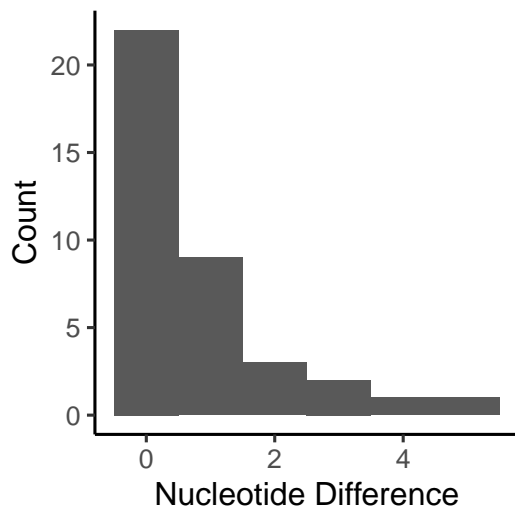


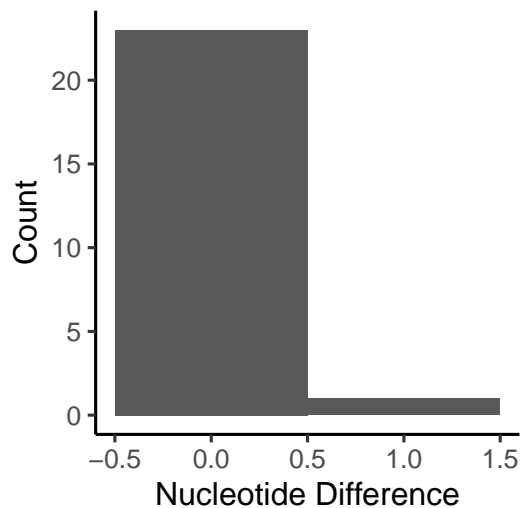
### IGHV1-2\*02

38 sequences assigned  
22 (57.9%) exact matches, in which:  
20 unique CDR3  
4 unique J



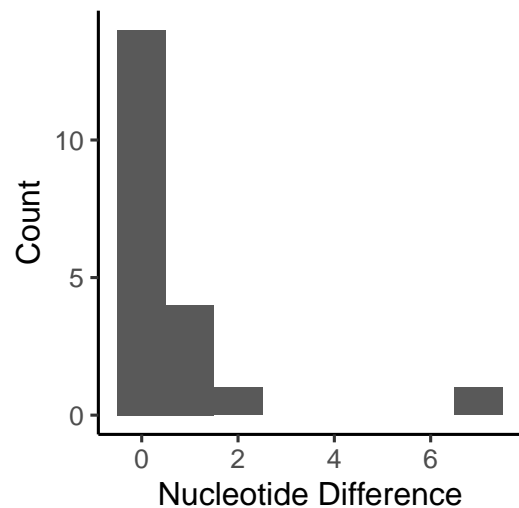
### IGHV1-8\*01

24 sequences assigned  
23 (95.8%) exact matches, in which:  
23 unique CDR3  
5 unique J



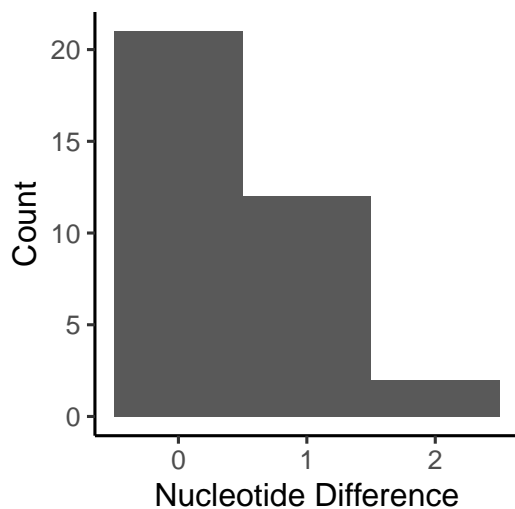
### IGHV1-46\*03

20 sequences assigned  
14 (70%) exact matches, in which:  
14 unique CDR3  
6 unique J



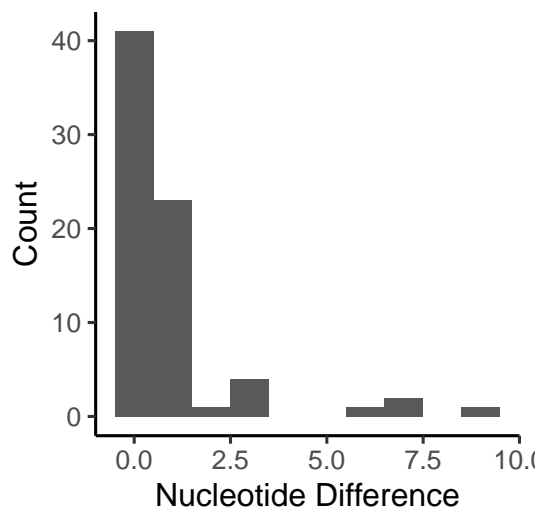
### IGHV1-2\*06

35 sequences assigned  
21 (60%) exact matches, in which:  
20 unique CDR3  
6 unique J



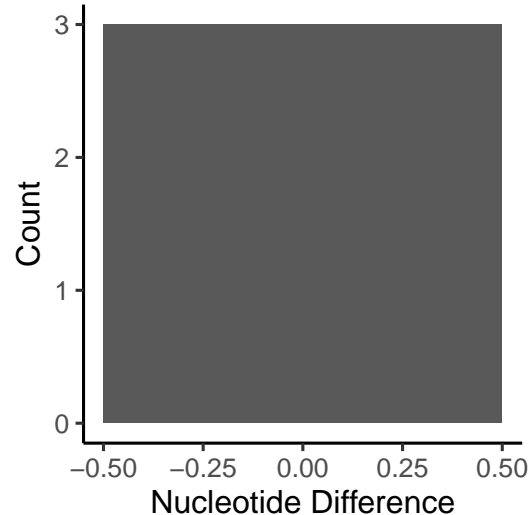
### IGHV1-18\*01

73 sequences assigned  
41 (56.2%) exact matches, in which:  
39 unique CDR3  
6 unique J



