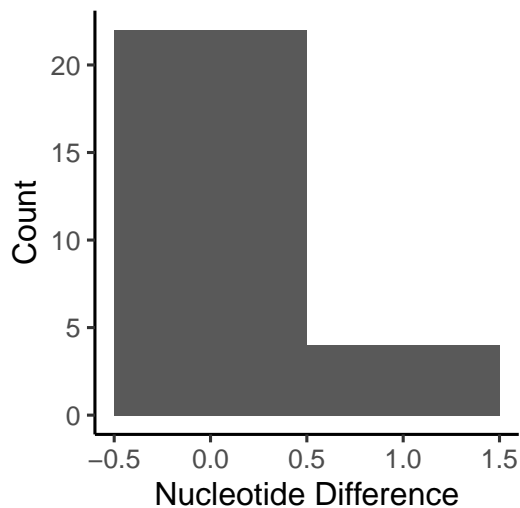


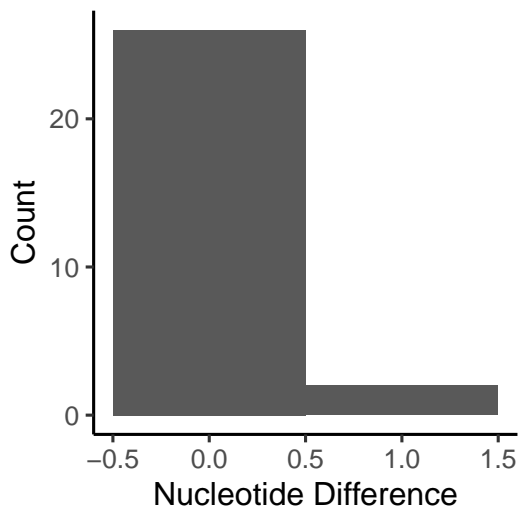
### IGHV1-2\*02

26 sequences assigned  
22 (84.6%) exact matches, in which:  
21 unique CDR3  
3 unique J



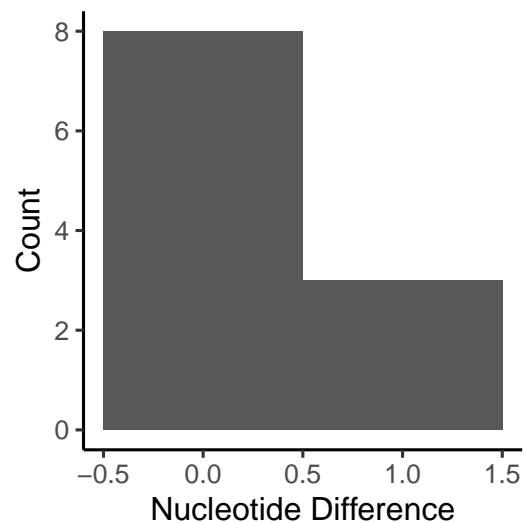
### IGHV1-8\*01

28 sequences assigned  
26 (92.9%) exact matches, in which:  
24 unique CDR3  
5 unique J



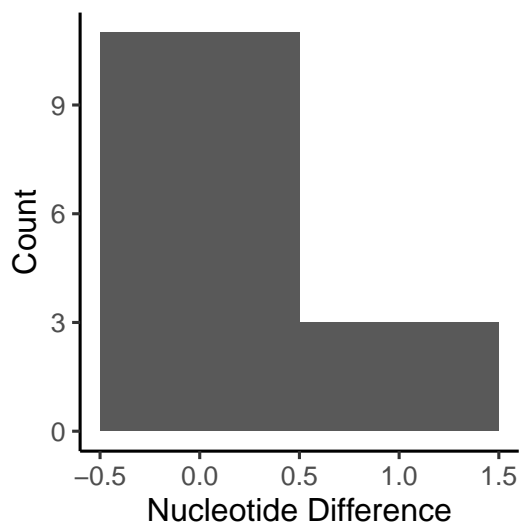
### IGHV1-24\*01

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



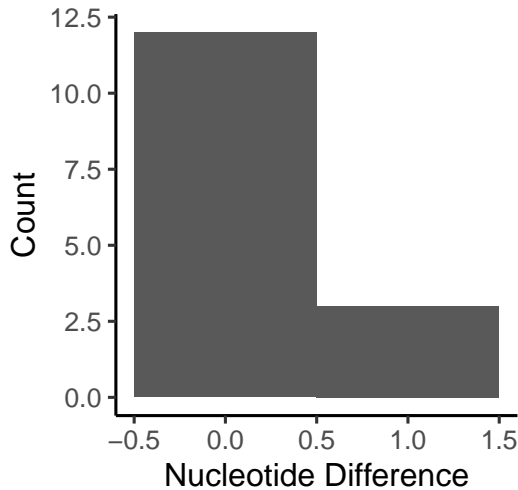
### IGHV1-2\*04

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



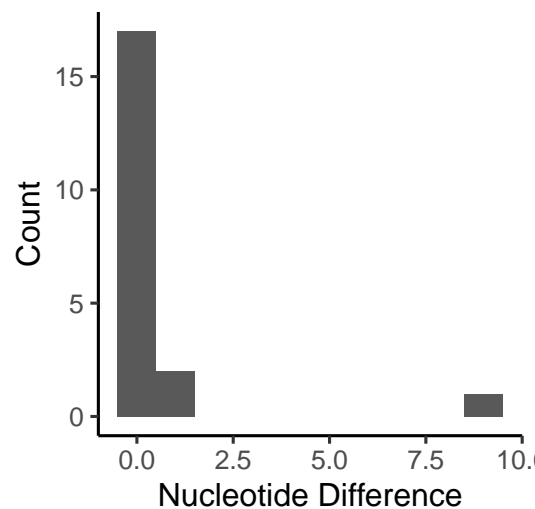
### IGHV1-18\*01

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



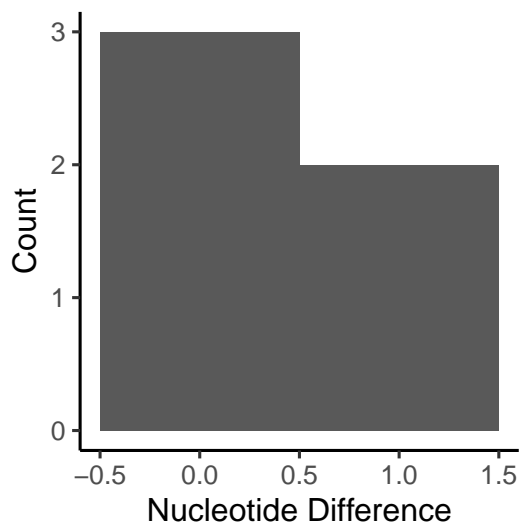
### IGHV1-46\*01

20 sequences assigned  
17 (85%) exact matches, in which:  
15 unique CDR3  
3 unique J



