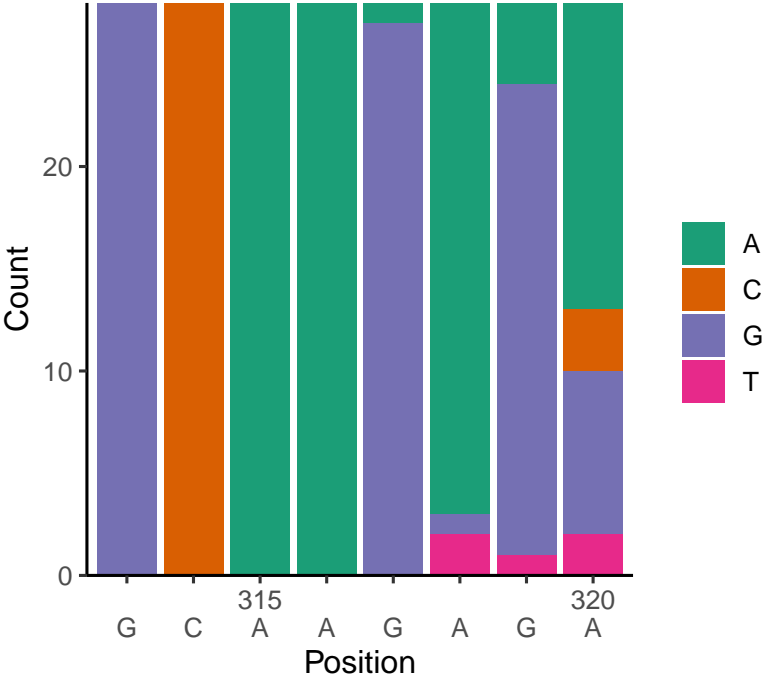
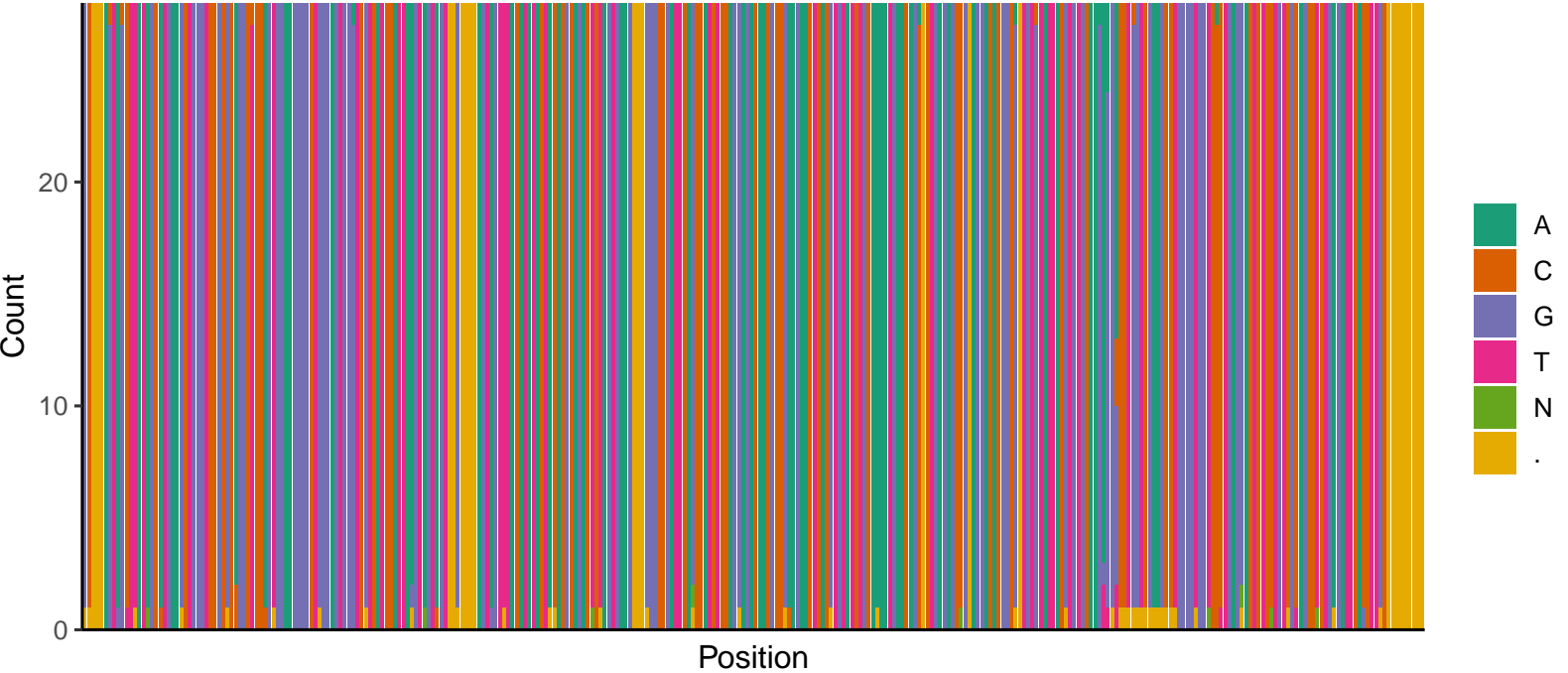


