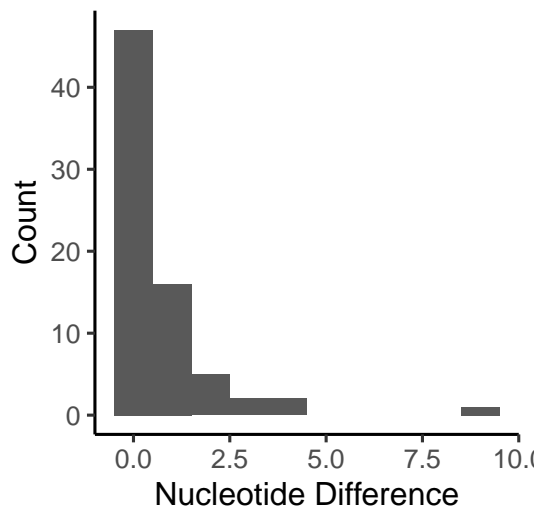


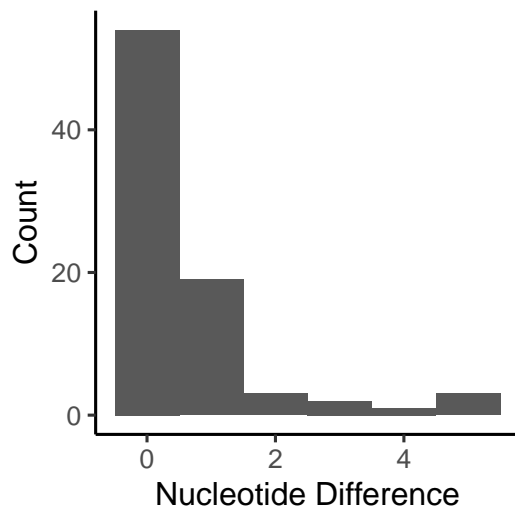
### IGHV1-2\*02

73 sequences assigned  
47 (64.4%) exact matches, in which:  
45 unique CDR3  
4 unique J



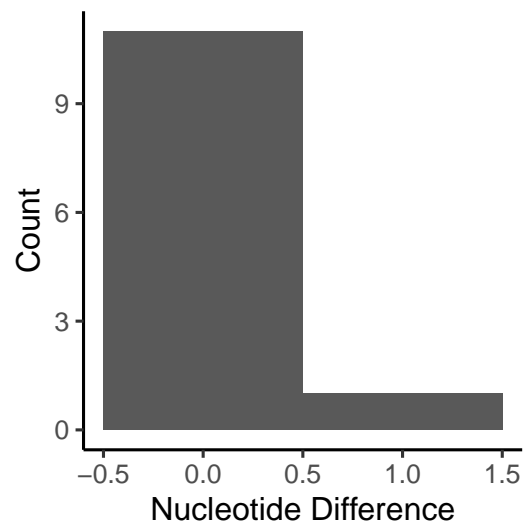
### IGHV1-8\*01

82 sequences assigned  
54 (65.9%) exact matches, in which:  
50 unique CDR3  
4 unique J



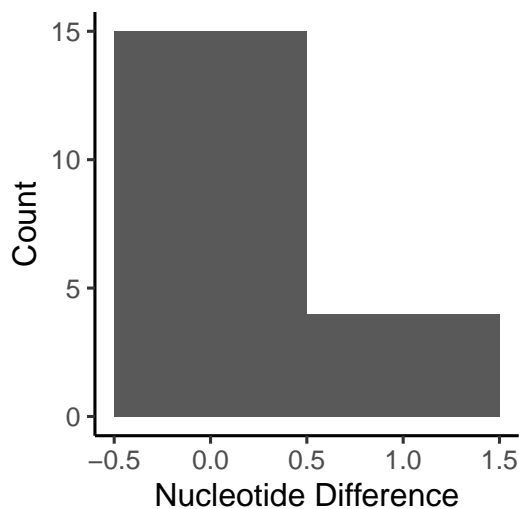
### IGHV1-24\*01

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



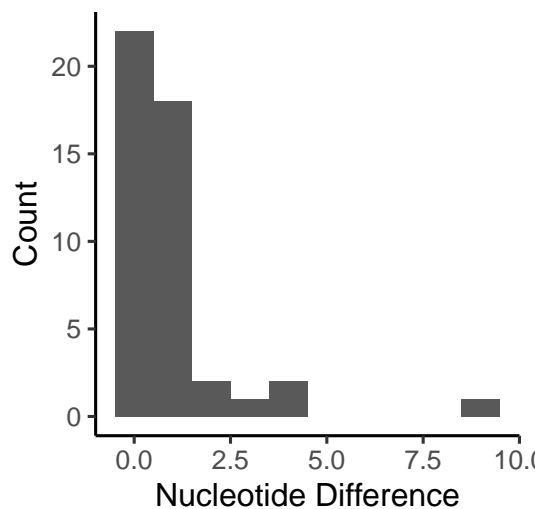
### IGHV1-2\*04

19 sequences assigned  
15 (78.9%) exact matches, in which:  
15 unique CDR3  
4 unique J



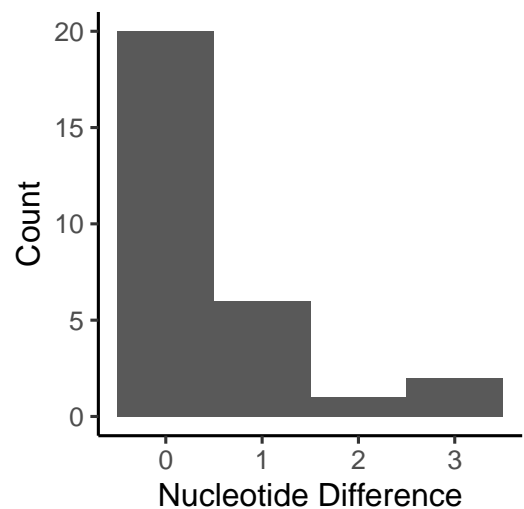
### IGHV1-18\*01

46 sequences assigned  
22 (47.8%) exact matches, in which:  
22 unique CDR3  
4 unique J



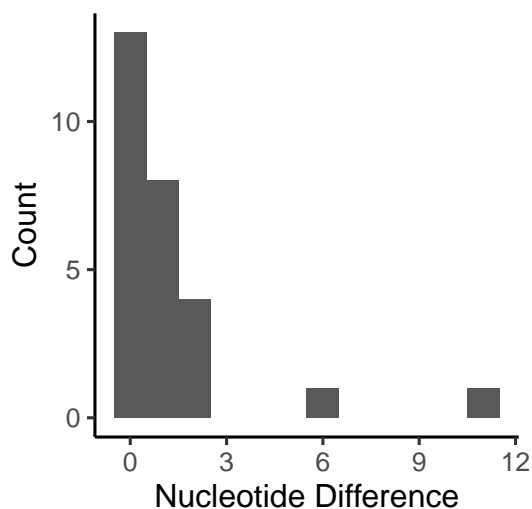
### IGHV1-46\*03

29 sequences assigned  
20 (69%) exact matches, in which:  
20 unique CDR3  
4 unique J



