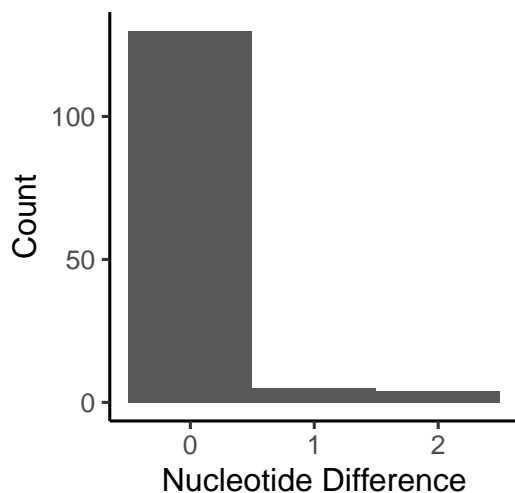


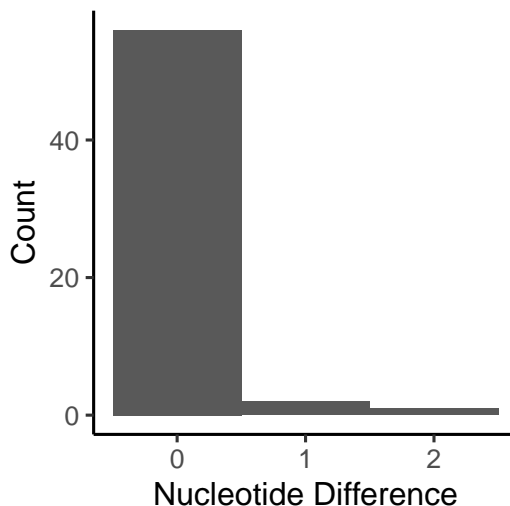
### IGHV1-2\*02

139 sequences assigned  
130 (93.5%) exact matches, in which:  
130 unique CDR3  
6 unique J



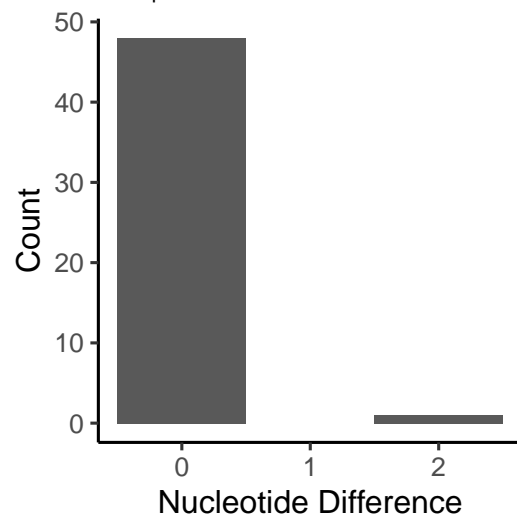
### IGHV1-8\*03

59 sequences assigned  
56 (94.9%) exact matches, in which:  
56 unique CDR3  
4 unique J



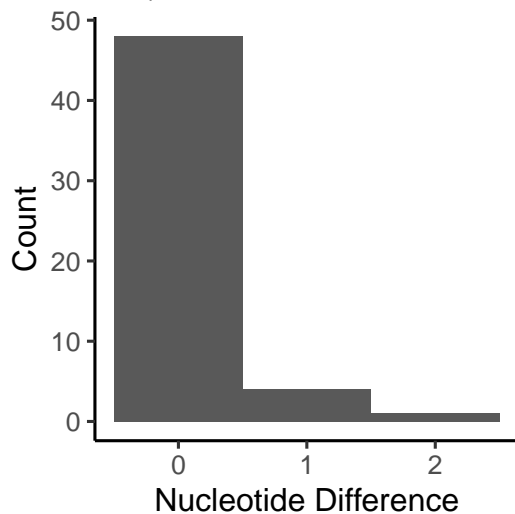
### IGHV1-24\*01

49 sequences assigned  
48 (98%) exact matches, in which:  
48 unique CDR3  
5 unique J



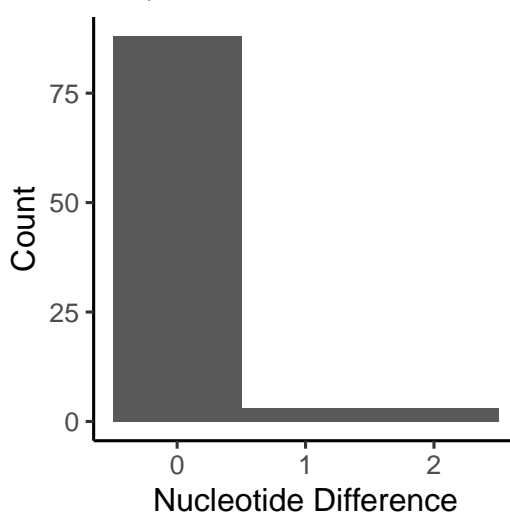
### IGHV1-2\*04

53 sequences assigned  
48 (90.6%) exact matches, in which:  
48 unique CDR3  
5 unique J



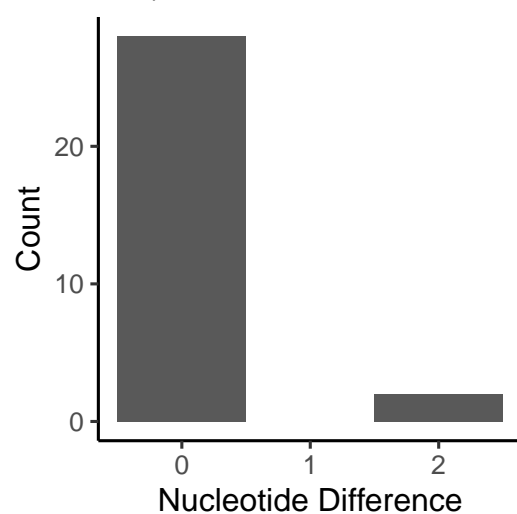
### IGHV1-18\*01

94 sequences assigned  
88 (93.6%) exact matches, in which:  
88 unique CDR3  
5 unique J



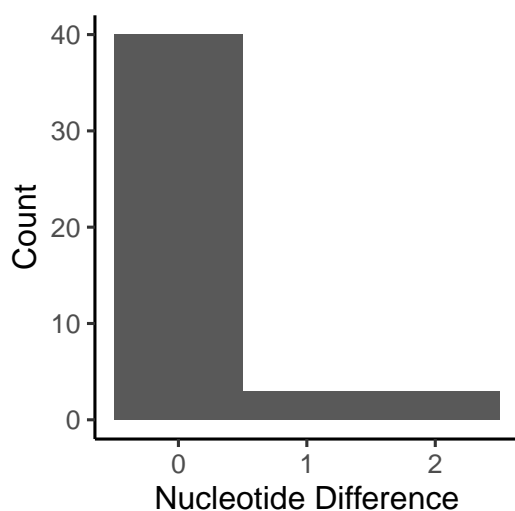
### IGHV1-46\*01

30 sequences assigned  
28 (93.3%) exact matches, in which:  
28 unique CDR3  
4 unique J



