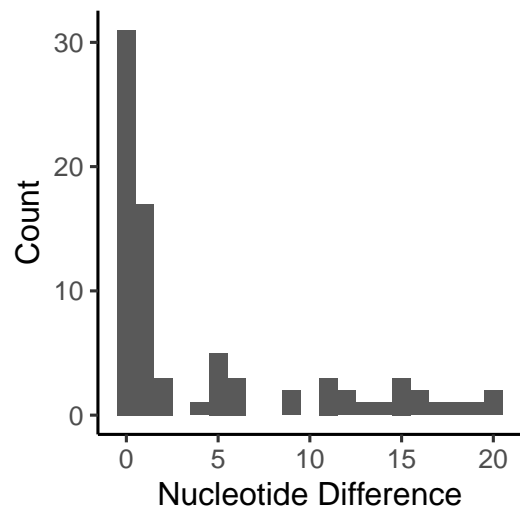


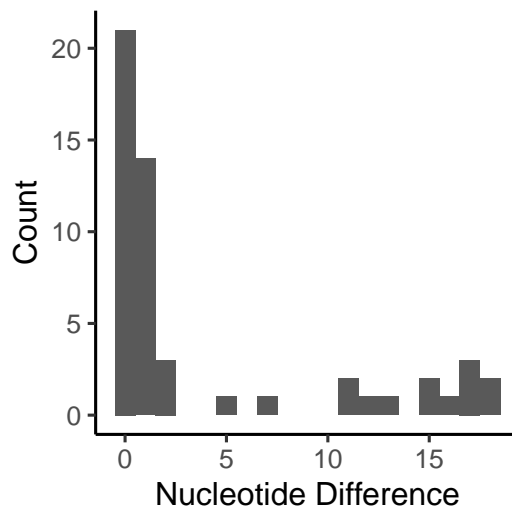
### IGHV1-2\*02

87 sequences assigned  
31 (35.6%) exact matches, in which:  
28 unique CDR3  
5 unique J



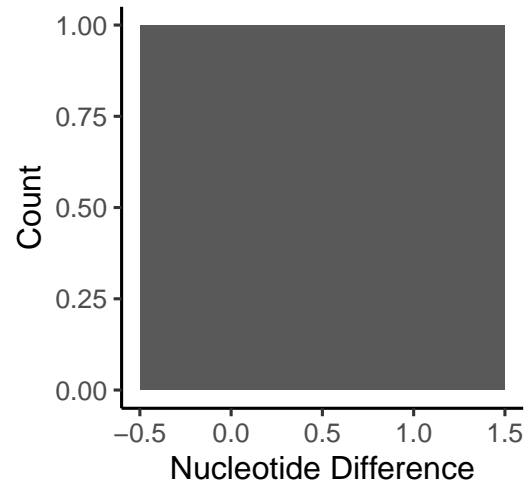
### IGHV1-8\*01

52 sequences assigned  
21 (40.4%) exact matches, in which:  
21 unique CDR3  
4 unique J



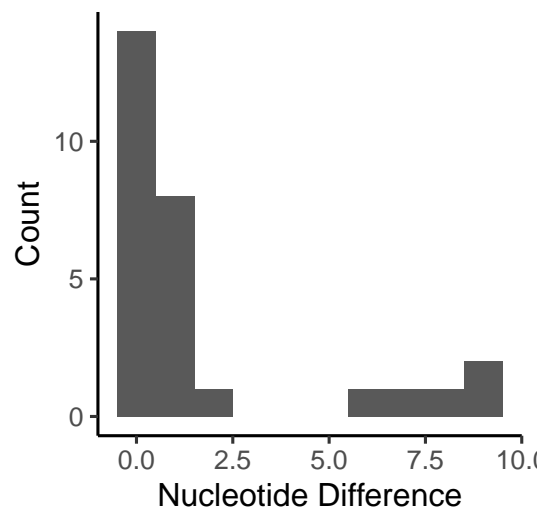
### IGHV1-45\*02

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



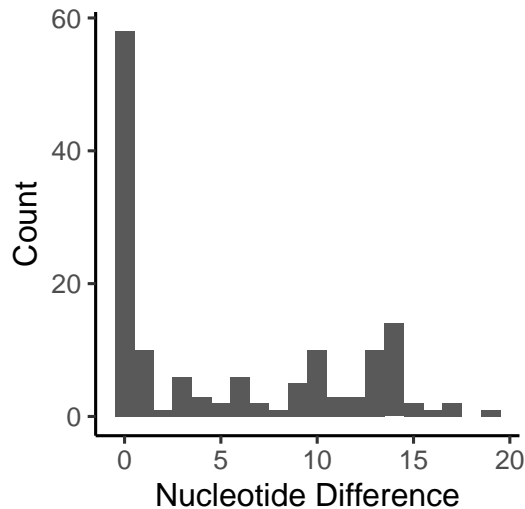
### IGHV1-2\*04

28 sequences assigned  
14 (50%) exact matches, in which:  
13 unique CDR3  
5 unique J



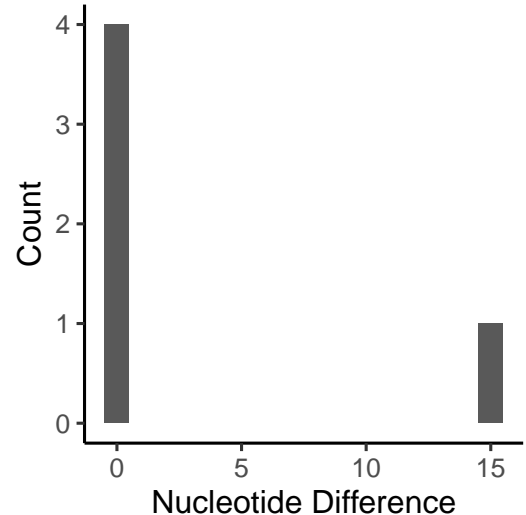
### IGHV1-18\*01

141 sequences assigned  
58 (41.1%) exact matches, in which:  
50 unique CDR3  
3 unique J



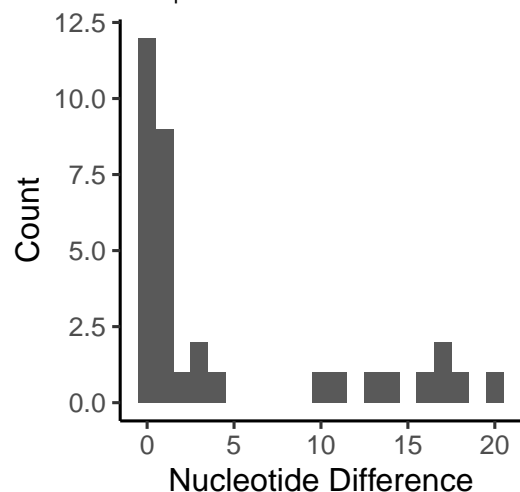
### IGHV1-46\*01

6 sequences assigned  
4 (66.7%) exact matches, in which:  
4 unique CDR3  
4 unique J



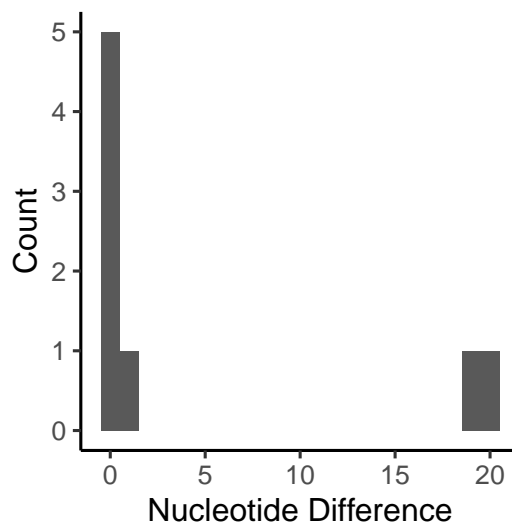
### IGHV1-3\*01\_05

40 sequences assigned  
12 (30%) exact matches, in which:  
11 unique CDR3  
3 unique J



