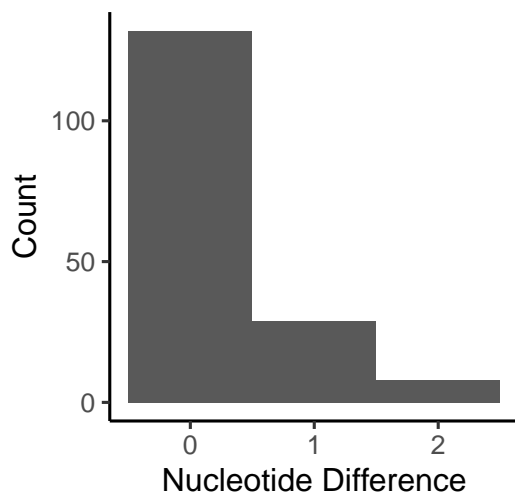


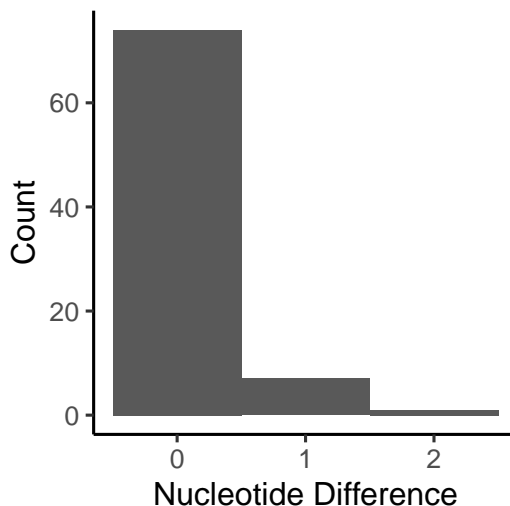
### IGHV1-2\*02

169 sequences assigned  
132 (78.1%) exact matches, in which:  
132 unique CDR3  
6 unique J



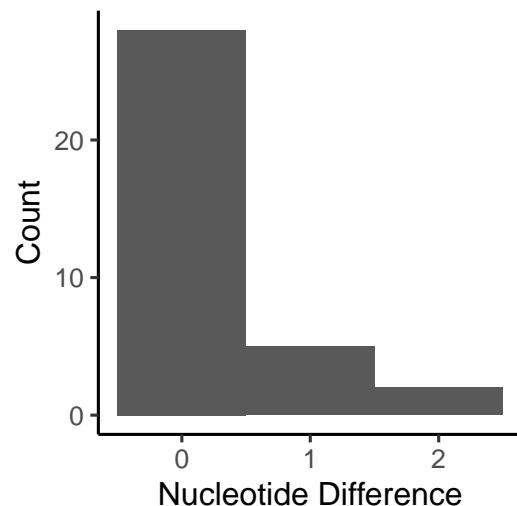
### IGHV1-8\*01

82 sequences assigned  
74 (90.2%) exact matches, in which:  
74 unique CDR3  
5 unique J



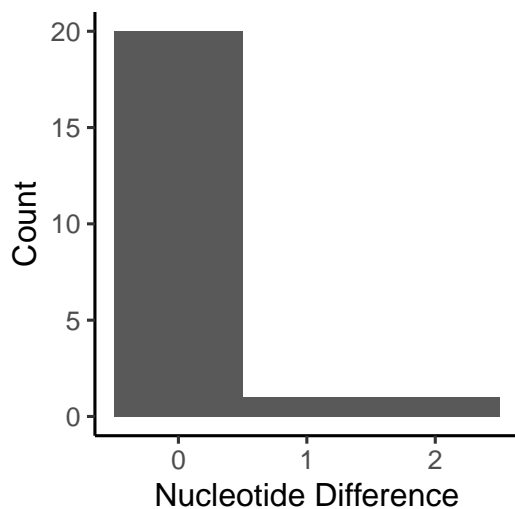
### IGHV1-46\*01

35 sequences assigned  
28 (80%) exact matches, in which:  
28 unique CDR3  
5 unique J



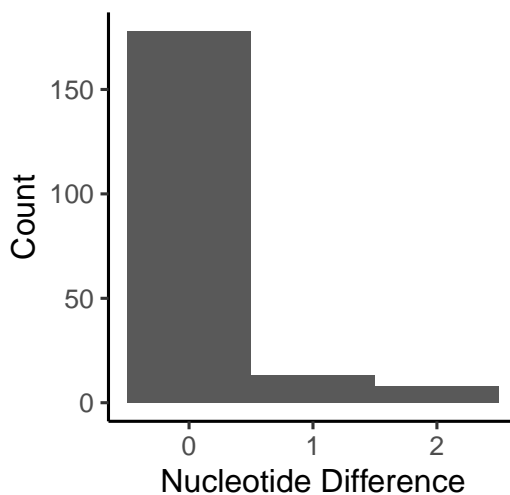
### IGHV1-2\*04

22 sequences assigned  
20 (90.9%) exact matches, in which:  
20 unique CDR3  
4 unique J



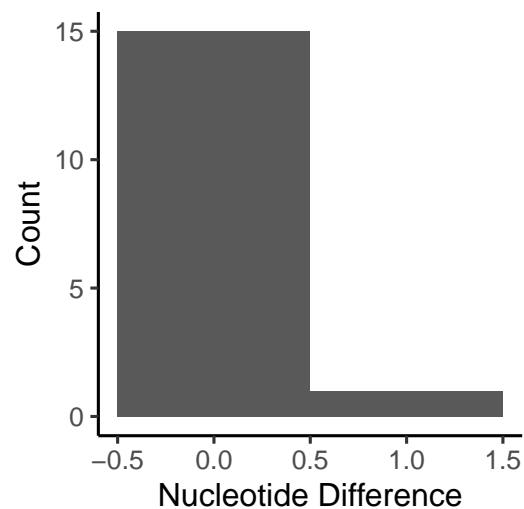
### IGHV1-18\*01

199 sequences assigned  
178 (89.4%) exact matches, in which:  
176 unique CDR3  
5 unique J



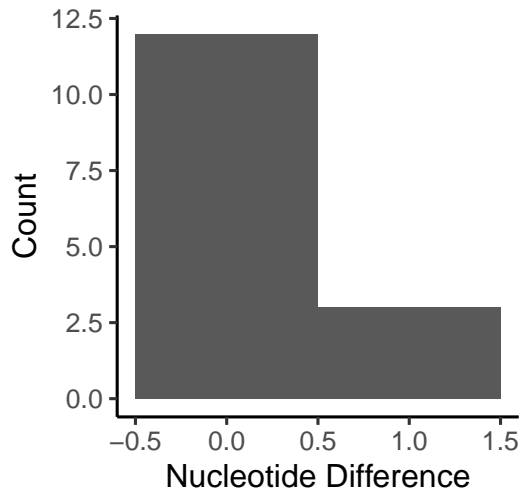
### IGHV1-46\*03

16 sequences assigned  
15 (93.8%) exact matches, in which:  
15 unique CDR3  
4 unique J



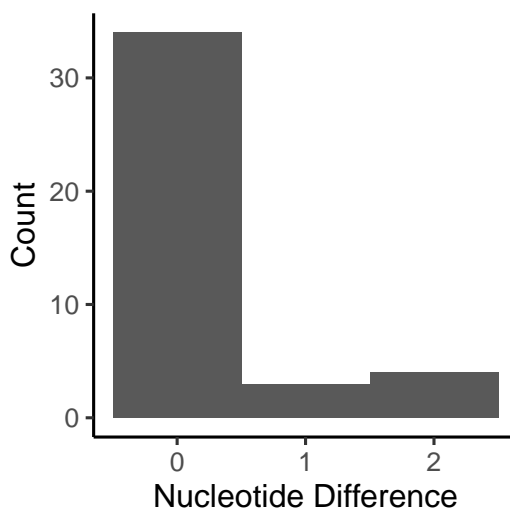
### IGHV1-3\*01\_05

15 sequences assigned  
12 (80%) exact matches, in which:  
12 unique CDR3  
4 unique J



