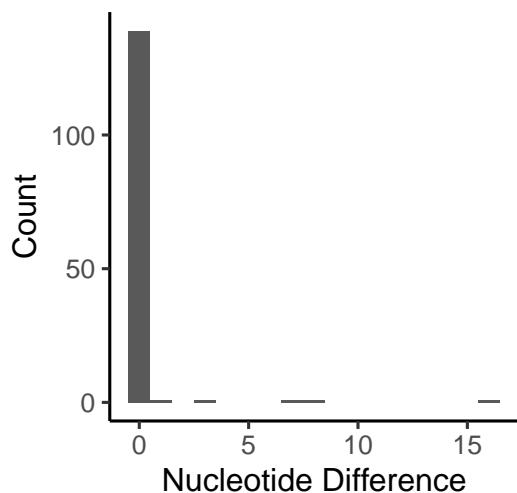


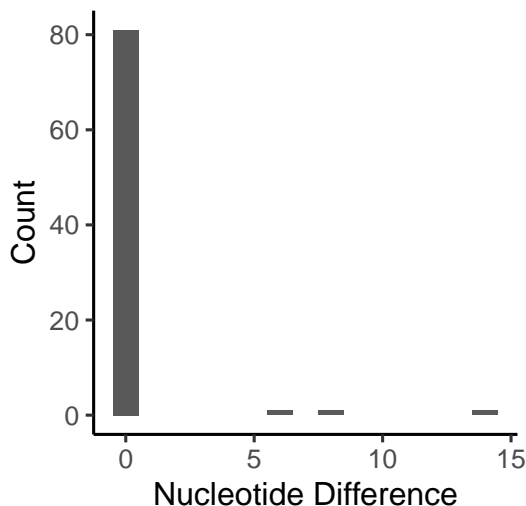
### IGHV1-2\*02

144 sequences assigned  
139 (96.5%) exact matches, in which:  
139 unique CDR3  
6 unique J



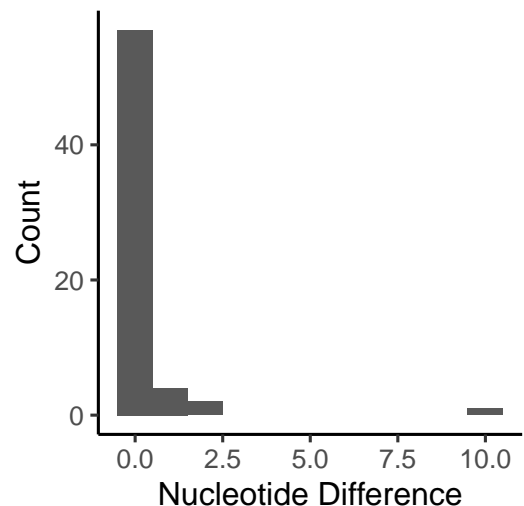
### IGHV1-8\*01

84 sequences assigned  
81 (96.4%) exact matches, in which:  
81 unique CDR3  
5 unique J



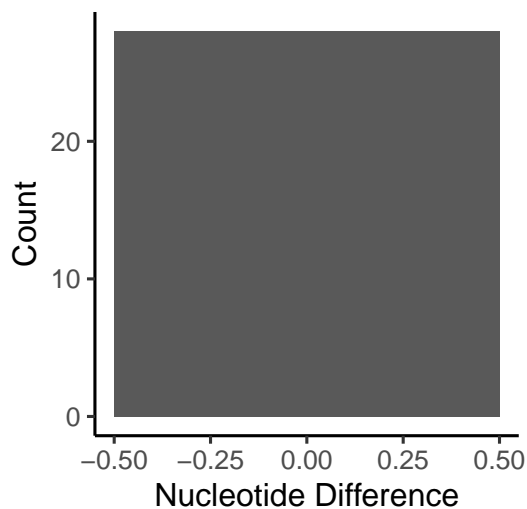
### IGHV1-24\*01

64 sequences assigned  
57 (89.1%) exact matches, in which:  
57 unique CDR3  
6 unique J



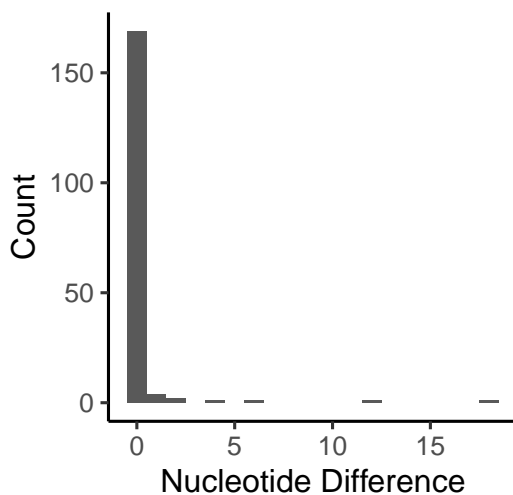
### IGHV1-2\*04

28 sequences assigned  
28 (100%) exact matches, in which:  
28 unique CDR3  
4 unique J



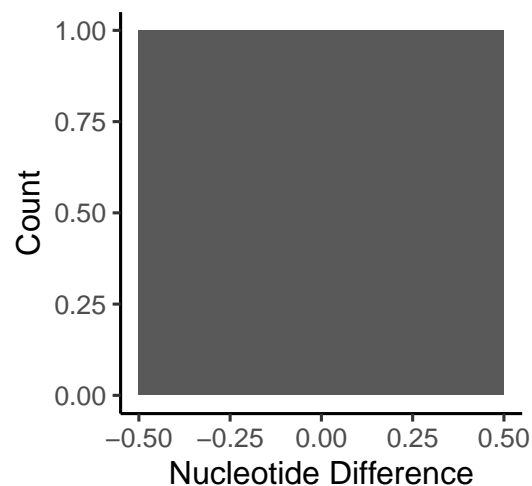
### IGHV1-18\*01

179 sequences assigned  
169 (94.4%) exact matches, in which:  
169 unique CDR3  
5 unique J