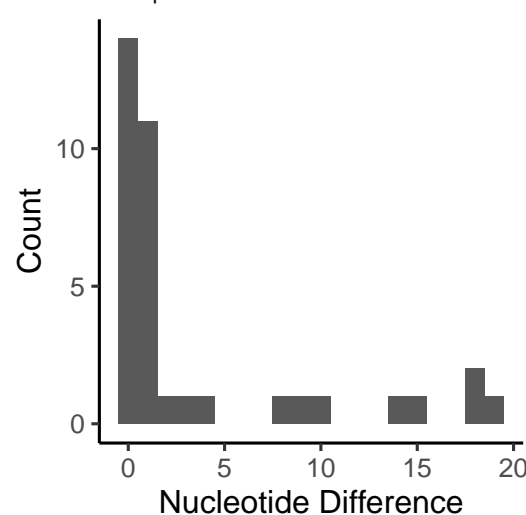
### IGHV1-24\*01

8 sequences assigned  
5 (62.5%) exact matches, in which:  
5 unique CDR3  
3 unique J



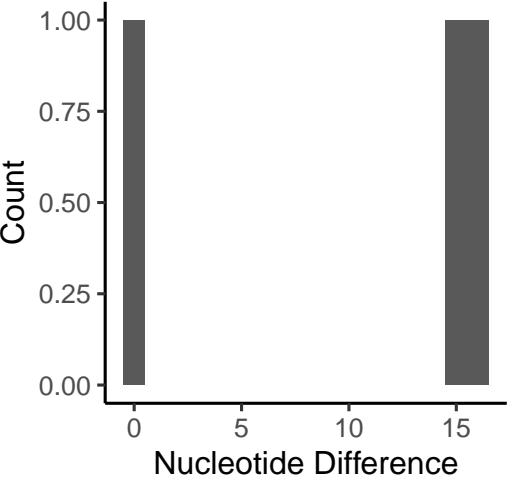
### IGHV1-46\*03

36 sequences assigned  
14 (38.9%) exact matches, in which:  
14 unique CDR3  
4 unique J



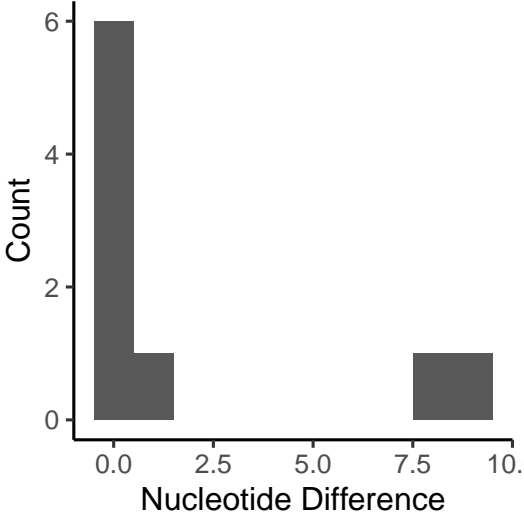
IGHV1-58\*02

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



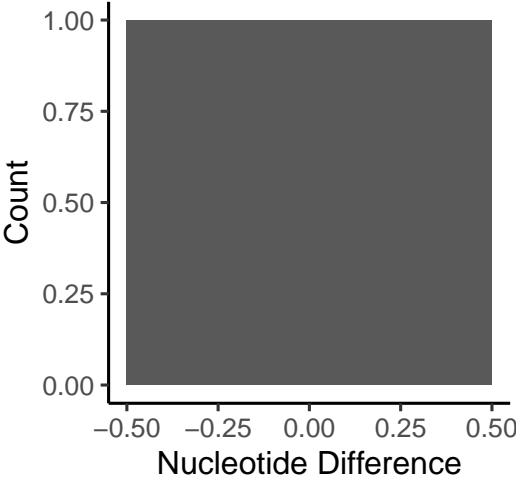
IGHV1-69\*04\_09

9 sequences assigned  
6 (66.7%) exact matches, in which:  
4 unique CDR3  
2 unique J



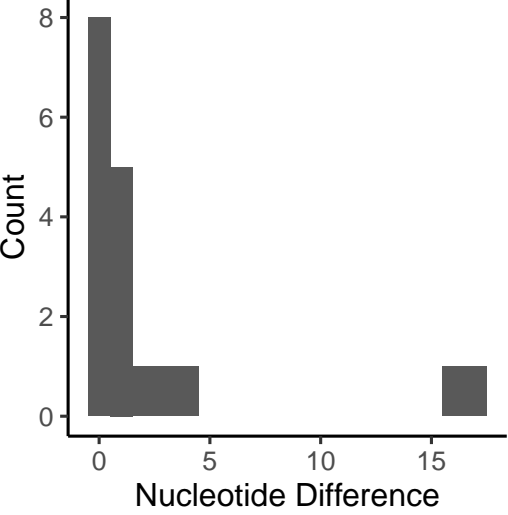
IGHV2-70\*01

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



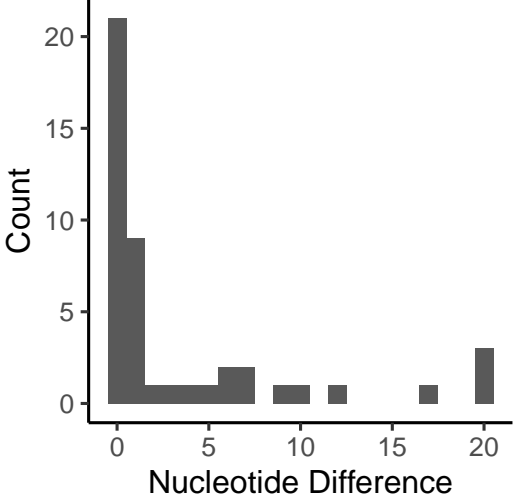
IGHV1-69\*02

18 sequences assigned  
8 (44.4%) exact matches, in which:  
8 unique CDR3  
4 unique J



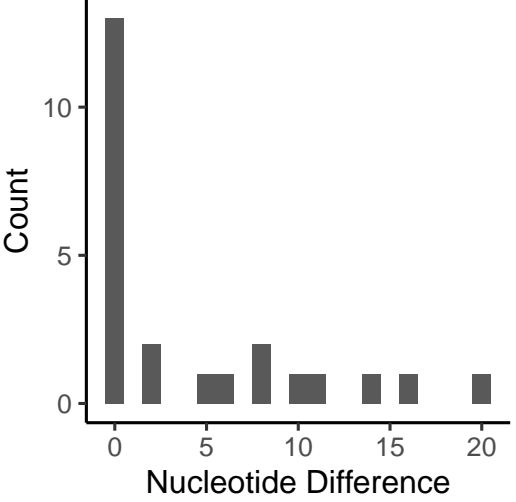
IGHV2-5\*02

50 sequences assigned  
21 (42%) exact matches, in which:  
20 unique CDR3  
4 unique J



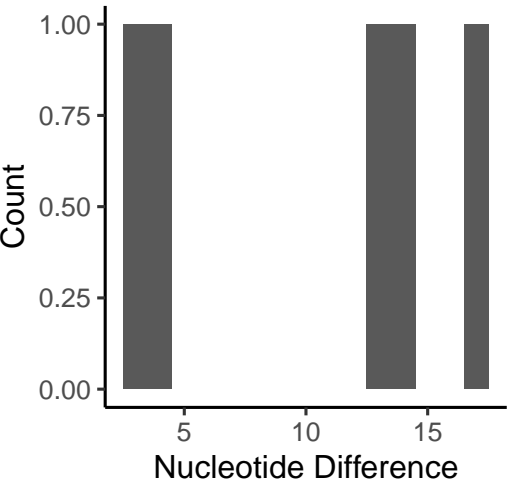
IGHV3-7\*01

31 sequences assigned  
13 (41.9%) exact matches, in which:  
8 unique CDR3  
3 unique J



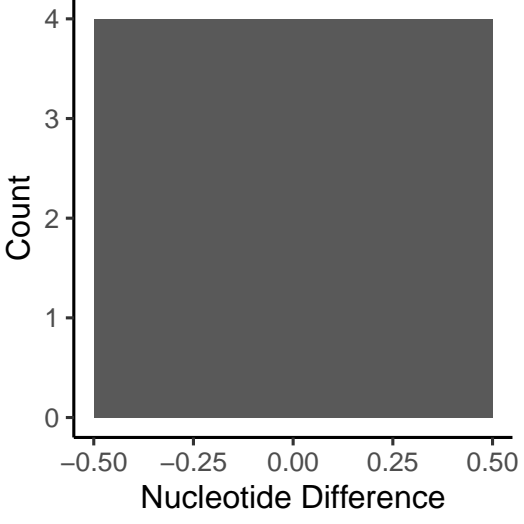
IGHV1-69\*08

6 sequences assigned  
No exact matches.



