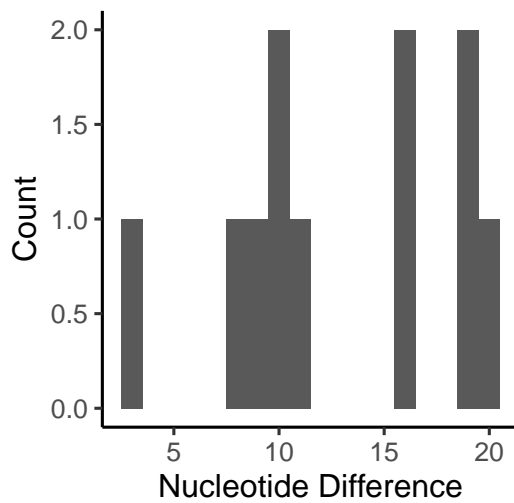


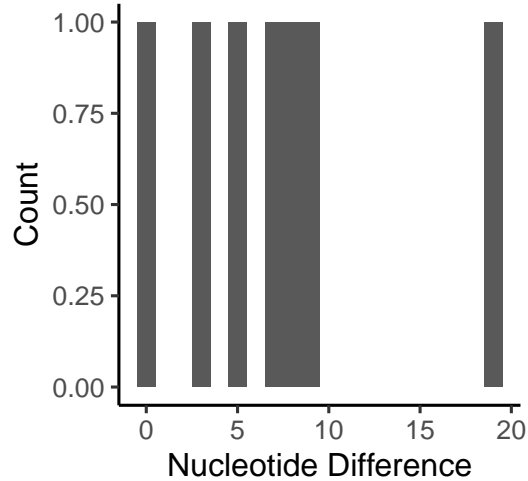
### IGHV1-2\*02

20 sequences assigned  
No exact matches.



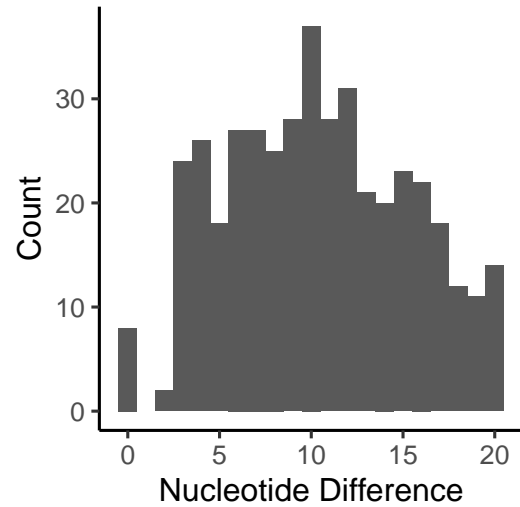
### IGHV1-8\*01

8 sequences assigned  
1 (12.5%) exact matches, in which:  
1 unique CDR3  
1 unique J



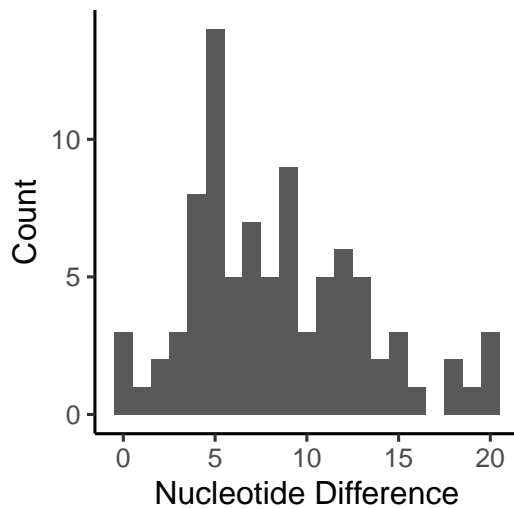
### IGHV1-18\*04

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



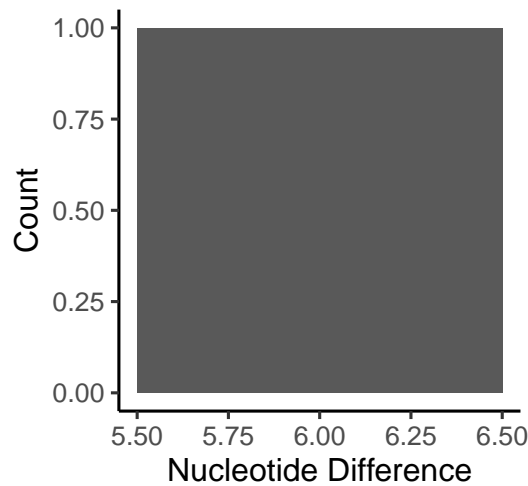
### IGHV1-2\*04

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



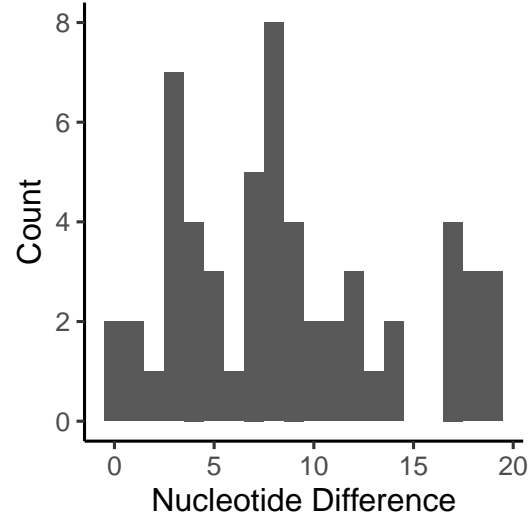
### IGHV1-8\*02

1 sequences assigned  
No exact matches.