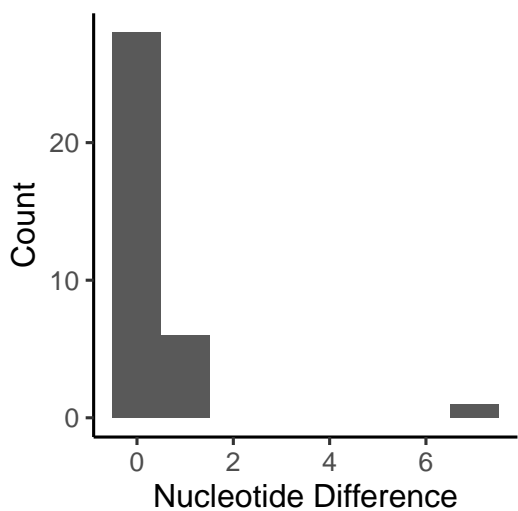
### IGHV1-3\*01\_05

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



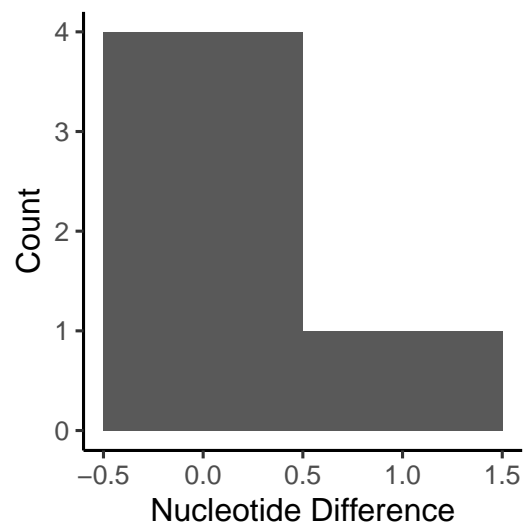
### IGHV1-18\*04

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



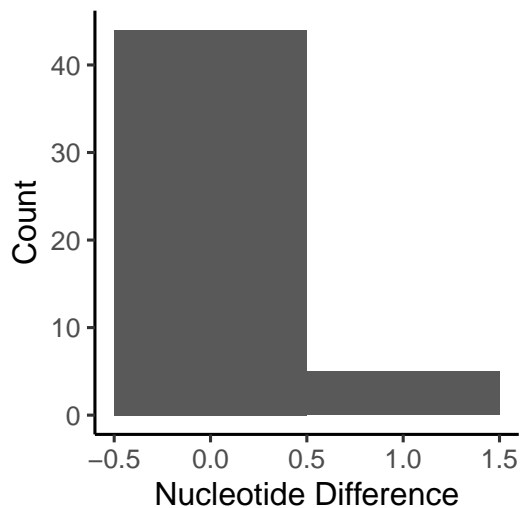
### IGHV1-58\*01\_03

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



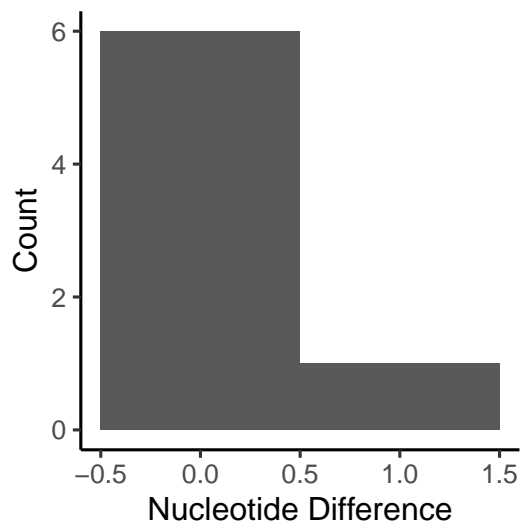
### IGHV1-69\*01\_12\_13

49 sequences assigned  
44 (89.8%) exact matches, in which:  
44 unique CDR3  
5 unique J



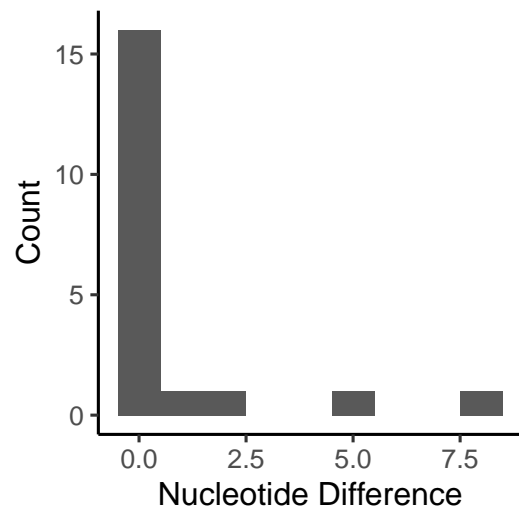
### IGHV2-26\*01

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



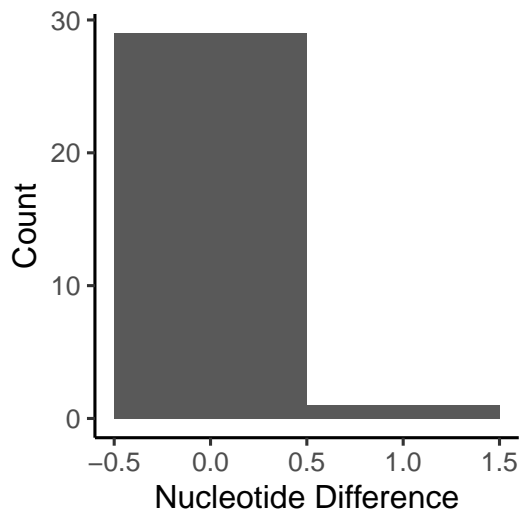
### IGHV3-7\*03

20 sequences assigned  
16 (80%) exact matches, in which:  
16 unique CDR3  
3 unique J



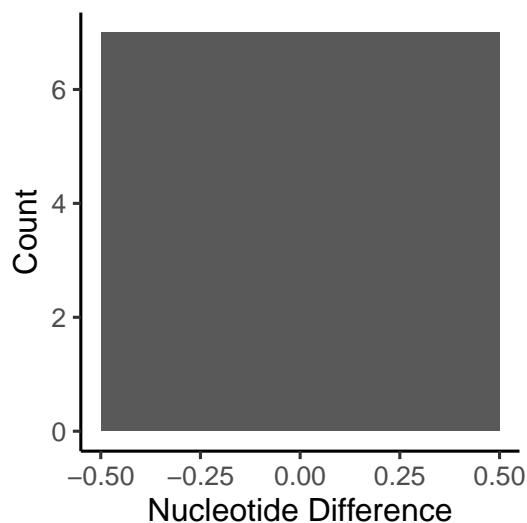
### IGHV1-69\*06\_14

31 sequences assigned  
29 (93.5%) exact matches, in which:  
28 unique CDR3  
5 unique J



