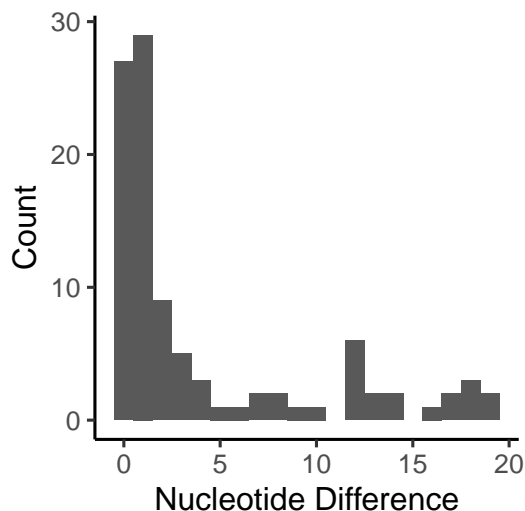


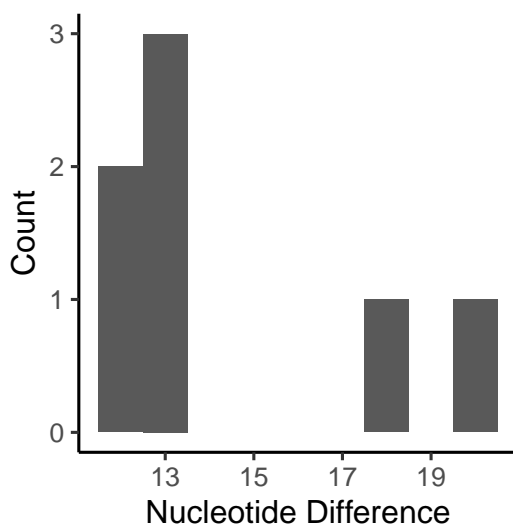
### IGHV1-2\*02

101 sequences assigned  
27 (26.7%) exact matches, in which:  
25 unique CDR3  
4 unique J



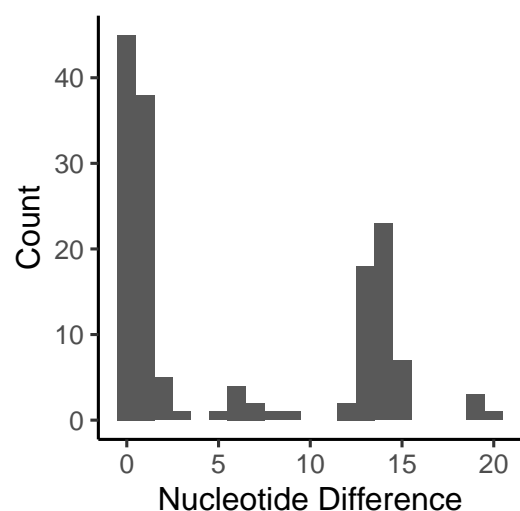
### IGHV1-3\*04

7 sequences assigned  
No exact matches.



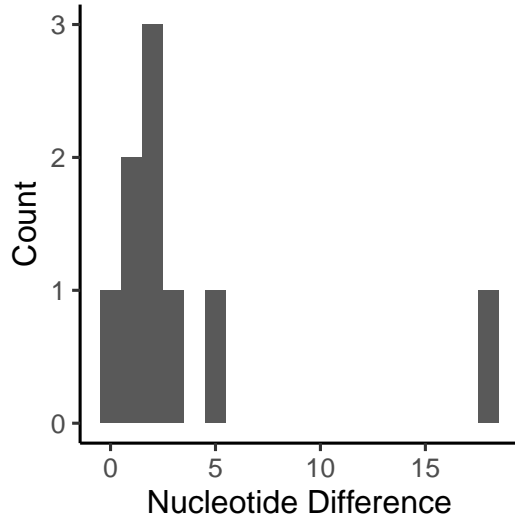
### IGHV1-18\*01

159 sequences assigned  
45 (28.3%) exact matches, in which:  
42 unique CDR3  
4 unique J



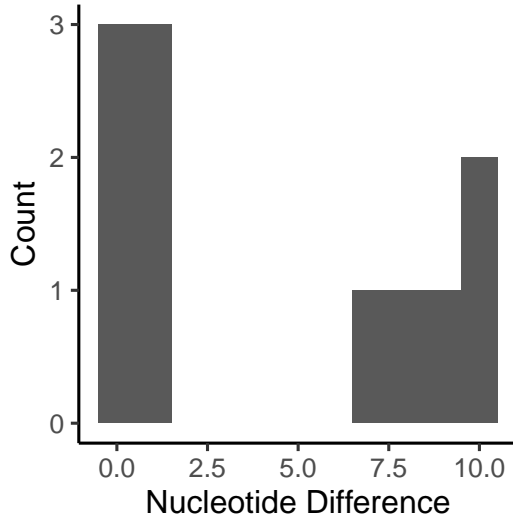
### IGHV1-2\*06

9 sequences assigned  
1 (11.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



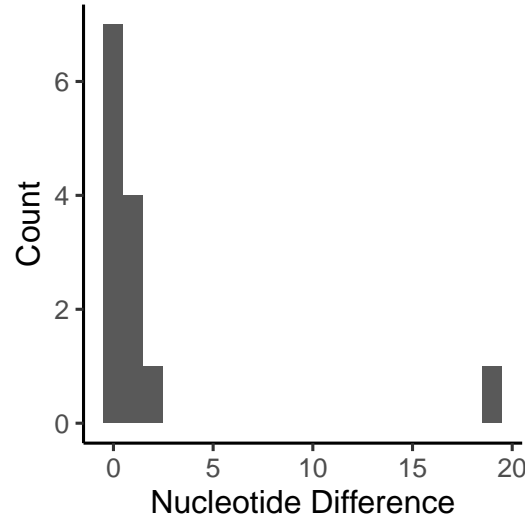
### IGHV1-3\*01\_05

11 sequences assigned  
3 (27.3%) exact matches, in which:  
3 unique CDR3  
3 unique J



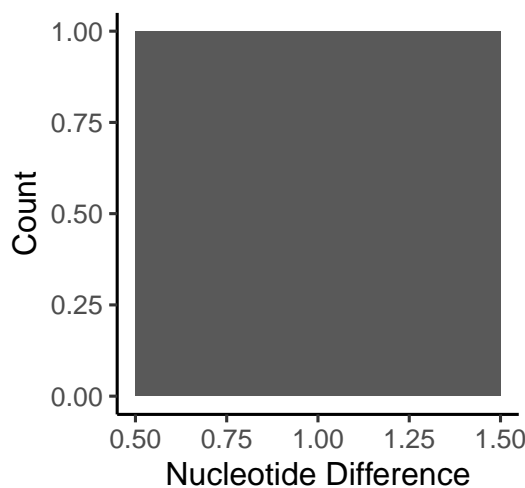
### IGHV1-24\*01

13 sequences assigned  
7 (53.8%) exact matches, in which:  
7 unique CDR3  
2 unique J



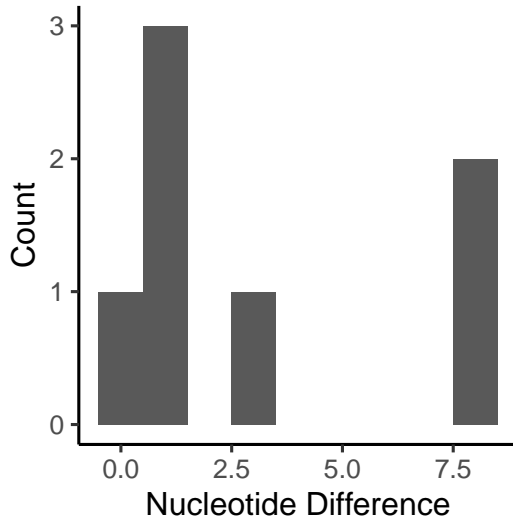
### IGHV1-3\*02

1 sequences assigned  
No exact matches.