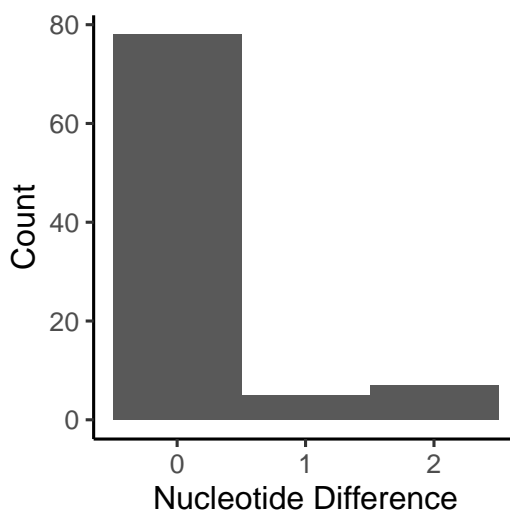
### IGHV1-3\*01\_05

46 sequences assigned  
40 (87%) exact matches, in which:  
40 unique CDR3  
5 unique J



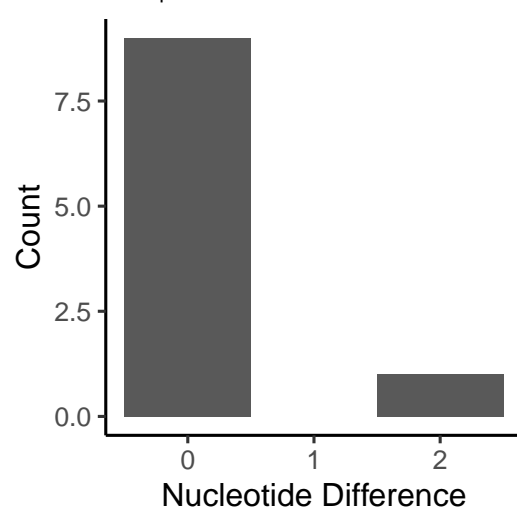
### IGHV1-18\*04

90 sequences assigned  
78 (86.7%) exact matches, in which:  
78 unique CDR3  
4 unique J



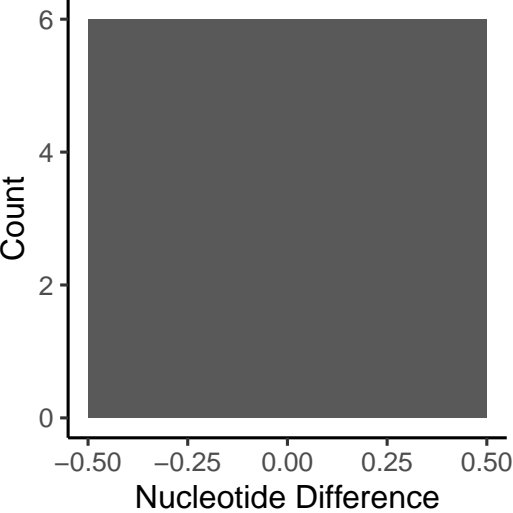
### IGHV1-46\*03

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



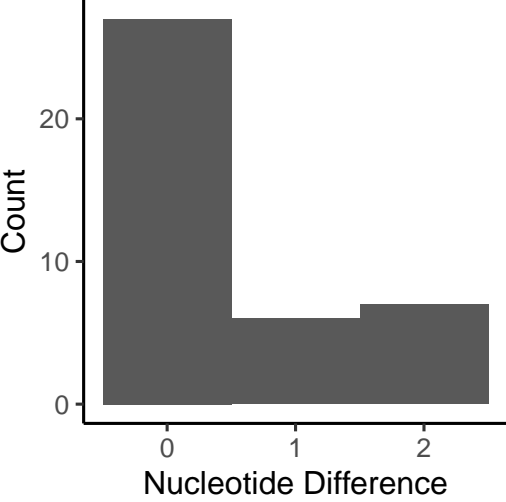
IGHV1-58\*02

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



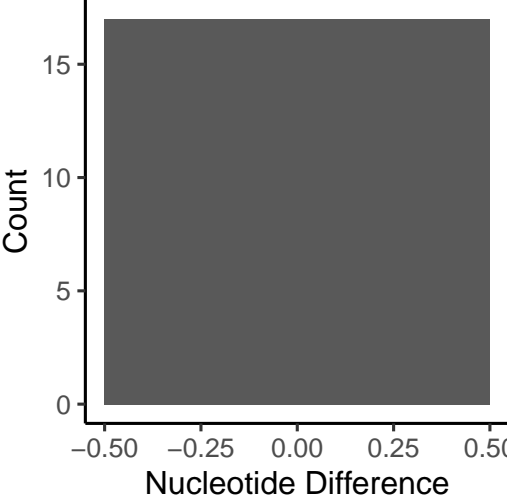
IGHV2-5\*01

40 sequences assigned  
27 (67.5%) exact matches, in which:  
27 unique CDR3  
4 unique J



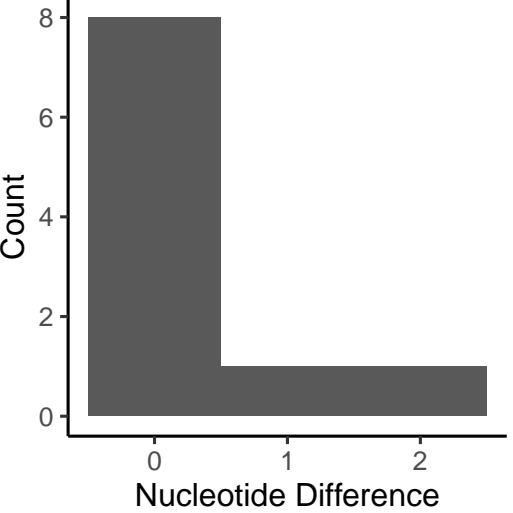
IGHV2-70\*01

17 sequences assigned  
17 (100%) exact matches, in which:  
17 unique CDR3  
4 unique J



