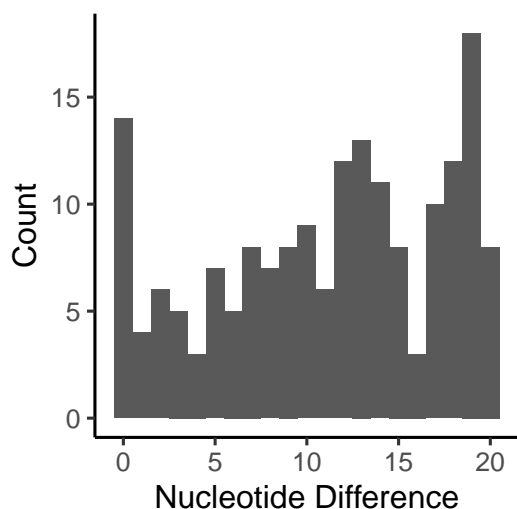


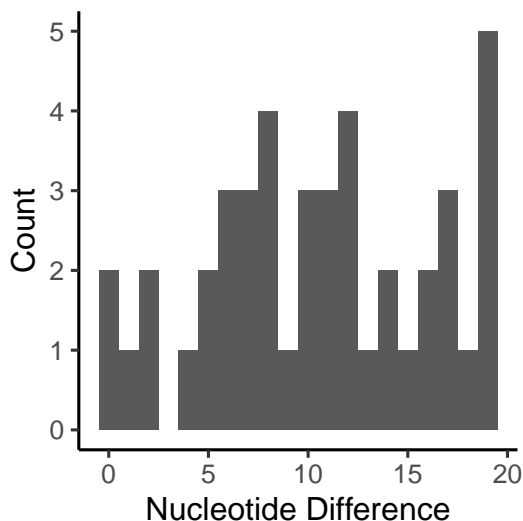
### IGHV1-2\*02

243 sequences assigned  
14 (5.8%) exact matches, in which:  
14 unique CDR3  
4 unique J



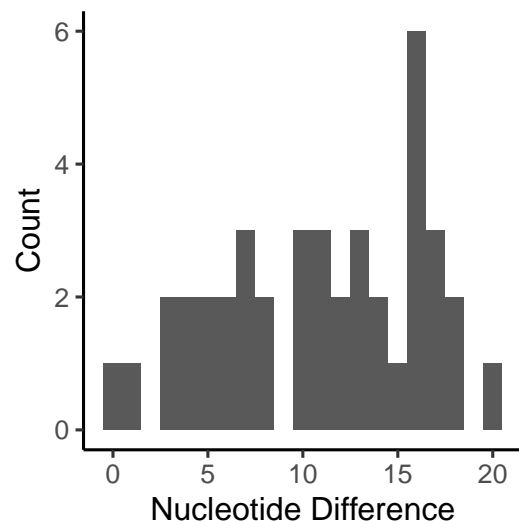
### IGHV1-8\*03

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



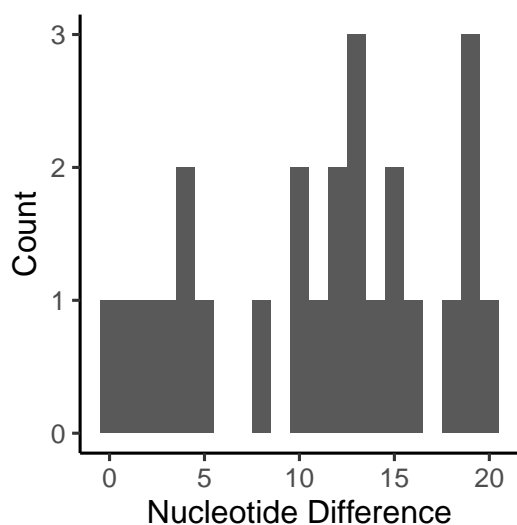
### IGHV1-46\*03

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



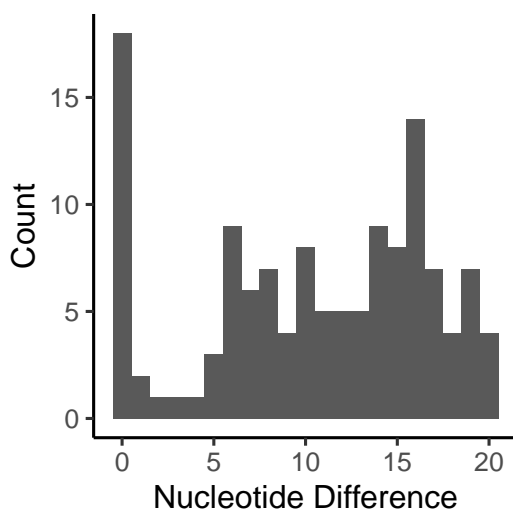
### IGHV1-3\*01

31 sequences assigned  
1 (3.2%) exact matches, in which:  
1 unique CDR3  
1 unique J



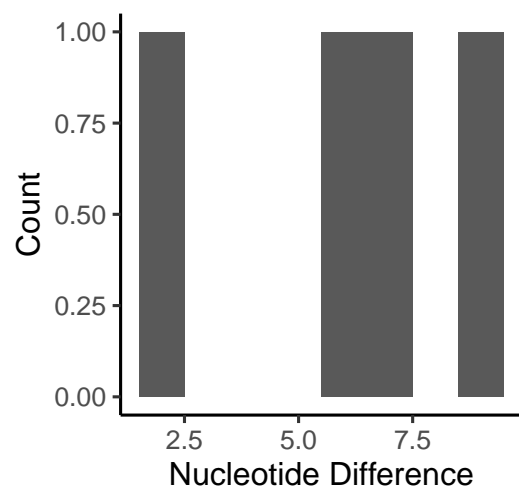
### IGHV1-18\*01

198 sequences assigned  
18 (9.1%) exact matches, in which:  
18 unique CDR3  
4 unique J



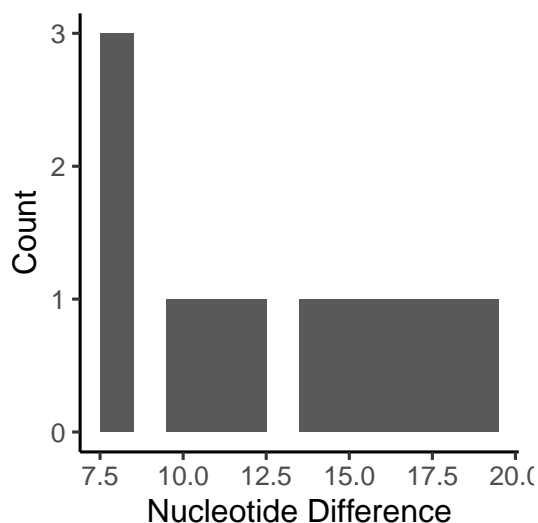
### IGHV1-58\*02

8 sequences assigned  
No exact matches.