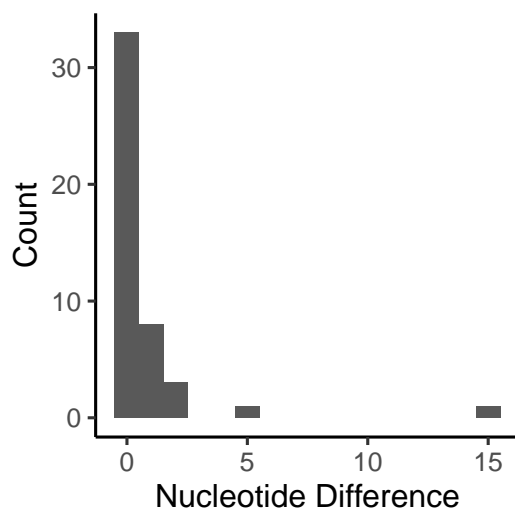
### IGHV1-3\*01

27 sequences assigned  
13 (48.1%) exact matches, in which:  
13 unique CDR3  
4 unique J



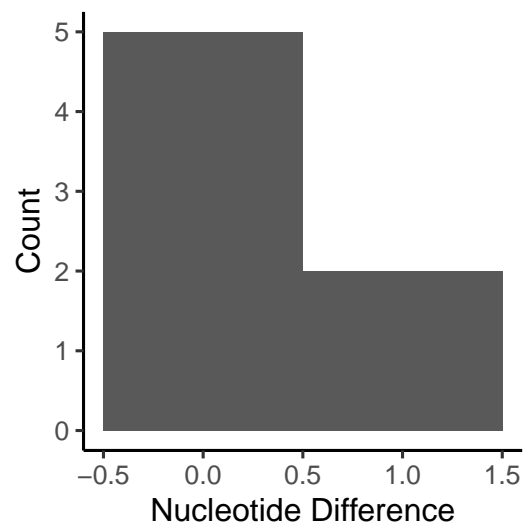
### IGHV1-18\*04

46 sequences assigned  
33 (71.7%) exact matches, in which:  
33 unique CDR3  
4 unique J



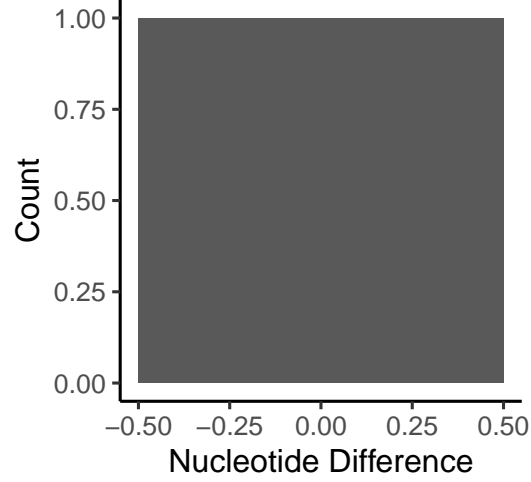
### IGHV1-58\*01

7 sequences assigned  
5 (71.4%) exact matches, in which:  
5 unique CDR3  
3 unique J



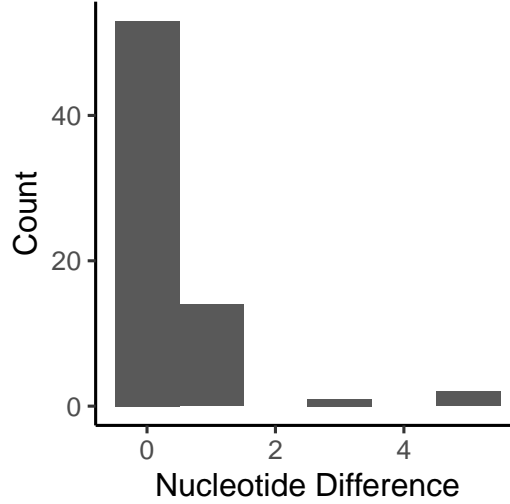
### IGHV1-58\*02

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



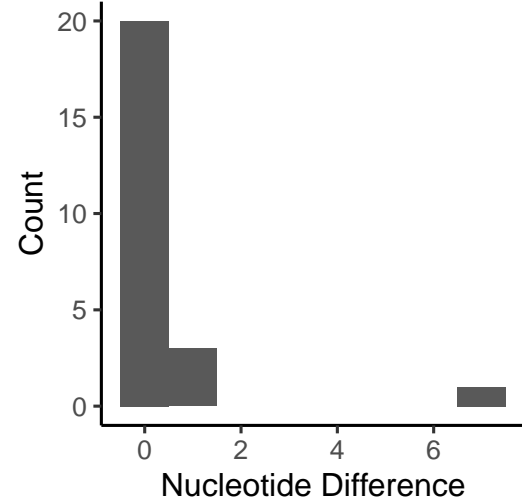
### IGHV1-69\*06

70 sequences assigned  
53 (75.7%) exact matches, in which:  
53 unique CDR3  
5 unique J



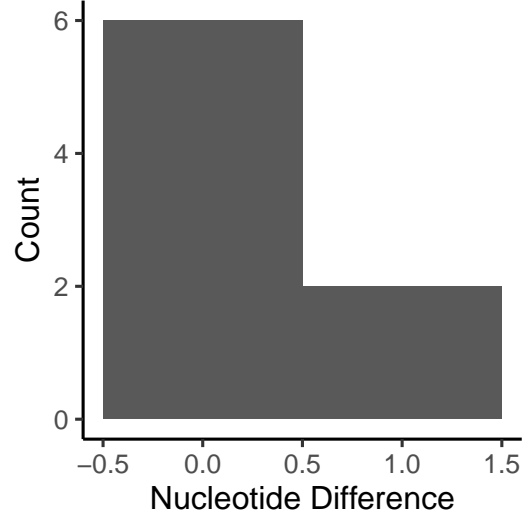
### IGHV2-5\*02

24 sequences assigned  
20 (83.3%) exact matches, in which:  
20 unique CDR3  
4 unique J



