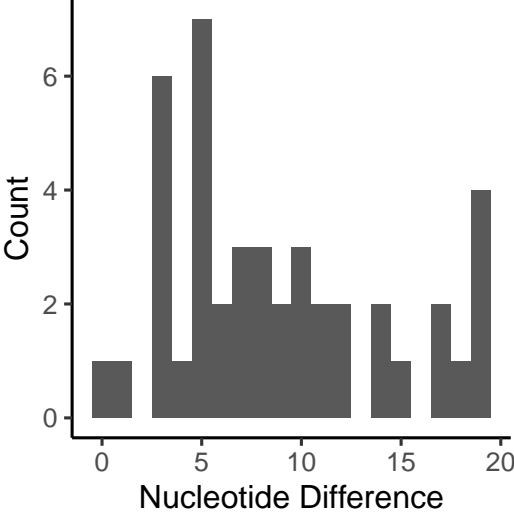


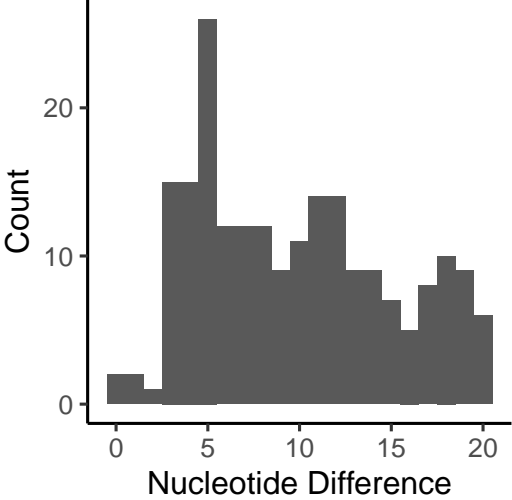
IGHV1-2\*04

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



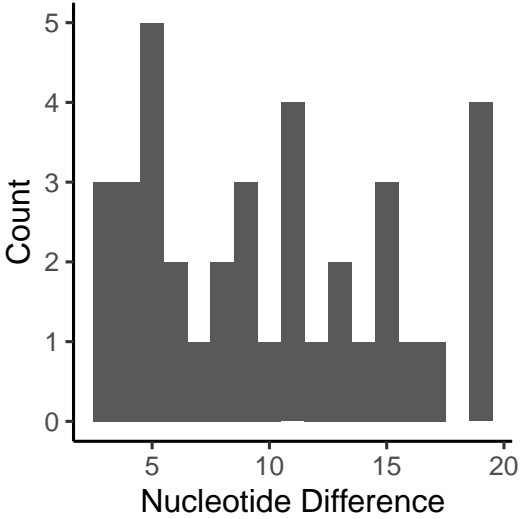
IGHV1-18\*01

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



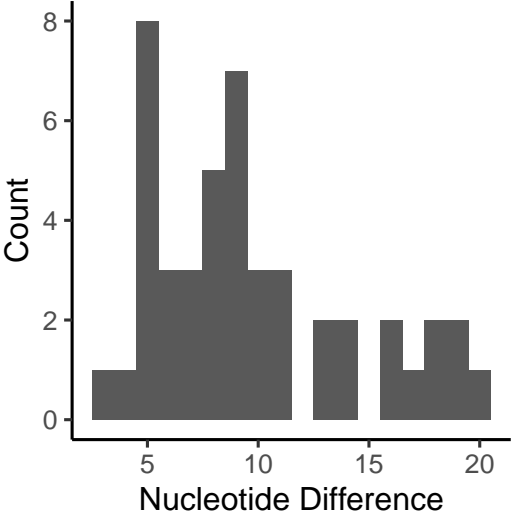
IGHV1-46\*01

40 sequences assigned  
No exact matches.



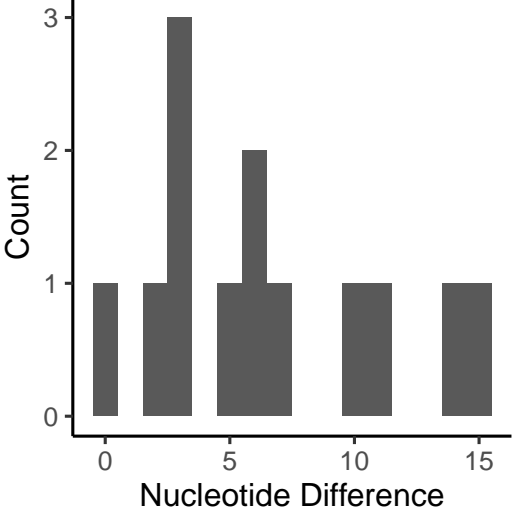
IGHV1-3\*01\_05

47 sequences assigned  
No exact matches.



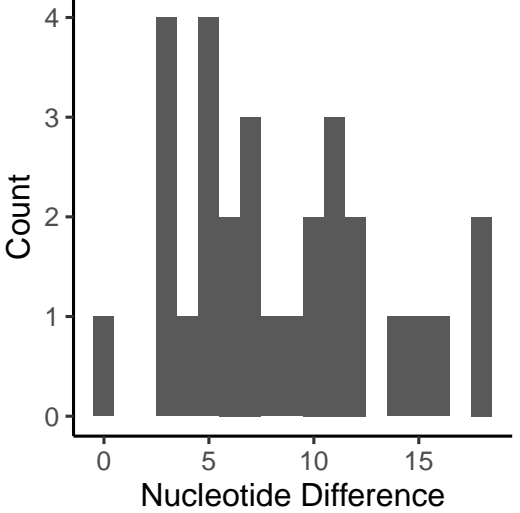
IGHV1-24\*01

15 sequences assigned  
1 (6.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



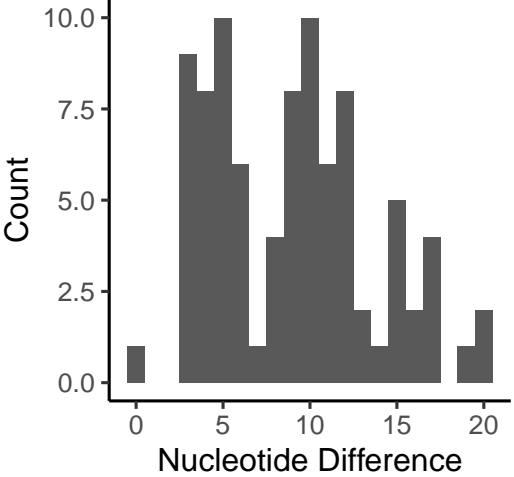
IGHV1-46\*03

30 sequences assigned  
1 (3.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



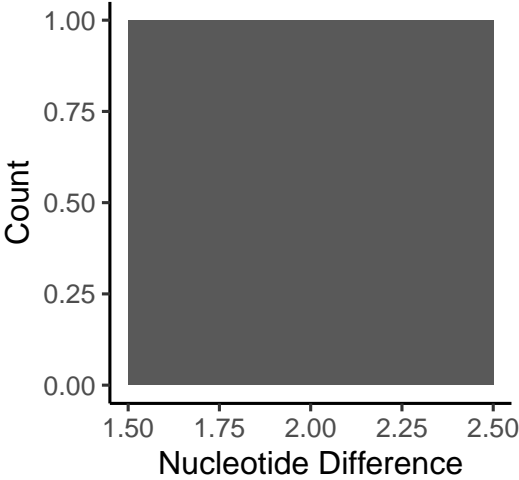
IGHV1-8\*01

89 sequences assigned  
1 (1.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