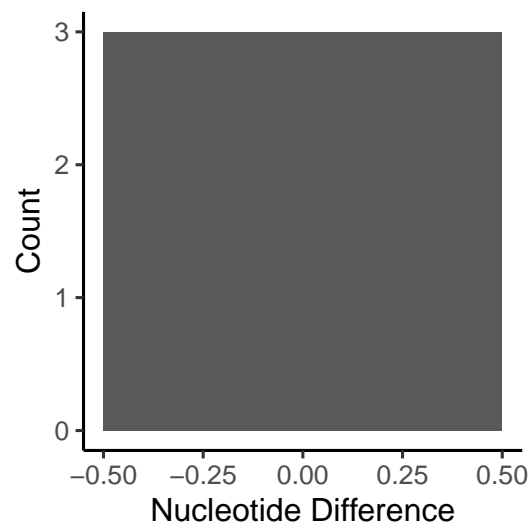
### IGHV1-24\*01

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



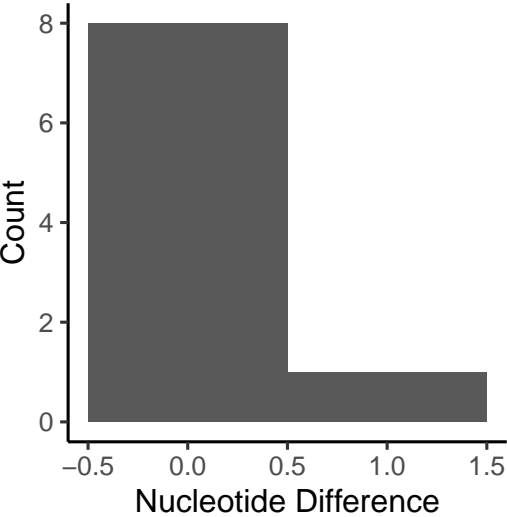
### IGHV1-58\*02

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



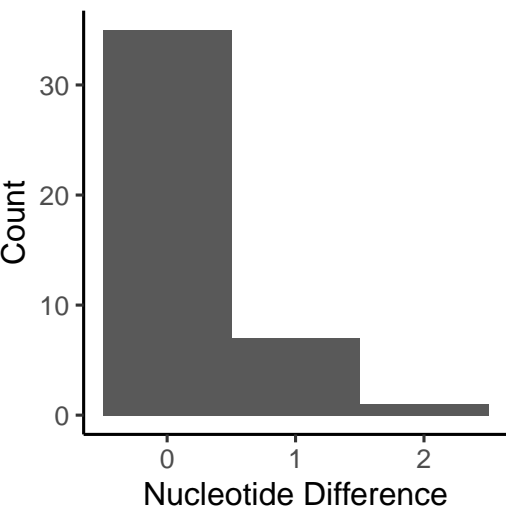
IGHV1-58\*01\_03

9 sequences assigned  
8 (88.9%) exact matches, in which:  
8 unique CDR3  
5 unique J



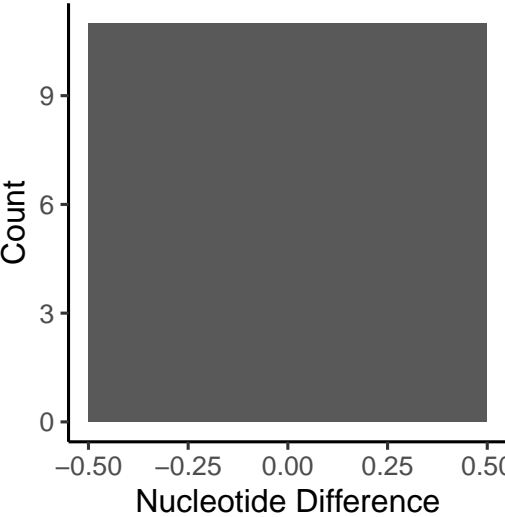
IGHV1-69\*06\_14

43 sequences assigned  
35 (81.4%) exact matches, in which:  
35 unique CDR3  
5 unique J



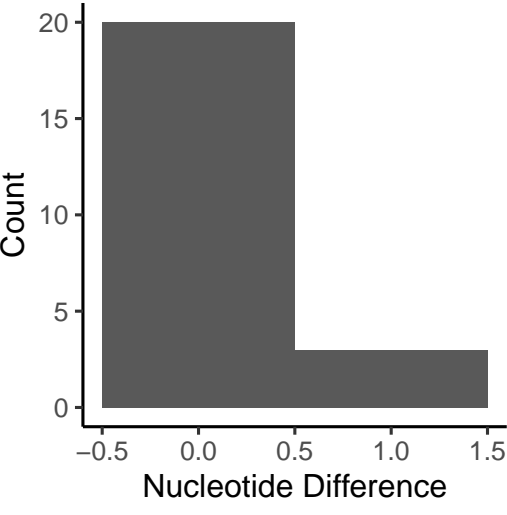
IGHV2-26\*01

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



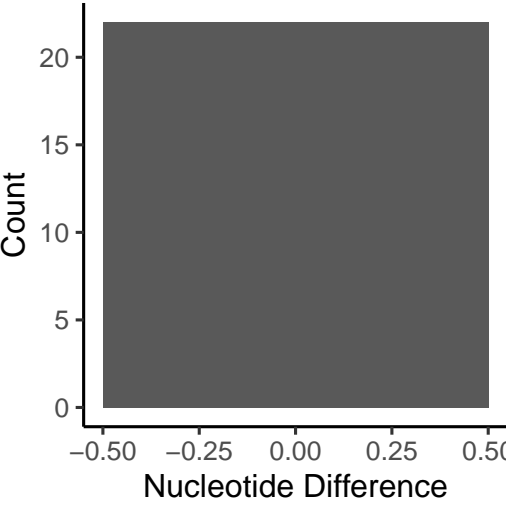
IGHV1-69\*02

23 sequences assigned  
20 (87%) exact matches, in which:  
20 unique CDR3  
5 unique J



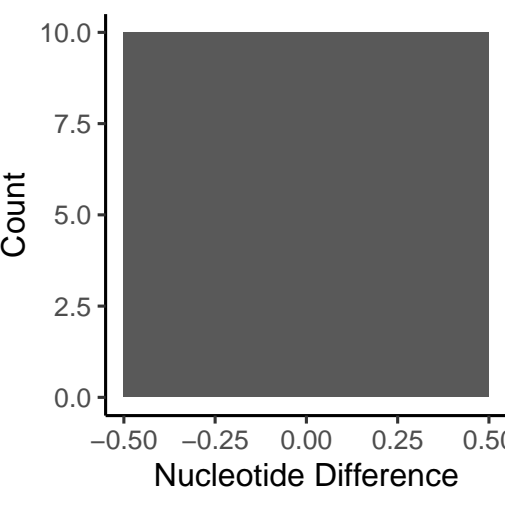
IGHV2-5\*01

22 sequences assigned  
22 (100%) exact matches, in which:  
22 unique CDR3  
4 unique J



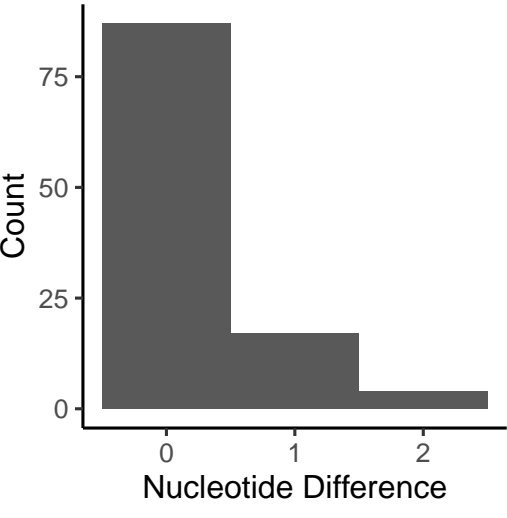
IGHV2-70\*01

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



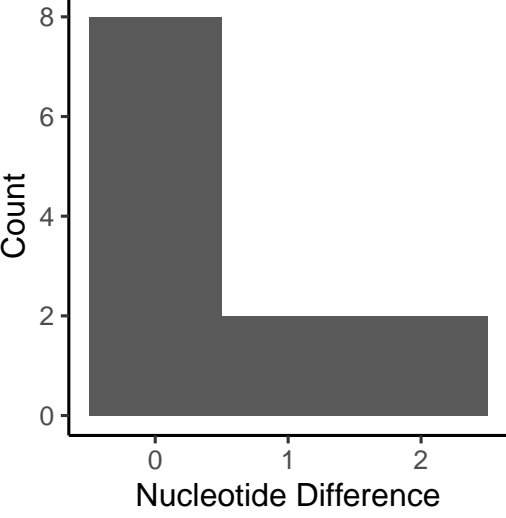
IGHV1-69\*01\_12\_13

108 sequences assigned  
87 (80.6%) exact matches, in which:  
87 unique CDR3  
6 unique J