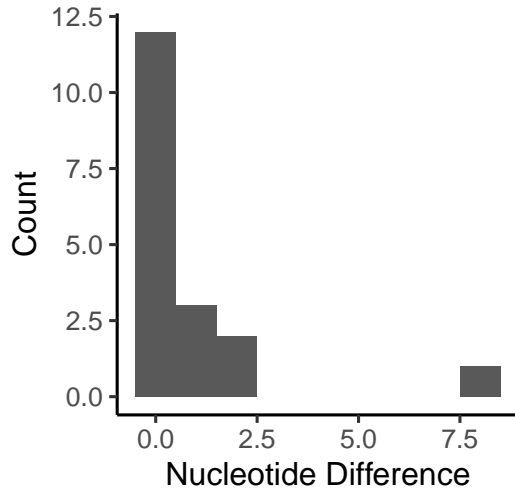
### IGHV1-58\*02

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



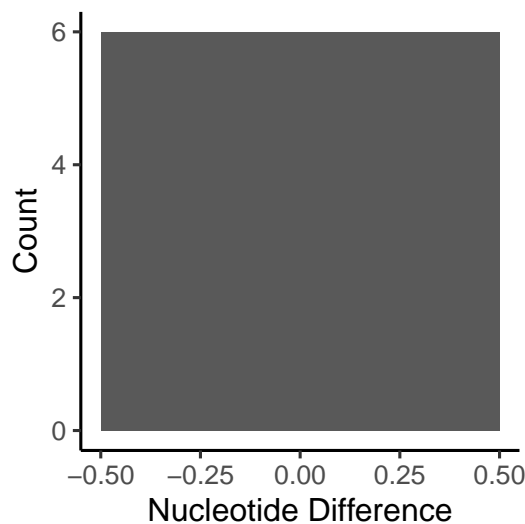
### IGHV1-3\*01

18 sequences assigned  
12 (66.7%) exact matches, in which:  
11 unique CDR3  
4 unique J



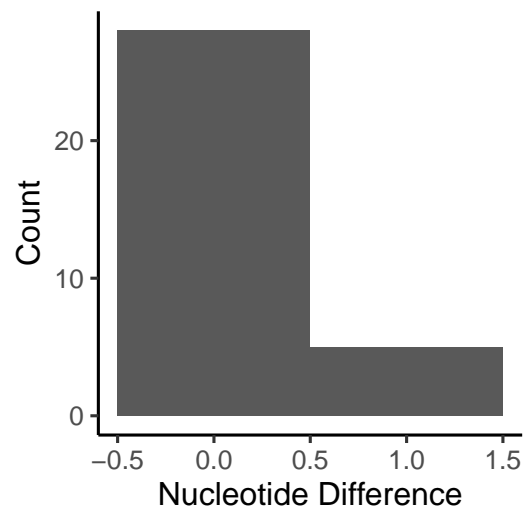
### IGHV1-24\*01

6 sequences assigned  
6 (100%) exact matches, in which:  
6 unique CDR3  
3 unique J



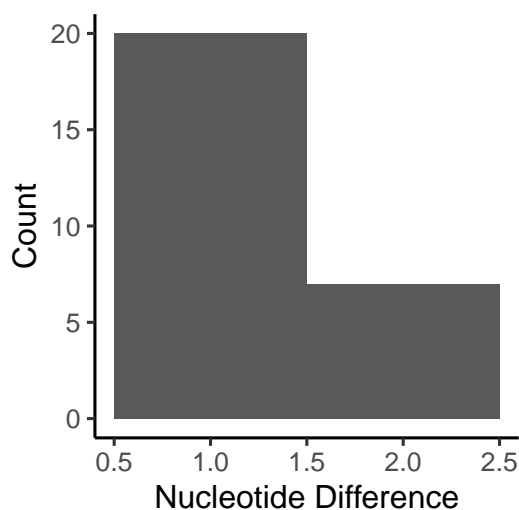
### IGHV1-69\*02

33 sequences assigned  
28 (84.8%) exact matches, in which:  
28 unique CDR3  
6 unique J



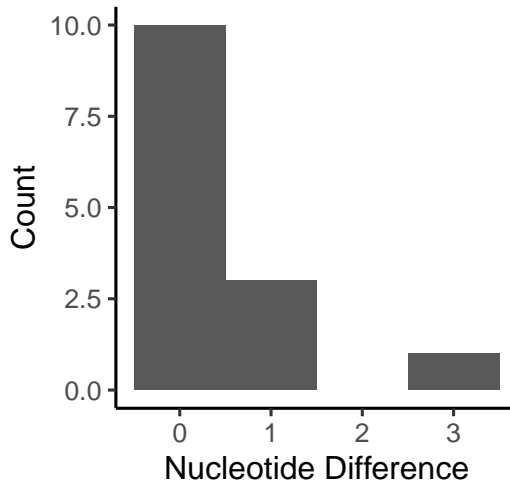
### IGHV1-69\*08

27 sequences assigned  
No exact matches.



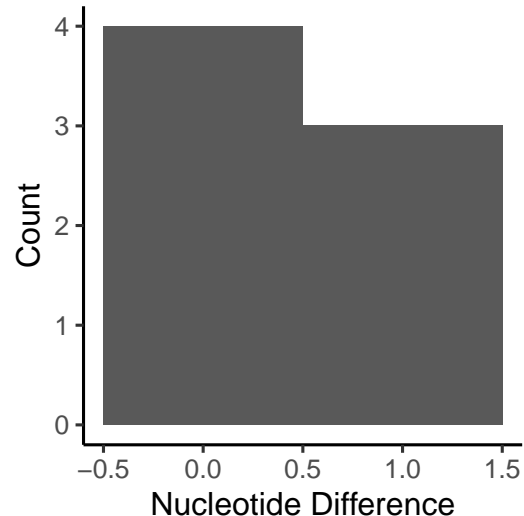
### IGHV2-26\*01

14 sequences assigned  
10 (71.4%) exact matches, in which:  
10 unique CDR3  
4 unique J



