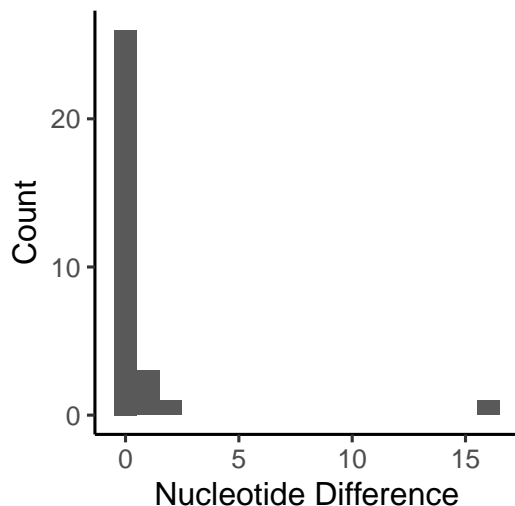


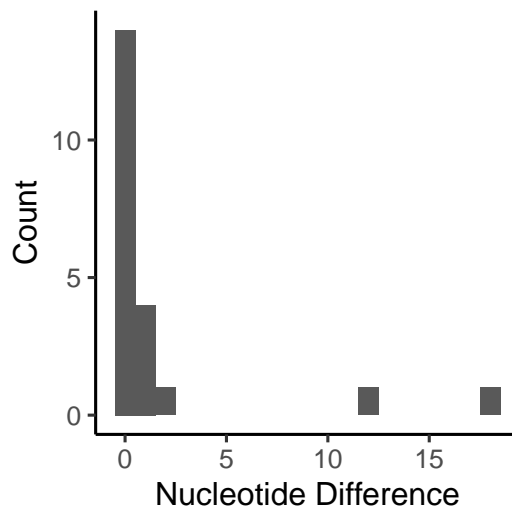
### IGHV1-2\*02

31 sequences assigned  
26 (83.9%) exact matches, in which:  
26 unique CDR3  
5 unique J



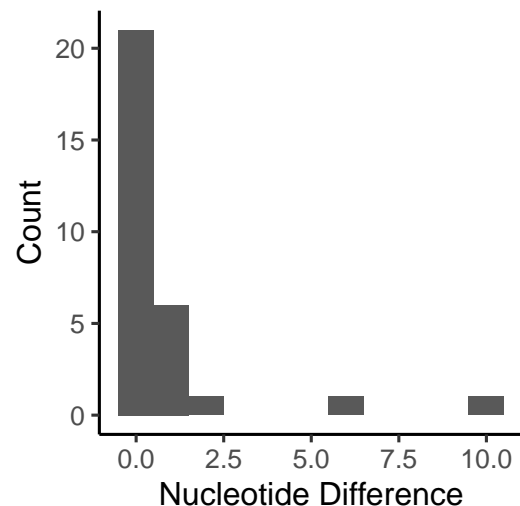
### IGHV1-8\*02

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



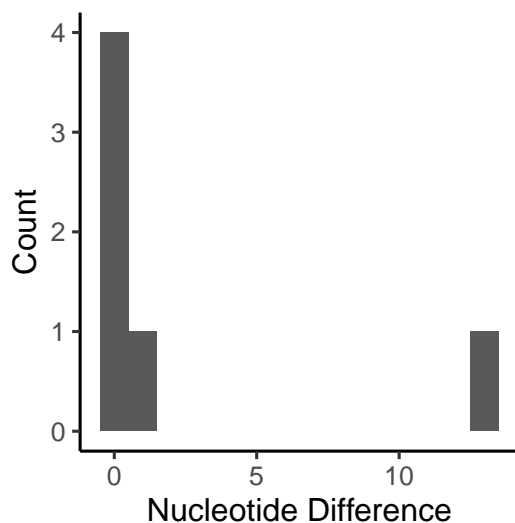
### IGHV1-46\*01

33 sequences assigned  
21 (63.6%) exact matches, in which:  
21 unique CDR3  
5 unique J



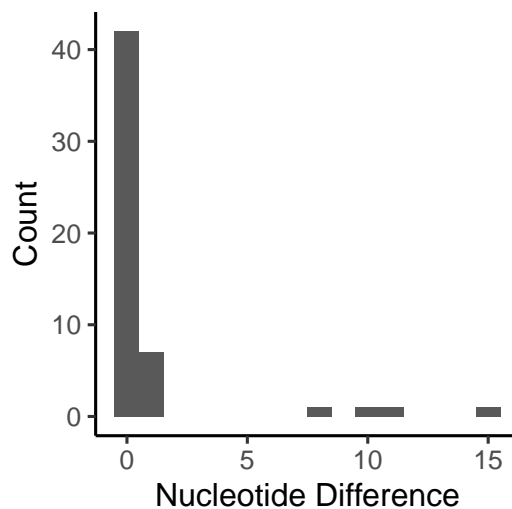
### IGHV1-2\*04

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



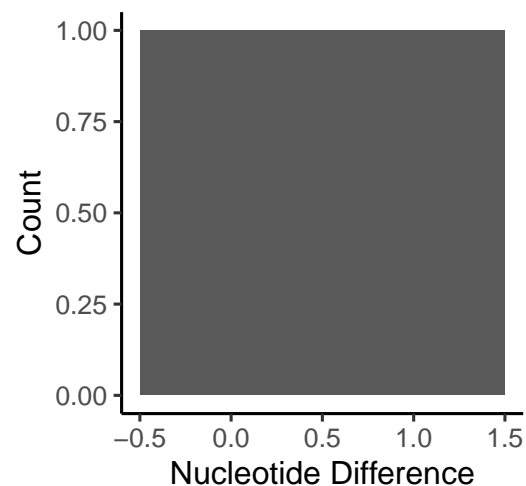
### IGHV1-18\*01

59 sequences assigned  
42 (71.2%) exact matches, in which:  
41 unique CDR3  
6 unique J



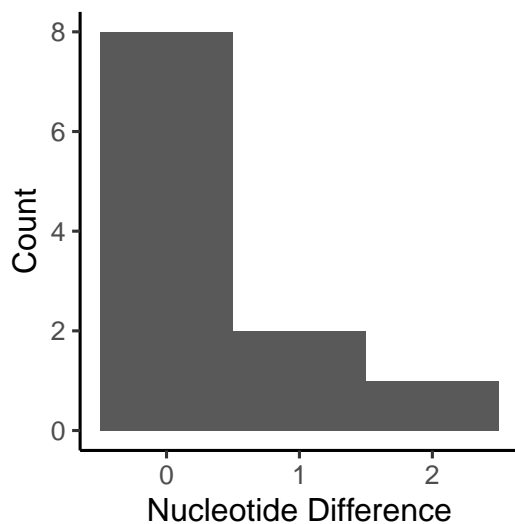
### IGHV1-58\*02

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



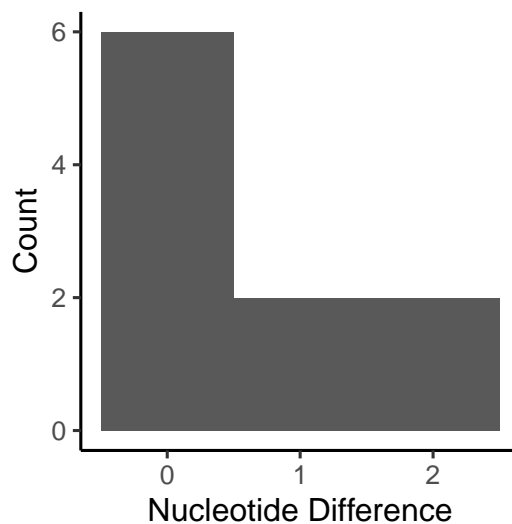
### IGHV1-3\*01

13 sequences assigned  
8 (61.5%) exact matches, in which:  
7 unique CDR3  
3 unique J