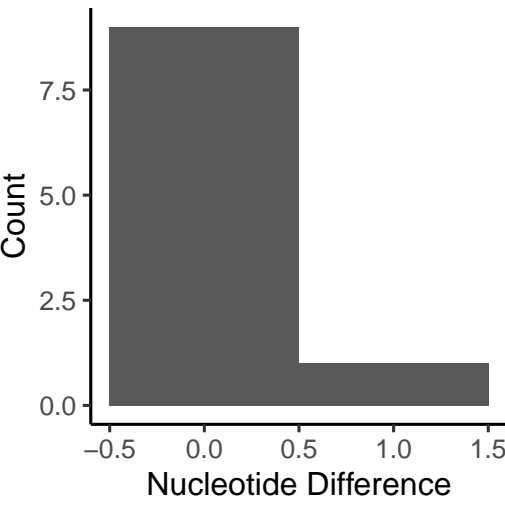
IGHV2-5\*02

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



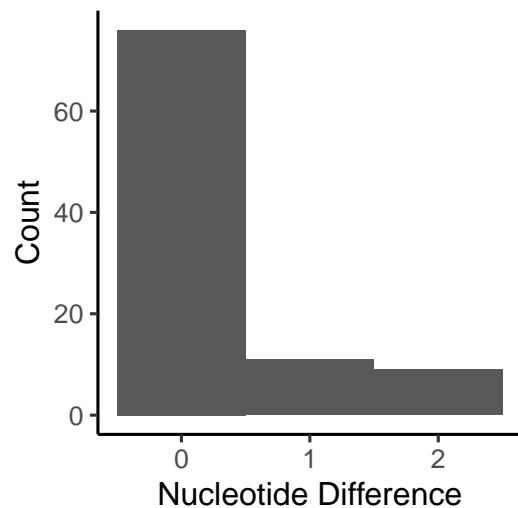
IGHV2-70\*11\_15

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



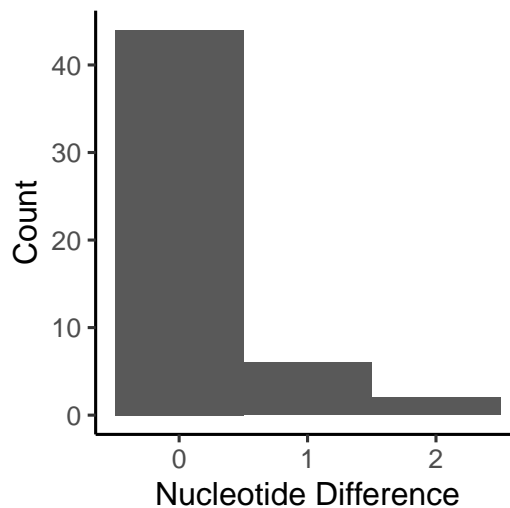
### IGHV3-7\*01

96 sequences assigned  
76 (79.2%) exact matches, in which:  
76 unique CDR3  
5 unique J



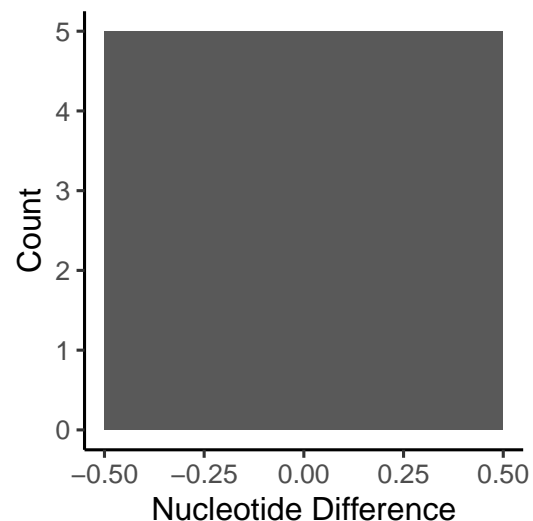
### IGHV3-11\*01

52 sequences assigned  
44 (84.6%) exact matches, in which:  
43 unique CDR3  
5 unique J



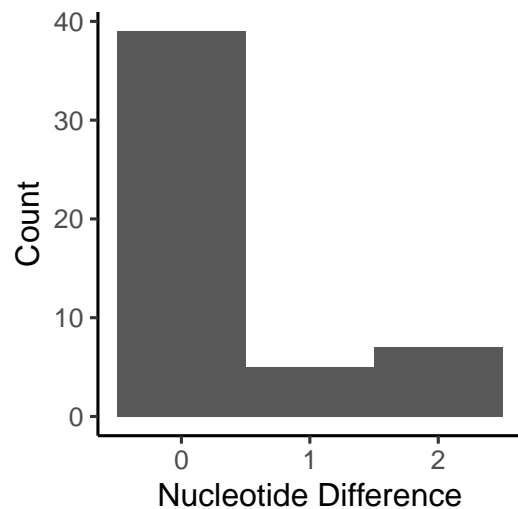
### IGHV3-13\*05

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



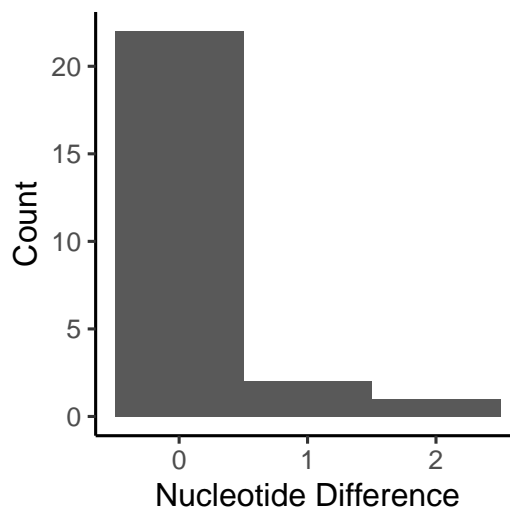
### IGHV3-7\*03

51 sequences assigned  
39 (76.5%) exact matches, in which:  
39 unique CDR3  
5 unique J



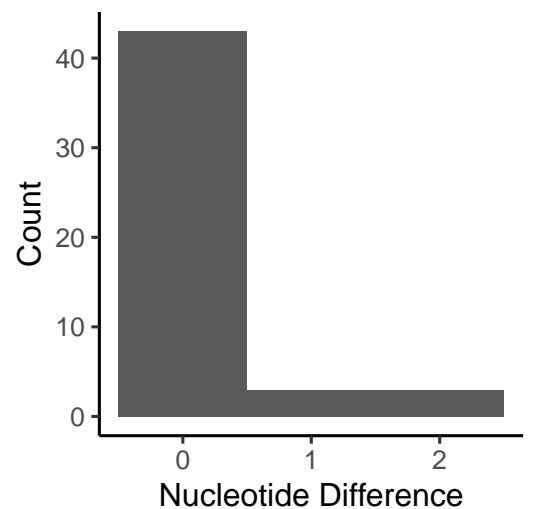
### IGHV3-11\*06

25 sequences assigned  
22 (88%) exact matches, in which:  
22 unique CDR3  
4 unique J



