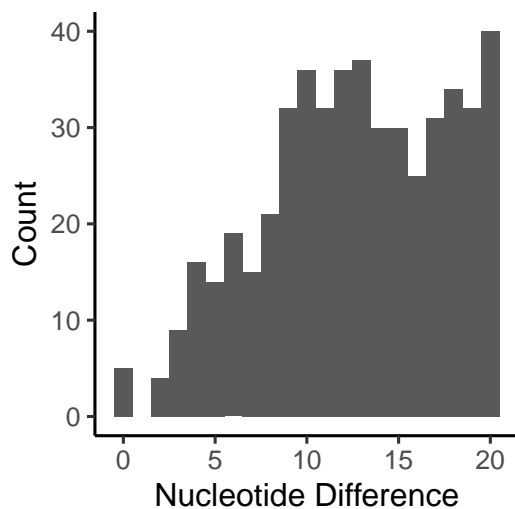
### IGHV3-15\*07

333 sequences assigned  
No exact matches.



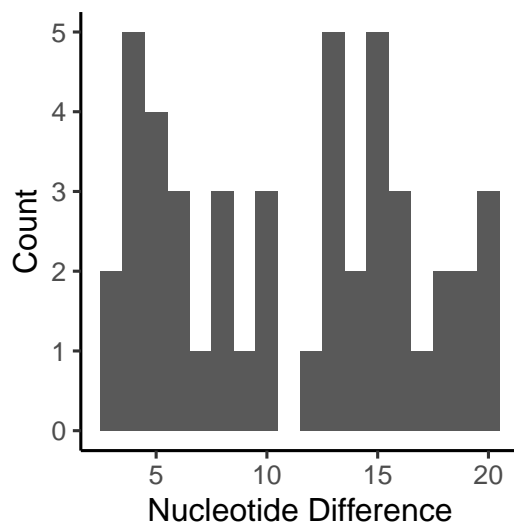
### IGHV3-7\*03

719 sequences assigned  
5 (0.7%) exact matches, in which:  
5 unique CDR3  
3 unique J



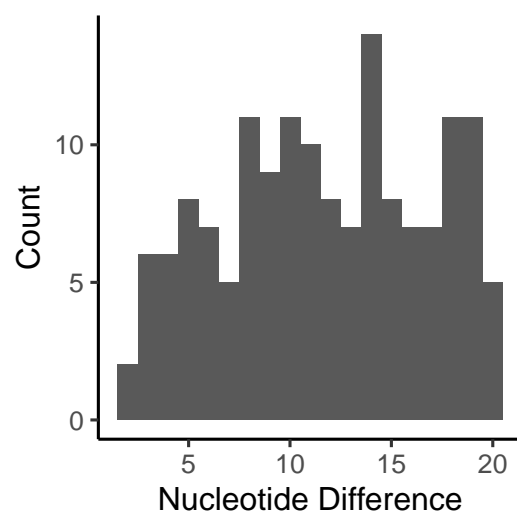
### IGHV3-11\*06

66 sequences assigned  
No exact matches.



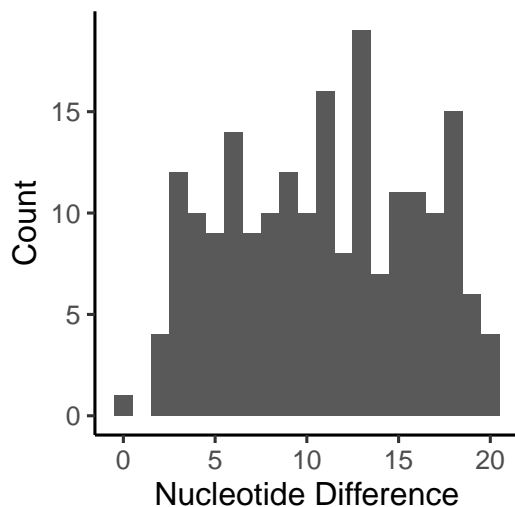
### IGHV3-15\*01\_02

228 sequences assigned  
No exact matches.



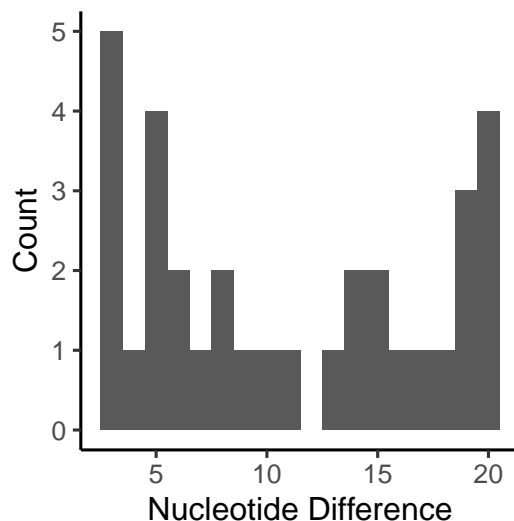
### IGHV3-9\*01

290 sequences assigned  
1 (0.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



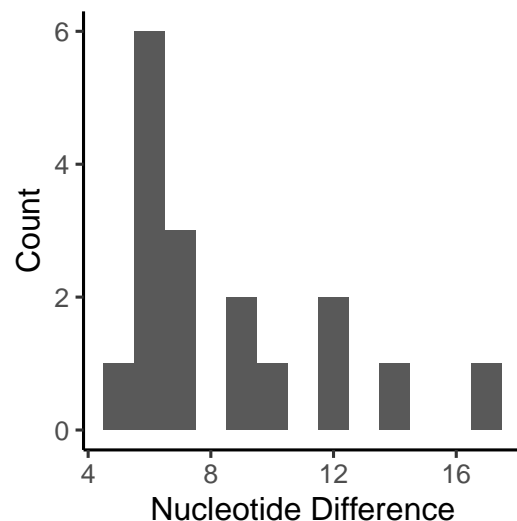
### IGHV3-13\*01

64 sequences assigned  
No exact matches.



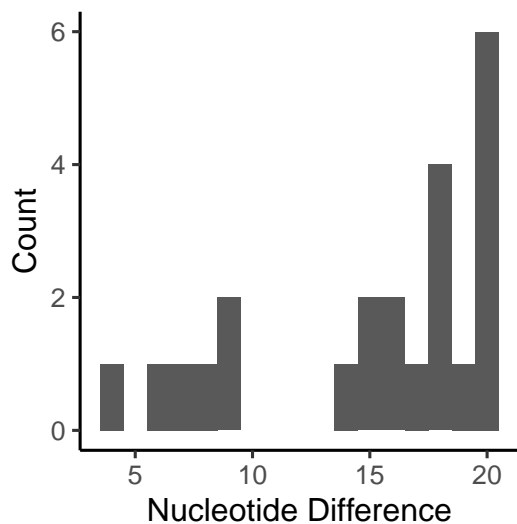
### IGHV3-20\*01\_02

28 sequences assigned  
No exact matches.