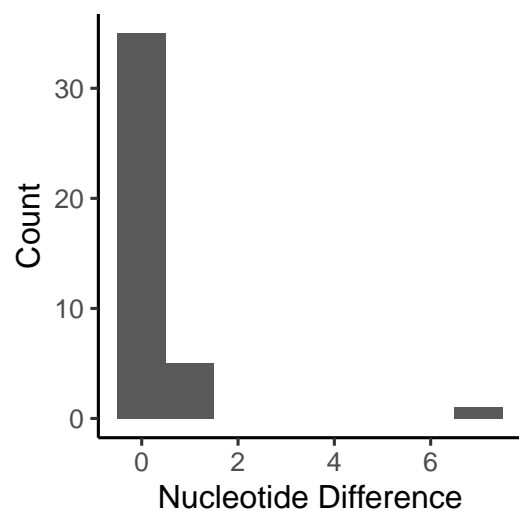
### IGHV2-70\*11\_15

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



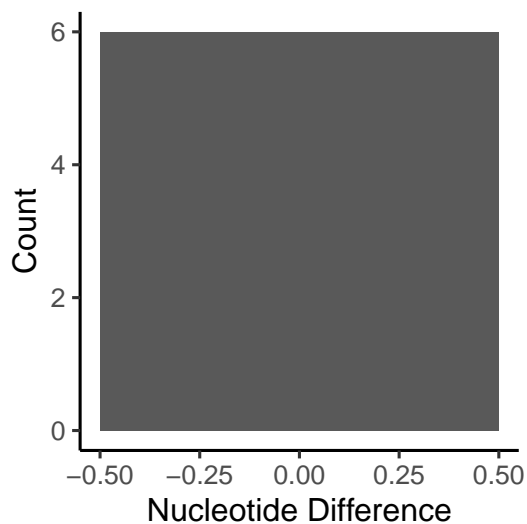
### IGHV3-9\*01

41 sequences assigned  
35 (85.4%) exact matches, in which:  
34 unique CDR3  
5 unique J



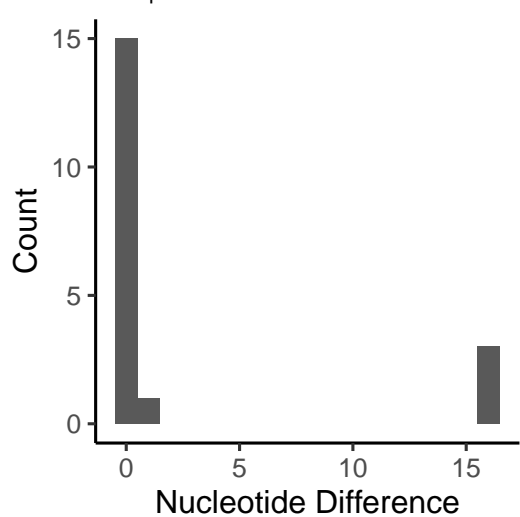
### IGHV2-5\*02

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



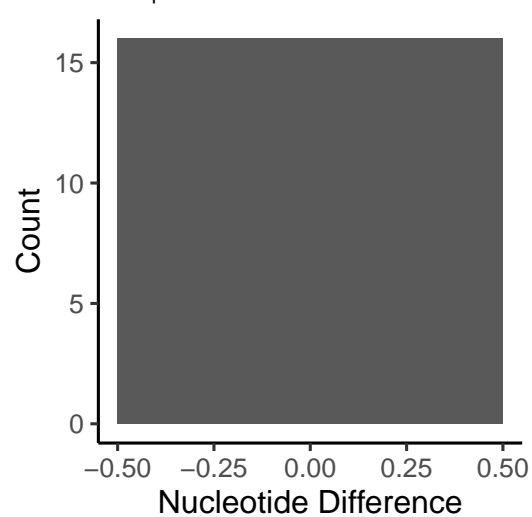
### IGHV3-7\*01

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



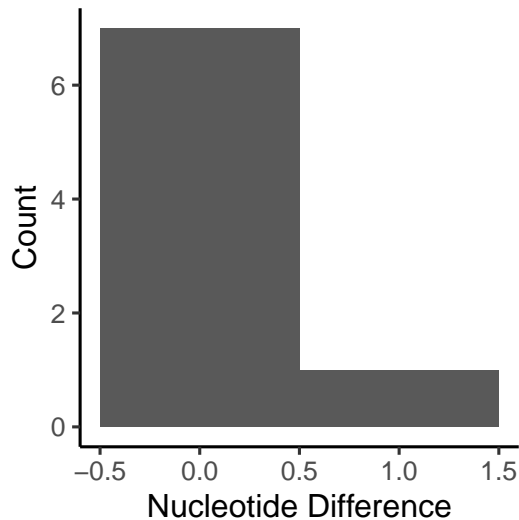
### IGHV3-11\*01

16 sequences assigned  
16 (100%) exact matches, in which:  
15 unique CDR3  
4 unique J



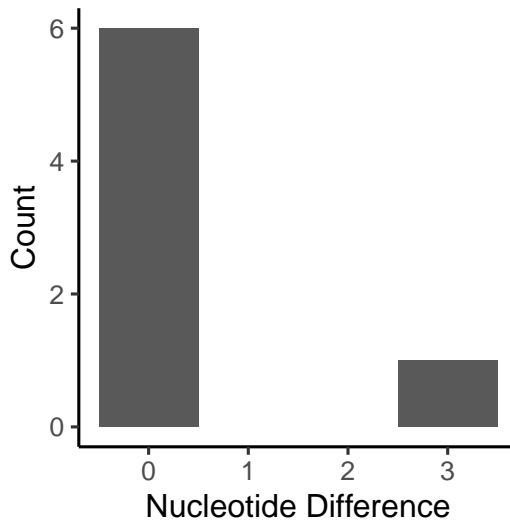
### IGHV3-11\*06

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



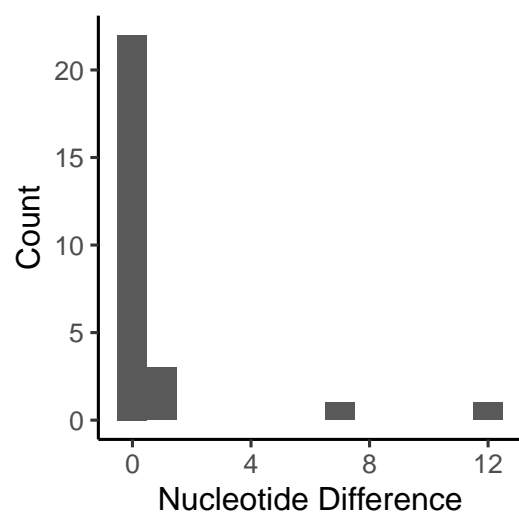
### IGHV3-15\*07

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



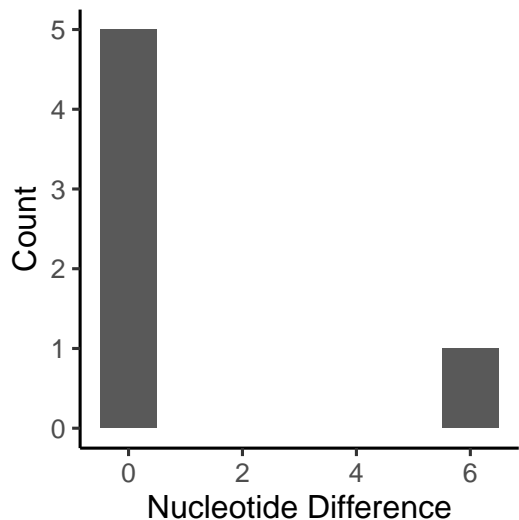
### IGHV3-21\*01\_02

27 sequences assigned  
22 (81.5%) exact matches, in which:  
22 unique CDR3  
6 unique J