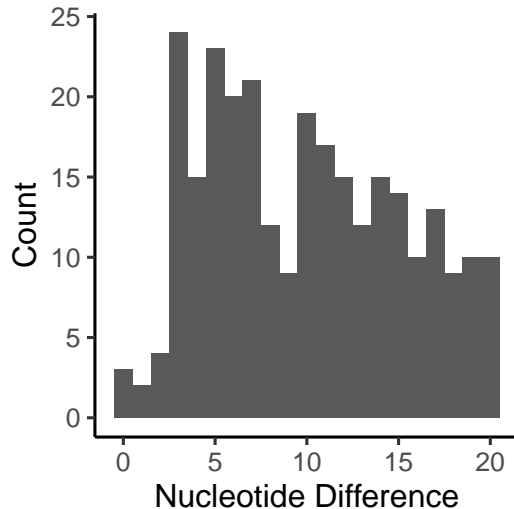
### IGHV1-24\*01

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



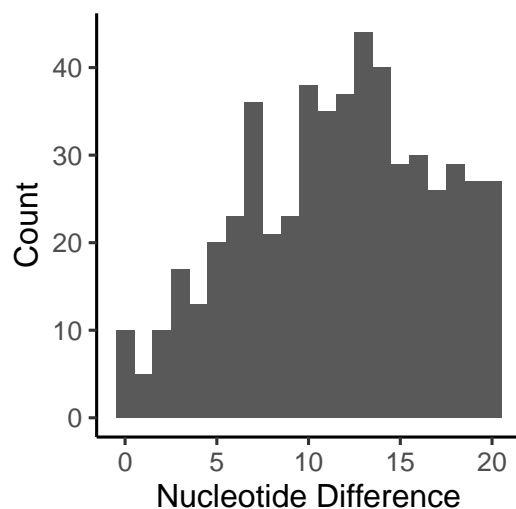
### IGHV1-3\*01\_05

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



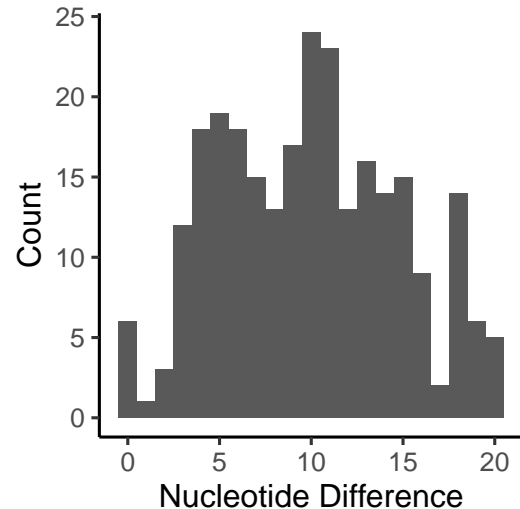
### IGHV1-18\*01

663 sequences assigned  
10 (1.5%) exact matches, in which:  
10 unique CDR3  
3 unique J



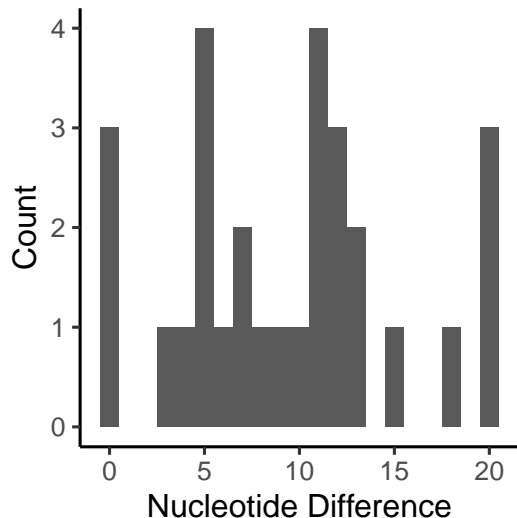
### IGHV1-46\*01

313 sequences assigned  
6 (1.9%) exact matches, in which:  
5 unique CDR3  
2 unique J



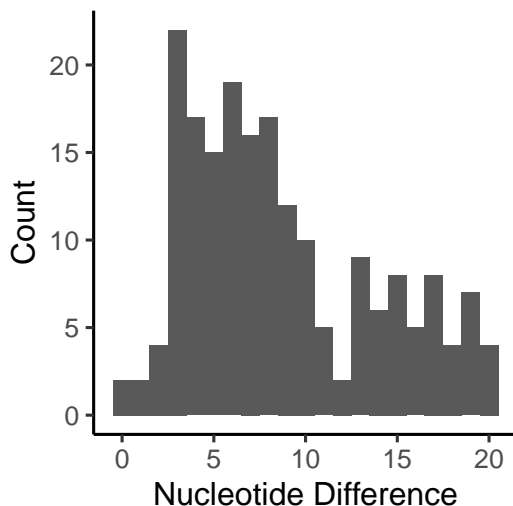
### IGHV1-58\*01\_03

32 sequences assigned  
3 (9.4%) exact matches, in which:  
3 unique CDR3  
3 unique J



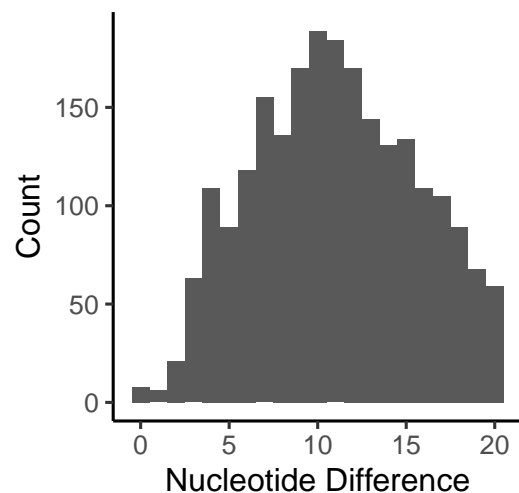
### IGHV2-5\*02

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



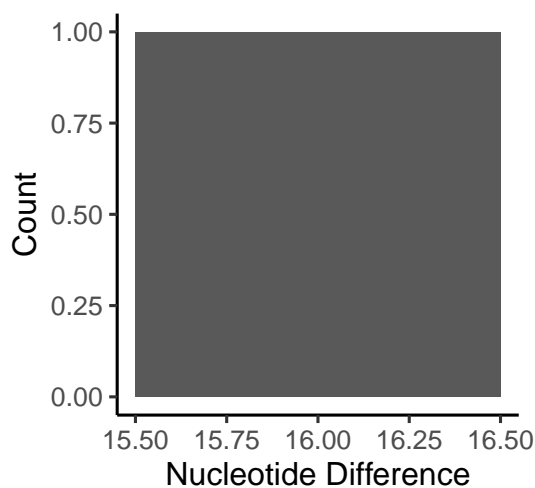
### IGHV3-7\*03

2496 sequences assigned  
8 (0.3%) exact matches, in which:  
7 unique CDR3  
3 unique J



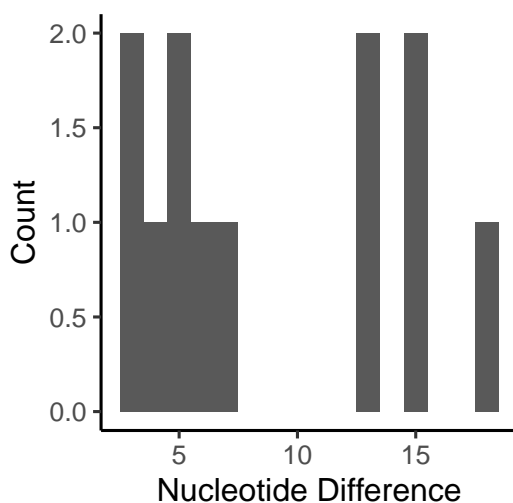
### IGHV1-69-2\*01

3 sequences assigned  
No exact matches.