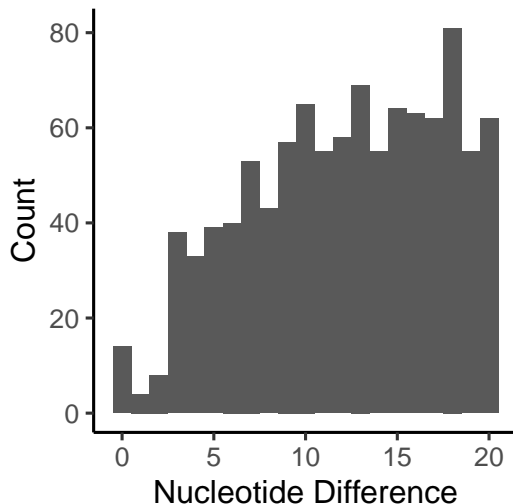
### IGHV3-20\*03\_04

50 sequences assigned  
No exact matches.



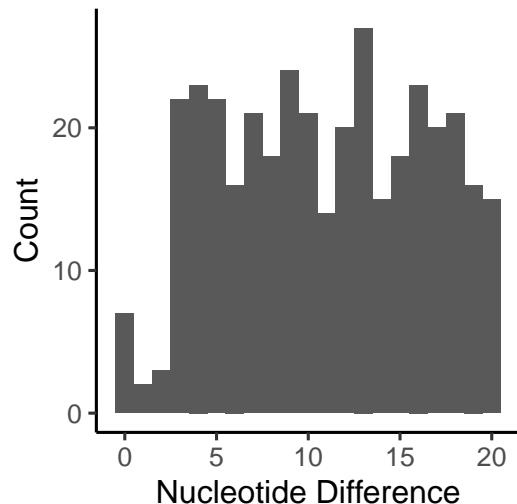
### IGHV3-23\*01\_04

1813 sequences assigned  
14 (0.8%) exact matches, in which:  
13 unique CDR3  
4 unique J



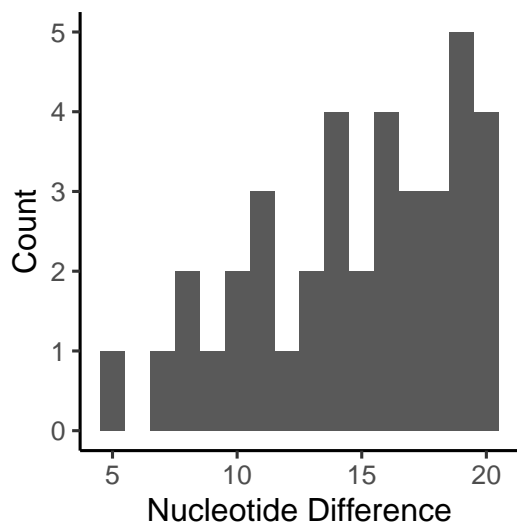
### IGHV3-30\*04

555 sequences assigned  
7 (1.3%) exact matches, in which:  
7 unique CDR3  
2 unique J



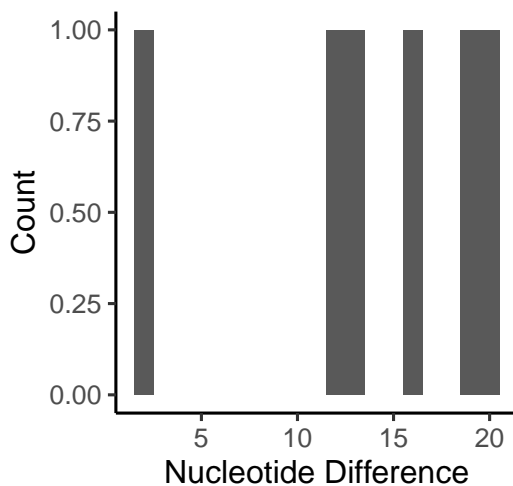
### IGHV3-21\*06

96 sequences assigned  
No exact matches.



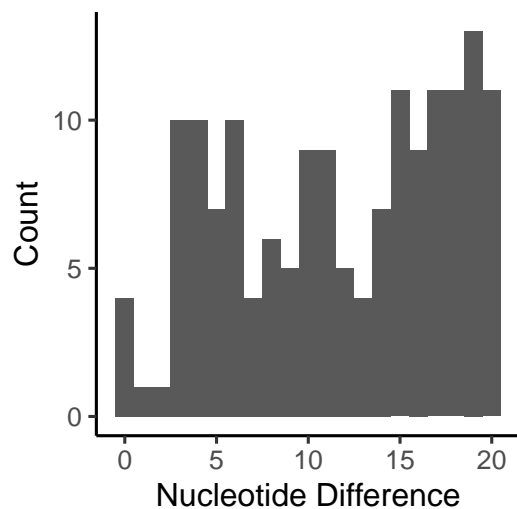
### IGHV3-30-3\*01

23 sequences assigned  
No exact matches.



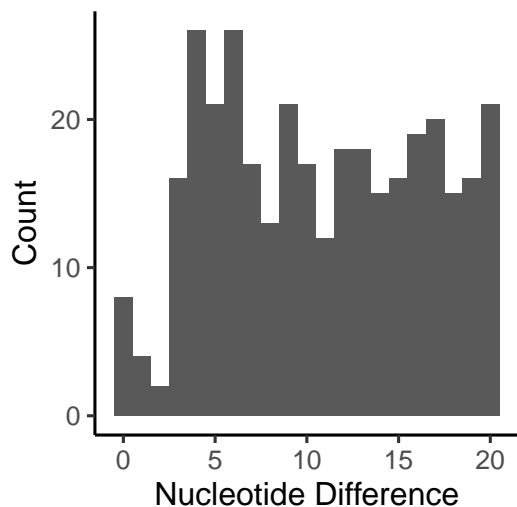
### IGHV3-30\*18

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



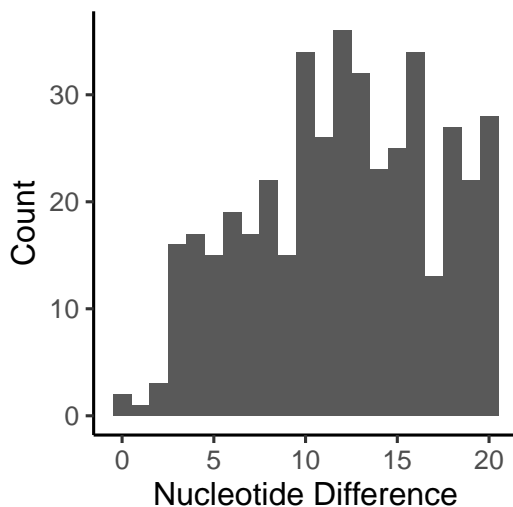
### IGHV3-21\*01\_02

506 sequences assigned  
8 (1.6%) exact matches, in which:  
8 unique CDR3  
3 unique J