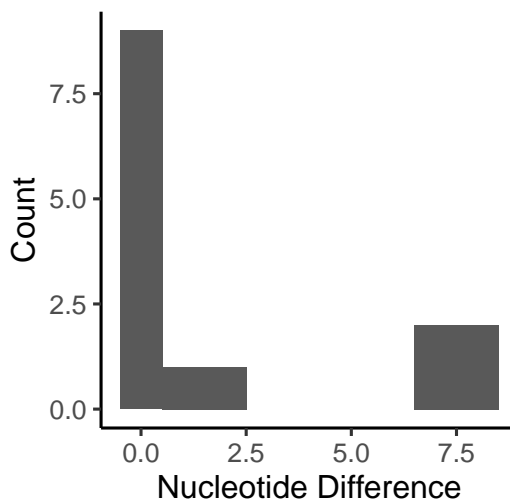
### IGHV3-13\*01

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



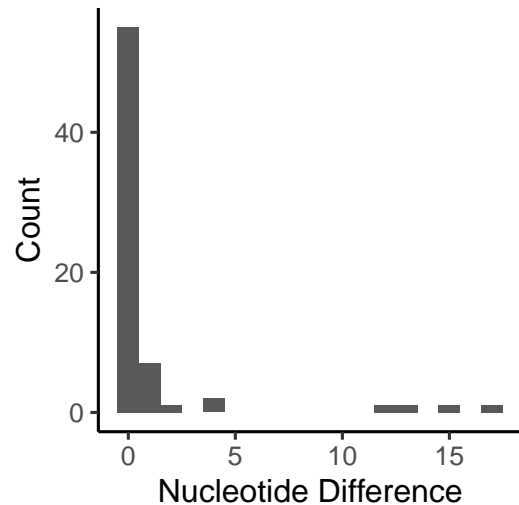
### IGHV3-15\*01\_02

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



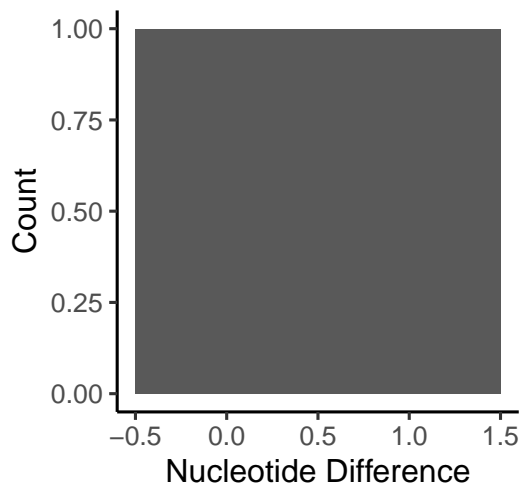
### IGHV3-23\*01\_04

69 sequences assigned  
55 (79.7%) exact matches, in which:  
53 unique CDR3  
6 unique J



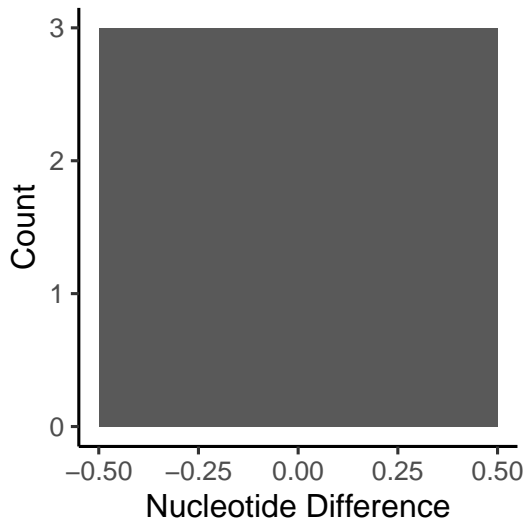
### IGHV3-13\*05

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



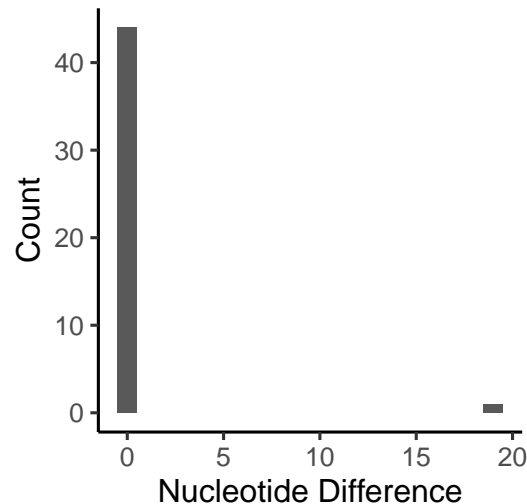
### IGHV3-20\*03\_04

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



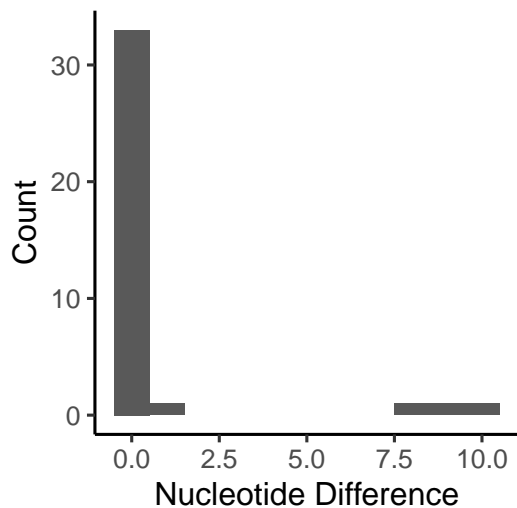
### IGHV3-30-3\*01

45 sequences assigned  
44 (97.8%) exact matches, in which:  
43 unique CDR3  
5 unique J



