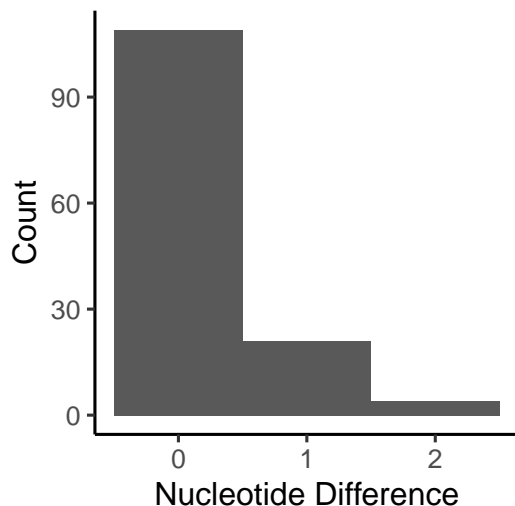


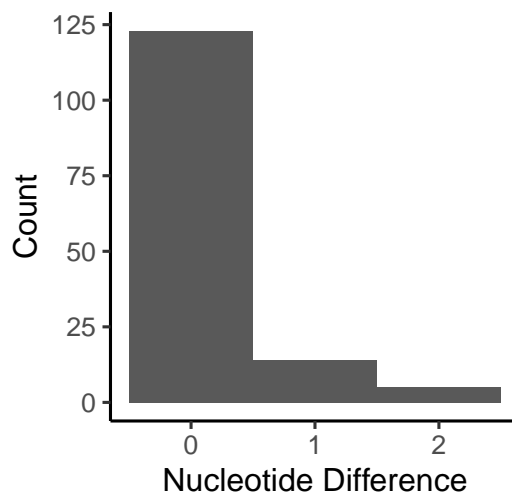
### IGHV1-2\*02

134 sequences assigned  
109 (81.3%) exact matches, in which:  
107 unique CDR3  
6 unique J



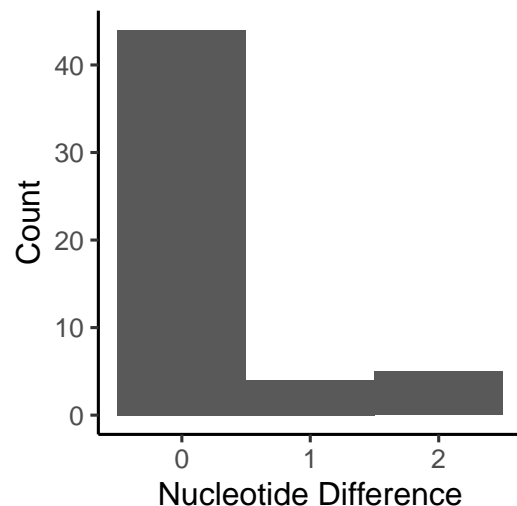
### IGHV1-8\*01

142 sequences assigned  
123 (86.6%) exact matches, in which:  
123 unique CDR3  
5 unique J



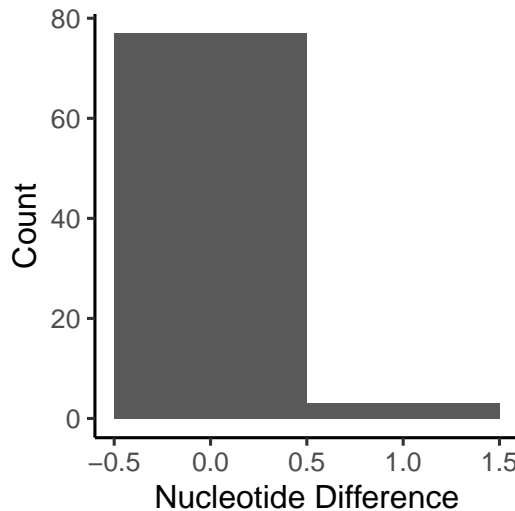
### IGHV1-46\*01

53 sequences assigned  
44 (83%) exact matches, in which:  
44 unique CDR3  
4 unique J



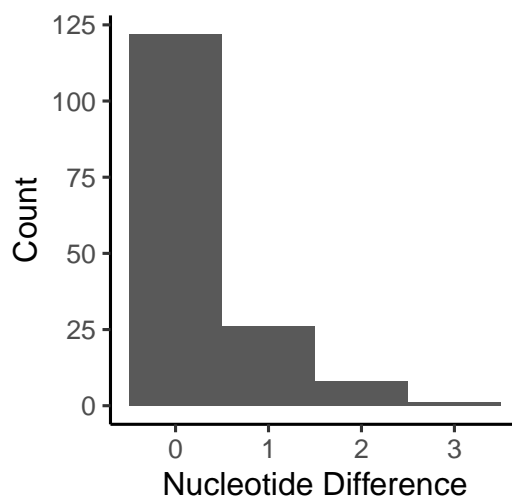
### IGHV1-2\*06

80 sequences assigned  
77 (96.2%) exact matches, in which:  
77 unique CDR3  
6 unique J



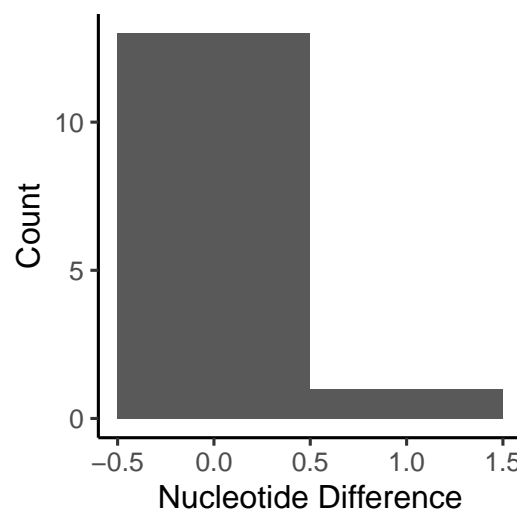
### IGHV1-18\*01

157 sequences assigned  
122 (77.7%) exact matches, in which:  
121 unique CDR3  
6 unique J



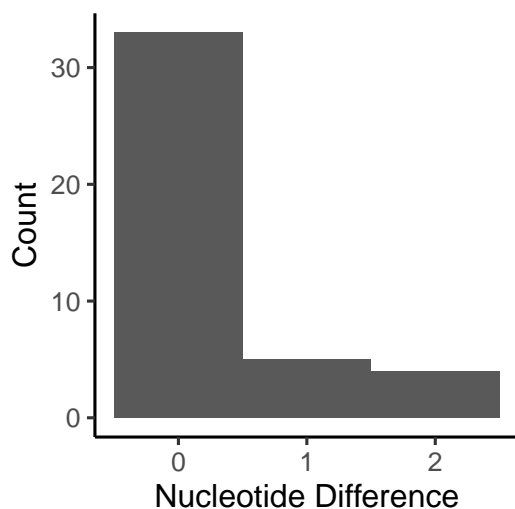
### IGHV1-58\*02

14 sequences assigned  
13 (92.9%) exact matches, in which:  
13 unique CDR3  
4 unique J



