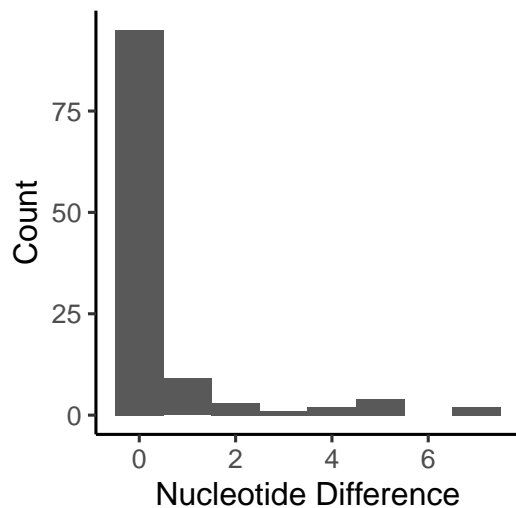


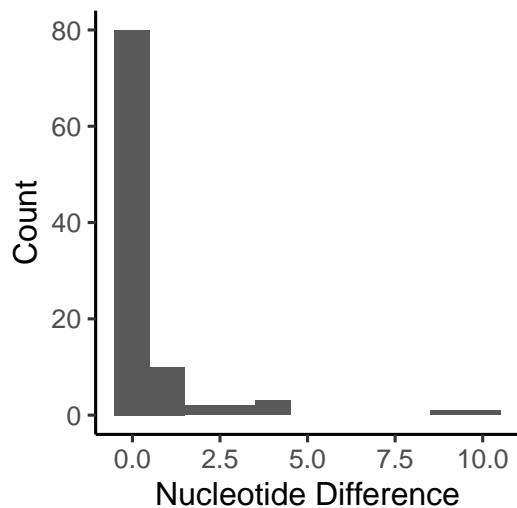
### IGHV1-2\*02

116 sequences assigned  
95 (81.9%) exact matches, in which:  
94 unique CDR3  
5 unique J



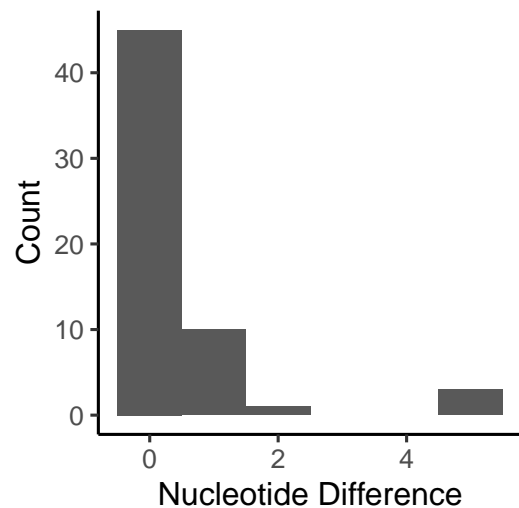
### IGHV1-8\*01

99 sequences assigned  
80 (80.8%) exact matches, in which:  
78 unique CDR3  
5 unique J



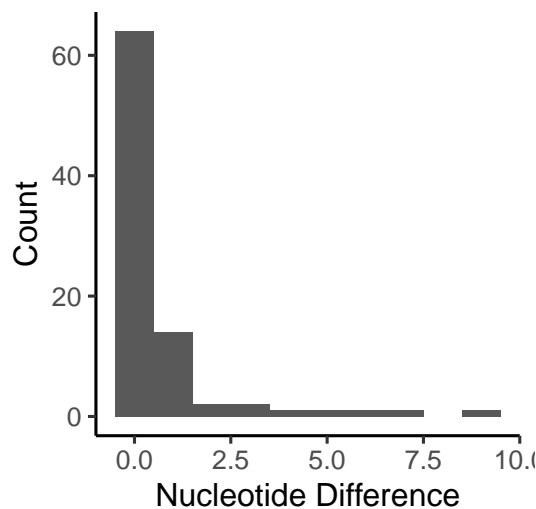
### IGHV1-24\*01

59 sequences assigned  
45 (76.3%) exact matches, in which:  
45 unique CDR3  
6 unique J