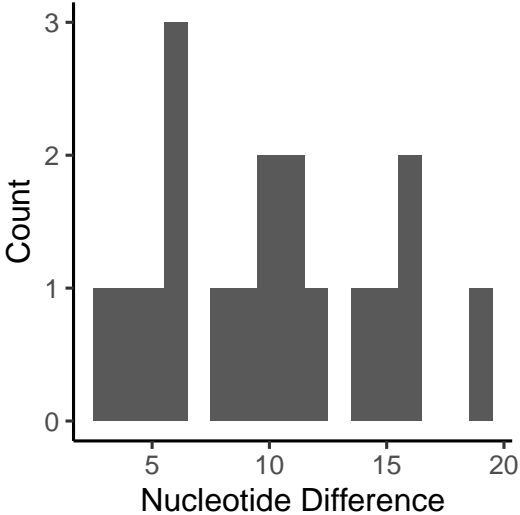
IGHV1-45\*02

1 sequences assigned  
No exact matches.



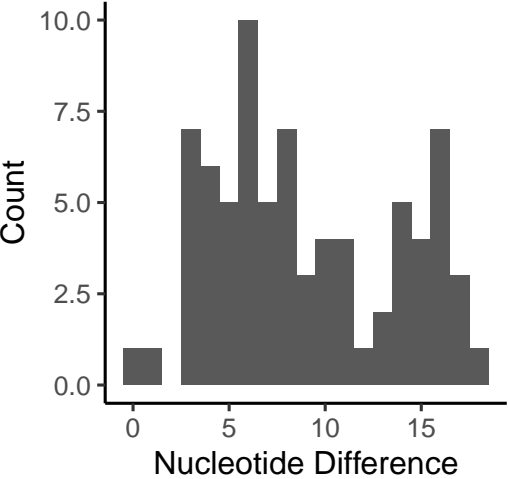
IGHV1-58\*01\_03

22 sequences assigned  
No exact matches.



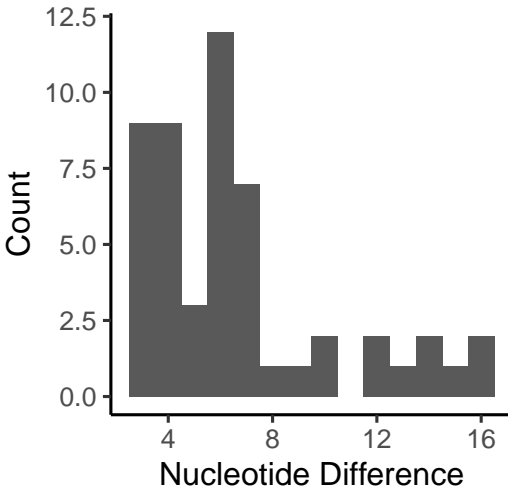
IGHV1-69\*01\_12\_13

82 sequences assigned  
1 (1.2%) exact matches, in which:  
1 unique CDR3  
1 unique J



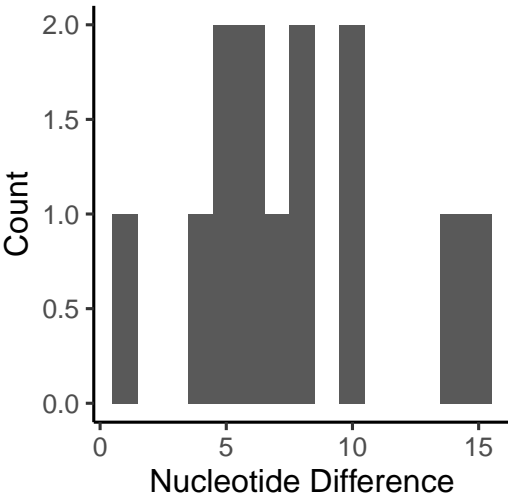
IGHV2-5\*02

53 sequences assigned  
No exact matches.



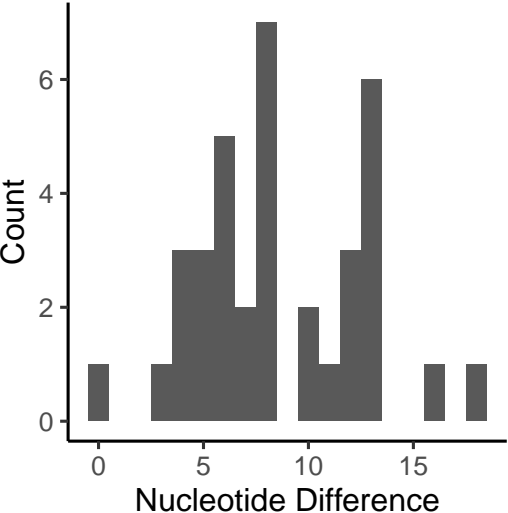
IGHV2-70\*01

13 sequences assigned  
No exact matches.



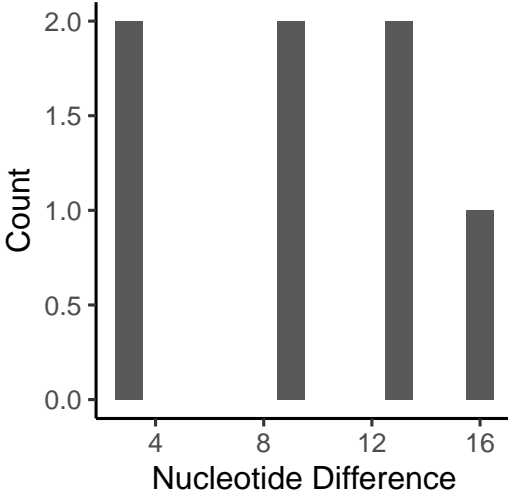
IGHV1-69\*06\_14

42 sequences assigned  
1 (2.4%) exact matches, in which:  
1 unique CDR3  
1 unique J



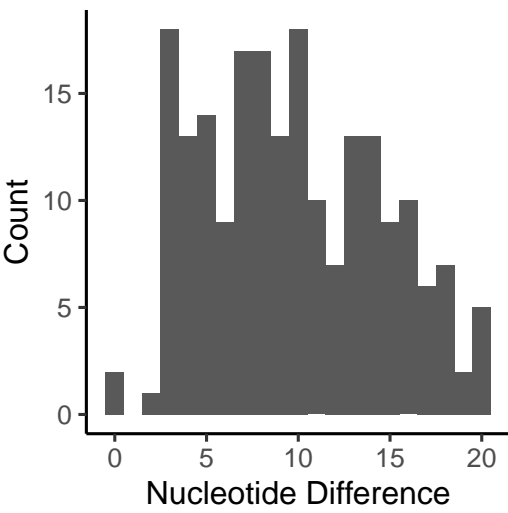
IGHV2-26\*01

7 sequences assigned  
No exact matches.