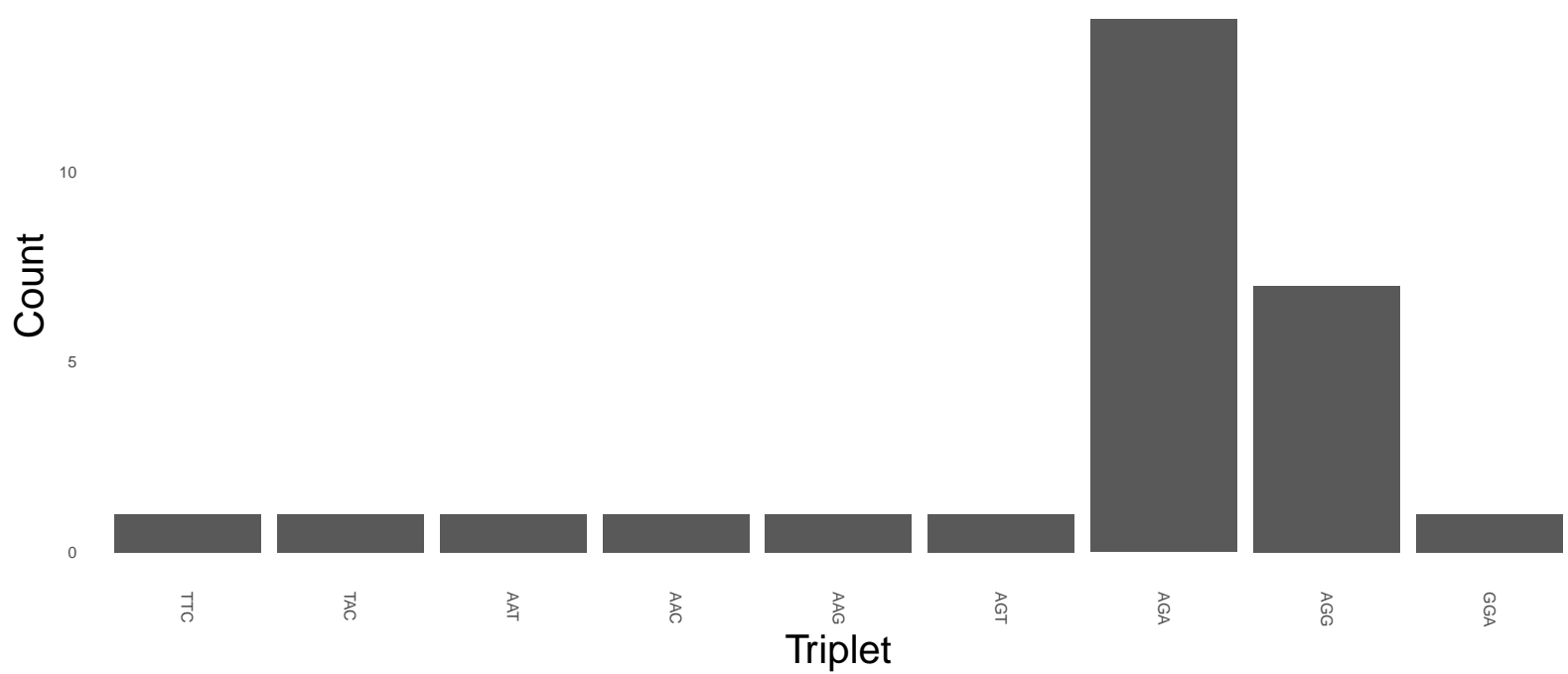
Gene IGHV3-21\*01\_G315A



Gene IGHV3-21\*01\_G315A

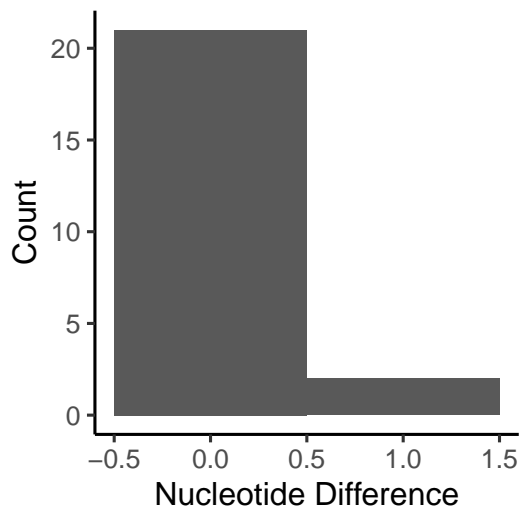


IGHV3-21\*01\_G315A- Final 3 nucleotides as a triplet



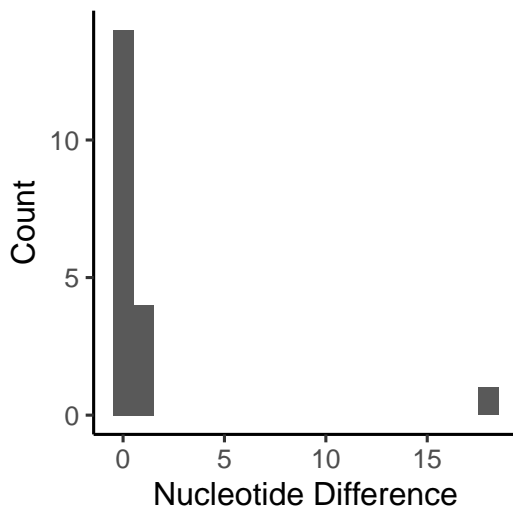
### IGHV1-2\*02

23 sequences assigned  
21 (91.3%) exact matches, in which:  
21 unique CDR3  
4 unique J



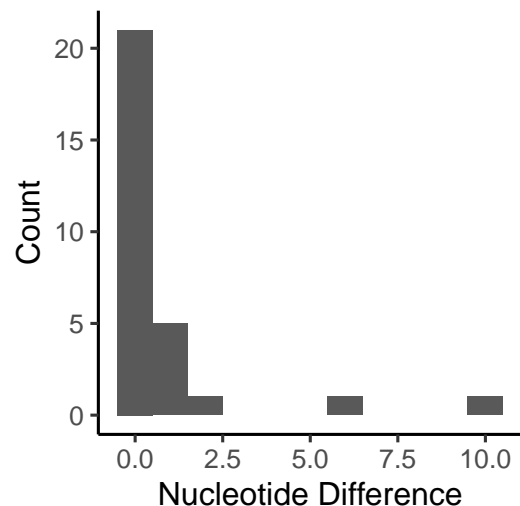
### IGHV1-8\*02

19 sequences assigned  
14 (73.7%) exact matches, in which:  
14 unique CDR3  
4 unique J



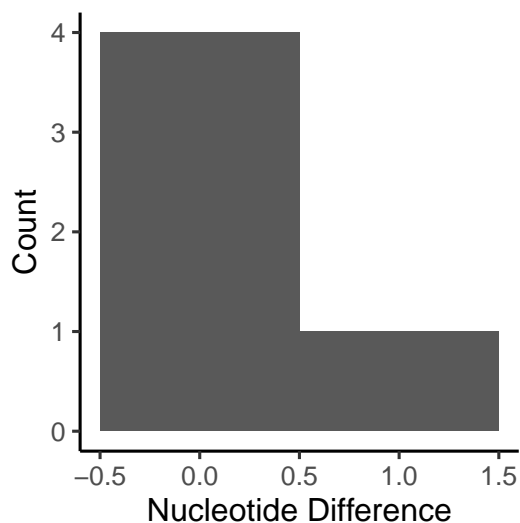
### IGHV1-46\*01

29 sequences assigned  
21 (72.4%) exact matches, in which:  
21 unique CDR3  
5 unique J



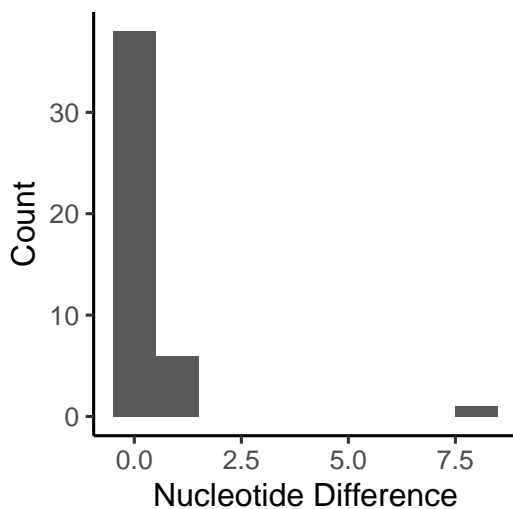
### IGHV1-2\*04

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



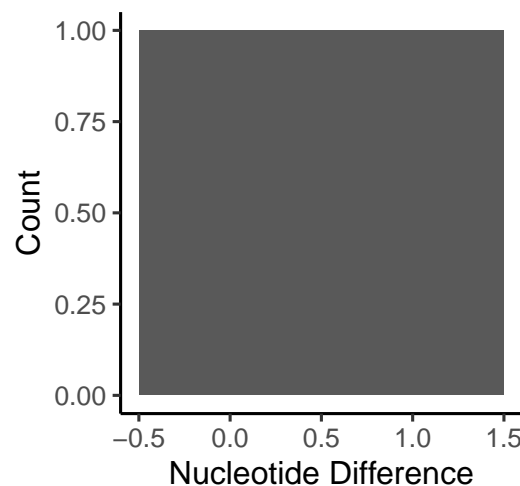
### IGHV1-18\*01

45 sequences assigned  
38 (84.4%) exact matches, in which:  
37 unique CDR3  
6 unique J



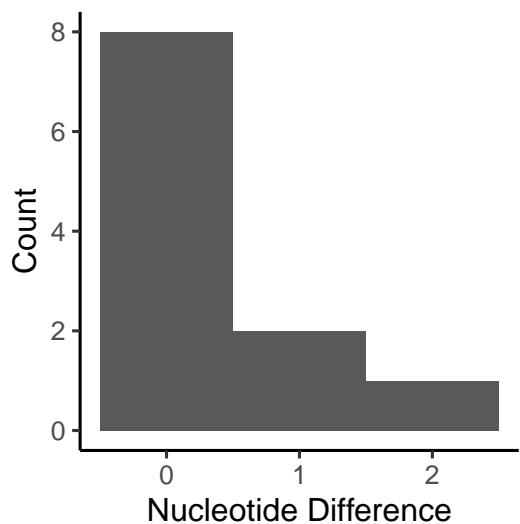
### IGHV1-58\*02

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



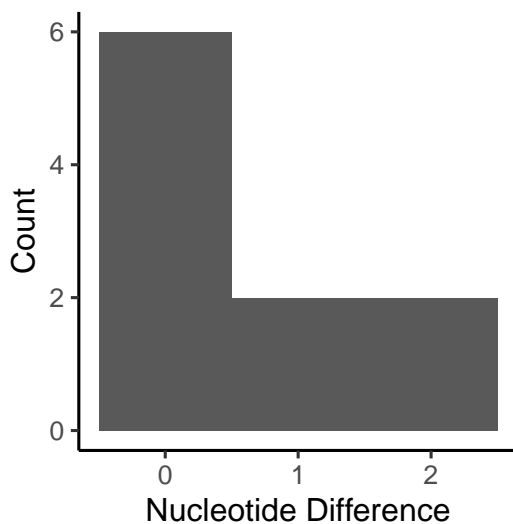
### IGHV1-3\*01

11 sequences assigned  
8 (72.7%) exact matches, in which:  
7 unique CDR3  
3 unique J