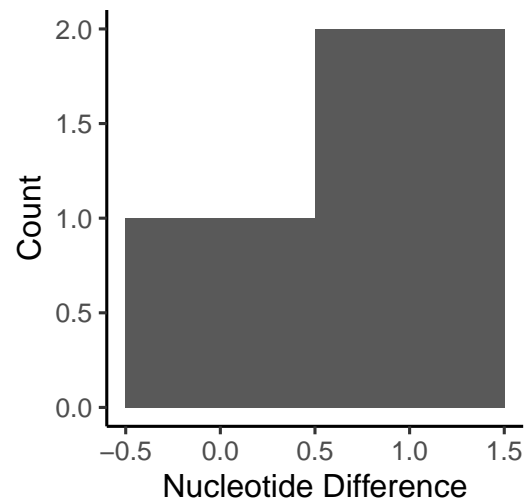
### IGHV1-24\*01

14 sequences assigned  
6 (42.9%) exact matches, in which:  
6 unique CDR3  
2 unique J



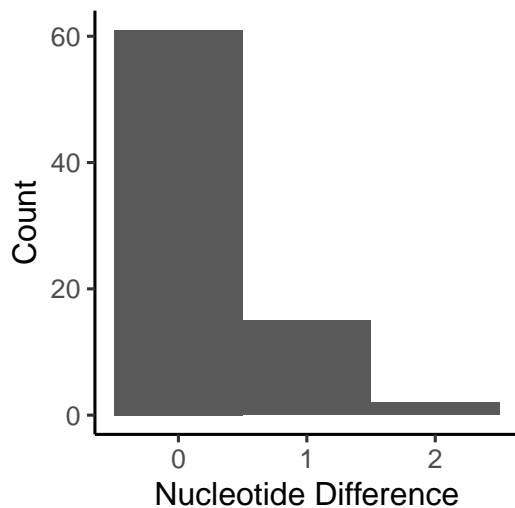
### IGHV1-69-2\*01

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



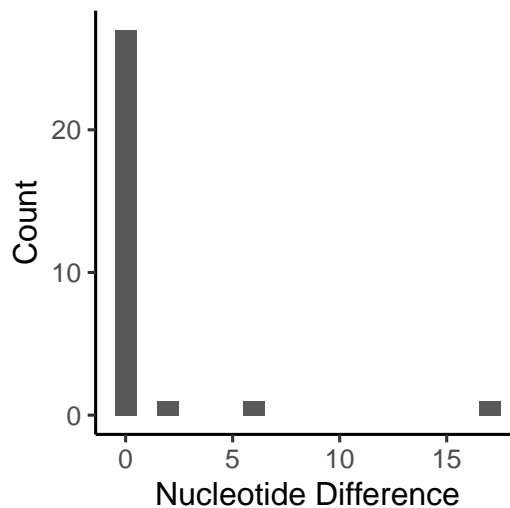
### IGHV1-69\*05

81 sequences assigned  
61 (75.3%) exact matches, in which:  
61 unique CDR3  
4 unique J



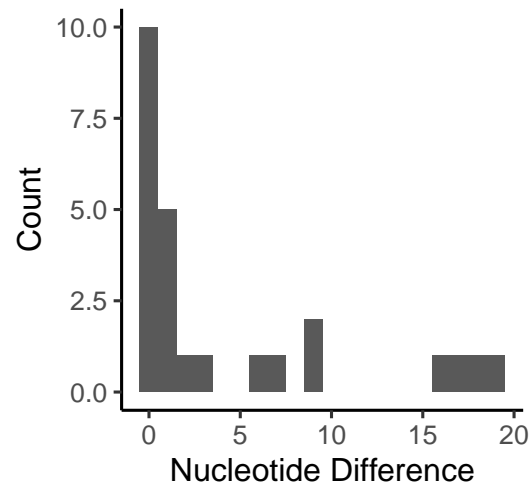
### IGHV2-5\*02

33 sequences assigned  
27 (81.8%) exact matches, in which:  
27 unique CDR3  
4 unique J



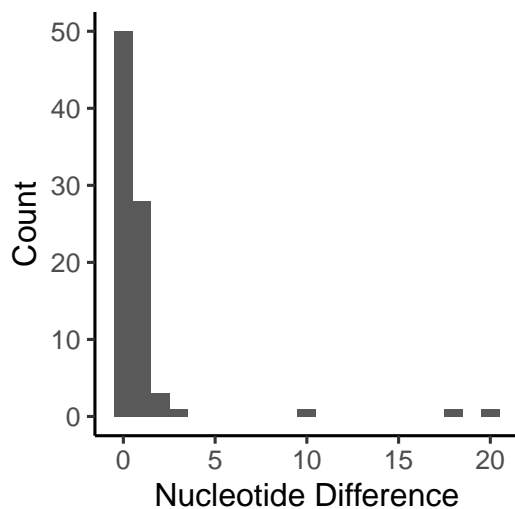
### IGHV3-7\*04

26 sequences assigned  
10 (38.5%) exact matches, in which:  
10 unique CDR3  
3 unique J



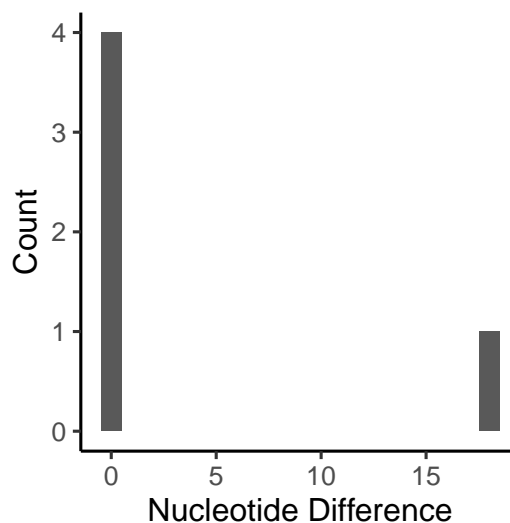
### IGHV1-69\*12

86 sequences assigned  
50 (58.1%) exact matches, in which:  
50 unique CDR3  
5 unique J