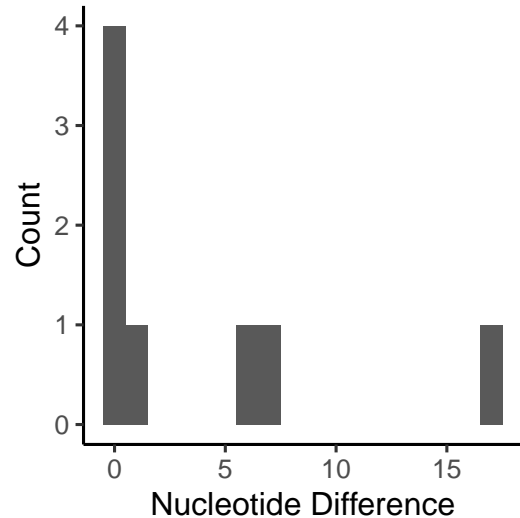
### IGHV1-8\*01

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



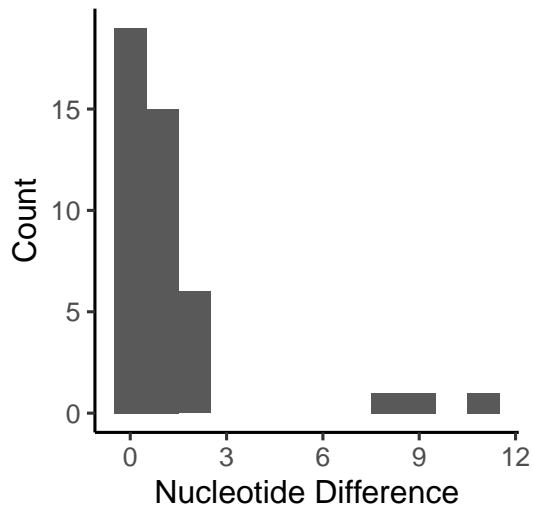
### IGHV1-46\*01

8 sequences assigned  
4 (50%) exact matches, in which:  
4 unique CDR3  
3 unique J



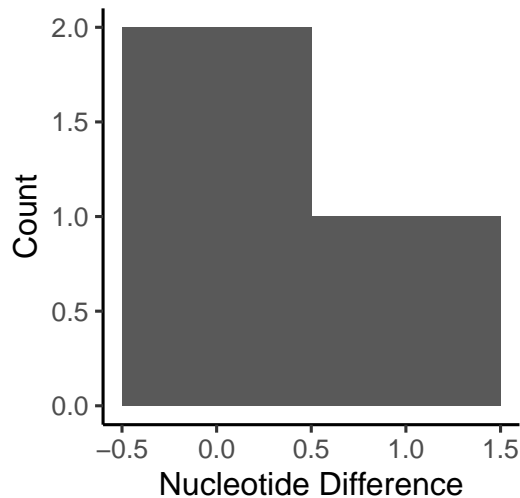
### IGHV1-46\*03

43 sequences assigned  
19 (44.2%) exact matches, in which:  
17 unique CDR3  
4 unique J



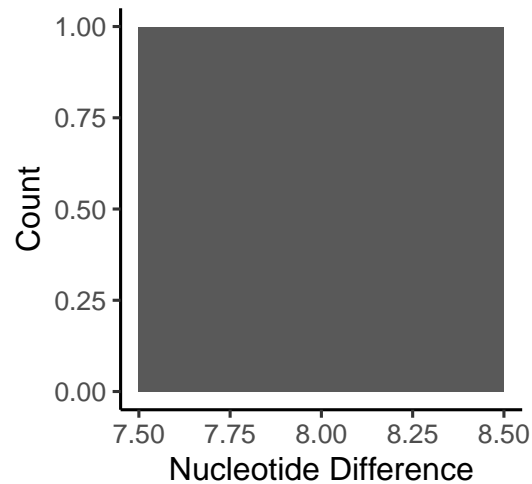
### IGHV1-69-2\*01

3 sequences assigned  
2 (66.7%) exact matches, in which:  
2 unique CDR3  
1 unique J



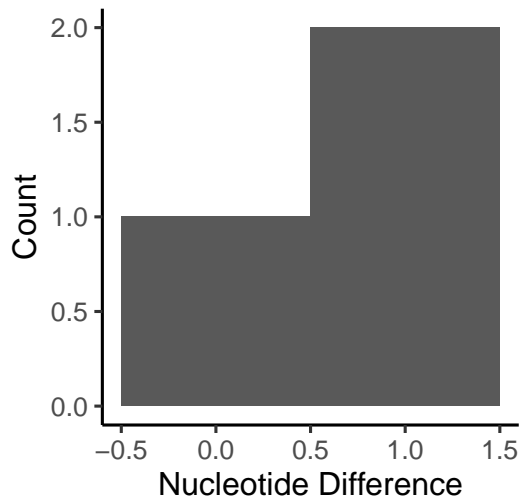
### IGHV1-NL1\*01

1 sequences assigned  
No exact matches.



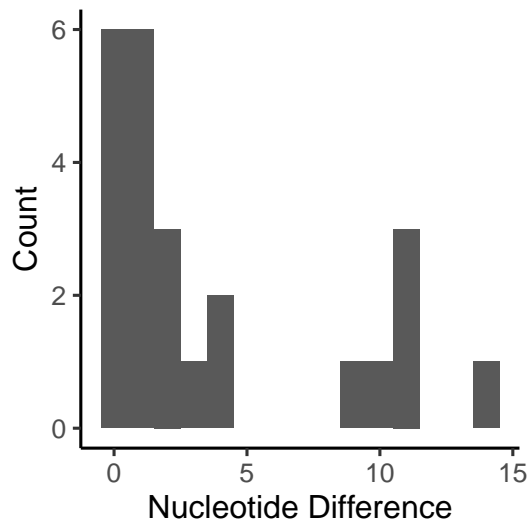
### IGHV1-58\*02

3 sequences assigned  
1 (33.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



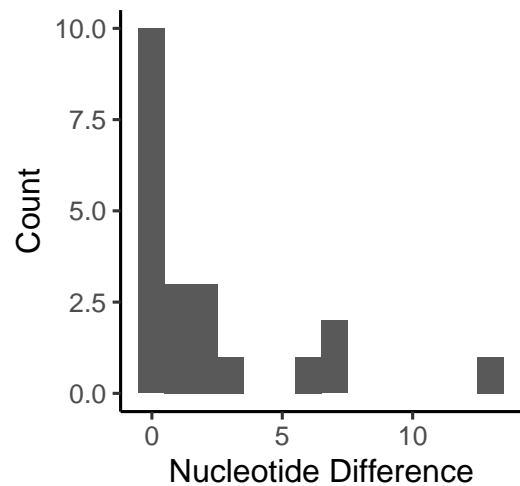
### IGHV1-69\*02

24 sequences assigned  
6 (25%) exact matches, in which:  
6 unique CDR3  
3 unique J



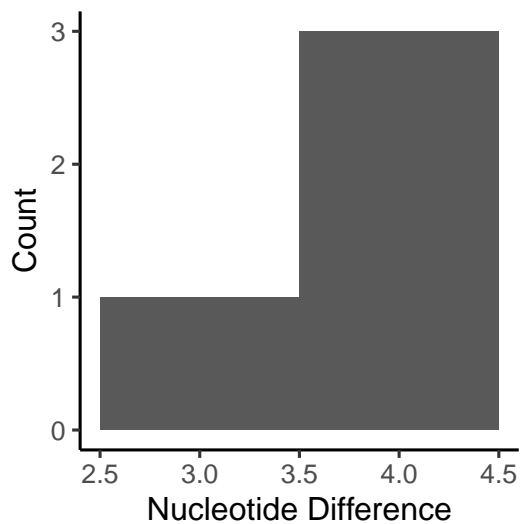
### IGHV2-5\*02

21 sequences assigned  
10 (47.6%) exact matches, in which:  
9 unique CDR3  
3 unique J



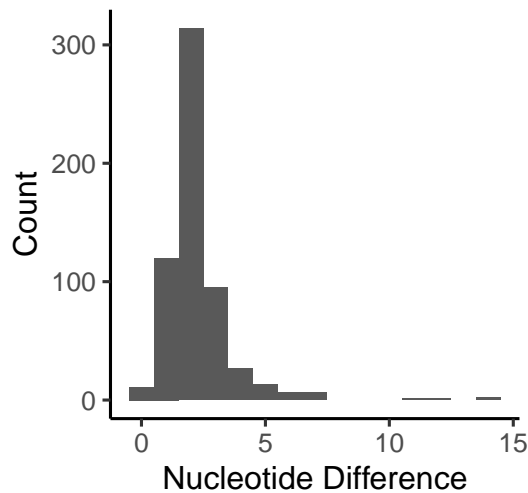
### IGHV1-58\*01\_03

4 sequences assigned  
No exact matches.