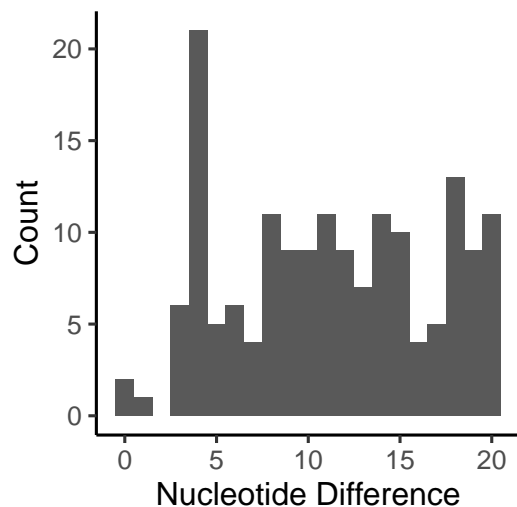
### IGHV3-30\*02

705 sequences assigned  
2 (0.3%) exact matches, in which:  
2 unique CDR3  
1 unique J



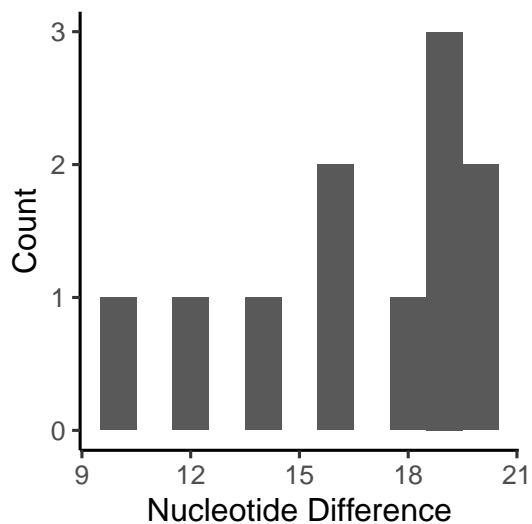
### IGHV3-33\*01

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



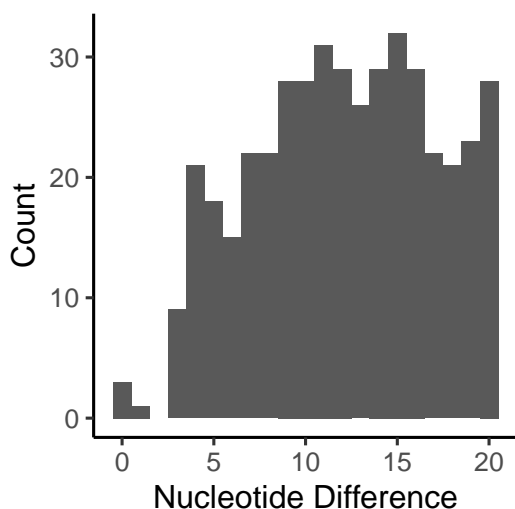
### IGHV3-33\*03

24 sequences assigned  
No exact matches.



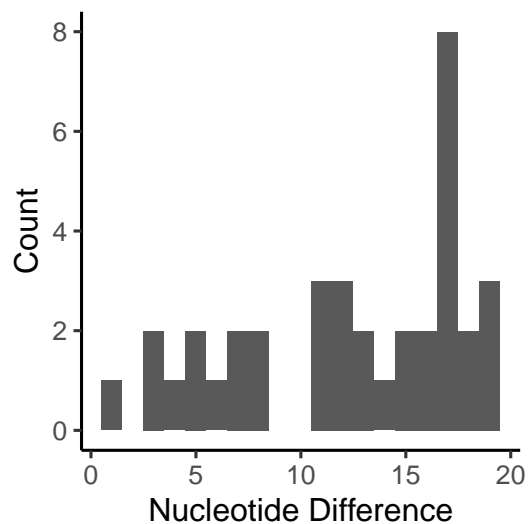
### IGHV3-48\*01

672 sequences assigned  
3 (0.4%) exact matches, in which:  
3 unique CDR3  
2 unique J



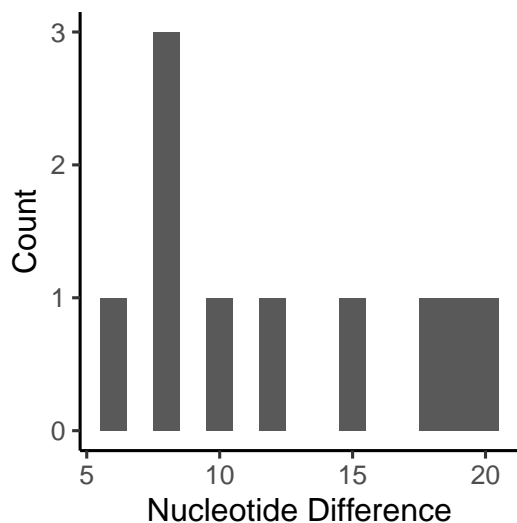
### IGHV3-64\*01

52 sequences assigned  
No exact matches.



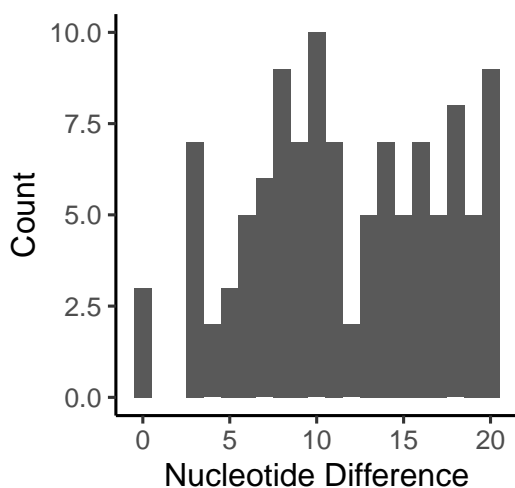
### IGHV3-33\*05

37 sequences assigned  
No exact matches.