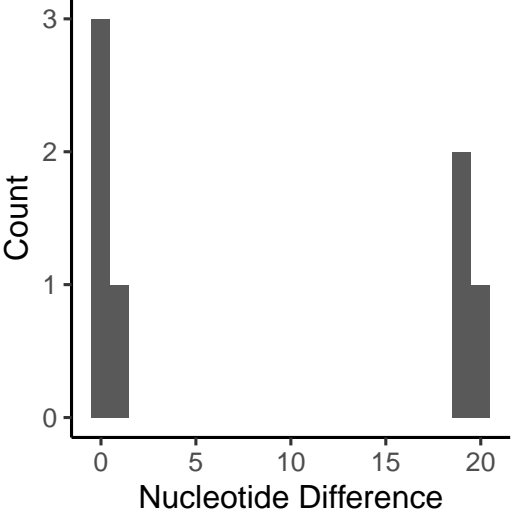
IGHV2-26\*01

4 sequences assigned  
4 (100%) exact matches, in which:  
3 unique CDR3  
3 unique J



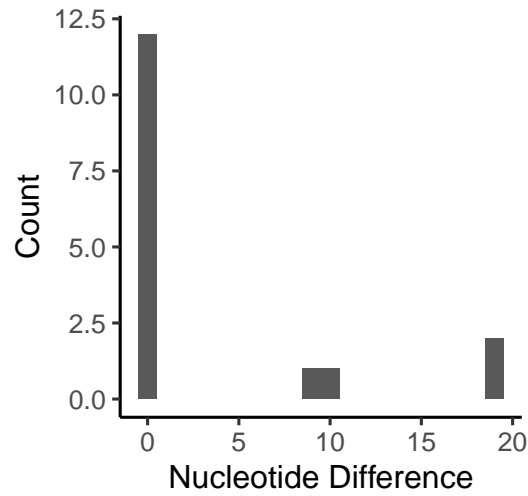
IGHV3-7\*03

10 sequences assigned  
3 (30%) exact matches, in which:  
1 unique CDR3  
1 unique J



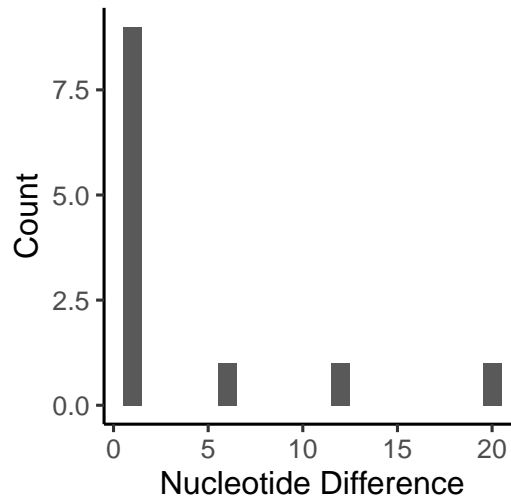
### IGHV3-7\*04

17 sequences assigned  
12 (70.6%) exact matches, in which:  
8 unique CDR3  
3 unique J



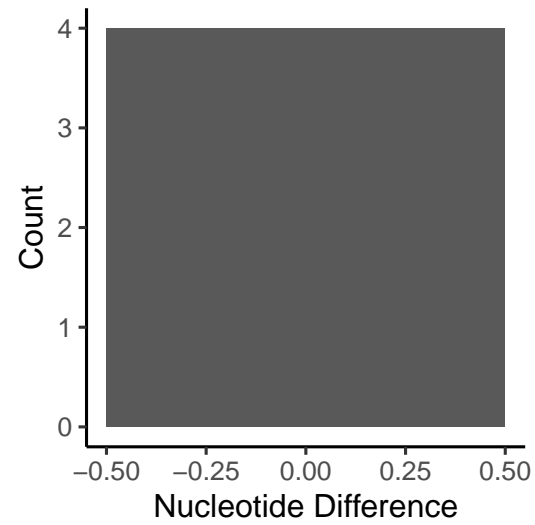
### IGHV3-11\*06

12 sequences assigned  
No exact matches.



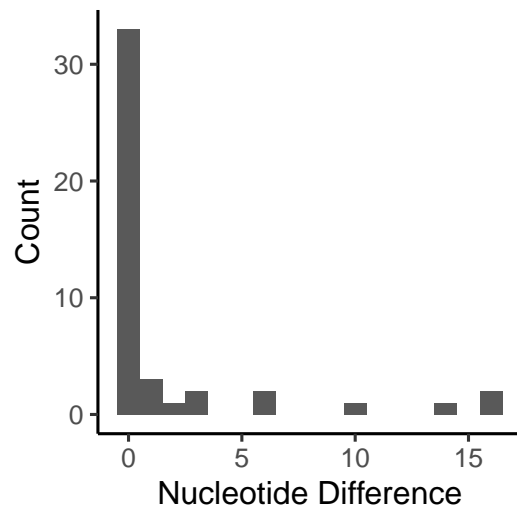
### IGHV3-13\*04

4 sequences assigned  
4 (100%) exact matches, in which:  
2 unique CDR3  
1 unique J



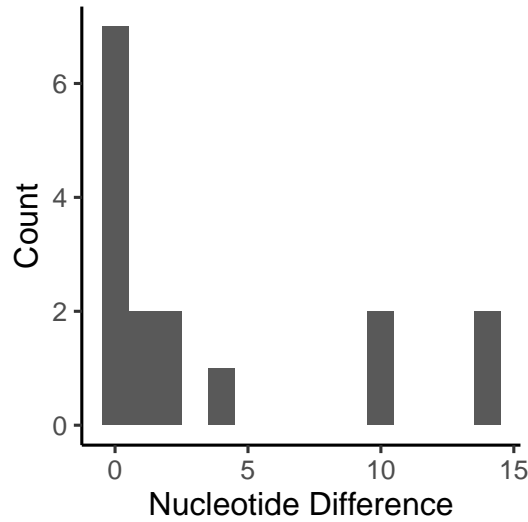
### IGHV3-9\*01

48 sequences assigned  
33 (68.8%) exact matches, in which:  
18 unique CDR3  
4 unique J



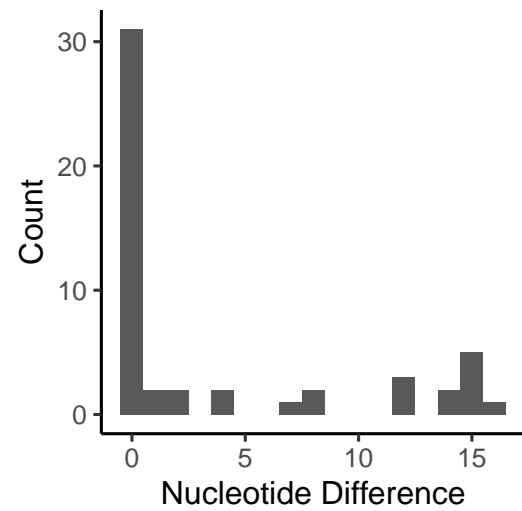
### IGHV3-11\*03\_05

18 sequences assigned  
7 (38.9%) exact matches, in which:  
4 unique CDR3  
3 unique J