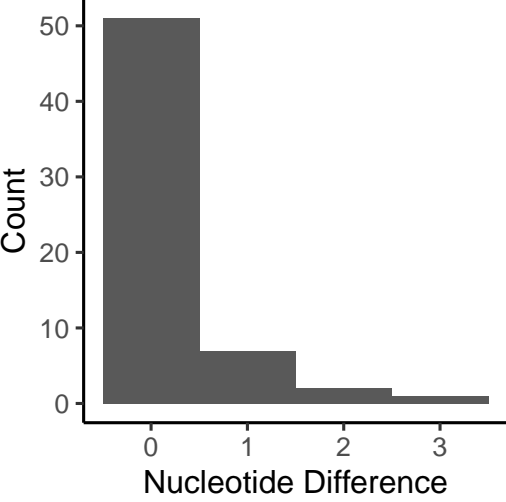
IGHV1-58\*01\_03

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



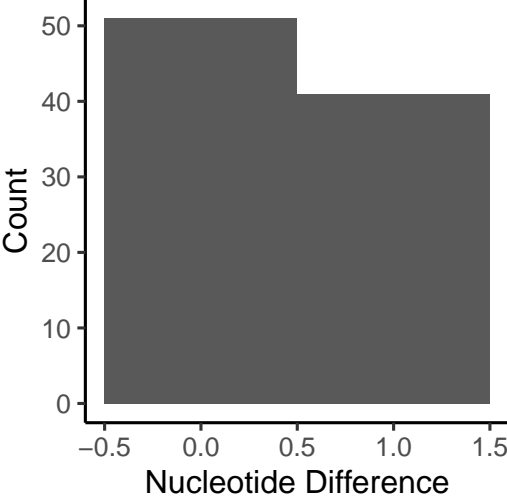
IGHV2-5\*02

61 sequences assigned  
51 (83.6%) exact matches, in which:  
51 unique CDR3  
5 unique J



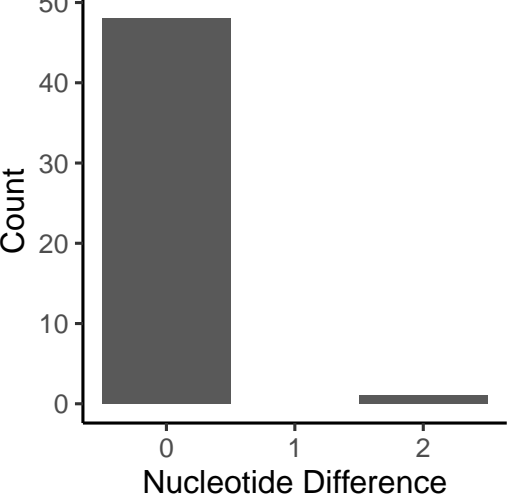
IGHV2-70\*11\_15

92 sequences assigned  
51 (55.4%) exact matches, in which:  
34 unique CDR3  
3 unique J



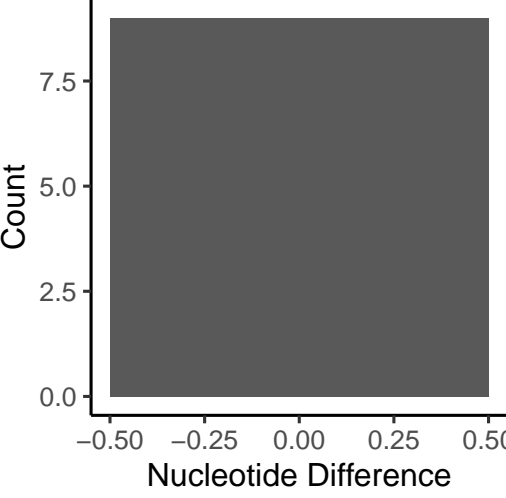
IGHV1-69\*02

49 sequences assigned  
48 (98%) exact matches, in which:  
47 unique CDR3  
5 unique J



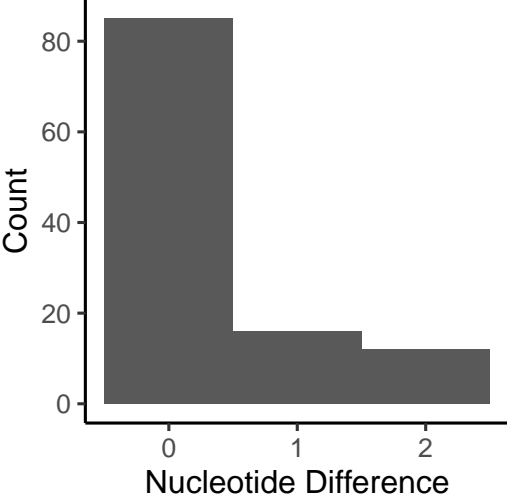
IGHV2-26\*01

9 sequences assigned  
9 (100%) exact matches, in which:  
9 unique CDR3  
3 unique J



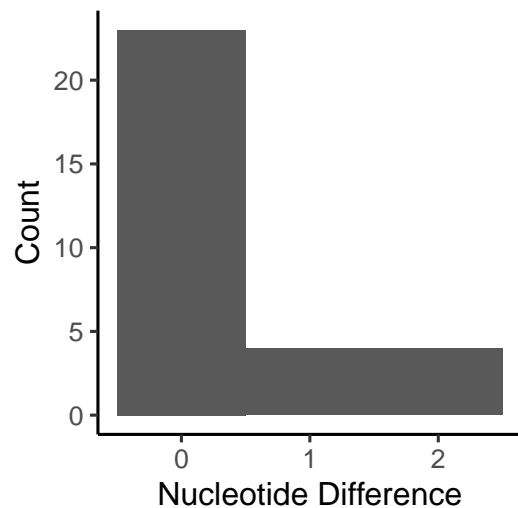
IGHV3-7\*01

113 sequences assigned  
85 (75.2%) exact matches, in which:  
83 unique CDR3  
6 unique J



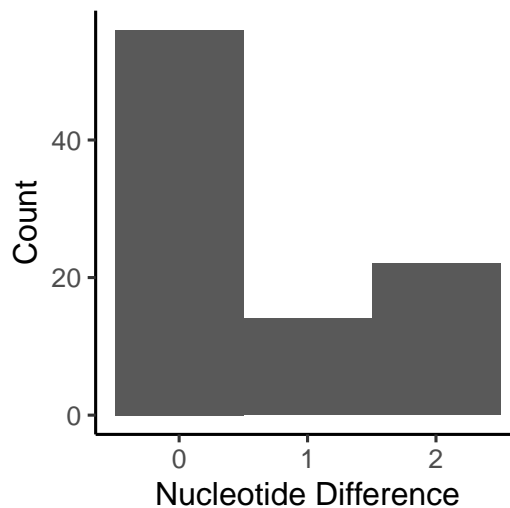
### IGHV3-7\*04

31 sequences assigned  
23 (74.2%) exact matches, in which:  
23 unique CDR3  
3 unique J