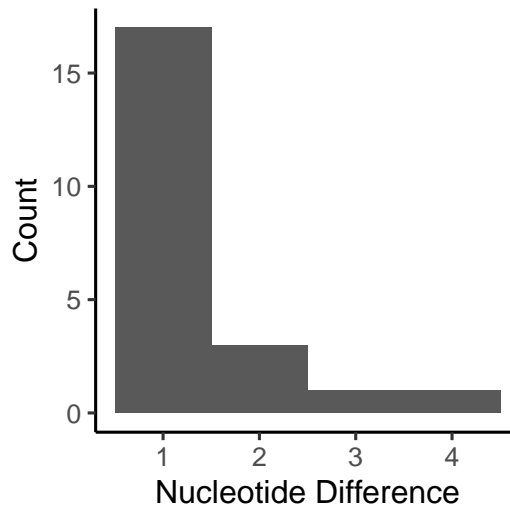
### IGHV1-69-2\*01

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



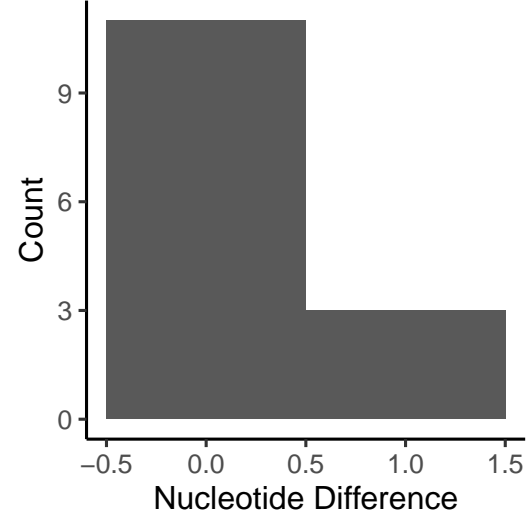
### IGHV1-69\*08

22 sequences assigned  
No exact matches.



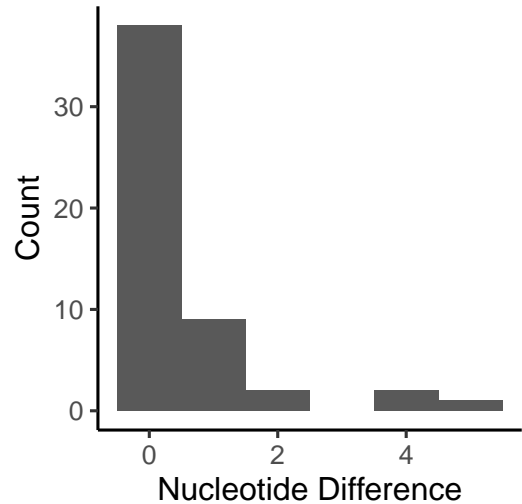
### IGHV2-26\*01

14 sequences assigned  
11 (78.6%) exact matches, in which:  
11 unique CDR3  
5 unique J



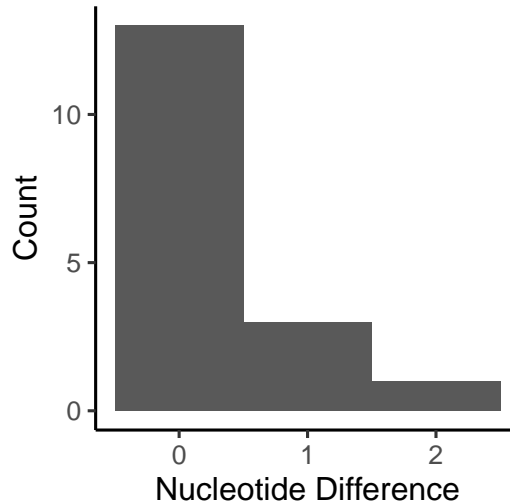
### IGHV1-69\*02

52 sequences assigned  
38 (73.1%) exact matches, in which:  
38 unique CDR3  
5 unique J



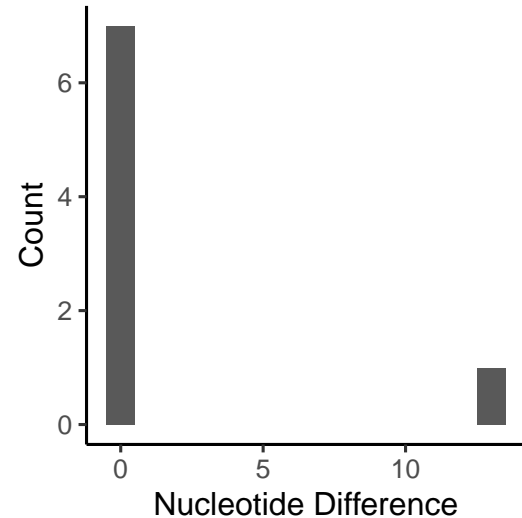
### IGHV2-5\*01

17 sequences assigned  
13 (76.5%) exact matches, in which:  
13 unique CDR3  
3 unique J



### IGHV2-70\*15

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



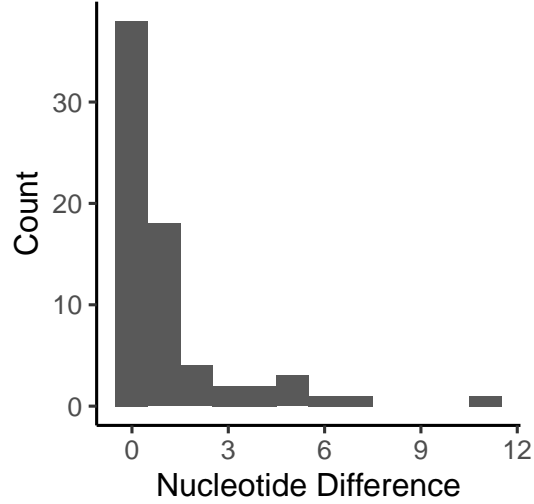
### IGHV2-70D\*04

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



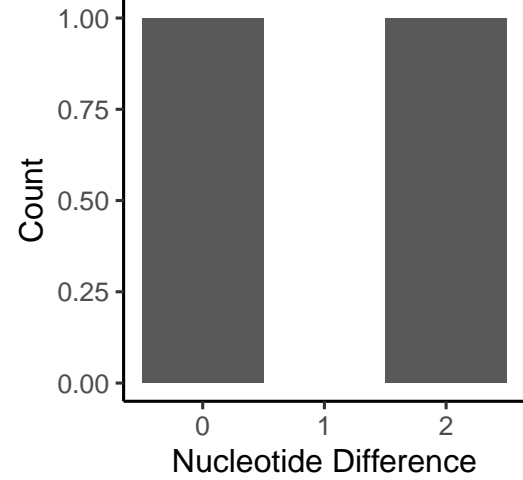
### IGHV3-11\*01

70 sequences assigned  
38 (54.3%) exact matches, in which:  
37 unique CDR3  
4 unique J