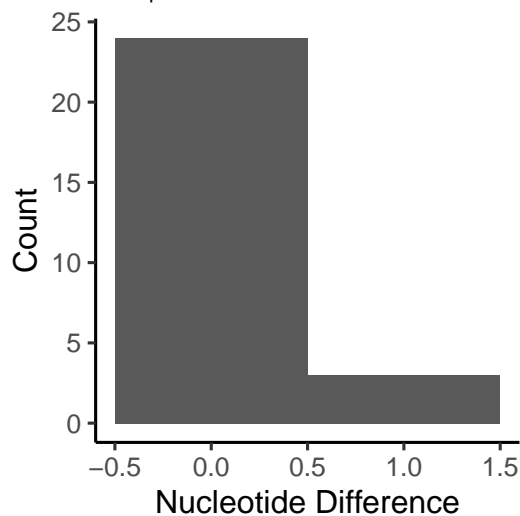
### IGHV3-33\*01

37 sequences assigned  
33 (89.2%) exact matches, in which:  
32 unique CDR3  
4 unique J



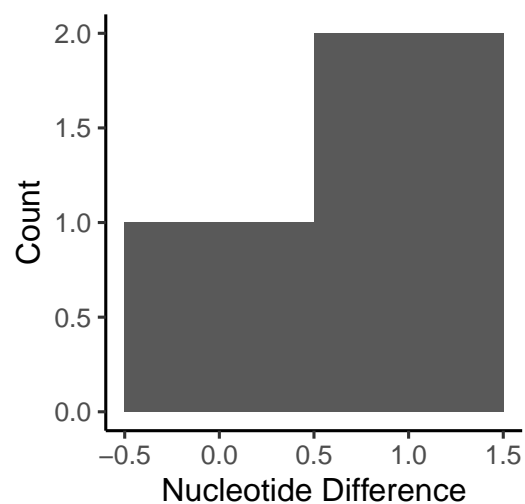
### IGHV3-48\*04

27 sequences assigned  
24 (88.9%) exact matches, in which:  
19 unique CDR3  
5 unique J



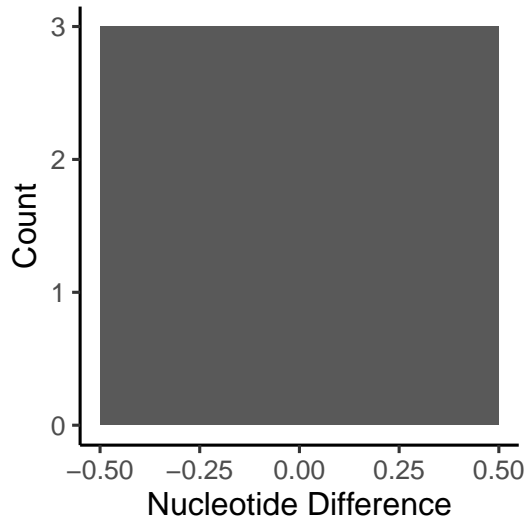
### IGHV3-64\*02\_07

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



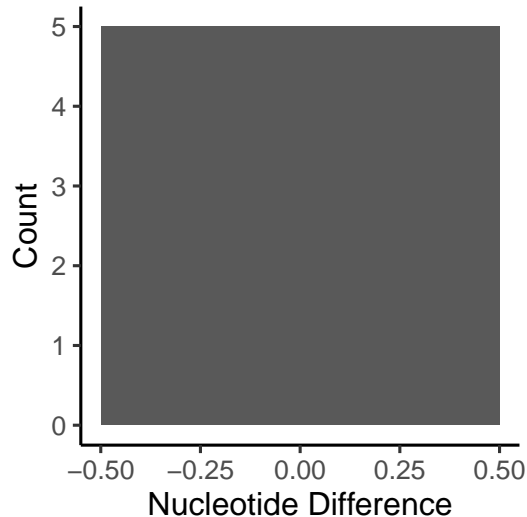
### IGHV3-43\*01

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



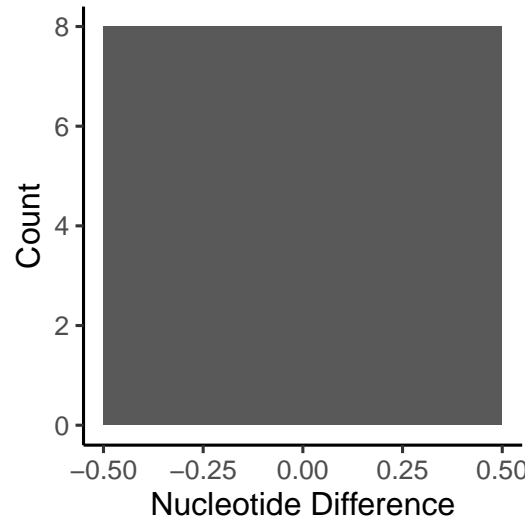
### IGHV3-49\*03\_05

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



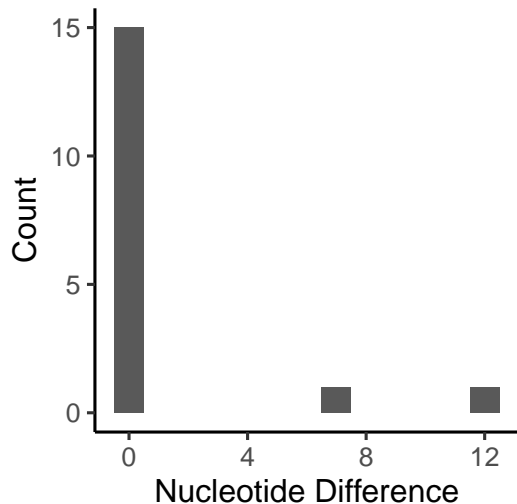
### IGHV3-66\*01

8 sequences assigned  
8 (100%) exact matches, in which:  
8 unique CDR3  
3 unique J



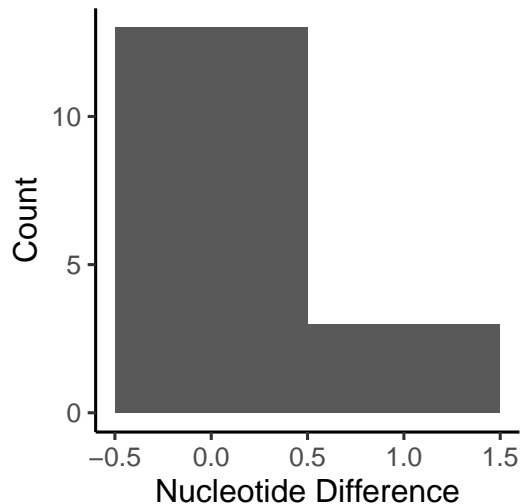
### IGHV3-48\*02

17 sequences assigned  
15 (88.2%) exact matches, in which:  
14 unique CDR3  
5 unique J