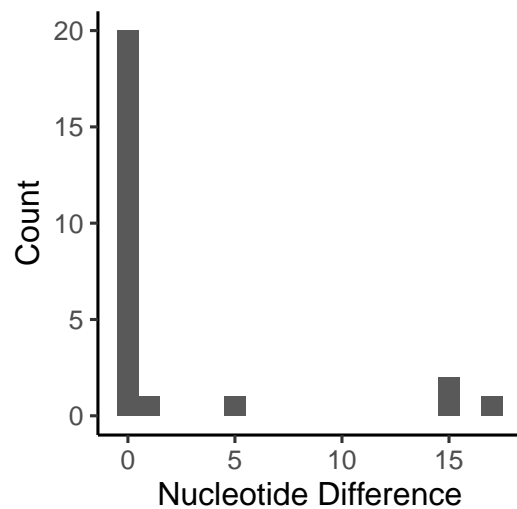
### IGHV3-15\*07

57 sequences assigned  
31 (54.4%) exact matches, in which:  
21 unique CDR3  
4 unique J



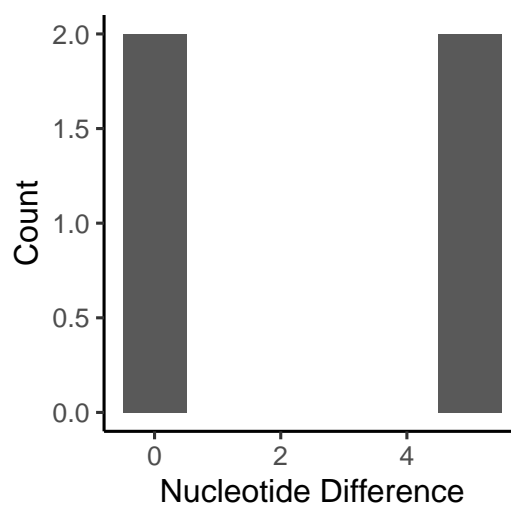
### IGHV3-11\*01

25 sequences assigned  
20 (80%) exact matches, in which:  
14 unique CDR3  
3 unique J



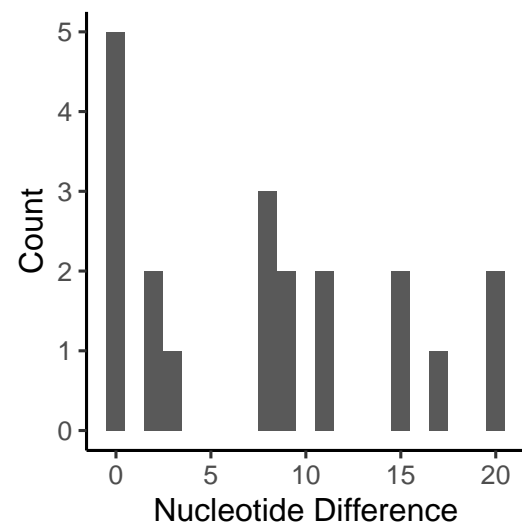
### IGHV3-13\*01

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



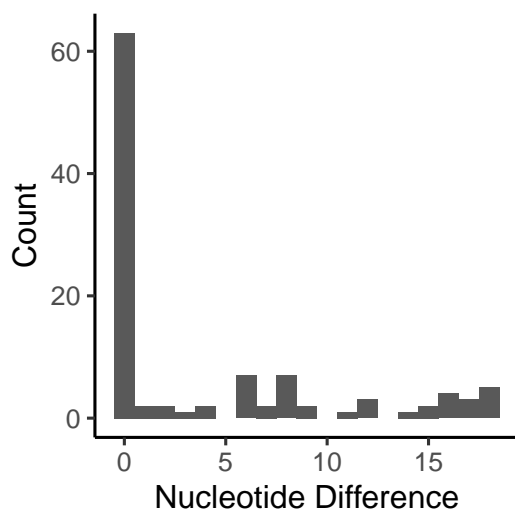
### IGHV3-15\*01\_02

21 sequences assigned  
5 (23.8%) exact matches, in which:  
4 unique CDR3  
3 unique J



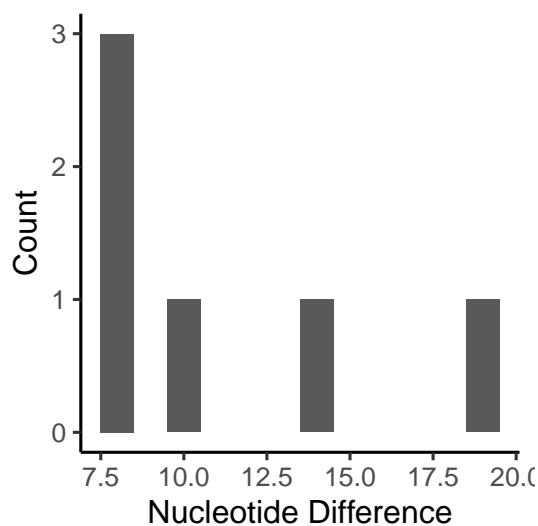
### IGHV3-21\*01\_02

121 sequences assigned  
63 (52.1%) exact matches, in which:  
37 unique CDR3  
4 unique J



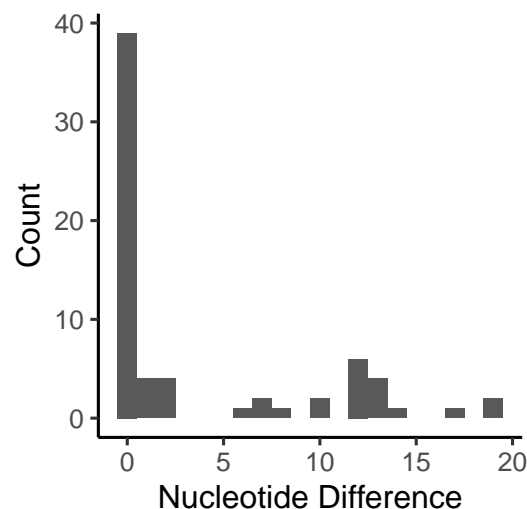
### IGHV3-30\*04

8 sequences assigned  
No exact matches.



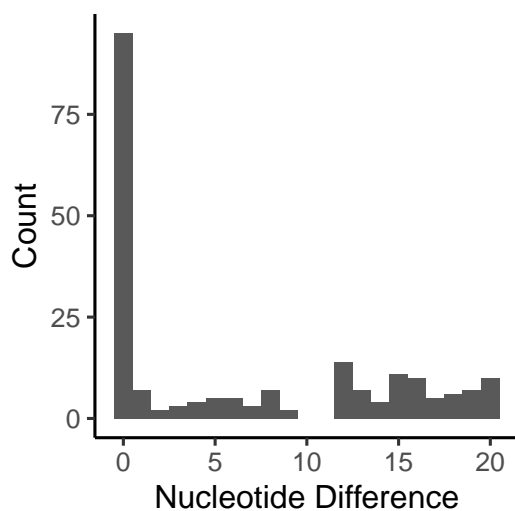
### IGHV3-48\*01

69 sequences assigned  
39 (56.5%) exact matches, in which:  
26 unique CDR3  
5 unique J



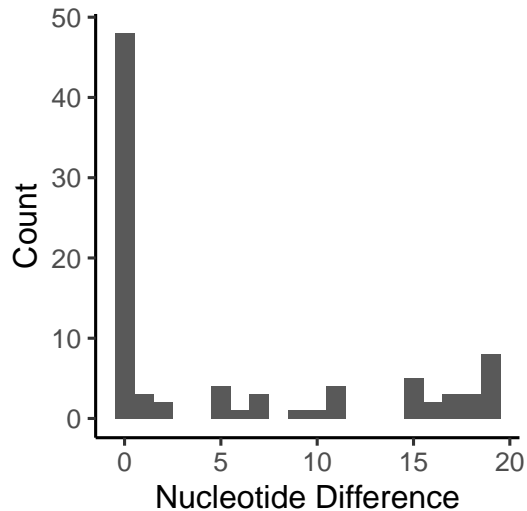
### IGHV3-23\*01\_04

233 sequences assigned  
95 (40.8%) exact matches, in which:  
59 unique CDR3  
5 unique J