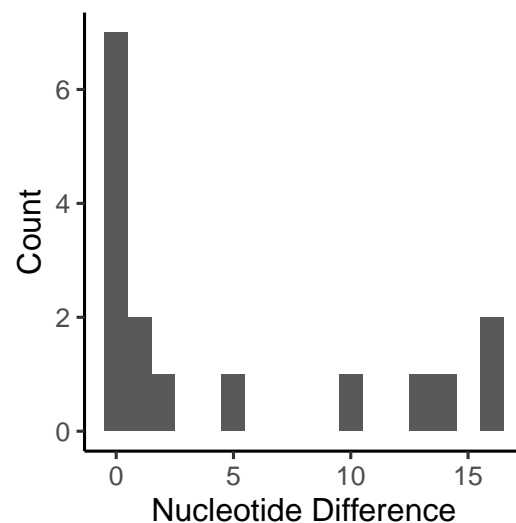
### IGHV2-26\*01

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



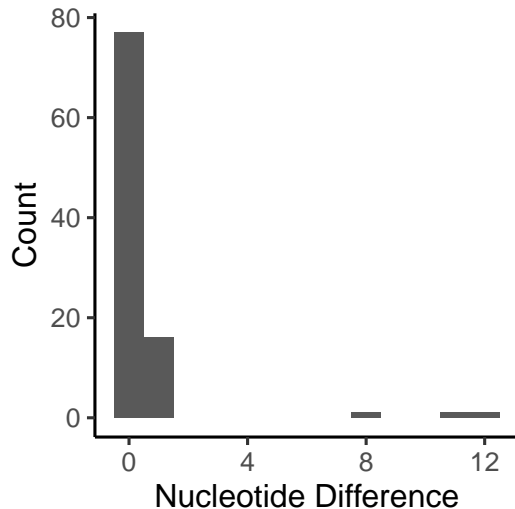
### IGHV3-7\*05

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



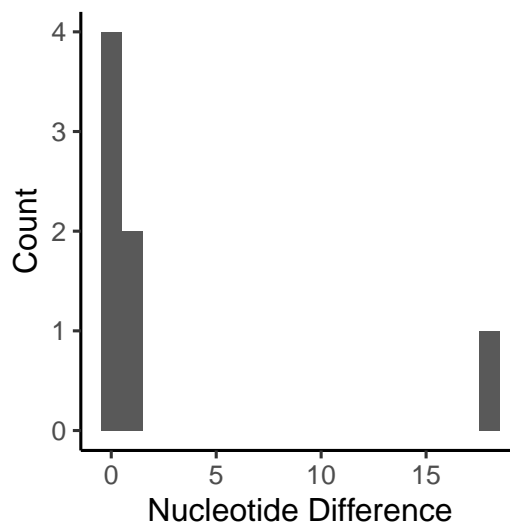
### IGHV1-69\*15

100 sequences assigned  
77 (77%) exact matches, in which:  
77 unique CDR3  
5 unique J



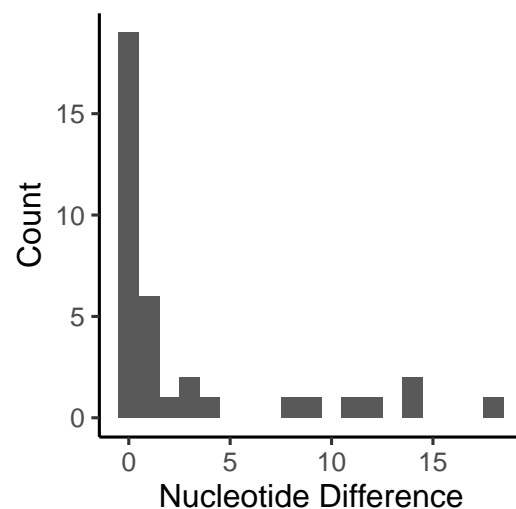
### IGHV2-70\*15

7 sequences assigned  
4 (57.1%) exact matches, in which:  
4 unique CDR3  
2 unique J



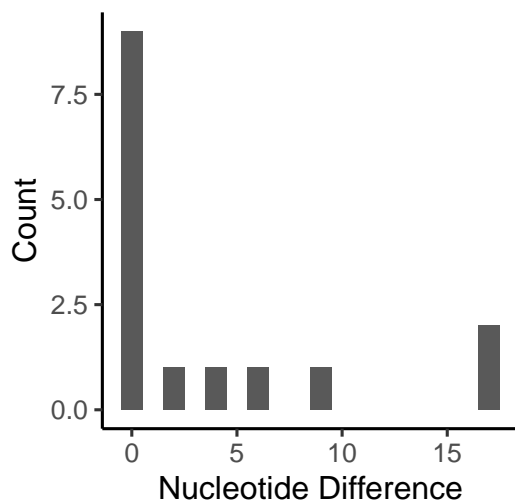
### IGHV3-9\*01

37 sequences assigned  
19 (51.4%) exact matches, in which:  
19 unique CDR3  
4 unique J



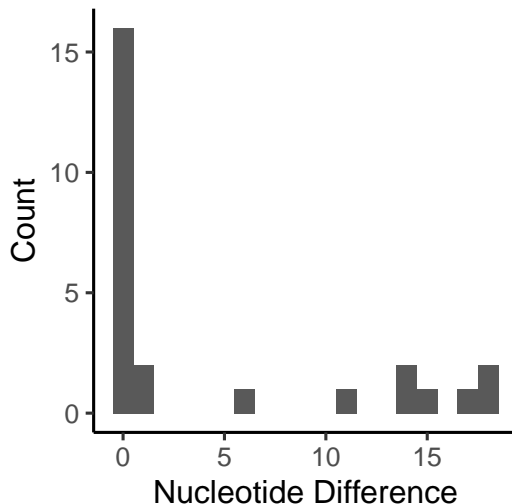
### IGHV3-11\*04

15 sequences assigned  
9 (60%) exact matches, in which:  
9 unique CDR3  
5 unique J



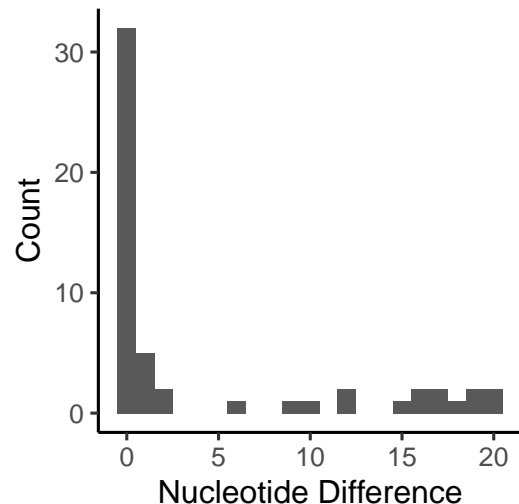
### IGHV3-15\*01

28 sequences assigned  
16 (57.1%) exact matches, in which:  
16 unique CDR3  
4 unique J