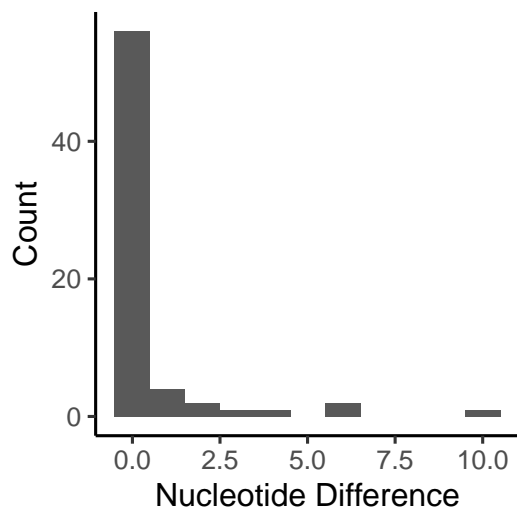
### IGHV1-2\*06

87 sequences assigned  
64 (73.6%) exact matches, in which:  
64 unique CDR3  
5 unique J



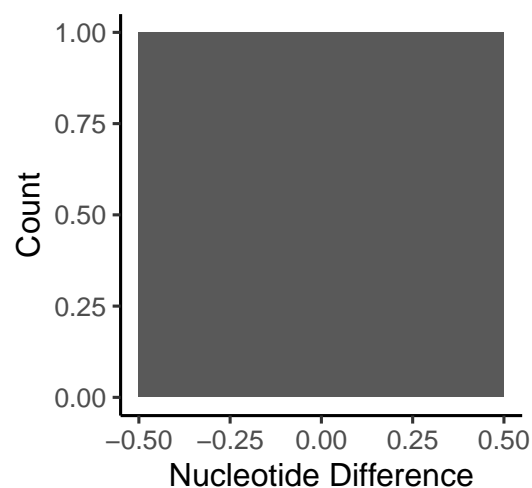
### IGHV1-18\*01

67 sequences assigned  
56 (83.6%) exact matches, in which:  
56 unique CDR3  
4 unique J



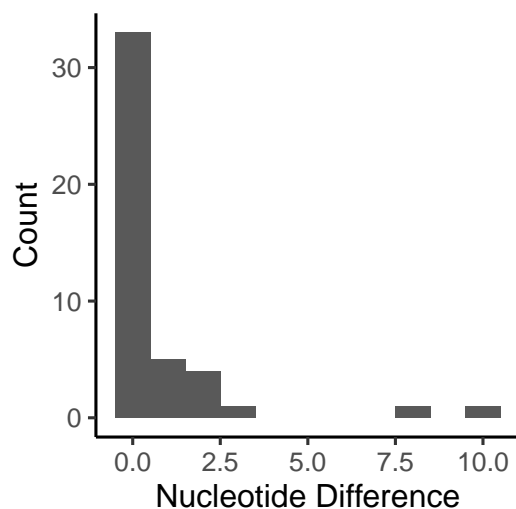
### IGHV1-45\*02

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



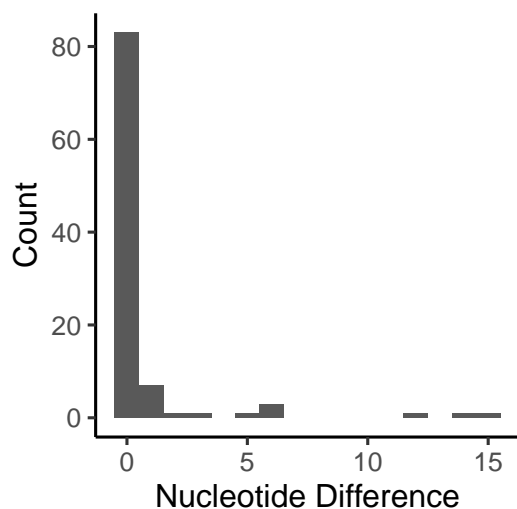
### IGHV1-3\*01

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



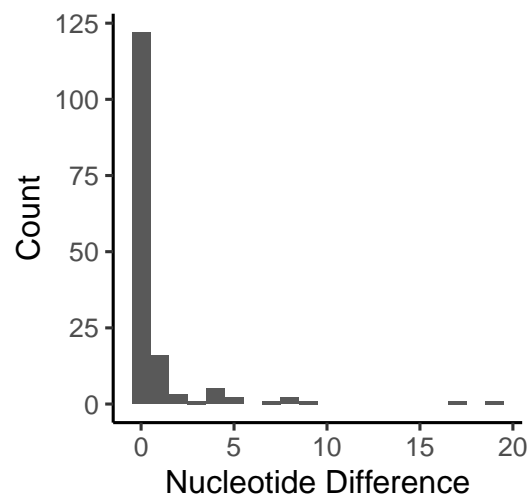
### IGHV1-18\*04

99 sequences assigned  
83 (83.8%) exact matches, in which:  
83 unique CDR3  
6 unique J