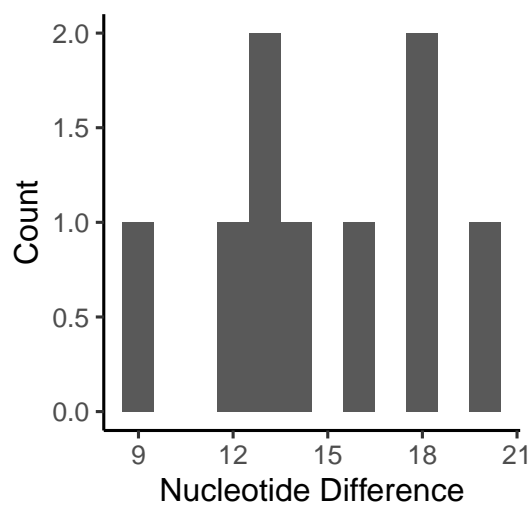
### IGHV3-49\*03\_05

167 sequences assigned  
3 (1.8%) exact matches, in which:  
3 unique CDR3  
2 unique J



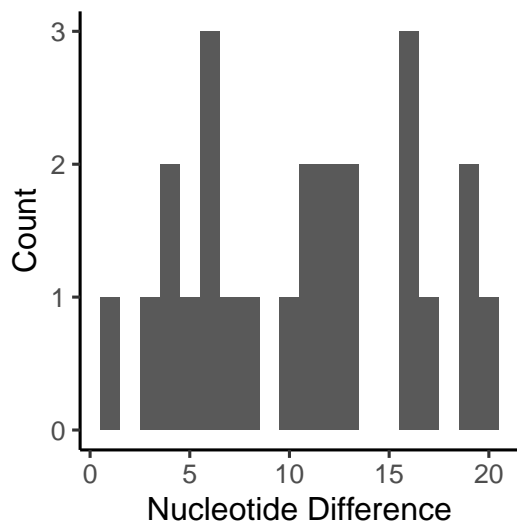
### IGHV3-64\*02\_07

25 sequences assigned  
No exact matches.



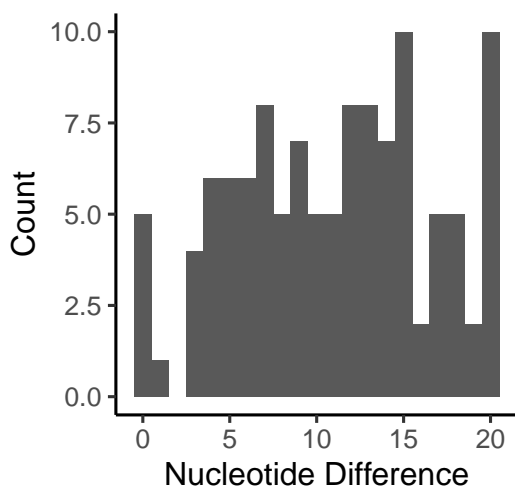
### IGHV3-43\*01

33 sequences assigned  
No exact matches.



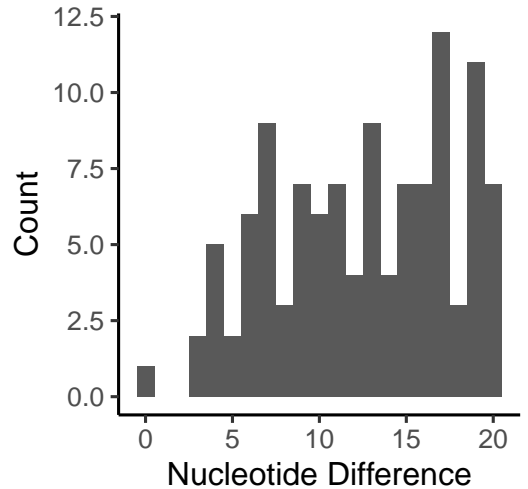
### IGHV3-53\*01\_02

206 sequences assigned  
5 (2.4%) exact matches, in which:  
5 unique CDR3  
4 unique J



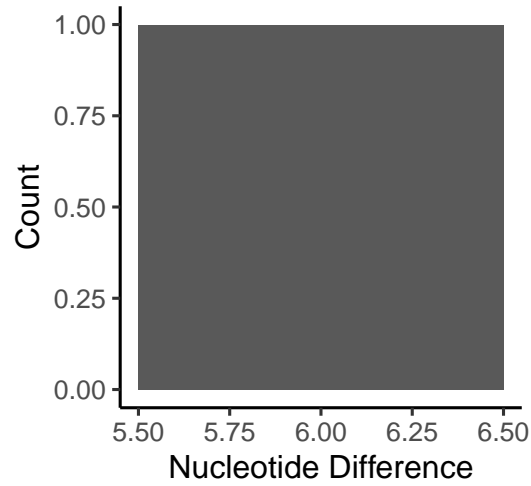
### IGHV3-66\*01

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



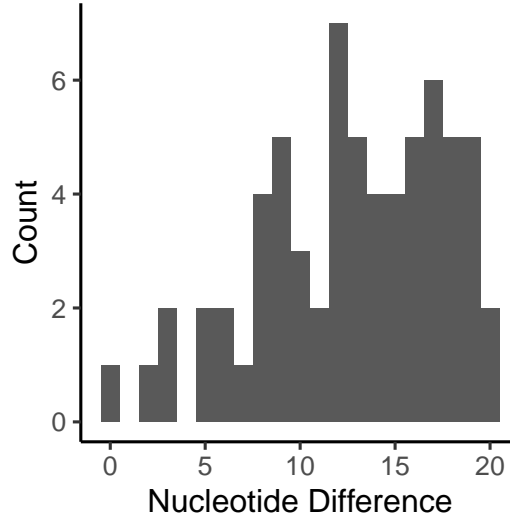
### IGHV3-69-1\*01

2 sequences assigned  
No exact matches.



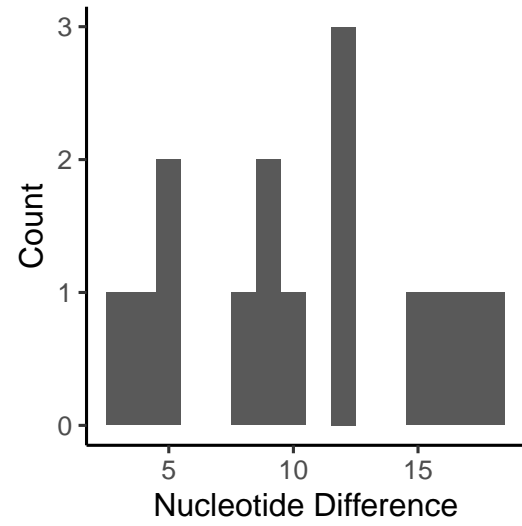
### IGHV3-73\*01\_02

111 sequences assigned  
1 (0.9%) exact matches, in which:  
1 unique CDR3  
1 unique J



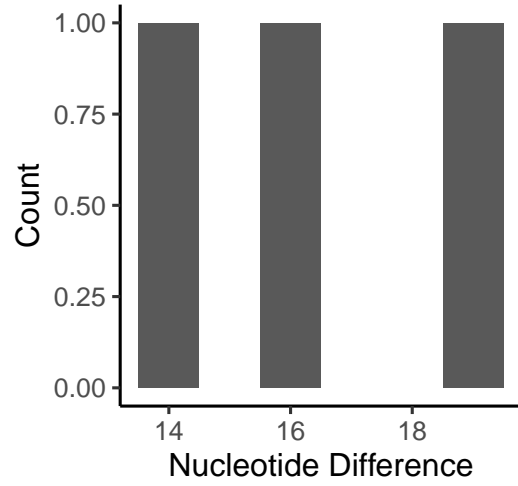
### IGHV3-43D\*03

18 sequences assigned  
No exact matches.