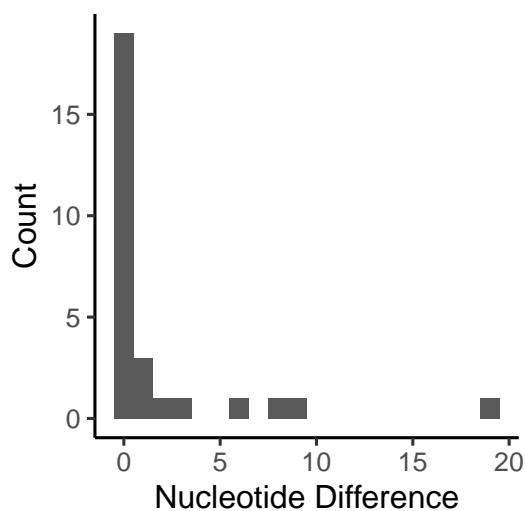
### IGHV3-23\*04

60 sequences assigned  
32 (53.3%) exact matches, in which:  
32 unique CDR3  
5 unique J



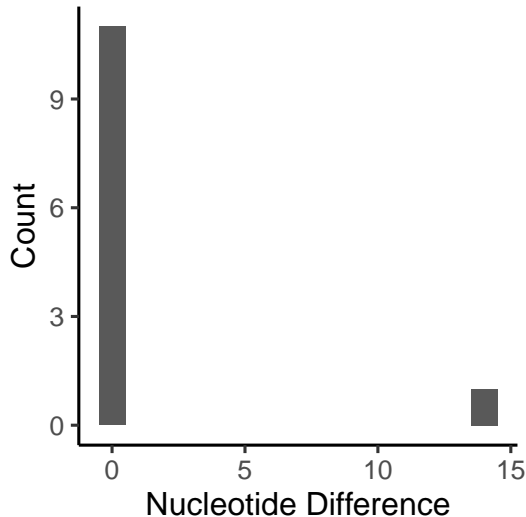
### IGHV3-11\*05

30 sequences assigned  
19 (63.3%) exact matches, in which:  
19 unique CDR3  
4 unique J



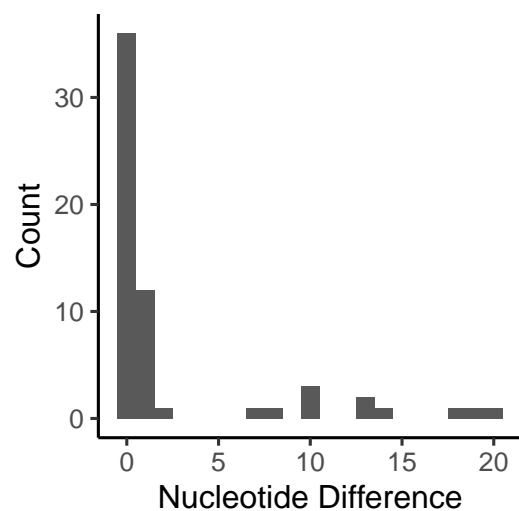
### IGHV3-20\*04

12 sequences assigned  
11 (91.7%) exact matches, in which:  
11 unique CDR3  
3 unique J



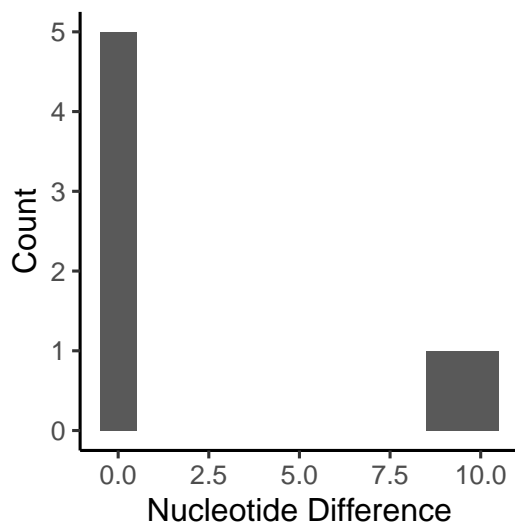
### IGHV3-33\*01

61 sequences assigned  
36 (59%) exact matches, in which:  
36 unique CDR3  
5 unique J



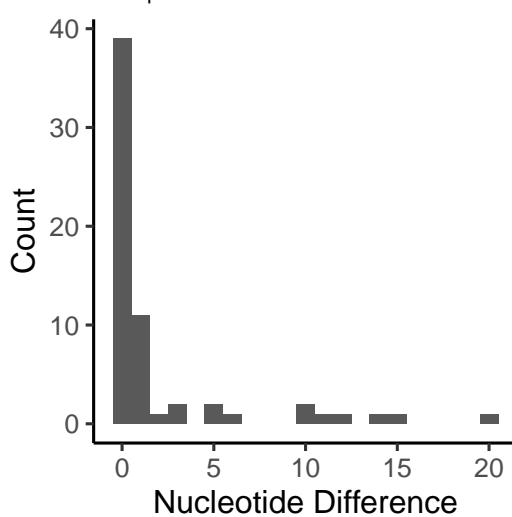
### IGHV3-13\*01

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



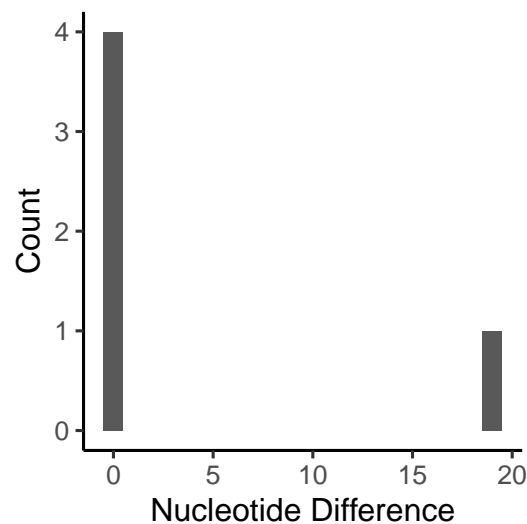
### IGHV3-21\*01

66 sequences assigned  
39 (59.1%) exact matches, in which:  
39 unique CDR3  
5 unique J