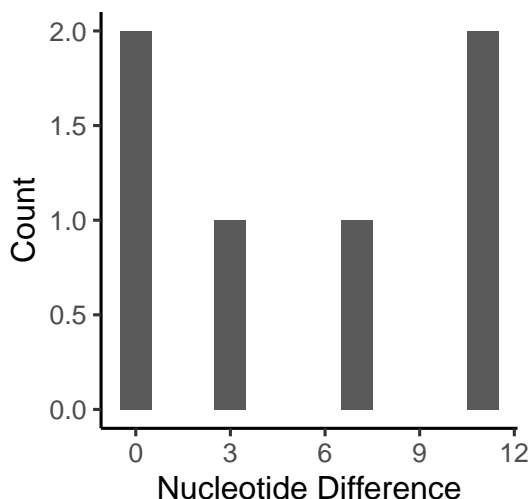
### IGHV1-3\*04

14 sequences assigned  
No exact matches.



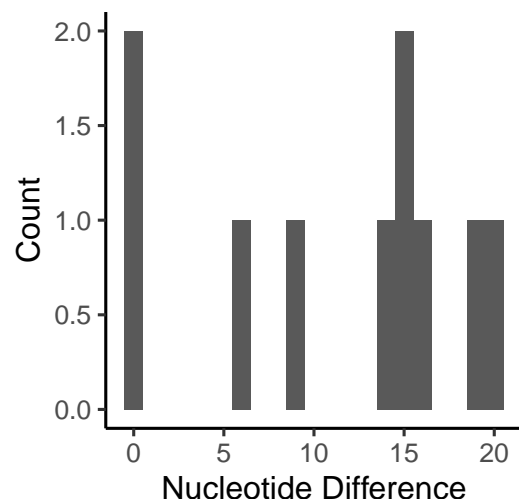
### IGHV1-24\*01

11 sequences assigned  
2 (18.2%) exact matches, in which:  
2 unique CDR3  
1 unique J



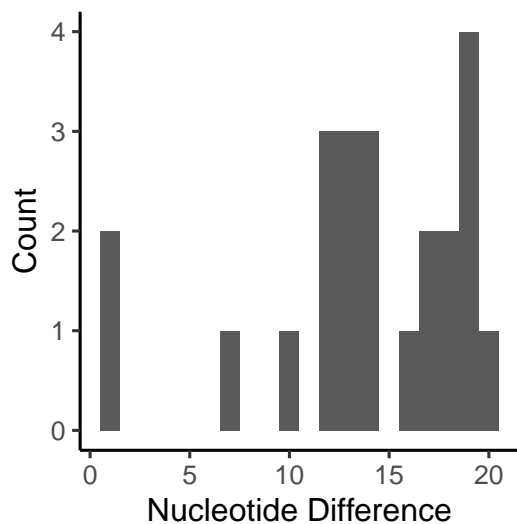
### IGHV1-69-2\*01

28 sequences assigned  
2 (7.1%) exact matches, in which:  
2 unique CDR3  
2 unique J



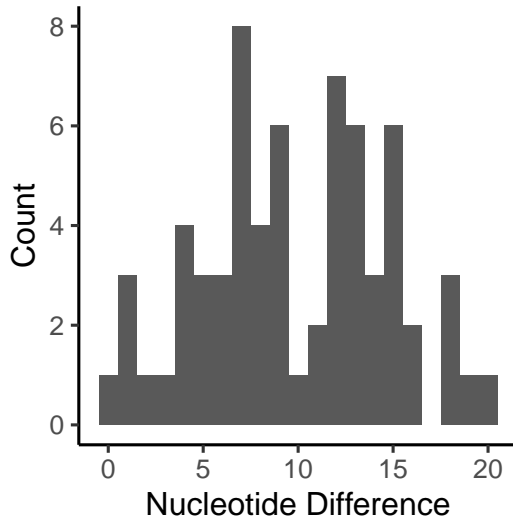
### IGHV1-69\*02

43 sequences assigned  
No exact matches.



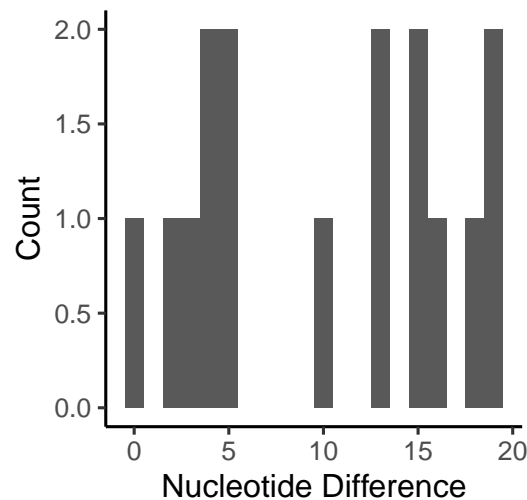
### IGHV2-5\*01

79 sequences assigned  
1 (1.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



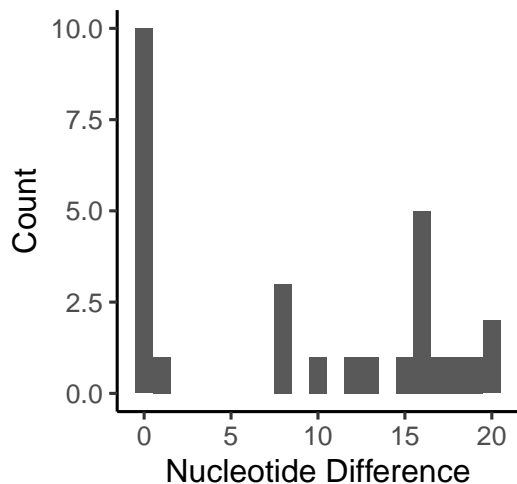
### IGHV2-70\*04

19 sequences assigned  
1 (5.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



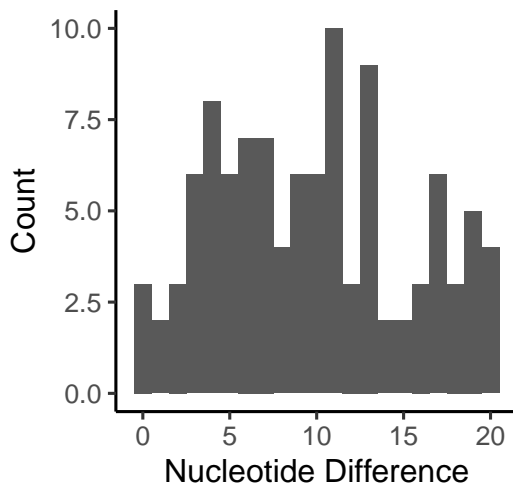
### IGHV1-69\*10

41 sequences assigned  
10 (24.4%) exact matches, in which:  
10 unique CDR3  
4 unique J