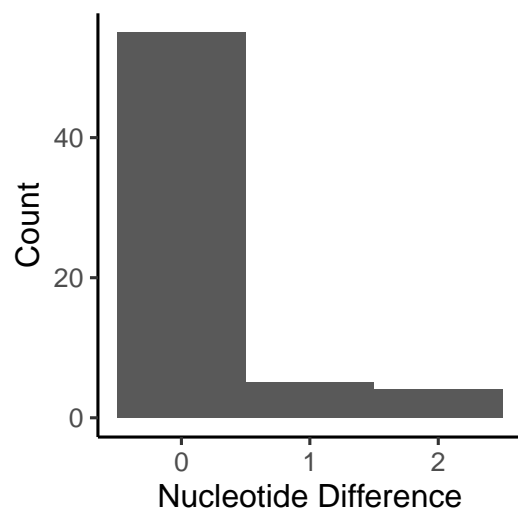
### IGHV3-15\*01\_02

49 sequences assigned  
43 (87.8%) exact matches, in which:  
43 unique CDR3  
4 unique J



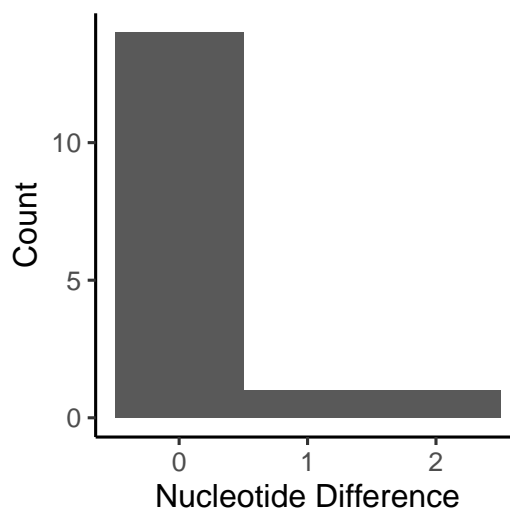
### IGHV3-9\*01

64 sequences assigned  
55 (85.9%) exact matches, in which:  
54 unique CDR3  
6 unique J



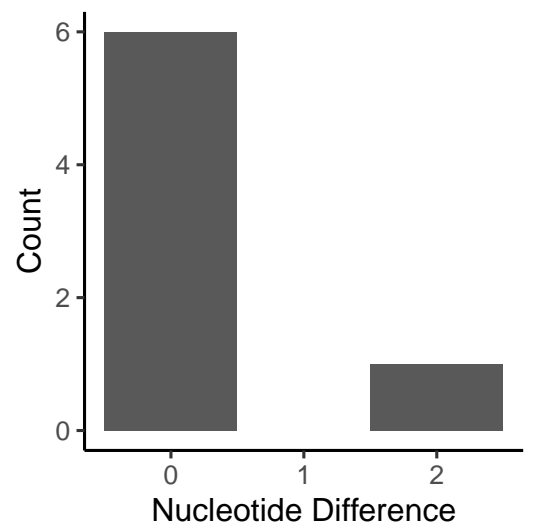
### IGHV3-13\*01

16 sequences assigned  
14 (87.5%) exact matches, in which:  
14 unique CDR3  
4 unique J



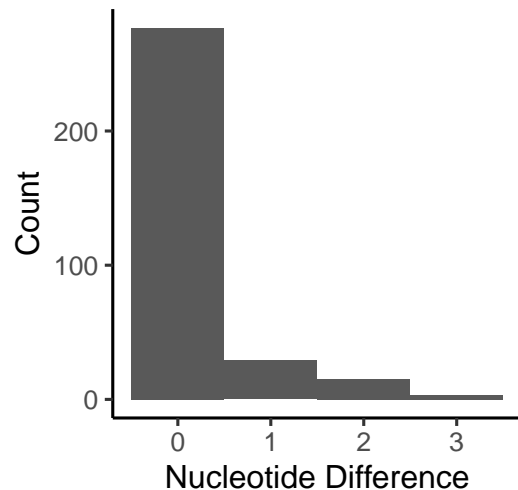
### IGHV3-20\*01\_02

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



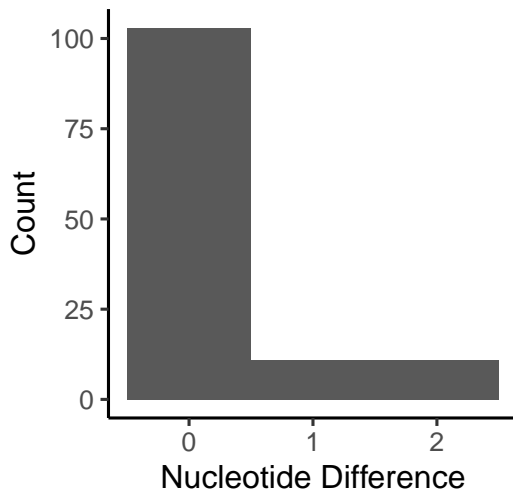
### IGHV3-21\*01\_02

324 sequences assigned  
277 (85.5%) exact matches, in which:  
276 unique CDR3  
6 unique J



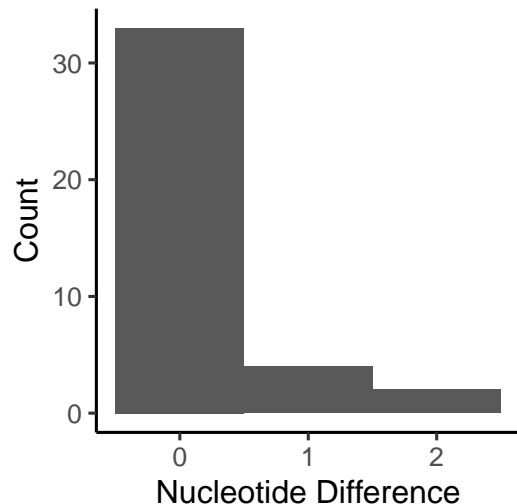
### IGHV3-33\*01

125 sequences assigned  
103 (82.4%) exact matches, in which:  
103 unique CDR3  
4 unique J



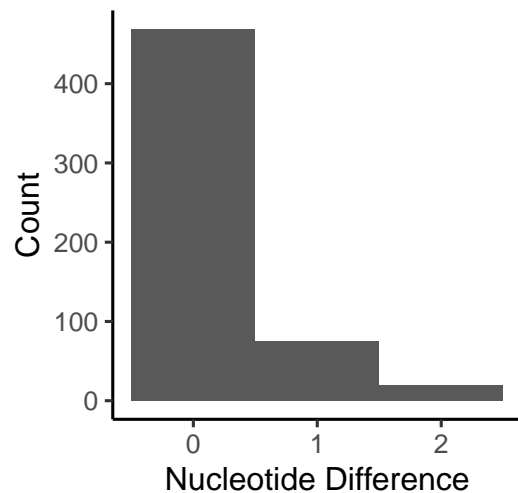
### IGHV3-48\*01

39 sequences assigned  
33 (84.6%) exact matches, in which:  
31 unique CDR3  
5 unique J



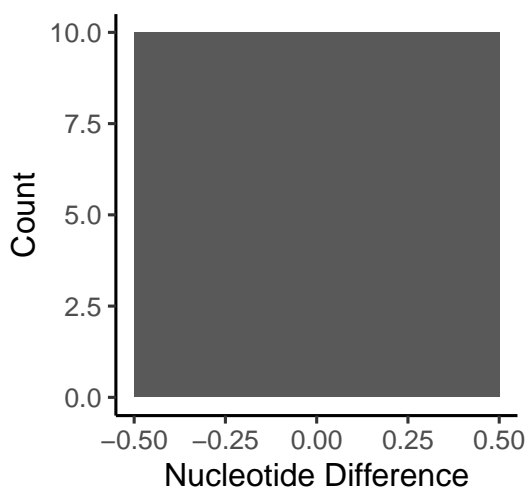
### IGHV3-23\*01\_04

564 sequences assigned  
469 (83.2%) exact matches, in which:  
468 unique CDR3  
6 unique J