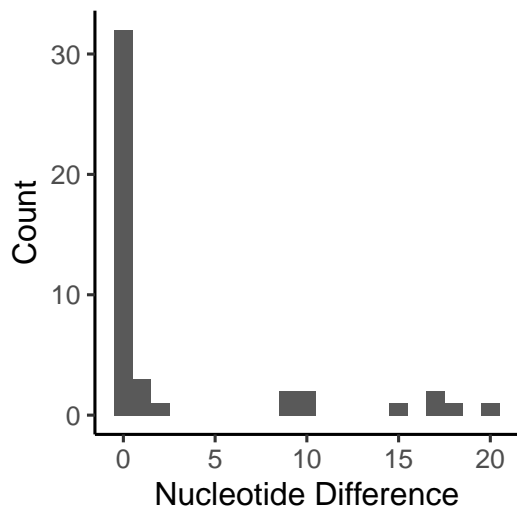
### IGHV3-43\*01

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



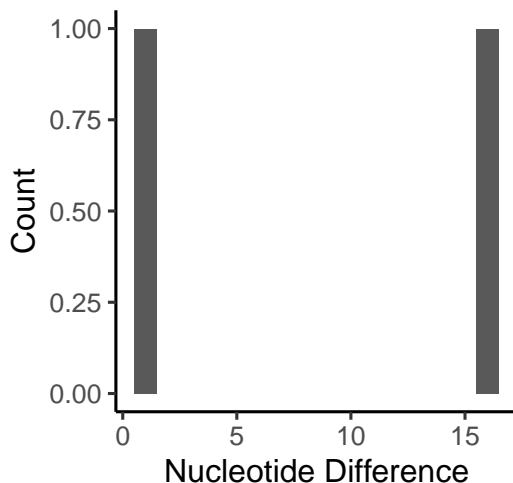
### IGHV3-48\*01

47 sequences assigned  
32 (68.1%) exact matches, in which:  
32 unique CDR3  
5 unique J



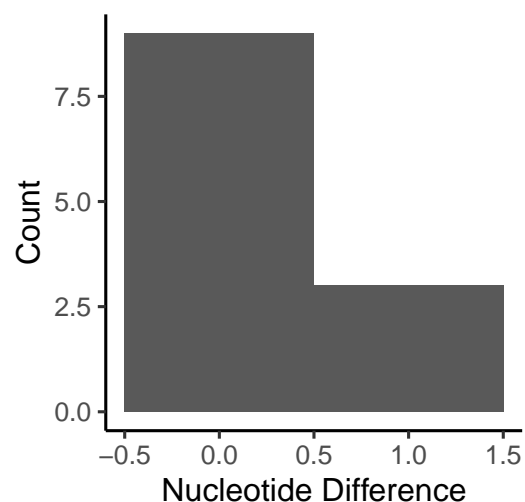
### IGHV3-53\*01

2 sequences assigned  
No exact matches.



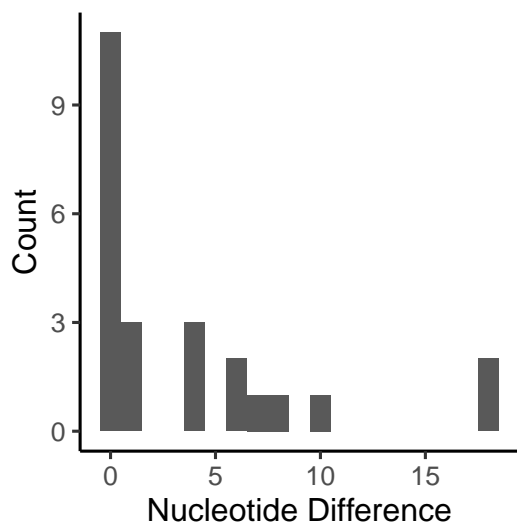
### IGHV3-66\*02

14 sequences assigned  
9 (64.3%) exact matches, in which:  
9 unique CDR3  
3 unique J



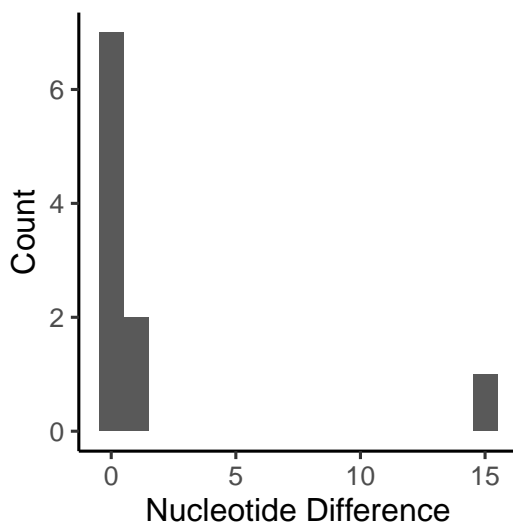
### IGHV3-48\*04

25 sequences assigned  
11 (44%) exact matches, in which:  
11 unique CDR3  
4 unique J



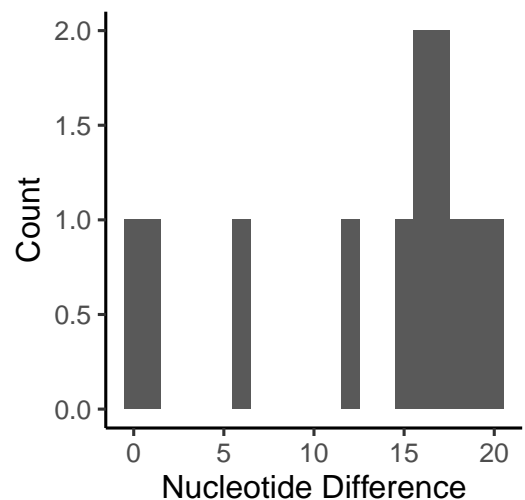
### IGHV3-53\*02

10 sequences assigned  
7 (70%) exact matches, in which:  
7 unique CDR3  
3 unique J



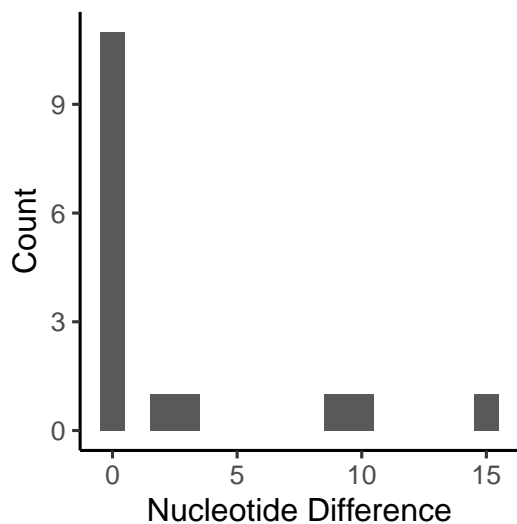
### IGHV3-72\*01

12 sequences assigned  
1 (8.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



