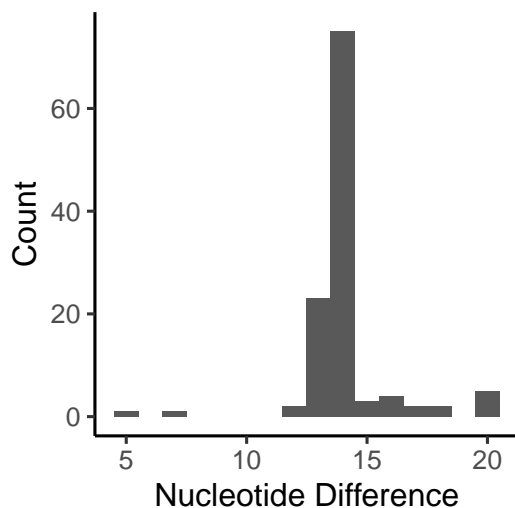


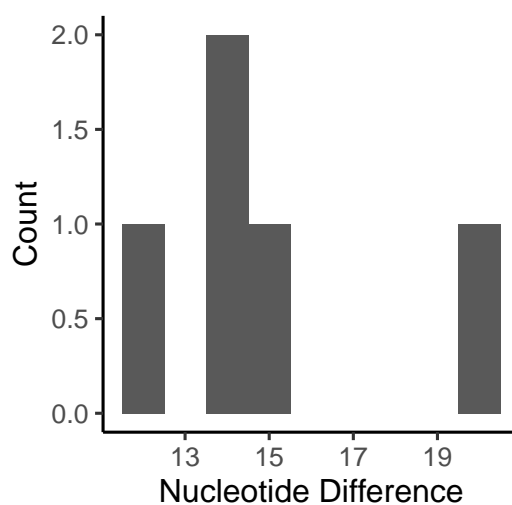
### IGHV1-2\*02

147 sequences assigned  
No exact matches.



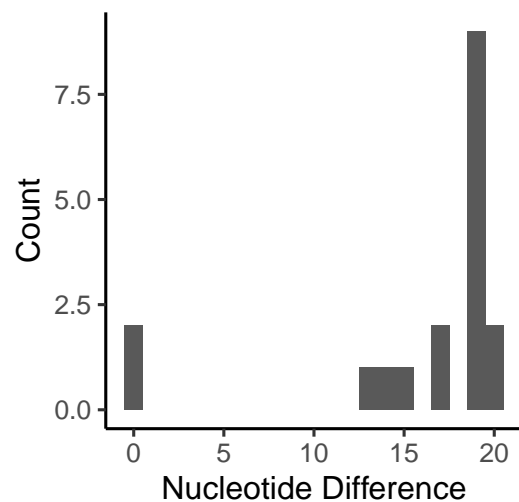
### IGHV1-3\*04

8 sequences assigned  
No exact matches.



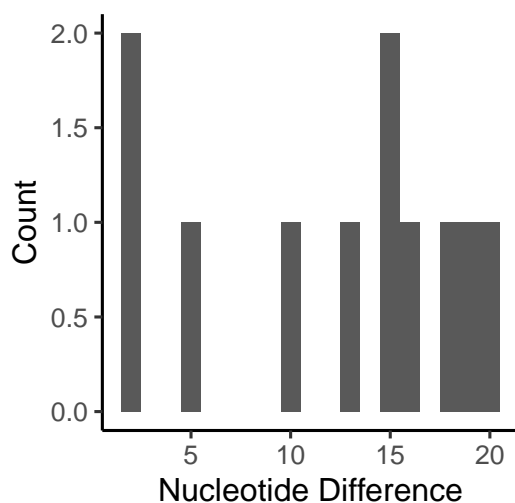
### IGHV1-18\*04

26 sequences assigned  
2 (7.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



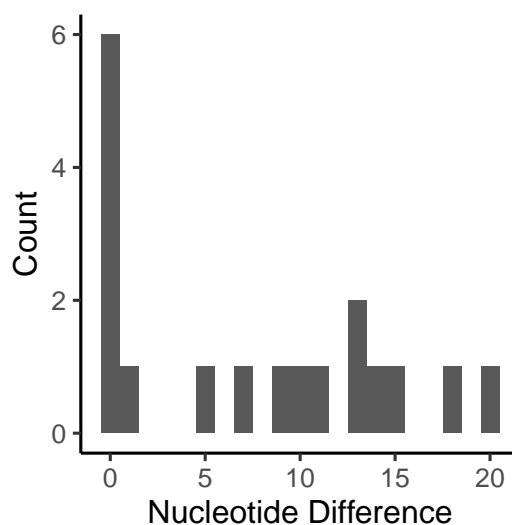
### IGHV1-2\*06

30 sequences assigned  
No exact matches.



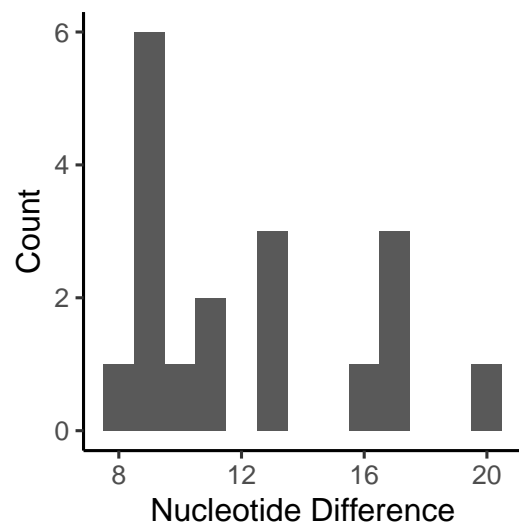
### IGHV1-8\*01

37 sequences assigned  
6 (16.2%) exact matches, in which:  
4 unique CDR3  
2 unique J



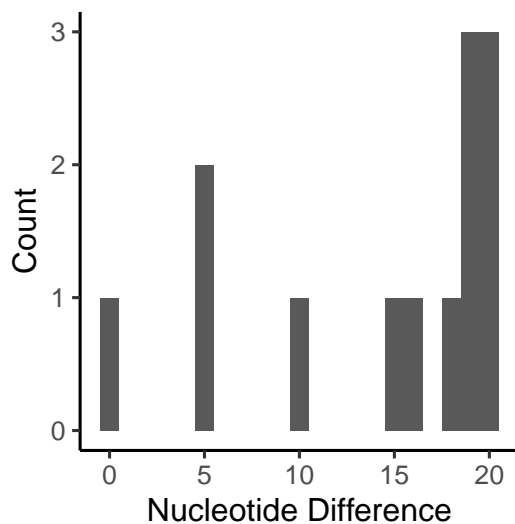
### IGHV1-24\*01

20 sequences assigned  
No exact matches.