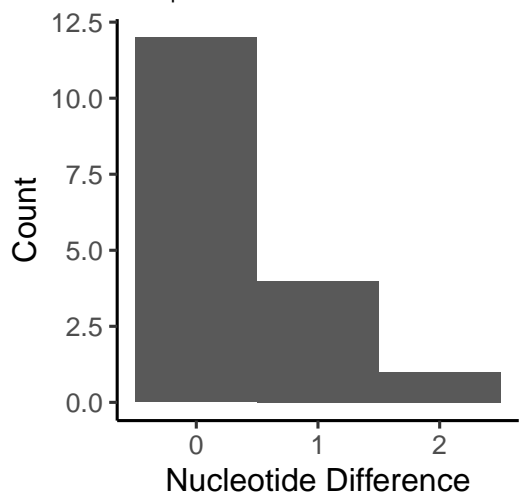
### IGHV3-7\*04

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



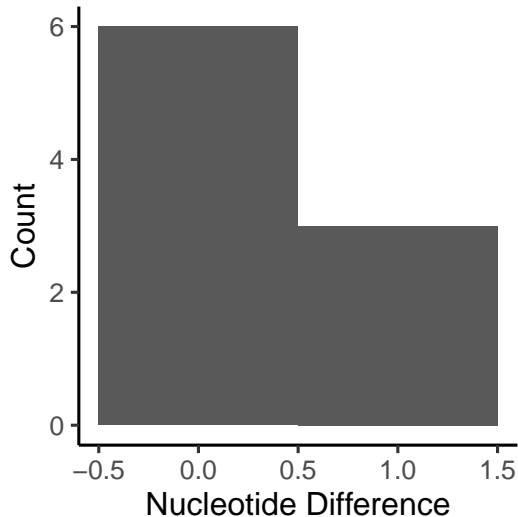
### IGHV2-5\*01

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



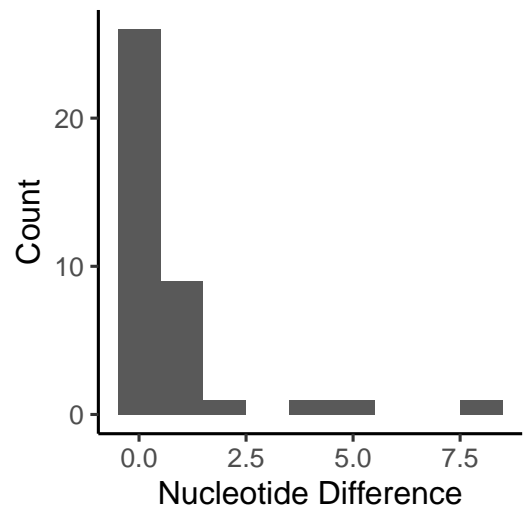
### IGHV2-70\*15

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



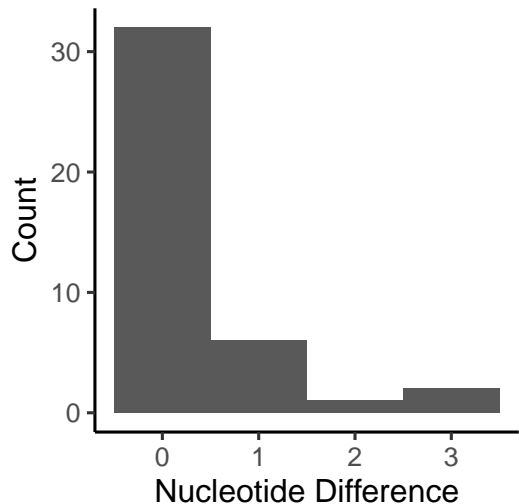
### IGHV3-9\*01

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



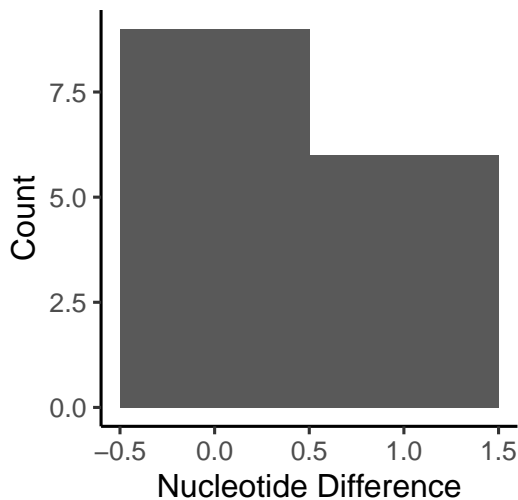
### IGHV2-5\*02

41 sequences assigned  
32 (78%) exact matches, in which:  
25 unique CDR3  
5 unique J



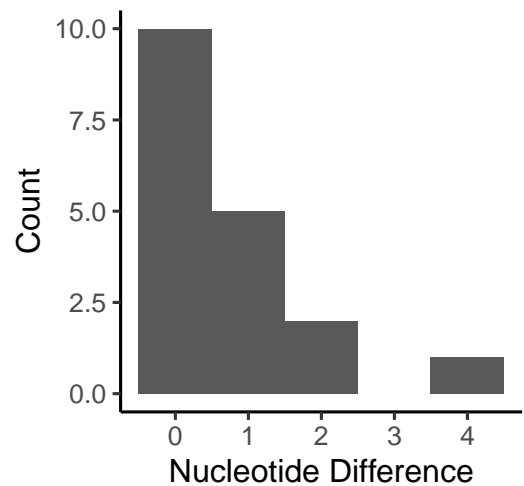
### IGHV3-7\*01

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



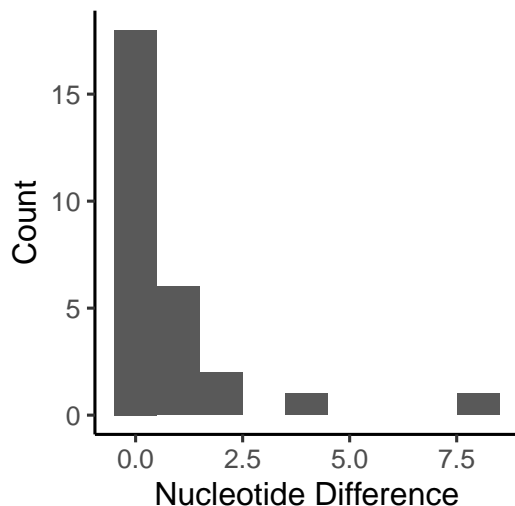
### IGHV3-11\*01

18 sequences assigned  
10 (55.6%) exact matches, in which:  
10 unique CDR3  
4 unique J



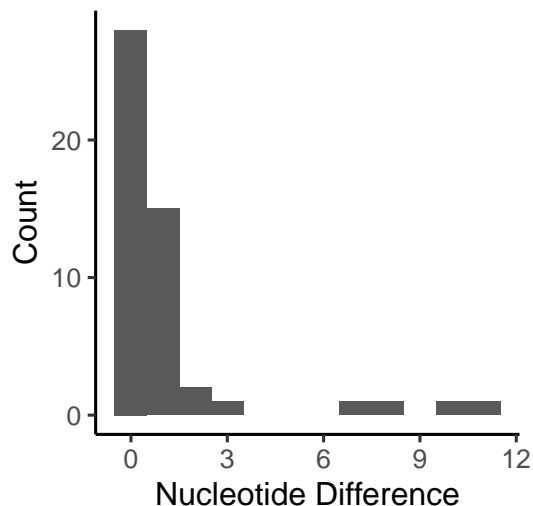
### IGHV3-11\*05

28 sequences assigned  
18 (64.3%) exact matches, in which:  
16 unique CDR3  
4 unique J



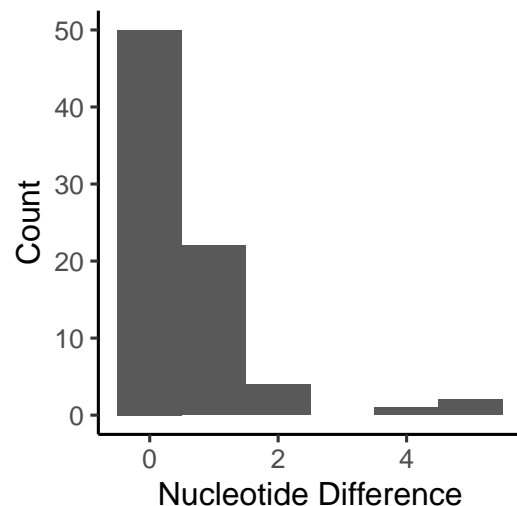
### IGHV3-15\*01

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



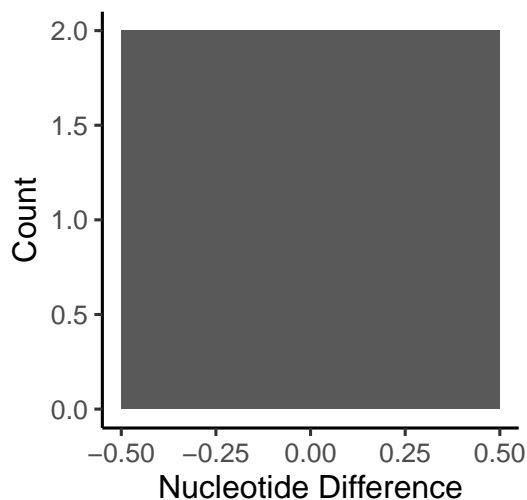
### IGHV3-21\*01

79 sequences assigned  
50 (63.3%) exact matches, in which:  
50 unique CDR3  
6 unique J