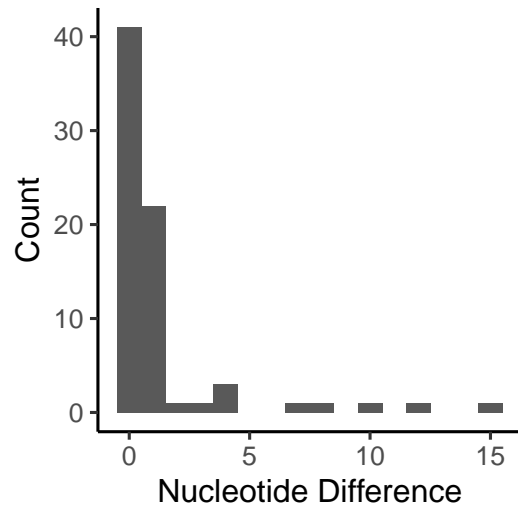
### IGHV3-20\*01

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



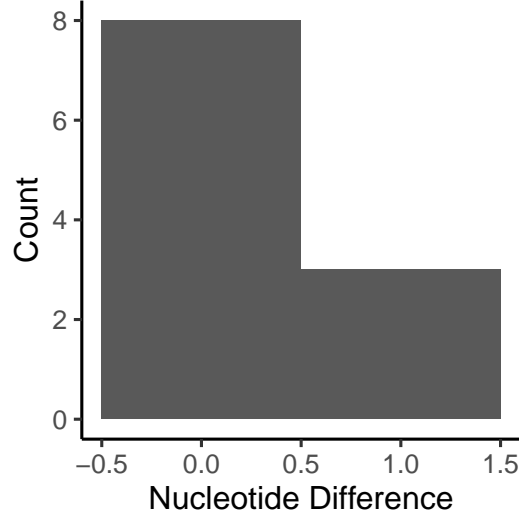
### IGHV3-7\*01

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



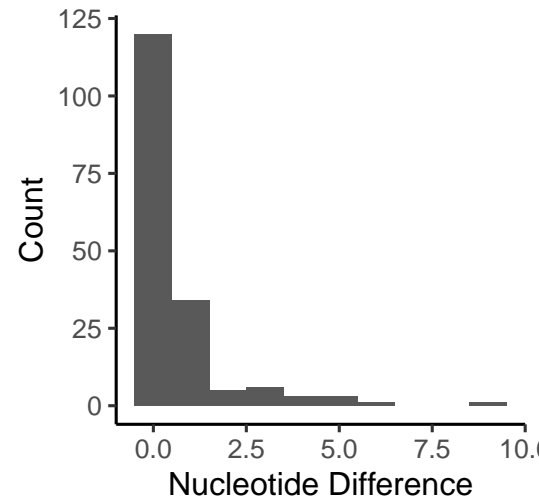
### IGHV3-13\*01

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



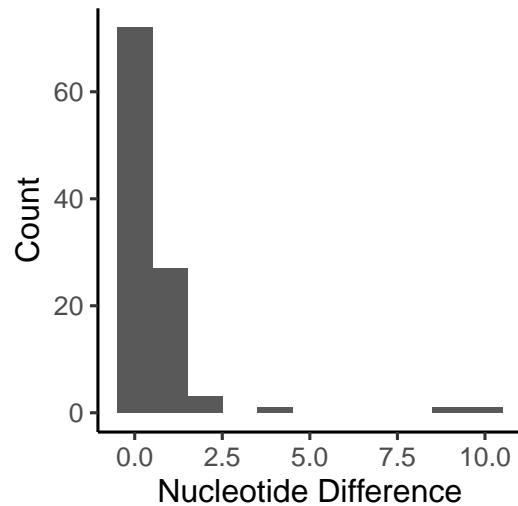
### IGHV3-21\*01

173 sequences assigned  
120 (69.4%) exact matches, in which:  
120 unique CDR3  
5 unique J



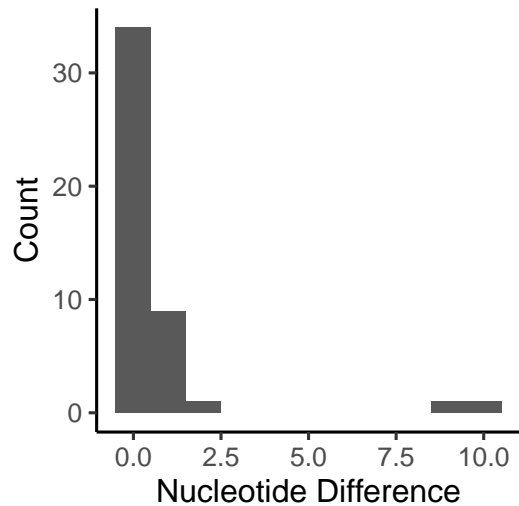
### IGHV3-9\*01

105 sequences assigned  
72 (68.6%) exact matches, in which:  
72 unique CDR3  
6 unique J



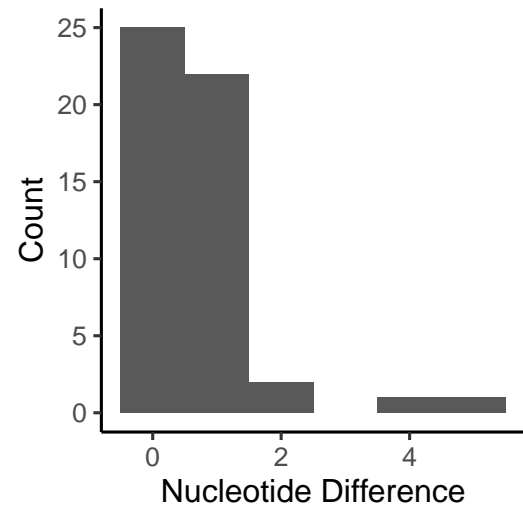
### IGHV3-15\*01

46 sequences assigned  
34 (73.9%) exact matches, in which:  
34 unique CDR3  
4 unique J



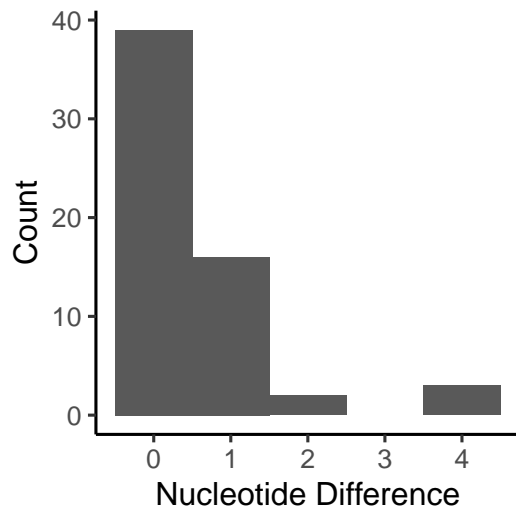
### IGHV3-30\*01

51 sequences assigned  
25 (49%) exact matches, in which:  
24 unique CDR3  
3 unique J