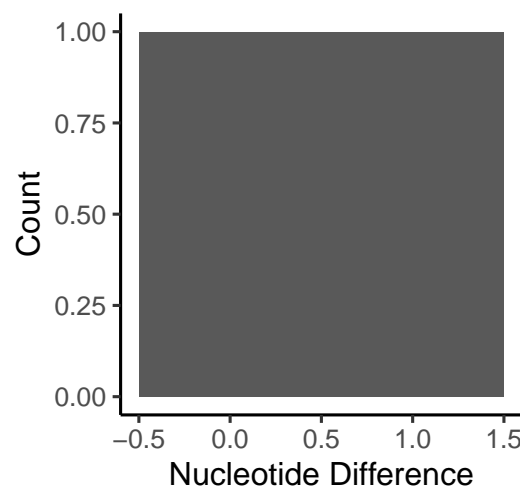
### IGHV1-24\*01

10 sequences assigned  
6 (60%) exact matches, in which:  
6 unique CDR3  
2 unique J



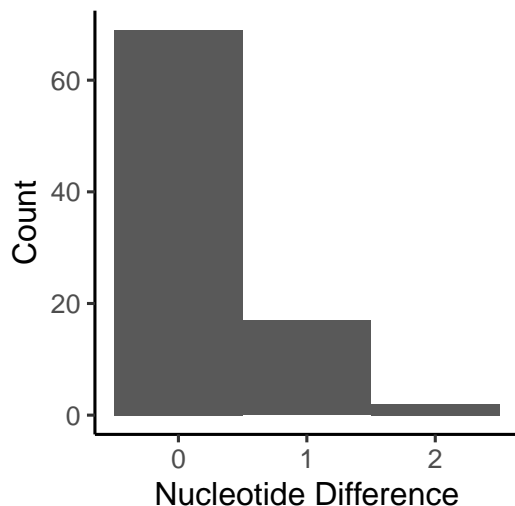
### IGHV1-69-2\*01

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



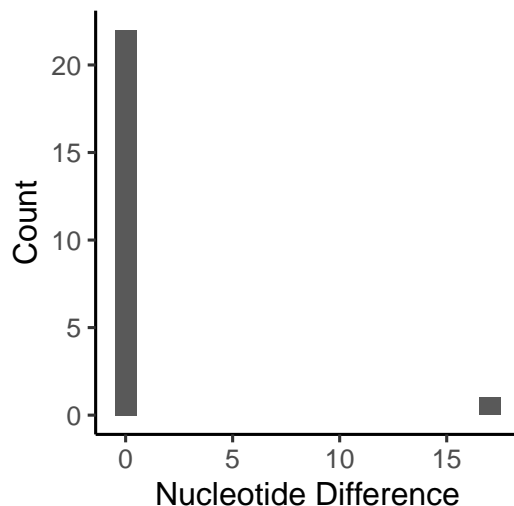
### IGHV1–69\*05

88 sequences assigned  
69 (78.4%) exact matches, in which:  
69 unique CDR3  
5 unique J



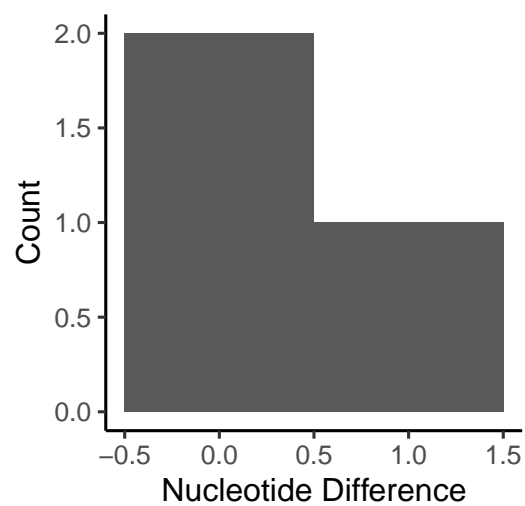
### IGHV2–5\*02

23 sequences assigned  
22 (95.7%) exact matches, in which:  
22 unique CDR3  
4 unique J



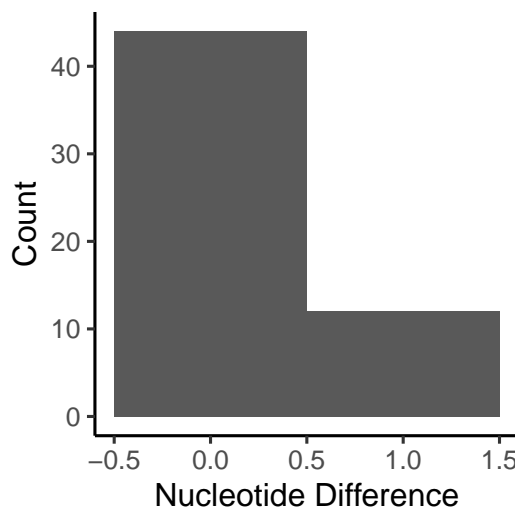
### IGHV2–70\*20

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



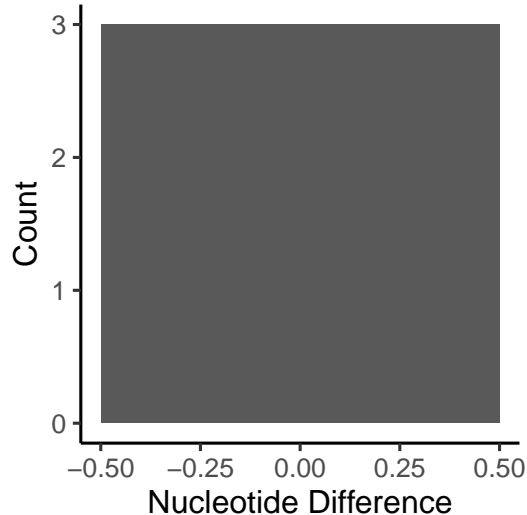
### IGHV1–69\*12

56 sequences assigned  
44 (78.6%) exact matches, in which:  
44 unique CDR3  
5 unique J



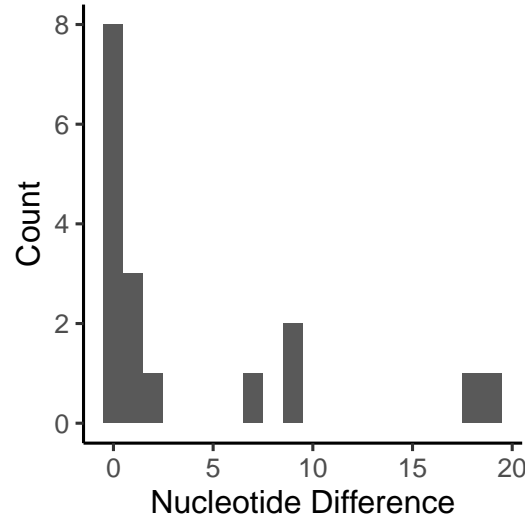
### IGHV2–26\*01

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



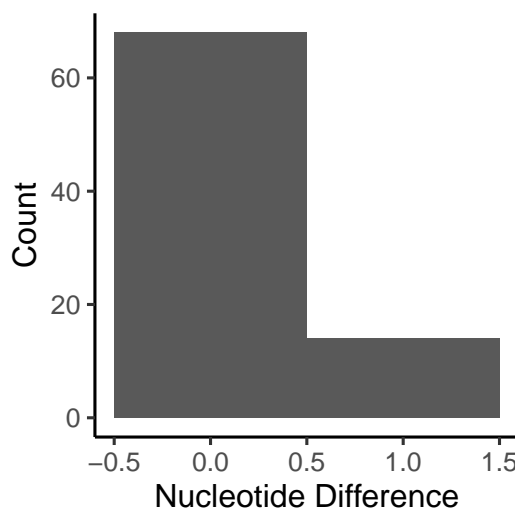
### IGHV3–7\*04

17 sequences assigned  
8 (47.1%) exact matches, in which:  
8 unique CDR3  
2 unique J



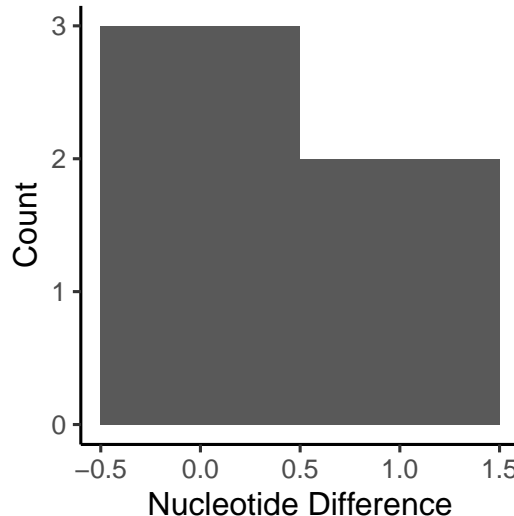
### IGHV1–69\*15

82 sequences assigned  
68 (82.9%) exact matches, in which:  
68 unique CDR3  
5 unique J