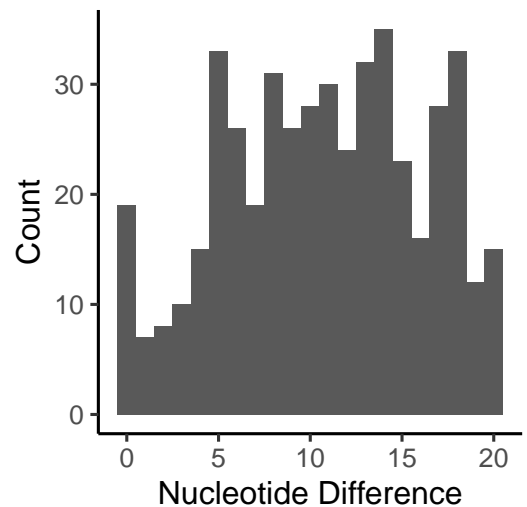
### IGHV2-5\*02

125 sequences assigned  
3 (2.4%) exact matches, in which:  
3 unique CDR3  
3 unique J



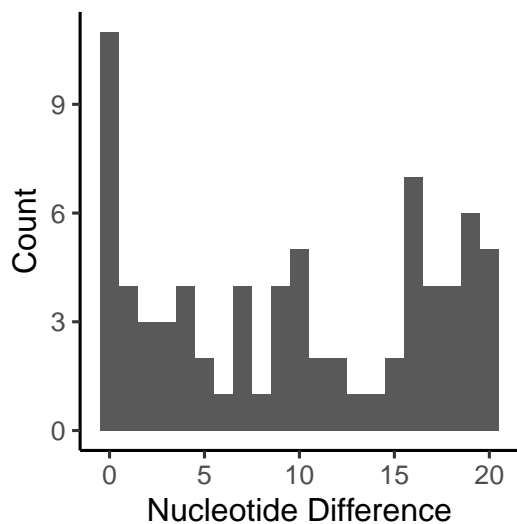
### IGHV3-7\*01

606 sequences assigned  
19 (3.1%) exact matches, in which:  
19 unique CDR3  
4 unique J



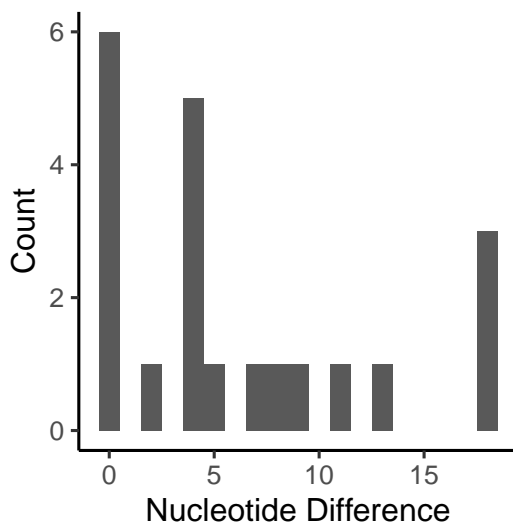
### IGHV1-69\*12

147 sequences assigned  
11 (7.5%) exact matches, in which:  
11 unique CDR3  
4 unique J



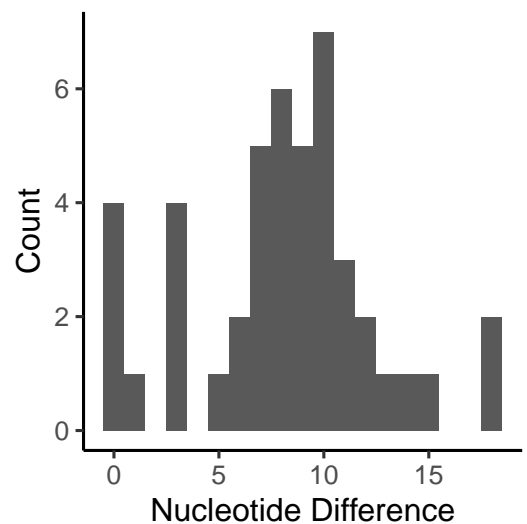
### IGHV2-26\*01

26 sequences assigned  
6 (23.1%) exact matches, in which:  
6 unique CDR3  
2 unique J



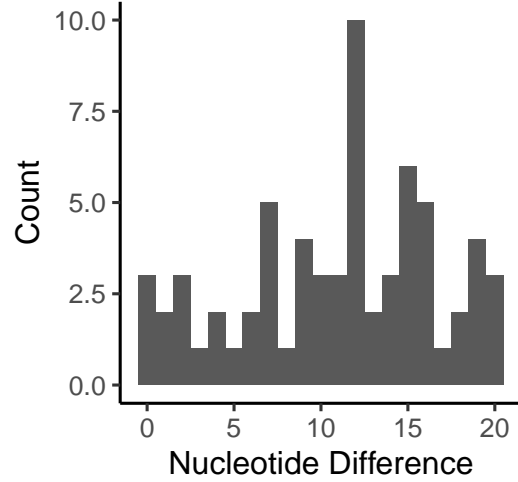
### IGHV3-9\*03

52 sequences assigned  
4 (7.7%) exact matches, in which:  
4 unique CDR3  
2 unique J



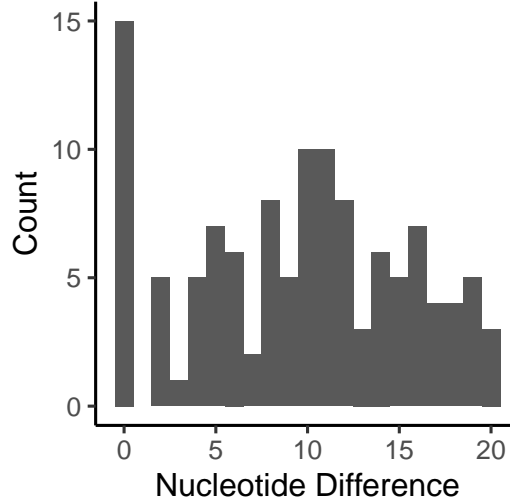
### IGHV3-11\*04

82 sequences assigned  
3 (3.7%) exact matches, in which:  
3 unique CDR3  
2 unique J



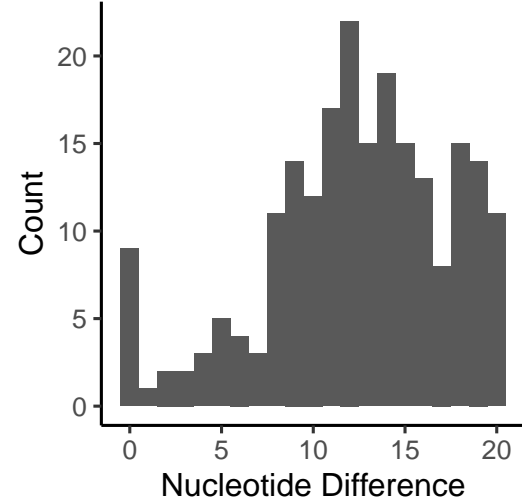
### IGHV3-21\*01

141 sequences assigned  
15 (10.6%) exact matches, in which:  
15 unique CDR3  
4 unique J