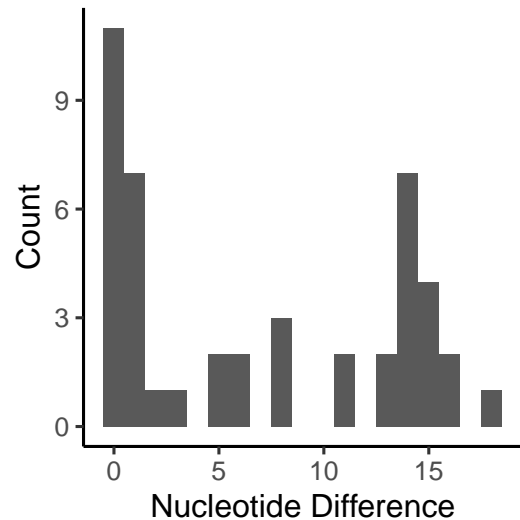
### IGHV1-69\*04\_09

596 sequences assigned  
11 (1.8%) exact matches, in which:  
11 unique CDR3  
4 unique J



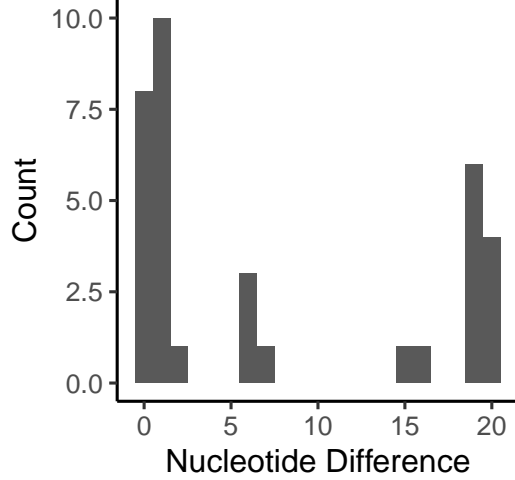
### IGHV3-7\*01

45 sequences assigned  
11 (24.4%) exact matches, in which:  
9 unique CDR3  
3 unique J



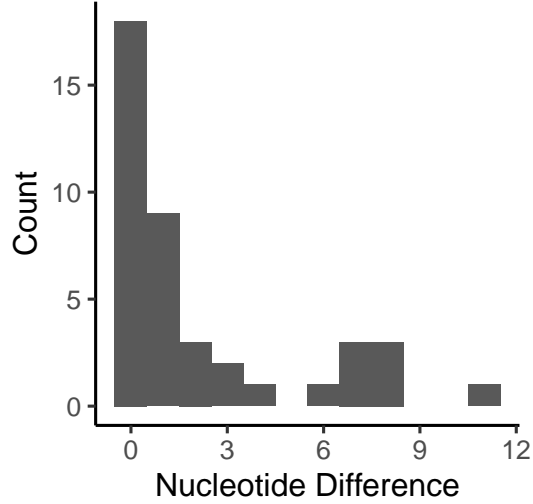
### IGHV3-7\*03

96 sequences assigned  
8 (8.3%) exact matches, in which:  
7 unique CDR3  
2 unique J



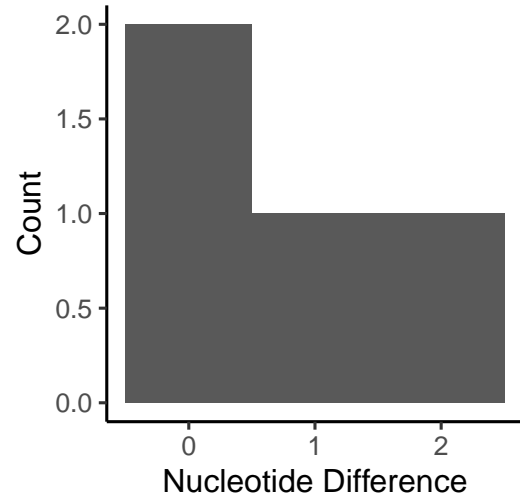
### IGHV3-11\*01

42 sequences assigned  
18 (42.9%) exact matches, in which:  
10 unique CDR3  
3 unique J



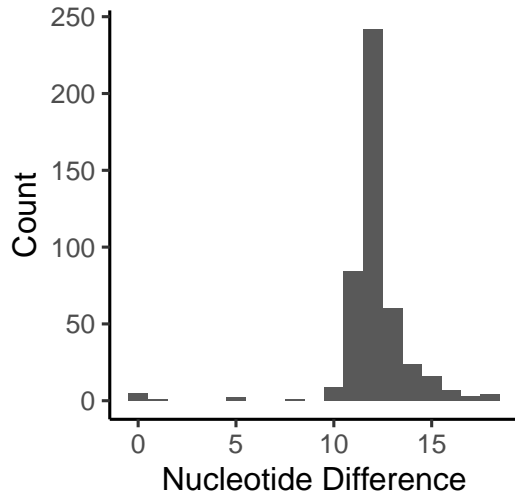
### IGHV3-13\*01

4 sequences assigned  
2 (50%) exact matches, in which:  
2 unique CDR3  
1 unique J



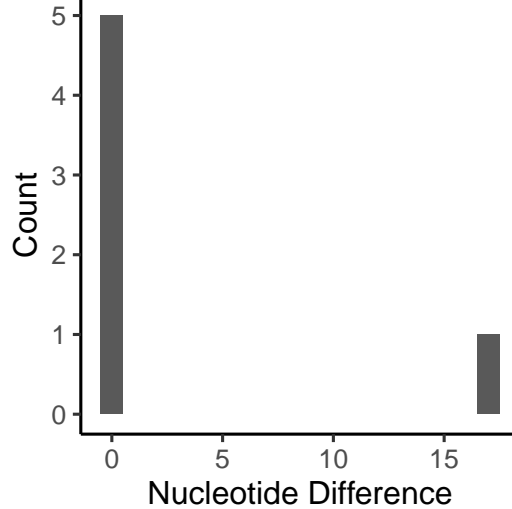
### IGHV3-7\*04

459 sequences assigned  
5 (1.1%) exact matches, in which:  
3 unique CDR3  
2 unique J



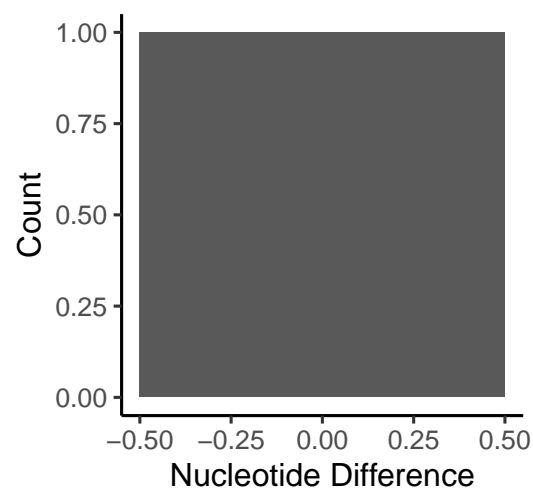
### IGHV3-11\*04

6 sequences assigned  
5 (83.3%) exact matches, in which:  
4 unique CDR3  
2 unique J



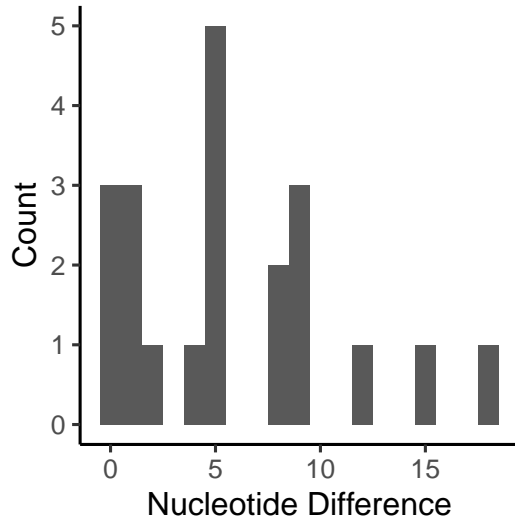
### IGHV3-13\*05

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



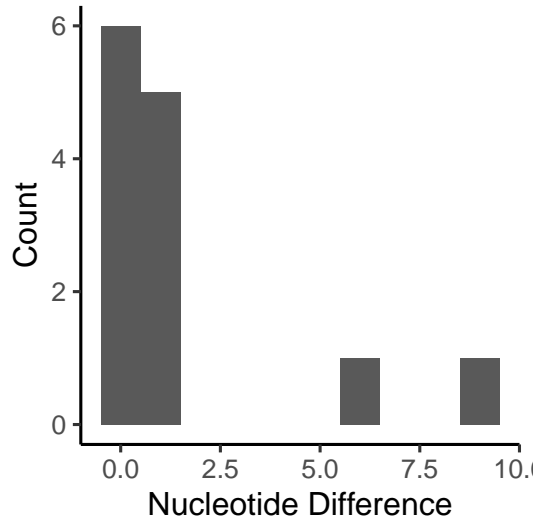
### IGHV3-9\*01

22 sequences assigned  
3 (13.6%) exact matches, in which:  
2 unique CDR3  
2 unique J