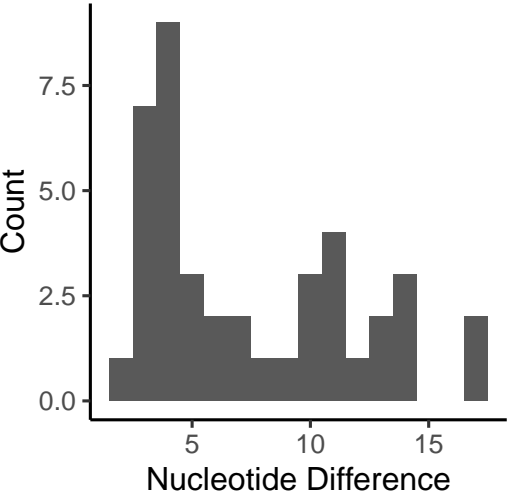
IGHV3-7\*01

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



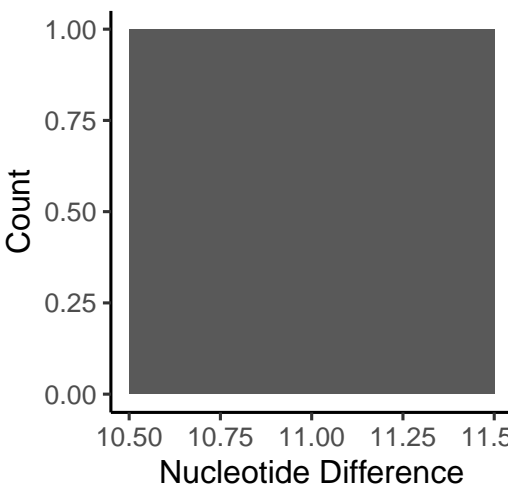
IGHV2-5\*01

45 sequences assigned  
No exact matches.



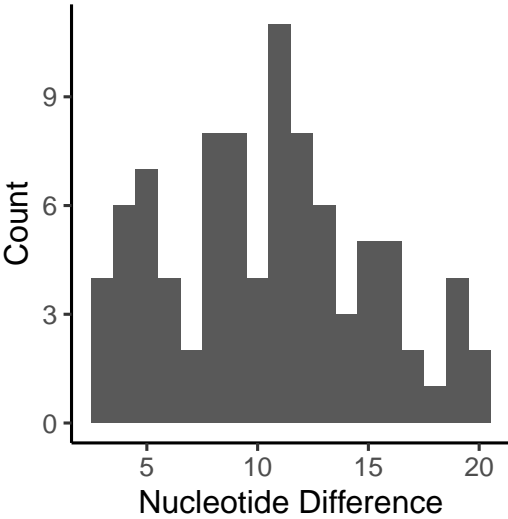
IGHV2-26\*03

1 sequences assigned  
No exact matches.



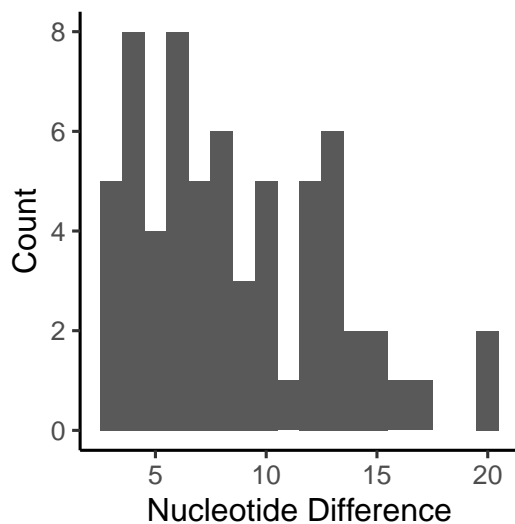
IGHV3-7\*04

98 sequences assigned  
No exact matches.



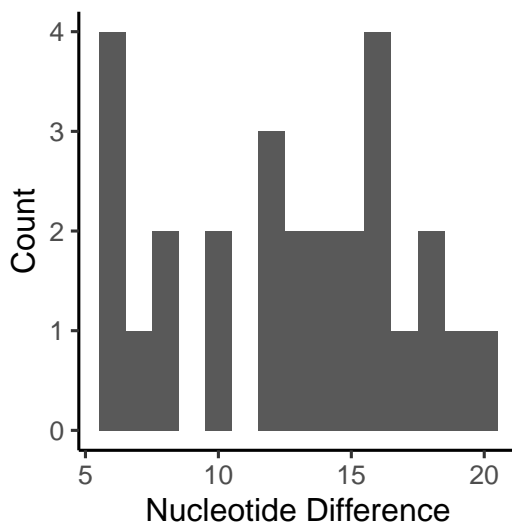
### IGHV3-9\*01

70 sequences assigned  
No exact matches.



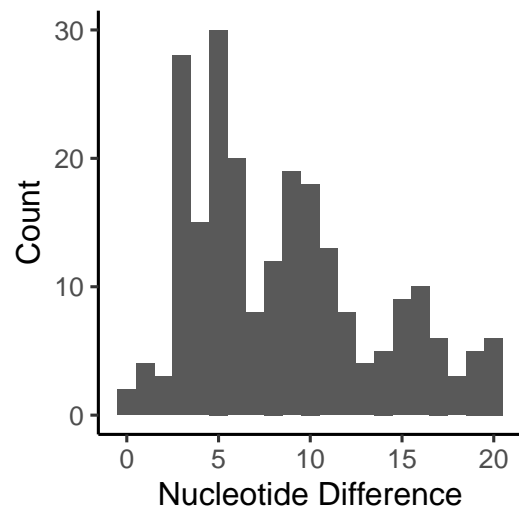
### IGHV3-13\*01

29 sequences assigned  
No exact matches.



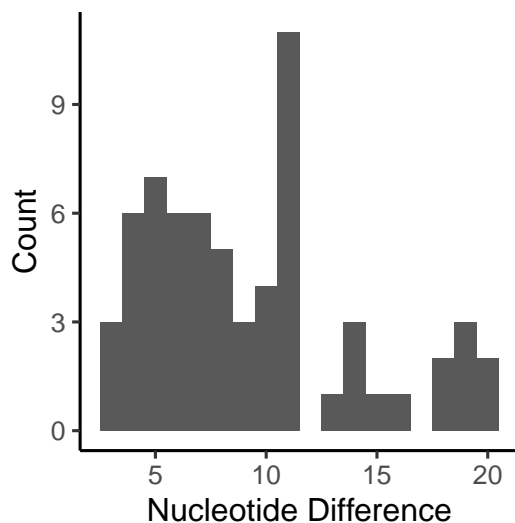
### IGHV3-21\*01\_02

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



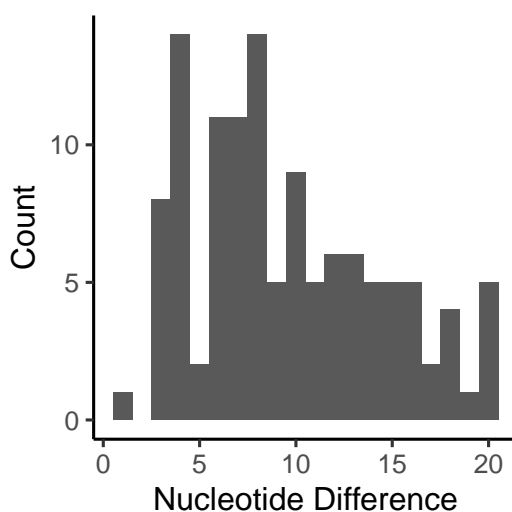
### IGHV3-11\*01

64 sequences assigned  
No exact matches.