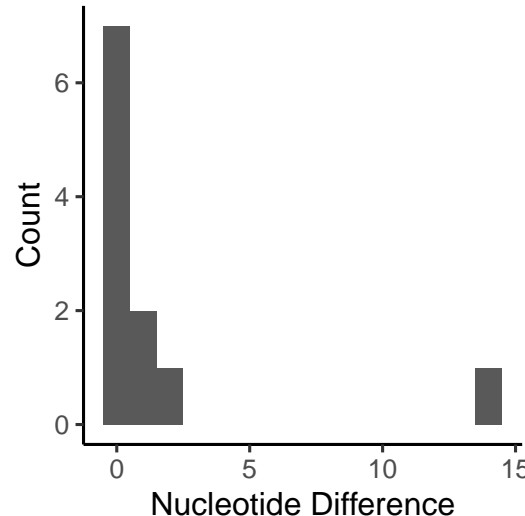
### IGHV2–70\*15

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



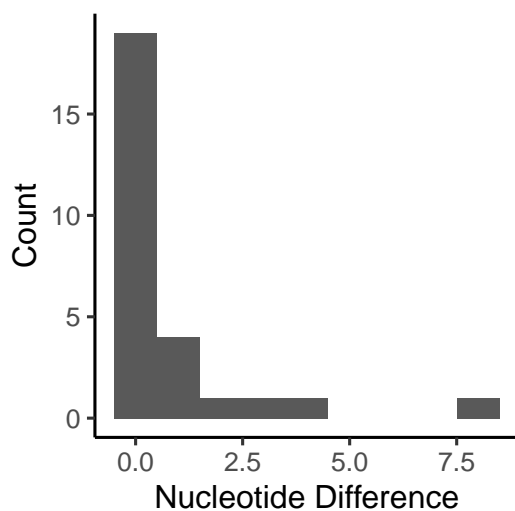
### IGHV3–7\*05

11 sequences assigned  
7 (63.6%) exact matches, in which:  
7 unique CDR3  
5 unique J



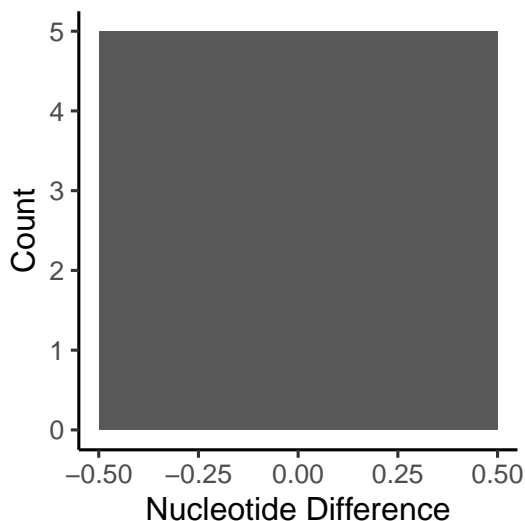
### IGHV3-9\*01

27 sequences assigned  
19 (70.4%) exact matches, in which:  
19 unique CDR3  
4 unique J



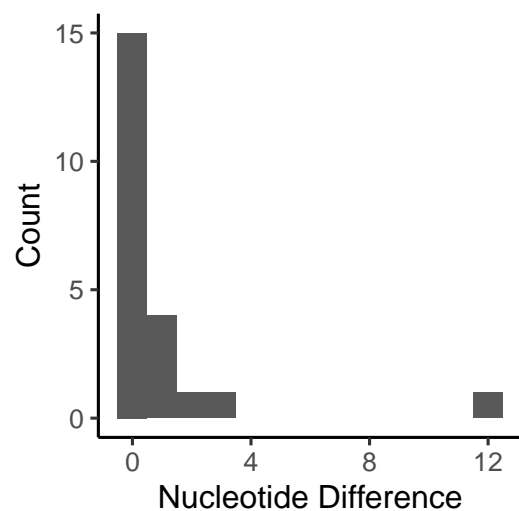
### IGHV3-13\*01

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



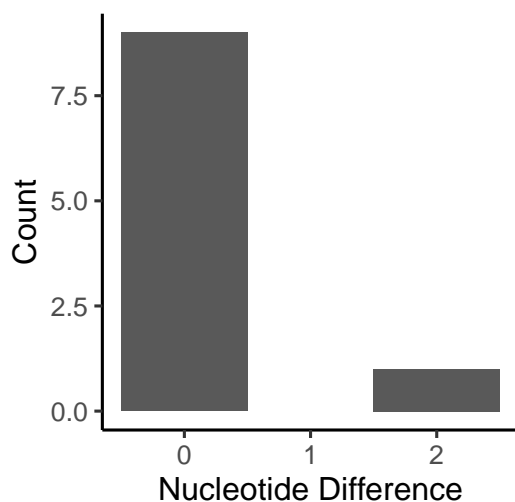
### IGHV3-21\*01

22 sequences assigned  
15 (68.2%) exact matches, in which:  
15 unique CDR3  
4 unique J



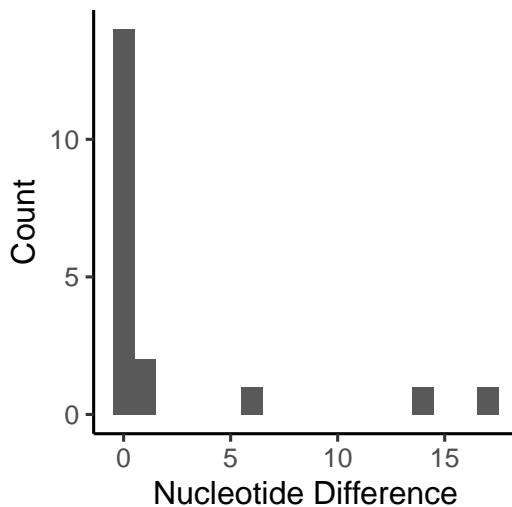
### IGHV3-11\*04

10 sequences assigned  
9 (90%) exact matches, in which:  
9 unique CDR3  
5 unique J



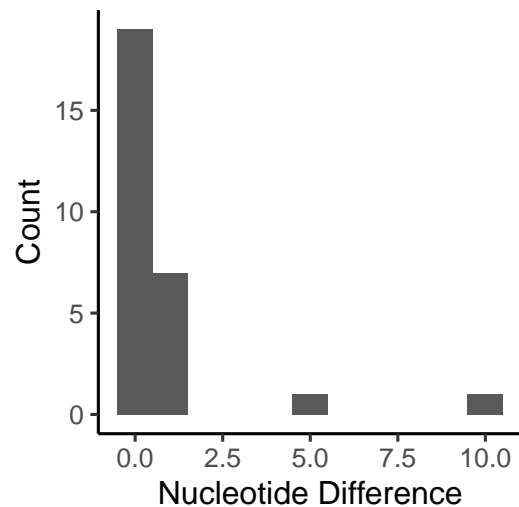
### IGHV3-15\*01

19 sequences assigned  
14 (73.7%) exact matches, in which:  
14 unique CDR3  
4 unique J



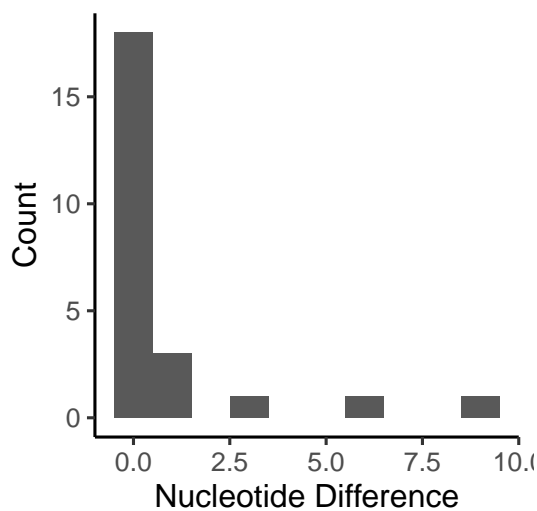
### IGHV3-21\*01\_G315A

28 sequences assigned  
19 (67.9%) exact matches, in which:  
19 unique CDR3  
5 unique J