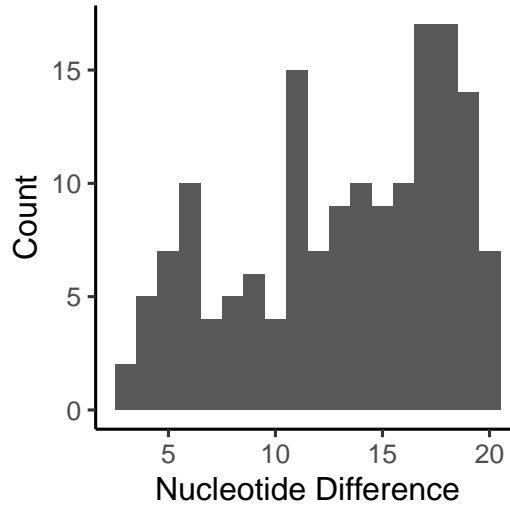
### IGHV3-69-1\*02

4 sequences assigned  
No exact matches.



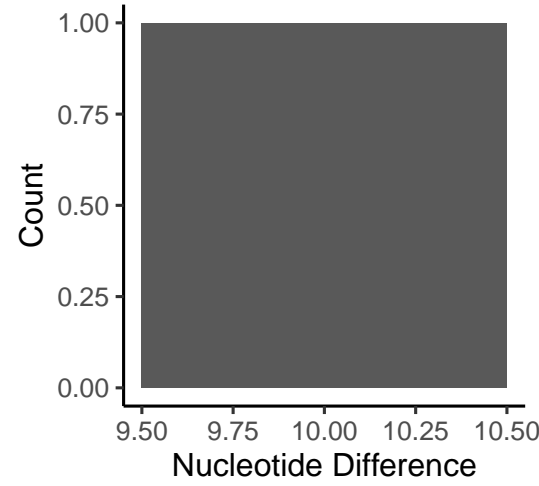
### IGHV3-74\*03

250 sequences assigned  
No exact matches.



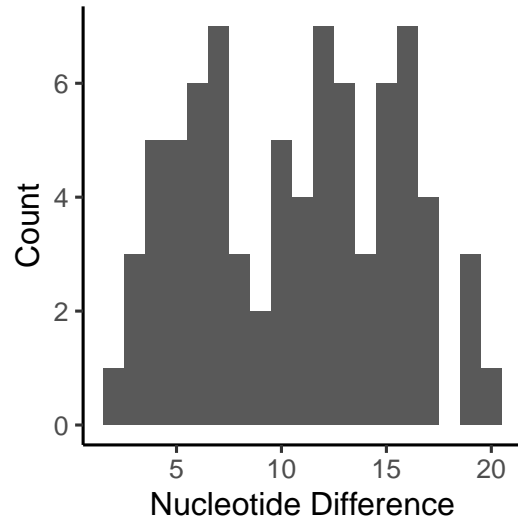
### IGHV3-43D\*04

1 sequences assigned  
No exact matches.



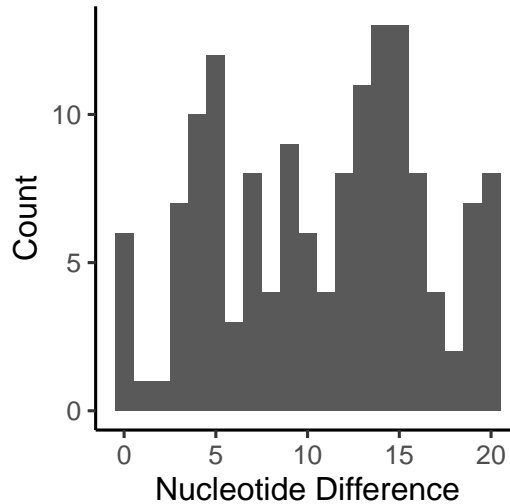
### IGHV3-72\*01

98 sequences assigned  
No exact matches.



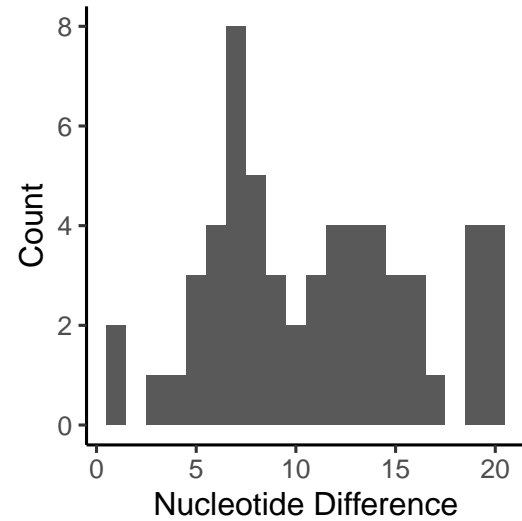
### IGHV3-74\*01\_02

224 sequences assigned  
6 (2.7%) exact matches, in which:  
6 unique CDR3  
2 unique J



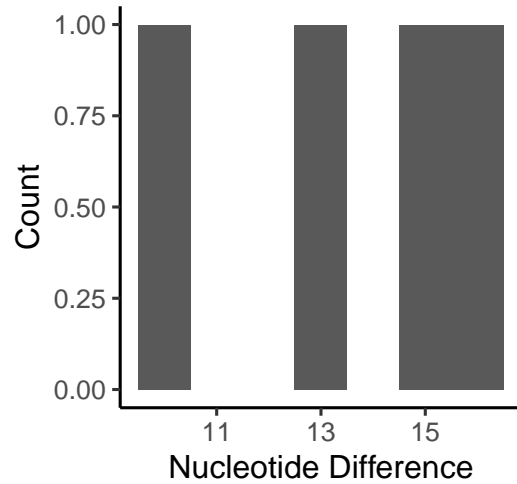
### IGHV3-64D\*06

106 sequences assigned  
No exact matches.