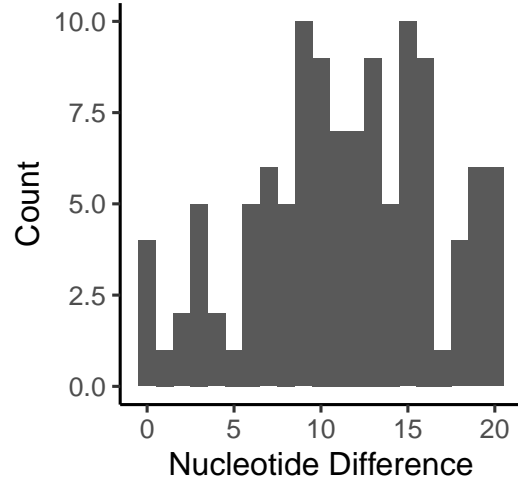
### IGHV3-23\*01

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



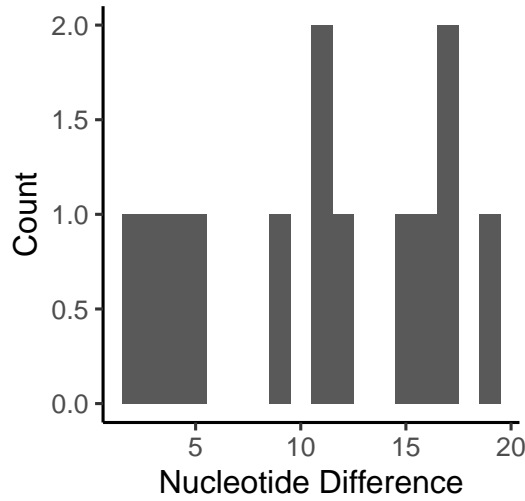
### IGHV3-15\*01

146 sequences assigned  
4 (2.7%) exact matches, in which:  
4 unique CDR3  
2 unique J



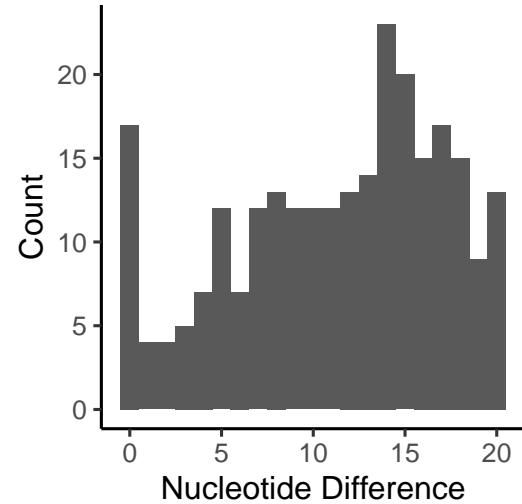
### IGHV3-21\*02

18 sequences assigned  
No exact matches.



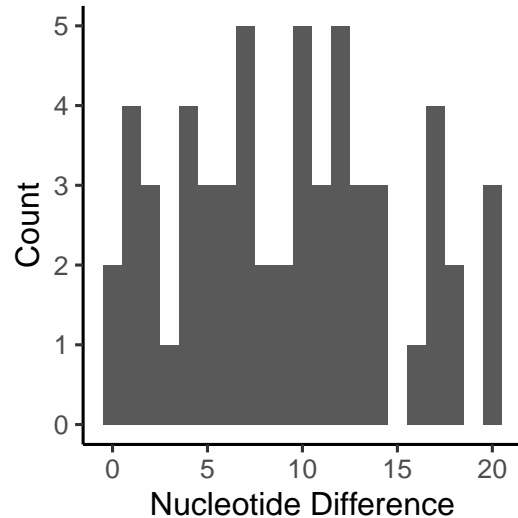
### IGHV3-23\*04

327 sequences assigned  
17 (5.2%) exact matches, in which:  
17 unique CDR3  
4 unique J



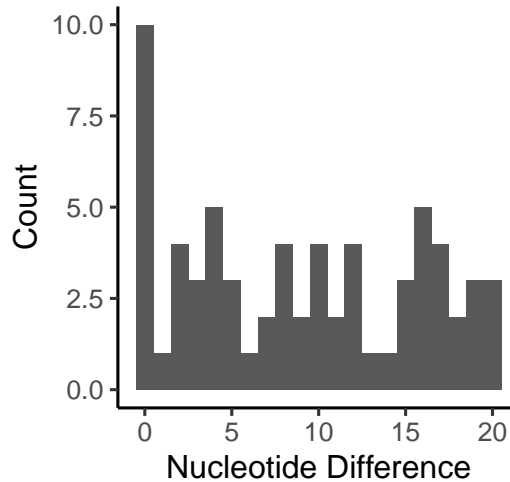
### IGHV3-20\*04

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



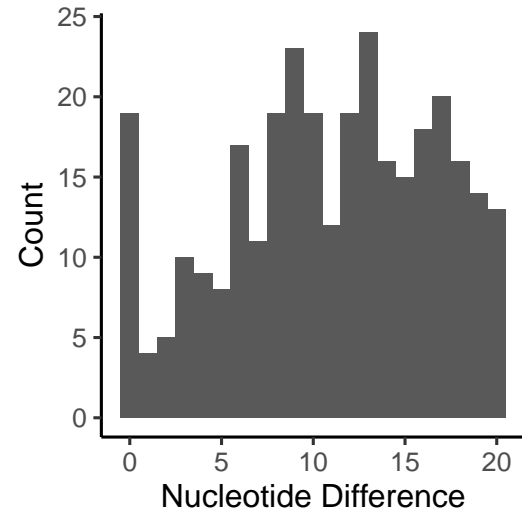
### IGHV3-21\*03

78 sequences assigned  
10 (12.8%) exact matches, in which:  
10 unique CDR3  
4 unique J



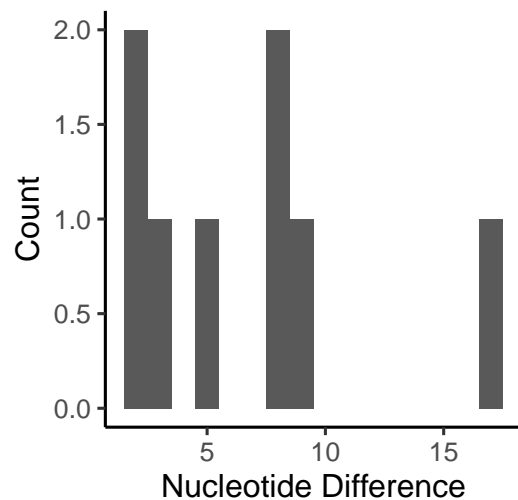
### IGHV3-30\*02

448 sequences assigned  
19 (4.2%) exact matches, in which:  
19 unique CDR3  
4 unique J



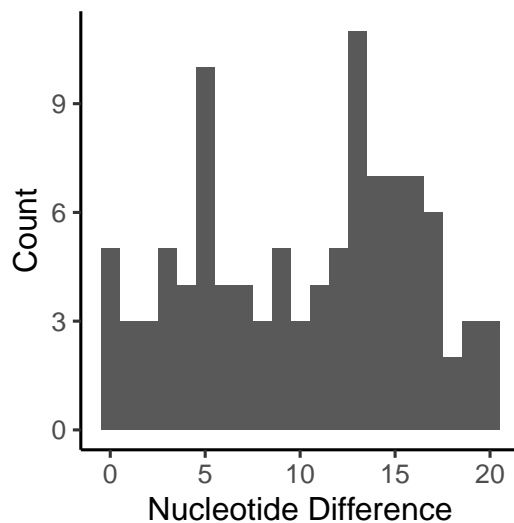
### IGHV3-43\*01

11 sequences assigned  
No exact matches.