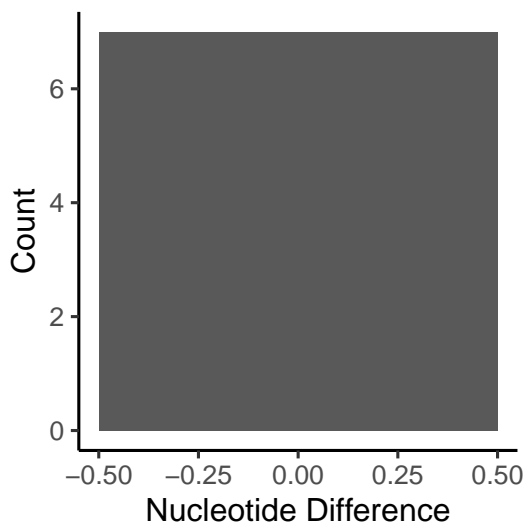
### IGHV3-11\*05

24 sequences assigned  
18 (75%) exact matches, in which:  
18 unique CDR3  
4 unique J



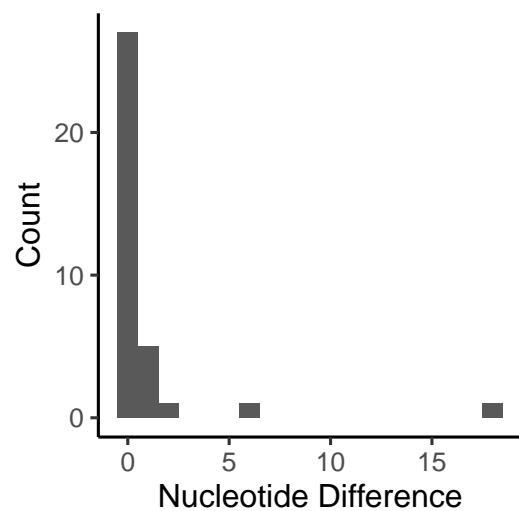
### IGHV3-20\*04

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



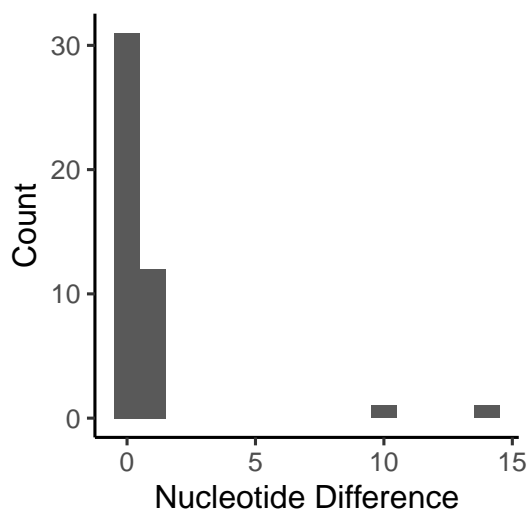
### IGHV3-23\*04

35 sequences assigned  
27 (77.1%) exact matches, in which:  
27 unique CDR3  
4 unique J



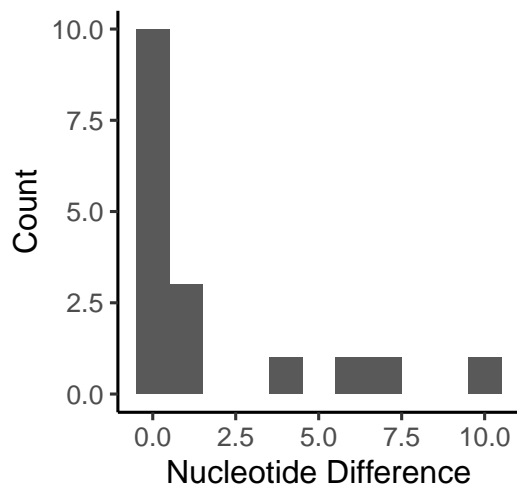
### IGHV3-33\*01

45 sequences assigned  
31 (68.9%) exact matches, in which:  
31 unique CDR3  
5 unique J



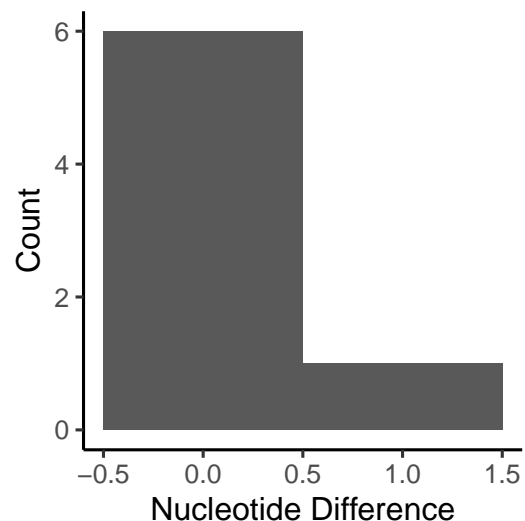
### IGHV3-48\*04

17 sequences assigned  
10 (58.8%) exact matches, in which:  
10 unique CDR3  
4 unique J



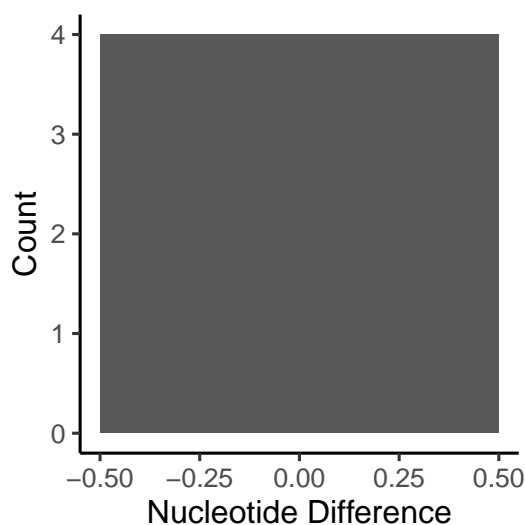
### IGHV3-53\*02

7 sequences assigned  
6 (85.7%) exact matches, in which:  
6 unique CDR3  
3 unique J



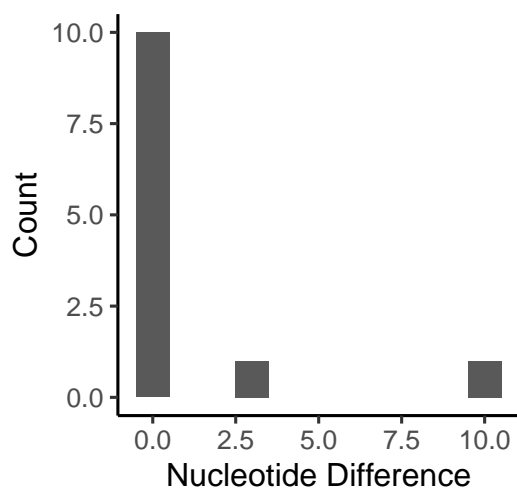
### IGHV3-43\*01

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



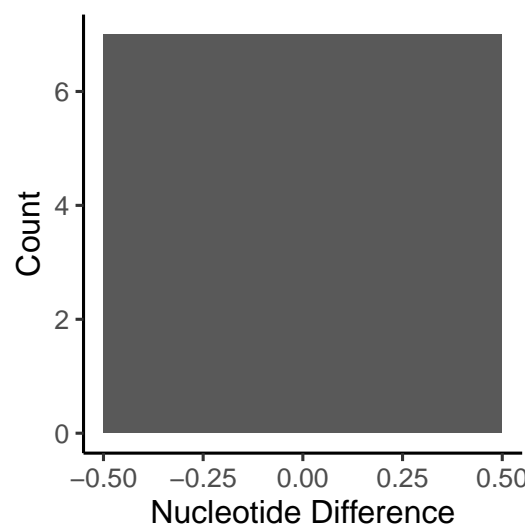
### IGHV3-49\*04

12 sequences assigned  
10 (83.3%) exact matches, in which:  
10 unique CDR3  
2 unique J