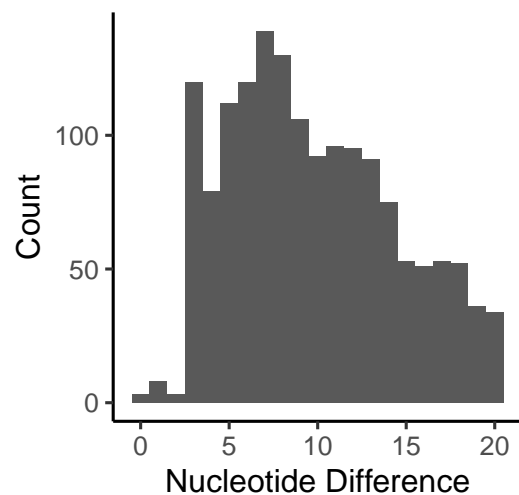
### IGHV3-15\*01\_02

143 sequences assigned  
No exact matches.



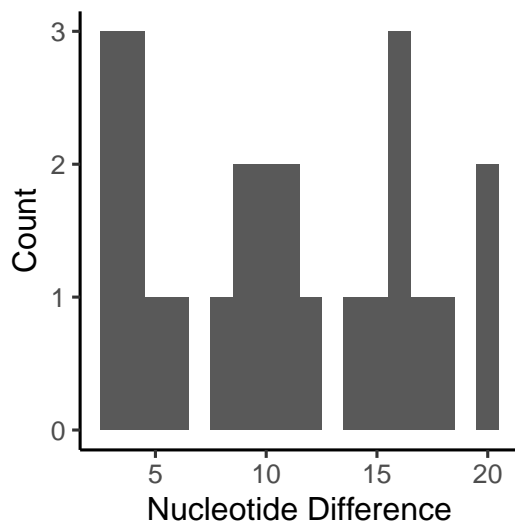
### IGHV3-23\*01\_04

1741 sequences assigned  
3 (0.2%) exact matches, in which:  
3 unique CDR3  
2 unique J



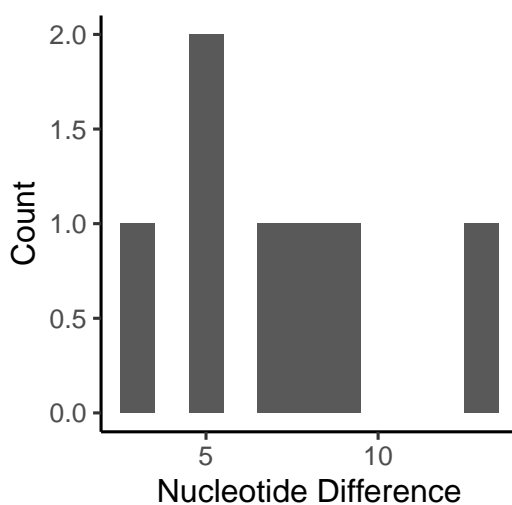
### IGHV3-11\*06

28 sequences assigned  
No exact matches.



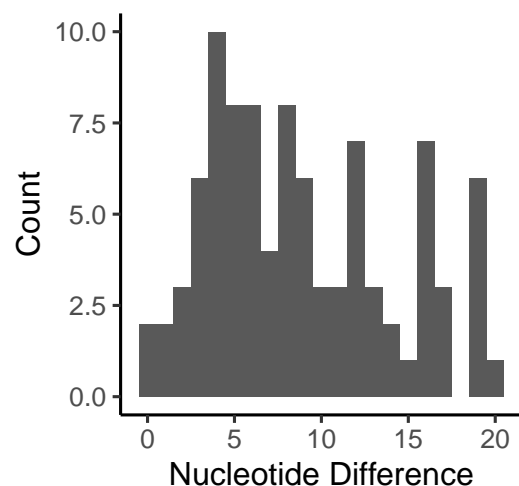
### IGHV3-20\*01\_02

7 sequences assigned  
No exact matches.



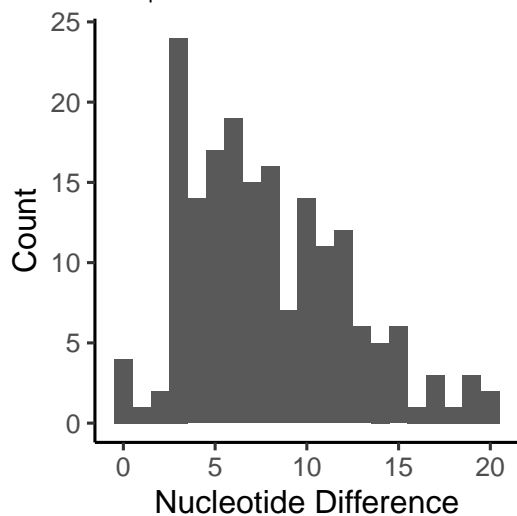
### IGHV3-30\*03

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



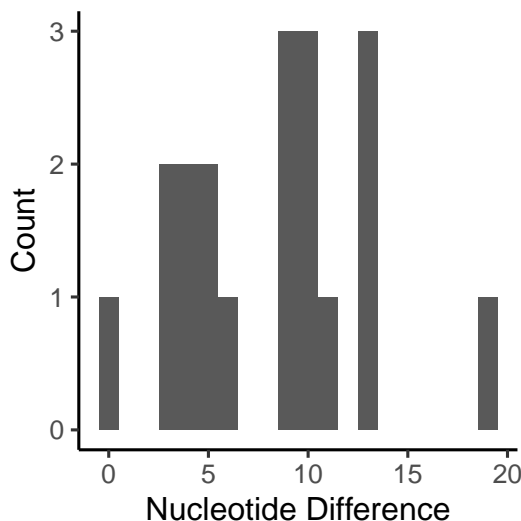
### IGHV3-33\*01

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



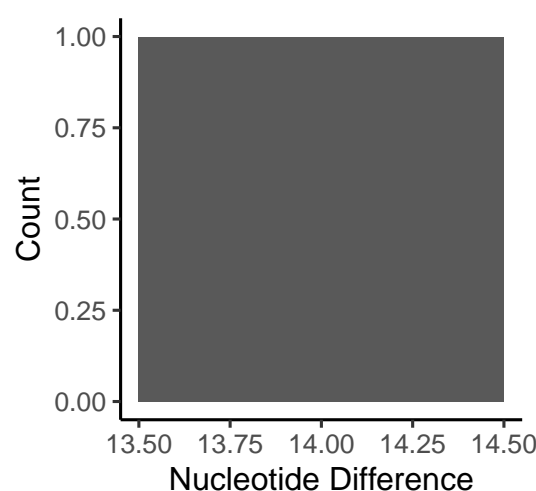
### IGHV3-49\*03\_05

21 sequences assigned  
1 (4.8%) exact matches, in which:  
1 unique CDR3  
1 unique J