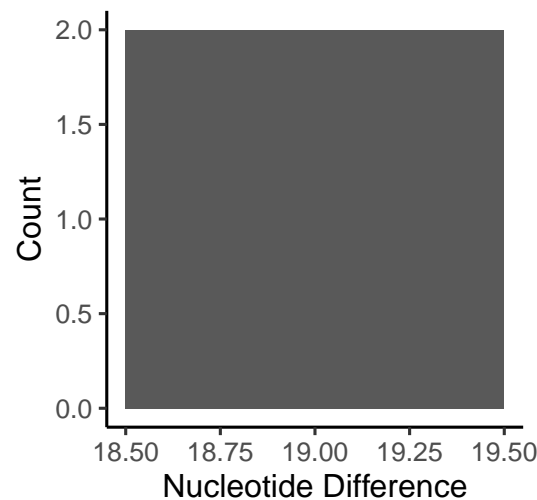
### IGHV3-49\*04

127 sequences assigned  
5 (3.9%) exact matches, in which:  
5 unique CDR3  
2 unique J



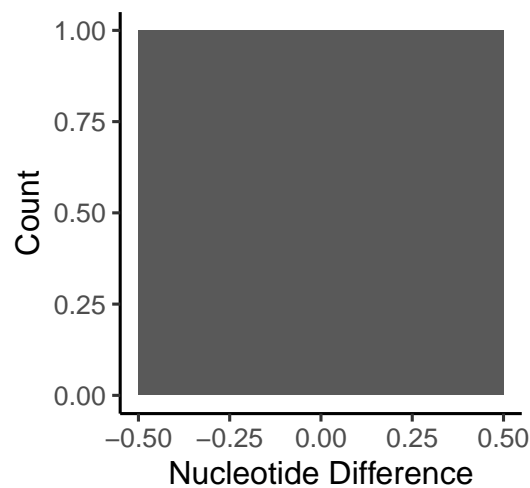
### IGHV3-66\*03

4 sequences assigned  
No exact matches.



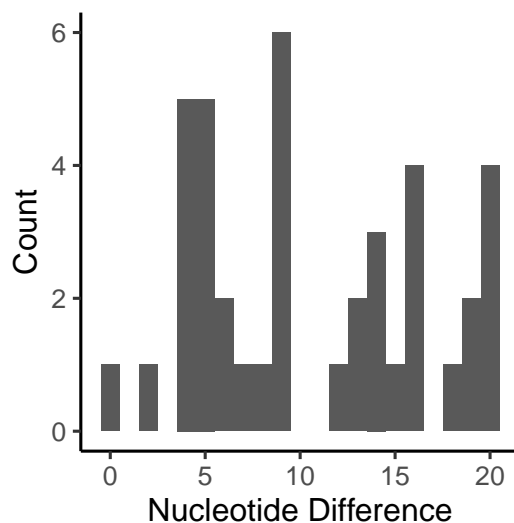
### IGHV3-47\*02

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



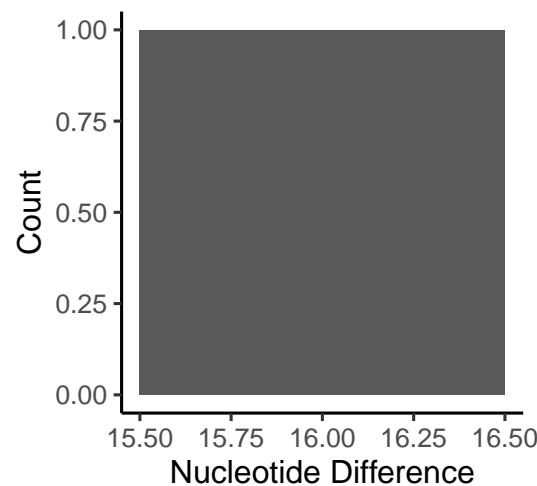
### IGHV3-64\*01

54 sequences assigned  
1 (1.9%) exact matches, in which:  
1 unique CDR3  
1 unique J



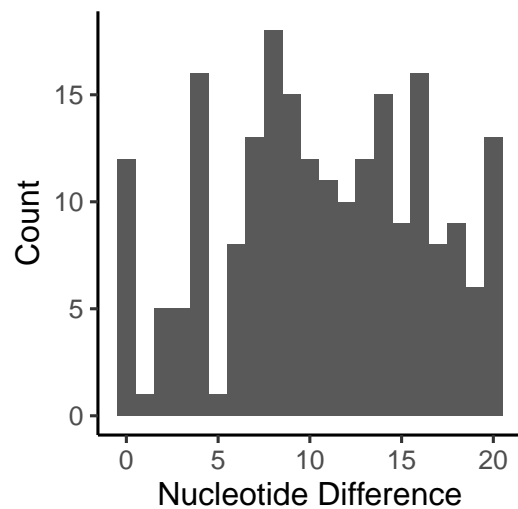
### IGHV3-69-1\*02

1 sequences assigned  
No exact matches.



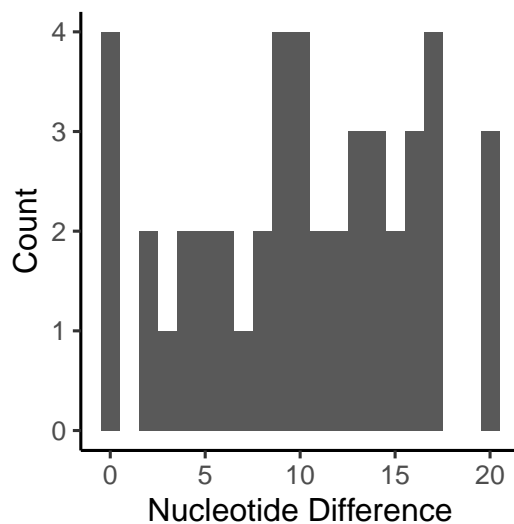
### IGHV3-48\*01

272 sequences assigned  
12 (4.4%) exact matches, in which:  
12 unique CDR3  
4 unique J