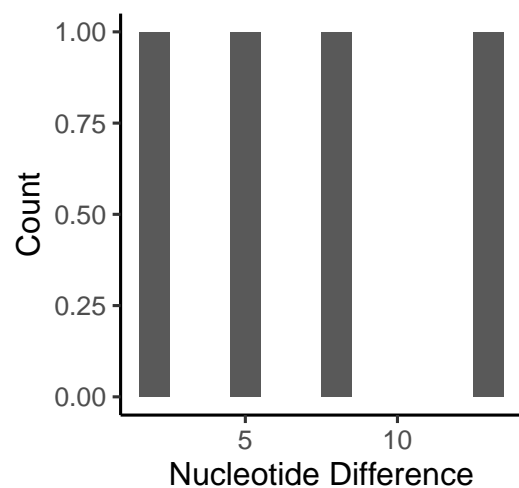
### IGHV2-26\*01

14 sequences assigned  
No exact matches.



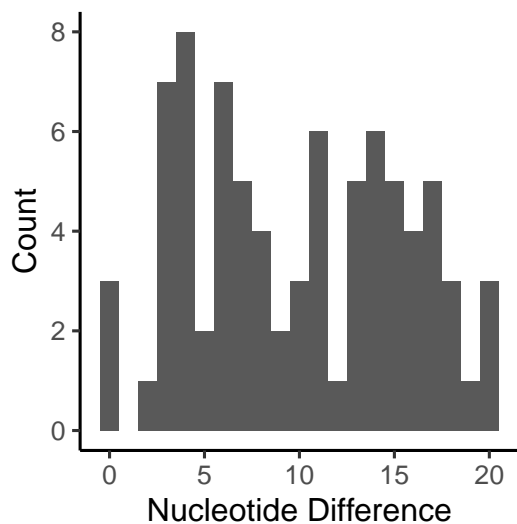
### IGHV3-9\*01

4 sequences assigned  
No exact matches.



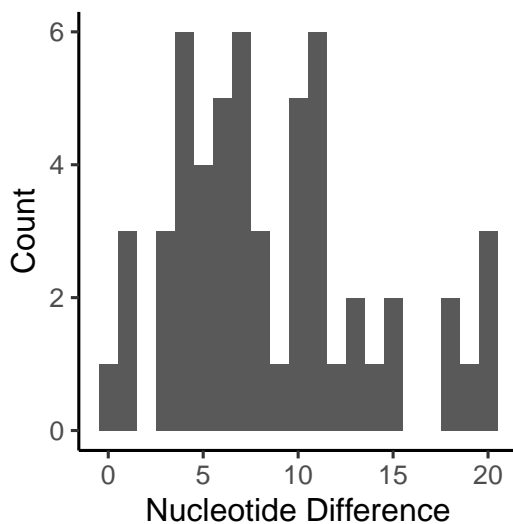
### IGHV1-69\*06\_14

115 sequences assigned  
3 (2.6%) exact matches, in which:  
3 unique CDR3  
2 unique J



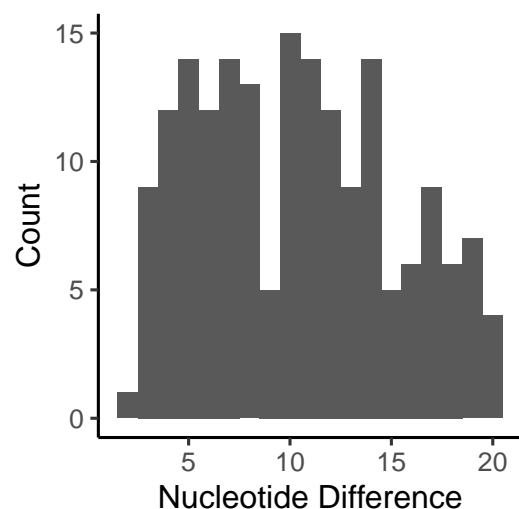
### IGHV2-70\*01

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



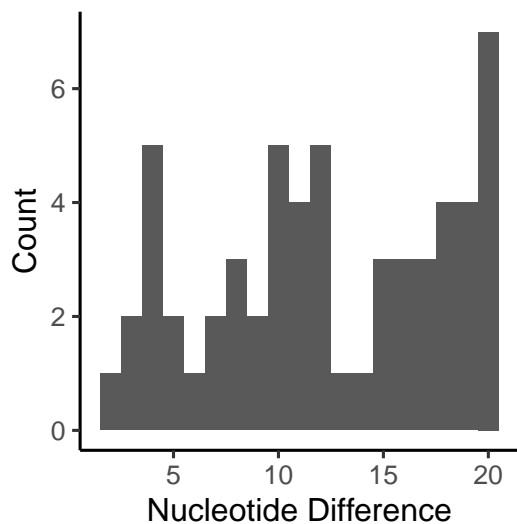
### IGHV3-11\*06

218 sequences assigned  
No exact matches.



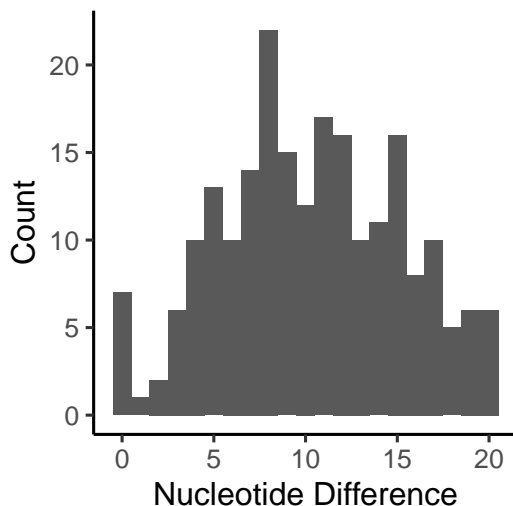
### IGHV3-13\*01

69 sequences assigned  
No exact matches.