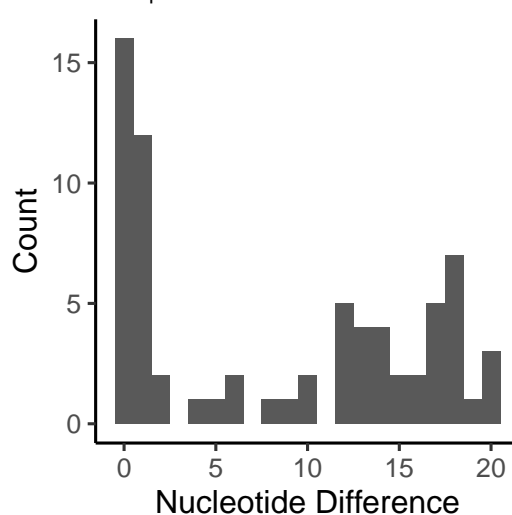
### IGHV1-3\*01

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



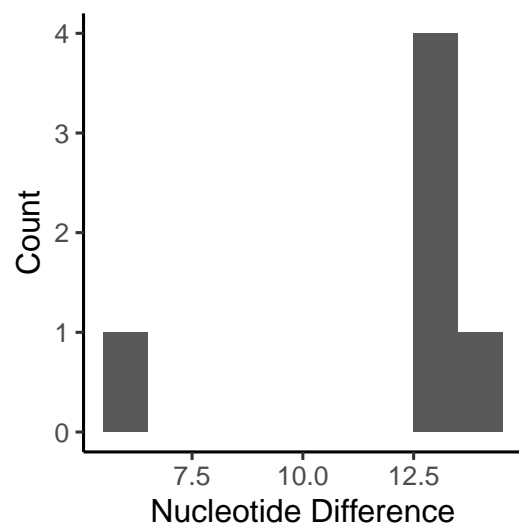
### IGHV1-18\*01

91 sequences assigned  
16 (17.6%) exact matches, in which:  
6 unique CDR3  
3 unique J



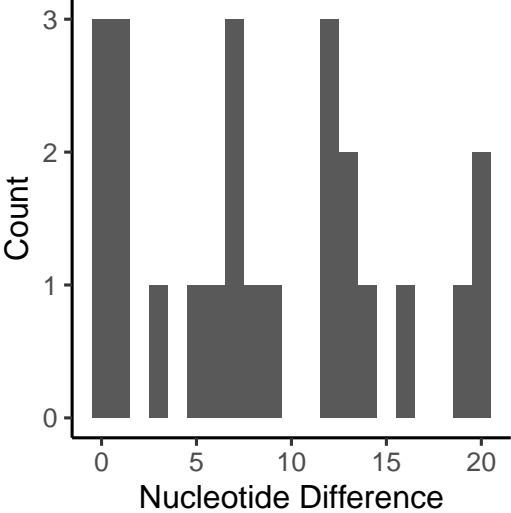
### IGHV1-45\*02

6 sequences assigned  
No exact matches.



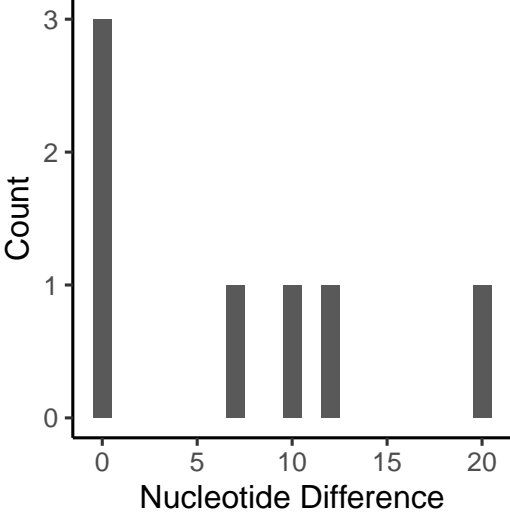
IGHV1-46\*01

39 sequences assigned  
3 (7.7%) exact matches, in which:  
3 unique CDR3  
3 unique J



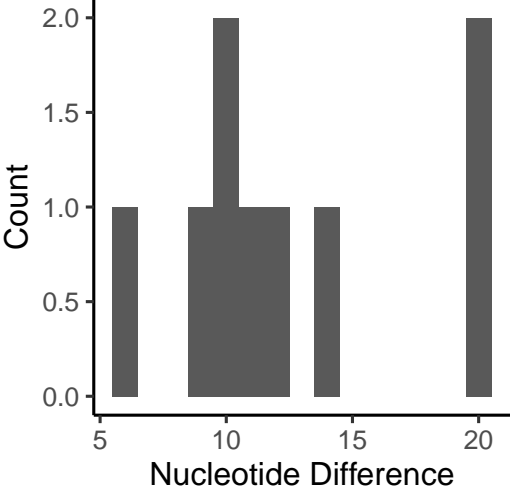
IGHV1-58\*01

8 sequences assigned  
3 (37.5%) exact matches, in which:  
3 unique CDR3  
2 unique J



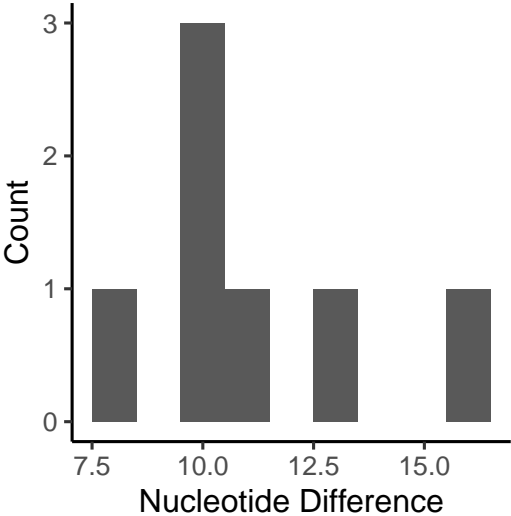
IGHV2-26\*01

10 sequences assigned  
No exact matches.