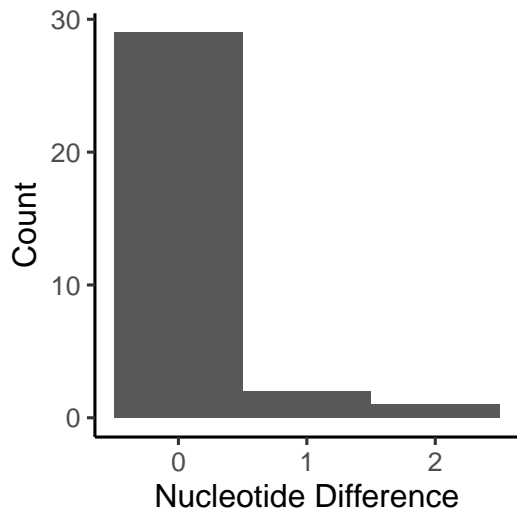
### IGHV3-64\*01

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



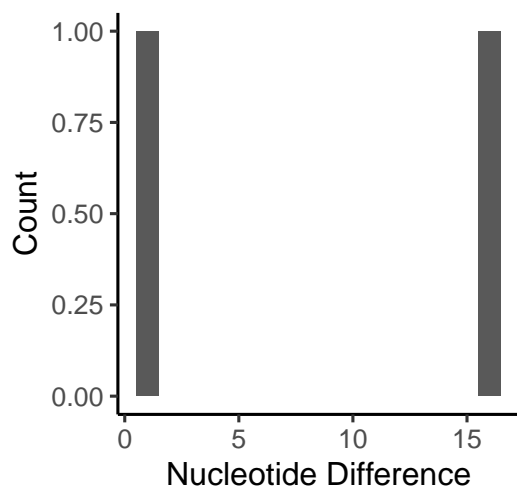
### IGHV3-48\*01

33 sequences assigned  
29 (87.9%) exact matches, in which:  
29 unique CDR3  
5 unique J



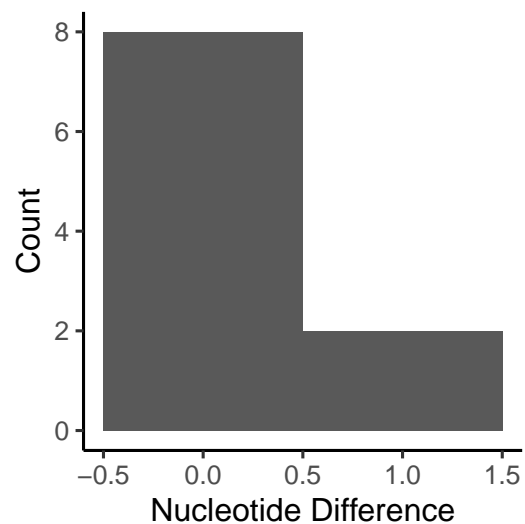
### IGHV3-53\*01

2 sequences assigned  
No exact matches.



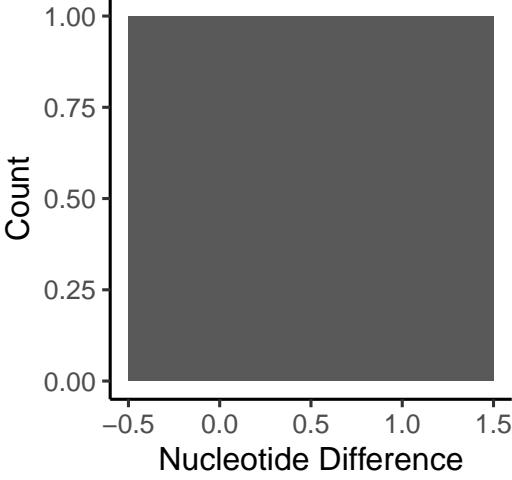
### IGHV3-66\*02

10 sequences assigned  
8 (80%) exact matches, in which:  
8 unique CDR3  
3 unique J



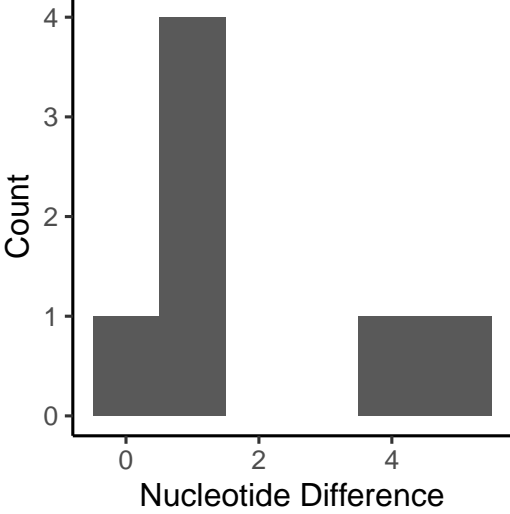
IGHV3-72\*01

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



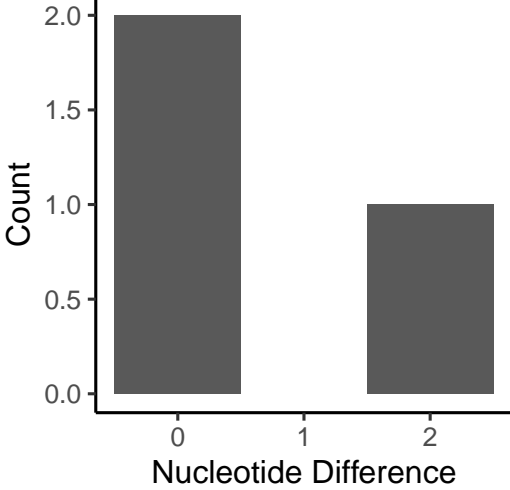
IGHV3-74\*01

7 sequences assigned  
1 (14.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



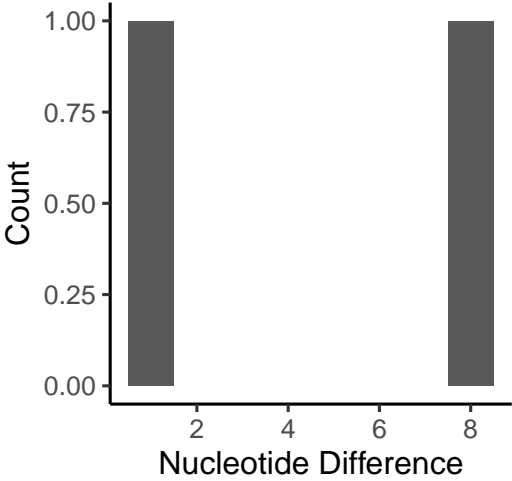
IGHV3-64D\*09

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



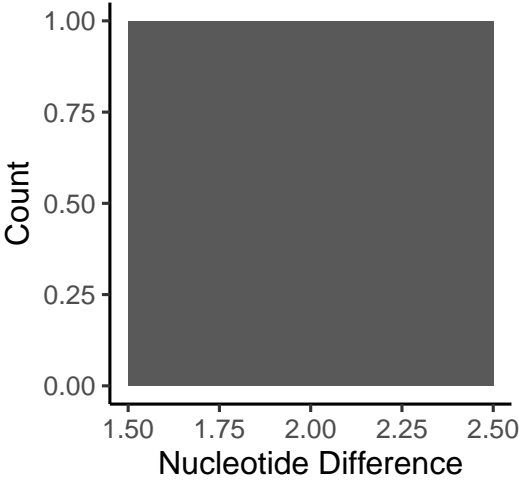
IGHV3-73\*01

2 sequences assigned  
No exact matches.



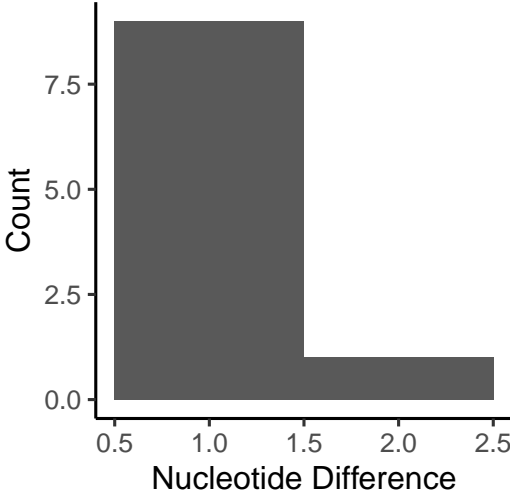
IGHV3-74\*02

1 sequences assigned  
No exact matches.