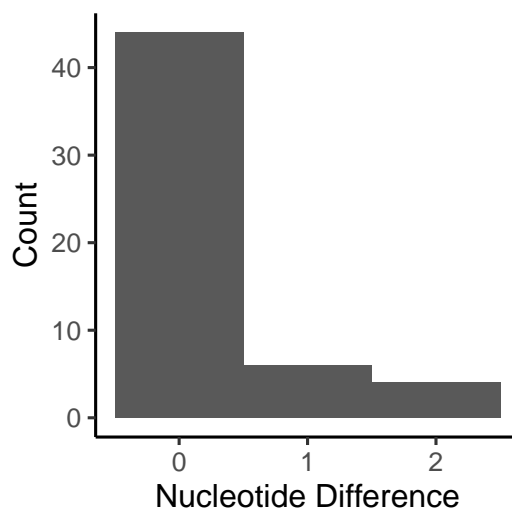
### IGHV1-3\*01\_05

42 sequences assigned  
33 (78.6%) exact matches, in which:  
33 unique CDR3  
5 unique J



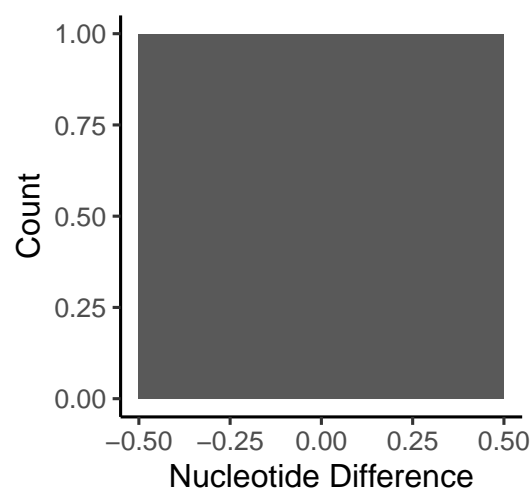
### IGHV1-24\*01

54 sequences assigned  
44 (81.5%) exact matches, in which:  
43 unique CDR3  
5 unique J



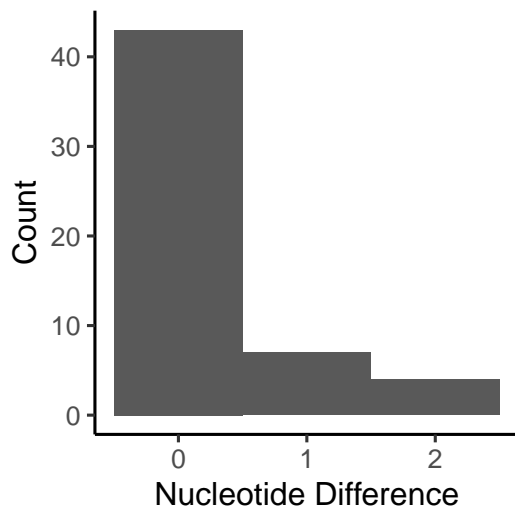
### IGHV1-69-2\*01

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



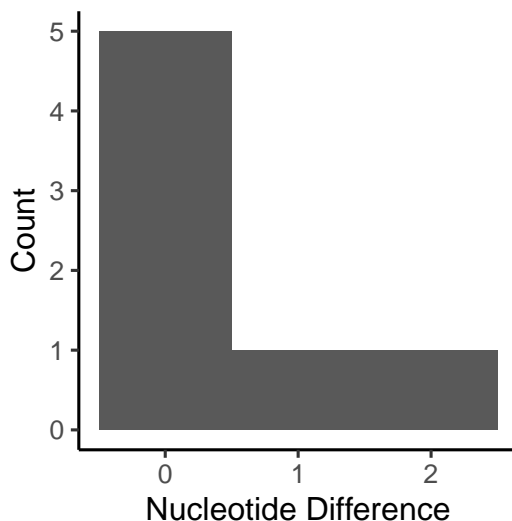
### IGHV1-69\*01\_12\_13

54 sequences assigned  
43 (79.6%) exact matches, in which:  
43 unique CDR3  
4 unique J



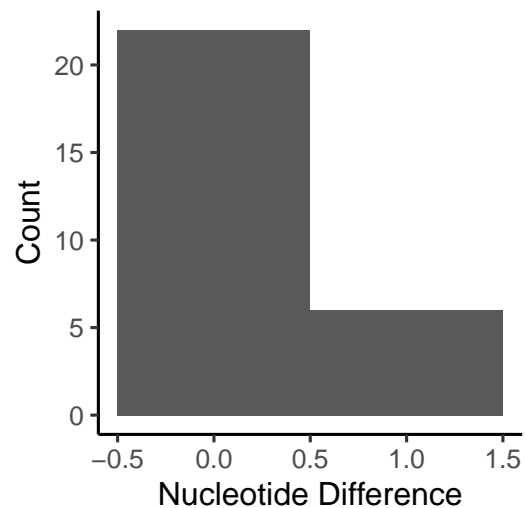
### IGHV2-26\*01

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



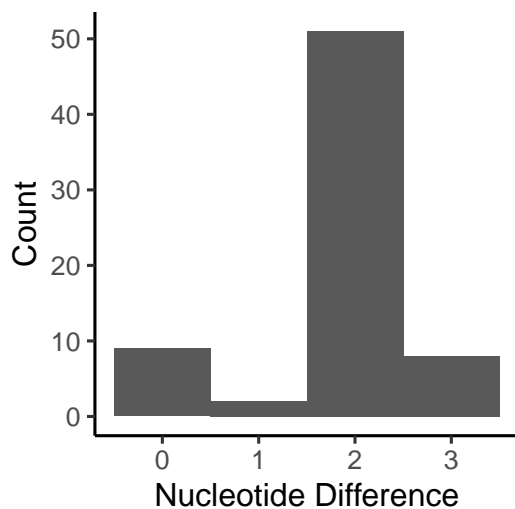
### IGHV3-9\*01

28 sequences assigned  
22 (78.6%) exact matches, in which:  
22 unique CDR3  
5 unique J



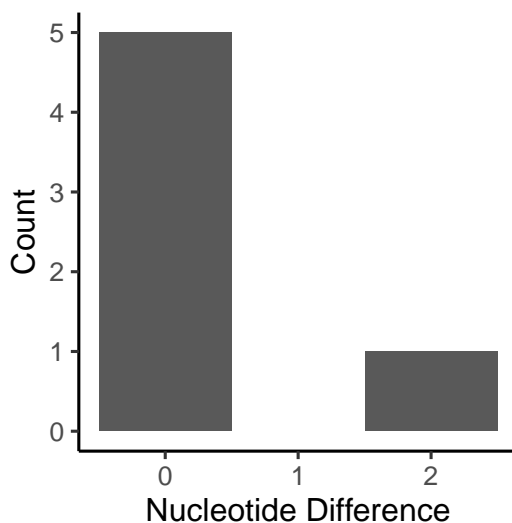
### IGHV1-69\*06\_14

70 sequences assigned  
9 (12.9%) exact matches, in which:  
9 unique CDR3  
2 unique J



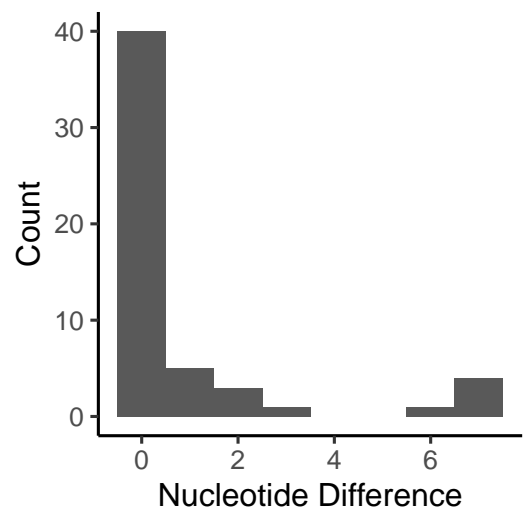
### IGHV2-70\*01

6 sequences assigned  
5 (83.3%) exact matches, in which:  
5 unique CDR3  
3 unique J