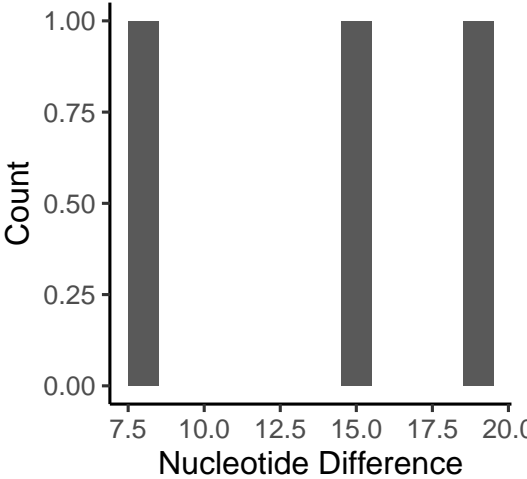
IGHV1-46\*03

18 sequences assigned  
No exact matches.



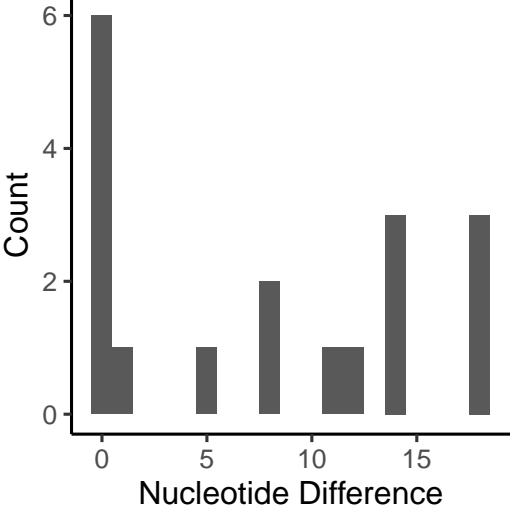
IGHV2-5\*01

3 sequences assigned  
No exact matches.



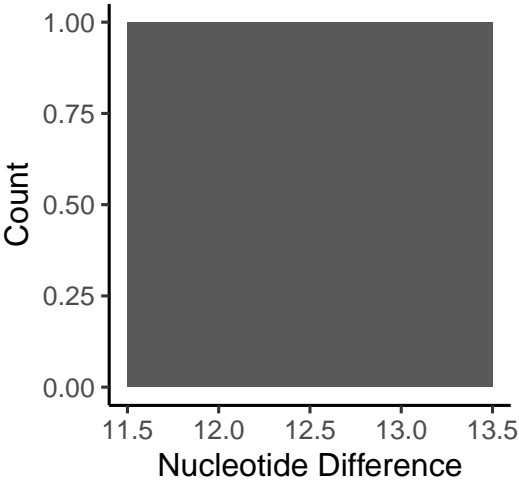
IGHV2-70\*01

21 sequences assigned  
6 (28.6%) exact matches, in which:  
6 unique CDR3  
3 unique J



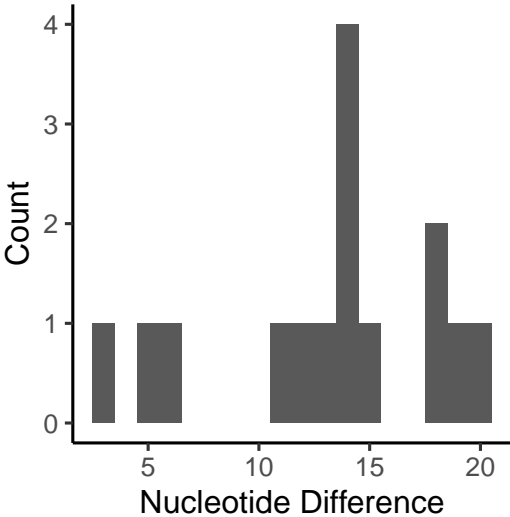
IGHV1-46\*04

4 sequences assigned  
No exact matches.



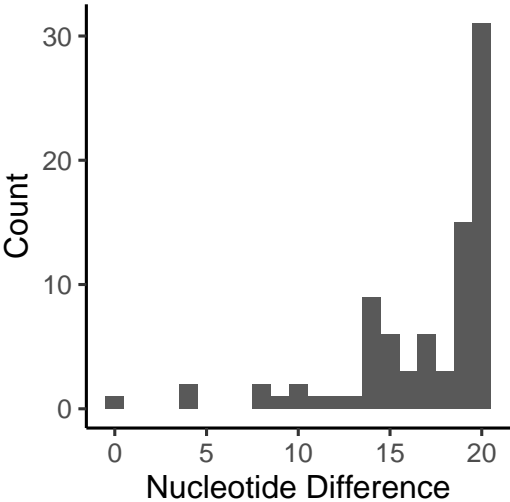
IGHV2-5\*02

29 sequences assigned  
No exact matches.