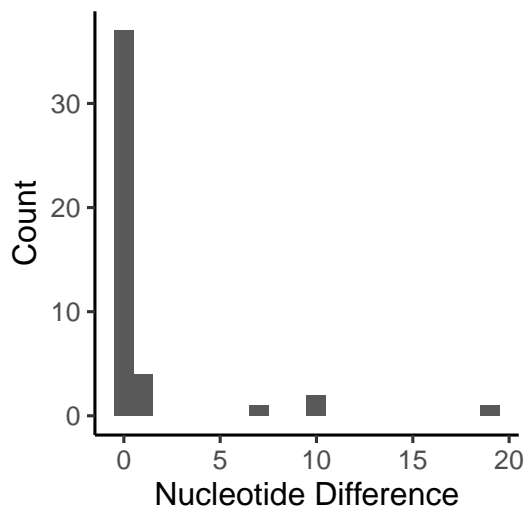
### IGHV1-45\*02

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



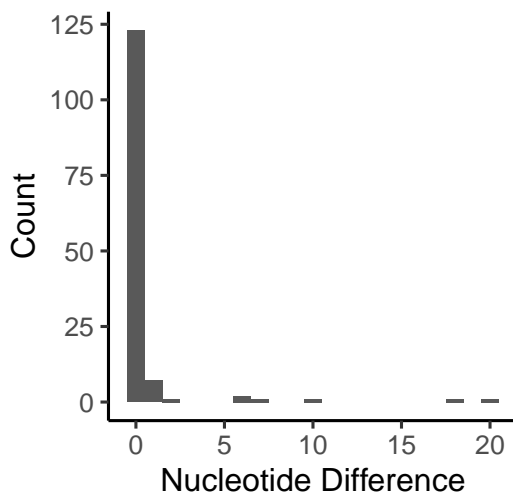
### IGHV1-3\*01

45 sequences assigned  
37 (82.2%) exact matches, in which:  
37 unique CDR3  
5 unique J



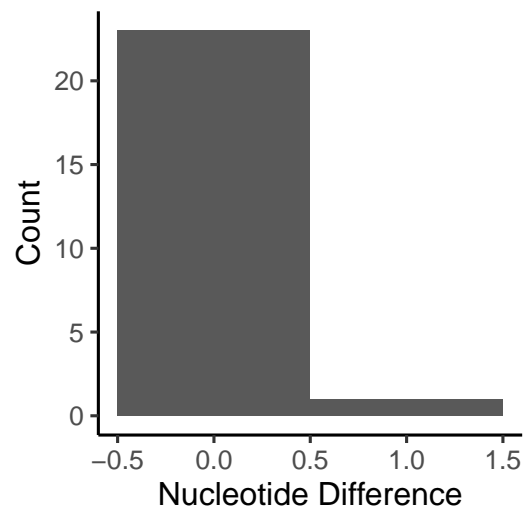
### IGHV1-18\*04

137 sequences assigned  
123 (89.8%) exact matches, in which:  
123 unique CDR3  
5 unique J



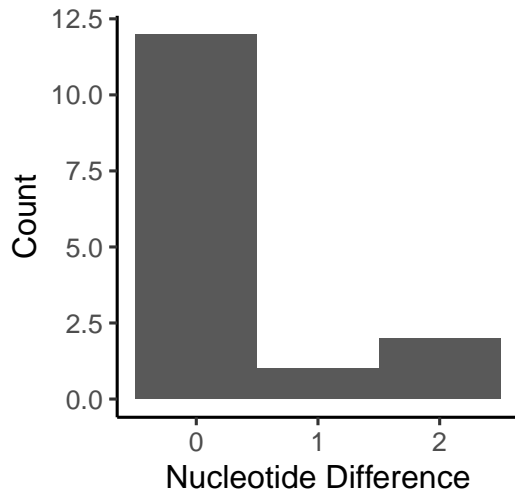
### IGHV1-46\*01

24 sequences assigned  
23 (95.8%) exact matches, in which:  
23 unique CDR3  
4 unique J



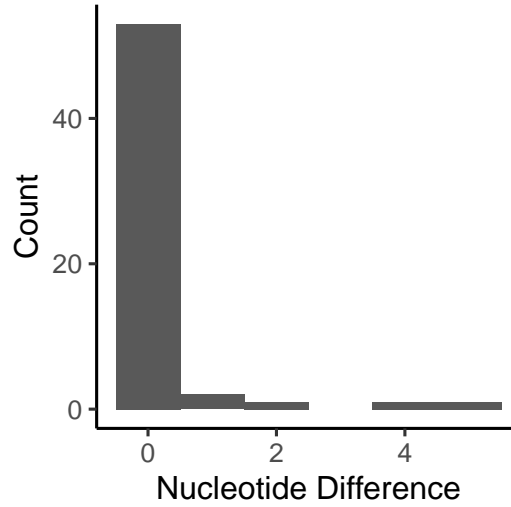
### IGHV1-46\*03

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



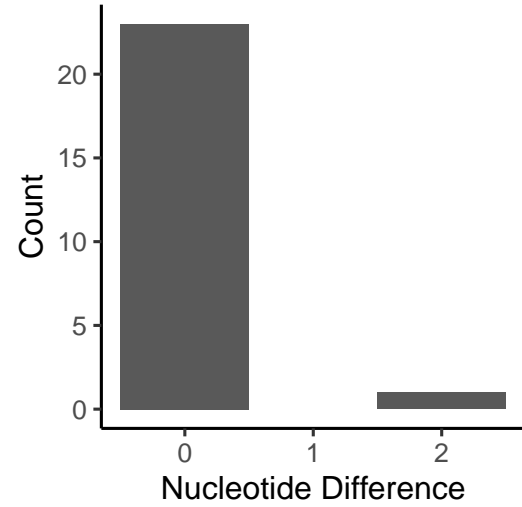
### IGHV1-69\*02

58 sequences assigned  
53 (91.4%) exact matches, in which:  
53 unique CDR3  
6 unique J



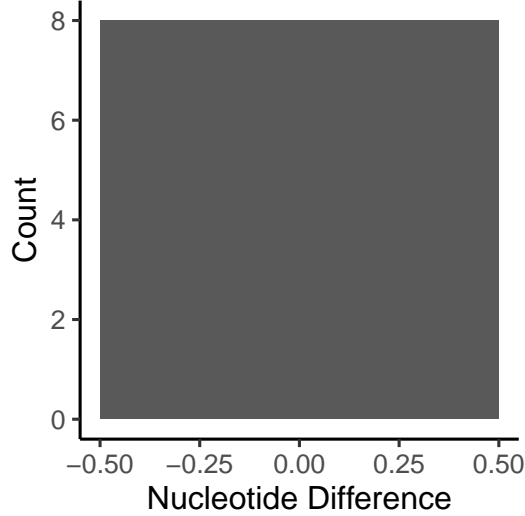
### IGHV2-26\*01

24 sequences assigned  
23 (95.8%) exact matches, in which:  
23 unique CDR3  
5 unique J