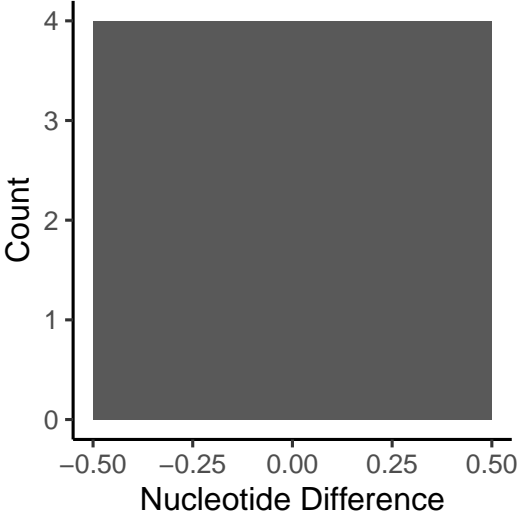
IGHV4-4\*02

11 sequences assigned  
No exact matches.



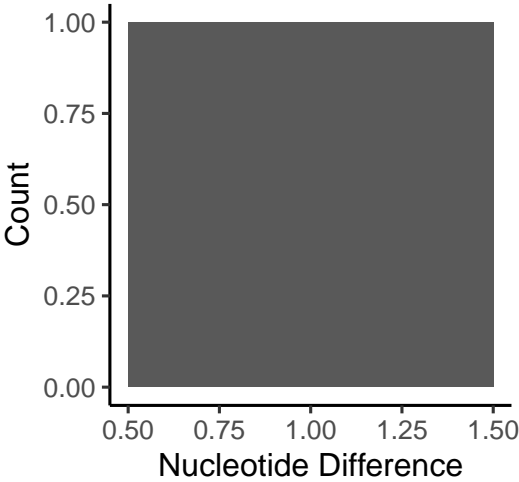
IGHV3-73\*02

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



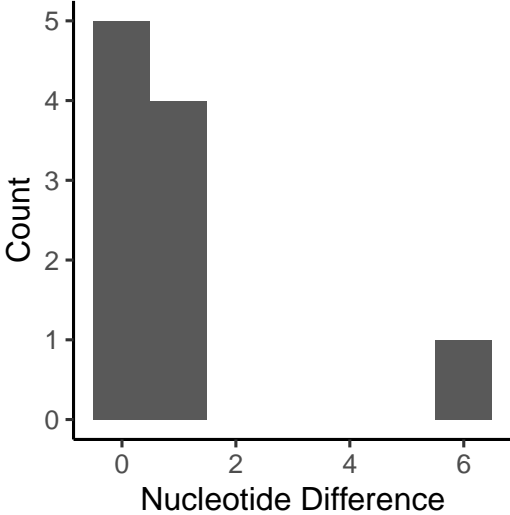
IGHV3-43D\*04

1 sequences assigned  
No exact matches.



IGHV4-4\*07

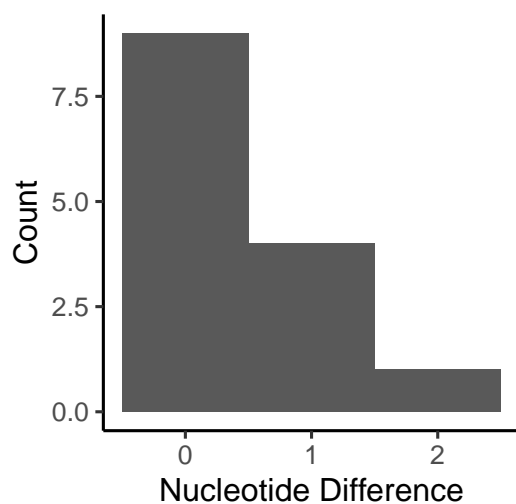
10 sequences assigned  
5 (50%) exact matches, in which:  
5 unique CDR3  
4 unique J





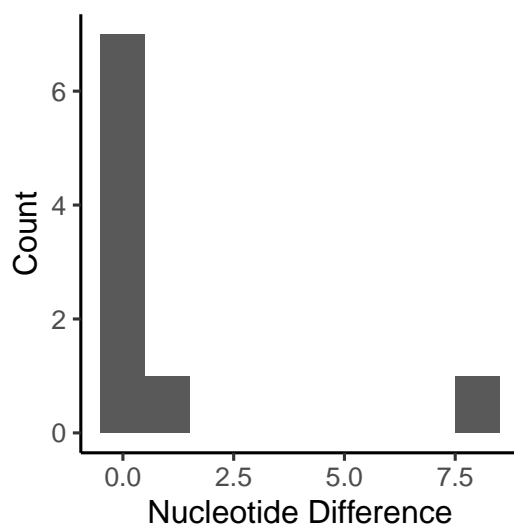
### IGHV4-4\*09

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



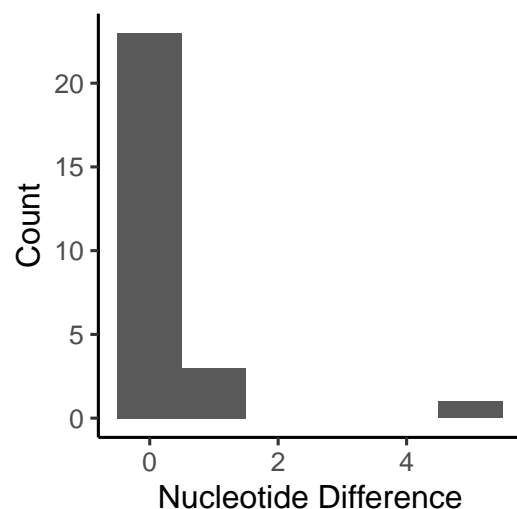
### IGHV4-38-2\*01

9 sequences assigned  
7 (77.8%) exact matches, in which:  
7 unique CDR3  
4 unique J



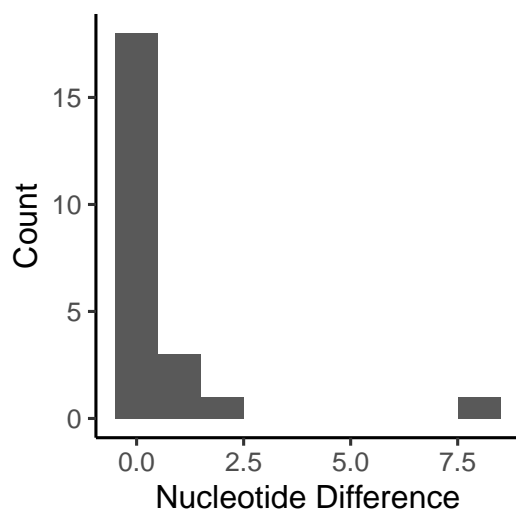
### IGHV4-59\*01

27 sequences assigned  
23 (85.2%) exact matches, in which:  
23 unique CDR3  
5 unique J



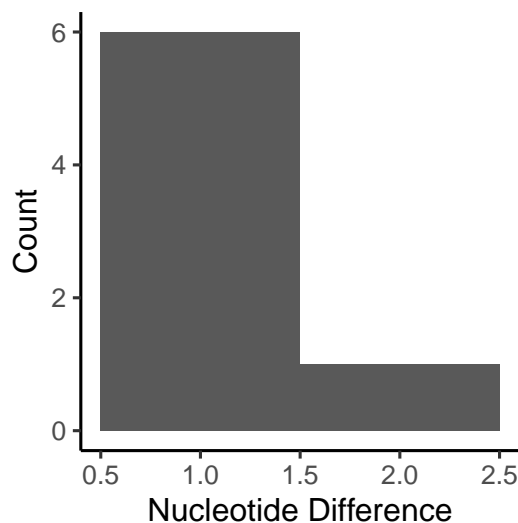
### IGHV4-31\*03

23 sequences assigned  
18 (78.3%) exact matches, in which:  
18 unique CDR3  
4 unique J



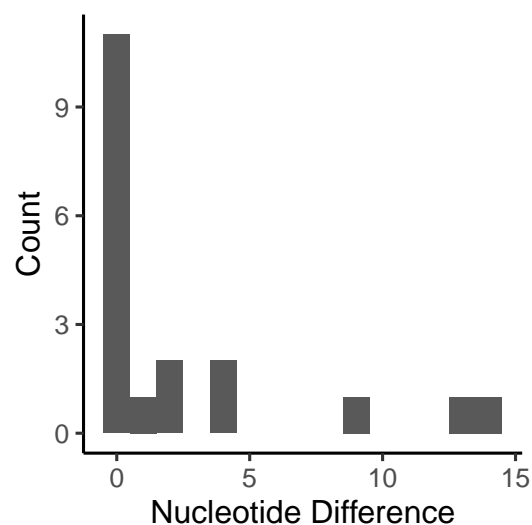
### IGHV4-38-2\*02

7 sequences assigned  
No exact matches.