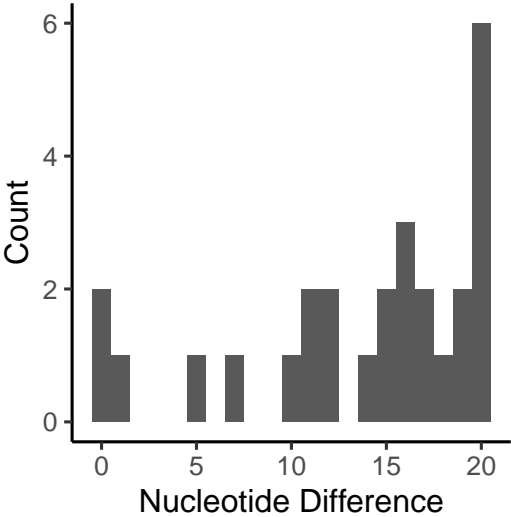
IGHV3-7\*01

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



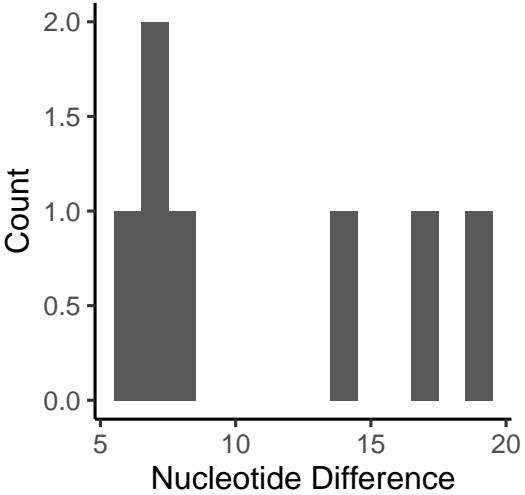
IGHV3-9\*01

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



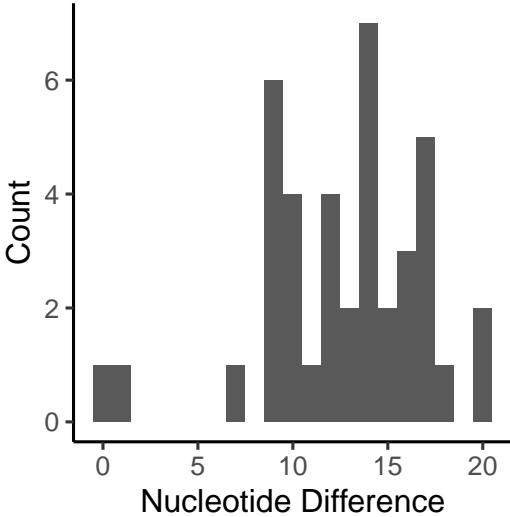
IGHV3-15\*01

29 sequences assigned  
No exact matches.



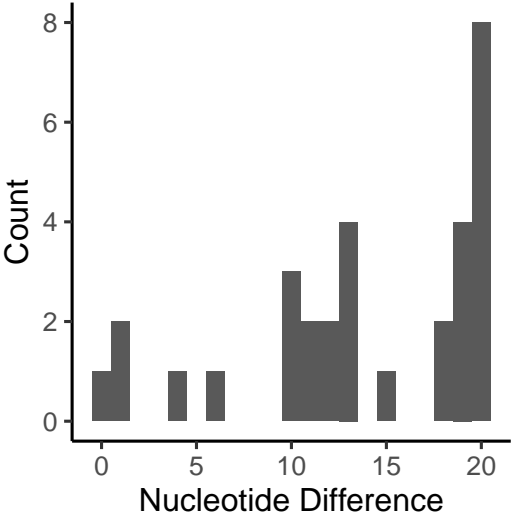
IGHV3-30-3\*01

70 sequences assigned  
1 (1.4%) exact matches, in which:  
1 unique CDR3  
1 unique J



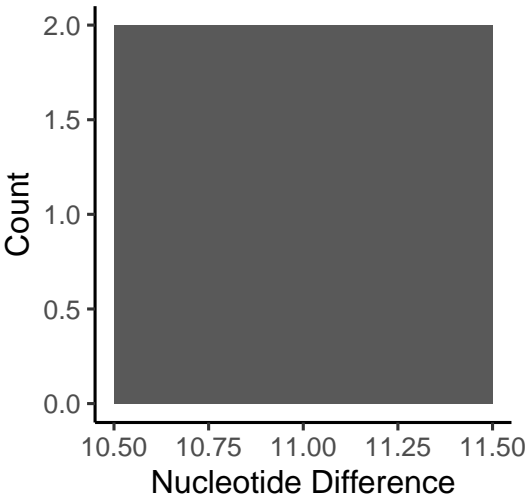
IGHV3-11\*01

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



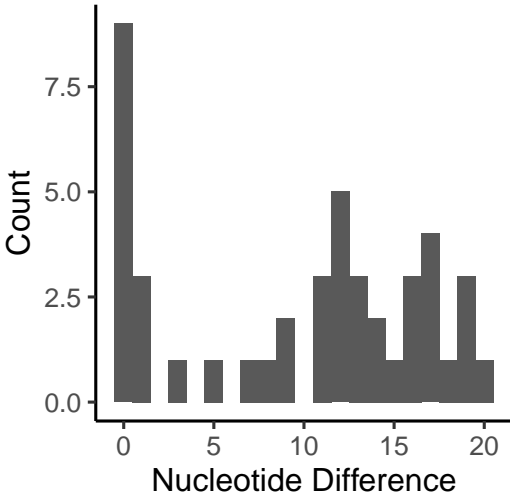
IGHV3-15\*05

11 sequences assigned  
No exact matches.



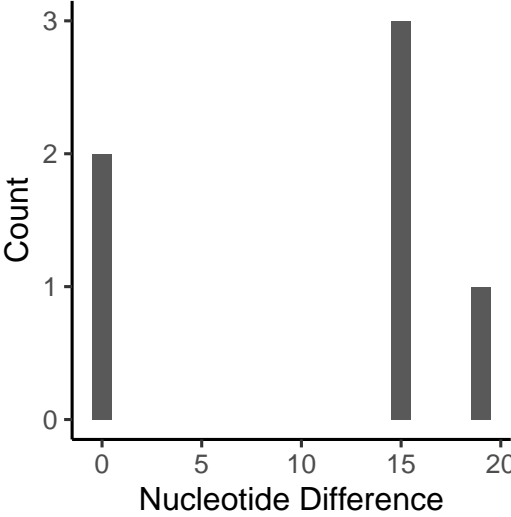
IGHV3-33\*01

53 sequences assigned  
9 (17%) exact matches, in which:  
8 unique CDR3  
3 unique J