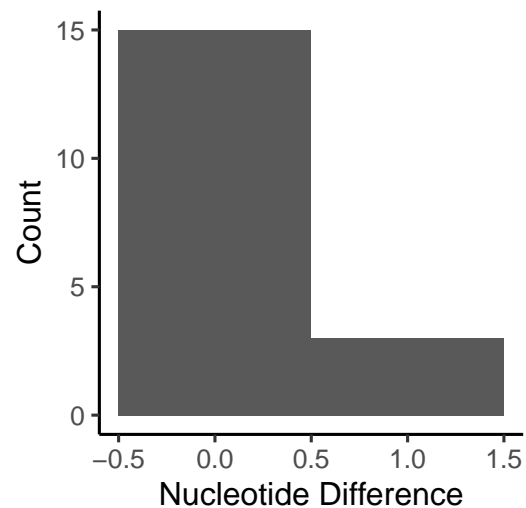
### IGHV3-11\*03\_05

92 sequences assigned  
56 (60.9%) exact matches, in which:  
51 unique CDR3  
5 unique J



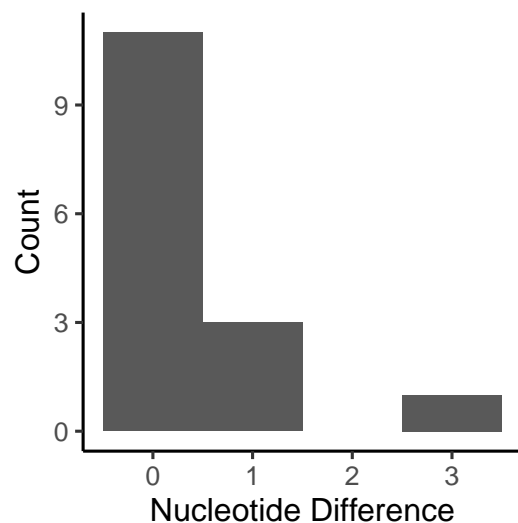
### IGHV3-20\*03\_04

18 sequences assigned  
15 (83.3%) exact matches, in which:  
14 unique CDR3  
3 unique J



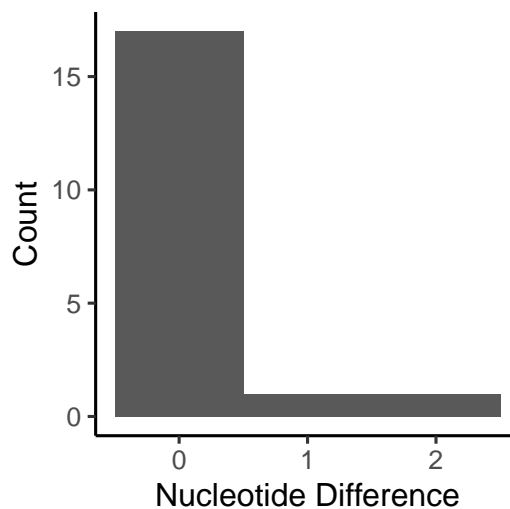
### IGHV3-9\*03

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



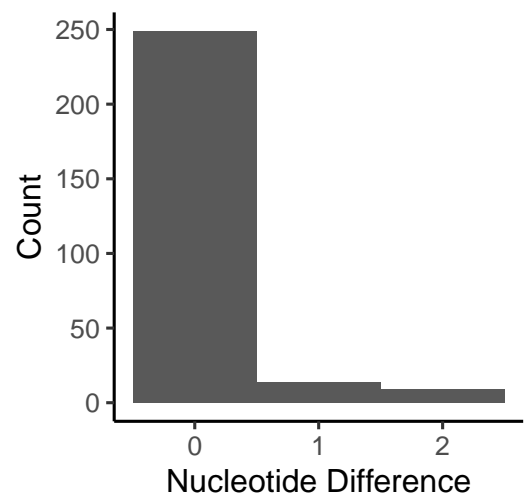
### IGHV3-13\*04

19 sequences assigned  
17 (89.5%) exact matches, in which:  
17 unique CDR3  
4 unique J



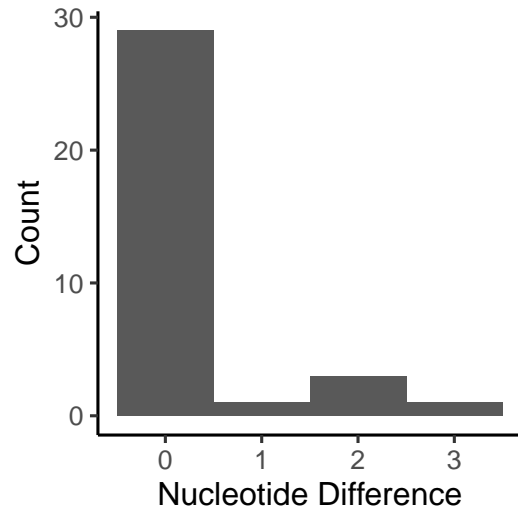
### IGHV3-21\*01\_02

272 sequences assigned  
249 (91.5%) exact matches, in which:  
236 unique CDR3  
6 unique J



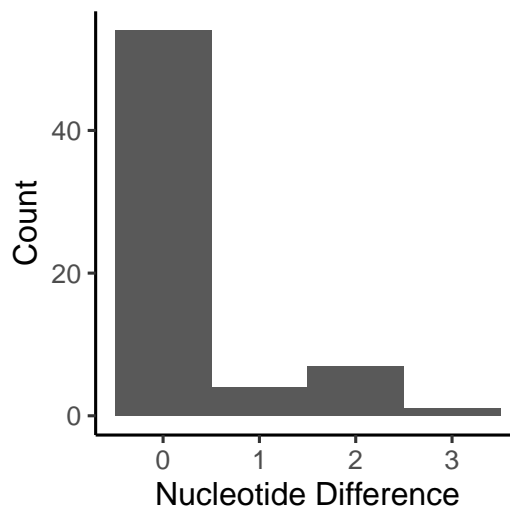
### IGHV3-11\*04

34 sequences assigned  
29 (85.3%) exact matches, in which:  
28 unique CDR3  
5 unique J



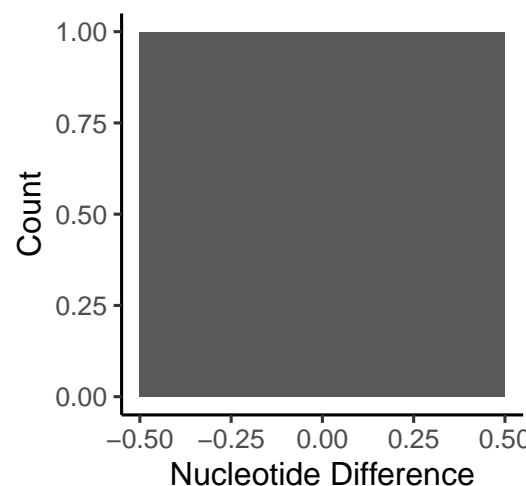
### IGHV3-15\*01\_02

66 sequences assigned  
54 (81.8%) exact matches, in which:  
51 unique CDR3  
6 unique J