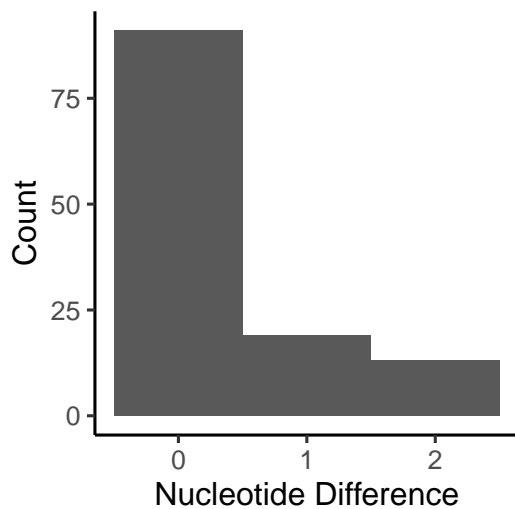
### IGHV3-11\*01

54 sequences assigned  
40 (74.1%) exact matches, in which:  
40 unique CDR3  
5 unique J



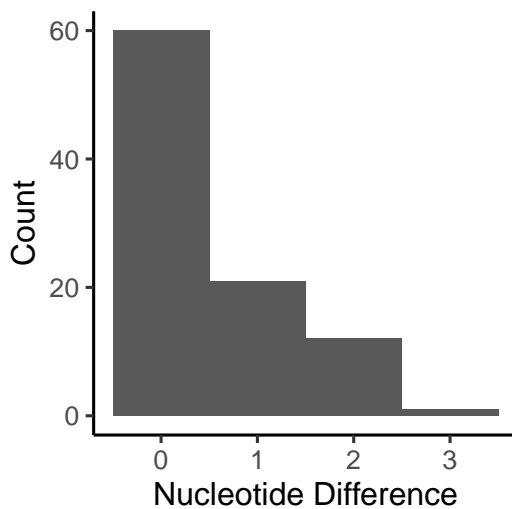
### IGHV2-5\*02

123 sequences assigned  
91 (74%) exact matches, in which:  
91 unique CDR3  
5 unique J



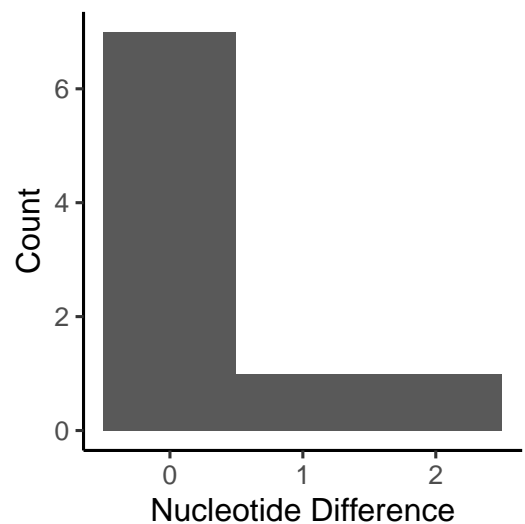
### IGHV3-7\*01

94 sequences assigned  
60 (63.8%) exact matches, in which:  
60 unique CDR3  
5 unique J



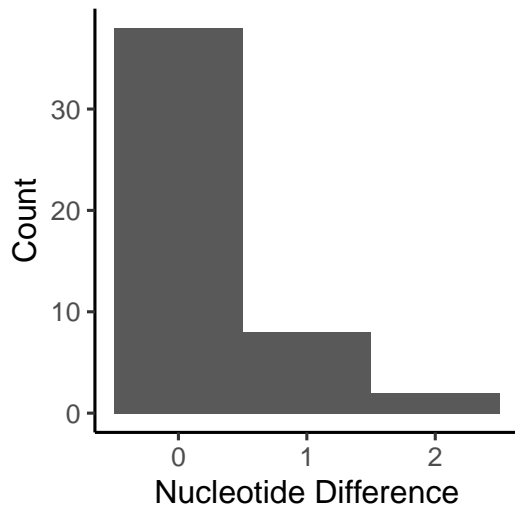
### IGHV3-13\*01

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



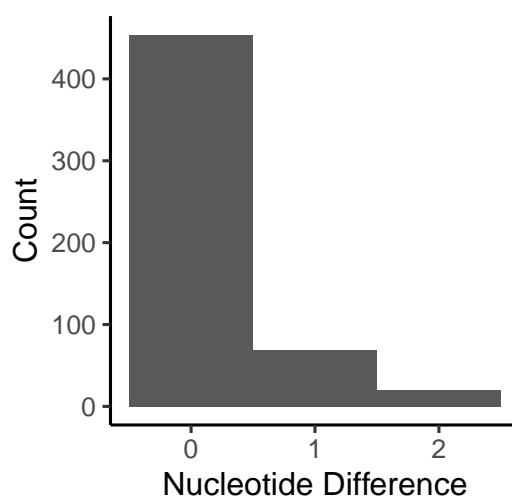
### IGHV3-15\*01\_02

48 sequences assigned  
38 (79.2%) exact matches, in which:  
38 unique CDR3  
4 unique J



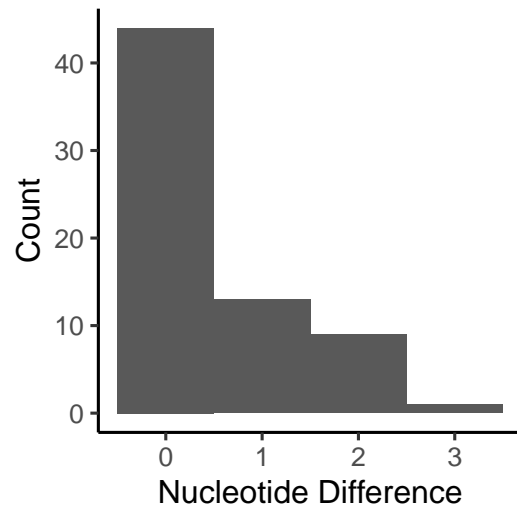
### IGHV3-23\*01\_04

543 sequences assigned  
454 (83.6%) exact matches, in which:  
454 unique CDR3  
6 unique J



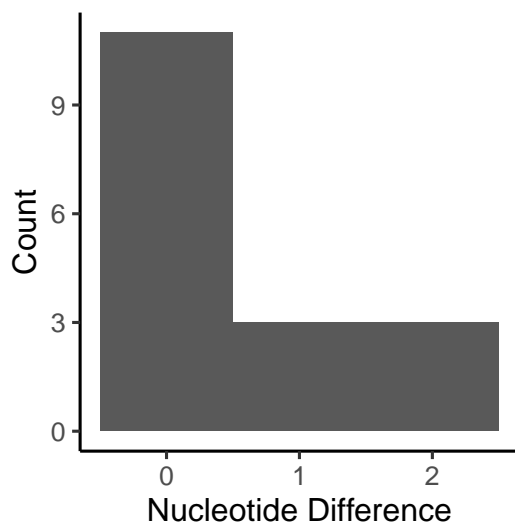
### IGHV3-33\*01

67 sequences assigned  
44 (65.7%) exact matches, in which:  
44 unique CDR3  
6 unique J