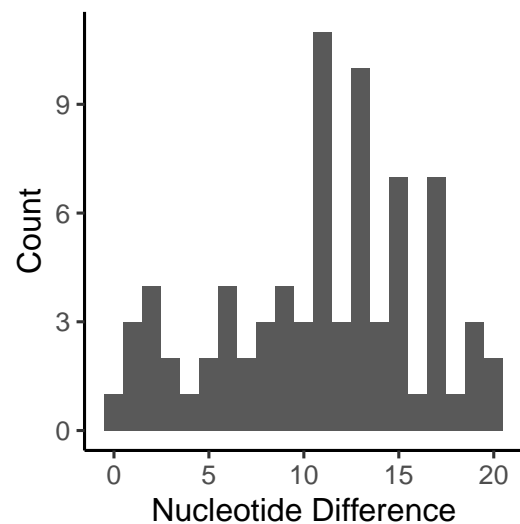
### IGHV3-66\*02

73 sequences assigned  
4 (5.5%) exact matches, in which:  
4 unique CDR3  
2 unique J



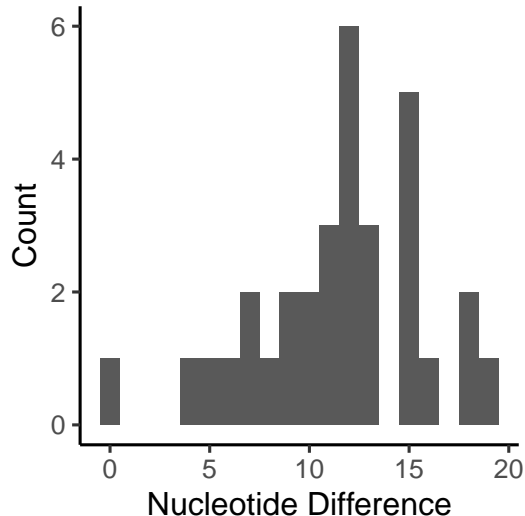
### IGHV3-72\*01

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



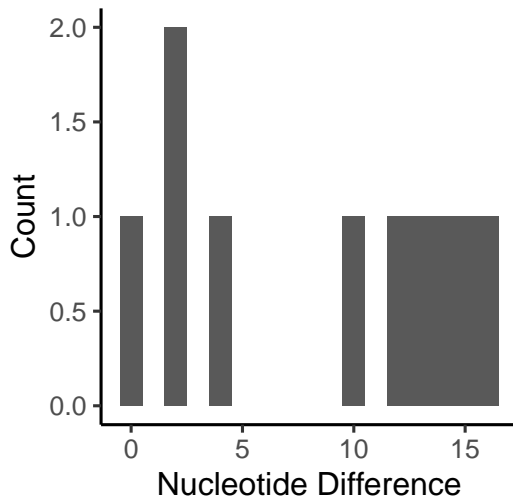
### IGHV3–73\*01

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



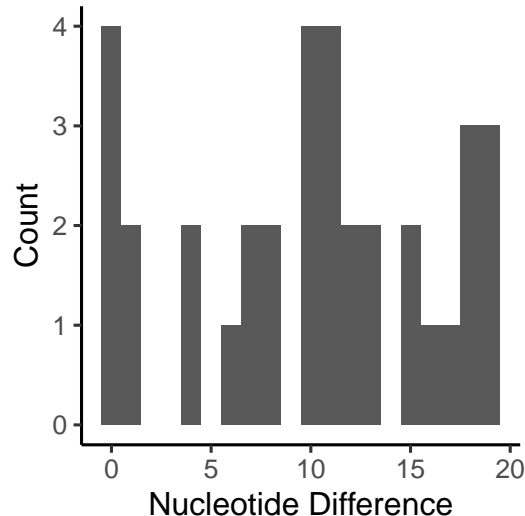
### IGHV3–43D\*03

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



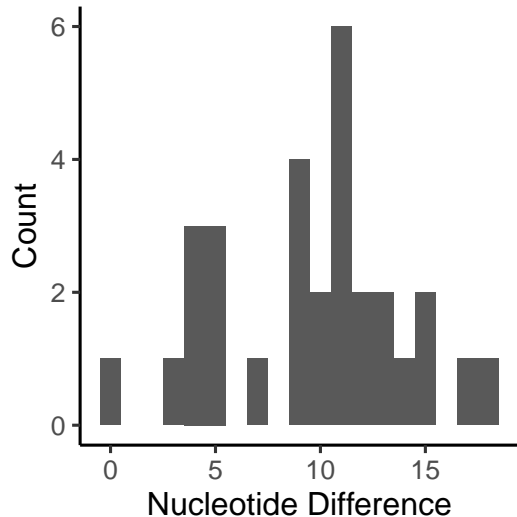
### IGHV4–4\*07

49 sequences assigned  
4 (8.2%) exact matches, in which:  
4 unique CDR3  
3 unique J



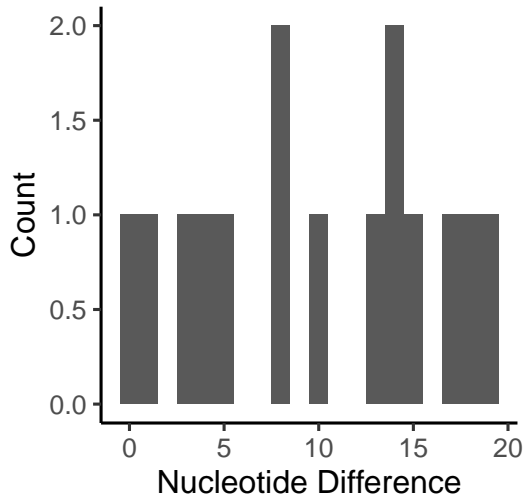
### IGHV3–73\*02

37 sequences assigned  
1 (2.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



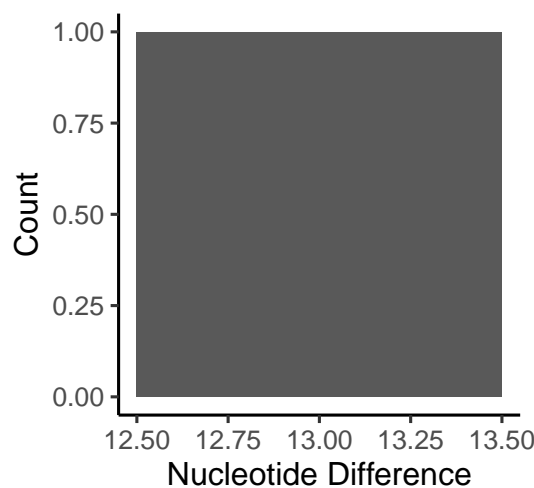
### IGHV3–43D\*04

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



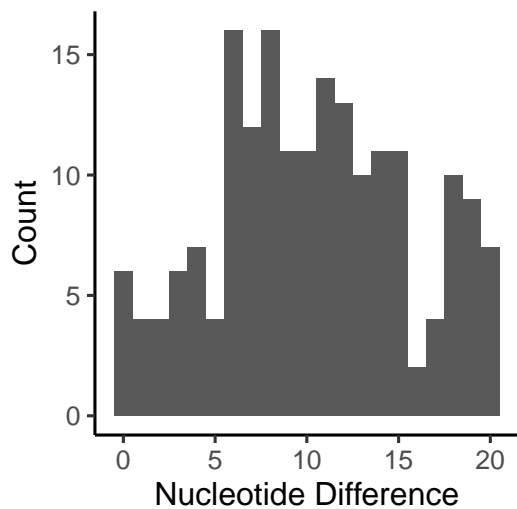
### IGHV4–28\*05

1 sequences assigned  
No exact matches.