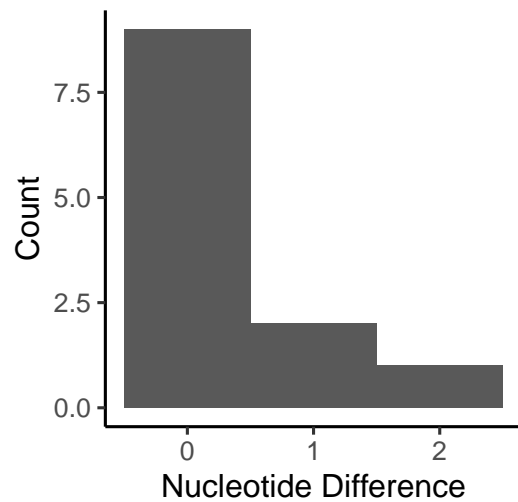
### IGHV1-46\*01

156 sequences assigned  
122 (78.2%) exact matches, in which:  
122 unique CDR3  
6 unique J



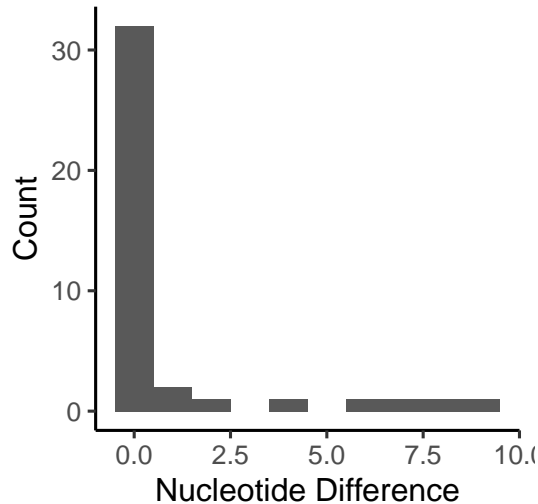
### IGHV1-58\*01

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



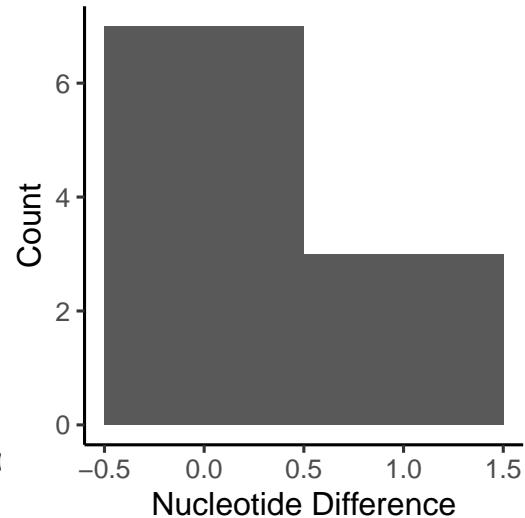
### IGHV2-5\*01

40 sequences assigned  
32 (80%) exact matches, in which:  
32 unique CDR3  
4 unique J



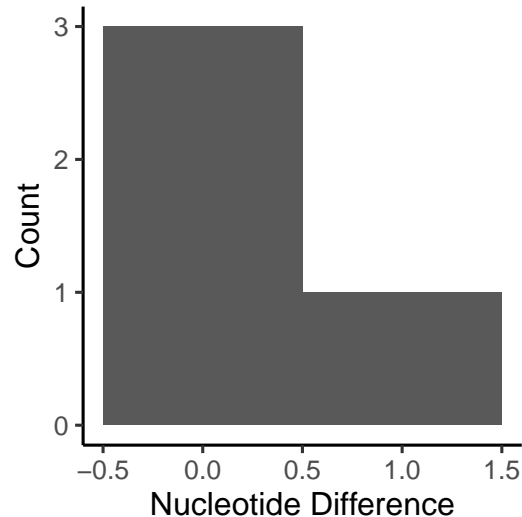
### IGHV2-70\*01

10 sequences assigned  
7 (70%) exact matches, in which:  
7 unique CDR3  
4 unique J