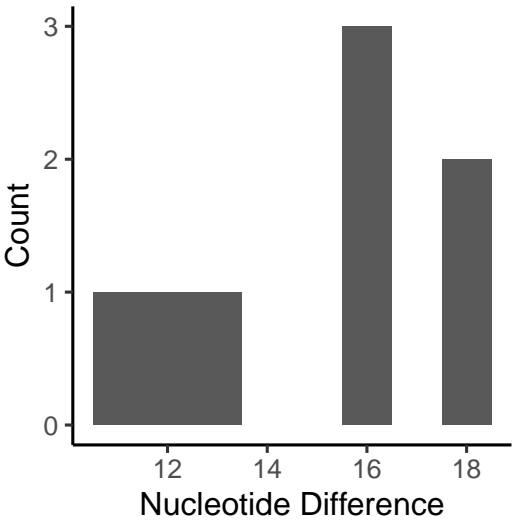
IGHV3-13\*01

7 sequences assigned  
2 (28.6%) exact matches, in which:  
2 unique CDR3  
2 unique J



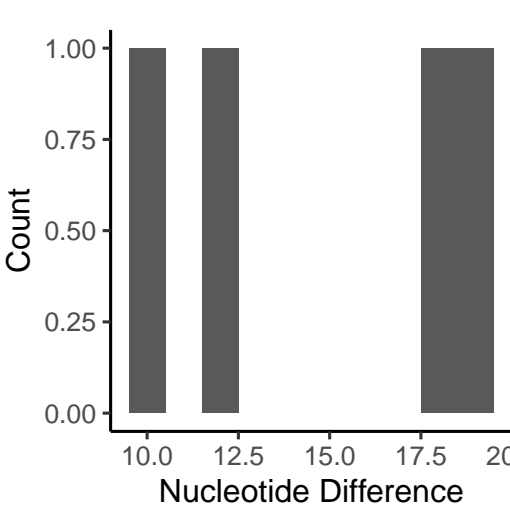
IGHV3-20\*01

8 sequences assigned  
No exact matches.



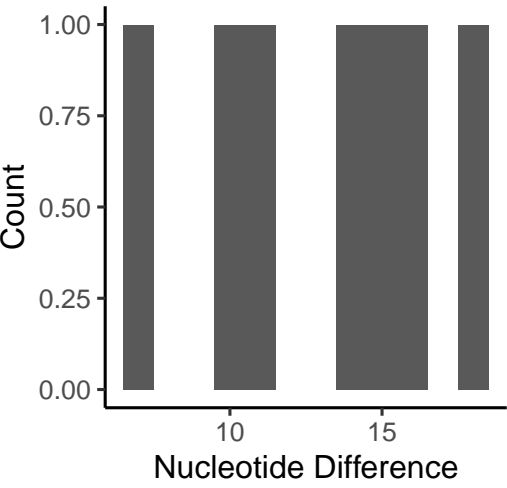
IGHV3-48\*01

5 sequences assigned  
No exact matches.



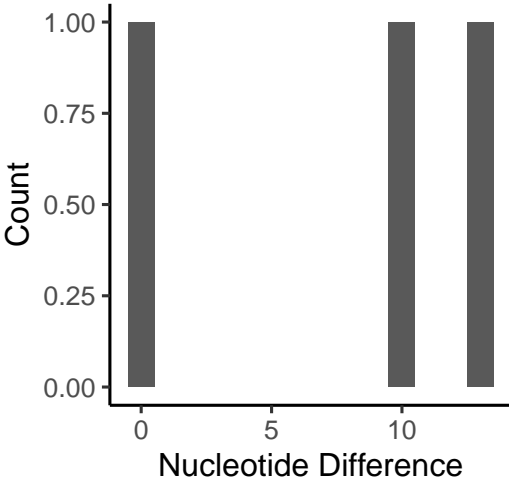
IGHV3-48\*02

10 sequences assigned  
No exact matches.



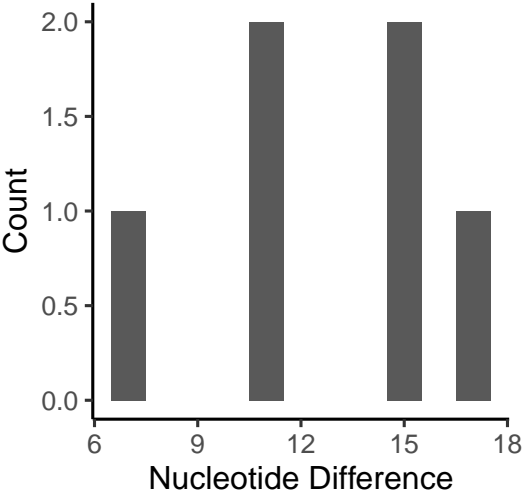
IGHV3-49\*05

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



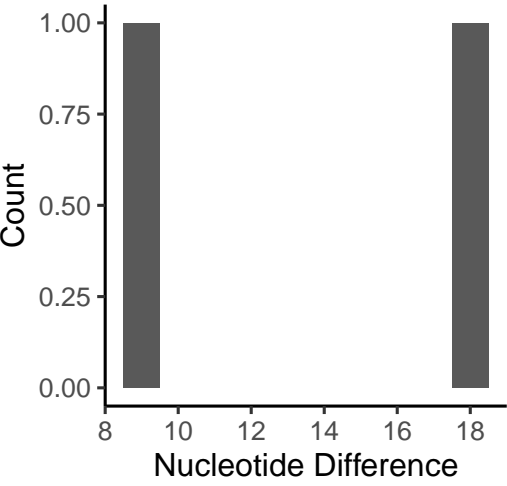
IGHV3-72\*01

12 sequences assigned  
No exact matches.



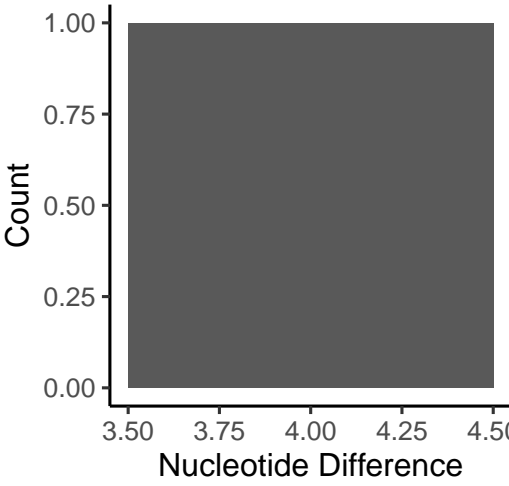
IGHV3-48\*04

2 sequences assigned  
No exact matches.