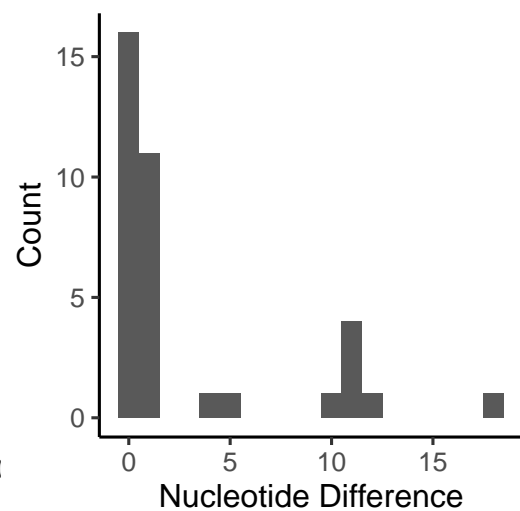
### IGHV3-11\*06

13 sequences assigned  
6 (46.2%) exact matches, in which:  
5 unique CDR3  
2 unique J



### IGHV3-15\*01\_02

40 sequences assigned  
16 (40%) exact matches, in which:  
12 unique CDR3  
3 unique J



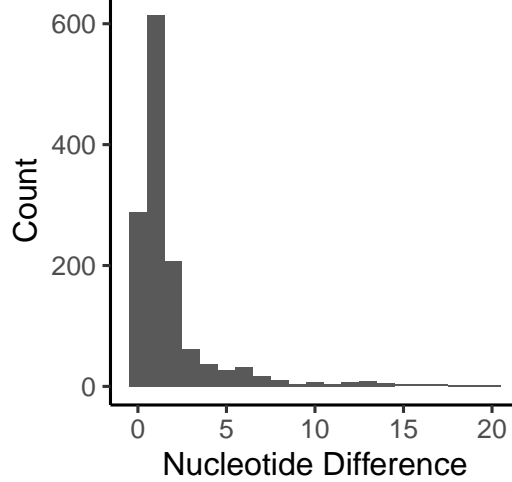
### IGHV3-19\*01

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



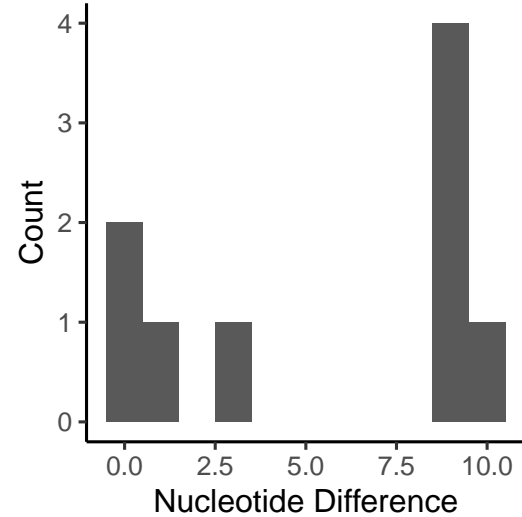
### IGHV3-23\*01\_04

1543 sequences assigned  
288 (18.7%) exact matches, in which:  
142 unique CDR3  
6 unique J



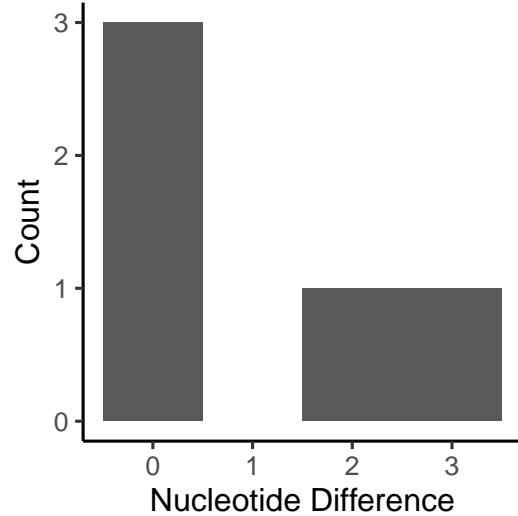
### IGHV3-30\*03

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



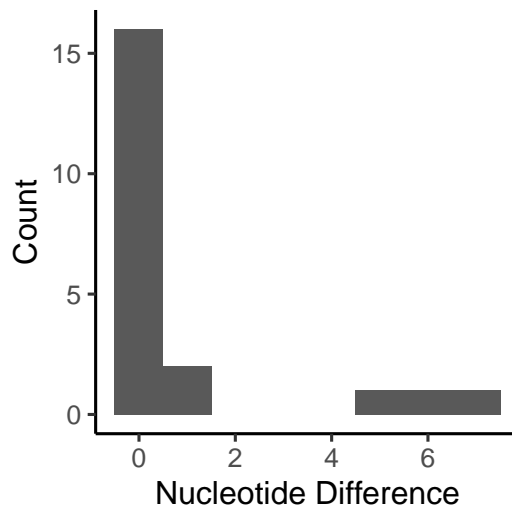
### IGHV3-20\*01\_02

5 sequences assigned  
3 (60%) exact matches, in which:  
2 unique CDR3  
2 unique J



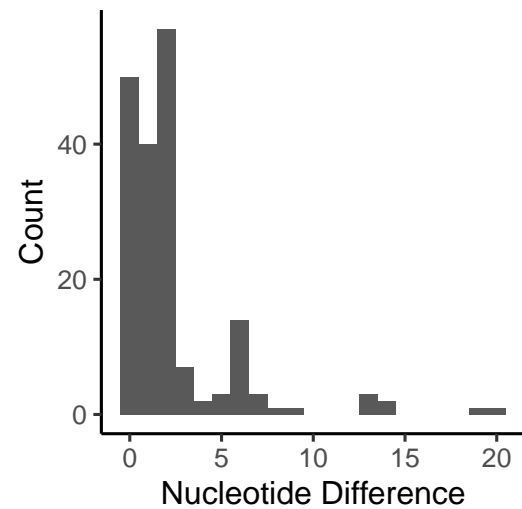
### IGHV3-30-3\*01

22 sequences assigned  
16 (72.7%) exact matches, in which:  
11 unique CDR3  
4 unique J



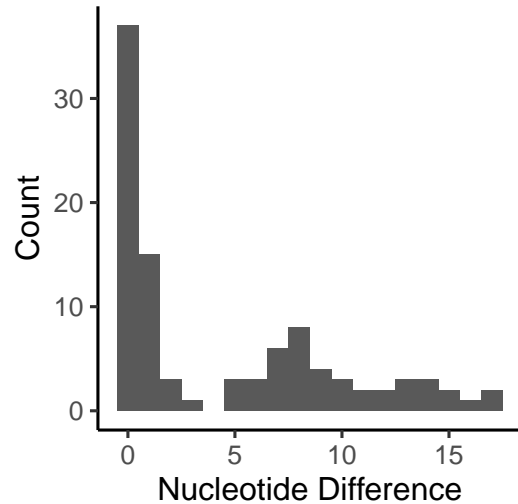
### IGHV3-33\*01

191 sequences assigned  
50 (26.2%) exact matches, in which:  
35 unique CDR3  
4 unique J



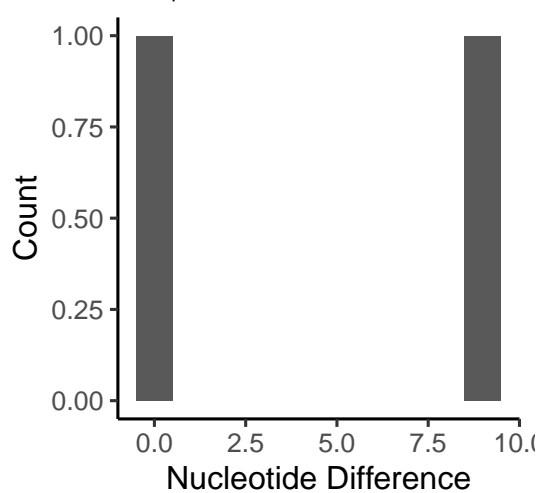
### IGHV3-21\*01\_02

101 sequences assigned  
37 (36.6%) exact matches, in which:  
23 unique CDR3  
4 unique J