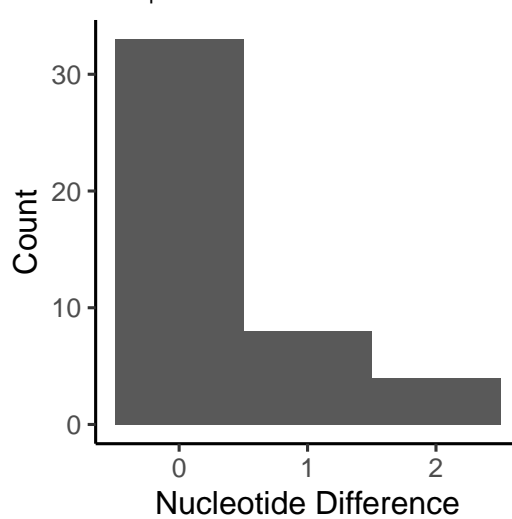
### IGHV3-20\*01\_02

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



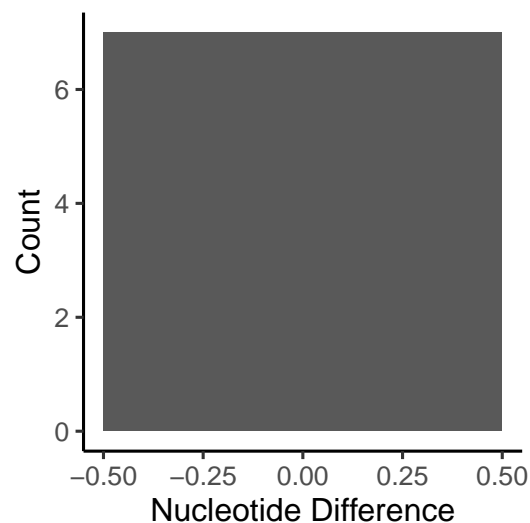
### IGHV3-30-3\*01

45 sequences assigned  
33 (73.3%) exact matches, in which:  
33 unique CDR3  
4 unique J



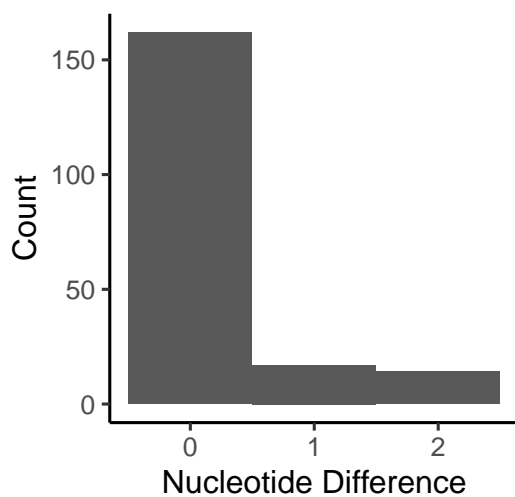
### IGHV3-43\*01

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



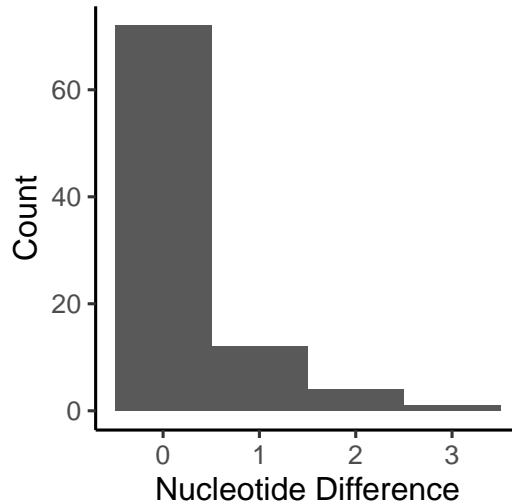
### IGHV3-21\*01\_02

193 sequences assigned  
162 (83.9%) exact matches, in which:  
162 unique CDR3  
6 unique J



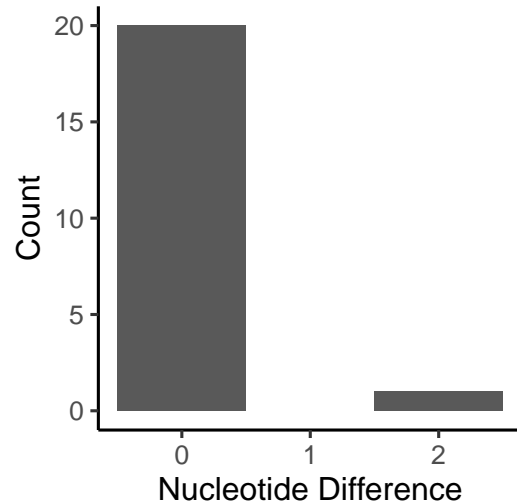
### IGHV3-30\*18

89 sequences assigned  
72 (80.9%) exact matches, in which:  
72 unique CDR3  
4 unique J



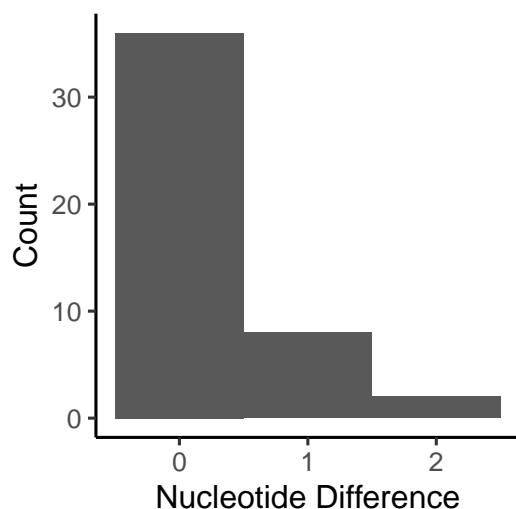
### IGHV3-43\*02

21 sequences assigned  
20 (95.2%) exact matches, in which:  
18 unique CDR3  
3 unique J



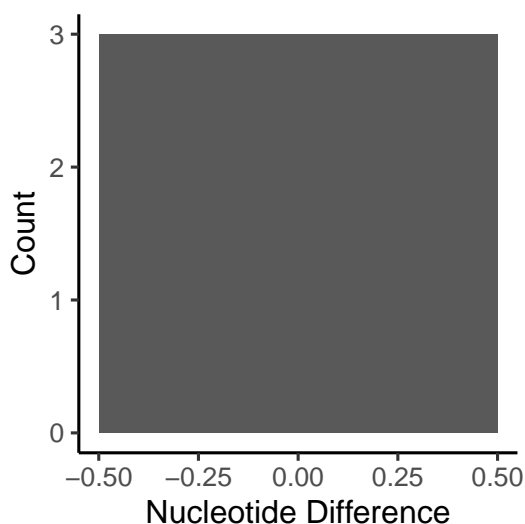
### IGHV3-48\*01

46 sequences assigned  
36 (78.3%) exact matches, in which:  
35 unique CDR3  
5 unique J