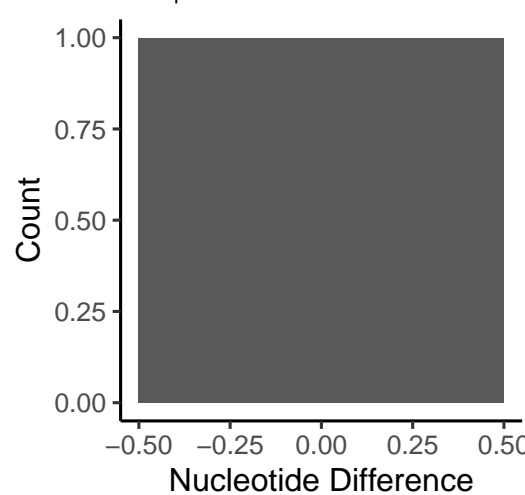
### IGHV3-53\*01\_02

16 sequences assigned  
13 (81.2%) exact matches, in which:  
12 unique CDR3  
5 unique J



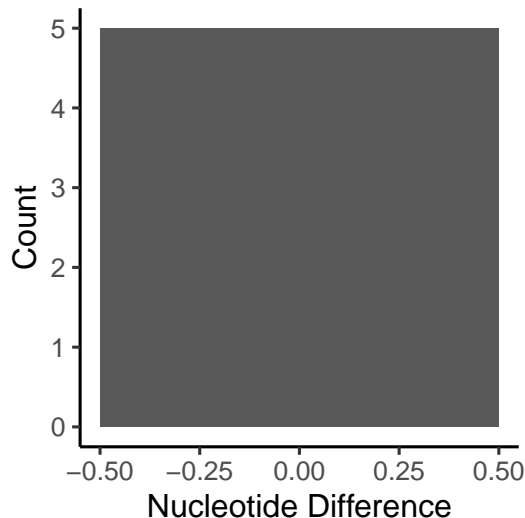
### IGHV3-72\*01

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



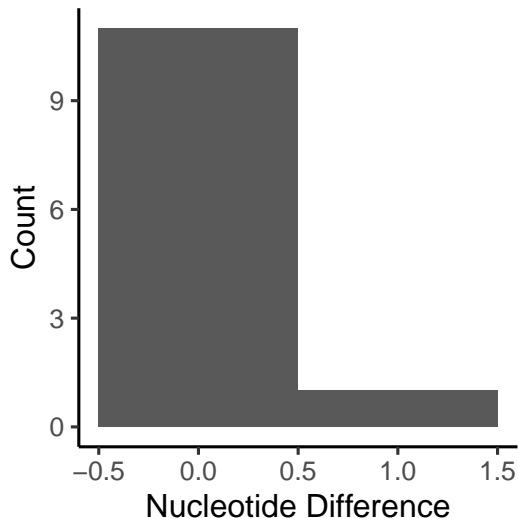
### IGHV3-73\*01\_02

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



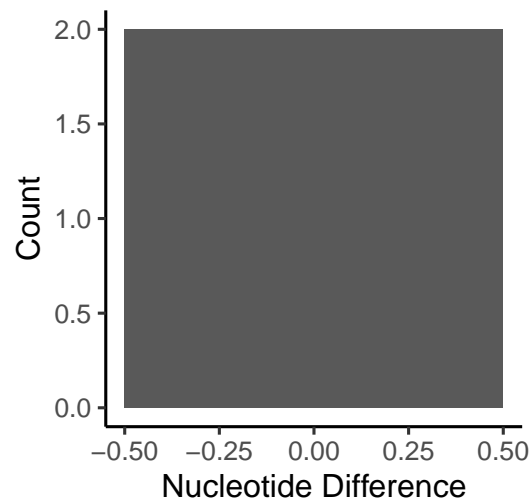
### IGHV3-64D\*09

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



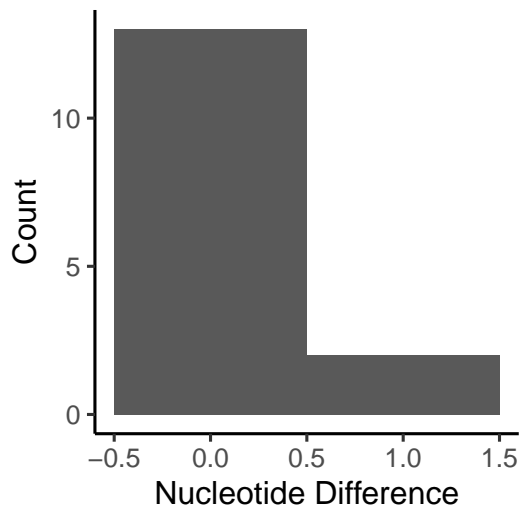
### IGHV4-28\*01\_07

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



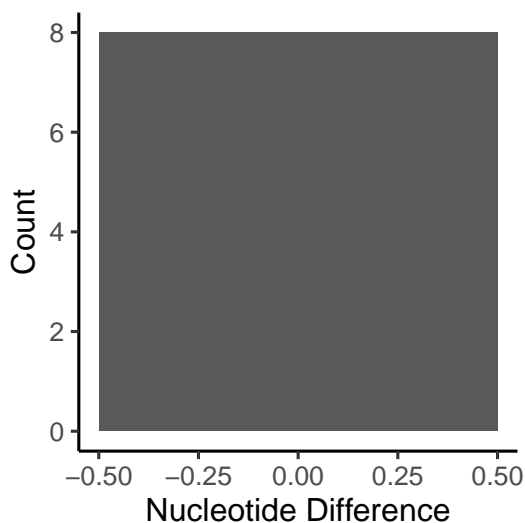
### IGHV3-74\*01\_02

15 sequences assigned  
13 (86.7%) exact matches, in which:  
13 unique CDR3  
2 unique J



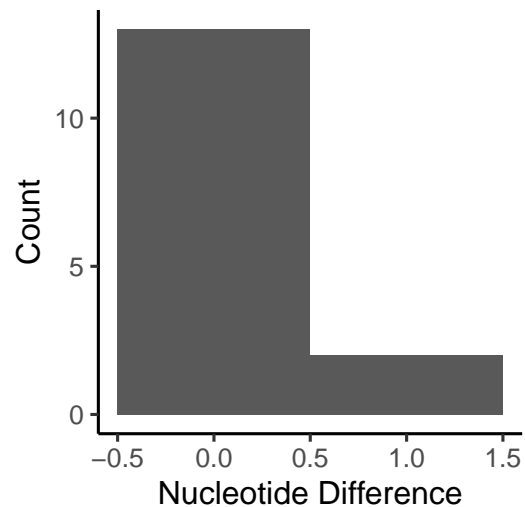
### IGHV4-4\*07

8 sequences assigned  
8 (100%) exact matches, in which:  
8 unique CDR3  
4 unique J