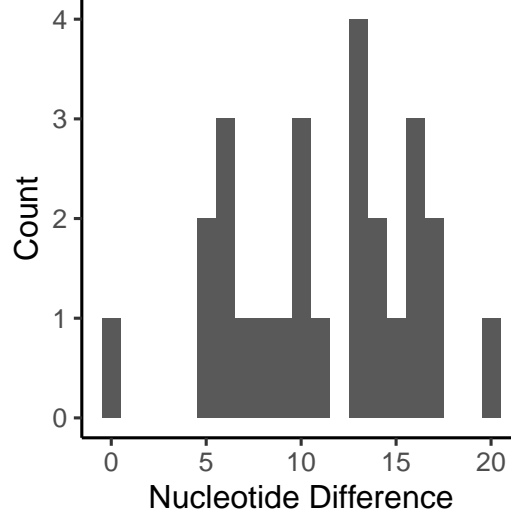
### IGHV3-64D\*08

13 sequences assigned  
No exact matches.



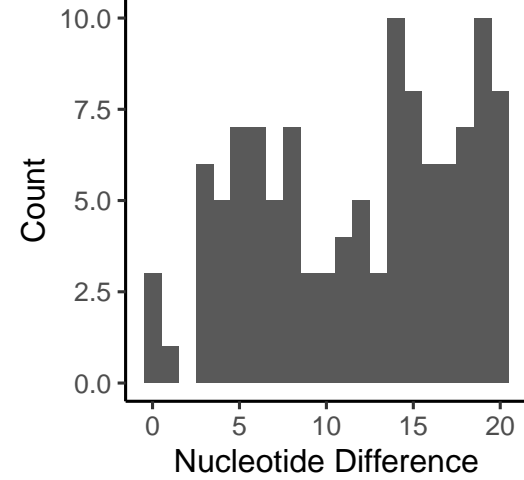
### IGHV4-30-4\*07

62 sequences assigned  
1 (1.6%) exact matches, in which:  
1 unique CDR3  
1 unique J



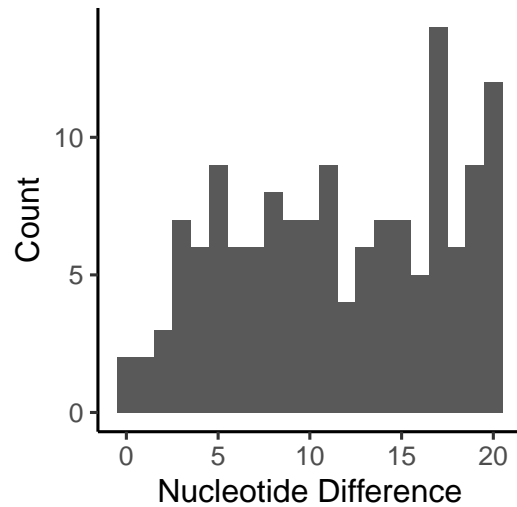
### IGHV4-38-2\*02

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



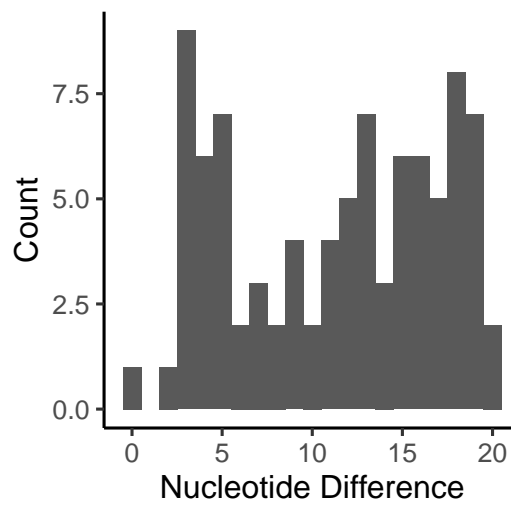
### IGHV4-4\*02\_03

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



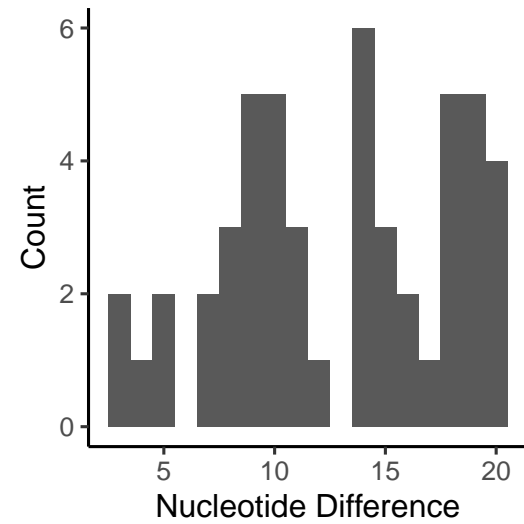
### IGHV4-31\*02

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



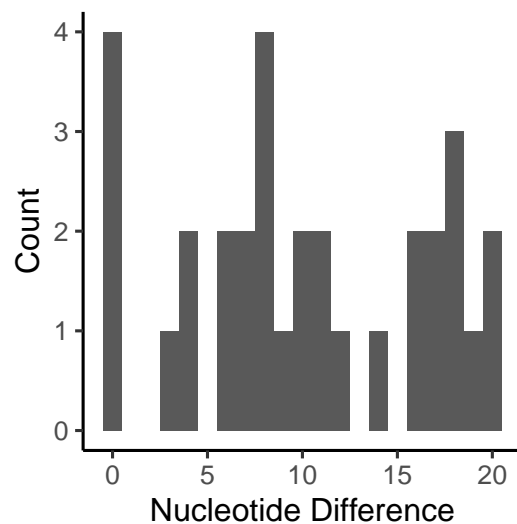
### IGHV4-39\*02

103 sequences assigned  
No exact matches.