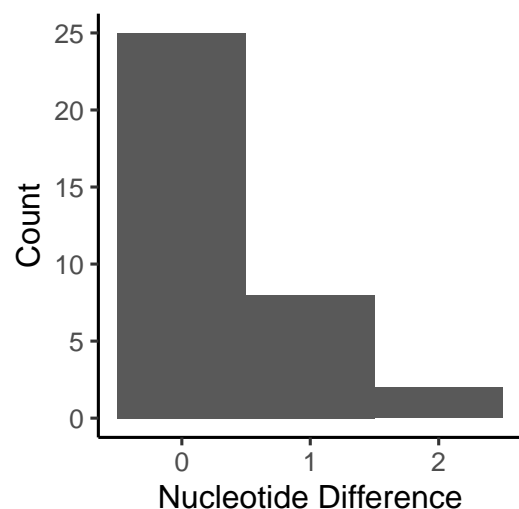
### IGHV3-49\*04

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



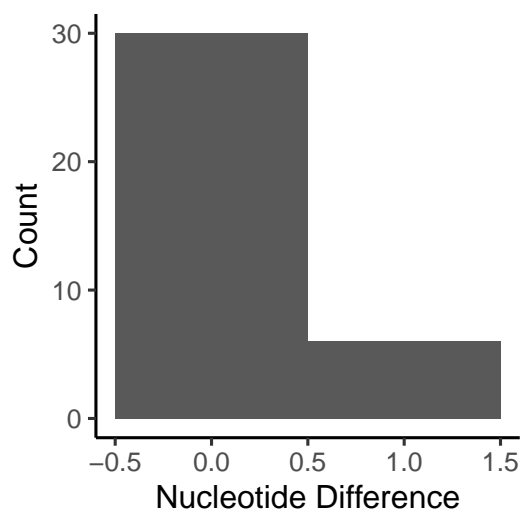
### IGHV3-53\*01\_02

35 sequences assigned  
25 (71.4%) exact matches, in which:  
25 unique CDR3  
5 unique J



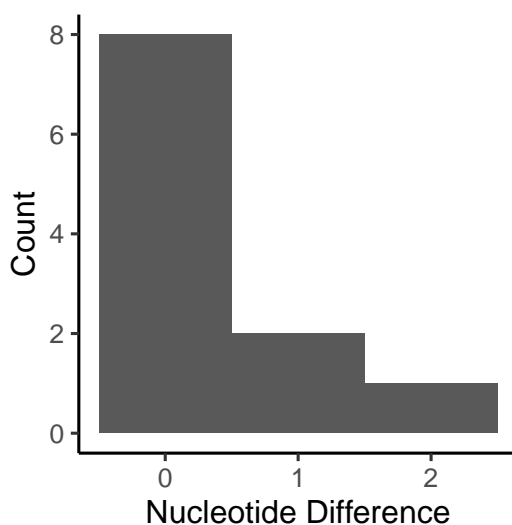
### IGHV3-48\*02

36 sequences assigned  
30 (83.3%) exact matches, in which:  
29 unique CDR3  
5 unique J



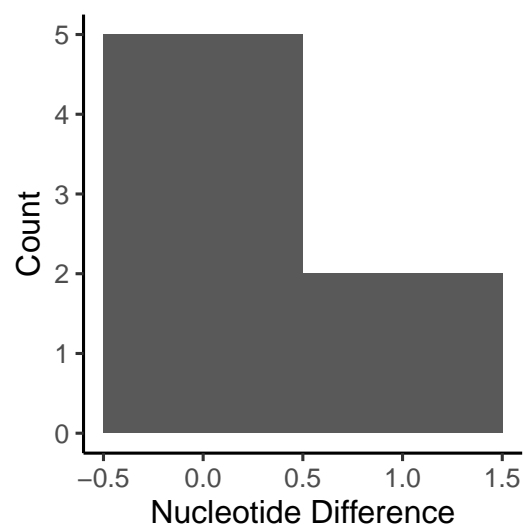
### IGHV3-49\*03\_05

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



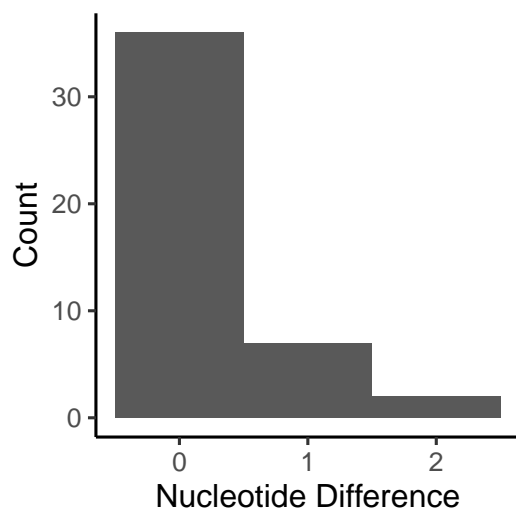
### IGHV3-64\*01

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



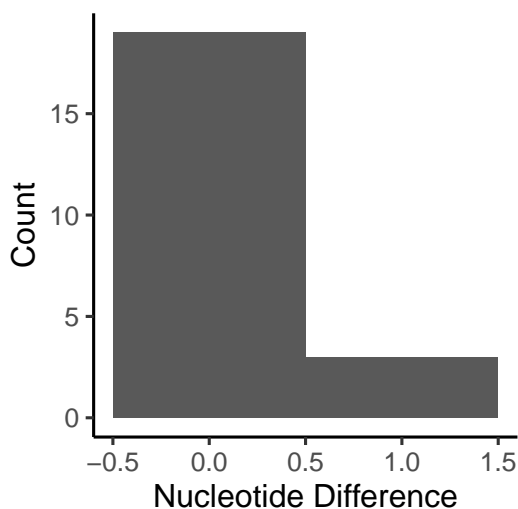
### IGHV3-48\*03

45 sequences assigned  
36 (80%) exact matches, in which:  
35 unique CDR3  
5 unique J



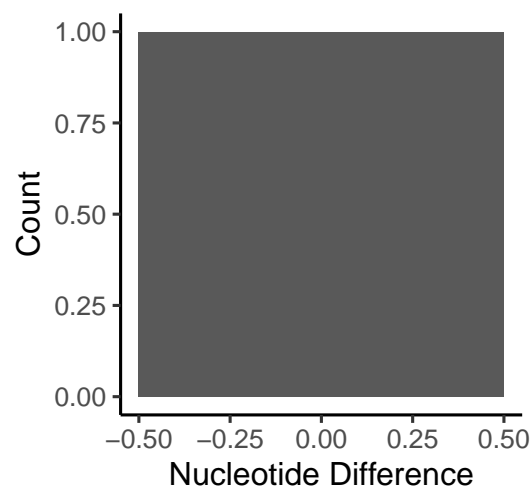
### IGHV3-53\*04

22 sequences assigned  
19 (86.4%) exact matches, in which:  
19 unique CDR3  
4 unique J