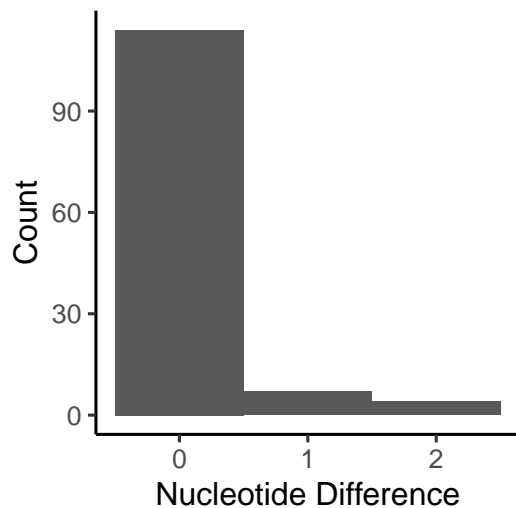
### IGHV3-30-3\*01

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



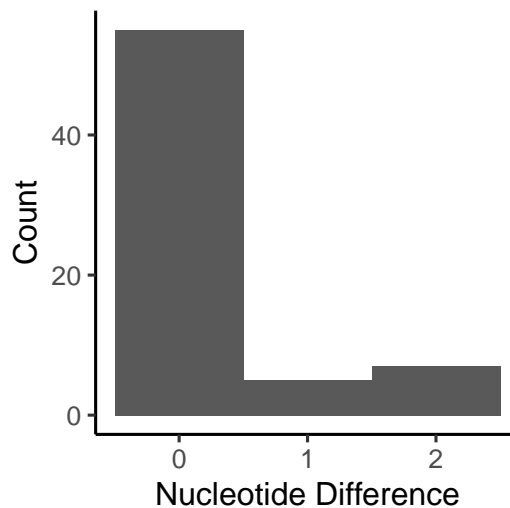
### IGHV3-33\*01

125 sequences assigned  
114 (91.2%) exact matches, in which:  
108 unique CDR3  
6 unique J



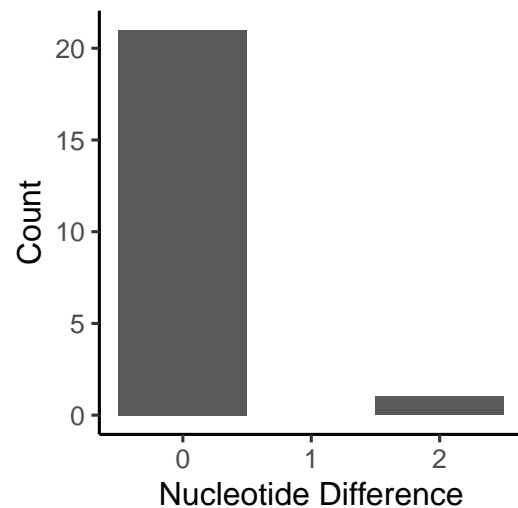
### IGHV3-48\*01

67 sequences assigned  
55 (82.1%) exact matches, in which:  
51 unique CDR3  
4 unique J



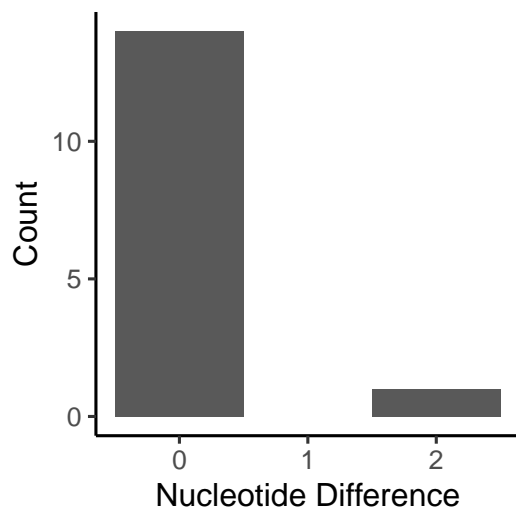
### IGHV3-53\*04

22 sequences assigned  
21 (95.5%) exact matches, in which:  
18 unique CDR3  
3 unique J



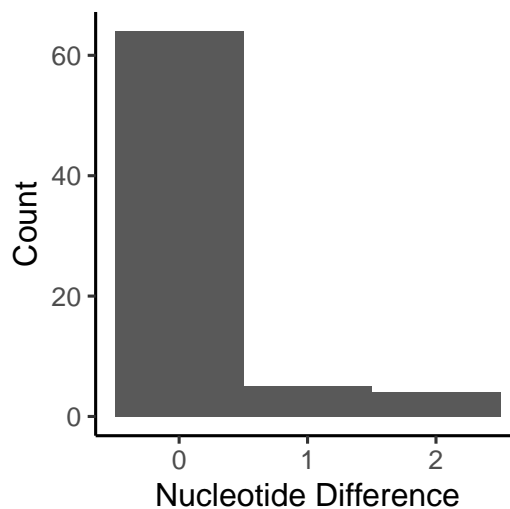
### IGHV3-43\*01

15 sequences assigned  
14 (93.3%) exact matches, in which:  
11 unique CDR3  
2 unique J



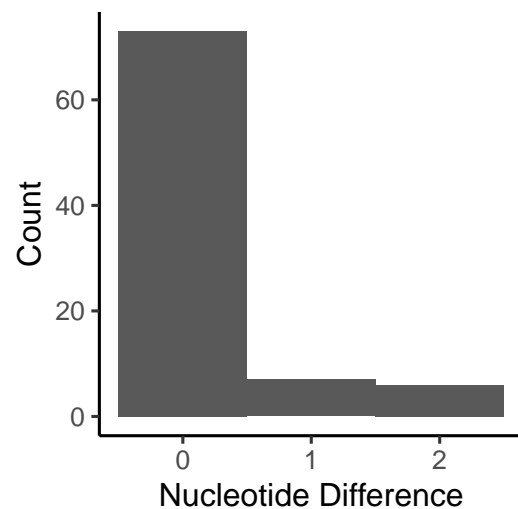
### IGHV3-48\*02

73 sequences assigned  
64 (87.7%) exact matches, in which:  
58 unique CDR3  
6 unique J



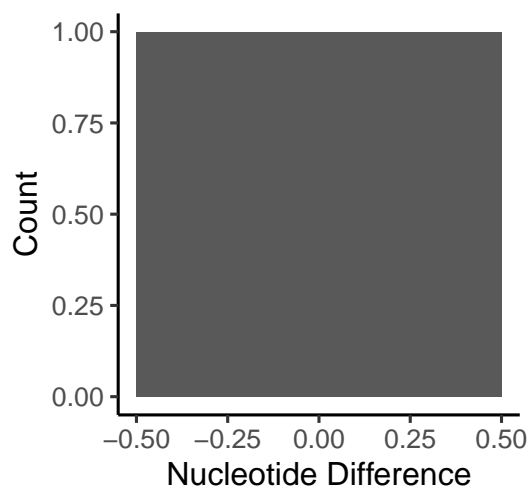
### IGHV3-53\*01\_02

86 sequences assigned  
73 (84.9%) exact matches, in which:  
65 unique CDR3  
5 unique J