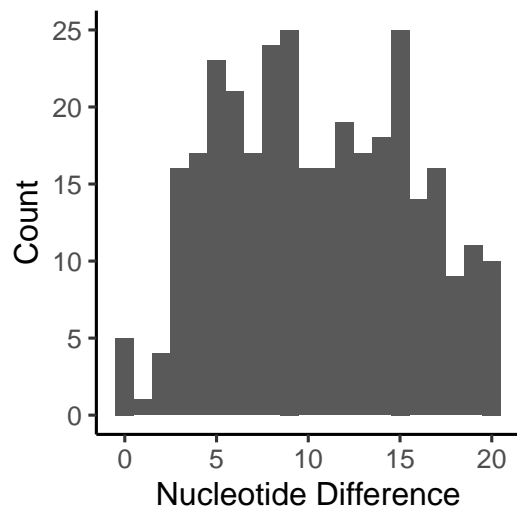
### IGHV3-15\*01\_02

254 sequences assigned  
7 (2.8%) exact matches, in which:  
6 unique CDR3  
4 unique J



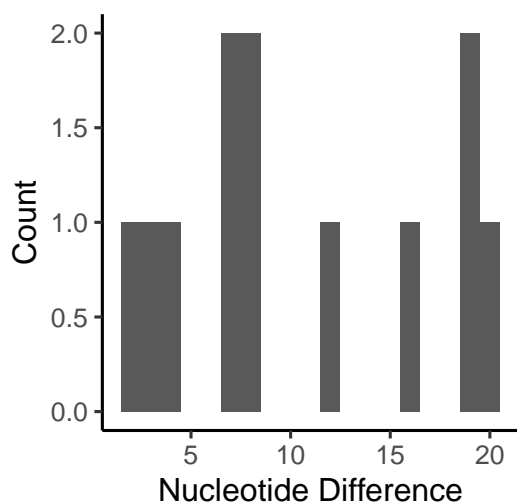
### IGHV3-30-3\*01

366 sequences assigned  
5 (1.4%) exact matches, in which:  
3 unique CDR3  
2 unique J



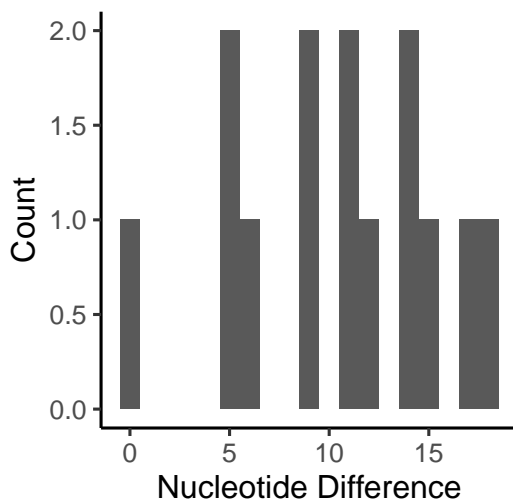
### IGHV3-13\*05

15 sequences assigned  
No exact matches.



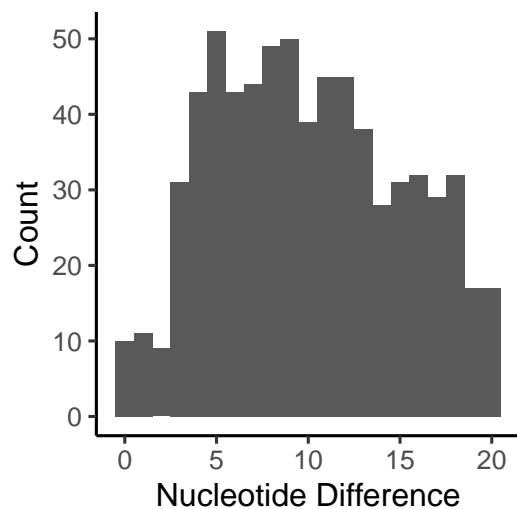
### IGHV3-20\*03\_04

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



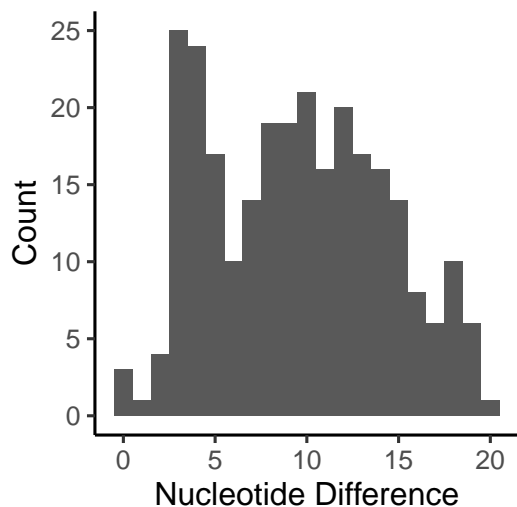
### IGHV3-33\*01

767 sequences assigned  
10 (1.3%) exact matches, in which:  
8 unique CDR3  
3 unique J



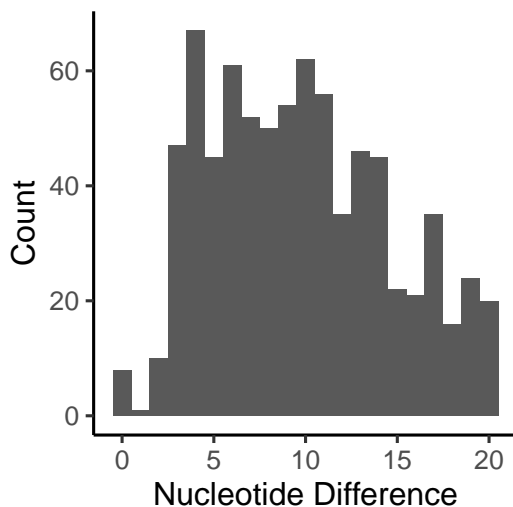
### IGHV3-15\*07

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



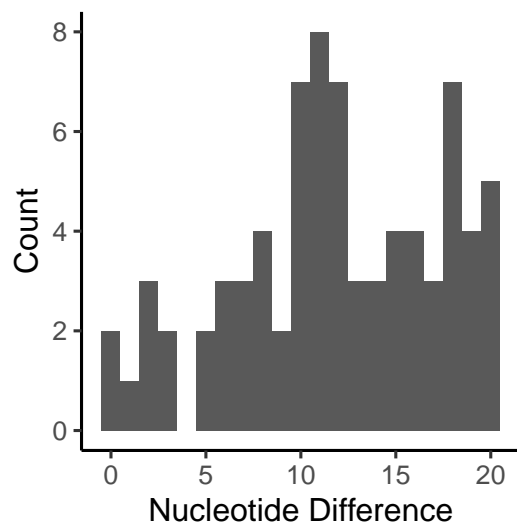
### IGHV3-21\*01\_02

853 sequences assigned  
8 (0.9%) exact matches, in which:  
5 unique CDR3  
2 unique J