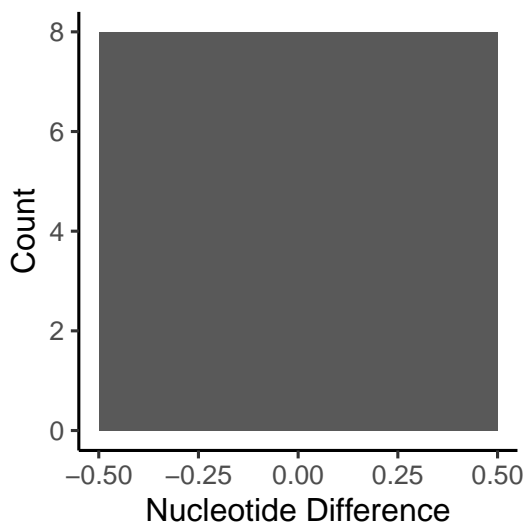
### IGHV3-49\*04

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



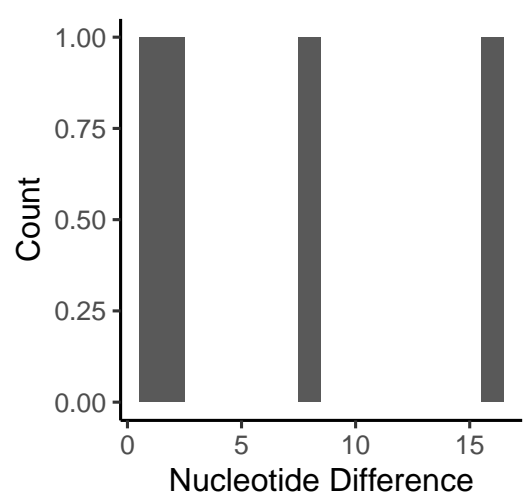
### IGHV3-64\*01

8 sequences assigned  
8 (100%) exact matches, in which:  
8 unique CDR3  
3 unique J



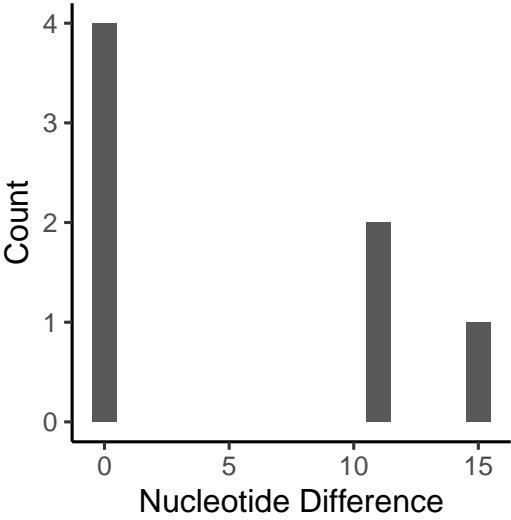
### IGHV3-73\*01

5 sequences assigned  
No exact matches.



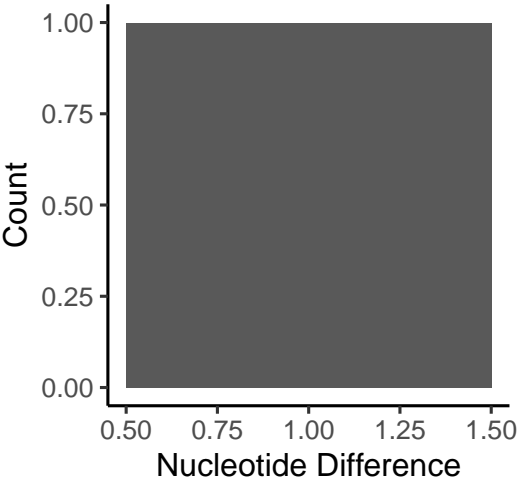
IGHV3-73\*02

7 sequences assigned  
4 (57.1%) exact matches, in which:  
4 unique CDR3  
2 unique J



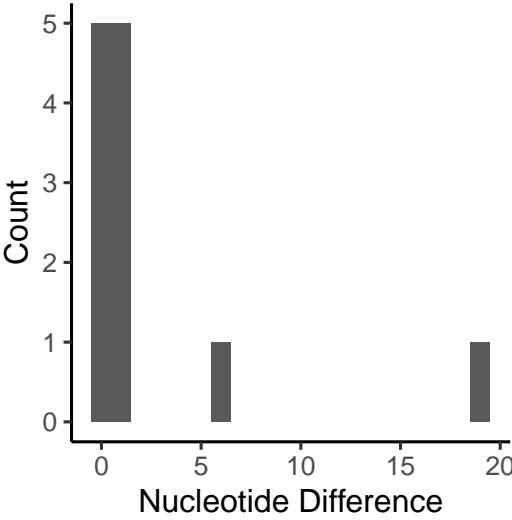
IGHV3-43D\*04

1 sequences assigned  
No exact matches.



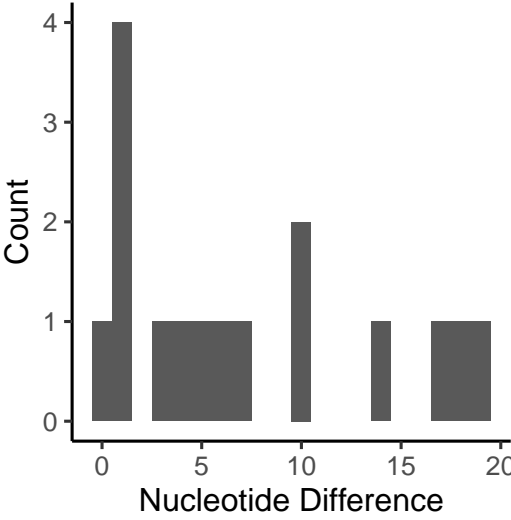
IGHV4-4\*07

13 sequences assigned  
5 (38.5%) exact matches, in which:  
5 unique CDR3  
4 unique J