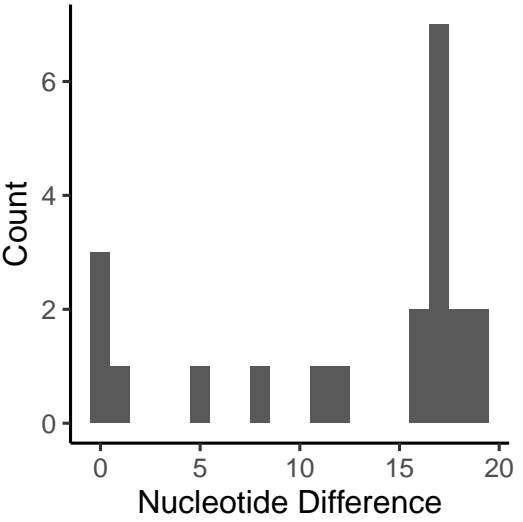
IGHV3-64\*01

2 sequences assigned  
No exact matches.



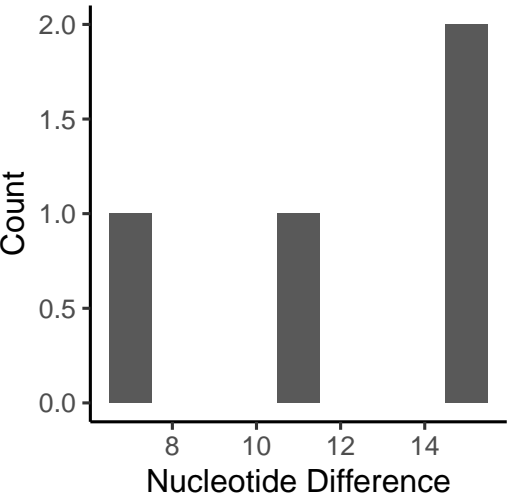
IGHV3-74\*01

28 sequences assigned  
3 (10.7%) exact matches, in which:  
3 unique CDR3  
3 unique J



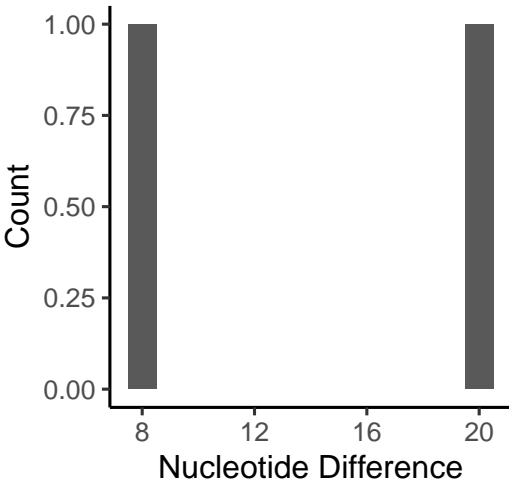
IGHV3-49\*03

6 sequences assigned  
No exact matches.



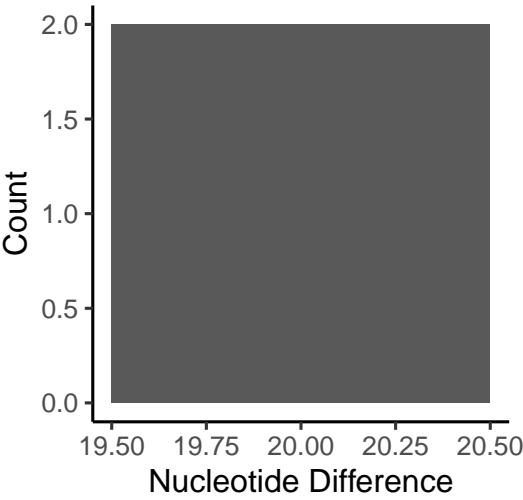
IGHV3-66\*02

2 sequences assigned  
No exact matches.



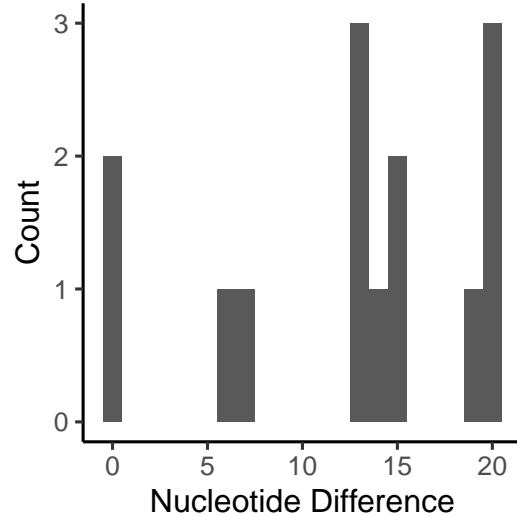
IGHV3-74\*03

5 sequences assigned  
No exact matches.



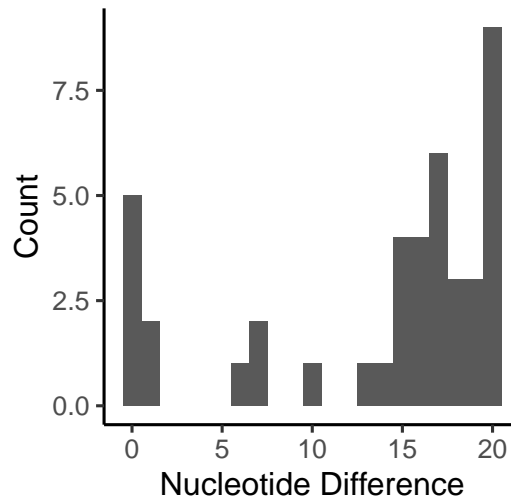
### IGHV4-4\*02

19 sequences assigned  
2 (10.5%) exact matches, in which:  
2 unique CDR3  
2 unique J