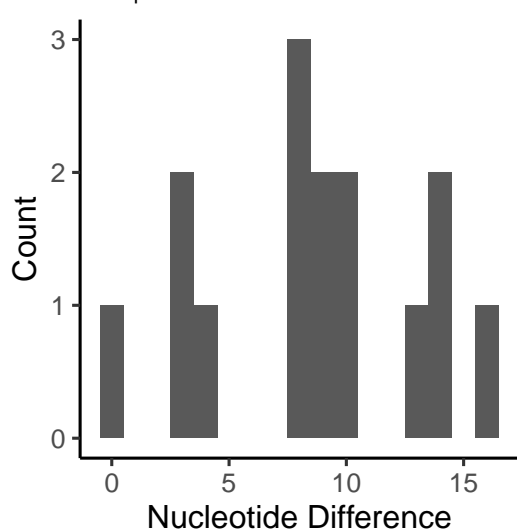
### IGHV3-69-1\*01

2 sequences assigned  
No exact matches.



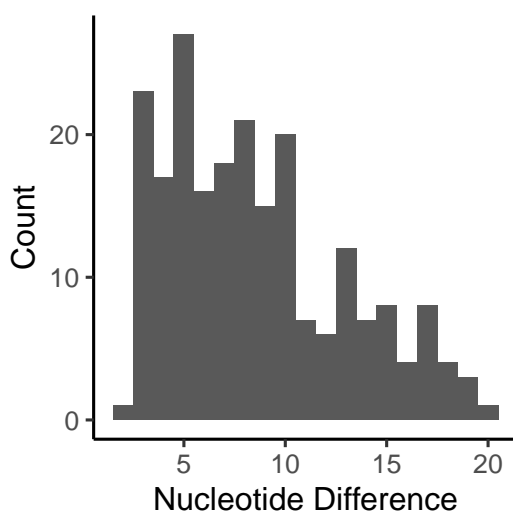
### IGHV3-43\*01

17 sequences assigned  
1 (5.9%) exact matches, in which:  
1 unique CDR3  
1 unique J



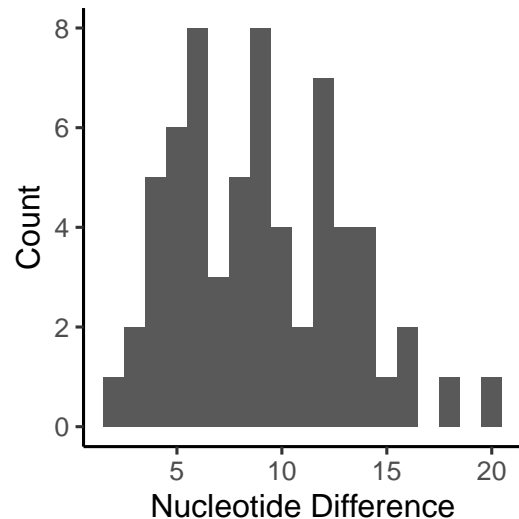
### IGHV3-53\*01\_02

230 sequences assigned  
No exact matches.



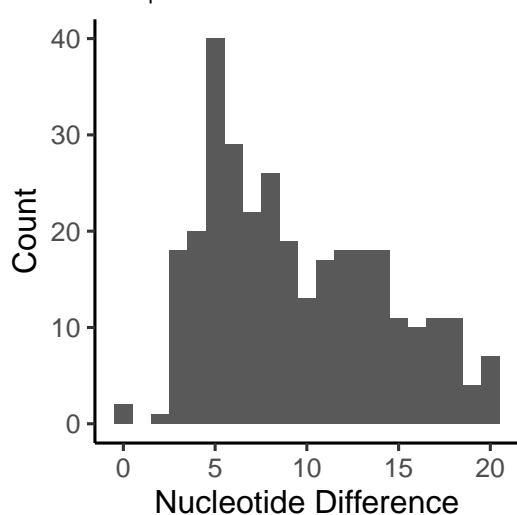
### IGHV3-72\*01

69 sequences assigned  
No exact matches.



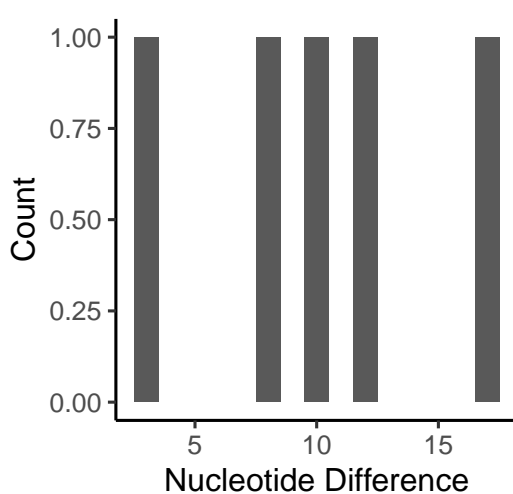
### IGHV3-48\*02

344 sequences assigned  
2 (0.6%) exact matches, in which:  
2 unique CDR3  
1 unique J



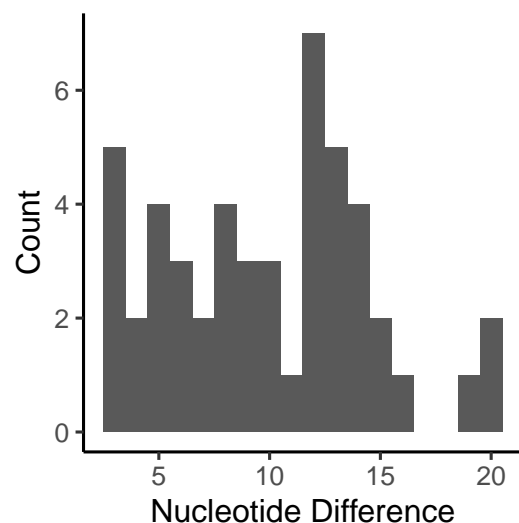
### IGHV3-64\*02\_07

5 sequences assigned  
No exact matches.



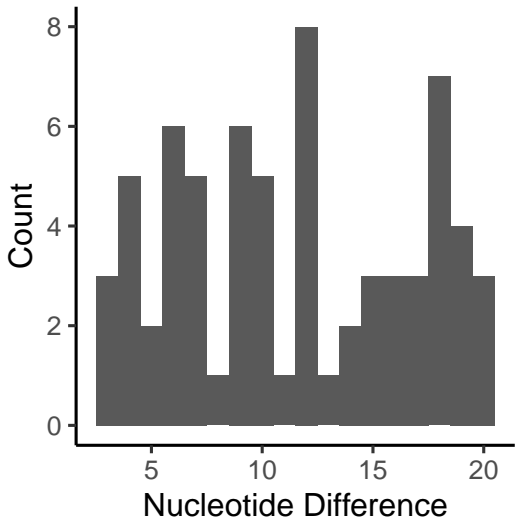
### IGHV3-73\*01\_02

59 sequences assigned  
No exact matches.