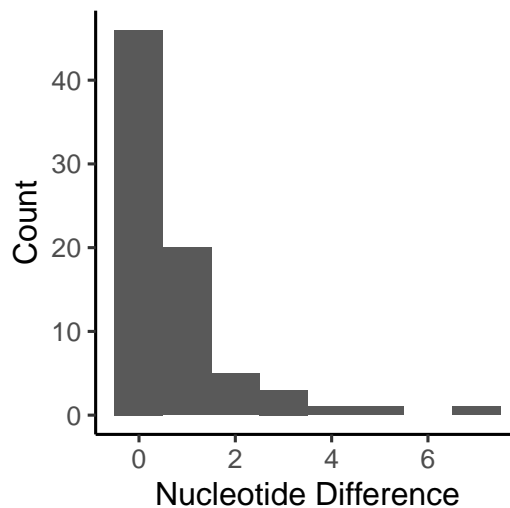
### IGHV3-33\*01

60 sequences assigned  
39 (65%) exact matches, in which:  
38 unique CDR3  
5 unique J



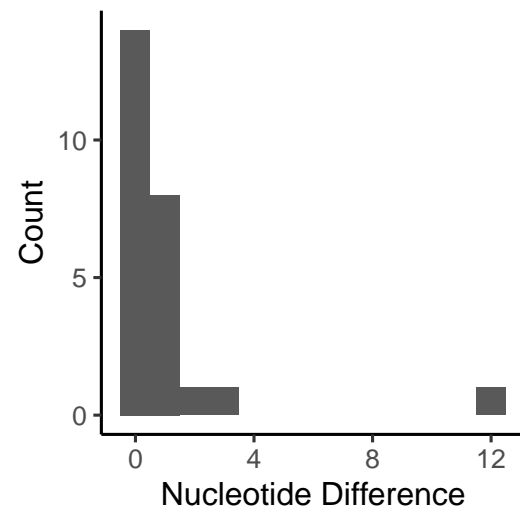
### IGHV3-48\*02

77 sequences assigned  
46 (59.7%) exact matches, in which:  
46 unique CDR3  
5 unique J



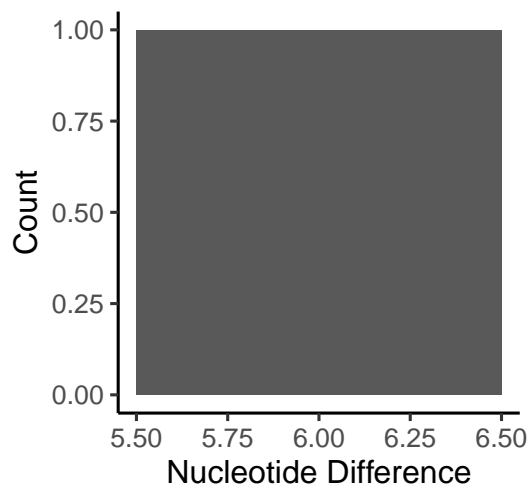
### IGHV3-53\*01

25 sequences assigned  
14 (56%) exact matches, in which:  
14 unique CDR3  
5 unique J



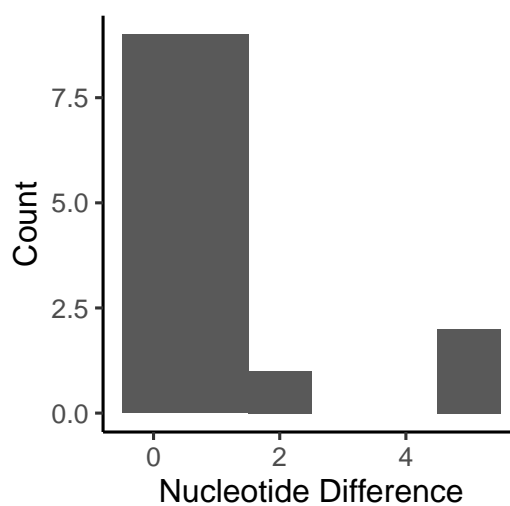
### IGHV3-41\*02

1 sequences assigned  
No exact matches.



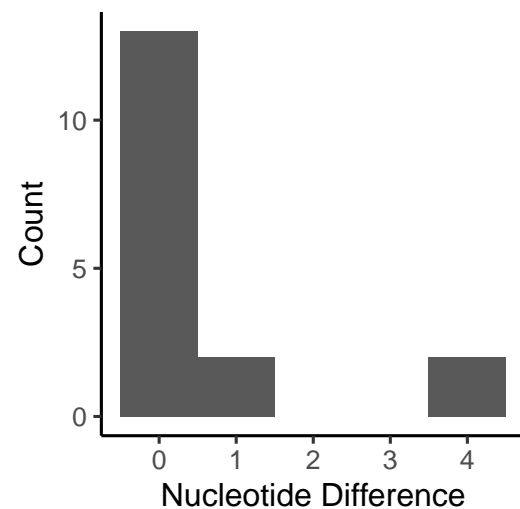
### IGHV3-49\*04

21 sequences assigned  
9 (42.9%) exact matches, in which:  
9 unique CDR3  
3 unique J



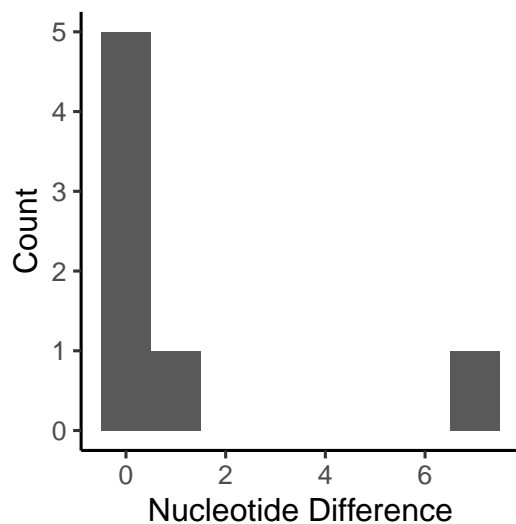
### IGHV3-53\*04

17 sequences assigned  
13 (76.5%) exact matches, in which:  
12 unique CDR3  
4 unique J



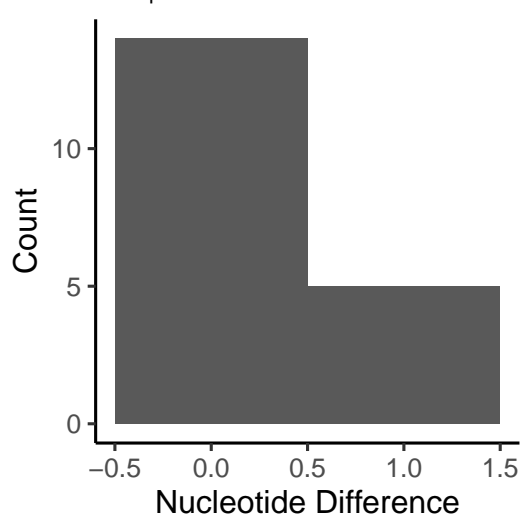
### IGHV3-43\*01

7 sequences assigned  
5 (71.4%) exact matches, in which:  
5 unique CDR3  
2 unique J