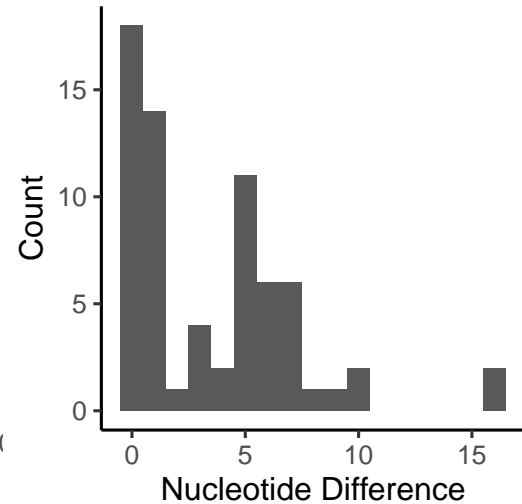
### IGHV3-30-3\*02

2 sequences assigned  
1 (50%) exact matches, in which:  
1 unique CDR3  
1 unique J



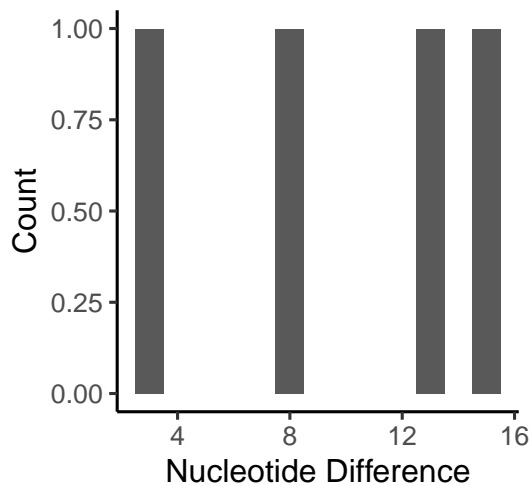
### IGHV3-48\*01

69 sequences assigned  
18 (26.1%) exact matches, in which:  
13 unique CDR3  
5 unique J



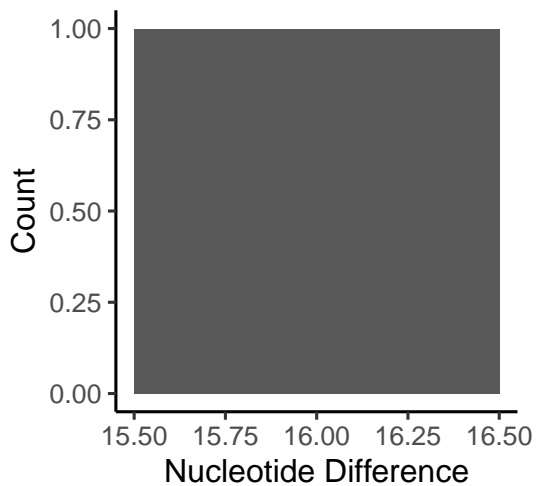
### IGHV3-48\*04

5 sequences assigned  
No exact matches.



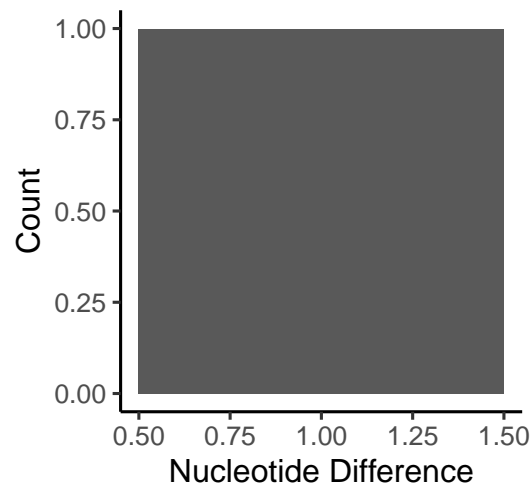
### IGHV3-53\*05

1 sequences assigned  
No exact matches.



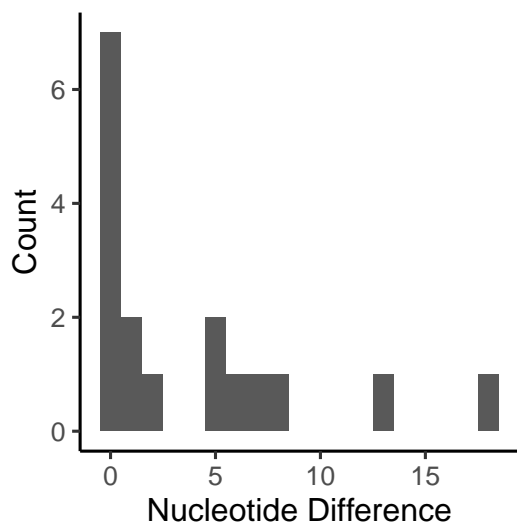
### IGHV3-66\*01

2 sequences assigned  
No exact matches.



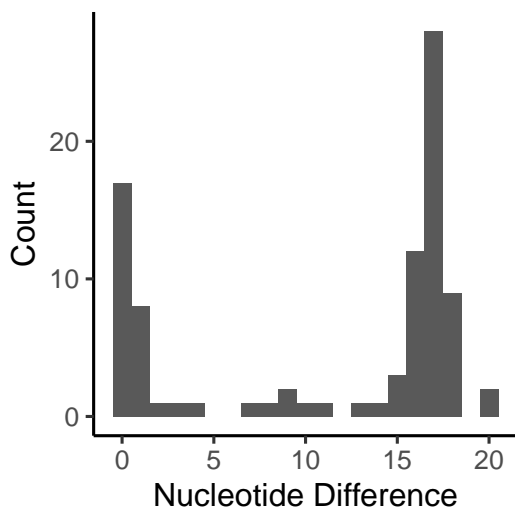
### IGHV3-49\*03\_05

17 sequences assigned  
7 (41.2%) exact matches, in which:  
5 unique CDR3  
2 unique J



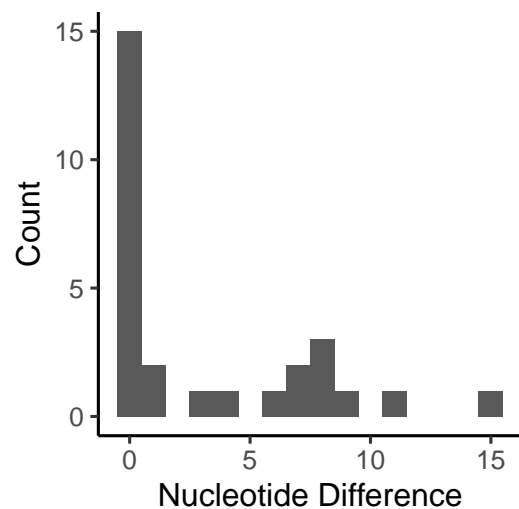
### IGHV3-53\*01\_02

93 sequences assigned  
17 (18.3%) exact matches, in which:  
11 unique CDR3  
4 unique J



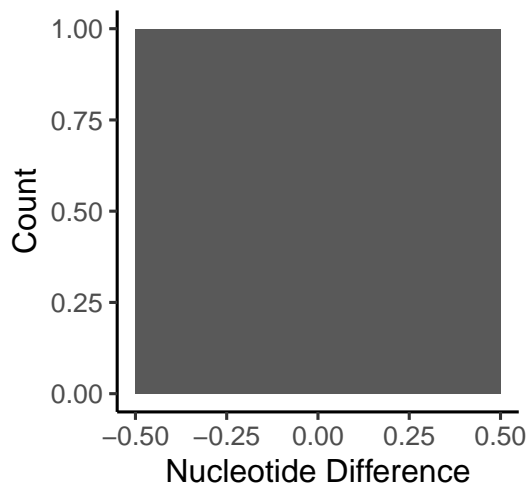
### IGHV3-66\*02

28 sequences assigned  
15 (53.6%) exact matches, in which:  
10 unique CDR3  
2 unique J