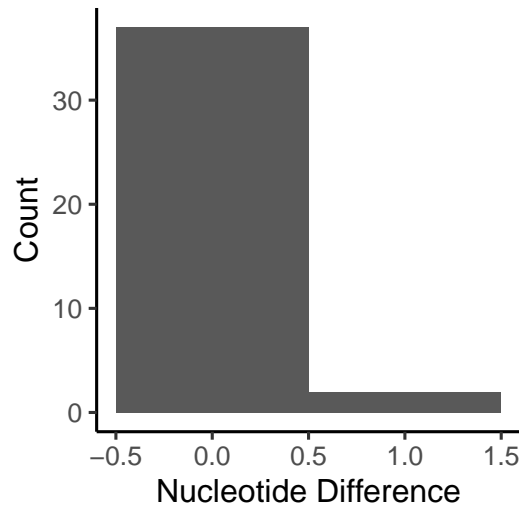
### IGHV1-58\*01

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



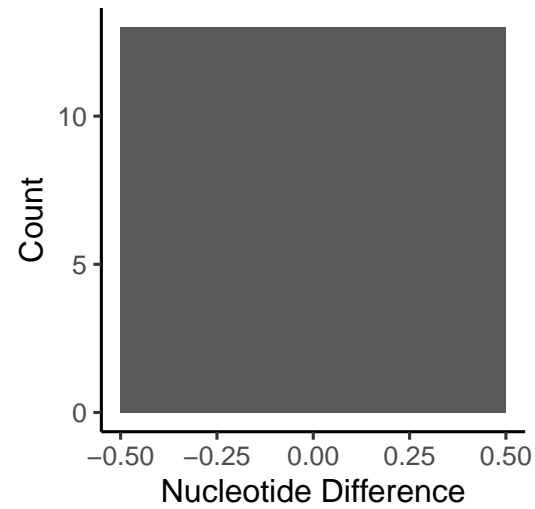
### IGHV2-5\*01

39 sequences assigned  
37 (94.9%) exact matches, in which:  
37 unique CDR3  
5 unique J



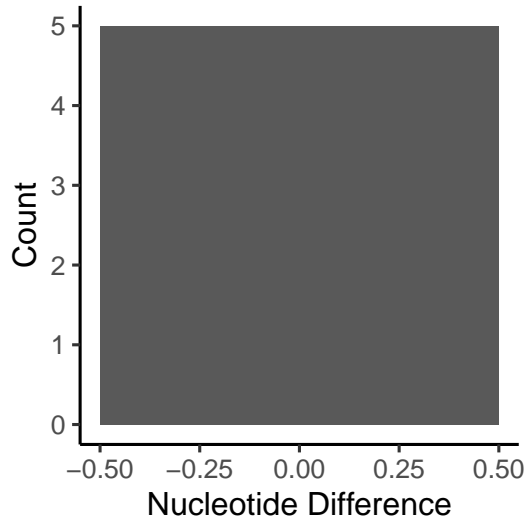
### IGHV2-70\*01

13 sequences assigned  
13 (100%) exact matches, in which:  
12 unique CDR3  
4 unique J



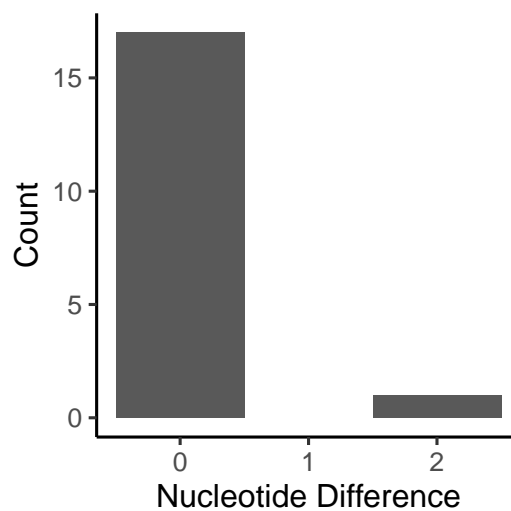
### IGHV1-58\*02

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



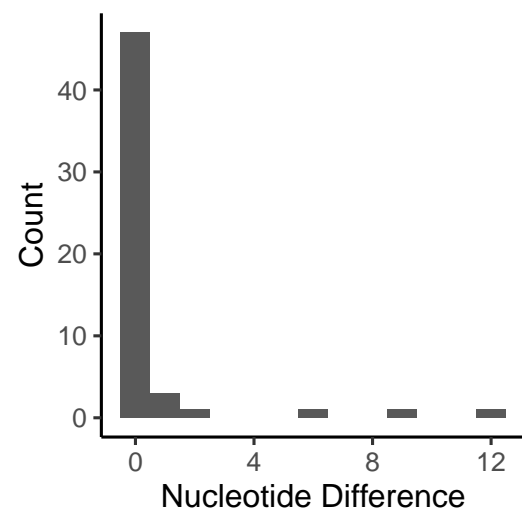
### IGHV2-5\*02

18 sequences assigned  
17 (94.4%) exact matches, in which:  
17 unique CDR3  
4 unique J



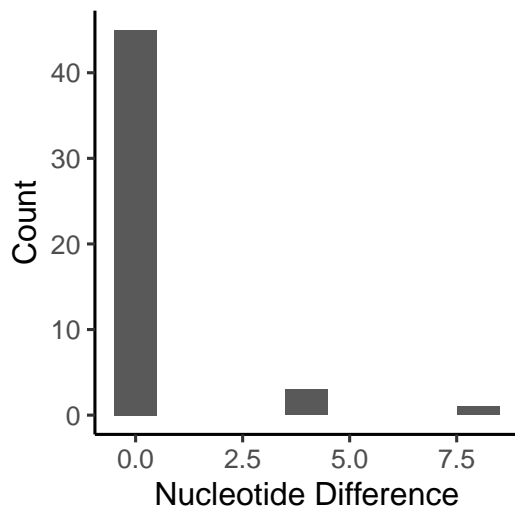
### IGHV3-7\*01

54 sequences assigned  
47 (87%) exact matches, in which:  
46 unique CDR3  
5 unique J



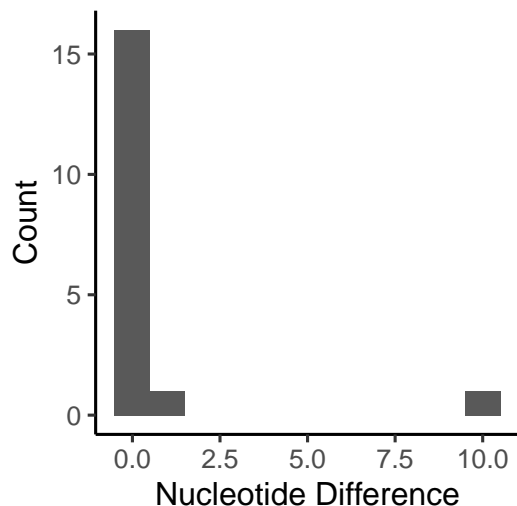
### IGHV3-7\*03

49 sequences assigned  
45 (91.8%) exact matches, in which:  
45 unique CDR3  
5 unique J