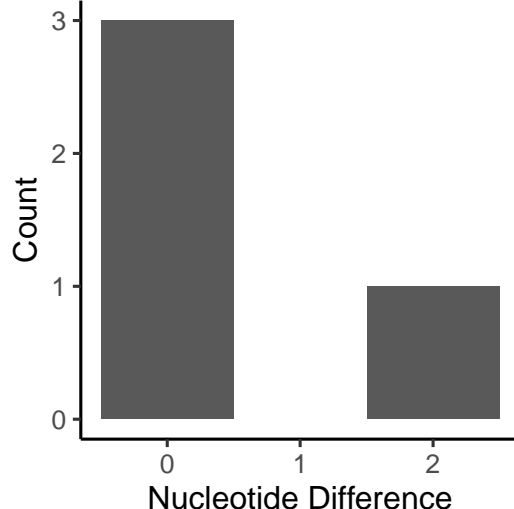
### IGHV3-13\*01

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



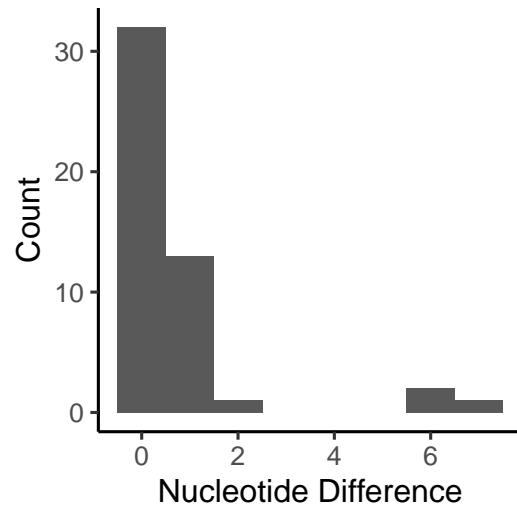
### IGHV3-20\*01

4 sequences assigned  
3 (75%) exact matches, in which:  
3 unique CDR3  
1 unique J



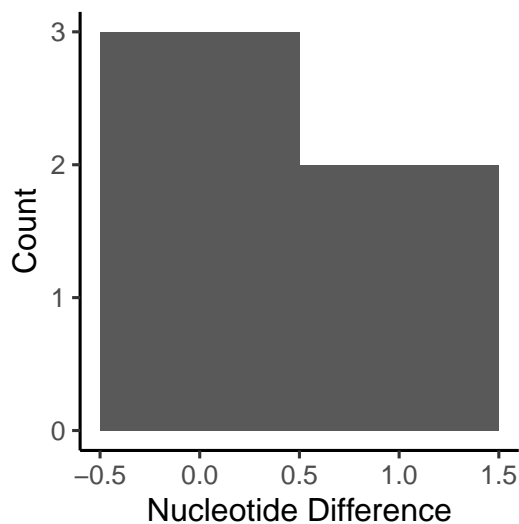
### IGHV3-30-3\*01

49 sequences assigned  
32 (65.3%) exact matches, in which:  
31 unique CDR3  
4 unique J



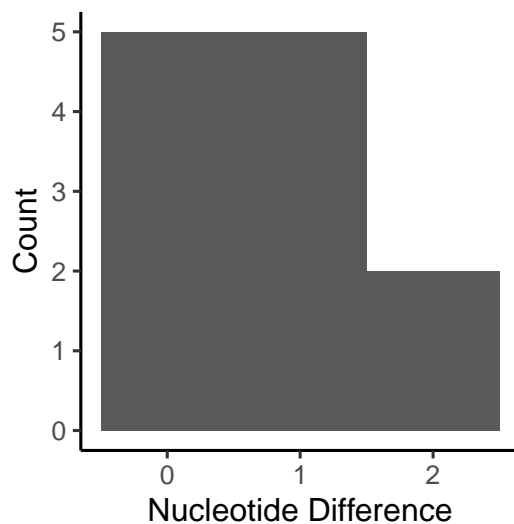
### IGHV3-13\*04

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



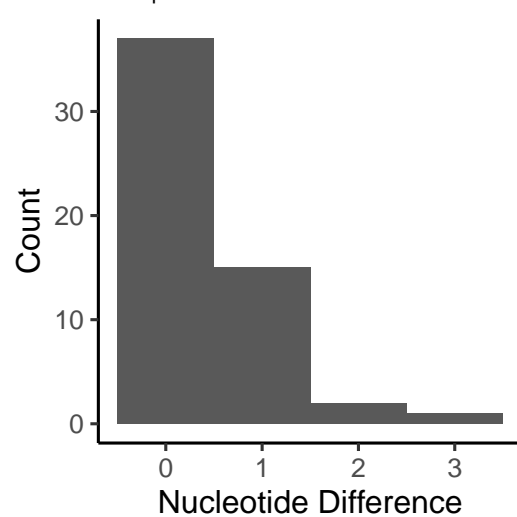
### IGHV3-20\*04

12 sequences assigned  
5 (41.7%) exact matches, in which:  
5 unique CDR3  
2 unique J



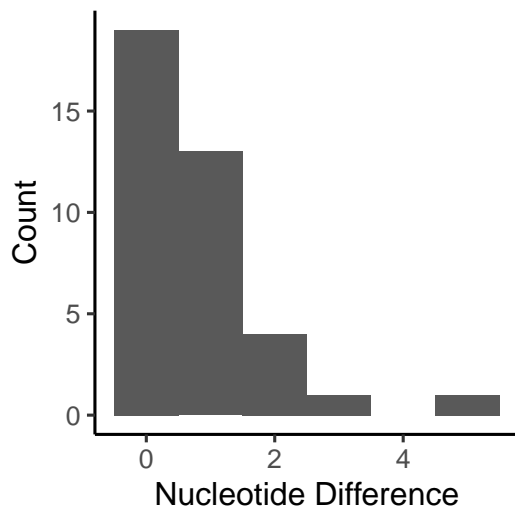
### IGHV3-33\*01

55 sequences assigned  
37 (67.3%) exact matches, in which:  
36 unique CDR3  
7 unique J