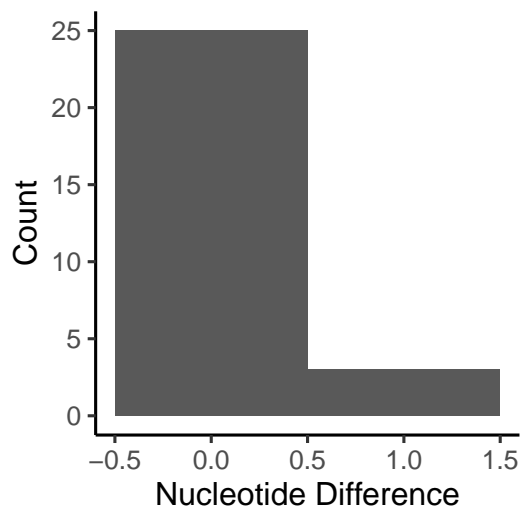
### IGHV3-47\*02

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



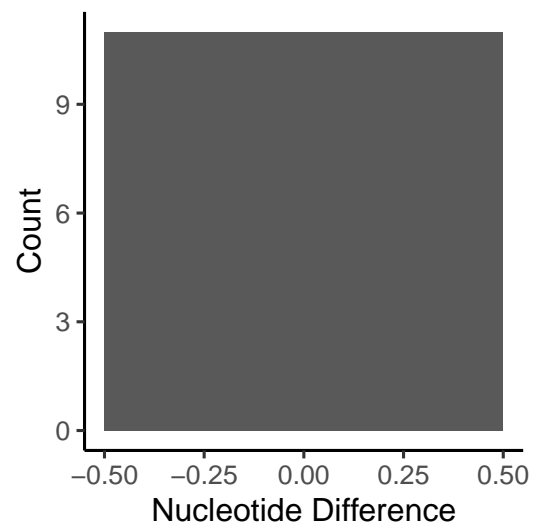
### IGHV3-49\*03\_05

28 sequences assigned  
25 (89.3%) exact matches, in which:  
24 unique CDR3  
4 unique J



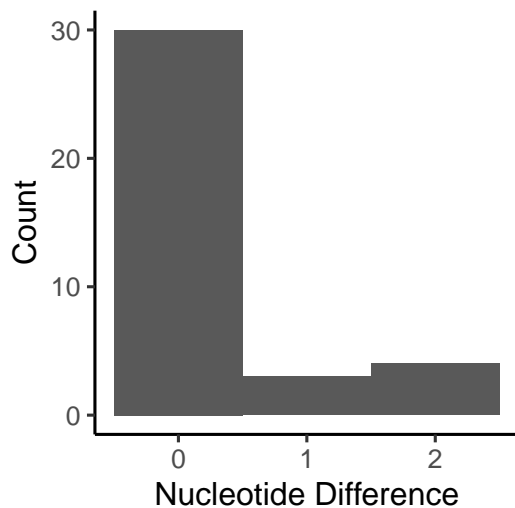
### IGHV3-64\*01

11 sequences assigned  
11 (100%) exact matches, in which:  
10 unique CDR3  
3 unique J



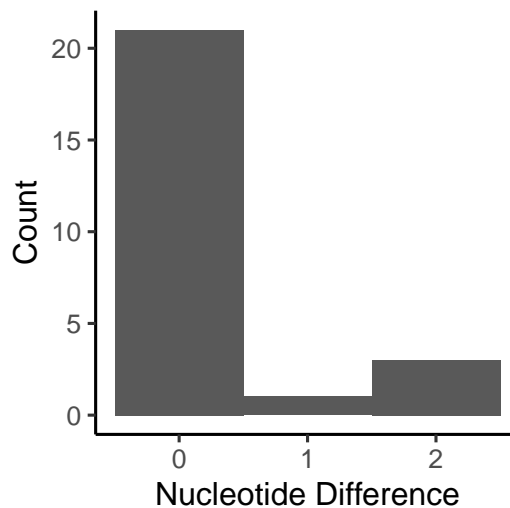
### IGHV3-66\*01

37 sequences assigned  
30 (81.1%) exact matches, in which:  
27 unique CDR3  
6 unique J



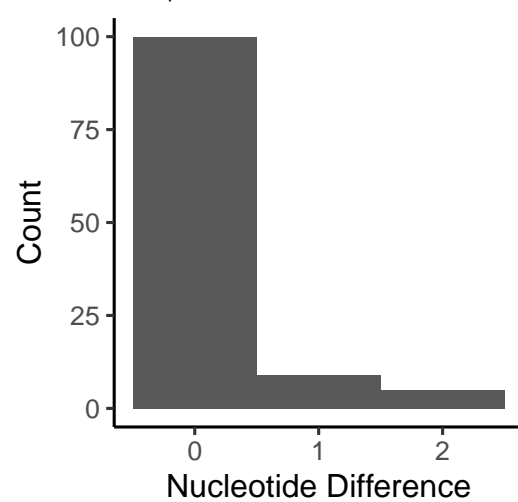
### IGHV3-73\*01\_02

25 sequences assigned  
21 (84%) exact matches, in which:  
20 unique CDR3  
4 unique J



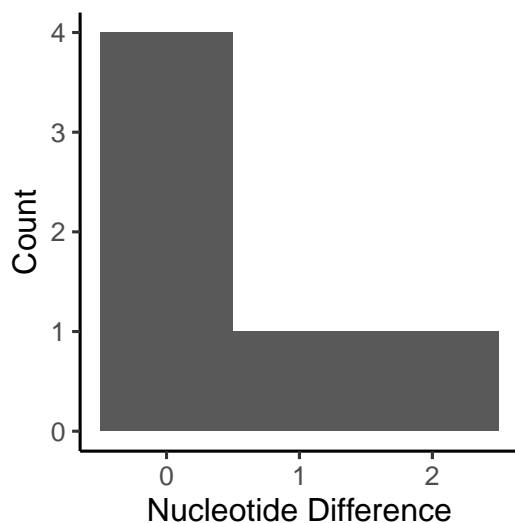
### IGHV4-4\*07

114 sequences assigned  
100 (87.7%) exact matches, in which:  
96 unique CDR3  
5 unique J