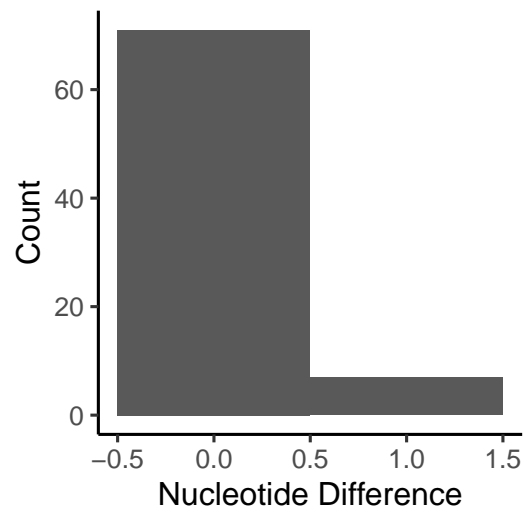
### IGHV3-11\*06

18 sequences assigned  
16 (88.9%) exact matches, in which:  
16 unique CDR3  
5 unique J



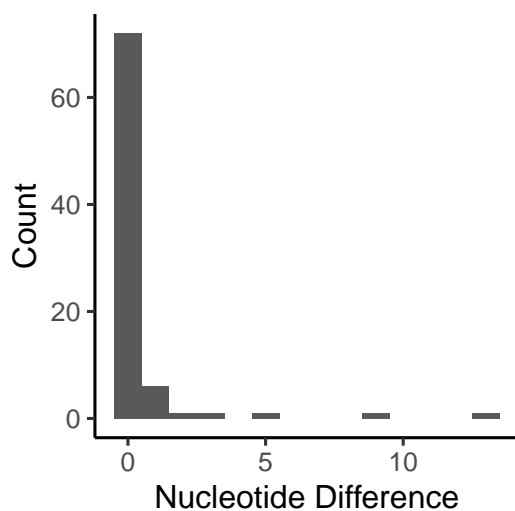
### IGHV3-15\*01

78 sequences assigned  
71 (91%) exact matches, in which:  
71 unique CDR3  
5 unique J



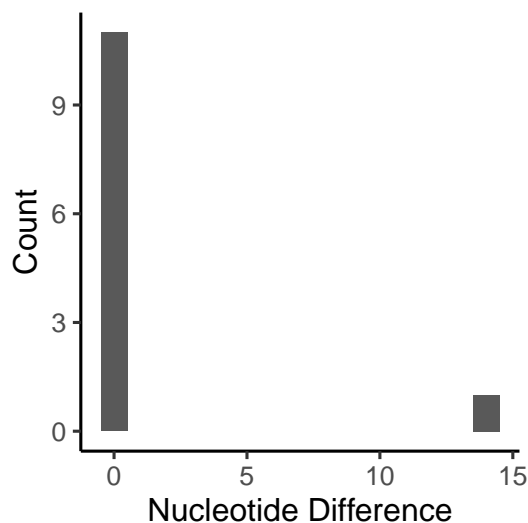
### IGHV3-9\*01

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



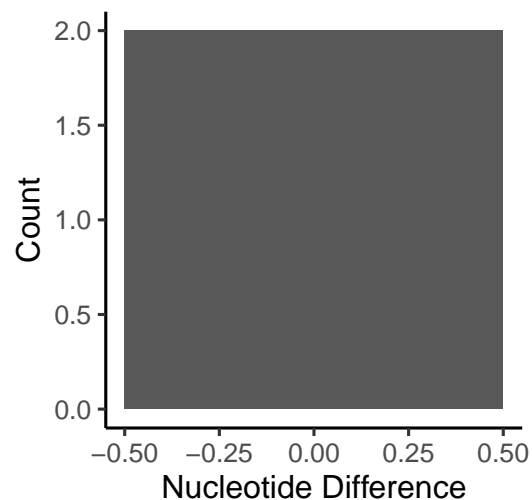
### IGHV3-13\*01

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



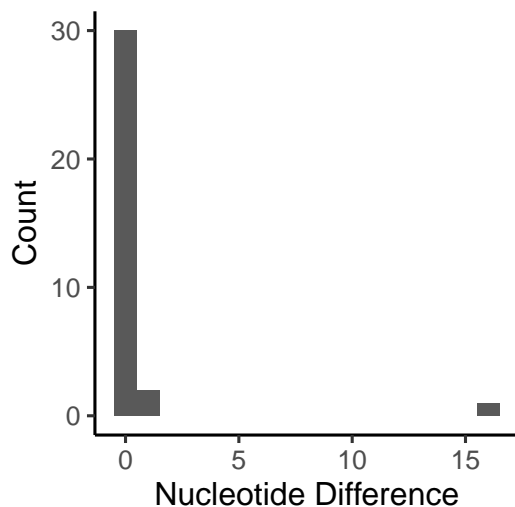
### IGHV3-20\*01

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



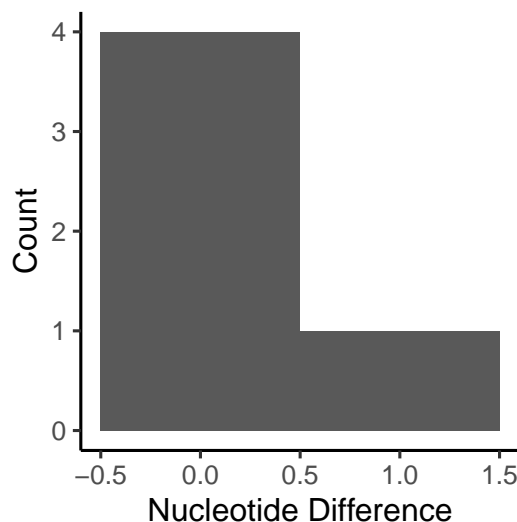
### IGHV3-11\*01

33 sequences assigned  
30 (90.9%) exact matches, in which:  
30 unique CDR3  
4 unique J



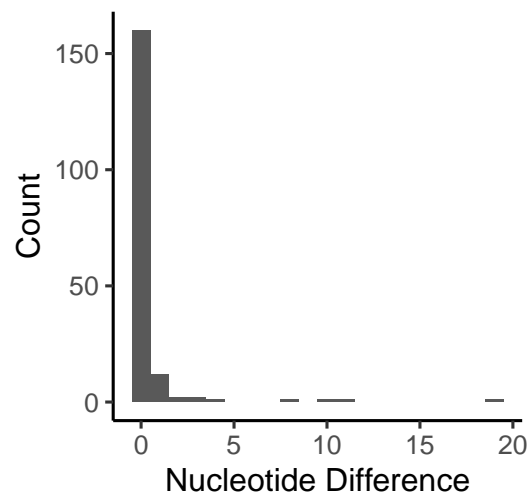
### IGHV3-13\*05

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



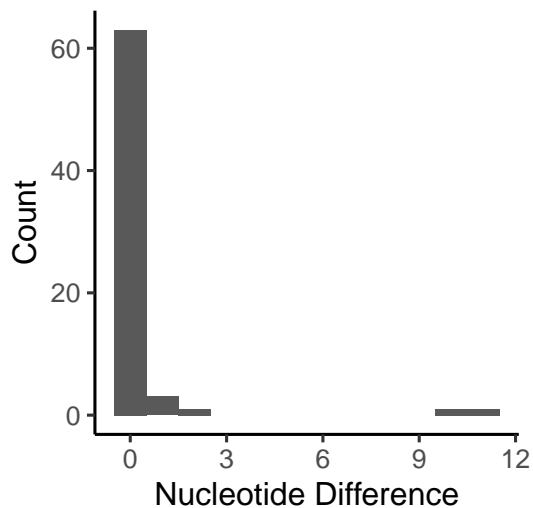
### IGHV3-21\*01

181 sequences assigned  
160 (88.4%) exact matches, in which:  
159 unique CDR3  
6 unique J