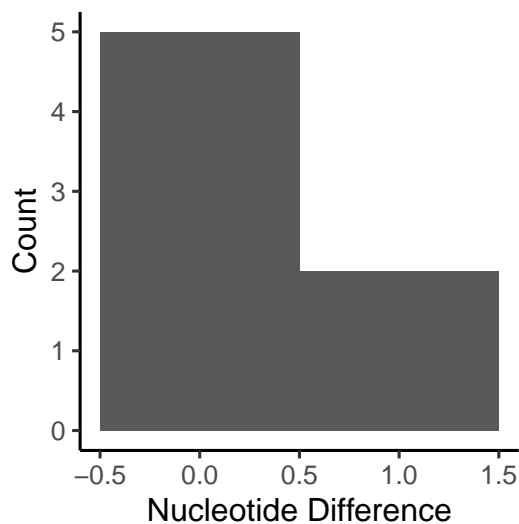
### IGHV4-30-2\*01

15 sequences assigned  
13 (86.7%) exact matches, in which:  
11 unique CDR3  
5 unique J



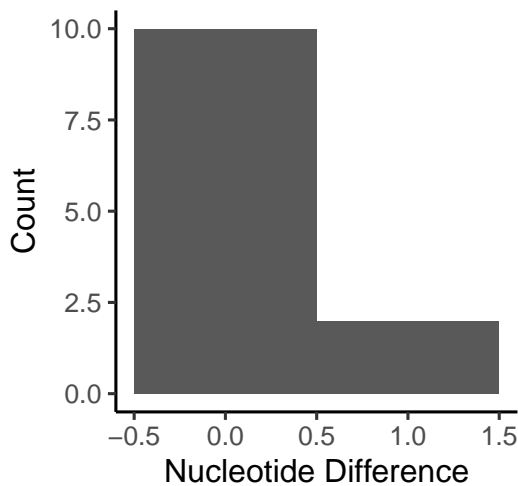
### IGHV3-43D\*03

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



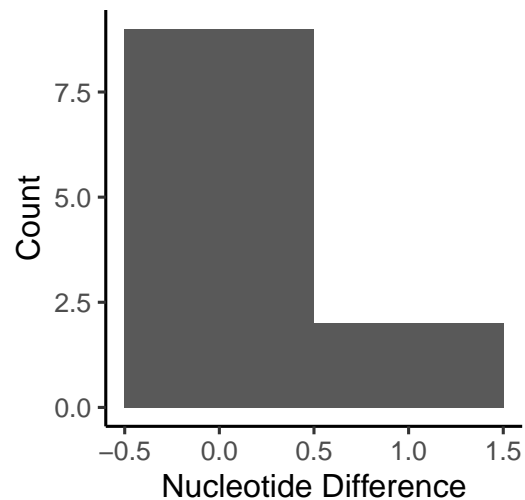
### IGHV4-4\*02\_03

12 sequences assigned  
10 (83.3%) exact matches, in which:  
9 unique CDR3  
4 unique J



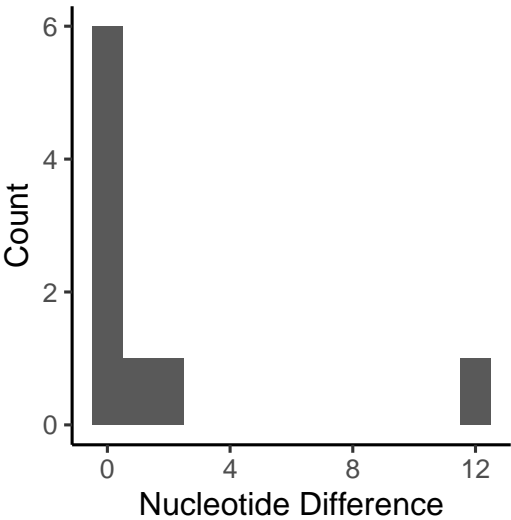
### IGHV4-30-4\*01

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



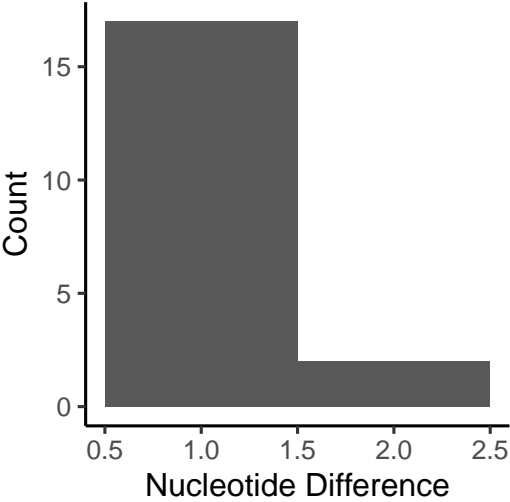
IGHV4-31\*02

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



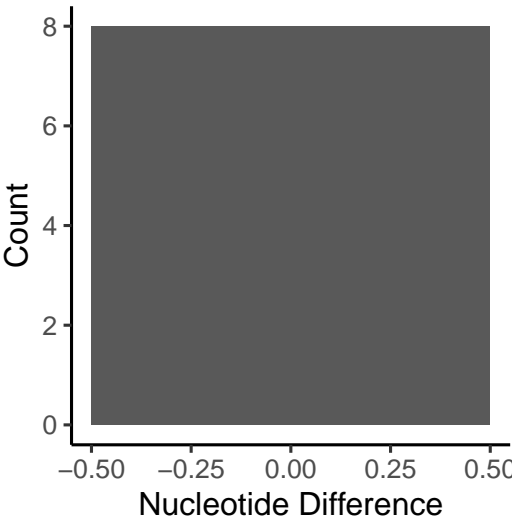
IGHV4-39\*02

19 sequences assigned  
No exact matches.



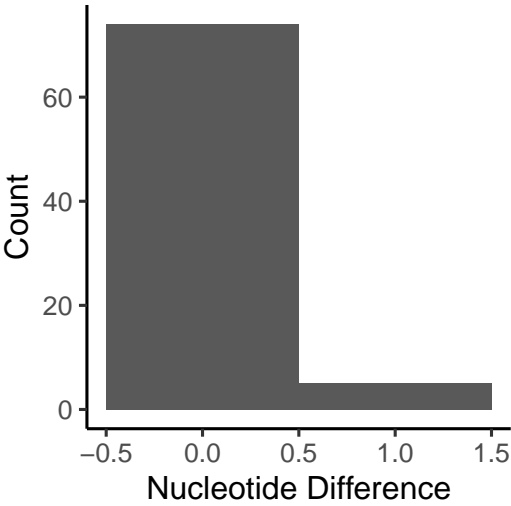
IGHV4-61\*01

8 sequences assigned  
8 (100%) exact matches, in which:  
8 unique CDR3  
4 unique J