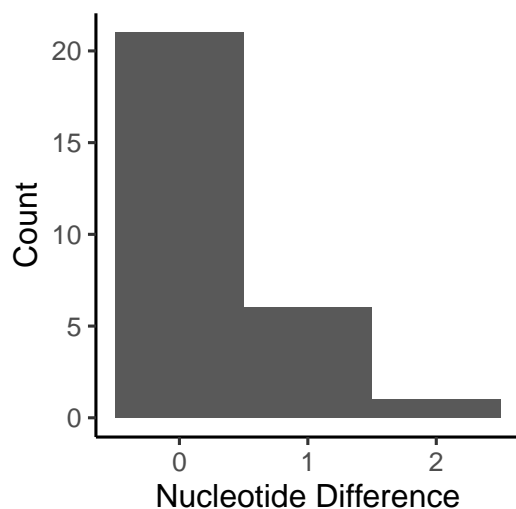
### IGHV4-59\*11

19 sequences assigned  
11 (57.9%) exact matches, in which:  
11 unique CDR3  
4 unique J



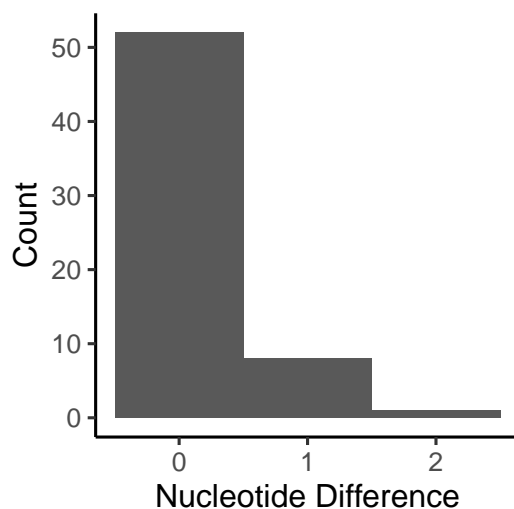
### IGHV4-34\*01

28 sequences assigned  
21 (75%) exact matches, in which:  
21 unique CDR3  
6 unique J



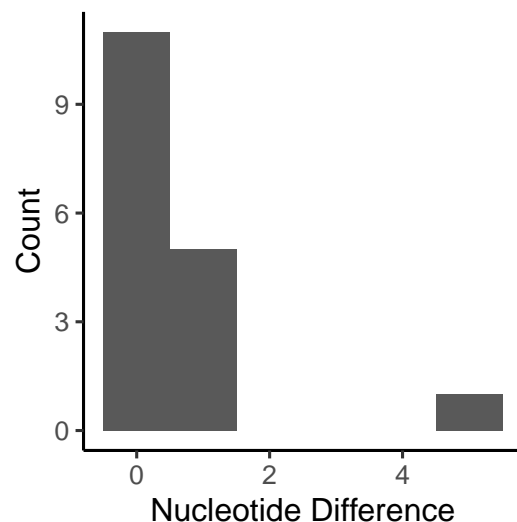
### IGHV4-39\*01

61 sequences assigned  
52 (85.2%) exact matches, in which:  
52 unique CDR3  
6 unique J



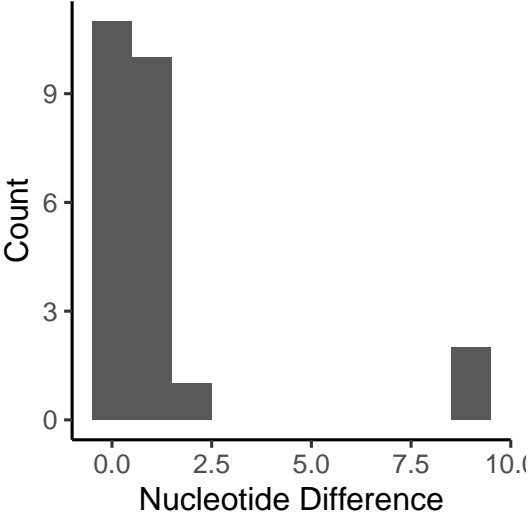
### IGHV4-61\*02

17 sequences assigned  
11 (64.7%) exact matches, in which:  
11 unique CDR3  
5 unique J



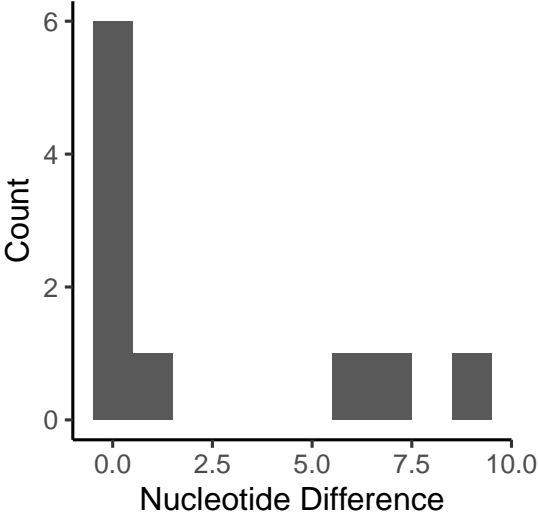
IGHV5-10-1\*01

24 sequences assigned  
11 (45.8%) exact matches, in which:  
11 unique CDR3  
4 unique J



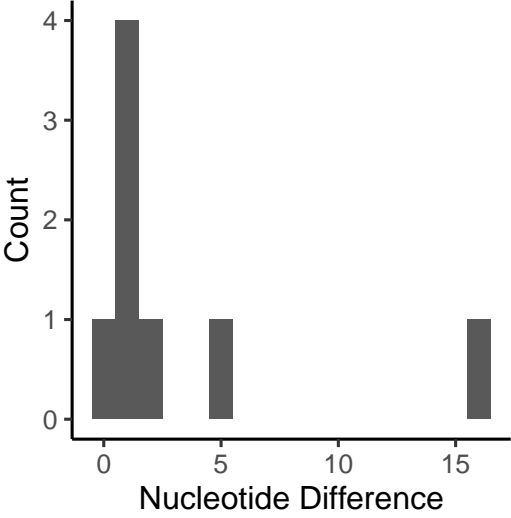
IGHV6-1\*01

10 sequences assigned  
6 (60%) exact matches, in which:  
6 unique CDR3  
3 unique J



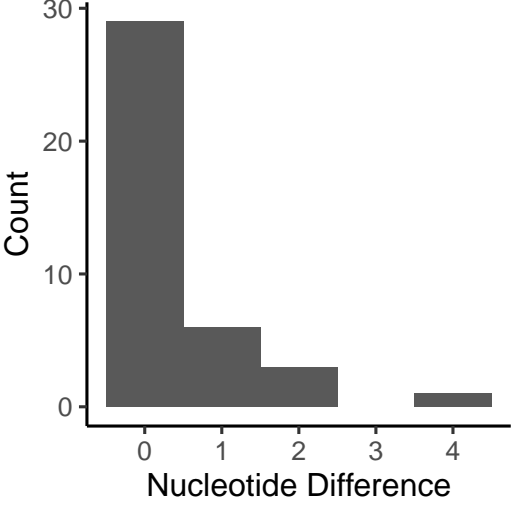
IGHV5-51\*01

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

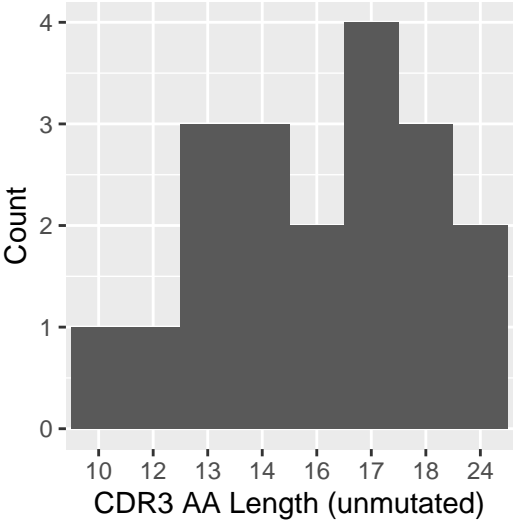


IGHV5-51\*03

39 sequences assigned  
29 (74.4%) exact matches, in which:  
29 unique CDR3  
5 unique J



IGHV3-21\*01\_G315A





[illegible]