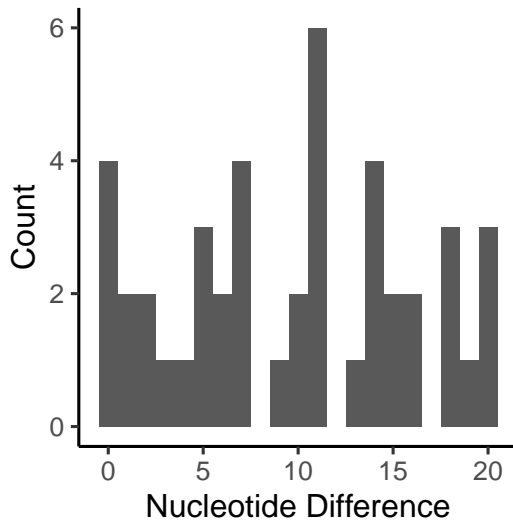
### IGHV3–74\*01

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



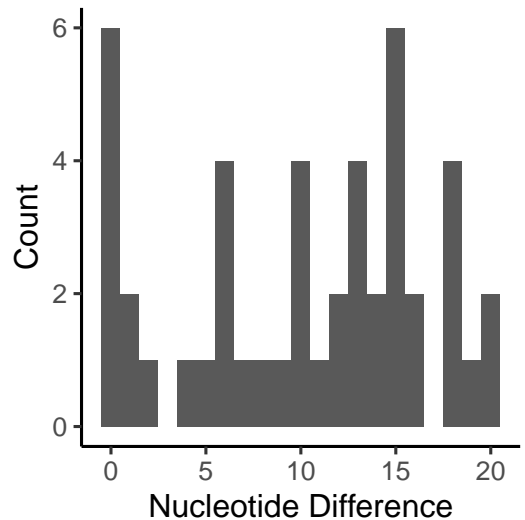
### IGHV4–4\*02

56 sequences assigned  
4 (7.1%) exact matches, in which:  
4 unique CDR3  
1 unique J



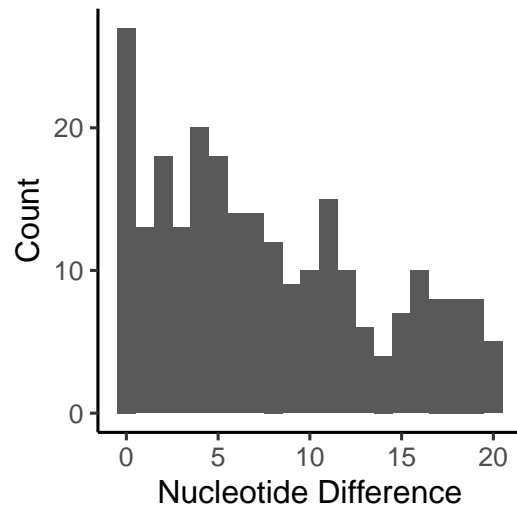
### IGHV4–30–4\*08

65 sequences assigned  
6 (9.2%) exact matches, in which:  
6 unique CDR3  
2 unique J



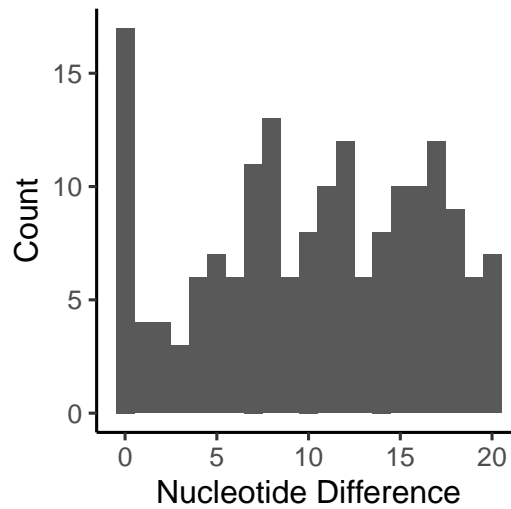
### IGHV4-34\*01

284 sequences assigned  
27 (9.5%) exact matches, in which:  
27 unique CDR3  
4 unique J



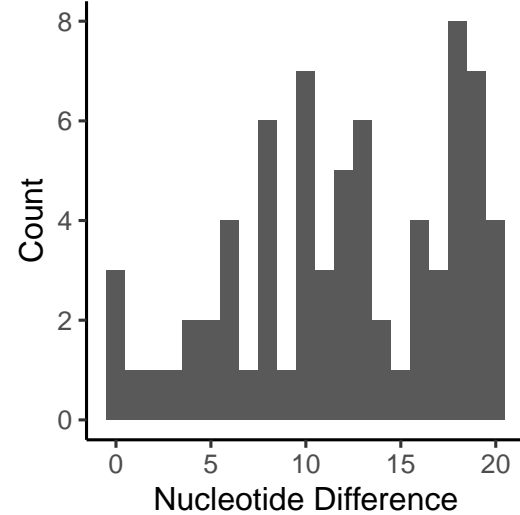
### IGHV4-38-2\*02

243 sequences assigned  
17 (7%) exact matches, in which:  
17 unique CDR3  
4 unique J



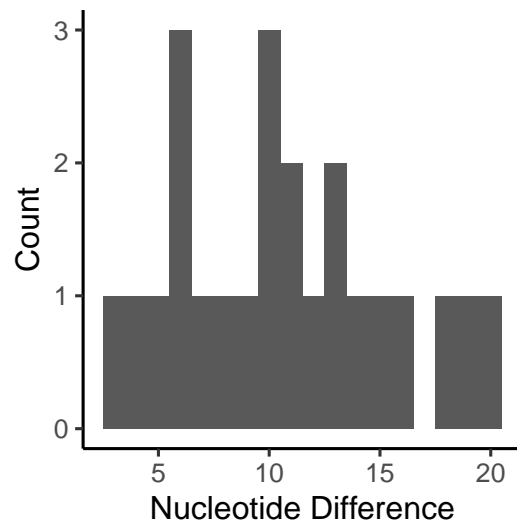
### IGHV4-59\*08

89 sequences assigned  
3 (3.4%) exact matches, in which:  
3 unique CDR3  
2 unique J



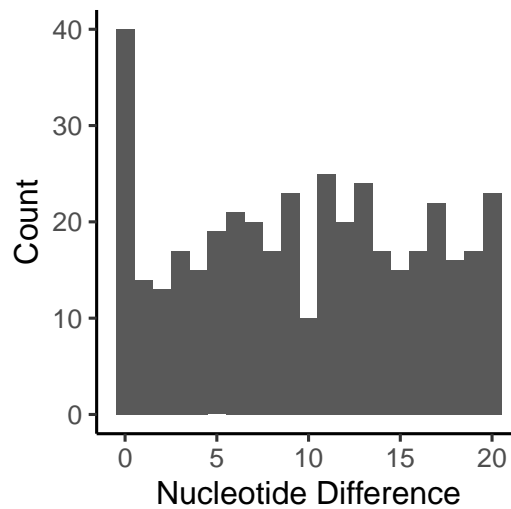
### IGHV4-34\*02

42 sequences assigned  
No exact matches.