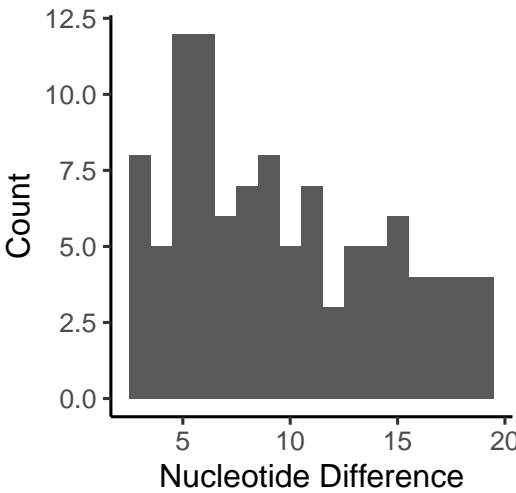
IGHV3-74\*03

76 sequences assigned  
No exact matches.



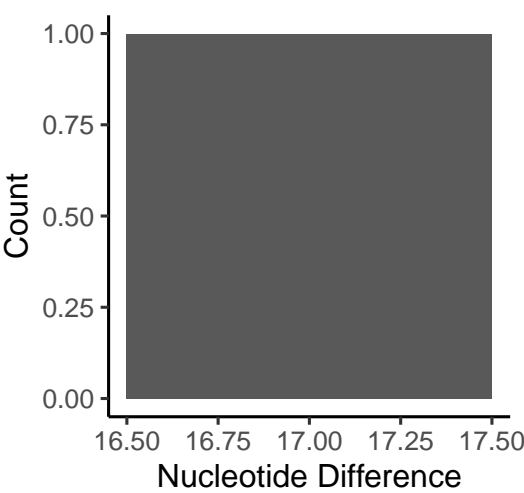
IGHV4-4\*07

109 sequences assigned  
No exact matches.



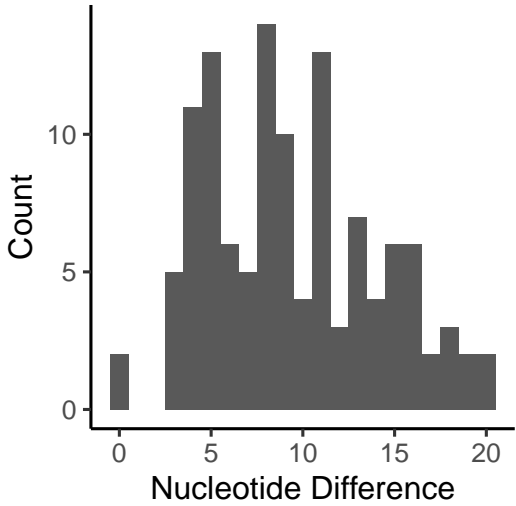
IGHV4-30-2\*01

1 sequences assigned  
No exact matches.



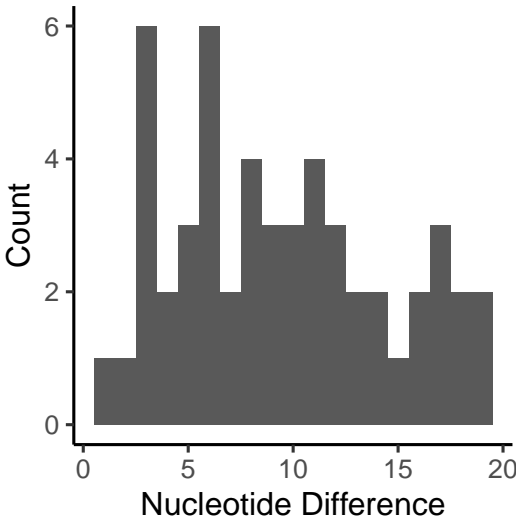
IGHV3-74\*01\_02

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



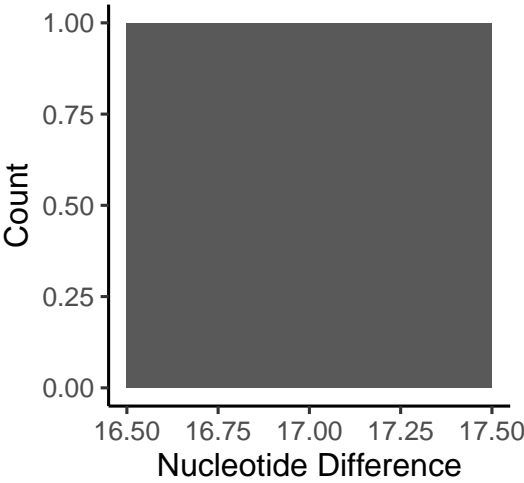
IGHV4-4\*02\_03

59 sequences assigned  
No exact matches.



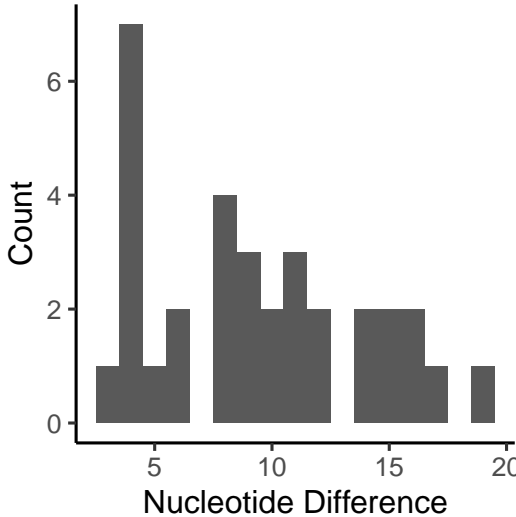
IGHV4-30-4\*01

2 sequences assigned  
No exact matches.



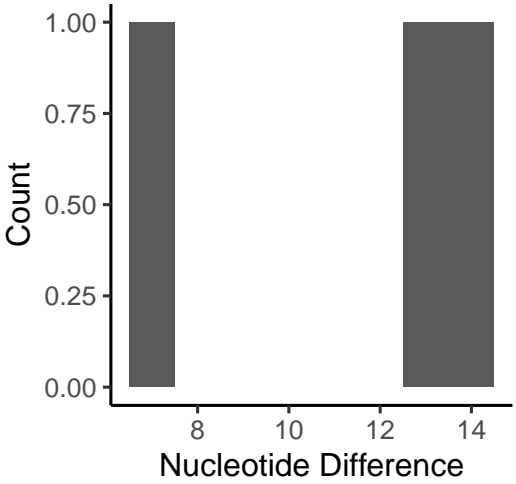
IGHV3-64D\*06

38 sequences assigned  
No exact matches.



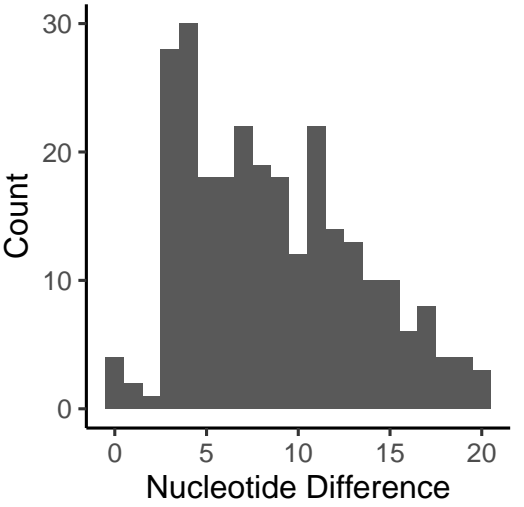
IGHV4-28\*01\_07

3 sequences assigned  
No exact matches.