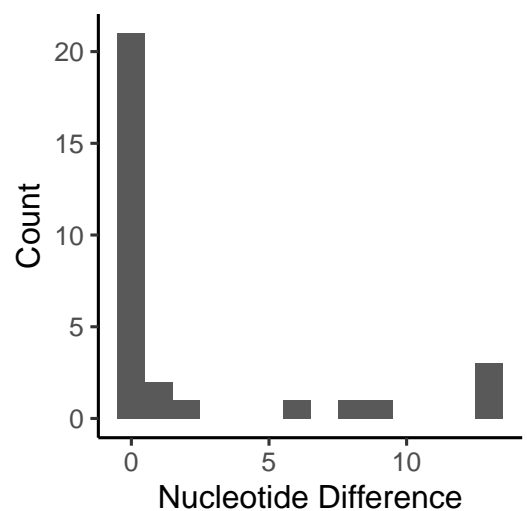
### IGHV3-33\*01

94 sequences assigned  
48 (51.1%) exact matches, in which:  
32 unique CDR3  
5 unique J



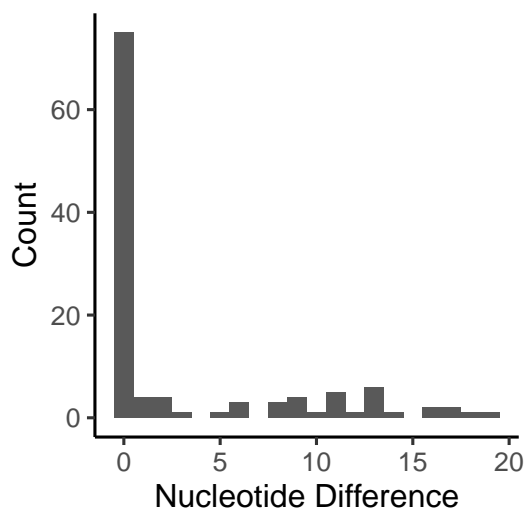
### IGHV3-49\*03\_05

38 sequences assigned  
21 (55.3%) exact matches, in which:  
12 unique CDR3  
2 unique J



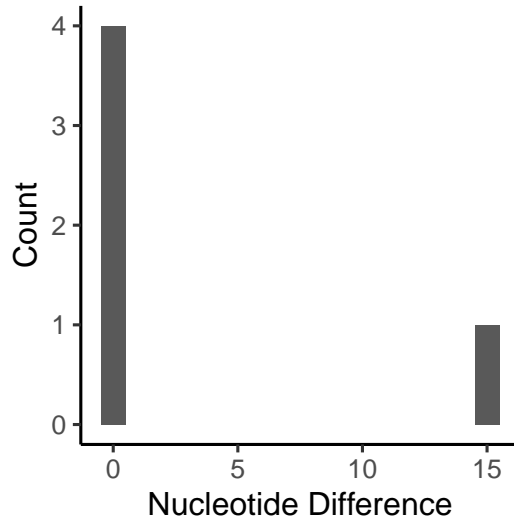
### IGHV3-30-3\*01

124 sequences assigned  
75 (60.5%) exact matches, in which:  
51 unique CDR3  
4 unique J



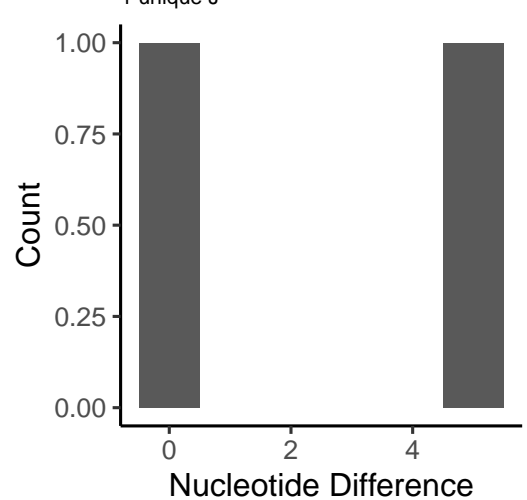
### IGHV3-43\*01

5 sequences assigned  
4 (80%) exact matches, in which:  
3 unique CDR3  
2 unique J



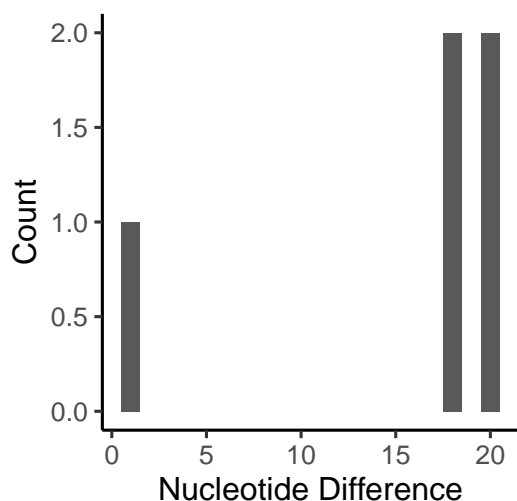
### IGHV3-52\*02

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



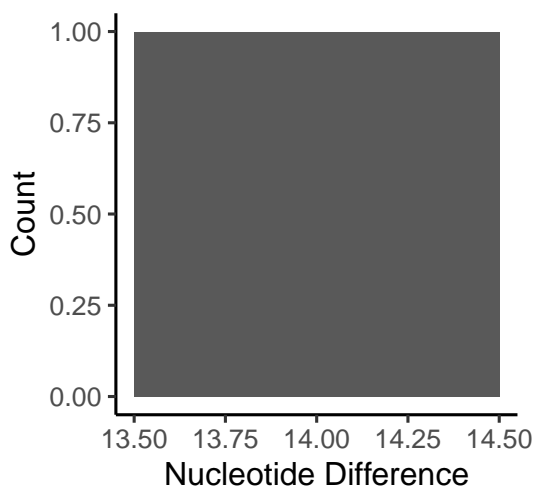
### IGHV3-53\*05

6 sequences assigned  
No exact matches.



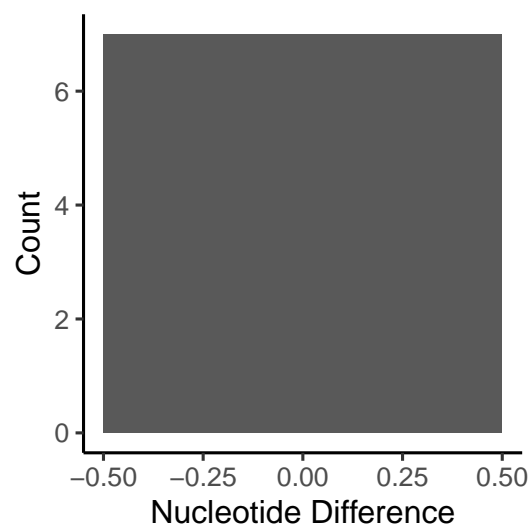
### IGHV3-64\*02\_07

1 sequences assigned  
No exact matches.