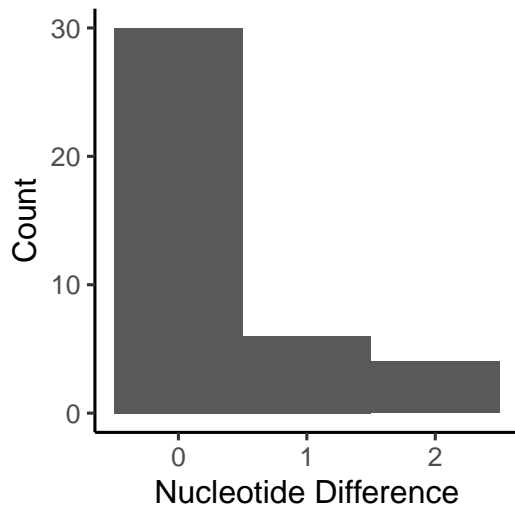
### IGHV3-64\*02\_07

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



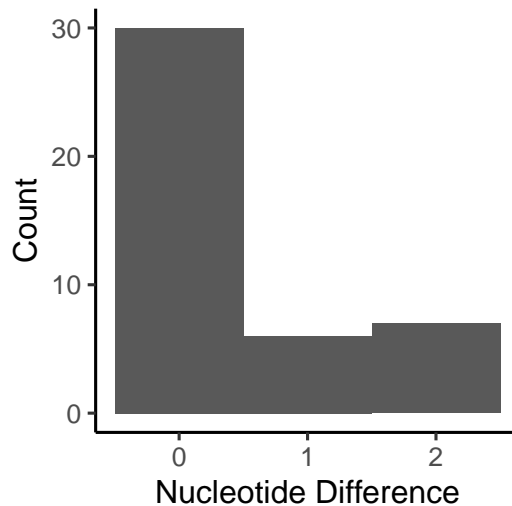
### IGHV3-66\*02

40 sequences assigned  
30 (75%) exact matches, in which:  
29 unique CDR3  
5 unique J



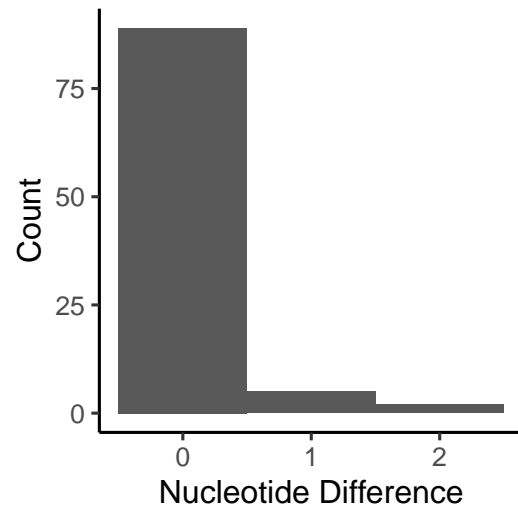
### IGHV3-74\*01\_02

43 sequences assigned  
30 (69.8%) exact matches, in which:  
30 unique CDR3  
4 unique J



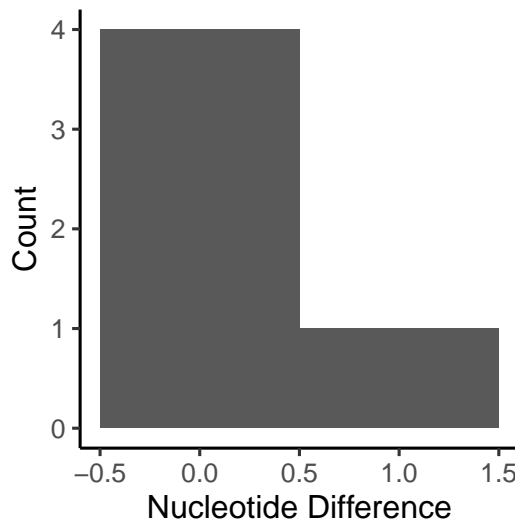
### IGHV4-4\*07

96 sequences assigned  
89 (92.7%) exact matches, in which:  
85 unique CDR3  
5 unique J



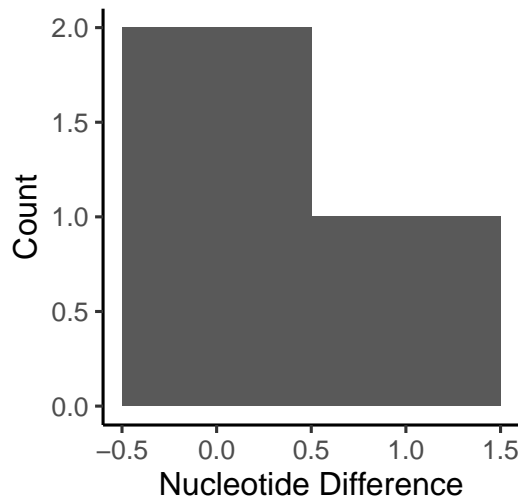
### IGHV3-72\*01

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



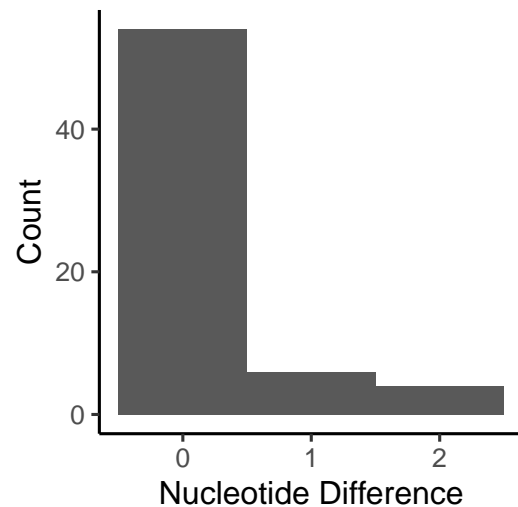
### IGHV3-64D\*06

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



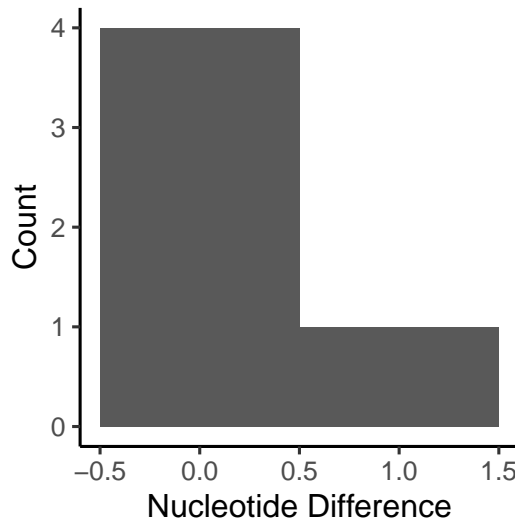
### IGHV4-4\*02\_03

64 sequences assigned  
54 (84.4%) exact matches, in which:  
53 unique CDR3  
5 unique J