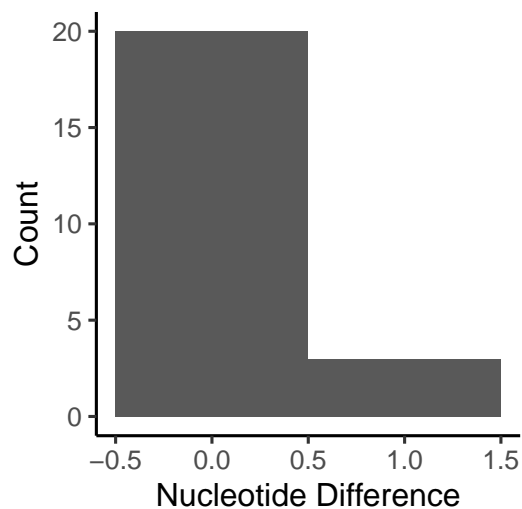
### IGHV3-43\*01

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



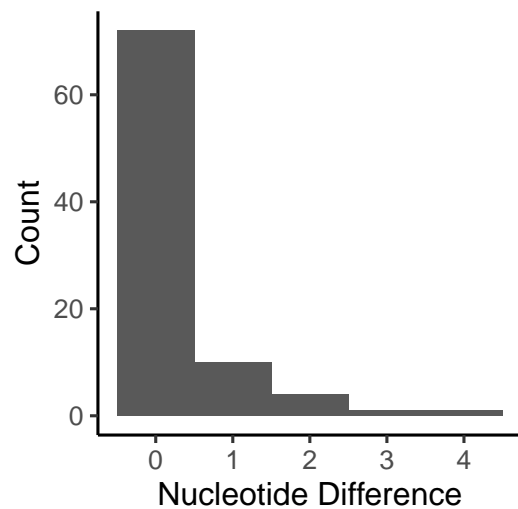
### IGHV3-48\*02

23 sequences assigned  
20 (87%) exact matches, in which:  
20 unique CDR3  
4 unique J



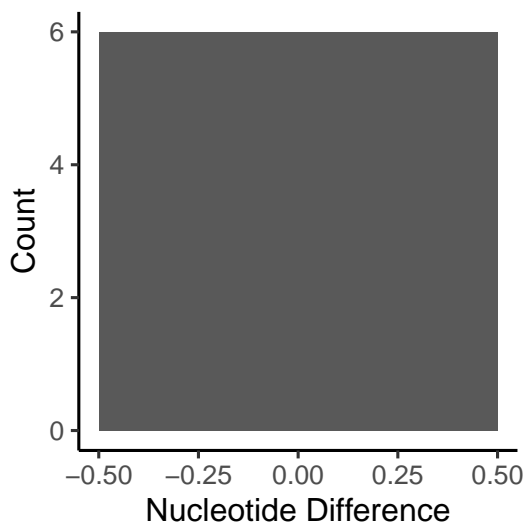
### IGHV3-30-3\*01

88 sequences assigned  
72 (81.8%) exact matches, in which:  
72 unique CDR3  
5 unique J



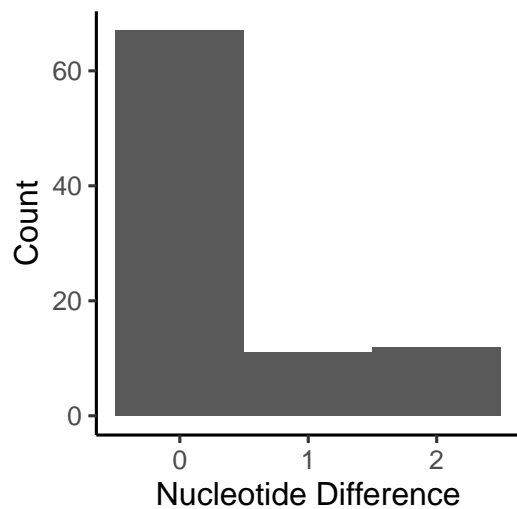
### IGHV3-43\*02

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



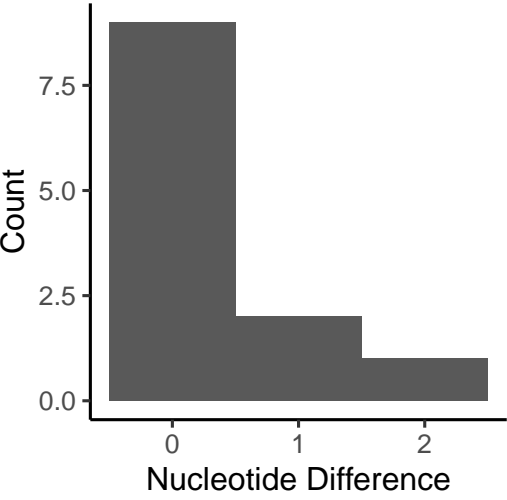
### IGHV3-48\*03

90 sequences assigned  
67 (74.4%) exact matches, in which:  
67 unique CDR3  
6 unique J



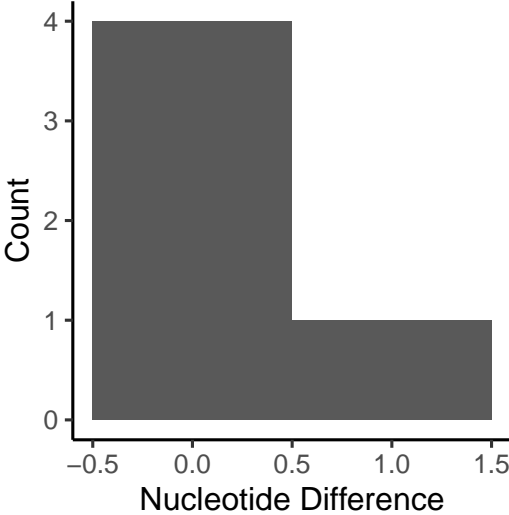
IGHV3-49\*04

12 sequences assigned  
9 (75%) exact matches, in which:  
9 unique CDR3  
3 unique J