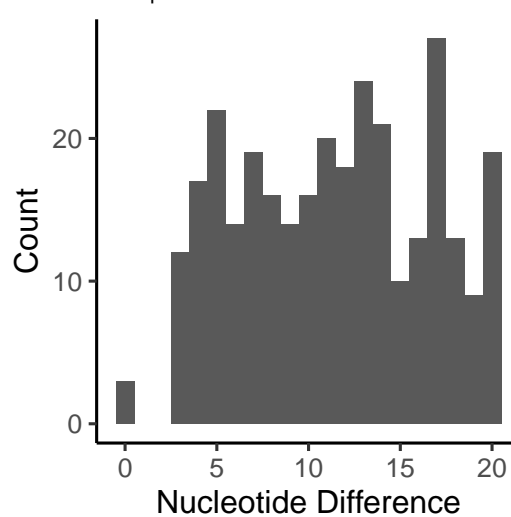
### IGHV4-30-2\*01

51 sequences assigned  
4 (7.8%) exact matches, in which:  
3 unique CDR3  
2 unique J



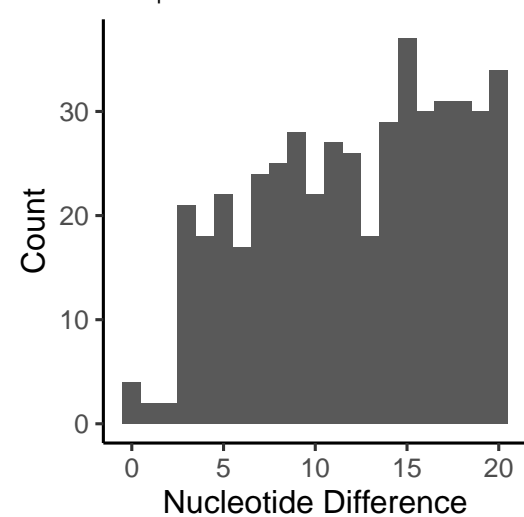
### IGHV4-34\*01\_02

585 sequences assigned  
3 (0.5%) exact matches, in which:  
3 unique CDR3  
2 unique J



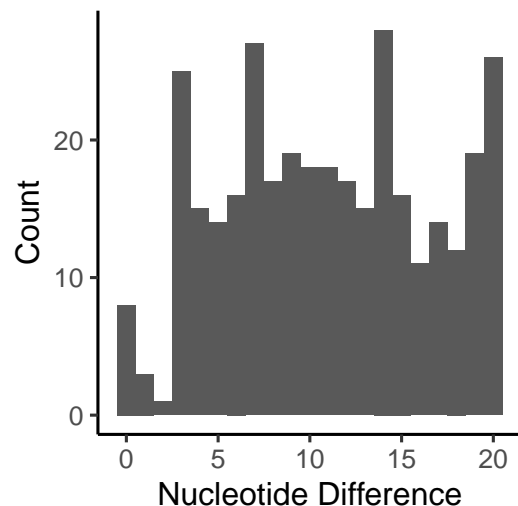
### IGHV4-59\*08

815 sequences assigned  
4 (0.5%) exact matches, in which:  
4 unique CDR3  
2 unique J



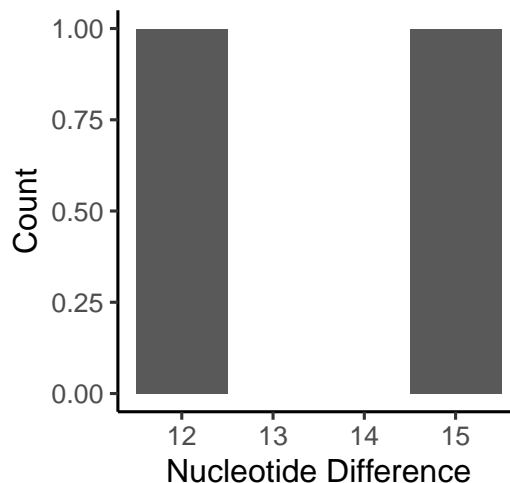
### IGHV4-59\*01\_07

571 sequences assigned  
8 (1.4%) exact matches, in which:  
8 unique CDR3  
4 unique J



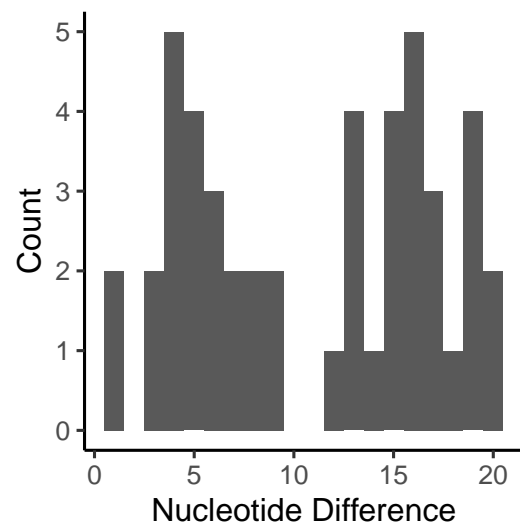
### IGHV4-61\*08

5 sequences assigned  
No exact matches.



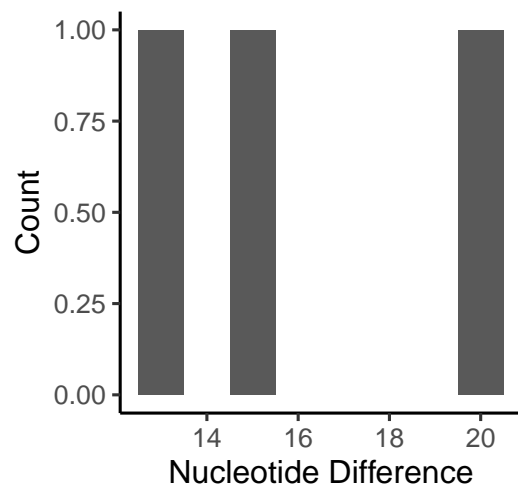
### IGHV5-51\*07

76 sequences assigned  
No exact matches.



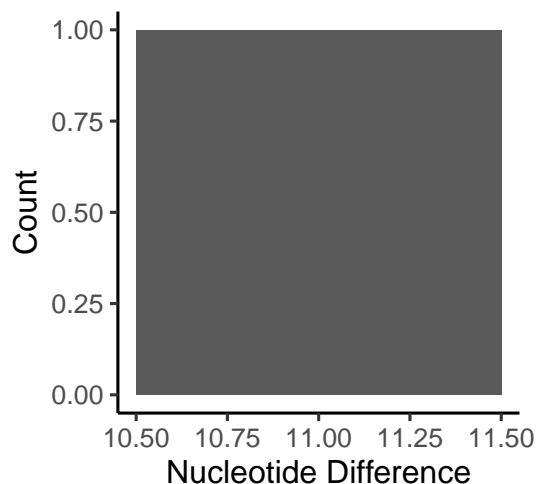
### IGHV4-61\*01

5 sequences assigned  
No exact matches.



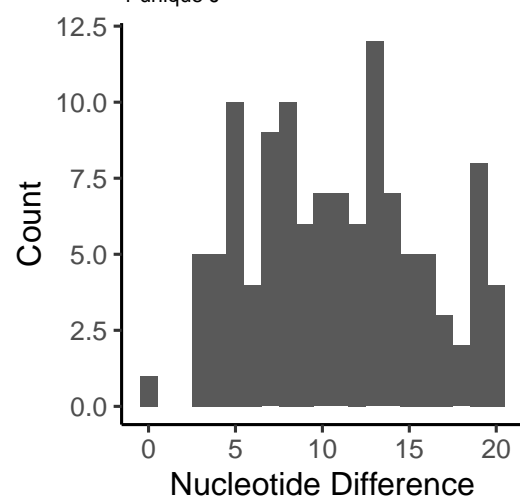
### IGHV4/OR15-8\*01

7 sequences assigned  
No exact matches.