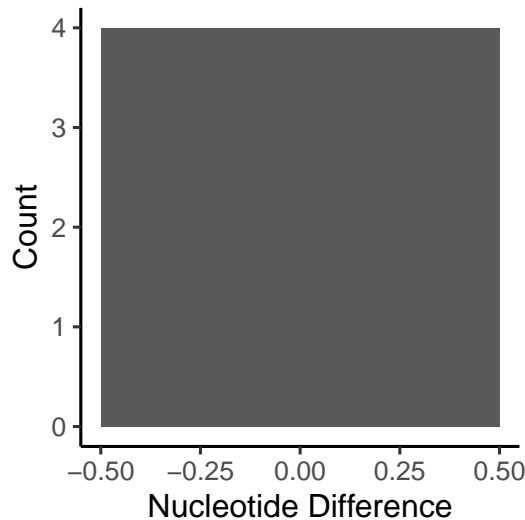
### IGHV3-73\*01\_02

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



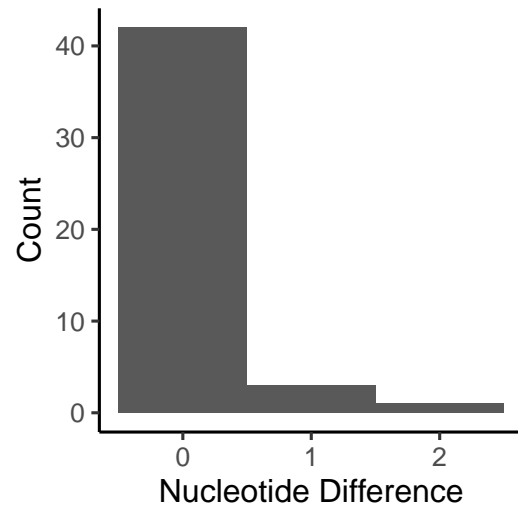
### IGHV3-64D\*08

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



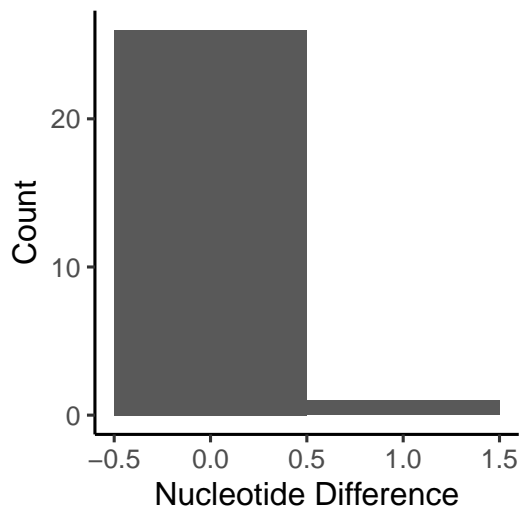
### IGHV4-30-2\*01

46 sequences assigned  
42 (91.3%) exact matches, in which:  
40 unique CDR3  
4 unique J



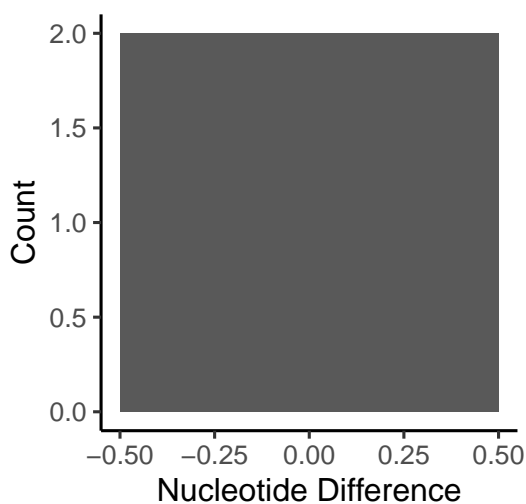
### IGHV4-30-4\*01

27 sequences assigned  
26 (96.3%) exact matches, in which:  
24 unique CDR3  
5 unique J



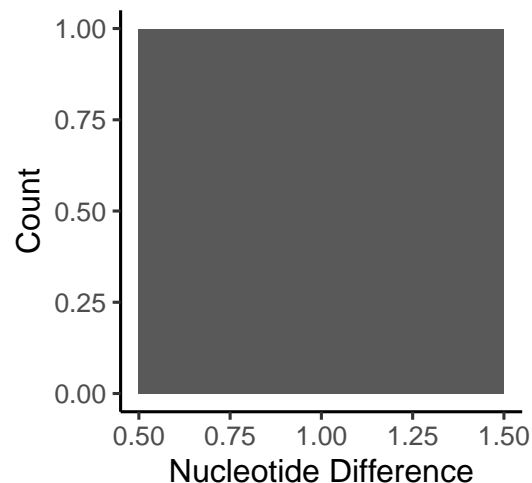
### IGHV4-38-2\*01

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



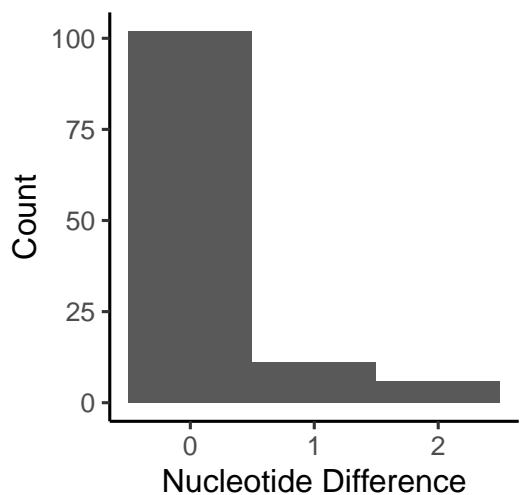
### IGHV4-59\*08

1 sequences assigned  
No exact matches.



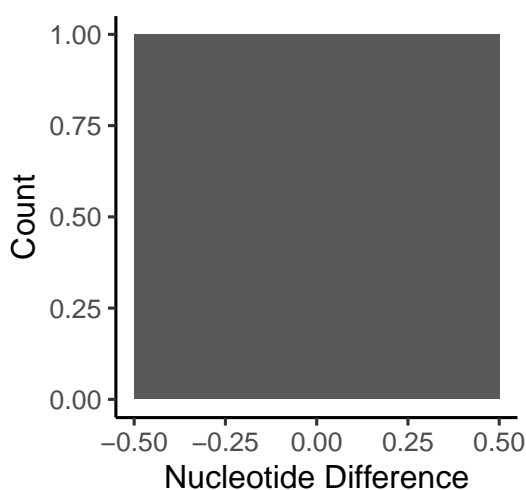
### IGHV4-31\*02

119 sequences assigned  
102 (85.7%) exact matches, in which:  
100 unique CDR3  
6 unique J



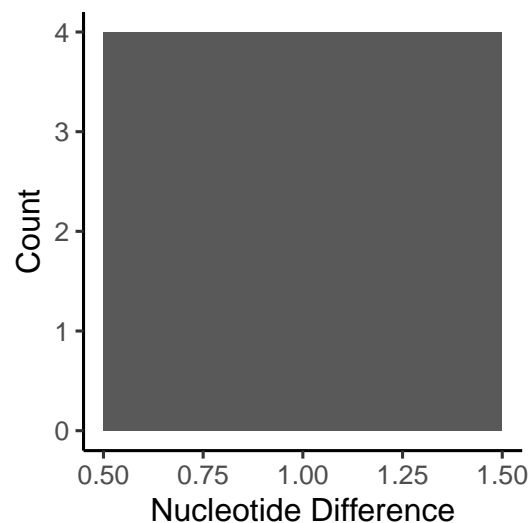
### IGHV4-38-2\*02

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



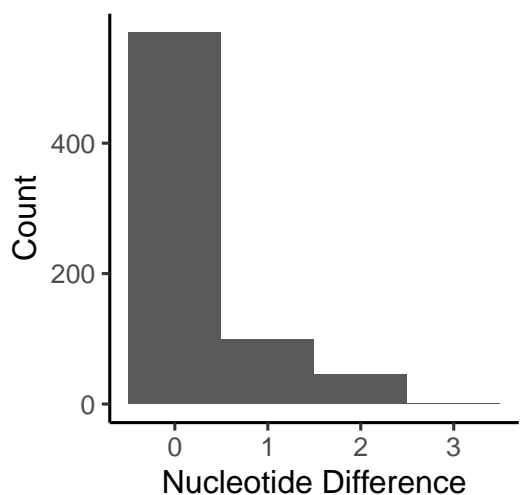
### IGHV4-59\*12

4 sequences assigned  
No exact matches.