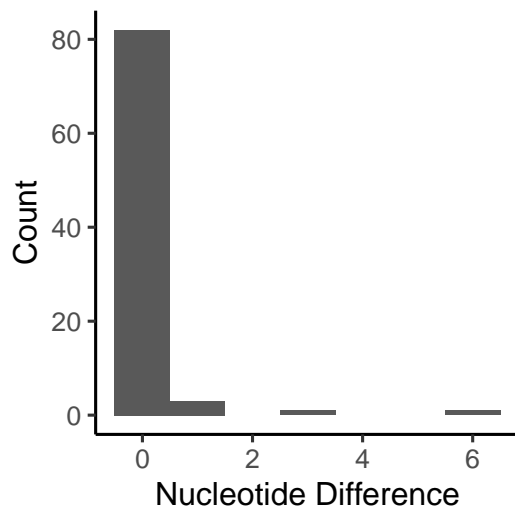
### IGHV3-30-3\*01

69 sequences assigned  
63 (91.3%) exact matches, in which:  
63 unique CDR3  
5 unique J



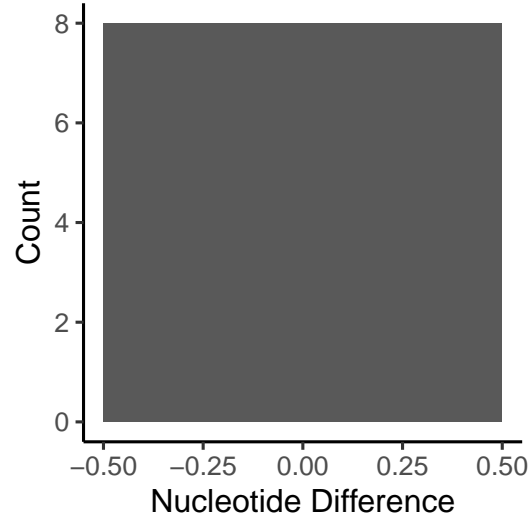
### IGHV3-48\*01

87 sequences assigned  
82 (94.3%) exact matches, in which:  
82 unique CDR3  
5 unique J



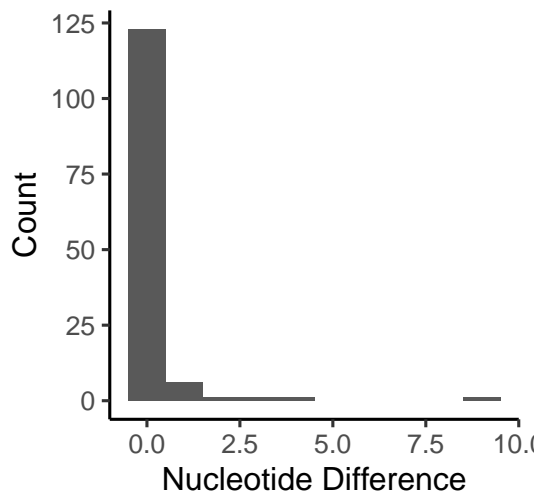
### IGHV3-64\*01

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



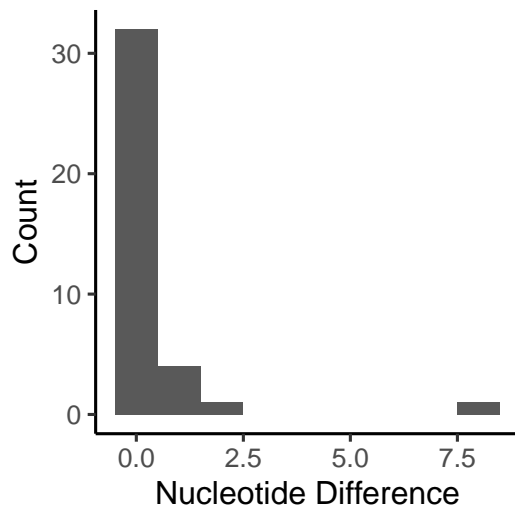
### IGHV3-33\*01

135 sequences assigned  
123 (91.1%) exact matches, in which:  
123 unique CDR3  
5 unique J



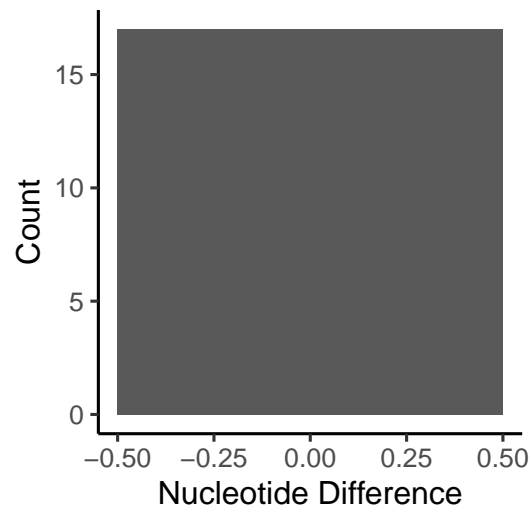
### IGHV3-49\*03

38 sequences assigned  
32 (84.2%) exact matches, in which:  
32 unique CDR3  
6 unique J