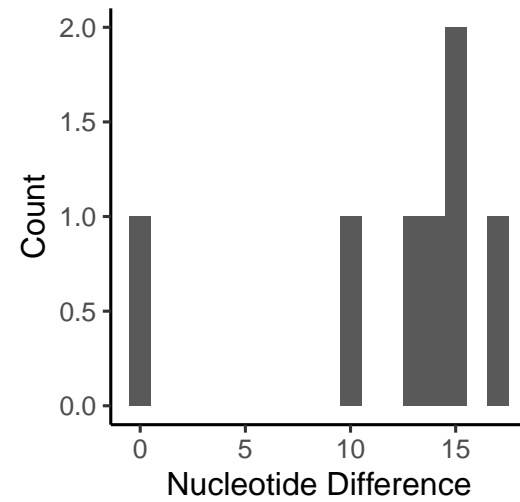
### IGHV4-31\*03

51 sequences assigned  
5 (9.8%) exact matches, in which:  
5 unique CDR3  
3 unique J



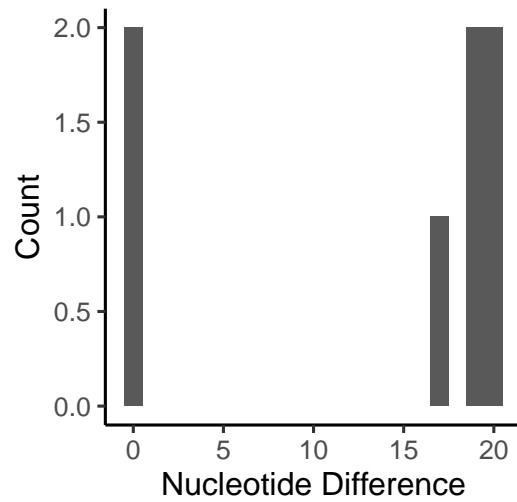
### IGHV4-61\*01

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



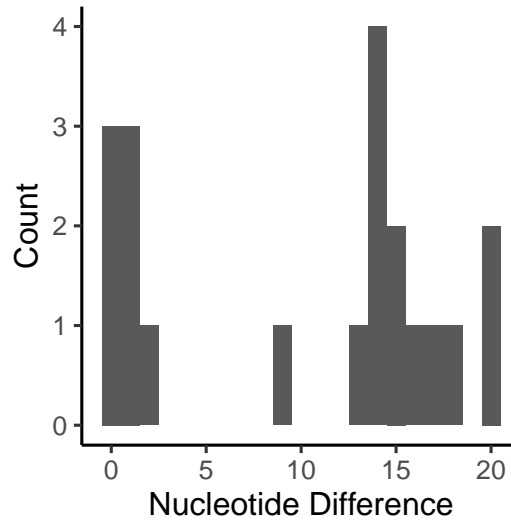
### IGHV4-30-2\*01

37 sequences assigned  
2 (5.4%) exact matches, in which:  
1 unique CDR3  
1 unique J



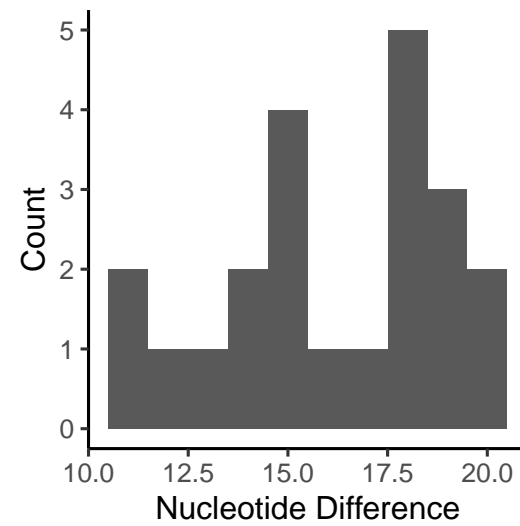
### IGHV4-39\*01

46 sequences assigned  
3 (6.5%) exact matches, in which:  
3 unique CDR3  
3 unique J



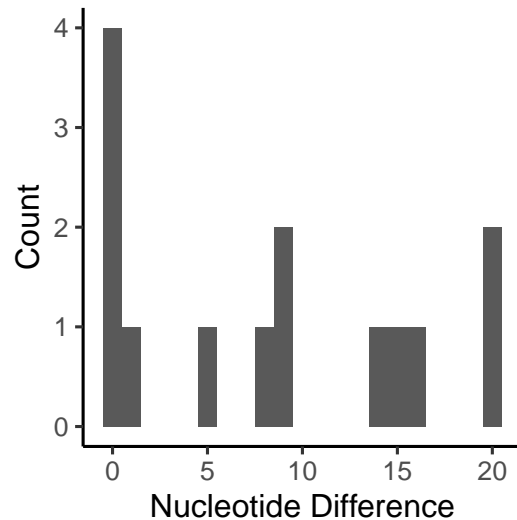
### IGHV4-61\*02

91 sequences assigned  
No exact matches.



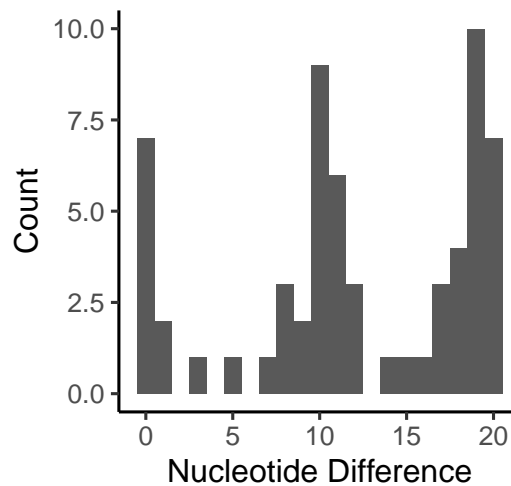
### IGHV4-30-4\*01

18 sequences assigned  
4 (22.2%) exact matches, in which:  
4 unique CDR3  
2 unique J