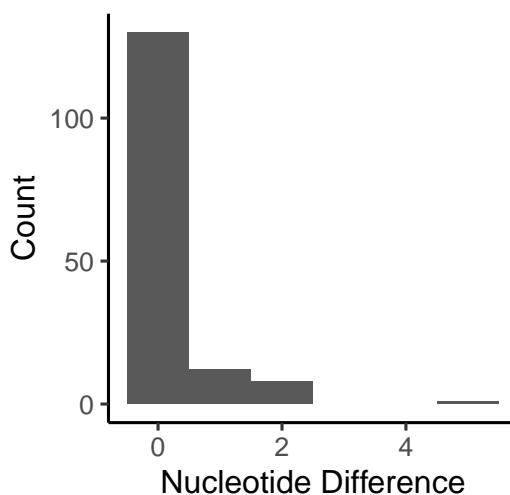
### IGHV4-34\*01\_02

715 sequences assigned  
570 (79.7%) exact matches, in which:  
549 unique CDR3  
6 unique J



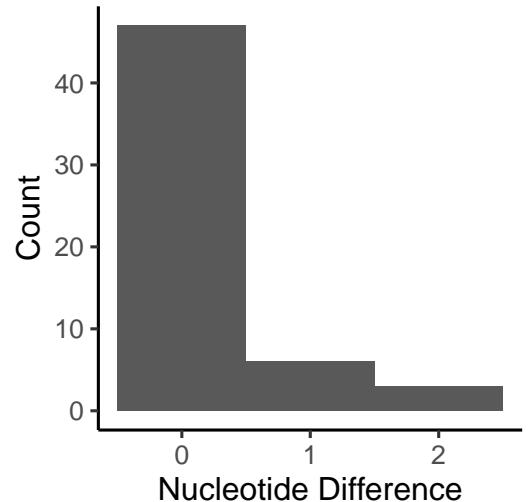
### IGHV4-39\*07

151 sequences assigned  
130 (86.1%) exact matches, in which:  
128 unique CDR3  
5 unique J



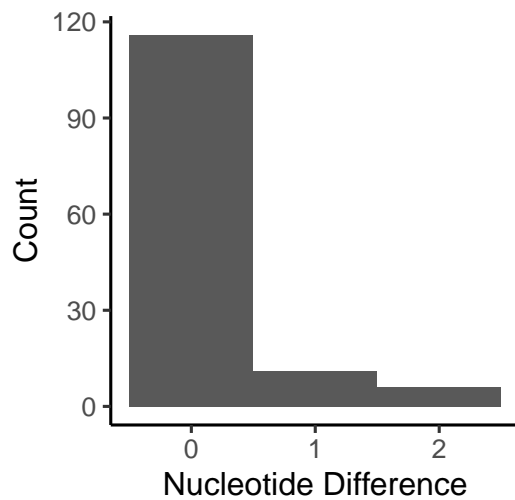
### IGHV4-61\*01

56 sequences assigned  
47 (83.9%) exact matches, in which:  
46 unique CDR3  
6 unique J



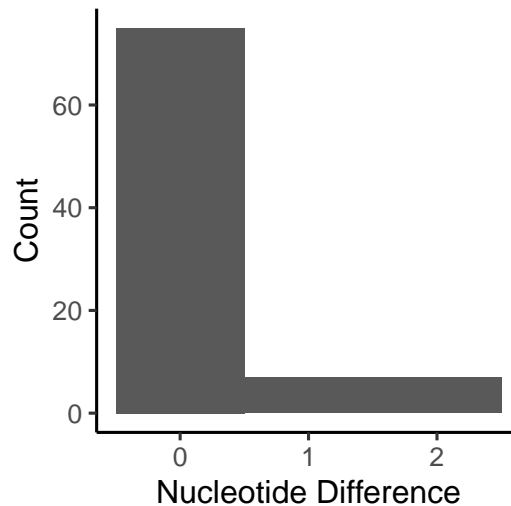
### IGHV4–61\*02

133 sequences assigned  
116 (87.2%) exact matches, in which:  
115 unique CDR3  
5 unique J



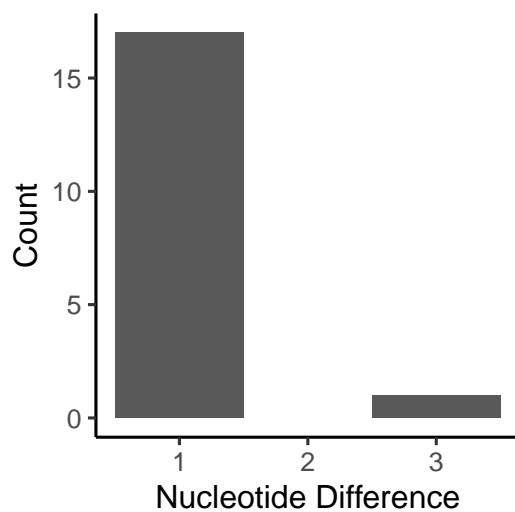
### IGHV6–1\*01\_02

89 sequences assigned  
75 (84.3%) exact matches, in which:  
75 unique CDR3  
5 unique J



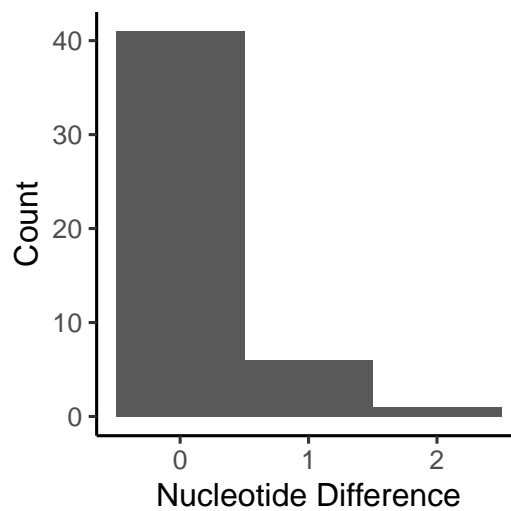
### IGHV5–51\*07

18 sequences assigned  
No exact matches.



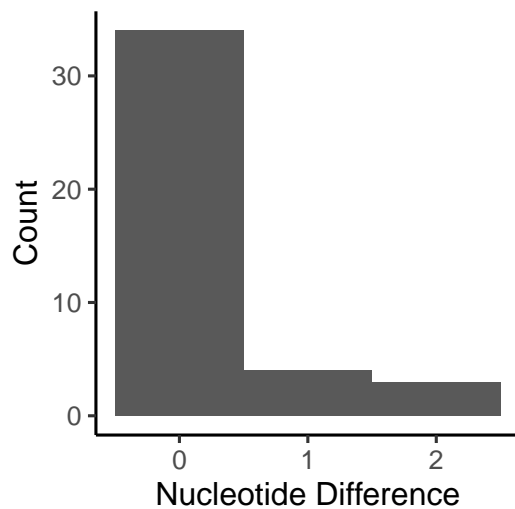
### IGHV7–4–1\*02

48 sequences assigned  
41 (85.4%) exact matches, in which:  
40 unique CDR3  
6 unique J



### IGHV5–51\*01\_03

41 sequences assigned  
34 (82.9%) exact matches, in which:  
34 unique CDR3  
5 unique J







Warning – no inferred sequences found.