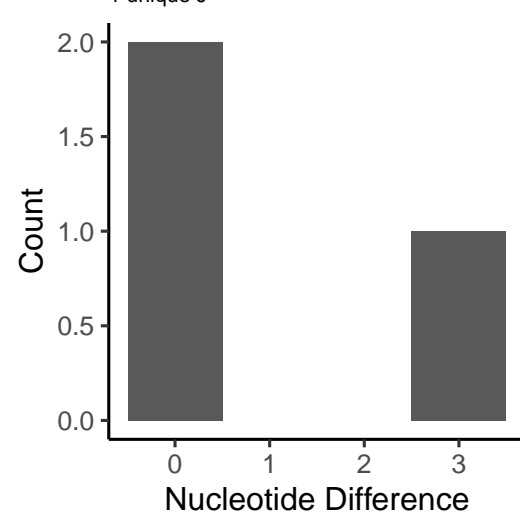
### IGHV3-49\*05

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



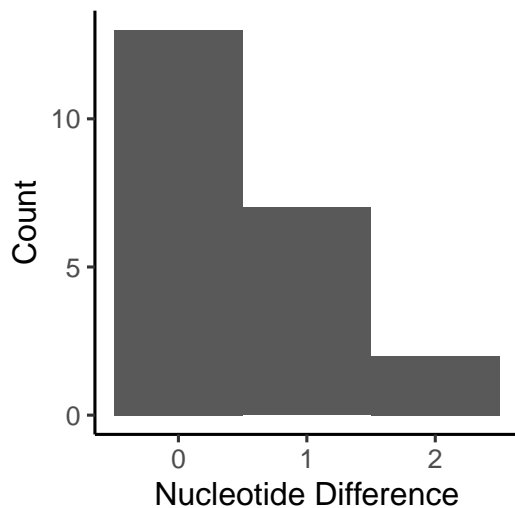
### IGHV3-64\*01

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



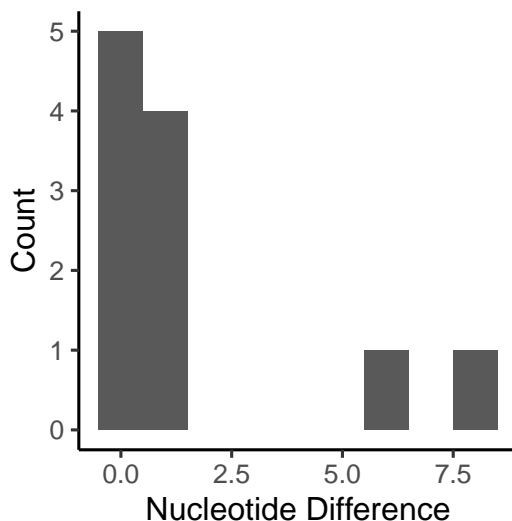
### IGHV3-66\*01

22 sequences assigned  
13 (59.1%) exact matches, in which:  
13 unique CDR3  
5 unique J



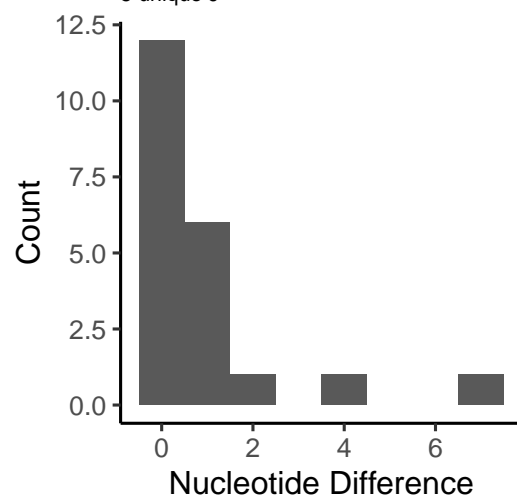
### IGHV3-73\*02

11 sequences assigned  
5 (45.5%) exact matches, in which:  
5 unique CDR3  
2 unique J



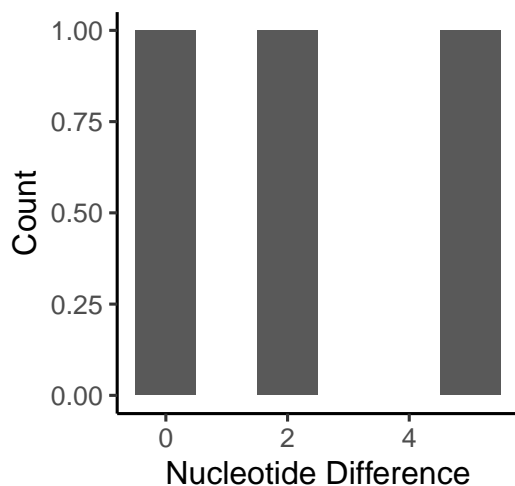
### IGHV4-4\*02

21 sequences assigned  
12 (57.1%) exact matches, in which:  
12 unique CDR3  
5 unique J



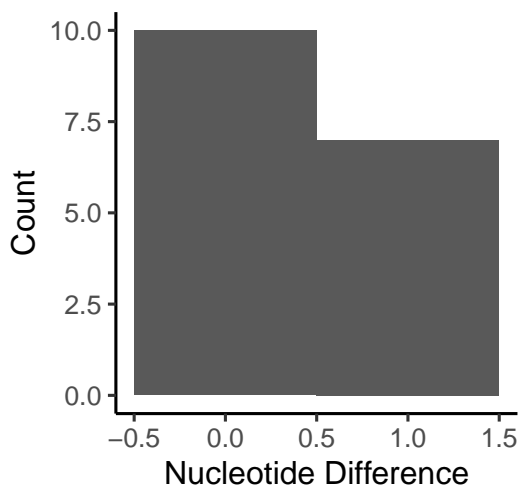
### IGHV3-72\*01

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



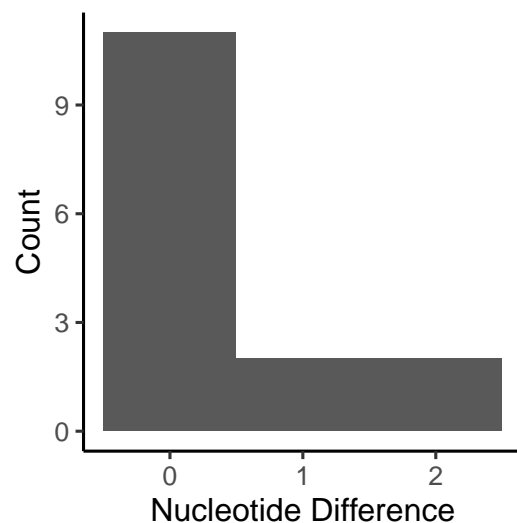
### IGHV3-74\*01

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



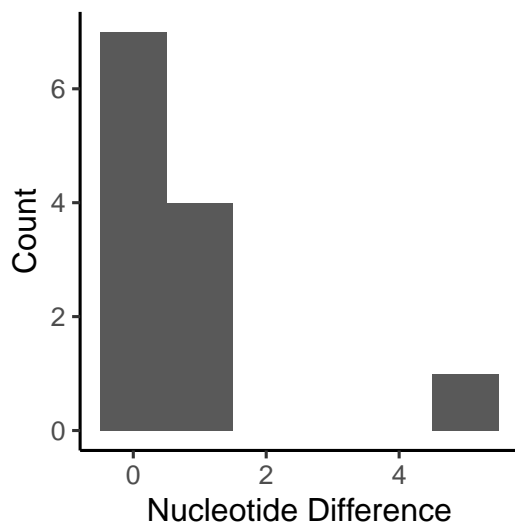
### IGHV4-4\*07

15 sequences assigned  
11 (73.3%) exact matches, in which:  
10 unique CDR3  
4 unique J