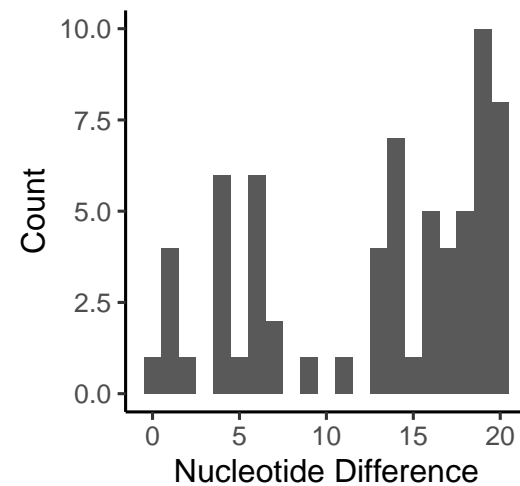
### IGHV4-59\*01

89 sequences assigned  
7 (7.9%) exact matches, in which:  
7 unique CDR3  
4 unique J



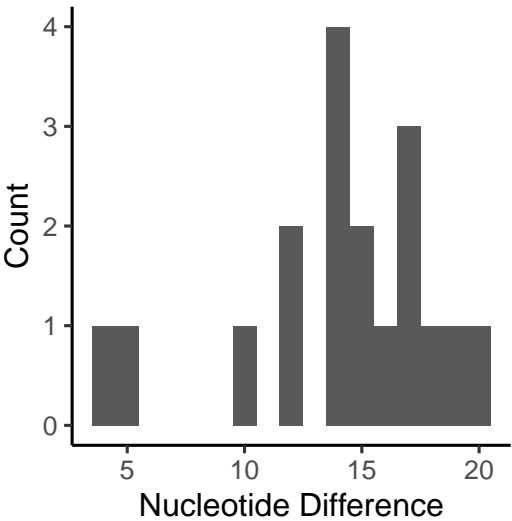
### IGHV5-51\*01

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



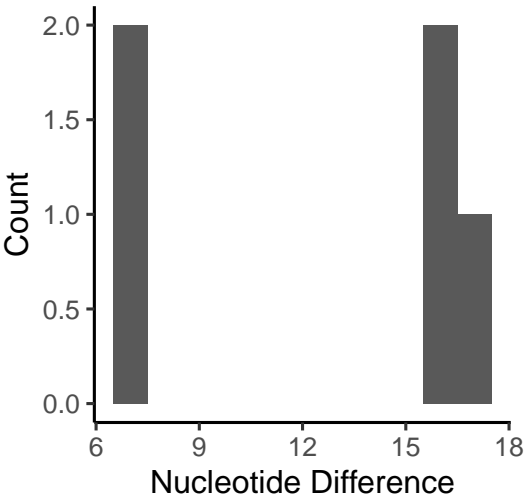
IGHV5–51\*03

25 sequences assigned  
No exact matches.



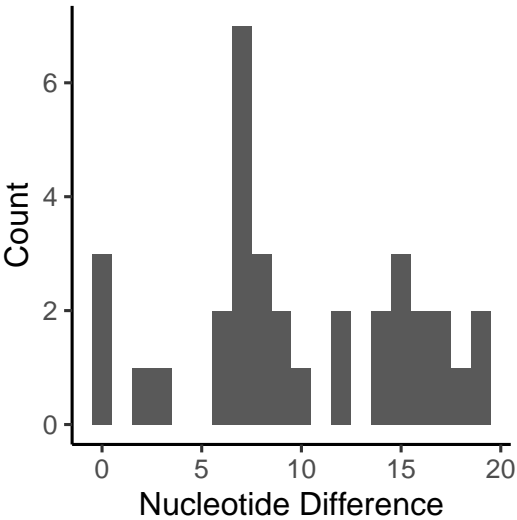
IGHV6–1\*01

7 sequences assigned  
No exact matches.

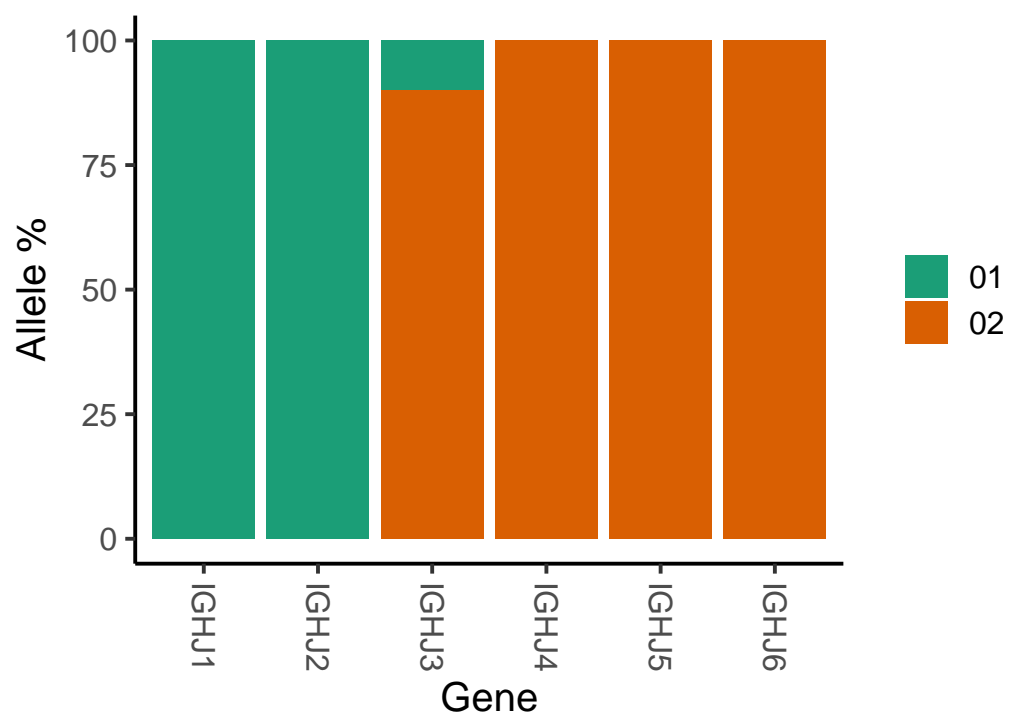


IGHV7–4–1\*02

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



Allele Usage



[illegible]