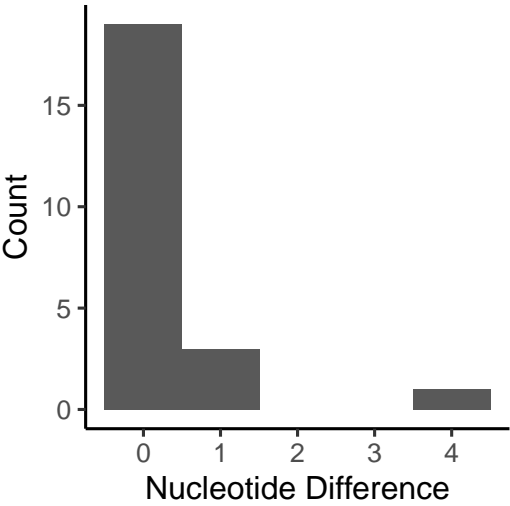
IGHV4-34\*01\_02

79 sequences assigned  
74 (93.7%) exact matches, in which:  
61 unique CDR3  
6 unique J



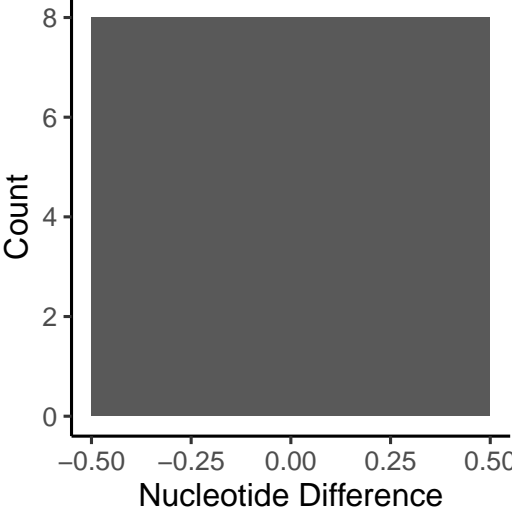
IGHV4-39\*07

23 sequences assigned  
19 (82.6%) exact matches, in which:  
19 unique CDR3  
4 unique J



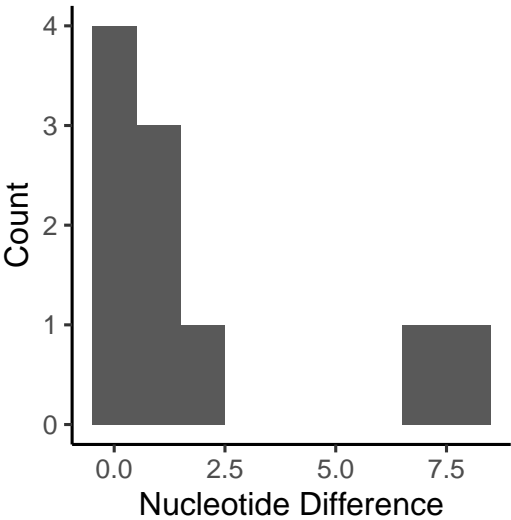
IGHV5-10-1\*01\_03

8 sequences assigned  
8 (100%) exact matches, in which:  
8 unique CDR3  
3 unique J



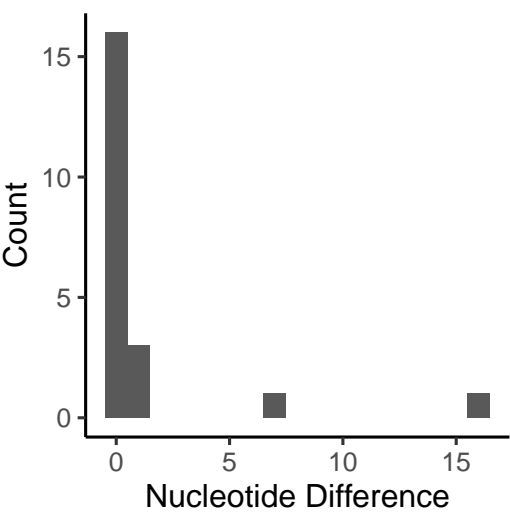
IGHV4-38-2\*02

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



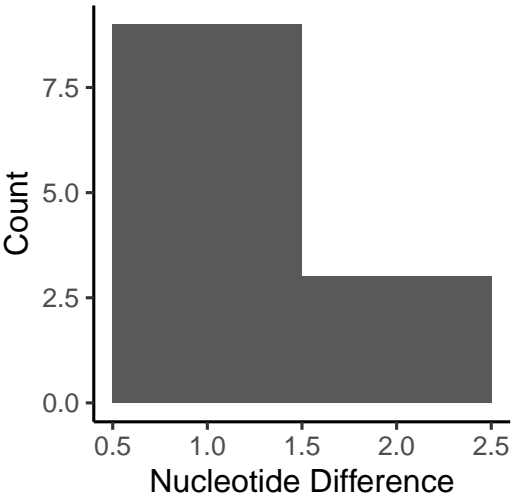
IGHV4-59\*01\_07

21 sequences assigned  
16 (76.2%) exact matches, in which:  
16 unique CDR3  
4 unique J



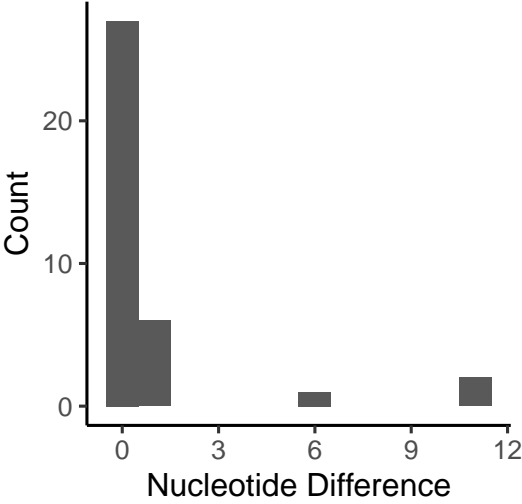
IGHV5-51\*07

12 sequences assigned  
No exact matches.



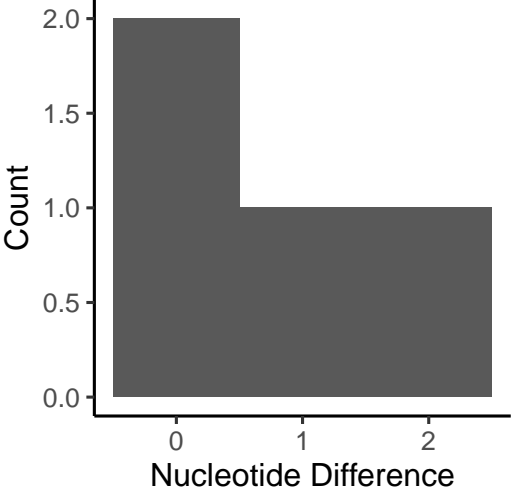
# IGHV5-51\*01\_03

36 sequences assigned  
27 (75%) exact matches, in which:  
26 unique CDR3  
5 unique J



# IGHV6-1\*01\_02

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







Warning – no inferred sequences found.