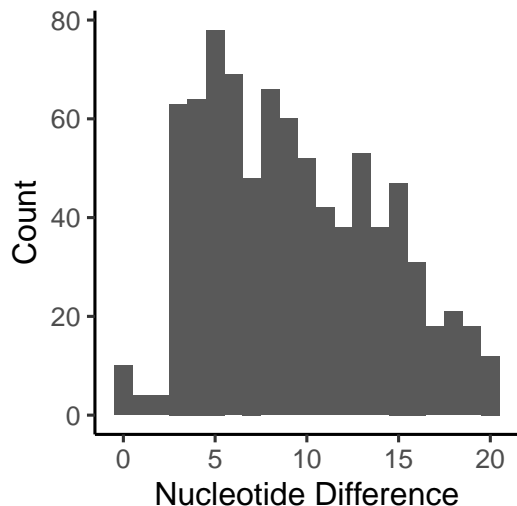
### IGHV3-43\*01

88 sequences assigned  
2 (2.3%) exact matches, in which:  
2 unique CDR3  
2 unique J



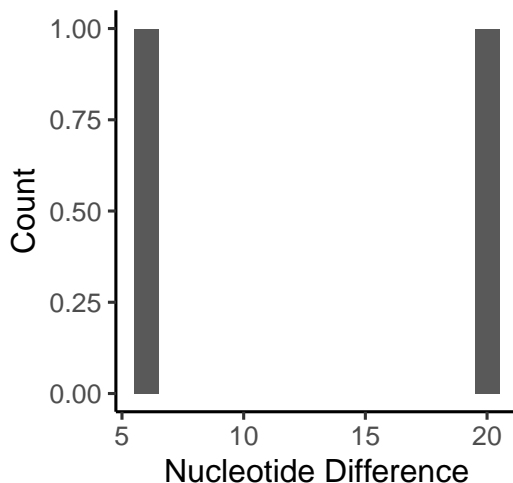
### IGHV3-48\*02

920 sequences assigned  
10 (1.1%) exact matches, in which:  
8 unique CDR3  
3 unique J



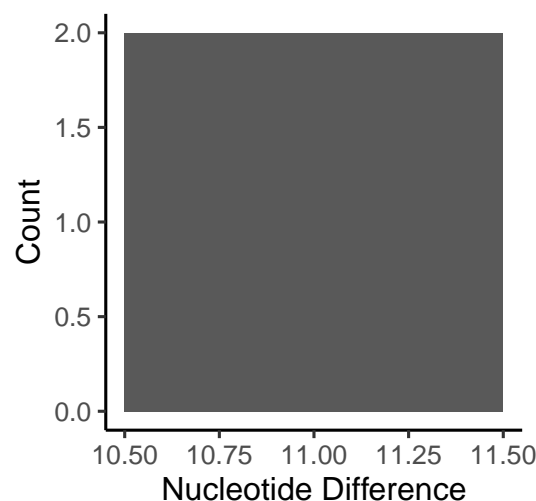
### IGHV3-64\*04

2 sequences assigned  
No exact matches.



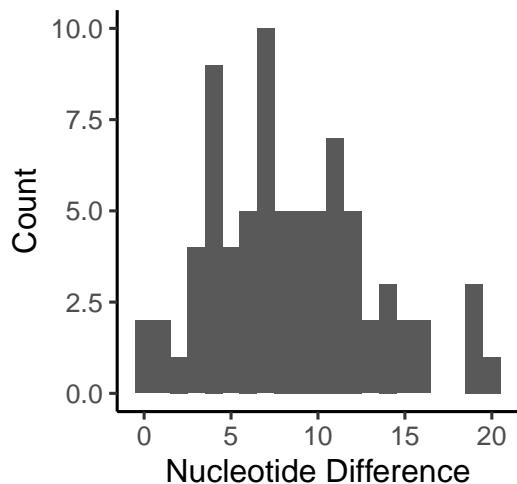
### IGHV3-66\*04

2 sequences assigned  
No exact matches.



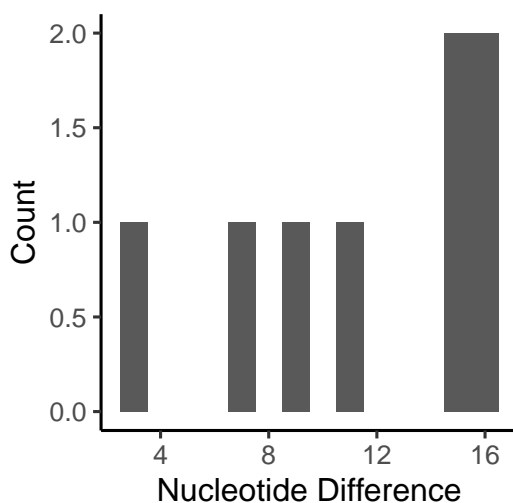
### IGHV3-49\*03\_05

83 sequences assigned  
2 (2.4%) exact matches, in which:  
2 unique CDR3  
1 unique J



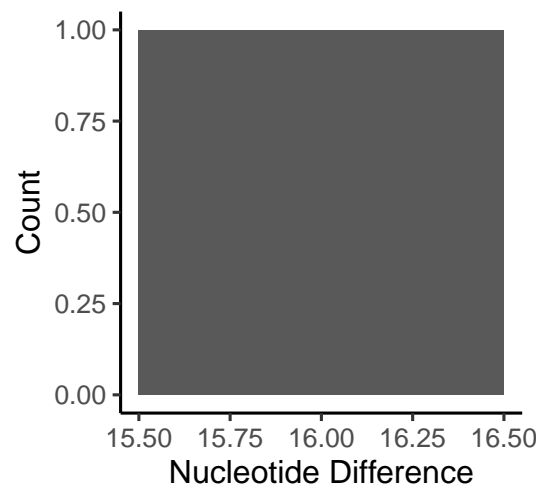
### IGHV3-64\*02\_07

8 sequences assigned  
No exact matches.