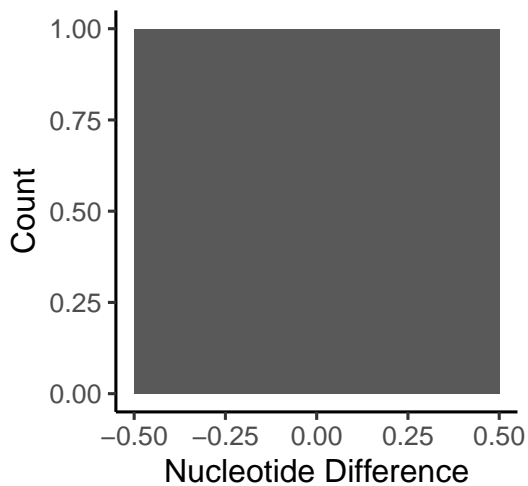
### IGHV3-52\*02

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



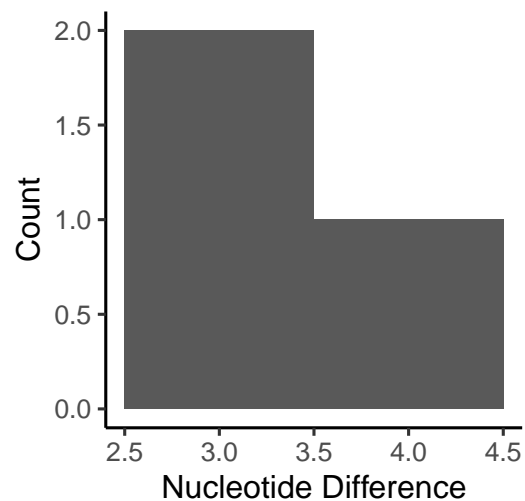
### IGHV3-64\*01

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



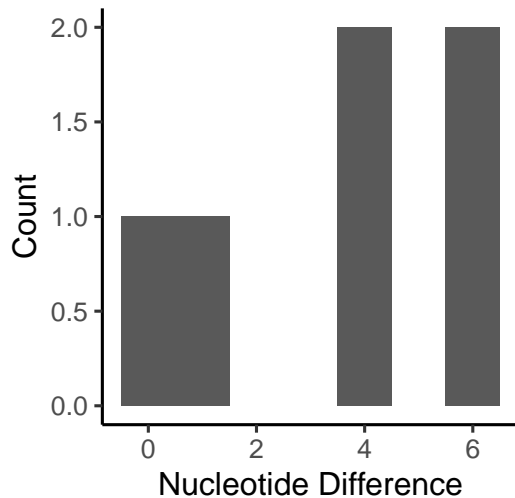
### IGHV3-69-1\*01

3 sequences assigned  
No exact matches.



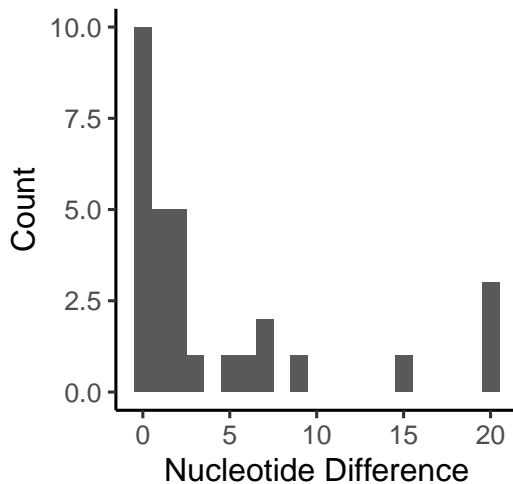
### IGHV3-72\*01

6 sequences assigned  
1 (16.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



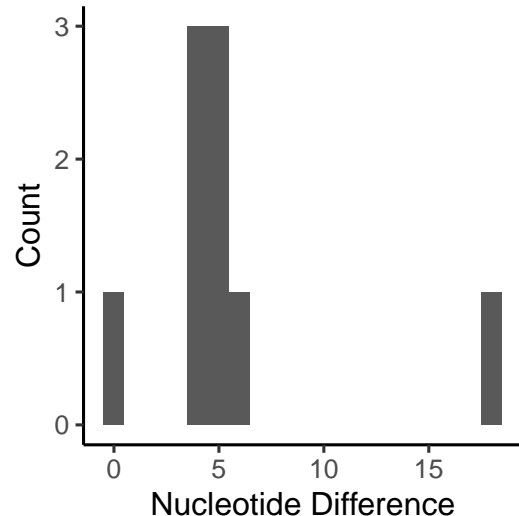
### IGHV3-74\*01\_02

34 sequences assigned  
10 (29.4%) exact matches, in which:  
8 unique CDR3  
3 unique J



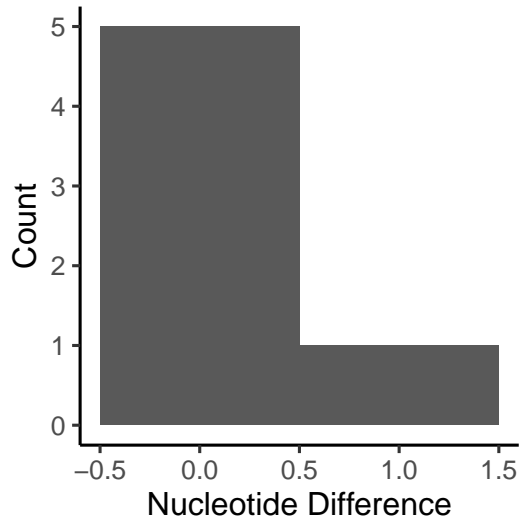
### IGHV4-30-4\*01

9 sequences assigned  
1 (11.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



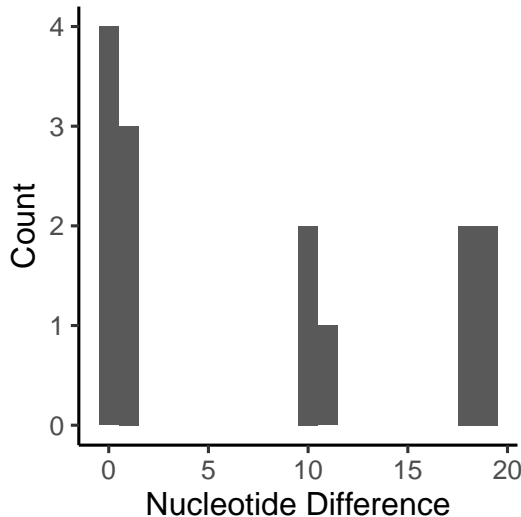
### IGHV3-73\*01\_02

6 sequences assigned  
5 (83.3%) exact matches, in which:  
3 unique CDR3  
2 unique J



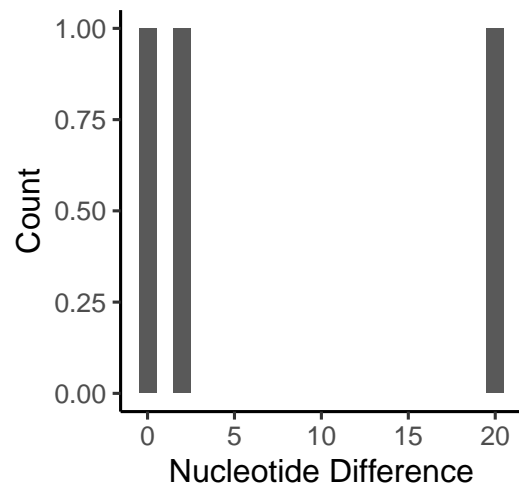
### IGHV3-64D\*09

14 sequences assigned  
4 (28.6%) exact matches, in which:  
4 unique CDR3  
2 unique J



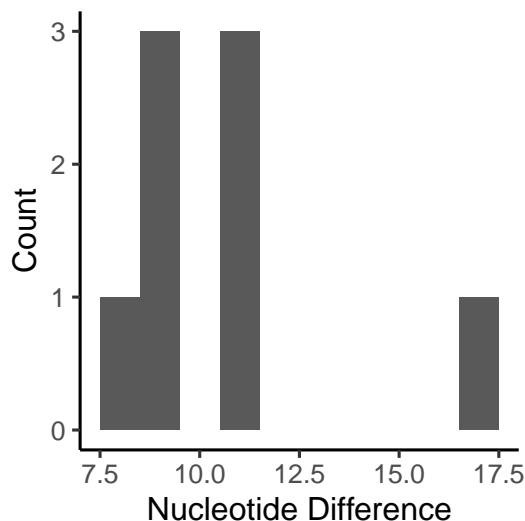
### IGHV4-30-2\*01

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



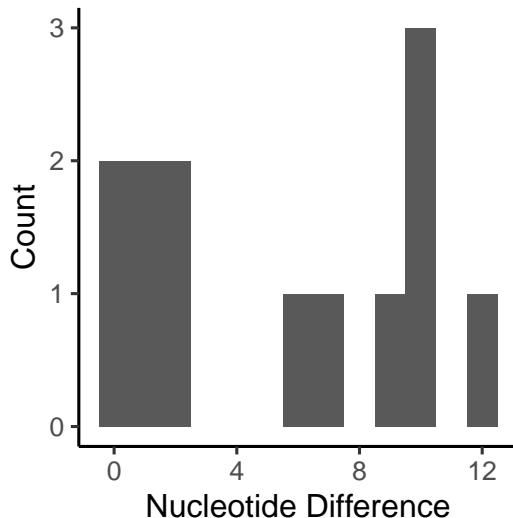
### IGHV3-74\*03

8 sequences assigned  
No exact matches.