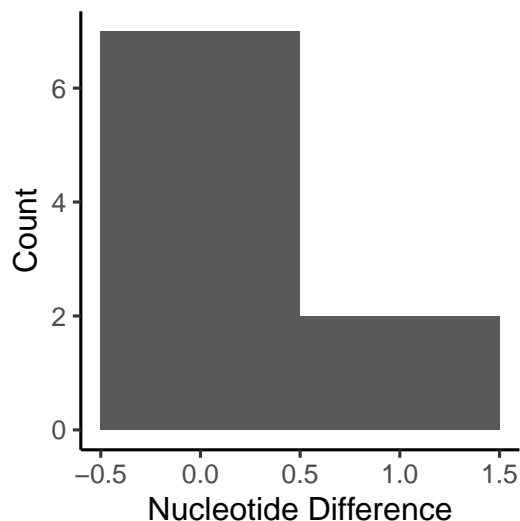
### IGHV3-48\*01

38 sequences assigned  
19 (50%) exact matches, in which:  
19 unique CDR3  
5 unique J



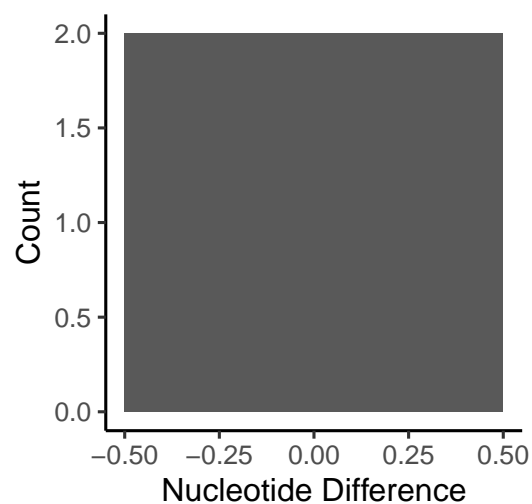
### IGHV3-53\*04

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



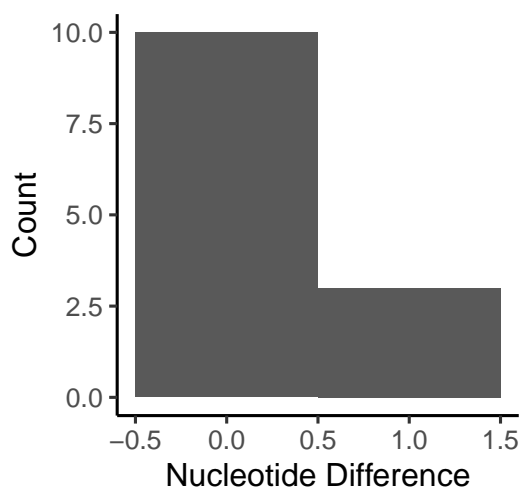
### IGHV3-72\*01

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



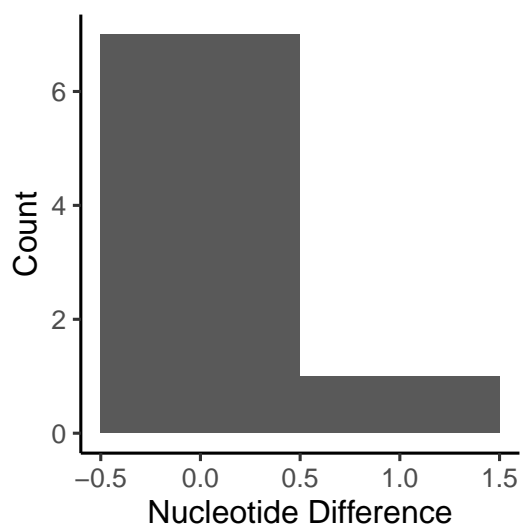
### IGHV3-49\*03

13 sequences assigned  
10 (76.9%) exact matches, in which:  
10 unique CDR3  
4 unique J



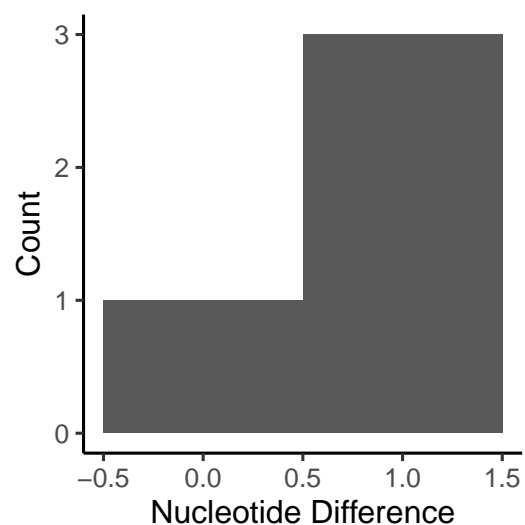
### IGHV3-64\*01

8 sequences assigned  
7 (87.5%) exact matches, in which:  
7 unique CDR3  
4 unique J



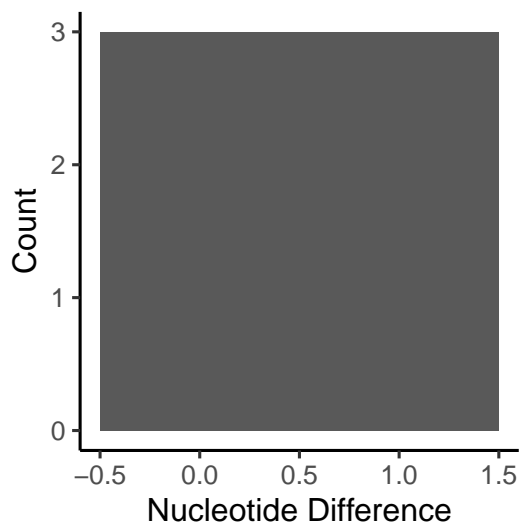
### IGHV3-73\*01

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



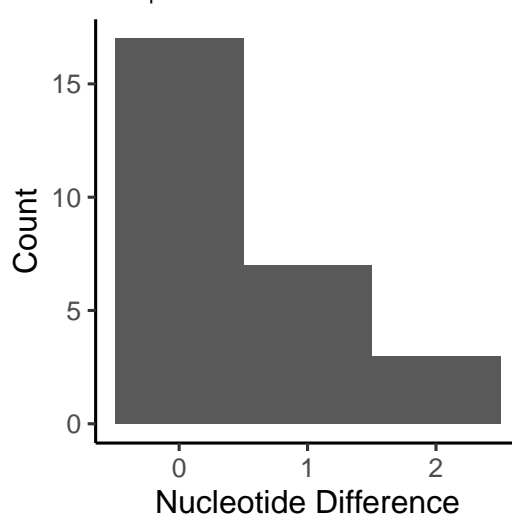
### IGHV3-53\*02

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



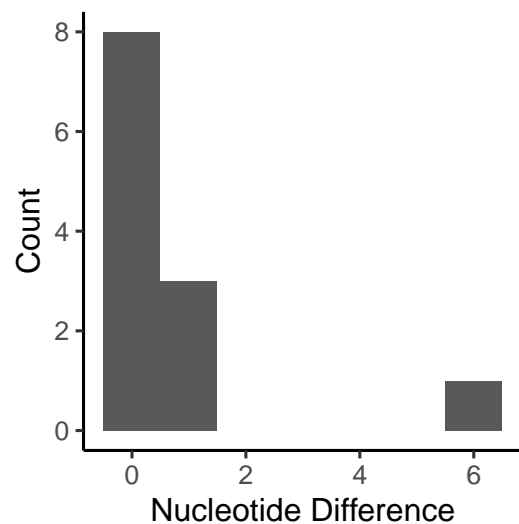
### IGHV3-66\*01

27 sequences assigned  
17 (63%) exact matches, in which:  
17 unique CDR3  
6 unique J