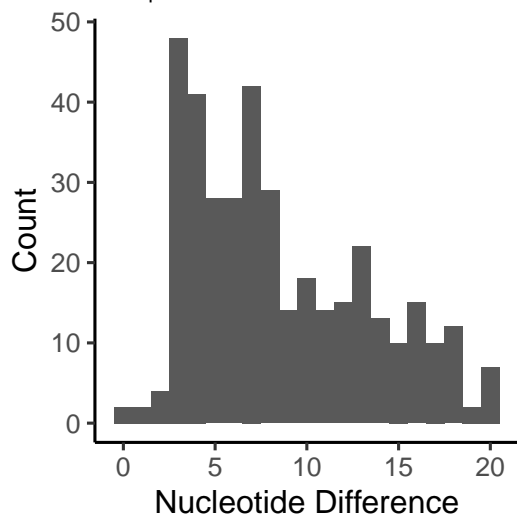
IGHV4-31\*02

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



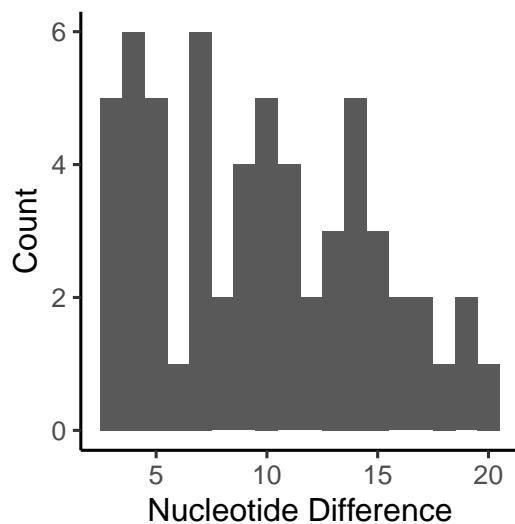
### IGHV4-34\*01\_02

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



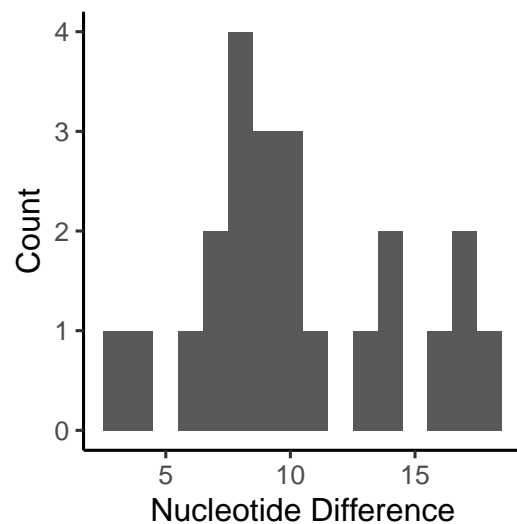
### IGHV4-39\*01\_05

63 sequences assigned  
No exact matches.



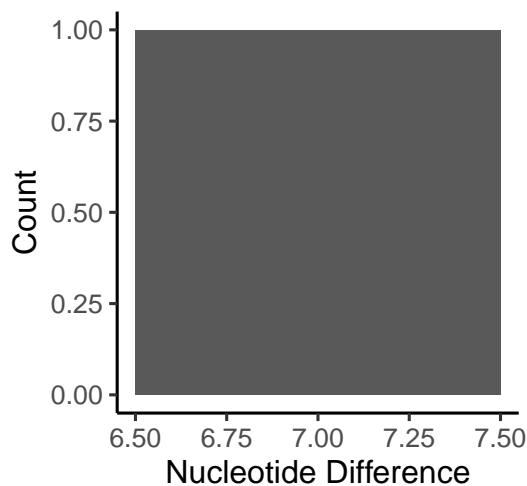
### IGHV4-59\*11

28 sequences assigned  
No exact matches.



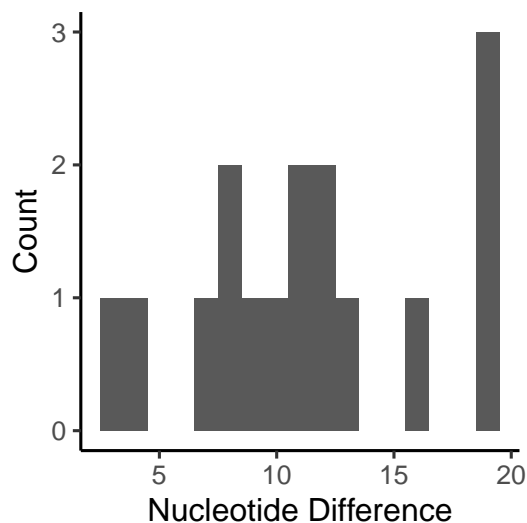
### IGHV4-38-2\*02

1 sequences assigned  
No exact matches.



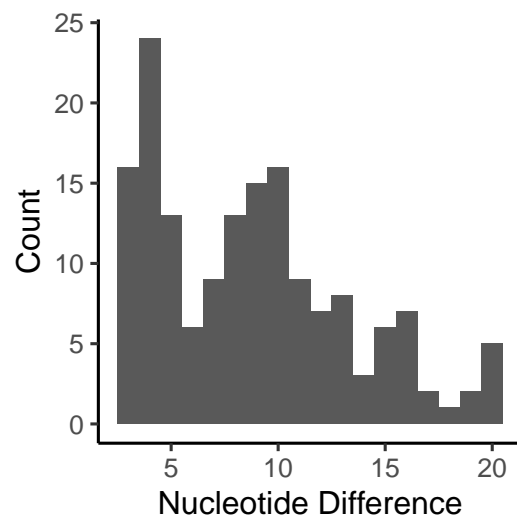
### IGHV4-59\*02

23 sequences assigned  
No exact matches.



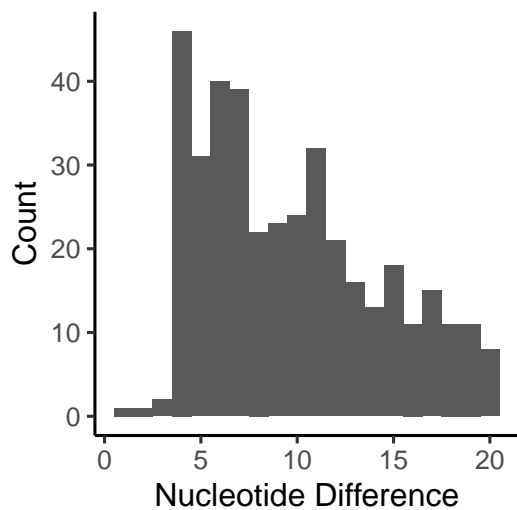
### IGHV4-61\*01

178 sequences assigned  
No exact matches.