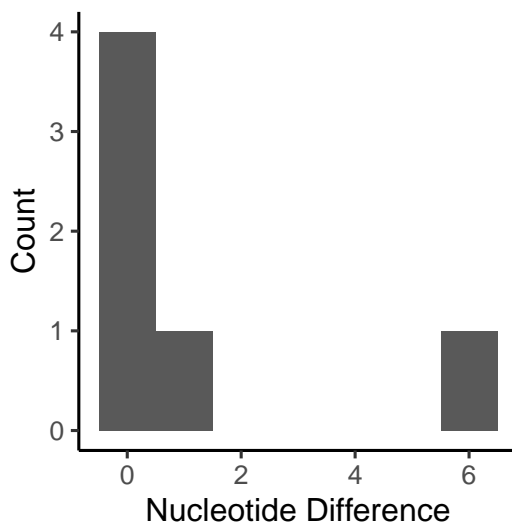
### IGHV3-73\*01

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



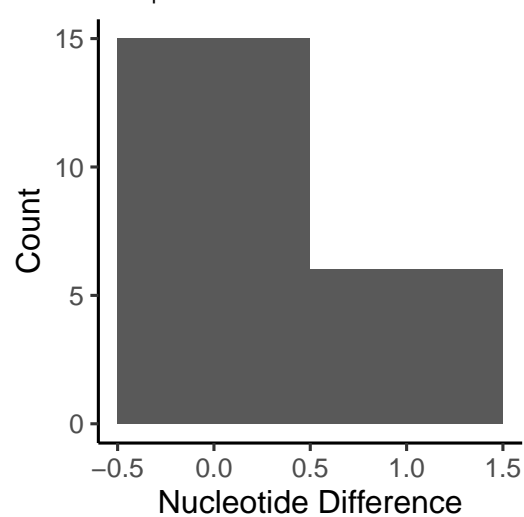
### IGHV3-43D\*03

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



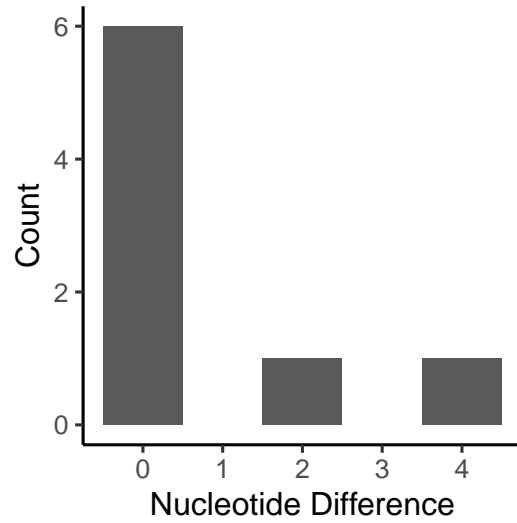
### IGHV4-30-2\*01

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



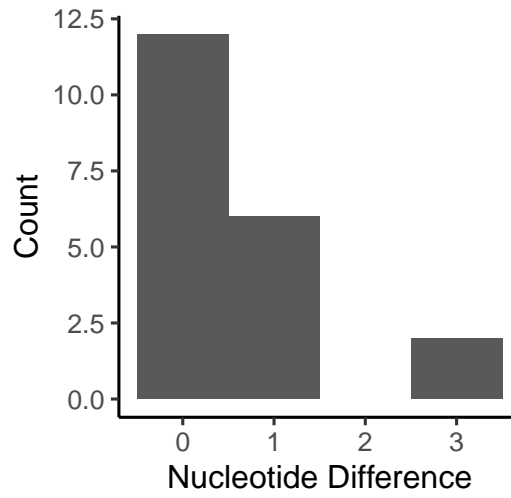
### IGHV4-30-4\*07

8 sequences assigned  
6 (75%) exact matches, in which:  
5 unique CDR3  
3 unique J



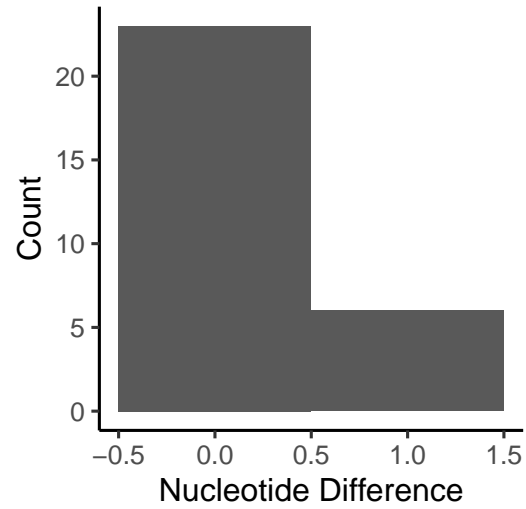
### IGHV4-38-2\*02

20 sequences assigned  
12 (60%) exact matches, in which:  
10 unique CDR3  
4 unique J