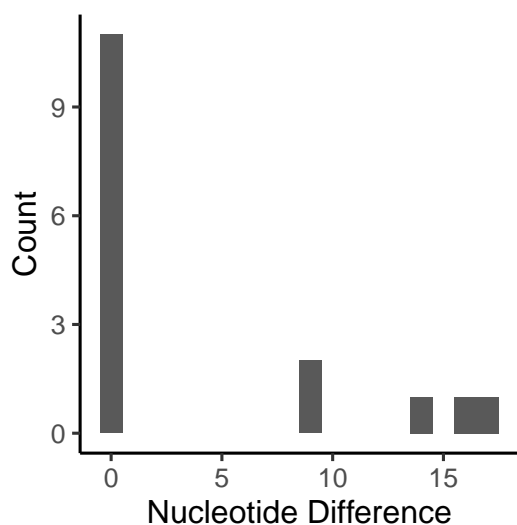
### IGHV3-73\*01\_02

7 sequences assigned  
7 (100%) exact matches, in which:  
5 unique CDR3  
2 unique J



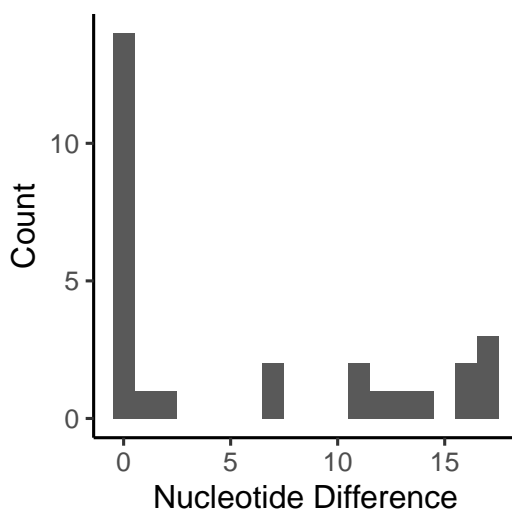
### IGHV3-53\*01\_02

16 sequences assigned  
11 (68.8%) exact matches, in which:  
6 unique CDR3  
2 unique J



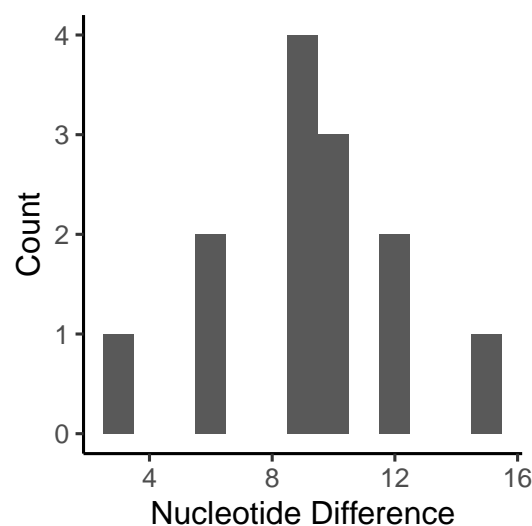
### IGHV3-66\*02

29 sequences assigned  
14 (48.3%) exact matches, in which:  
10 unique CDR3  
4 unique J



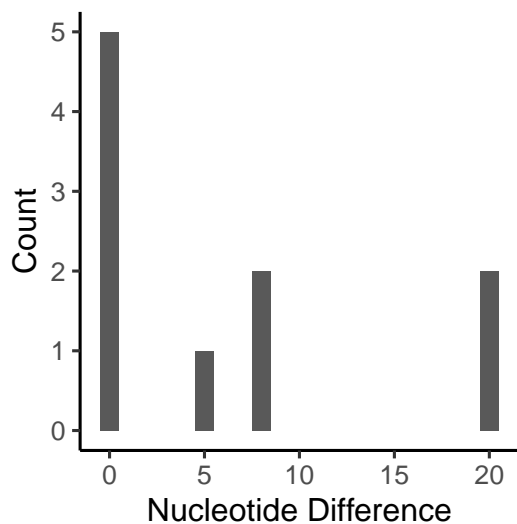
### IGHV3-74\*03

15 sequences assigned  
No exact matches.



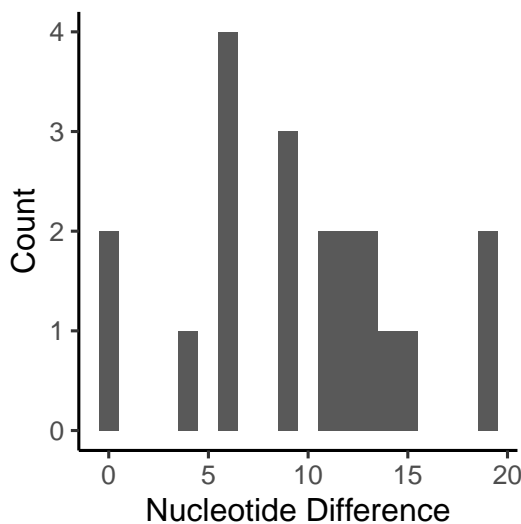
### IGHV3-64\*01

10 sequences assigned  
5 (50%) exact matches, in which:  
2 unique CDR3  
2 unique J



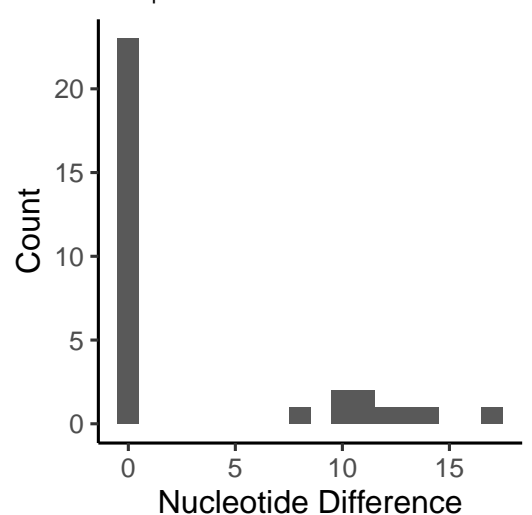
### IGHV3-72\*01

20 sequences assigned  
2 (10%) exact matches, in which:  
1 unique CDR3  
1 unique J



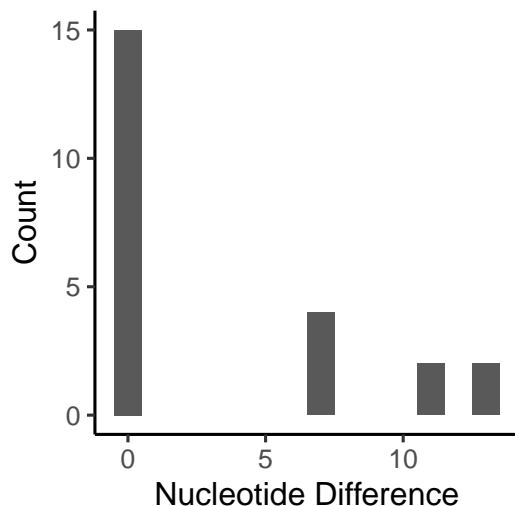
### IGHV3-74\*01\_02

34 sequences assigned  
23 (67.6%) exact matches, in which:  
13 unique CDR3  
4 unique J



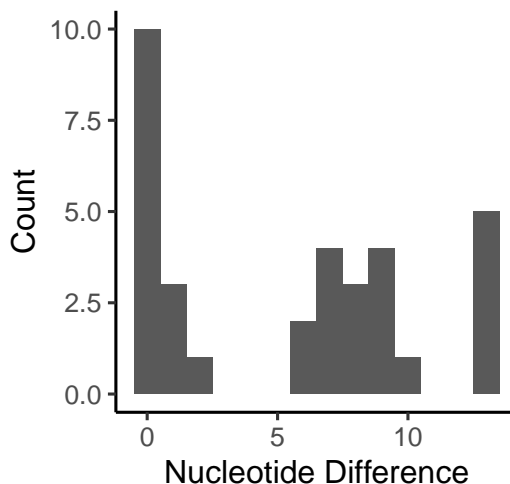
### IGHV3-64D\*06

36 sequences assigned  
15 (41.7%) exact matches, in which:  
8 unique CDR3  
2 unique J