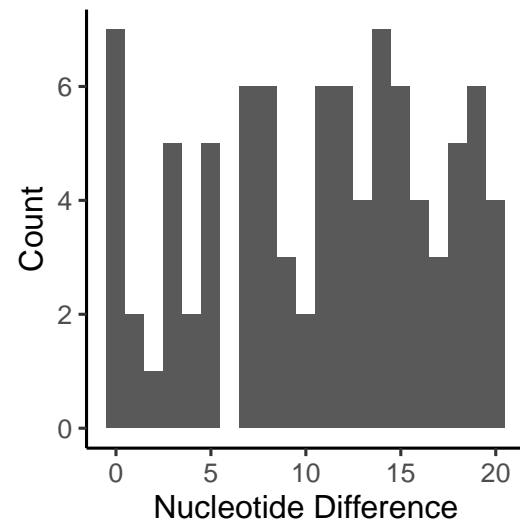
### IGHV4-39\*01

594 sequences assigned  
40 (6.7%) exact matches, in which:  
40 unique CDR3  
5 unique J



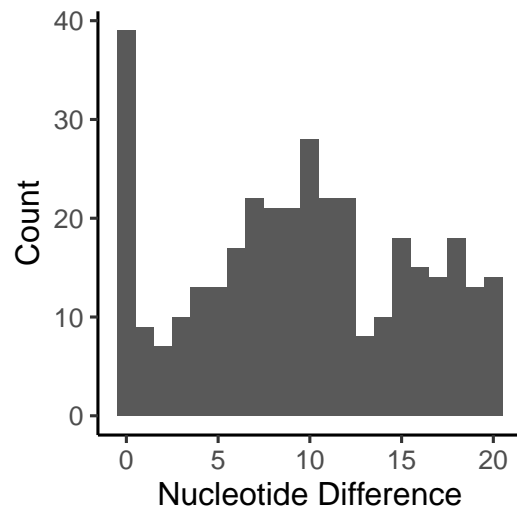
### IGHV4-61\*02

120 sequences assigned  
7 (5.8%) exact matches, in which:  
7 unique CDR3  
3 unique J



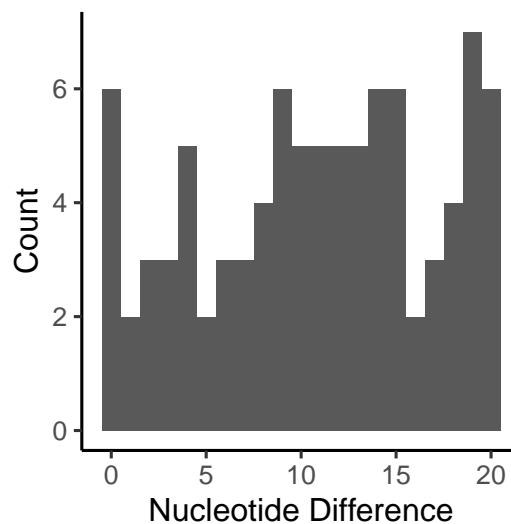
### IGHV4-38-2\*01

457 sequences assigned  
39 (8.5%) exact matches, in which:  
38 unique CDR3  
5 unique J



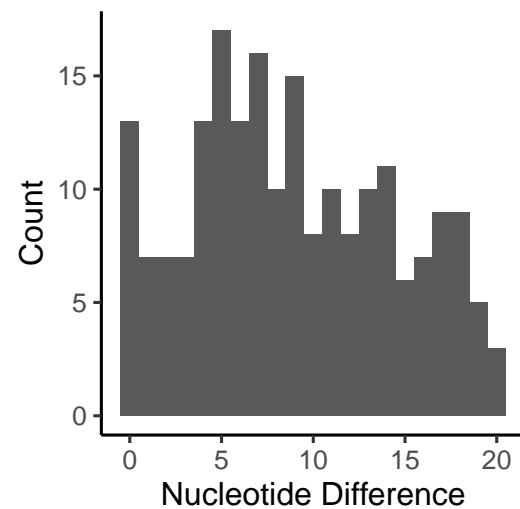
### IGHV4-59\*01

135 sequences assigned  
6 (4.4%) exact matches, in which:  
6 unique CDR3  
4 unique J



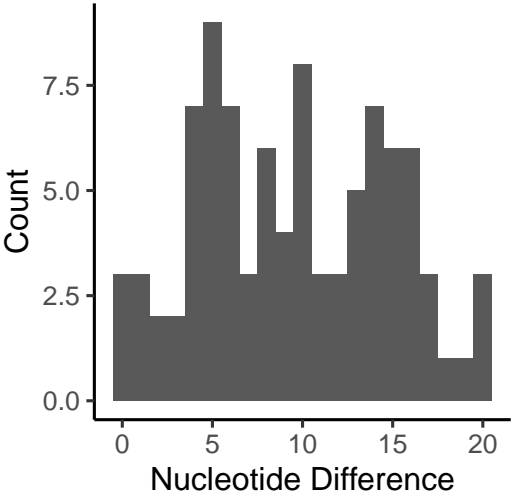
### IGHV5-51\*01

253 sequences assigned  
13 (5.1%) exact matches, in which:  
13 unique CDR3  
4 unique J



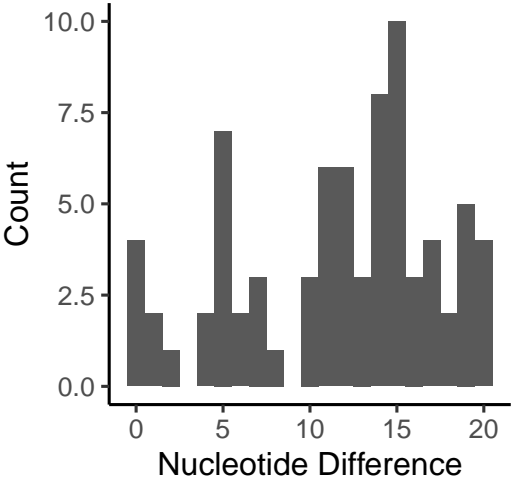
IGHV6-1\*01

96 sequences assigned  
3 (3.1%) exact matches, in which:  
3 unique CDR3  
3 unique J



IGHV7-4-1\*02

92 sequences assigned  
4 (4.3%) exact matches, in which:  
4 unique CDR3  
3 unique J



Allele Usage





Warning – no inferred sequences found.