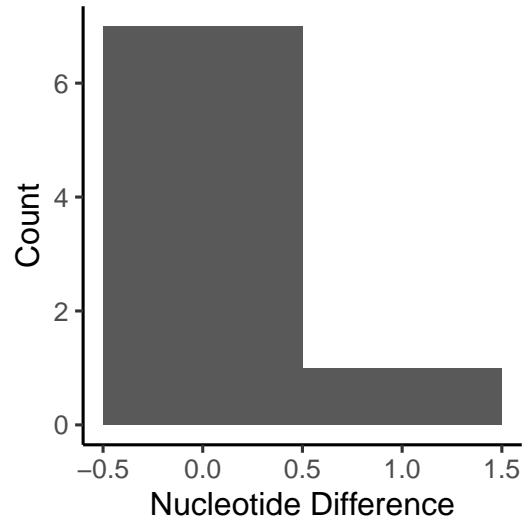
### IGHV3-74\*01

12 sequences assigned  
8 (66.7%) exact matches, in which:  
7 unique CDR3  
3 unique J



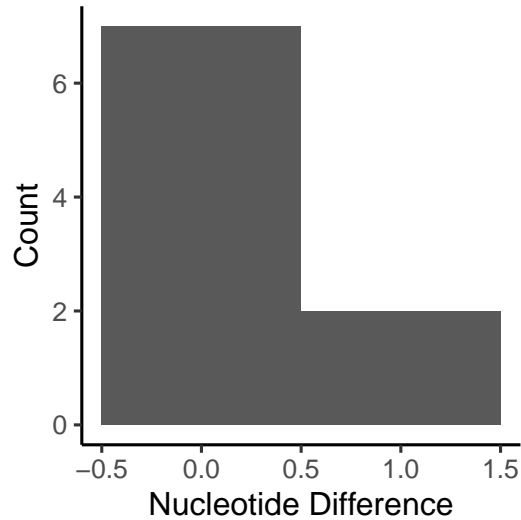
### IGHV3-64D\*06

8 sequences assigned  
7 (87.5%) exact matches, in which:  
7 unique CDR3  
2 unique J



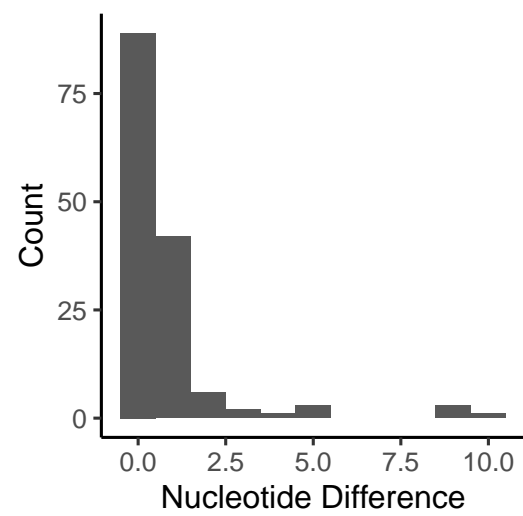
### IGHV4-30-2\*01

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



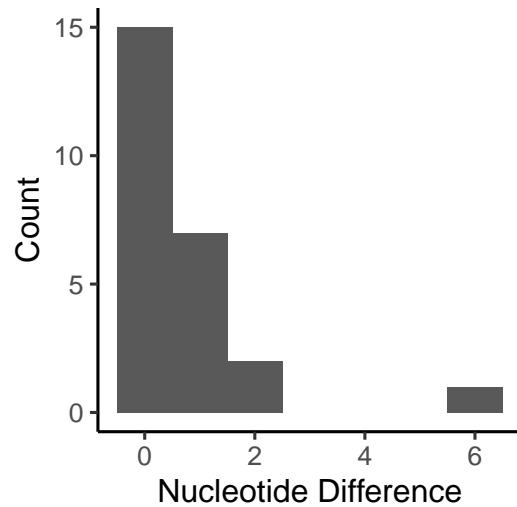
### IGHV4-39\*01

147 sequences assigned  
89 (60.5%) exact matches, in which:  
84 unique CDR3  
7 unique J



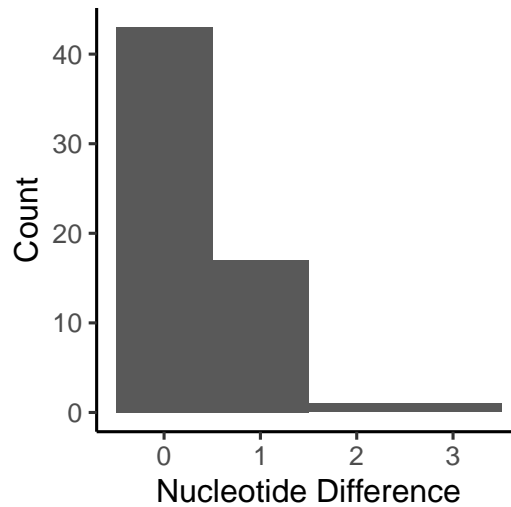
### IGHV4-4\*02

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



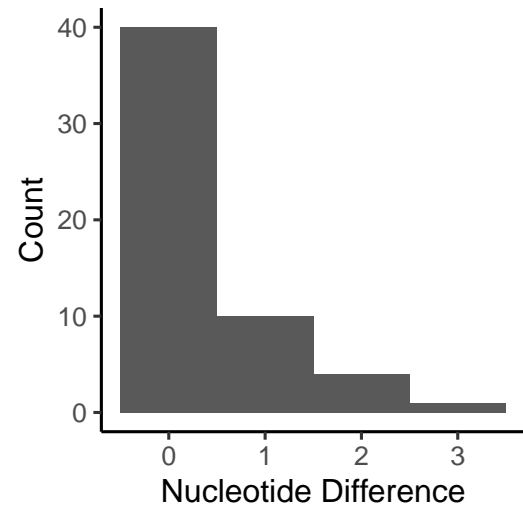
### IGHV4-31\*03

62 sequences assigned  
43 (69.4%) exact matches, in which:  
41 unique CDR3  
7 unique J