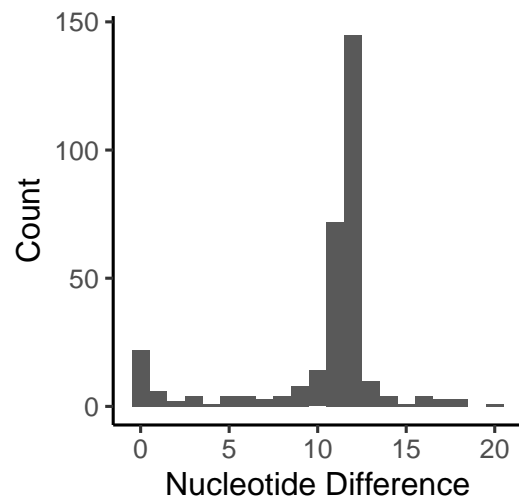
### IGHV4-30-4\*01

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



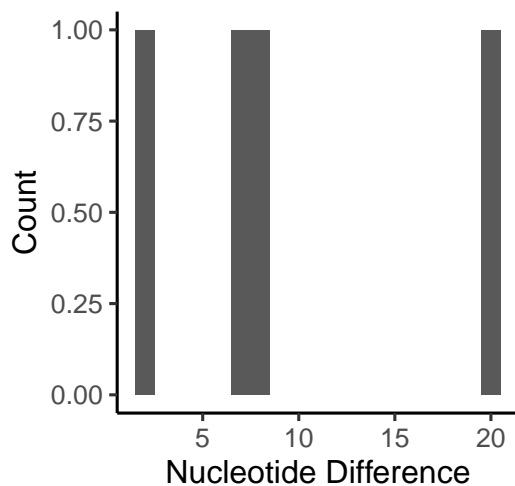
### IGHV4-31\*02

320 sequences assigned  
22 (6.9%) exact matches, in which:  
20 unique CDR3  
4 unique J



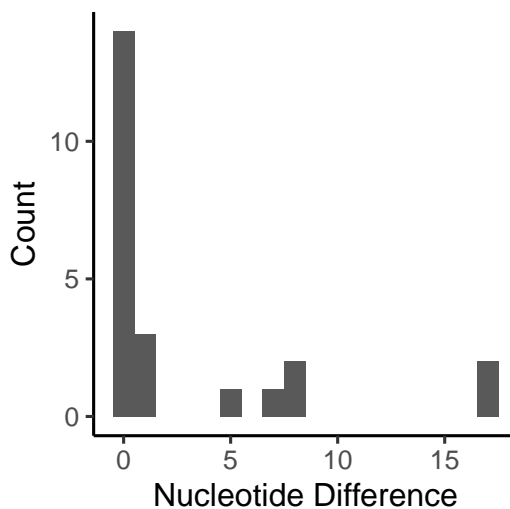
### IGHV4-4\*07

4 sequences assigned  
No exact matches.



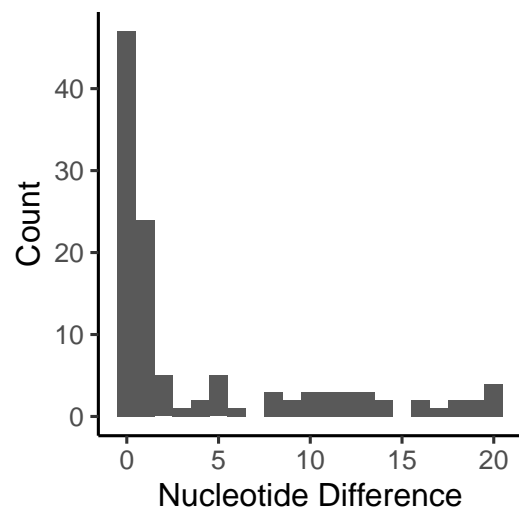
### IGHV4-30-2\*01

23 sequences assigned  
14 (60.9%) exact matches, in which:  
12 unique CDR3  
4 unique J



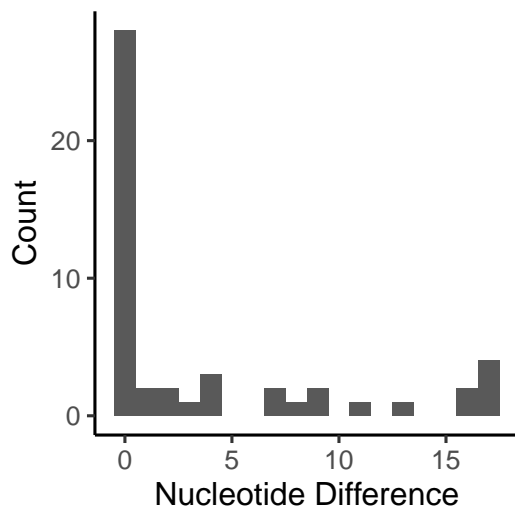
### IGHV4-34\*01\_02

119 sequences assigned  
47 (39.5%) exact matches, in which:  
34 unique CDR3  
4 unique J



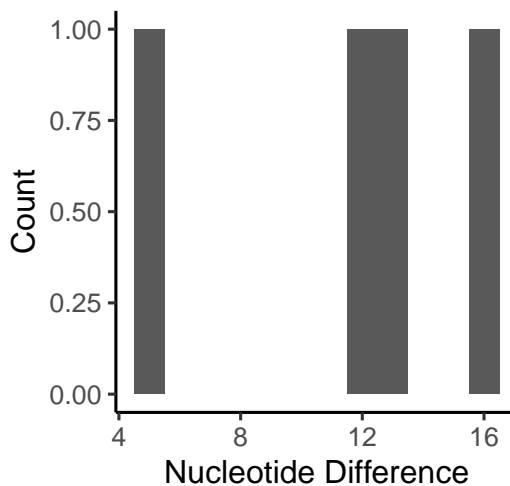
### IGHV4-4\*02\_03

52 sequences assigned  
28 (53.8%) exact matches, in which:  
20 unique CDR3  
4 unique J



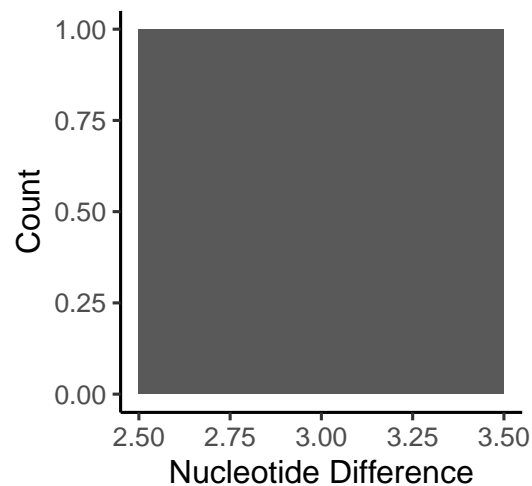
### IGHV4-30-2\*03

4 sequences assigned  
No exact matches.



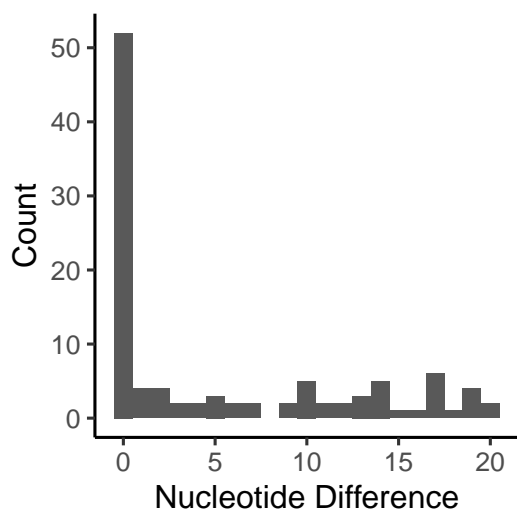
### IGHV4-38-2\*02

1 sequences assigned  
No exact matches.