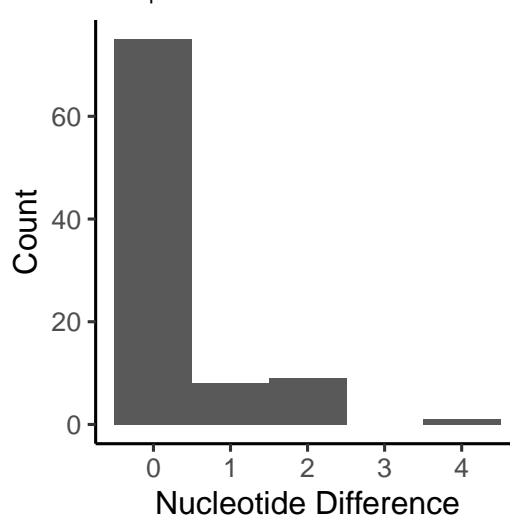
### IGHV3-66\*04

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



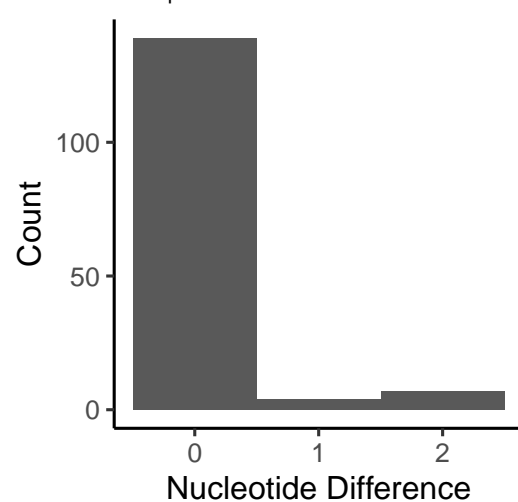
### IGHV3-74\*01\_02

93 sequences assigned  
75 (80.6%) exact matches, in which:  
72 unique CDR3  
5 unique J



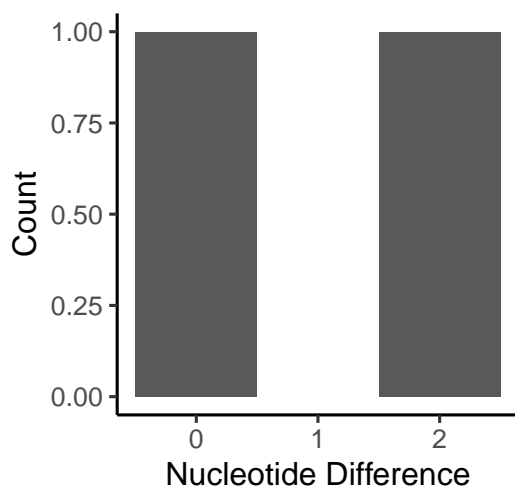
### IGHV4-31\*03\_04

150 sequences assigned  
139 (92.7%) exact matches, in which:  
135 unique CDR3  
6 unique J



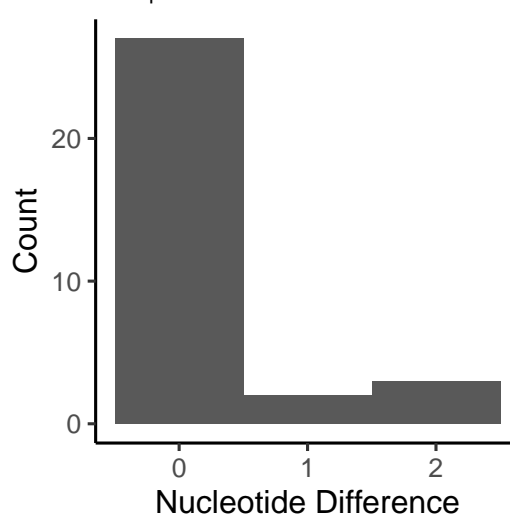
### IGHV3-72\*01

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



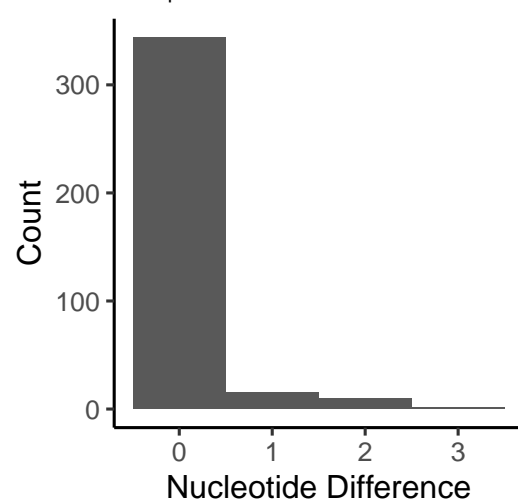
### IGHV3-64D\*06

32 sequences assigned  
27 (84.4%) exact matches, in which:  
26 unique CDR3  
4 unique J



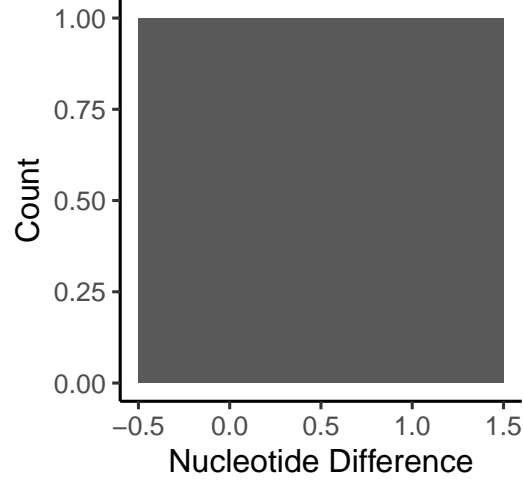
### IGHV4-34\*01\_02

370 sequences assigned  
344 (93%) exact matches, in which:  
322 unique CDR3  
6 unique J



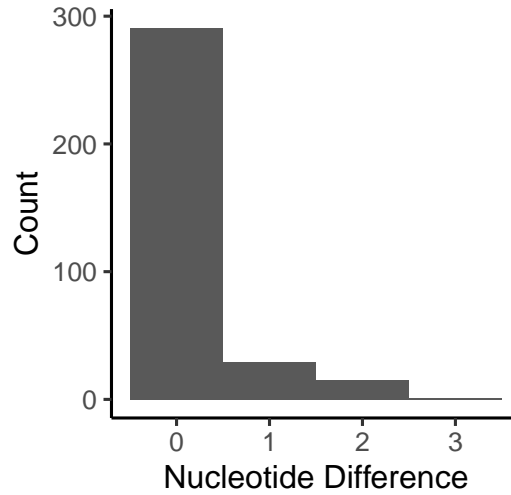
### IGHV4-38-2\*02

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



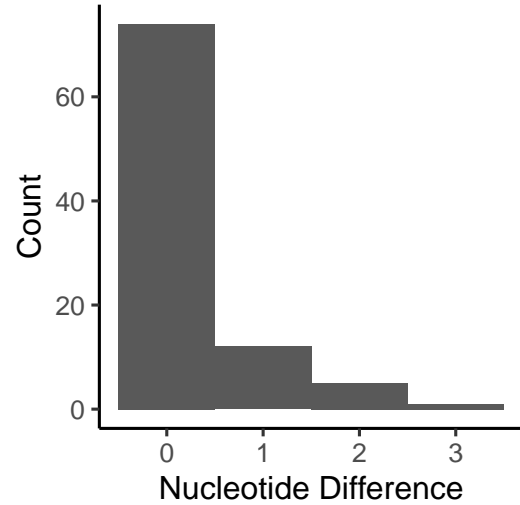
### IGHV4-59\*01\_07

336 sequences assigned  
291 (86.6%) exact matches, in which:  
261 unique CDR3  
6 unique J