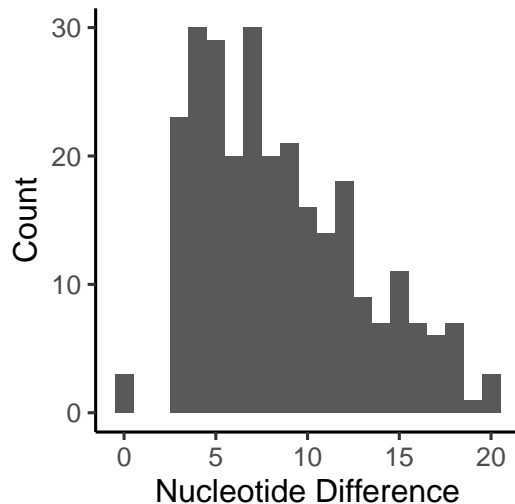
### IGHV4-39\*02

414 sequences assigned  
No exact matches.



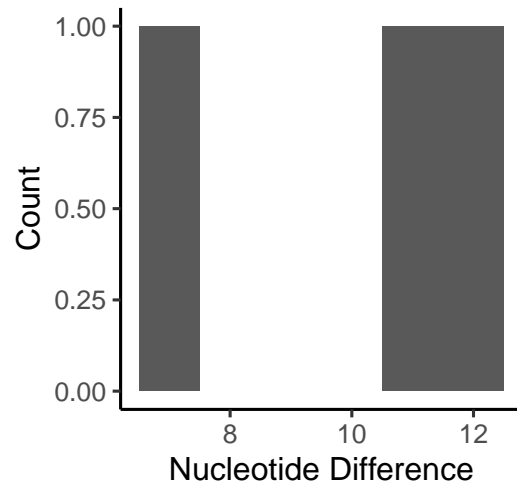
### IGHV4-59\*01\_07

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



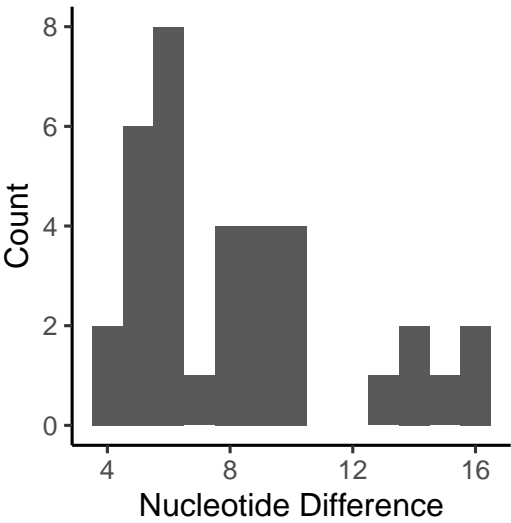
### IGHV5-10-1\*01\_03

4 sequences assigned  
No exact matches.



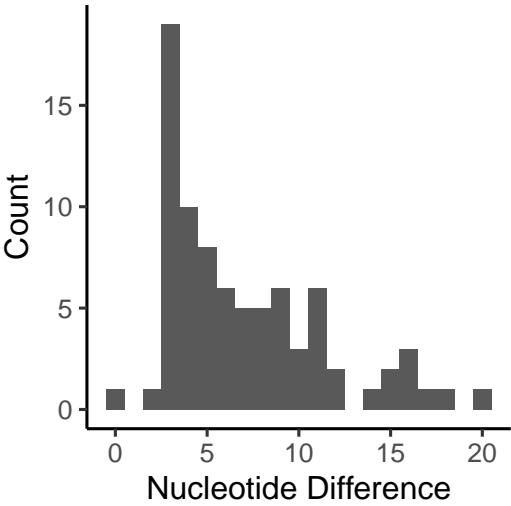
IGHV5-51\*07

35 sequences assigned  
No exact matches.



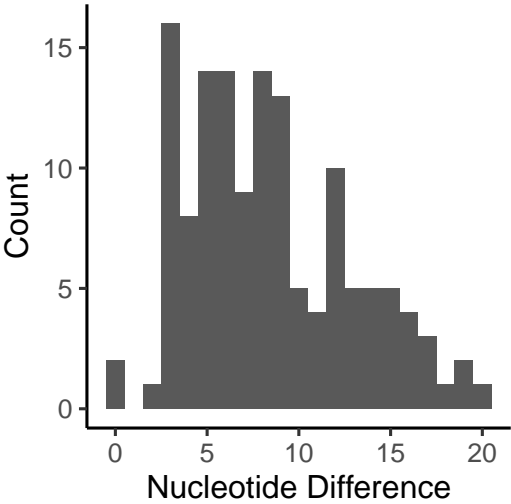
IGHV5-51\*01\_03

82 sequences assigned  
1 (1.2%) exact matches, in which:  
1 unique CDR3  
1 unique J

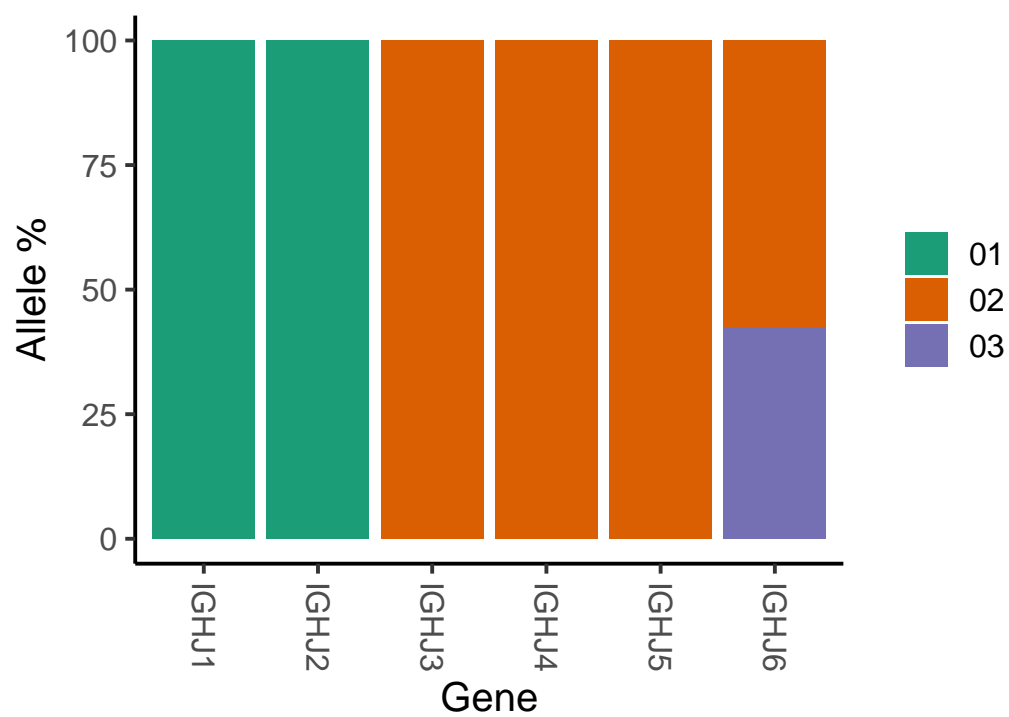


IGHV6-1\*01\_02

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



Allele Usage





## Sequence Count by IGHJ6 allele usage