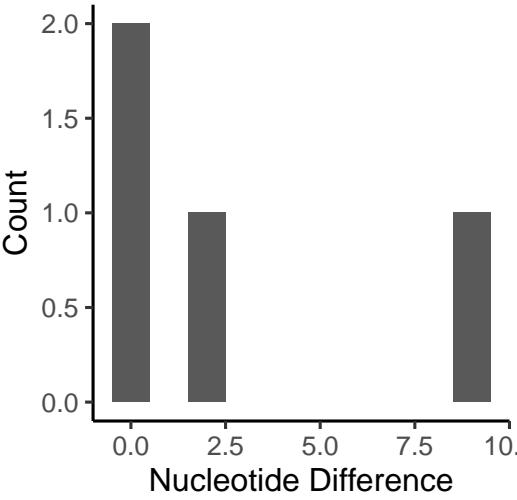
IGHV3-74\*01

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



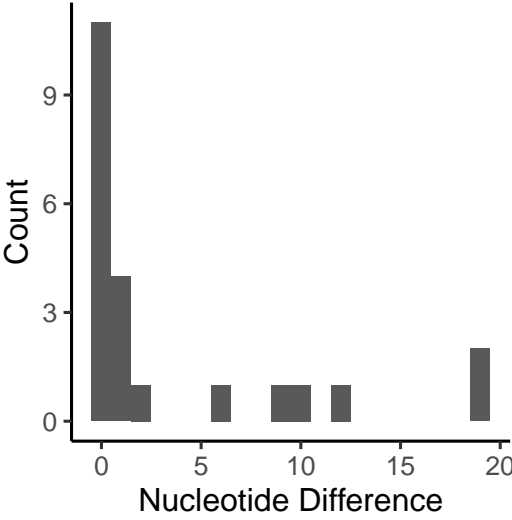
IGHV3-64D\*09

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



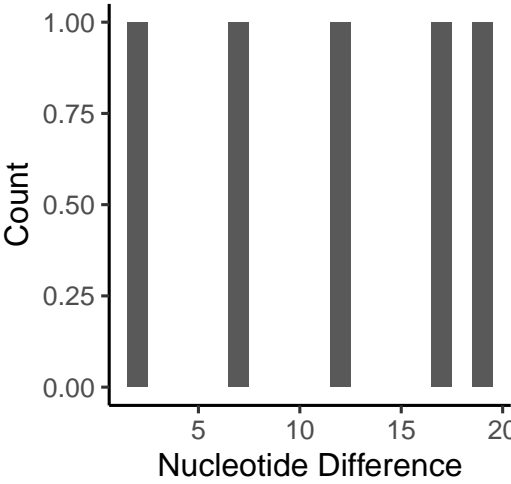
IGHV4-4\*09

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



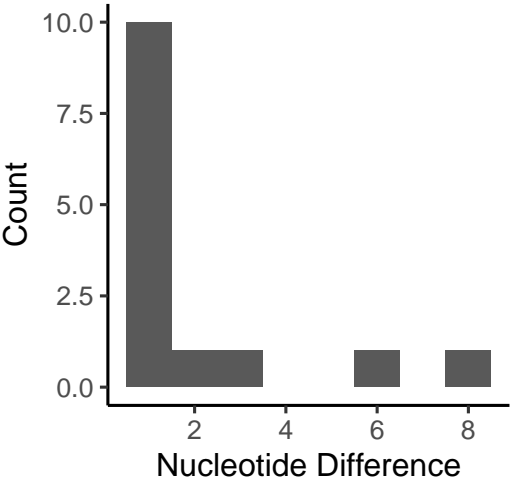
IGHV3-74\*02

12 sequences assigned  
No exact matches.



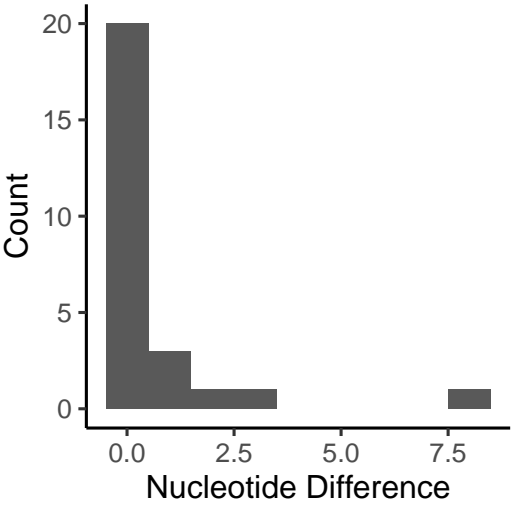
IGHV4-4\*02

15 sequences assigned  
No exact matches.



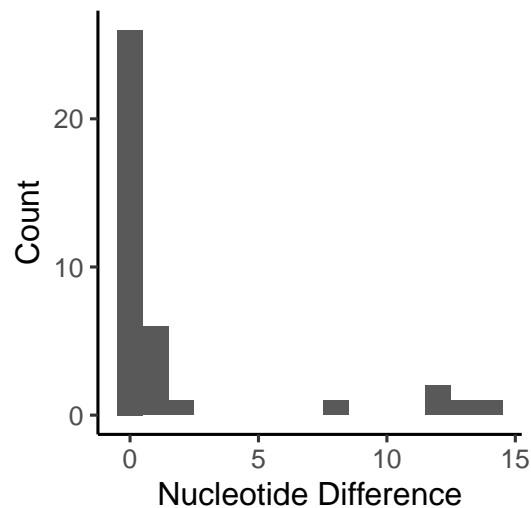
IGHV4-31\*03

26 sequences assigned  
20 (76.9%) exact matches, in which:  
20 unique CDR3  
5 unique J



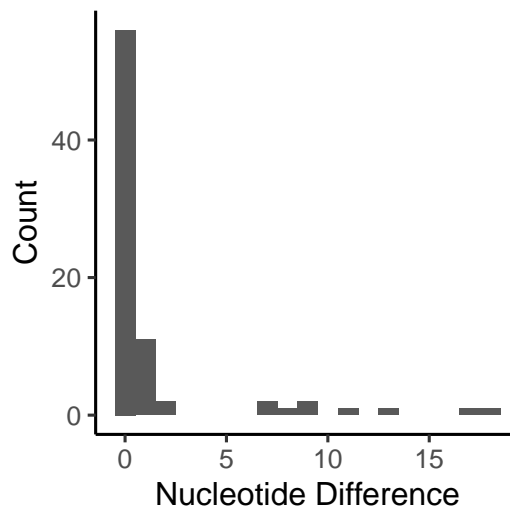
### IGHV4-34\*01

39 sequences assigned  
26 (66.7%) exact matches, in which:  
26 unique CDR3  
6 unique J



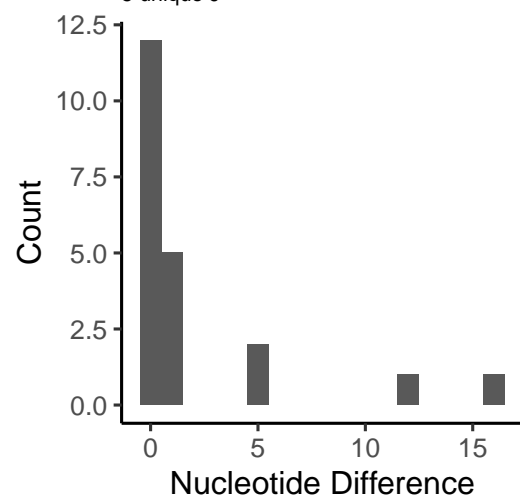
### IGHV4-39\*01

87 sequences assigned  
56 (64.4%) exact matches, in which:  
56 unique CDR3  
6 unique J



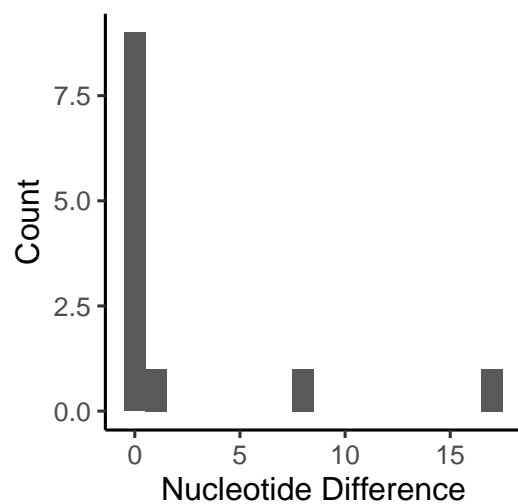
### IGHV4-61\*02

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



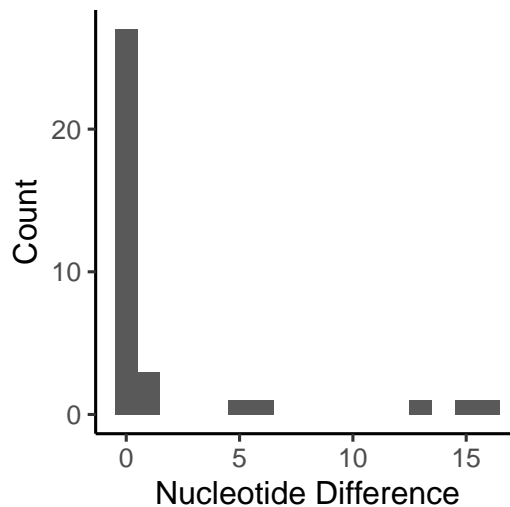
### IGHV4-38-2\*01

13 sequences assigned  
9 (69.2%) exact matches, in which:  
9 unique CDR3  
4 unique J