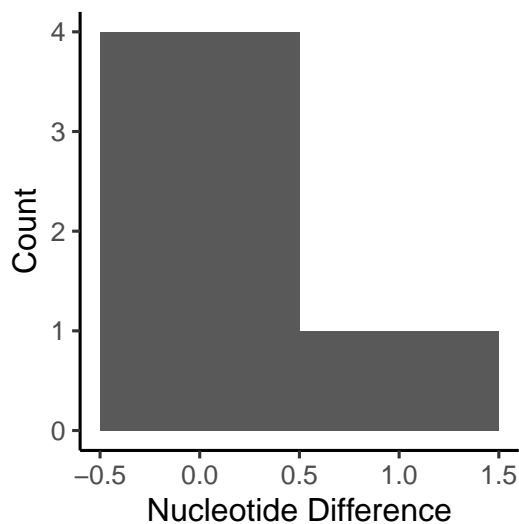
### IGHV3-66\*02

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



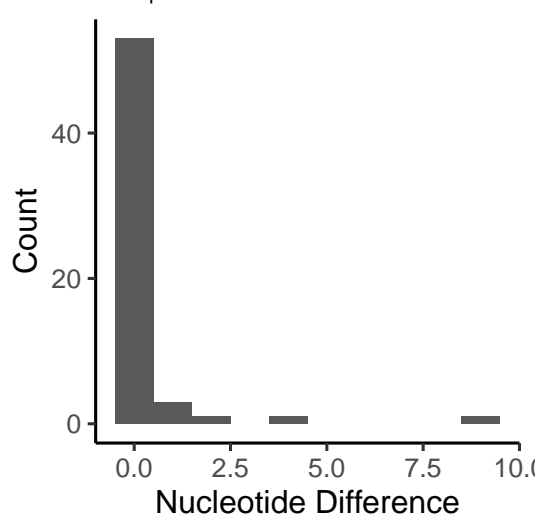
### IGHV3-43\*01

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



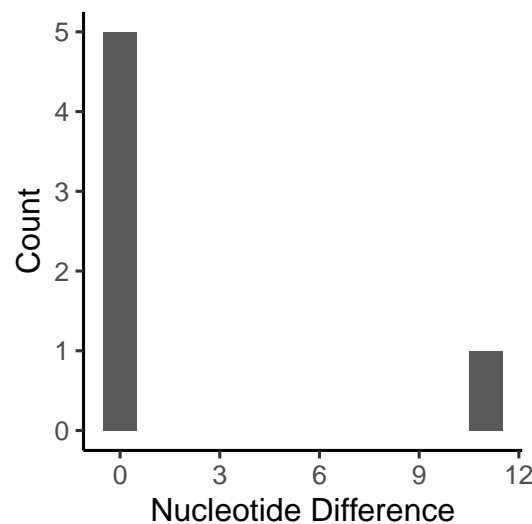
### IGHV3-53\*02

59 sequences assigned  
53 (89.8%) exact matches, in which:  
53 unique CDR3  
6 unique J



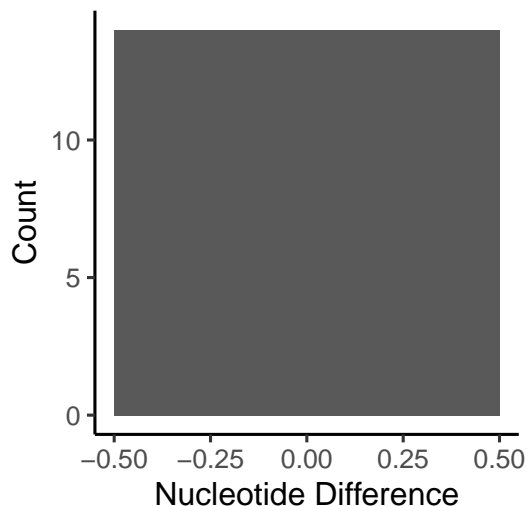
### IGHV3-72\*01

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



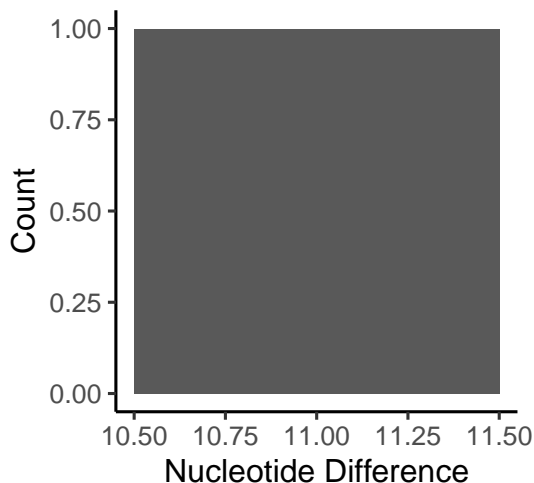
### IGHV3-73\*01

14 sequences assigned  
14 (100%) exact matches, in which:  
14 unique CDR3  
4 unique J



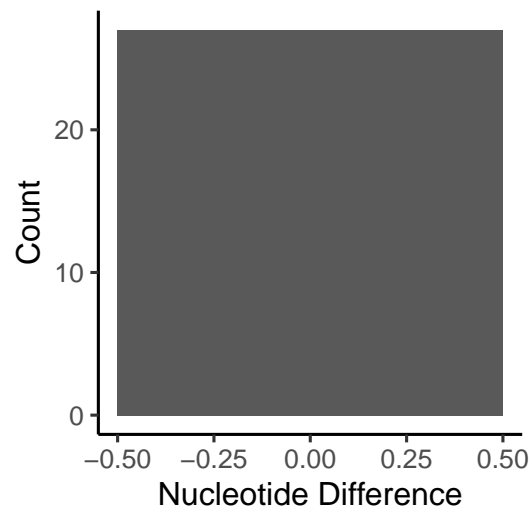
### IGHV3-43D\*04

1 sequences assigned  
No exact matches.



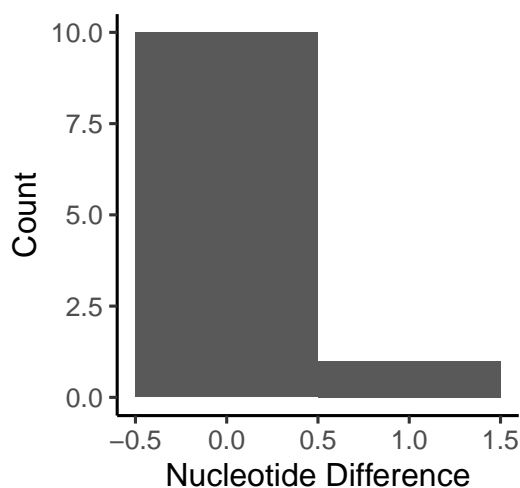
### IGHV4-4\*07

27 sequences assigned  
27 (100%) exact matches, in which:  
27 unique CDR3  
5 unique J