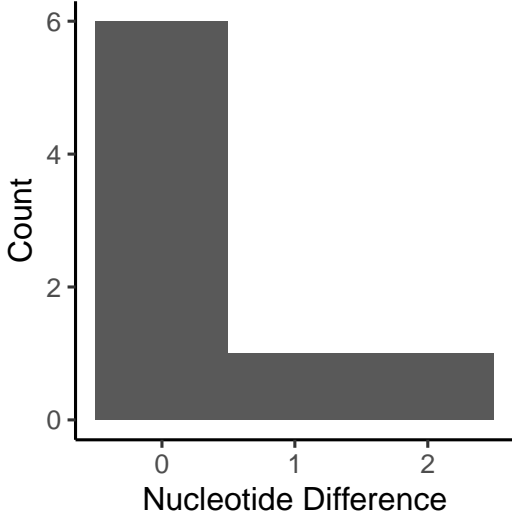
IGHV3-64\*01

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



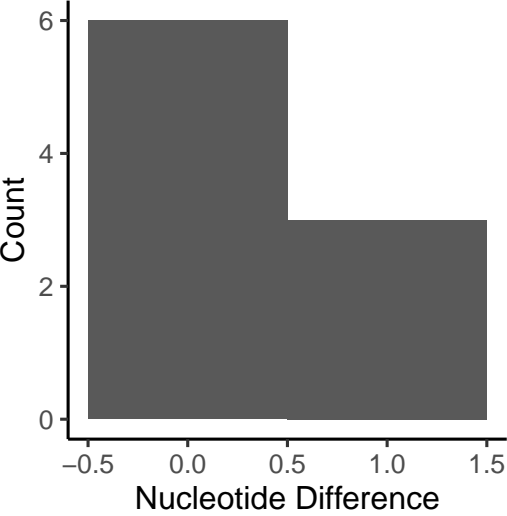
IGHV3-66\*02

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



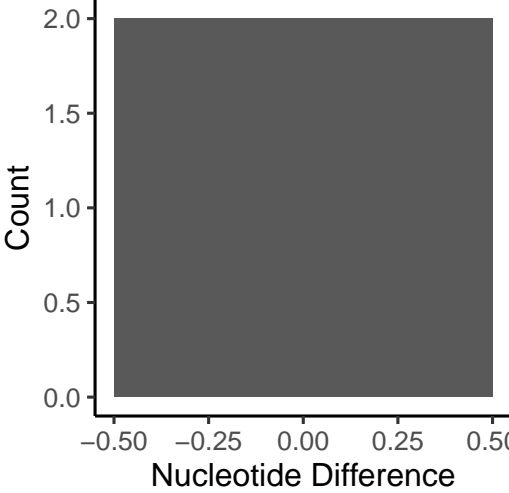
IGHV3-49\*03\_05

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



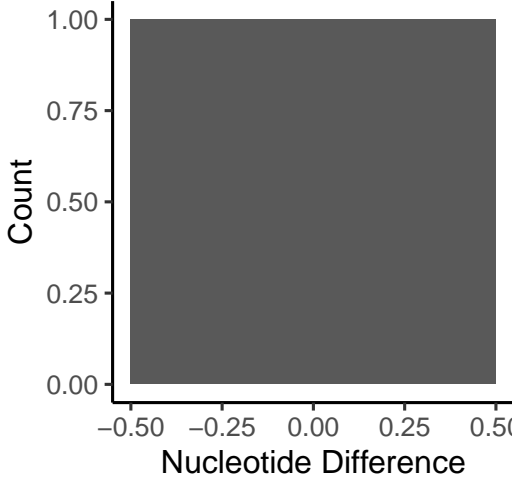
IGHV3-64\*02\_07

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



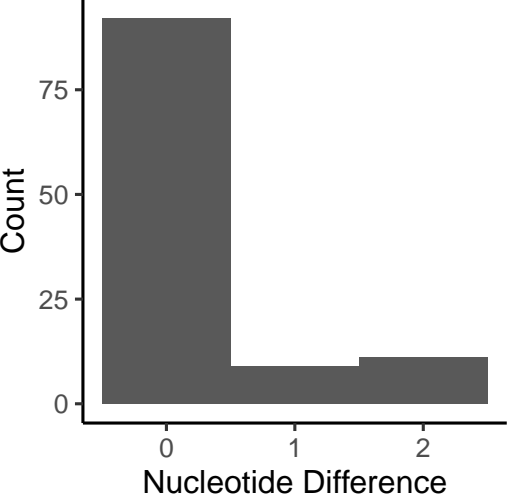
IGHV3-69-1\*01

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



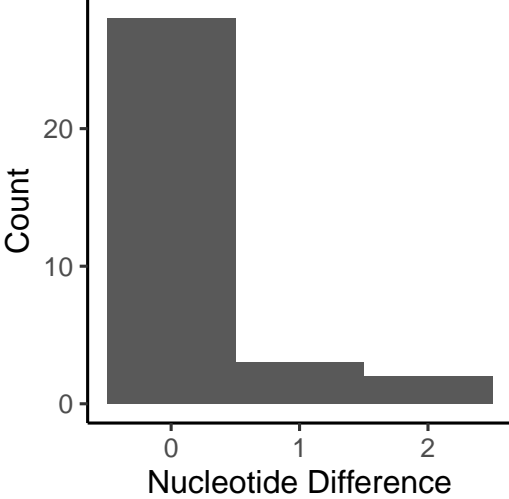
IGHV3-53\*01\_02

112 sequences assigned  
92 (82.1%) exact matches, in which:  
91 unique CDR3  
6 unique J



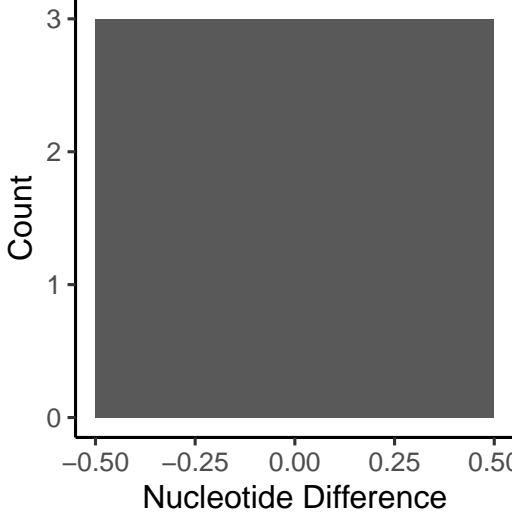
IGHV3-66\*01

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



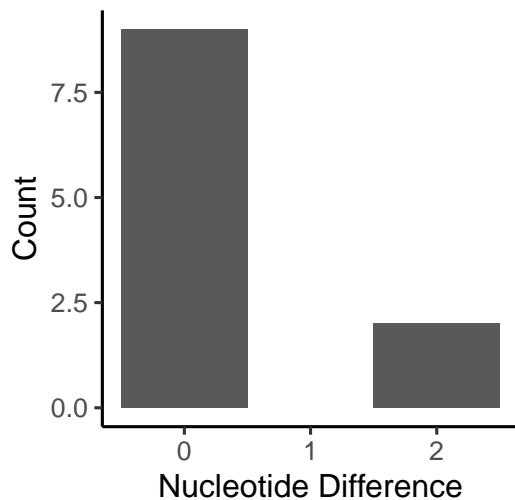
IGHV3-72\*01

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



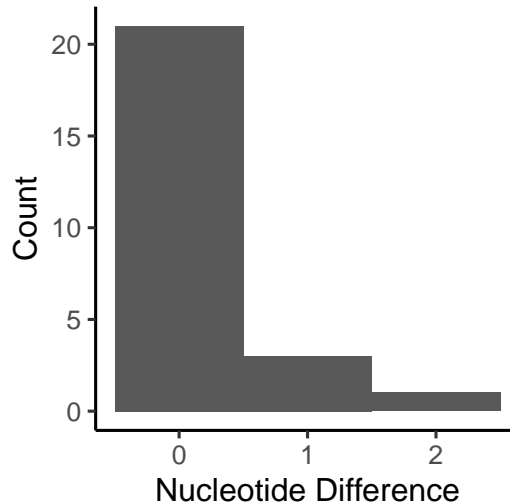
### IGHV3-73\*01\_02

11 sequences assigned  
9 (81.8%) exact matches, in which:  
9 unique CDR3  
3 unique J



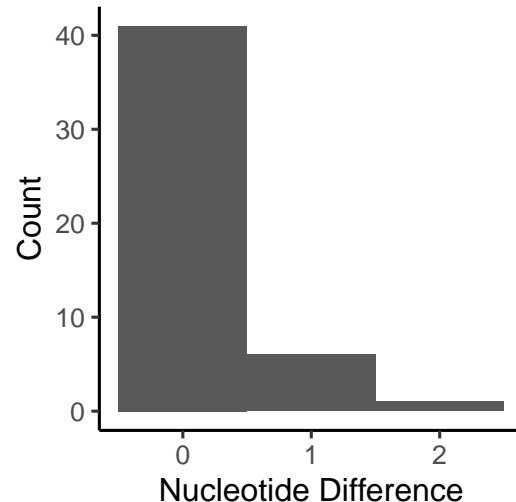
### IGHV3-64D\*06

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



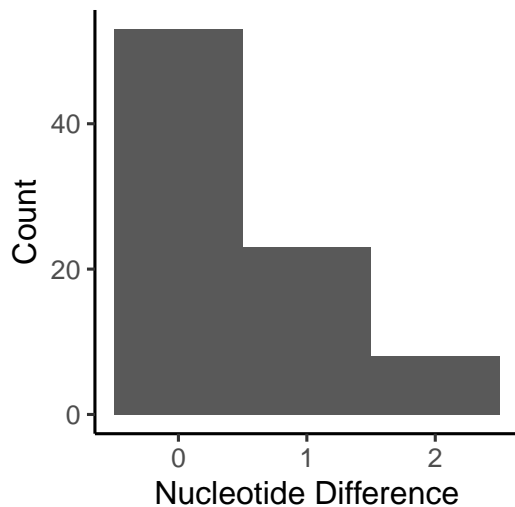
### IGHV4-30-4\*01

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



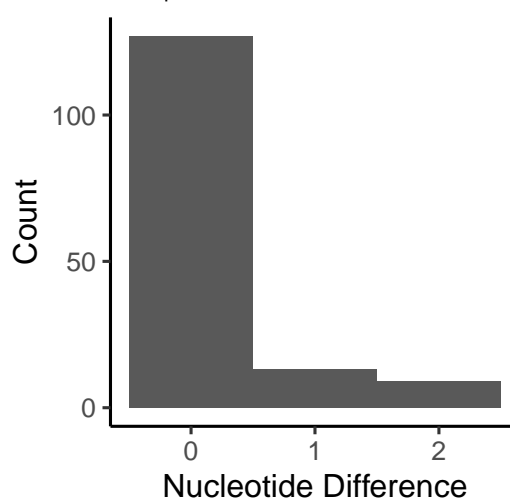
### IGHV3-74\*01\_02

84 sequences assigned  
53 (63.1%) exact matches, in which:  
51 unique CDR3  
6 unique J