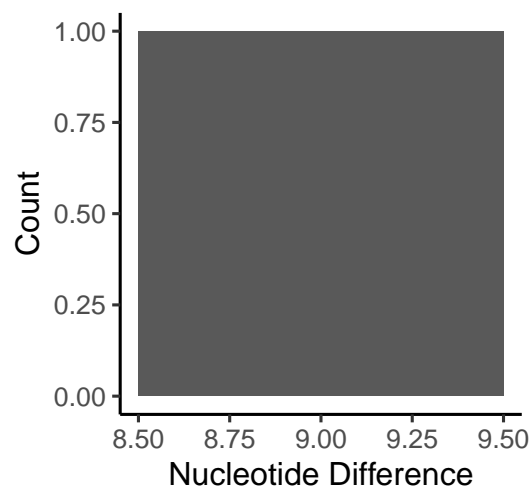
### IGHV5-51\*01\_03

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



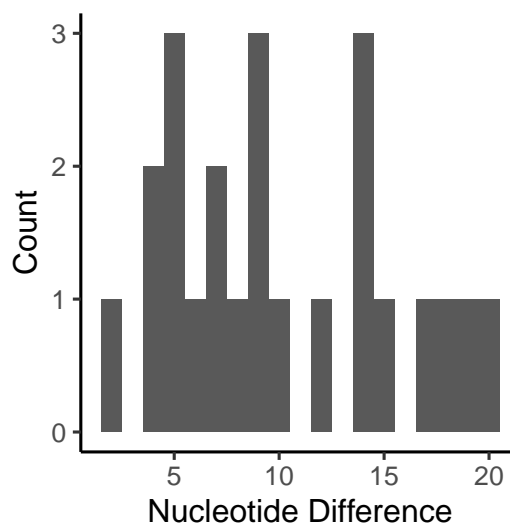
### IGHV4-61\*03

1 sequences assigned  
No exact matches.



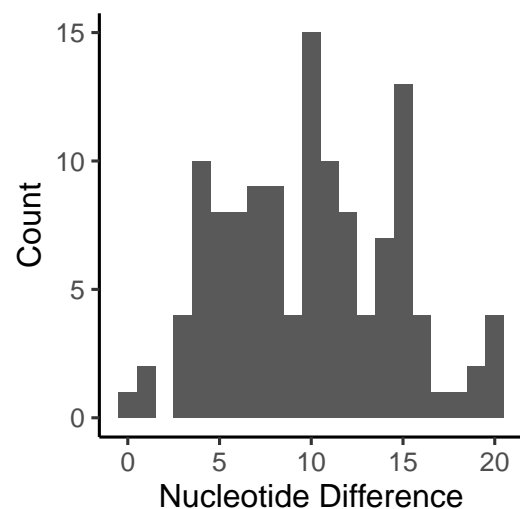
### IGHV5-10-1\*01\_03

37 sequences assigned  
No exact matches.



### IGHV6-1\*01\_02

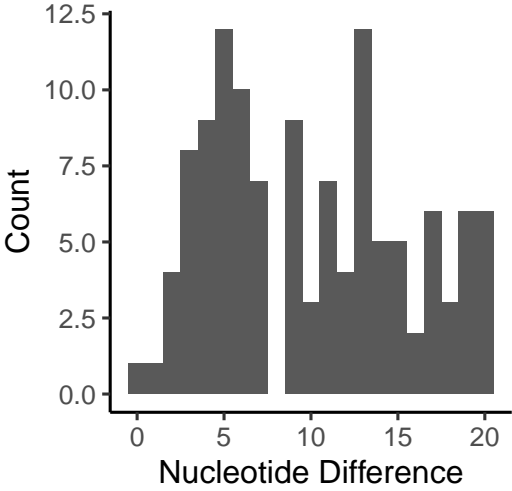
168 sequences assigned  
1 (0.6%) exact matches, in which:  
1 unique CDR3  
1 unique J



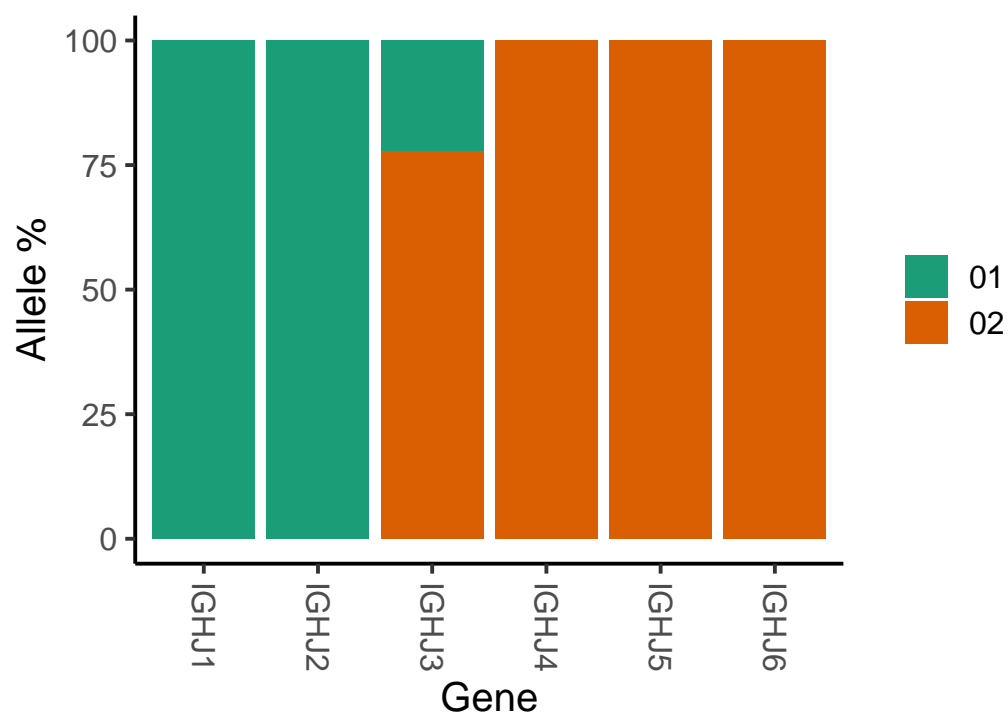


IGHV7-4-1\*02

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



Allele Usage



Warning – no inferred sequences found.