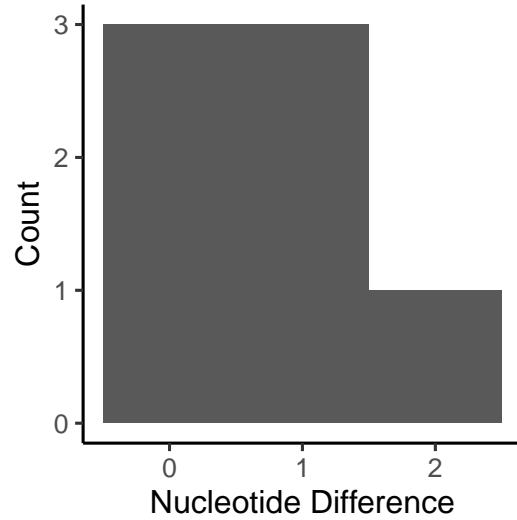
### IGHV4-59\*08

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



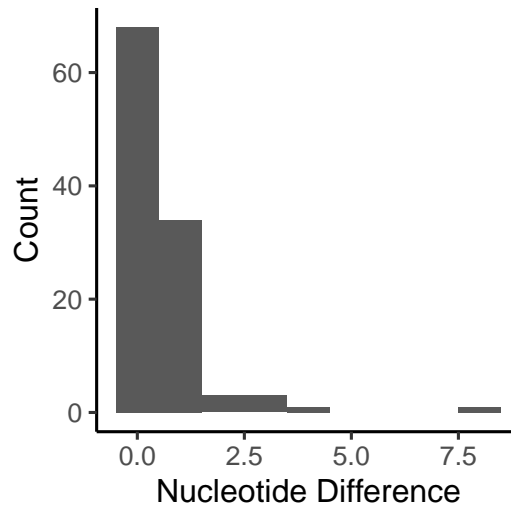
### IGHV4-31\*01

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



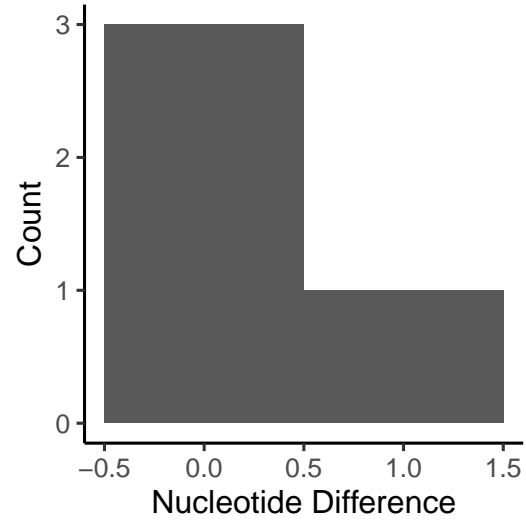
### IGHV4-39\*01

111 sequences assigned  
68 (61.3%) exact matches, in which:  
68 unique CDR3  
5 unique J



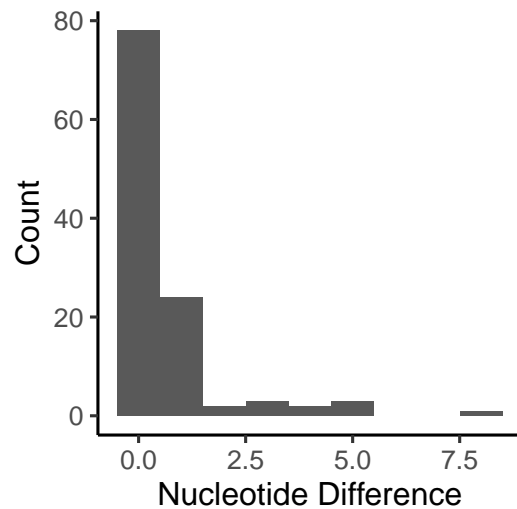
### IGHV4-61\*01

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



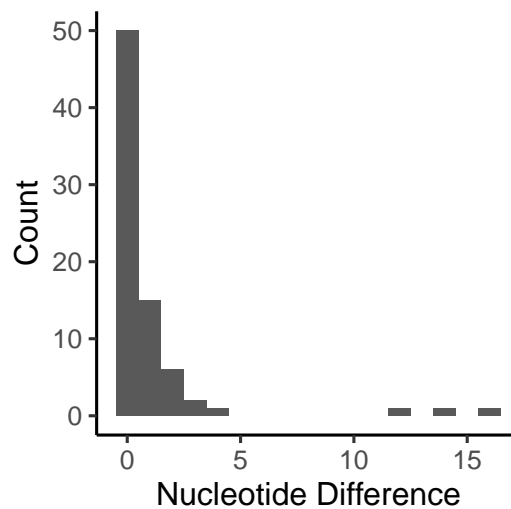
### IGHV4-34\*01

113 sequences assigned  
78 (69%) exact matches, in which:  
72 unique CDR3  
4 unique J



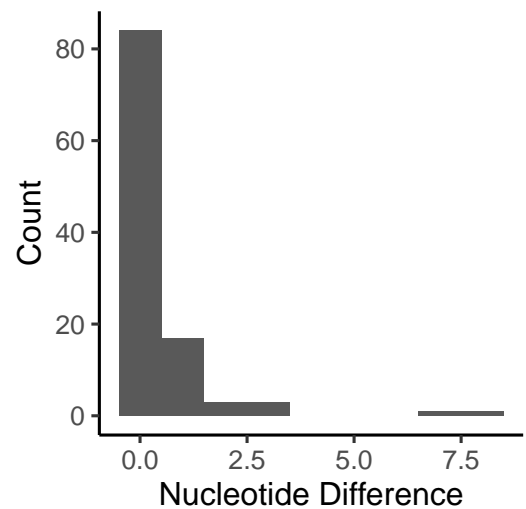
### IGHV4-59\*01

81 sequences assigned  
50 (61.7%) exact matches, in which:  
50 unique CDR3  
4 unique J



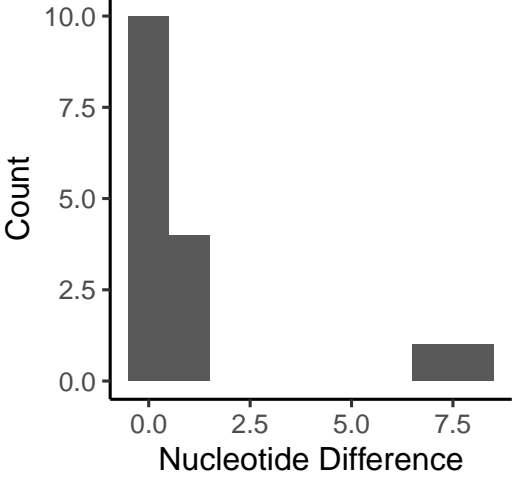
### IGHV5-51\*01

109 sequences assigned  
84 (77.1%) exact matches, in which:  
83 unique CDR3  
5 unique J



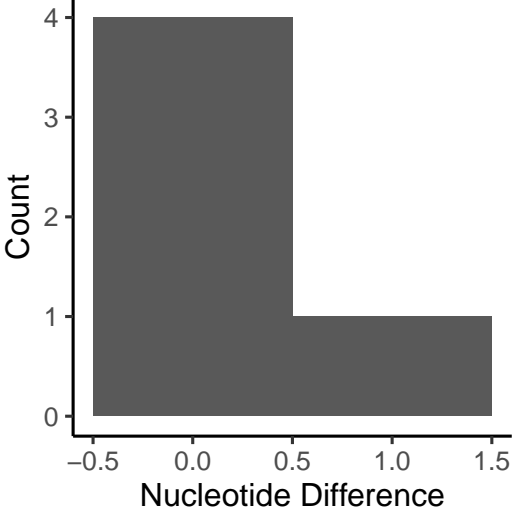
IGHV6-1\*01

16 sequences assigned  
10 (62.5%) exact matches, in which:  
10 unique CDR3  
4 unique J



IGHV7-4-1\*01

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







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