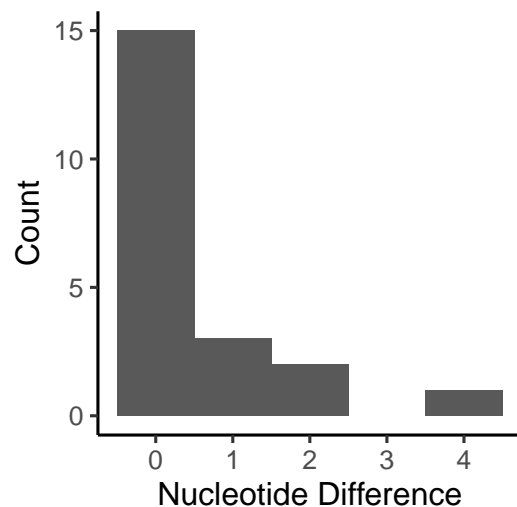
### IGHV4-59\*01

55 sequences assigned  
40 (72.7%) exact matches, in which:  
40 unique CDR3  
6 unique J



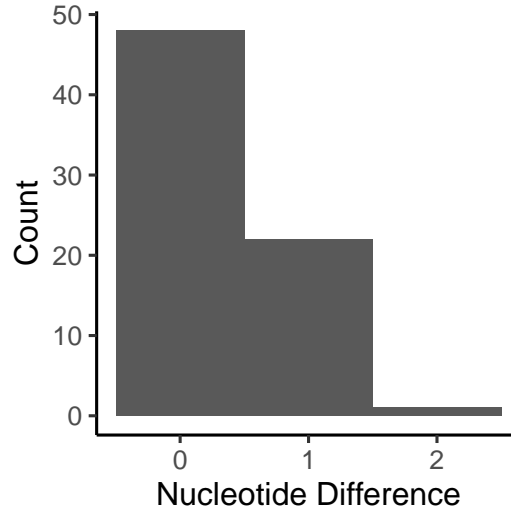
### IGHV4-4\*07

21 sequences assigned  
15 (71.4%) exact matches, in which:  
14 unique CDR3  
5 unique J



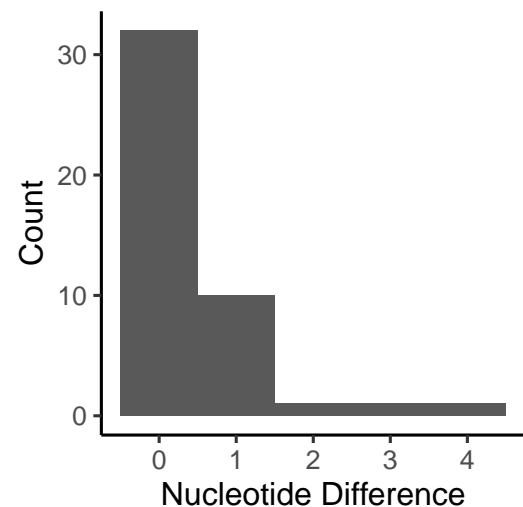
### IGHV4-34\*01

71 sequences assigned  
48 (67.6%) exact matches, in which:  
47 unique CDR3  
7 unique J



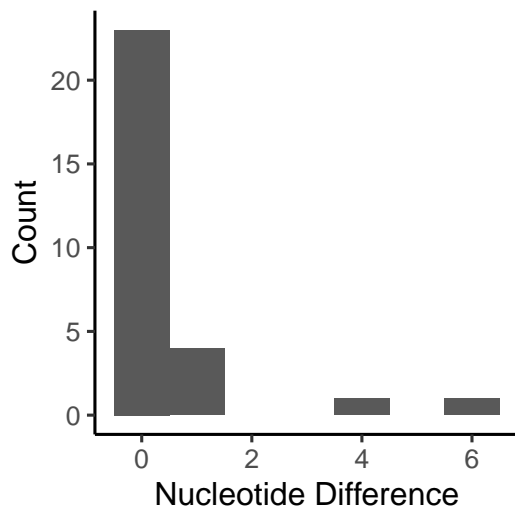
### IGHV4-59\*08

45 sequences assigned  
32 (71.1%) exact matches, in which:  
32 unique CDR3  
6 unique J



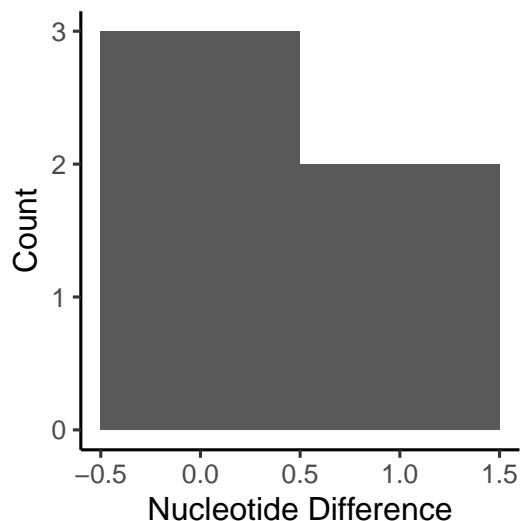
### IGHV5-10-1\*01

29 sequences assigned  
23 (79.3%) exact matches, in which:  
21 unique CDR3  
5 unique J



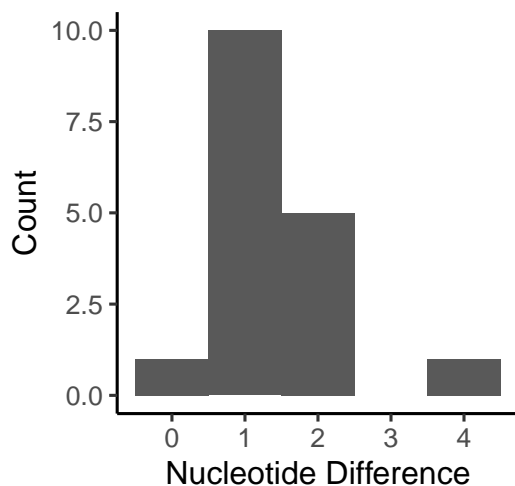
### IGHV6-1\*01

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



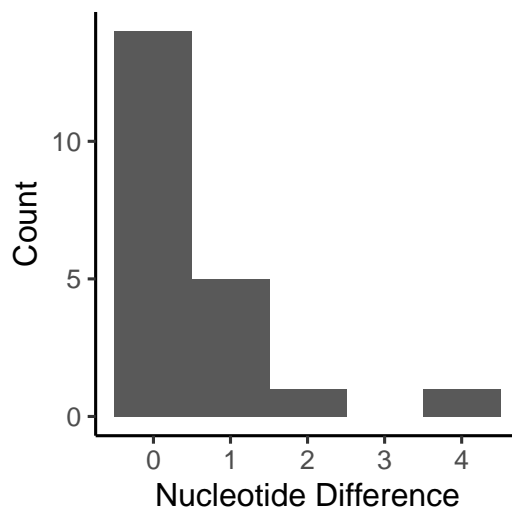
### IGHV5-51\*01

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



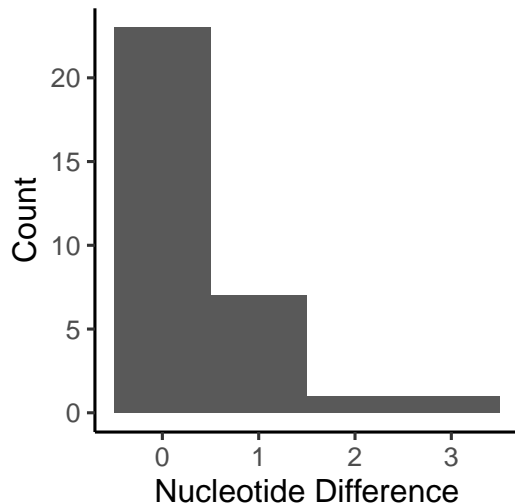
### IGHV7-4-1\*02

21 sequences assigned  
14 (66.7%) exact matches, in which:  
14 unique CDR3  
6 unique J