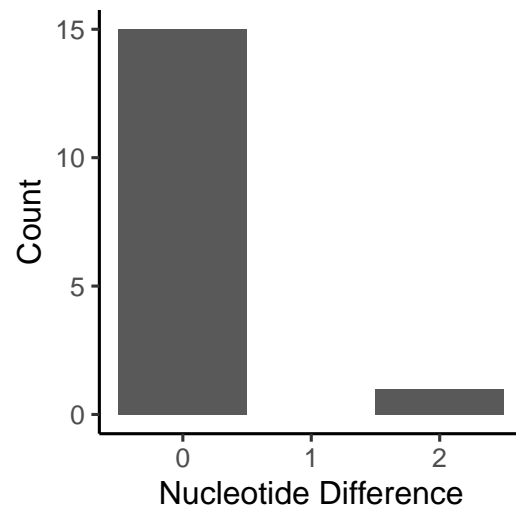
### IGHV4-4\*07

149 sequences assigned  
127 (85.2%) exact matches, in which:  
126 unique CDR3  
6 unique J



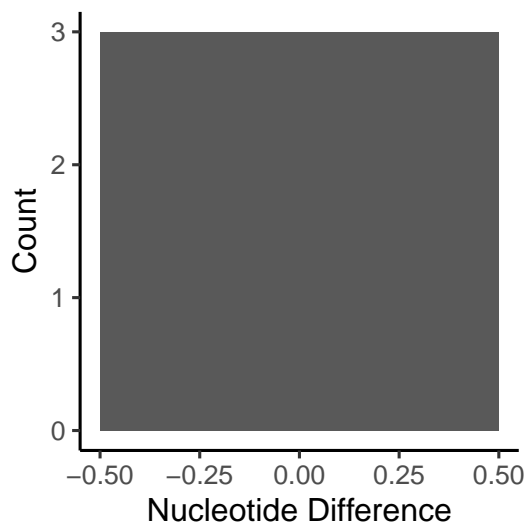
### IGHV4-30-2\*01

16 sequences assigned  
15 (93.8%) exact matches, in which:  
15 unique CDR3  
4 unique J



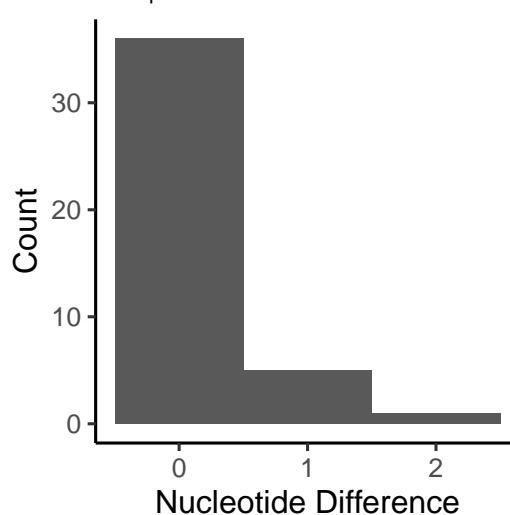
### IGHV3-43D\*04

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



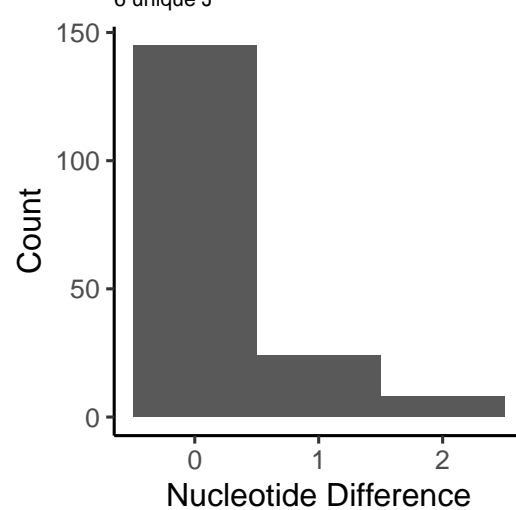
### IGHV4-4\*02\_03

42 sequences assigned  
36 (85.7%) exact matches, in which:  
36 unique CDR3  
4 unique J



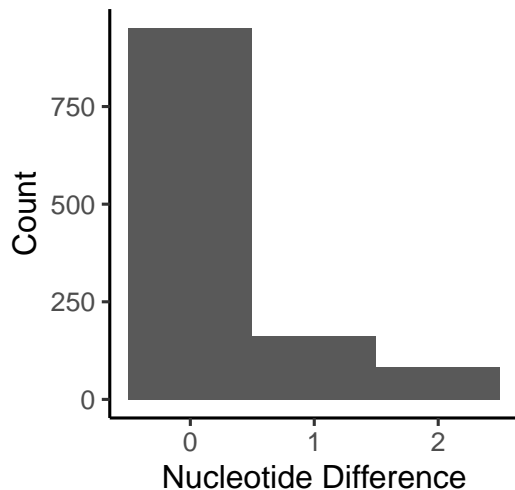
### IGHV4-31\*02

177 sequences assigned  
145 (81.9%) exact matches, in which:  
145 unique CDR3  
6 unique J



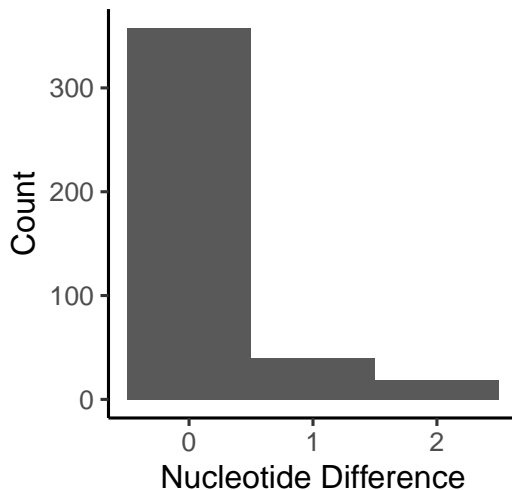
### IGHV4-34\*01\_02

1199 sequences assigned  
952 (79.4%) exact matches, in which:  
945 unique CDR3  
6 unique J



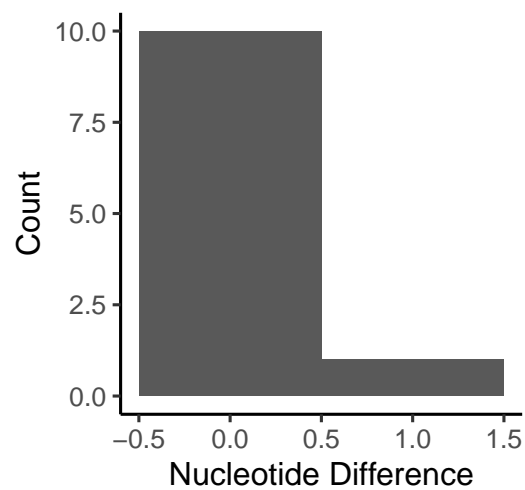
### IGHV4-59\*02\_G88A

417 sequences assigned  
358 (85.9%) exact matches, in which:  
354 unique CDR3  
6 unique J



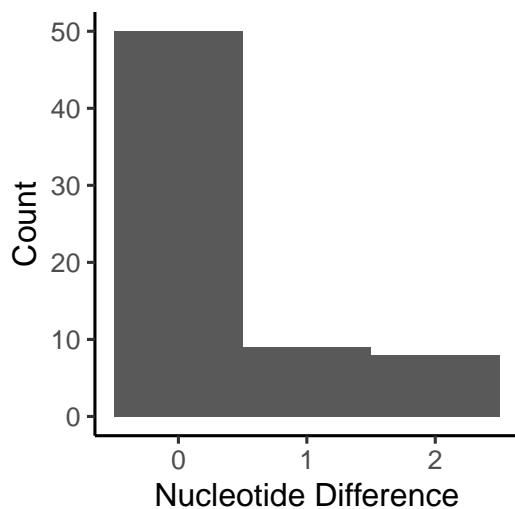
### IGHV5-10-1\*01\_03

11 sequences assigned  
10 (90.9%) exact matches, in which:  
10 unique CDR3  
3 unique J