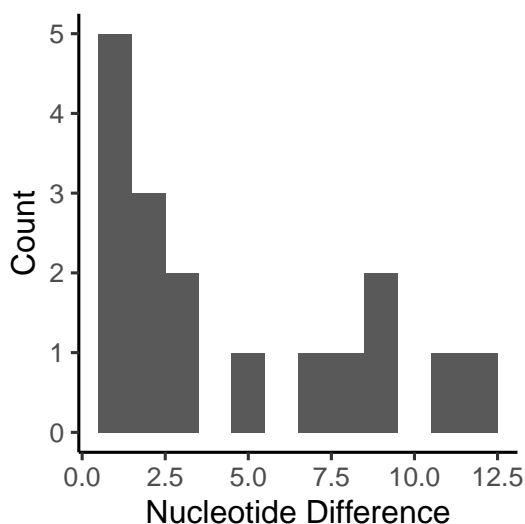
### IGHV4-39\*02\_C258G

120 sequences assigned  
52 (43.3%) exact matches, in which:  
46 unique CDR3  
5 unique J



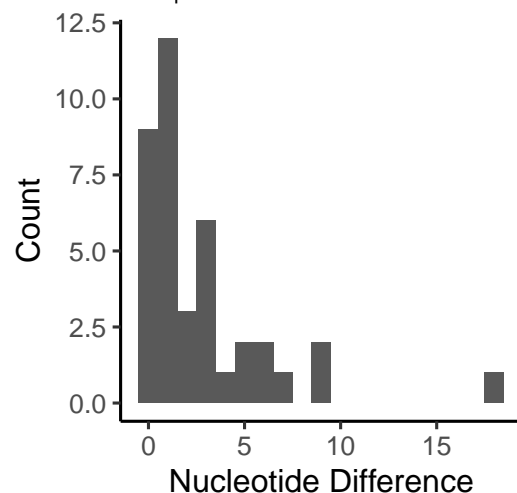
### IGHV4-59\*12

18 sequences assigned  
No exact matches.



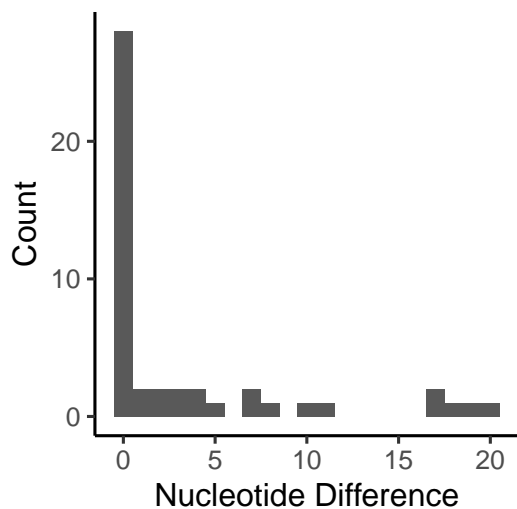
### IGHV5-51\*07

43 sequences assigned  
9 (20.9%) exact matches, in which:  
7 unique CDR3  
4 unique J



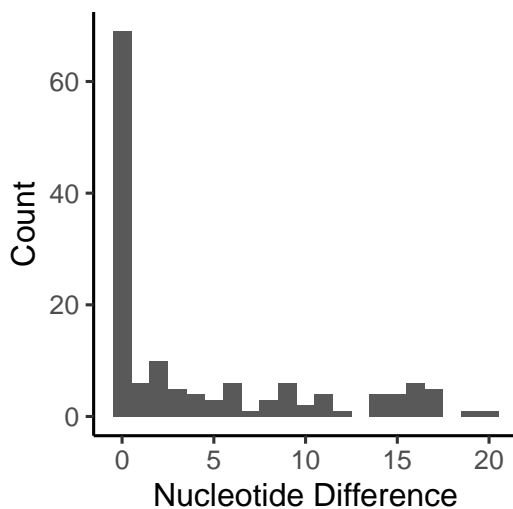
### IGHV4-59\*01\_07

50 sequences assigned  
28 (56%) exact matches, in which:  
27 unique CDR3  
5 unique J



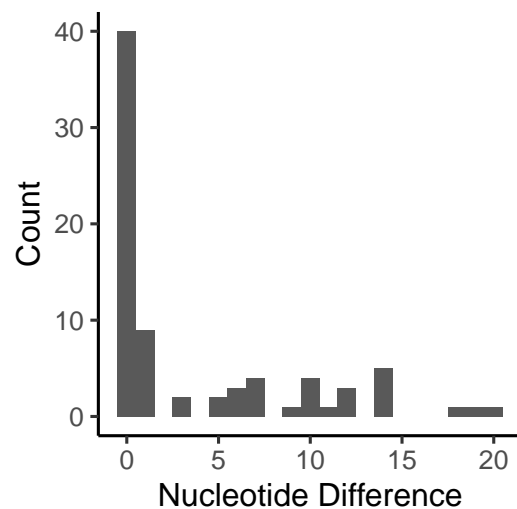
### IGHV4-61\*02

152 sequences assigned  
69 (45.4%) exact matches, in which:  
64 unique CDR3  
6 unique J



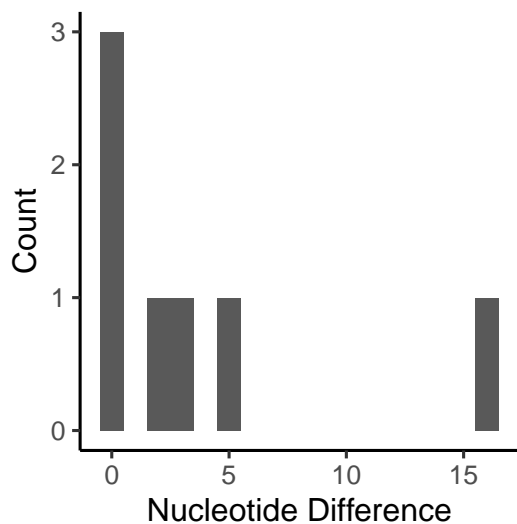
### IGHV5-51\*01\_03

79 sequences assigned  
40 (50.6%) exact matches, in which:  
28 unique CDR3  
4 unique J



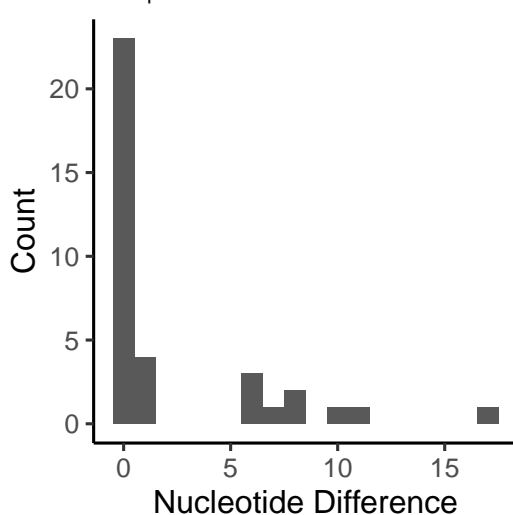
### IGHV4-59\*11

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



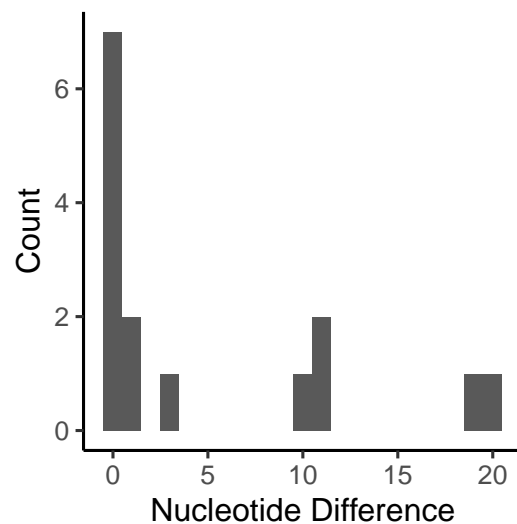
### IGHV5-10-1\*01\_03

36 sequences assigned  
23 (63.9%) exact matches, in which:  
16 unique CDR3  
4 unique J



### IGHV6-1\*01\_02

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







Warning – no inferred sequences found.