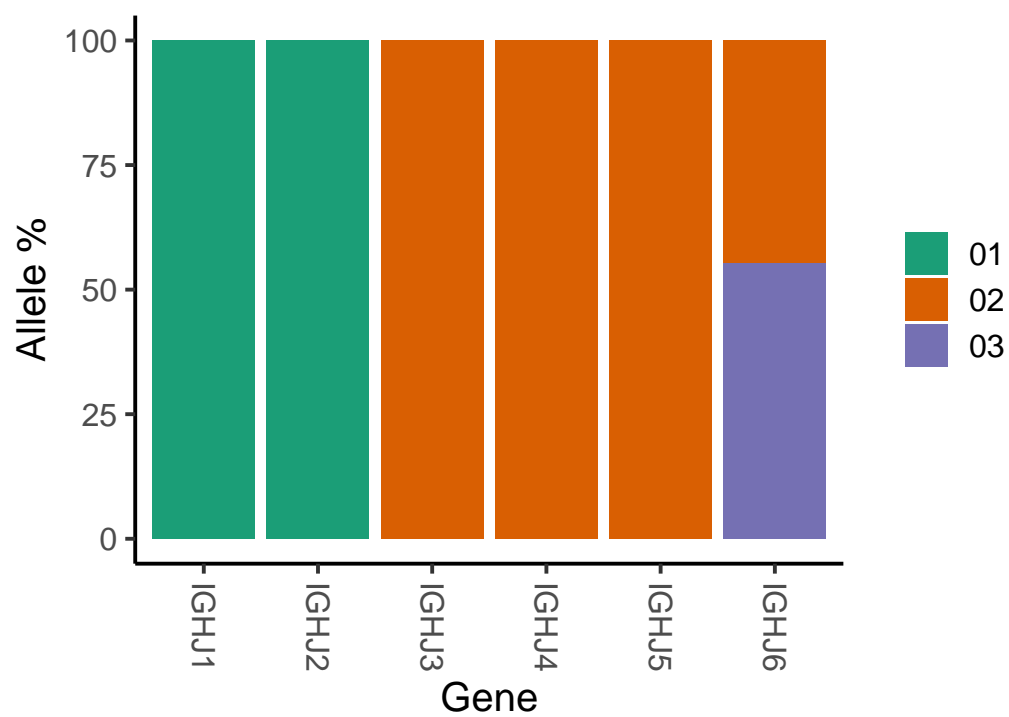


### IGHV5-51\*03

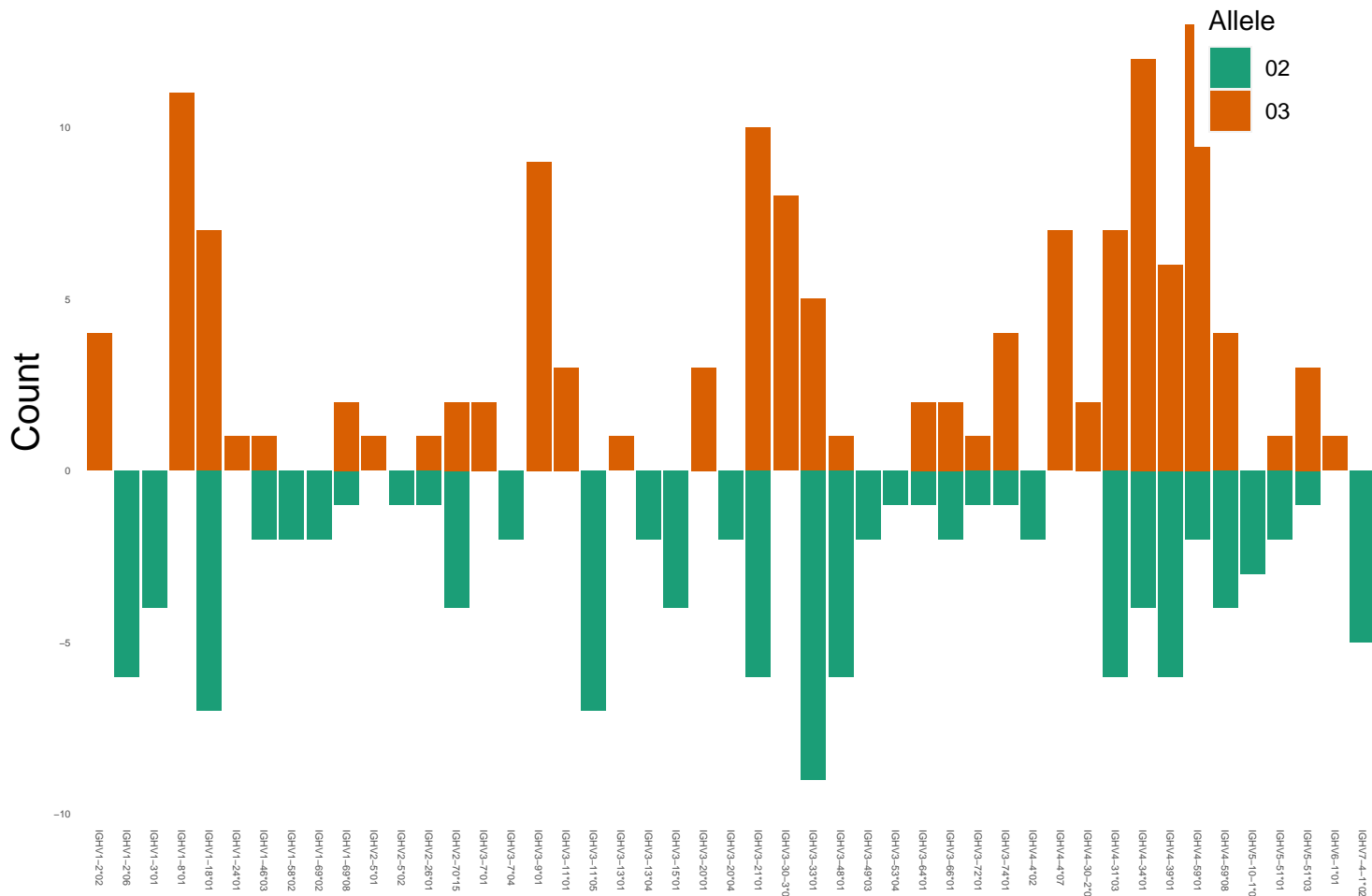
32 sequences assigned  
23 (71.9%) exact matches, in which:  
23 unique CDR3  
5 unique J



Allele Usage



Sequence Count by IGHJ6 allele usage





Warning – no inferred sequences found.