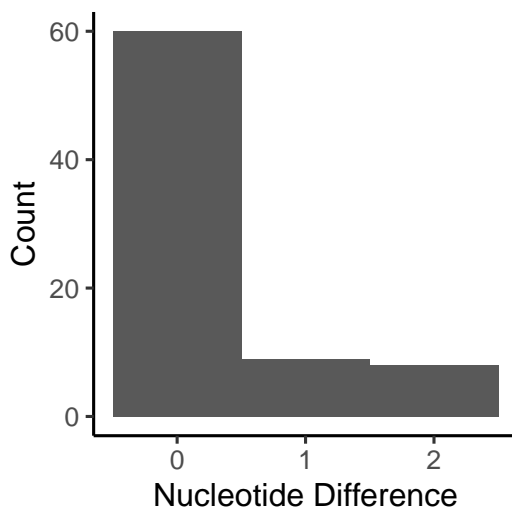
### IGHV4-38-2\*02\_A70G

67 sequences assigned  
50 (74.6%) exact matches, in which:  
50 unique CDR3  
5 unique J



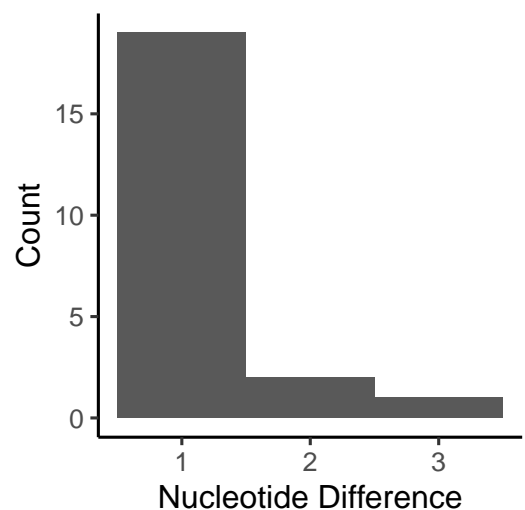
### IGHV4-61\*01

77 sequences assigned  
60 (77.9%) exact matches, in which:  
60 unique CDR3  
6 unique J



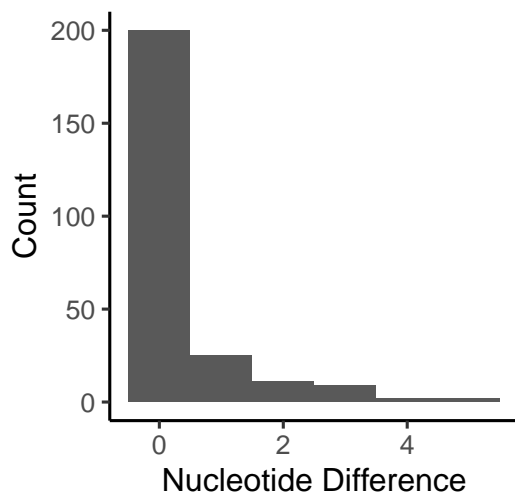
### IGHV5-51\*07

22 sequences assigned  
No exact matches.



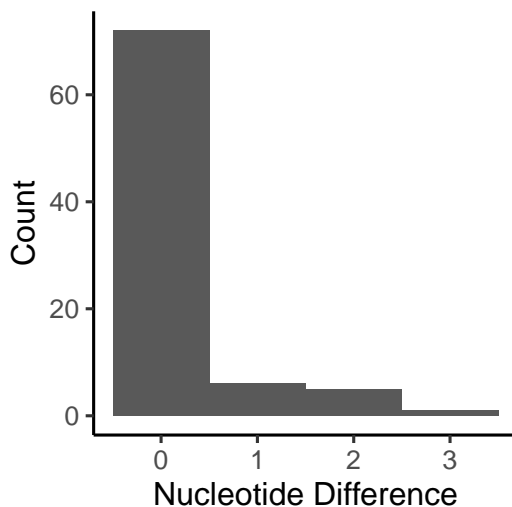
### IGHV4-39\*02\_C258G

249 sequences assigned  
200 (80.3%) exact matches, in which:  
199 unique CDR3  
6 unique J



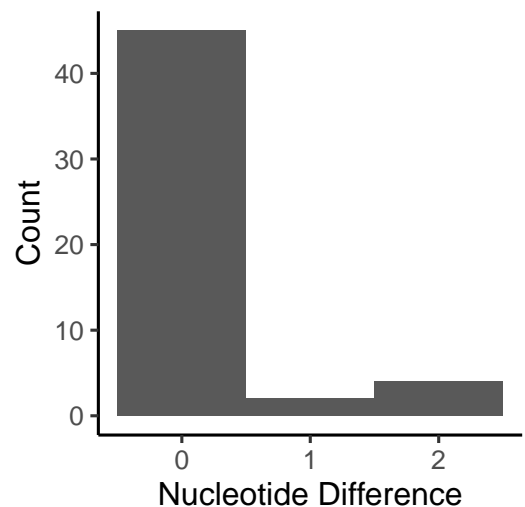
### IGHV4-61\*02

84 sequences assigned  
72 (85.7%) exact matches, in which:  
72 unique CDR3  
5 unique J



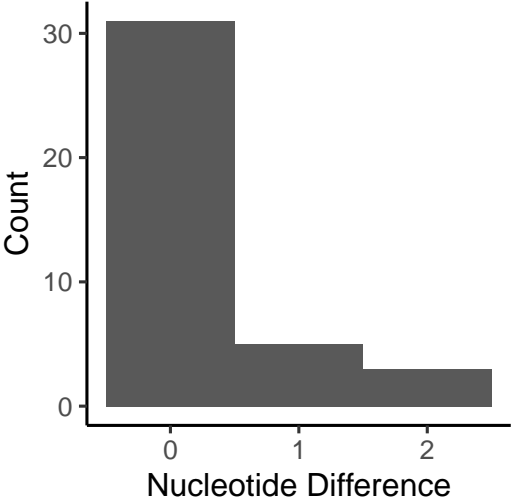
### IGHV5-51\*01\_03

51 sequences assigned  
45 (88.2%) exact matches, in which:  
45 unique CDR3  
4 unique J



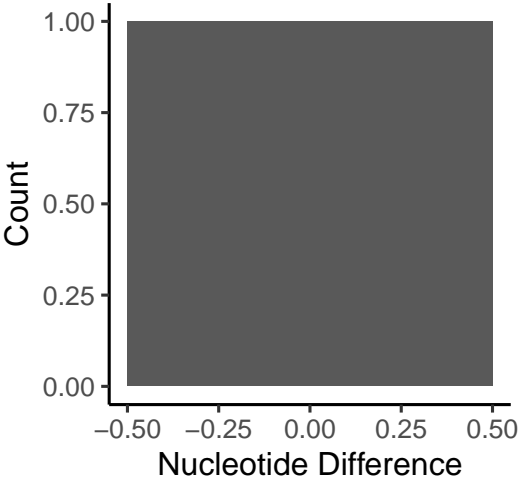
IGHV6-1\*01\_02

39 sequences assigned  
31 (79.5%) exact matches, in which:  
31 unique CDR3  
4 unique J



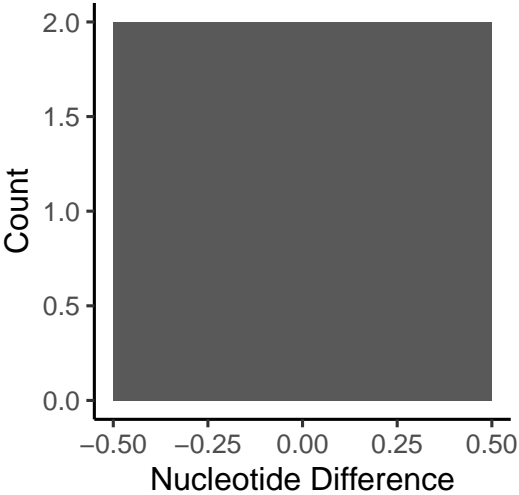
IGHV7-4-1\*01

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



IGHV7-4-1\*02

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







Warning – no inferred sequences found.