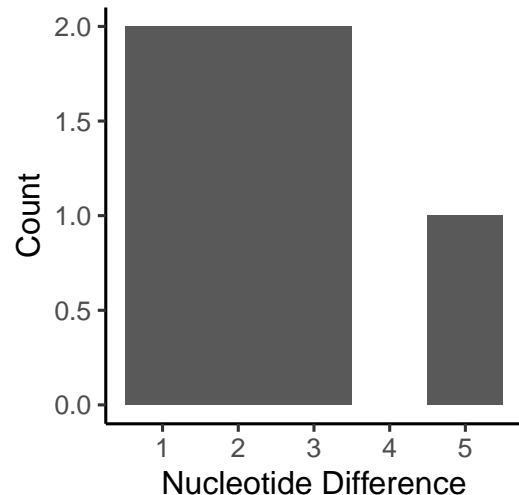
### IGHV4-4\*07

21 sequences assigned  
2 (9.5%) exact matches, in which:  
2 unique CDR3  
0 unique J



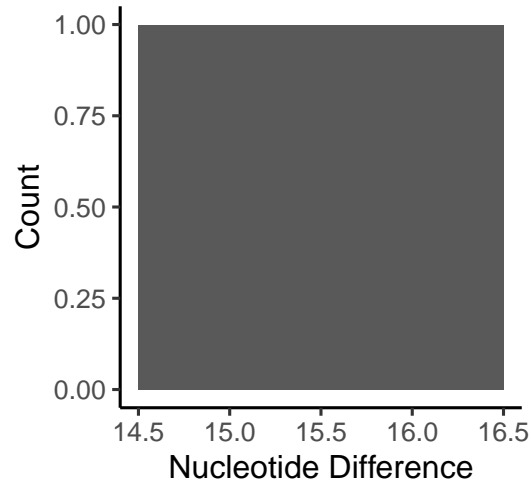
### IGHV4-30-2\*03

7 sequences assigned  
No exact matches.



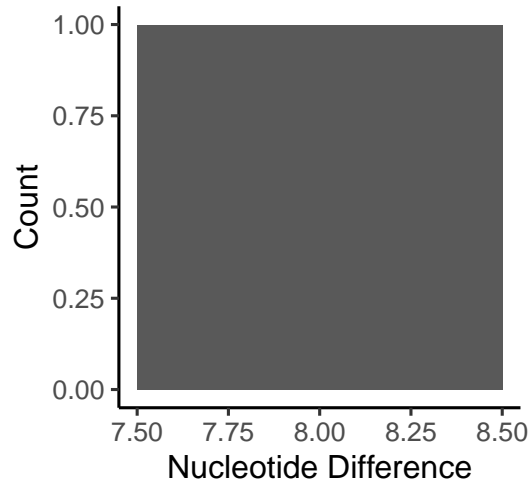
### IGHV4-30-2\*06

2 sequences assigned  
No exact matches.



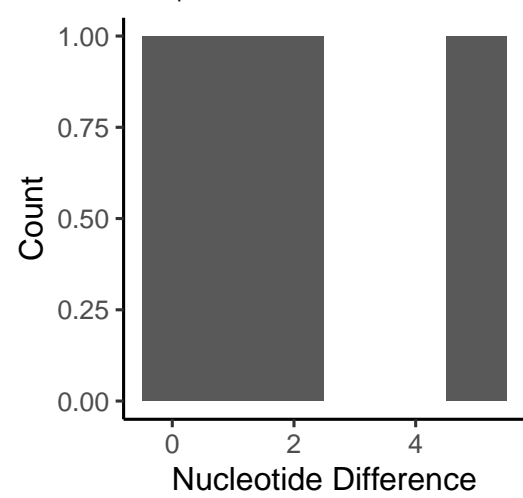
### IGHV4-39\*02

1 sequences assigned  
No exact matches.



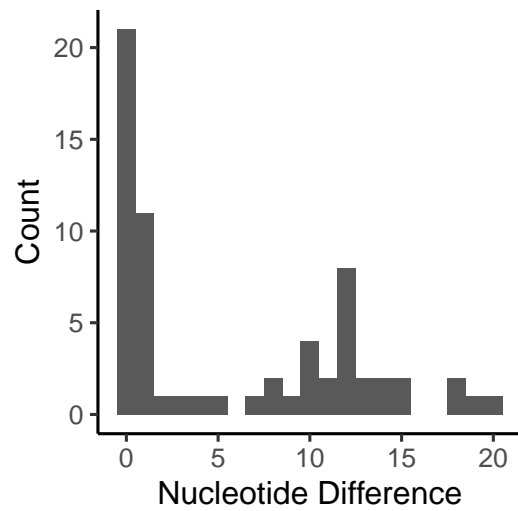
### IGHV4-59\*08

5 sequences assigned  
1 (20%) exact matches, in which:  
1 unique CDR3  
1 unique J



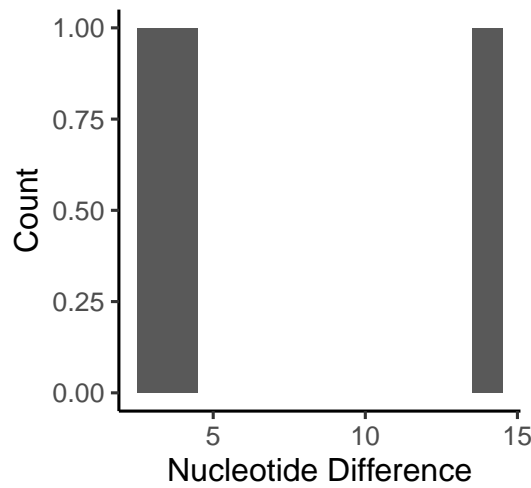
### IGHV4-31\*02

67 sequences assigned  
21 (31.3%) exact matches, in which:  
17 unique CDR3  
5 unique J



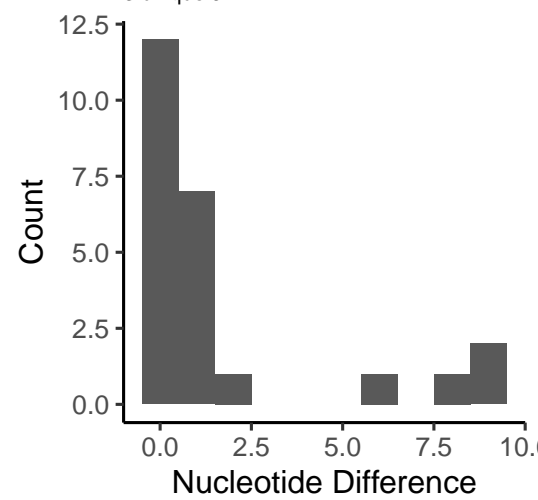
### IGHV4-39\*07

4 sequences assigned  
No exact matches.