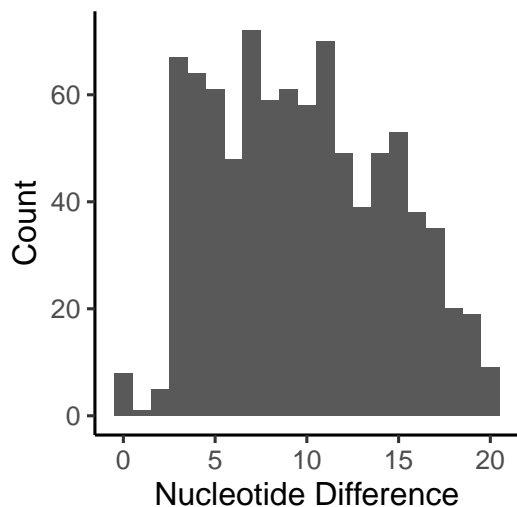
### IGHV3-69-1\*02

1 sequences assigned  
No exact matches.



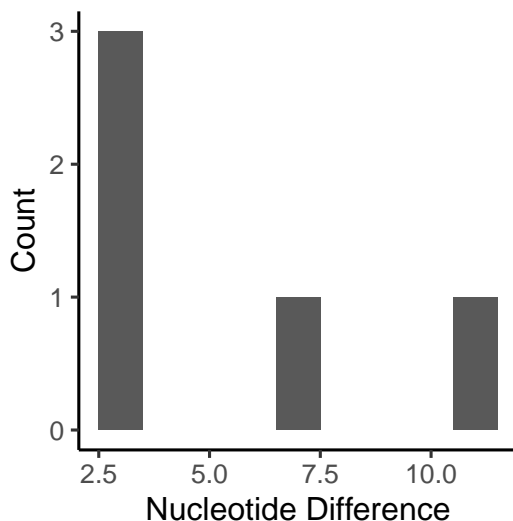
### IGHV3-53\*01\_02

969 sequences assigned  
8 (0.8%) exact matches, in which:  
7 unique CDR3  
4 unique J



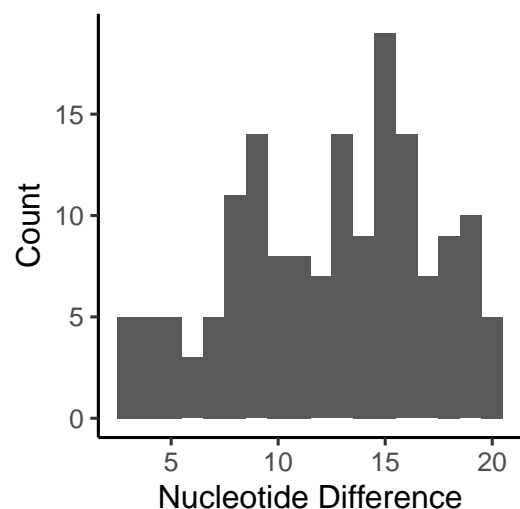
### IGHV3-66\*03

5 sequences assigned  
No exact matches.



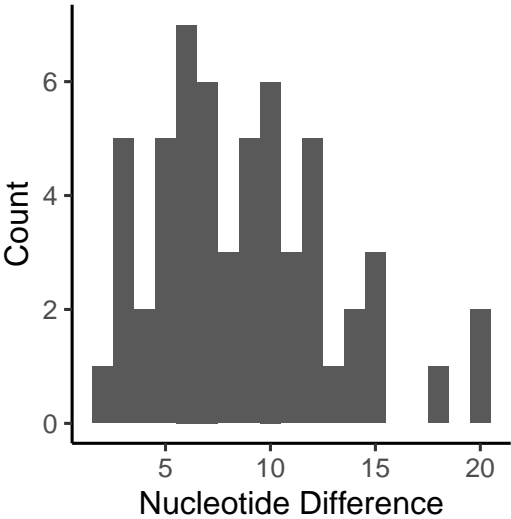
### IGHV3-72\*01

167 sequences assigned  
No exact matches.



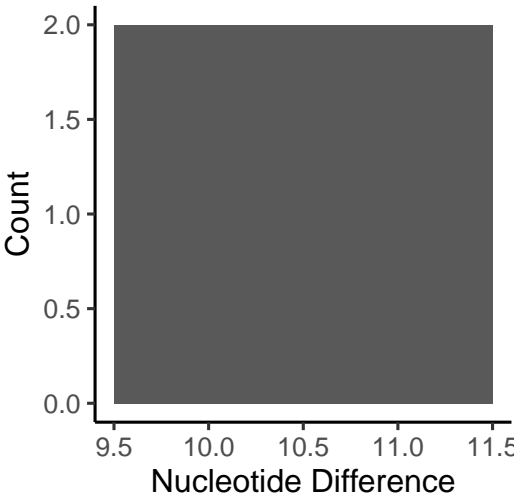
IGHV3-73\*01\_02

60 sequences assigned  
No exact matches.



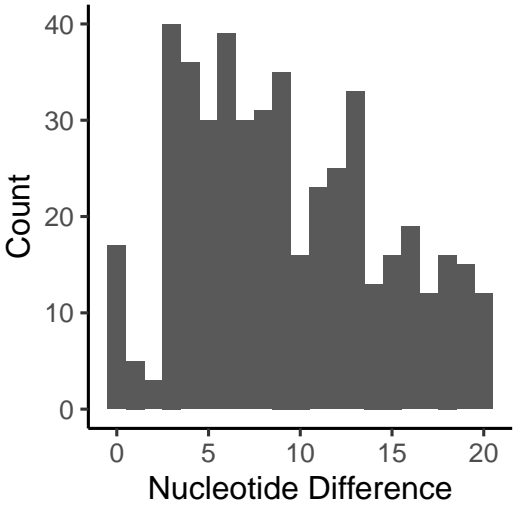
IGHV4-28\*03

4 sequences assigned  
No exact matches.