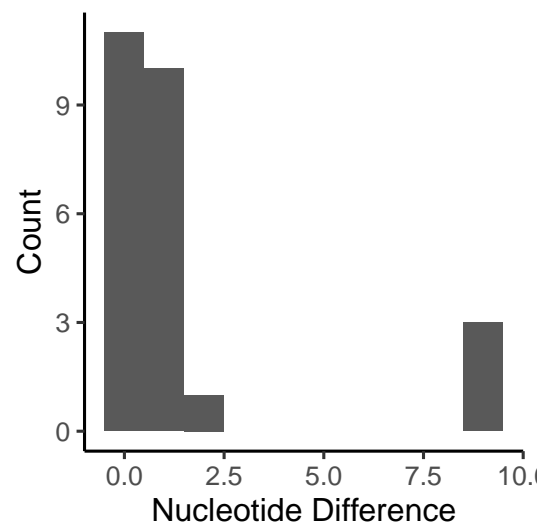
### IGHV4-59\*01

38 sequences assigned  
27 (71.1%) exact matches, in which:  
27 unique CDR3  
5 unique J



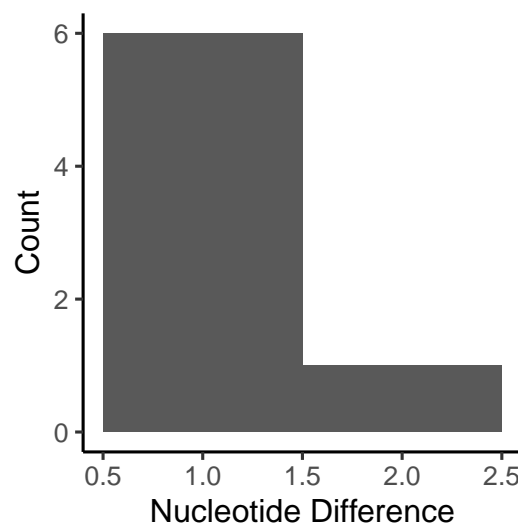
### IGHV5-10-1\*01

28 sequences assigned  
11 (39.3%) exact matches, in which:  
11 unique CDR3  
4 unique J



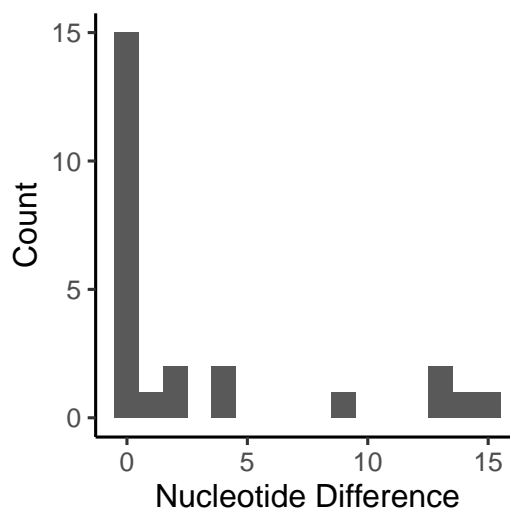
### IGHV4-38-2\*02

7 sequences assigned  
No exact matches.



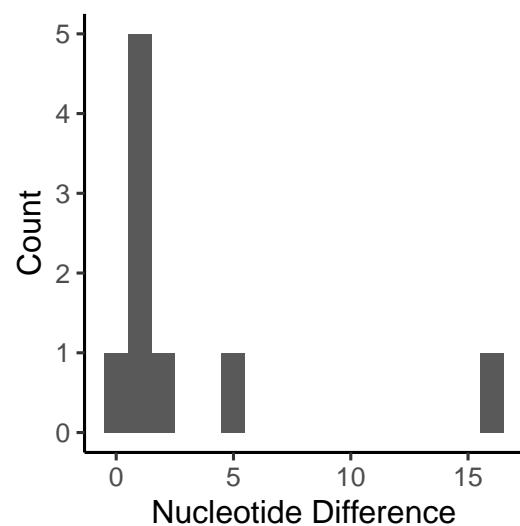
### IGHV4-59\*11

30 sequences assigned  
15 (50%) exact matches, in which:  
15 unique CDR3  
5 unique J



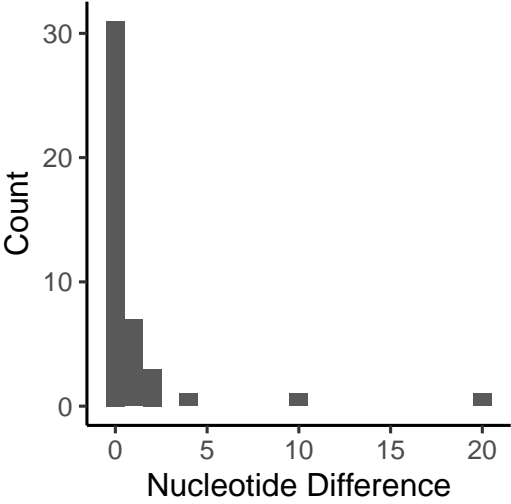
### IGHV5-51\*01

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



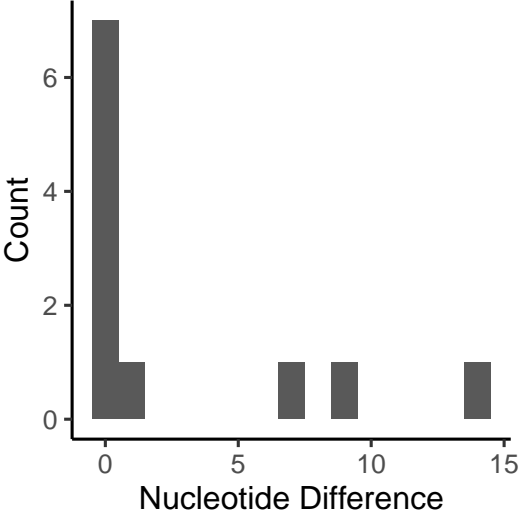
IGHV5-51\*03

44 sequences assigned  
31 (70.5%) exact matches, in which:  
31 unique CDR3  
5 unique J



IGHV6-1\*01

12 sequences assigned  
7 (58.3%) exact matches, in which:  
7 unique CDR3  
4 unique J







Warning – no inferred sequences found.

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