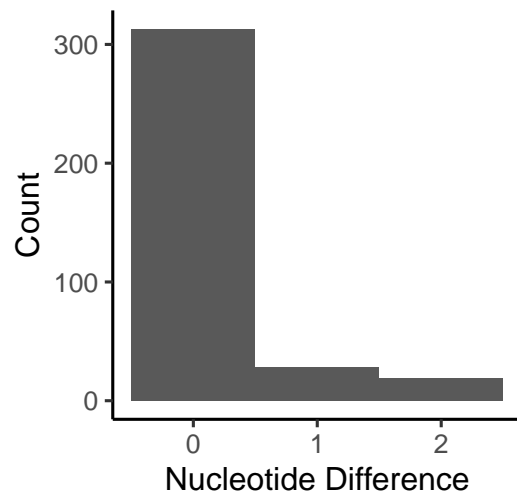
### IGHV5-51\*01\_03

92 sequences assigned  
74 (80.4%) exact matches, in which:  
74 unique CDR3  
5 unique J



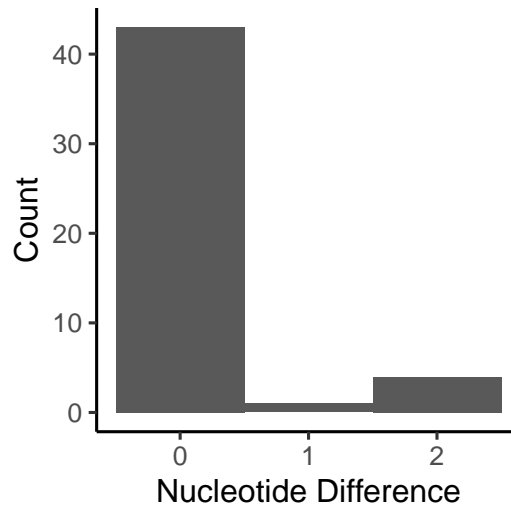
### IGHV4-39\*01\_05

360 sequences assigned  
313 (86.9%) exact matches, in which:  
301 unique CDR3  
6 unique J



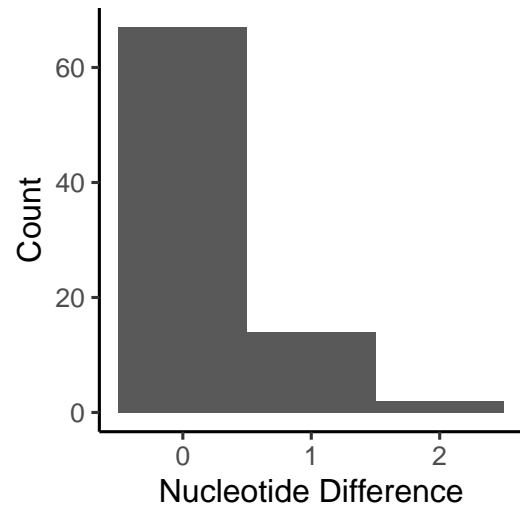
### IGHV4-61\*01

48 sequences assigned  
43 (89.6%) exact matches, in which:  
42 unique CDR3  
5 unique J



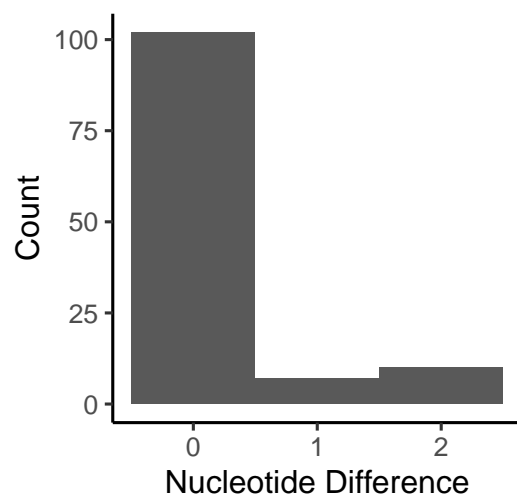
### IGHV6-1\*01\_02

83 sequences assigned  
67 (80.7%) exact matches, in which:  
64 unique CDR3  
5 unique J



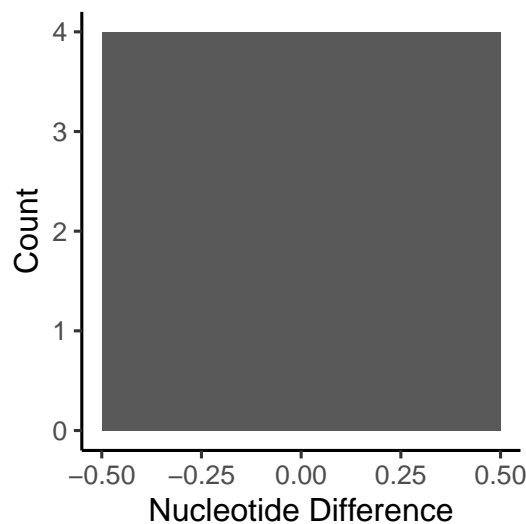
### IGHV4-59\*08

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



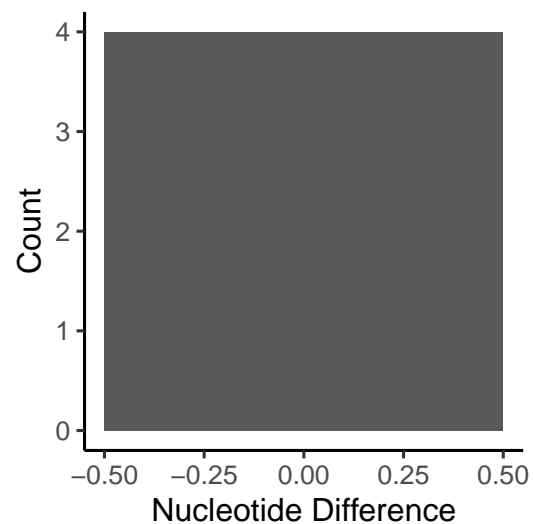
### IGHV5-10-1\*01\_03

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



### IGHV7-4-1\*01

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





Warning – no inferred sequences found.

Novel sequence(s)IGHV4–59\*02\_G88AIGHV5–51\*07\_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Novel sequence(s)IGHV4–59\*02\_G88AIGHV5–51\*07\_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Novel sequence(s)IGHV4–59\*02\_G88A are not listed in the genotype and will be ignored.