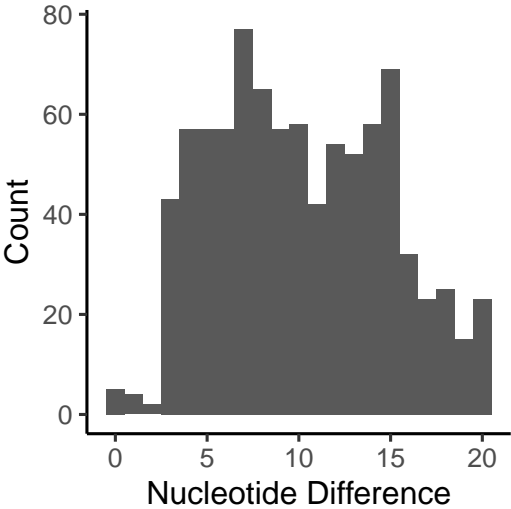
IGHV4-31\*03\_04

567 sequences assigned  
17 (3%) exact matches, in which:  
16 unique CDR3  
5 unique J



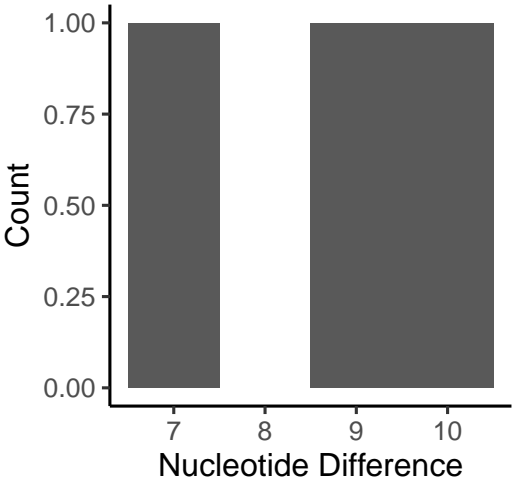
IGHV3-74\*01\_02

964 sequences assigned  
5 (0.5%) exact matches, in which:  
5 unique CDR3  
3 unique J



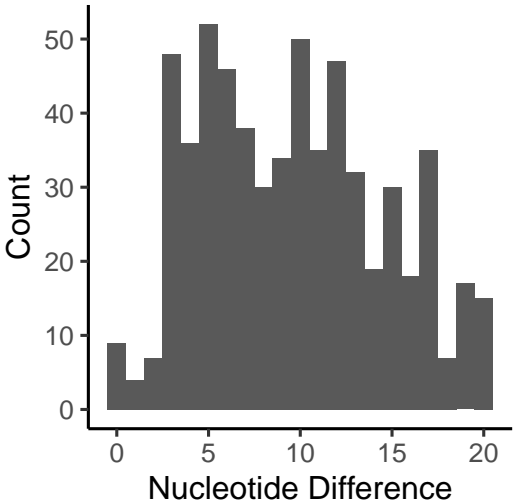
IGHV4-28\*01\_07

3 sequences assigned  
No exact matches.



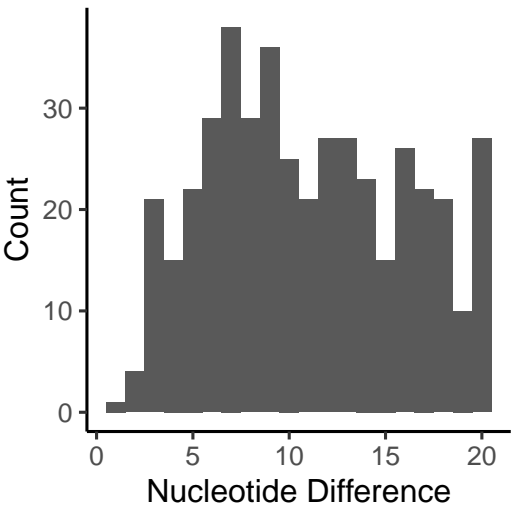
IGHV4-34\*01\_02

741 sequences assigned  
9 (1.2%) exact matches, in which:  
7 unique CDR3  
3 unique J



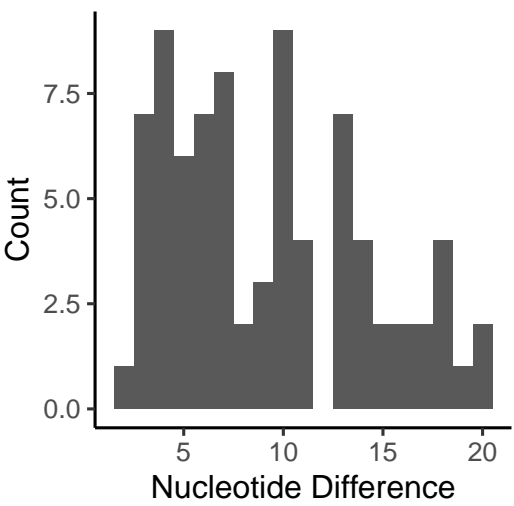
IGHV3-64D\*06

509 sequences assigned  
No exact matches.



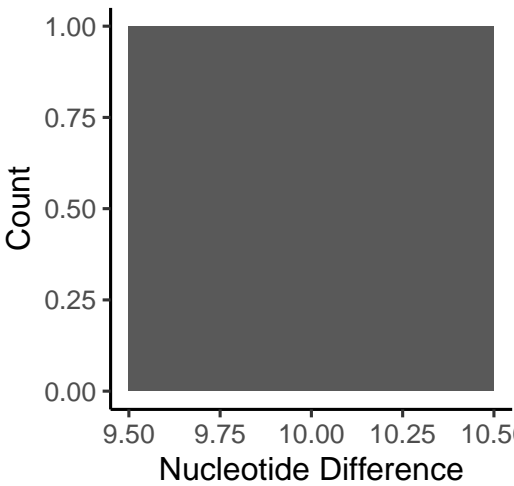
IGHV4-30-2\*01

89 sequences assigned  
No exact matches.



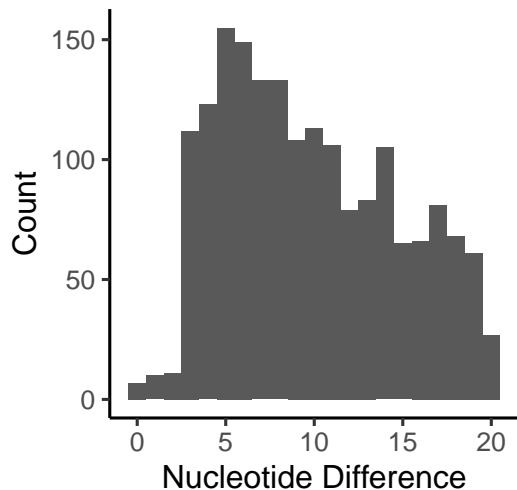
IGHV4-38-2\*01

1 sequences assigned  
No exact matches.