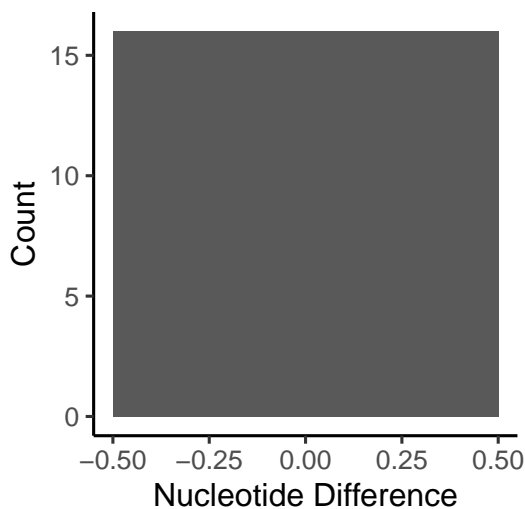
### IGHV3-73\*02

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



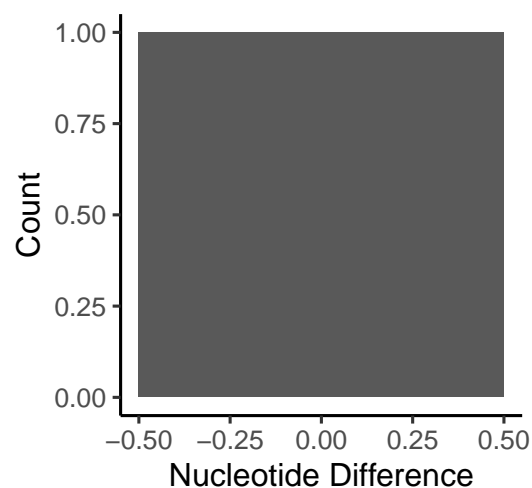
### IGHV3-64D\*06

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



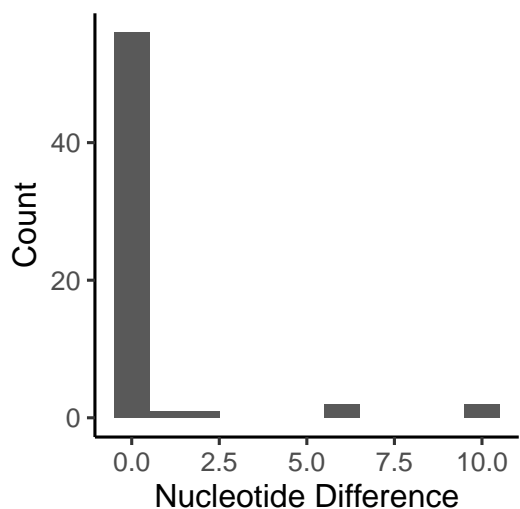
### IGHV4-28\*01

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



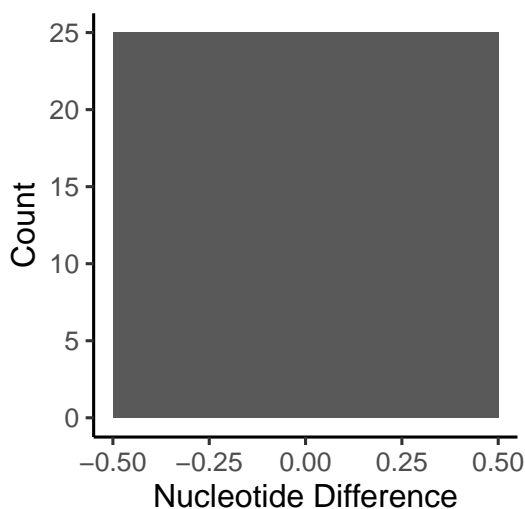
### IGHV3-74\*01

63 sequences assigned  
56 (88.9%) exact matches, in which:  
55 unique CDR3  
5 unique J



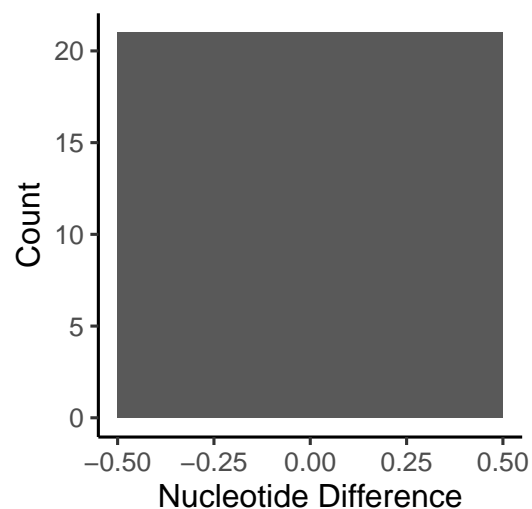
### IGHV4-4\*02

25 sequences assigned  
25 (100%) exact matches, in which:  
24 unique CDR3  
5 unique J



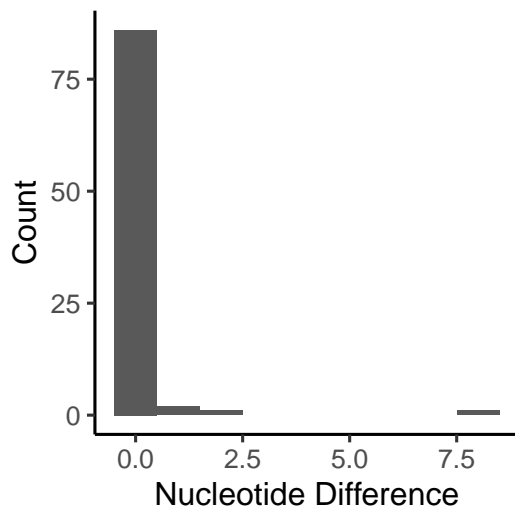
### IGHV4-30-2\*01

21 sequences assigned  
21 (100%) exact matches, in which:  
21 unique CDR3  
4 unique J



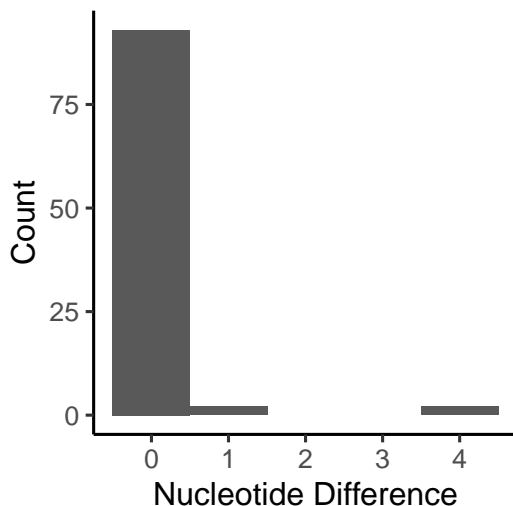
### IGHV4-31\*03

90 sequences assigned  
86 (95.6%) exact matches, in which:  
86 unique CDR3  
6 unique J



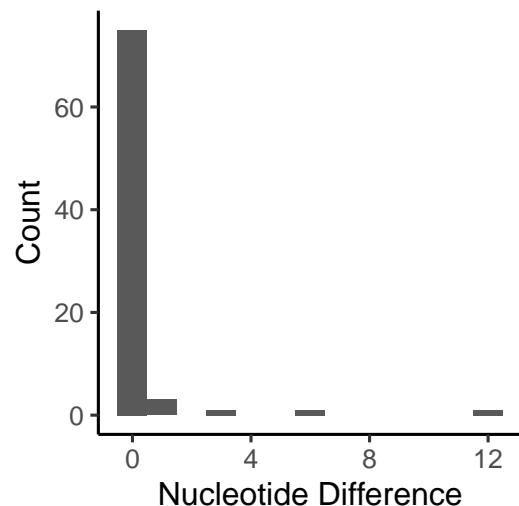
### IGHV4-59\*01

98 sequences assigned  
93 (94.9%) exact matches, in which:  
93 unique CDR3  
6 unique J