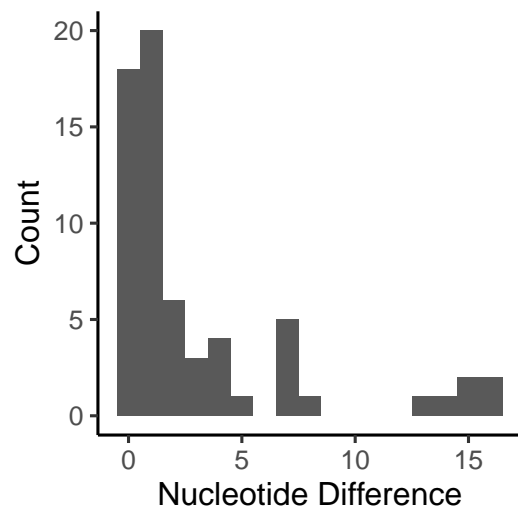
### IGHV4-59\*01\_07

25 sequences assigned  
12 (48%) exact matches, in which:  
9 unique CDR3  
3 unique J



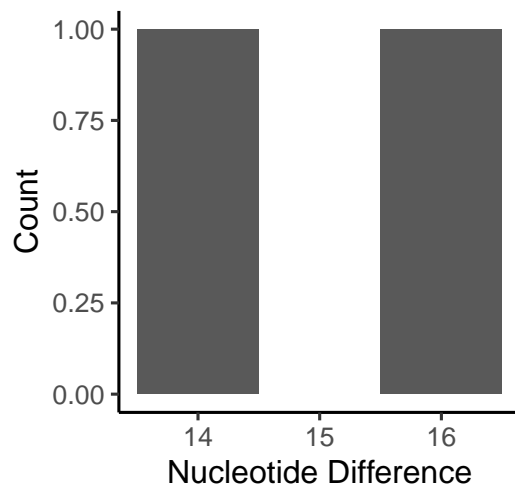
### IGHV4-34\*01\_02

69 sequences assigned  
18 (26.1%) exact matches, in which:  
17 unique CDR3  
4 unique J



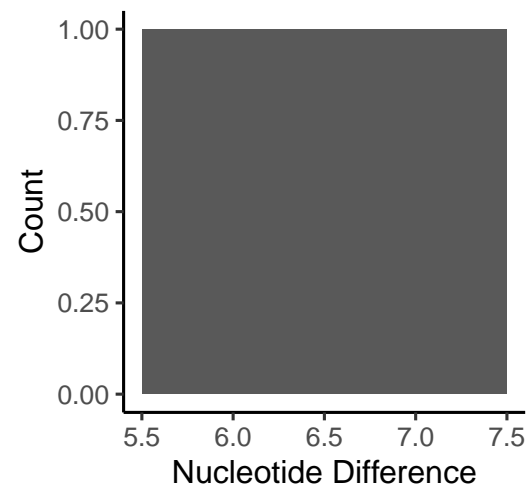
### IGHV4-59\*02

286 sequences assigned  
No exact matches.



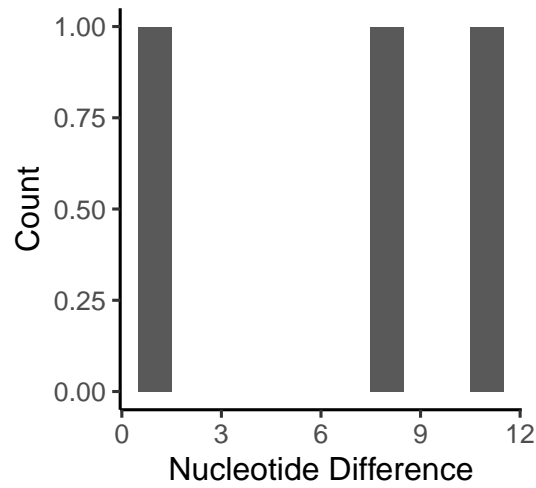
### IGHV4-59\*11

3 sequences assigned  
No exact matches.



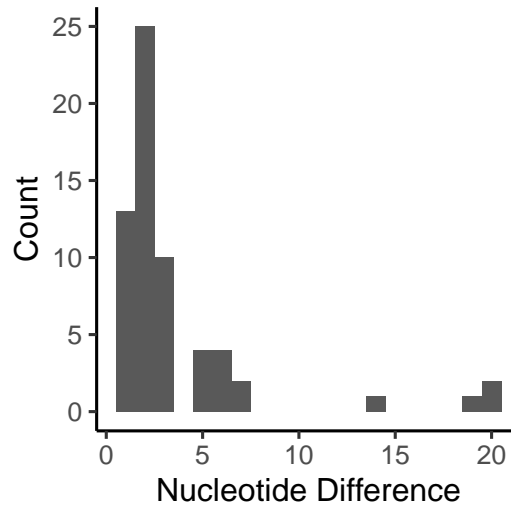
### IGHV4-61\*01

3 sequences assigned  
No exact matches.



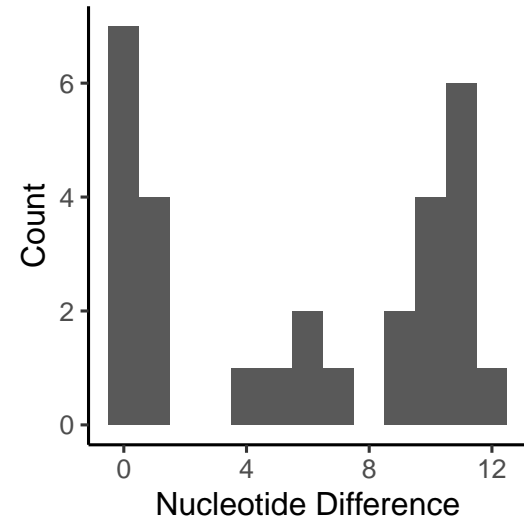
### IGHV5-51\*07

62 sequences assigned  
No exact matches.



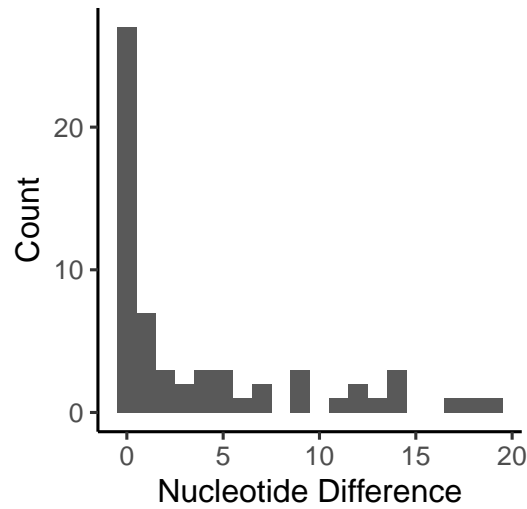
### IGHV7-4-1\*02

29 sequences assigned  
7 (24.1%) exact matches, in which:  
7 unique CDR3  
3 unique J



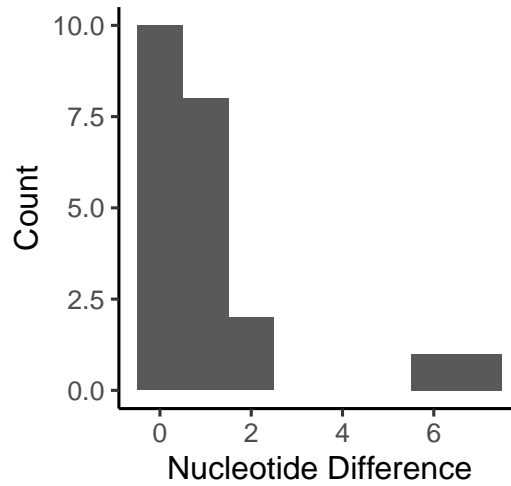
### IGHV4-61\*02

939 sequences assigned  
27 (2.9%) exact matches, in which:  
27 unique CDR3  
4 unique J



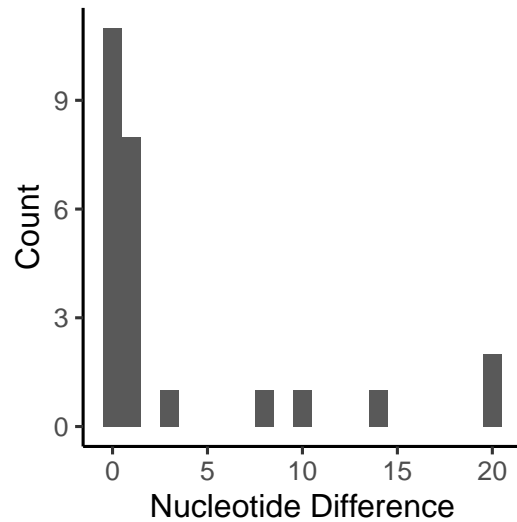
### IGHV5-51\*01\_03

25 sequences assigned  
10 (40%) exact matches, in which:  
10 unique CDR3  
4 unique J



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

27 sequences assigned  
11 (40.7%) exact matches, in which:  
11 unique CDR3  
3 unique J



### IGHV6-1\*01\_02

16 sequences assigned  
3 (18.8%) exact matches, in which:  
3 unique CDR3  
2 unique J