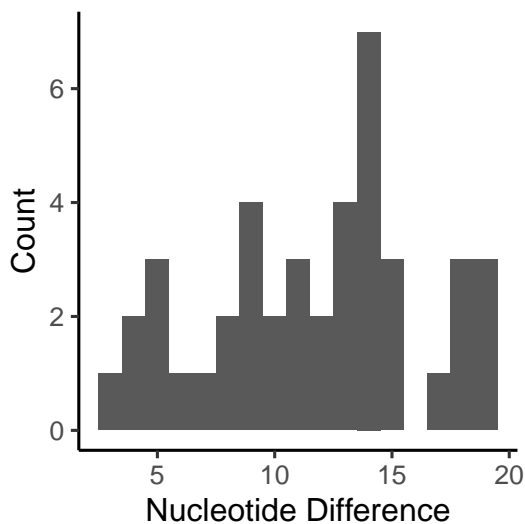
### IGHV4-39\*01\_05

2067 sequences assigned  
7 (0.3%) exact matches, in which:  
7 unique CDR3  
4 unique J



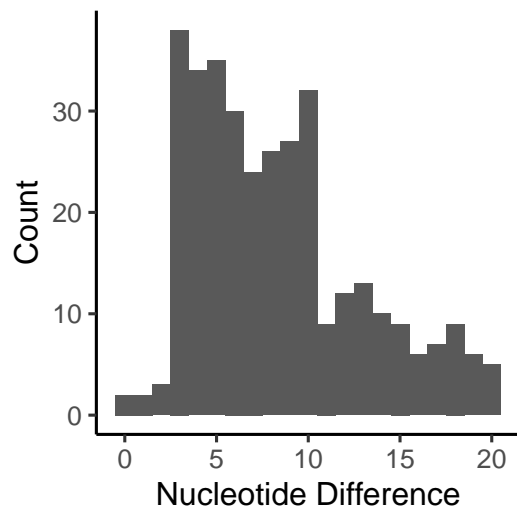
### IGHV4-61\*08

52 sequences assigned  
No exact matches.



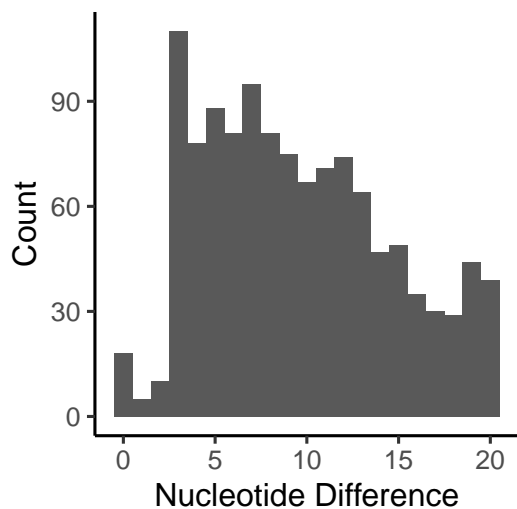
### IGHV6-1\*01\_02

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



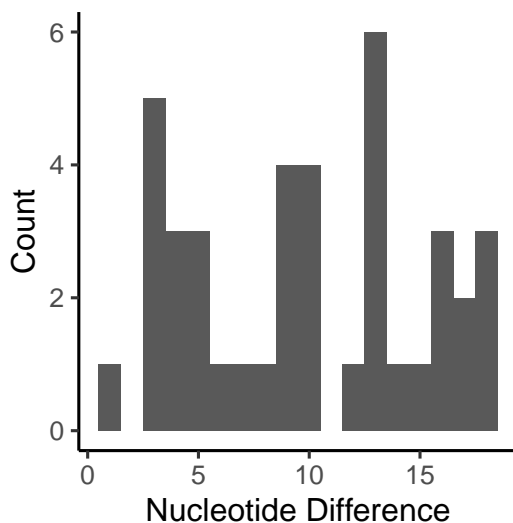
### IGHV4-59\*01\_07

1385 sequences assigned  
18 (1.3%) exact matches, in which:  
15 unique CDR3  
4 unique J



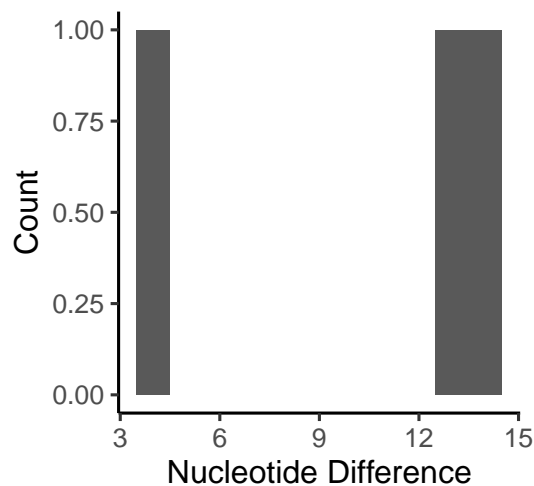
### IGHV5-10-1\*01\_03

48 sequences assigned  
No exact matches.



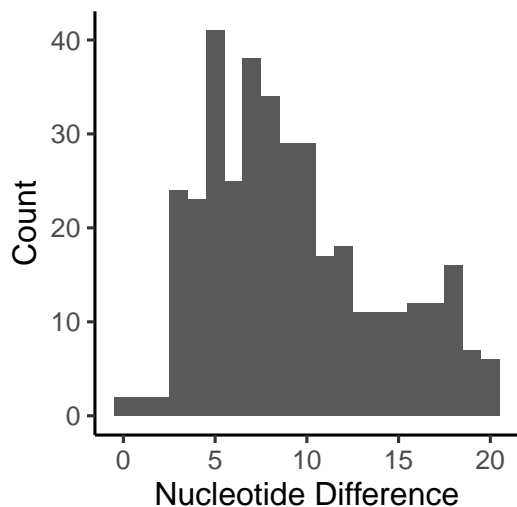
### IGHV7-4-1\*01

3 sequences assigned  
No exact matches.



### IGHV4-61\*01

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



### IGHV5-51\*01\_03

487 sequences assigned  
9 (1.8%) exact matches, in which:  
9 unique CDR3  
4 unique J

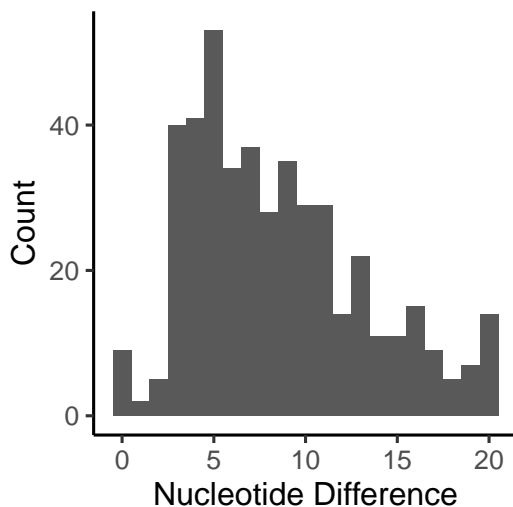




TABLE 9. The observed and expected frequencies of the