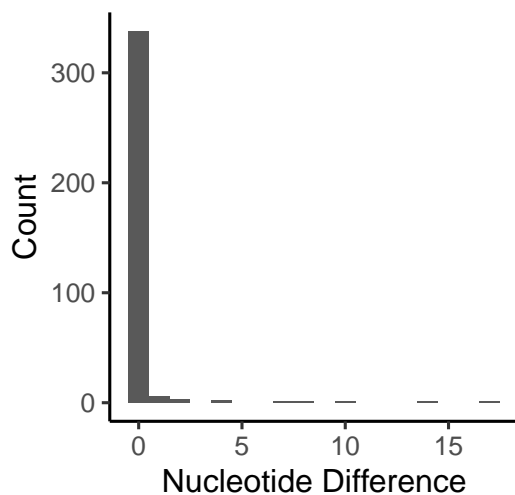
### IGHV5-10-1\*03

81 sequences assigned  
75 (92.6%) exact matches, in which:  
74 unique CDR3  
6 unique J



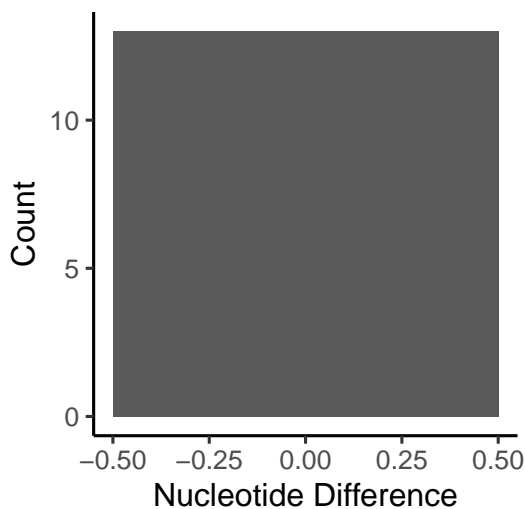
### IGHV4-34\*01

354 sequences assigned  
338 (95.5%) exact matches, in which:  
337 unique CDR3  
6 unique J



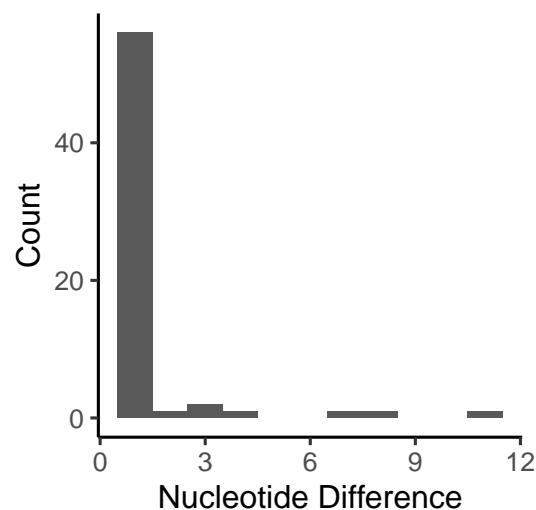
### IGHV4-61\*01

13 sequences assigned  
13 (100%) exact matches, in which:  
13 unique CDR3  
2 unique J



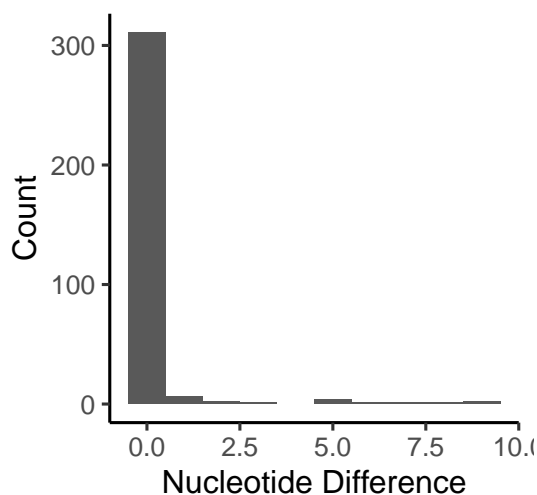
### IGHV5-51\*01

63 sequences assigned  
No exact matches.



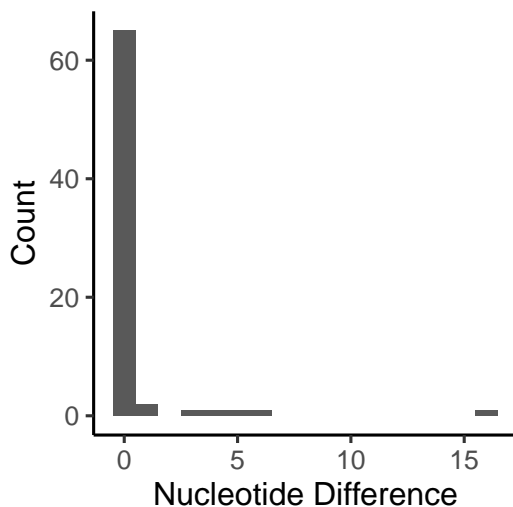
### IGHV4-39\*01

329 sequences assigned  
311 (94.5%) exact matches, in which:  
310 unique CDR3  
6 unique J



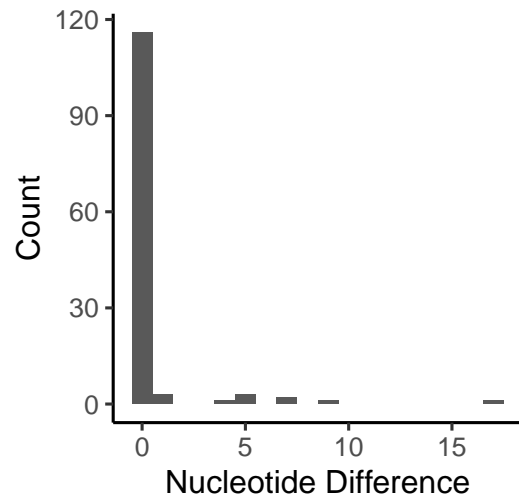
### IGHV4-61\*02

72 sequences assigned  
65 (90.3%) exact matches, in which:  
65 unique CDR3  
6 unique J



### IGHV5-51\*03

127 sequences assigned  
116 (91.3%) exact matches, in which:  
115 unique CDR3  
6 unique J



# IGHV6-1\*01

60 sequences assigned  
59 (98.3%) exact matches, in which:  
59 unique CDR3  
5 unique J