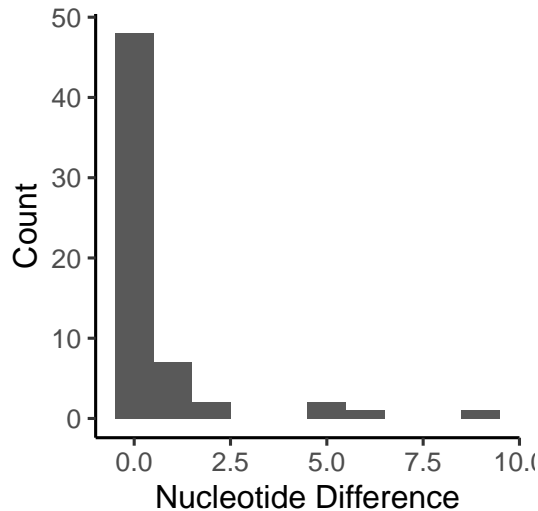
### IGHV1-58\*02

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



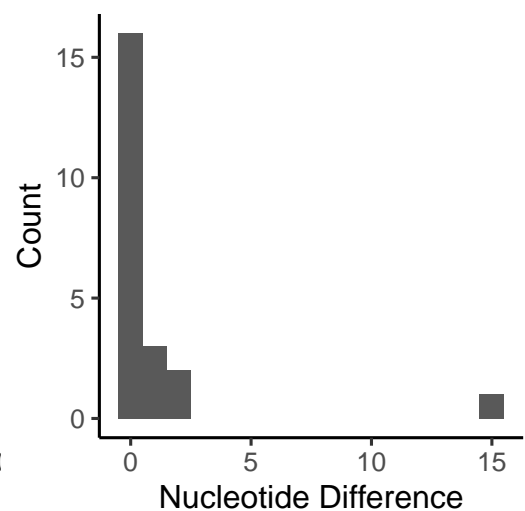
### IGHV2-5\*02

61 sequences assigned  
48 (78.7%) exact matches, in which:  
48 unique CDR3  
6 unique J



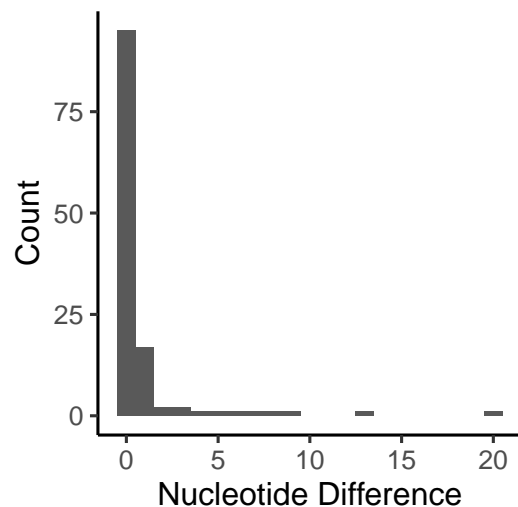
### IGHV2-70\*15

22 sequences assigned  
16 (72.7%) exact matches, in which:  
16 unique CDR3  
4 unique J



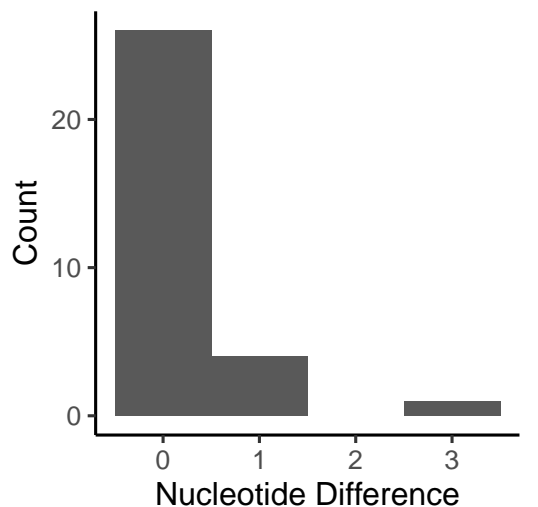
### IGHV1-69\*08\_C191T

124 sequences assigned  
95 (76.6%) exact matches, in which:  
94 unique CDR3  
6 unique J



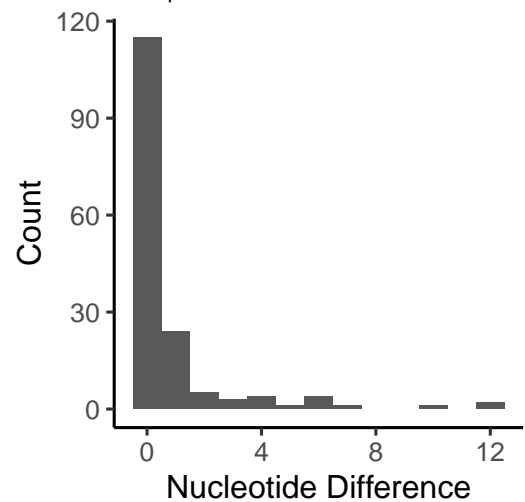
### IGHV2-26\*01

31 sequences assigned  
26 (83.9%) exact matches, in which:  
26 unique CDR3  
5 unique J



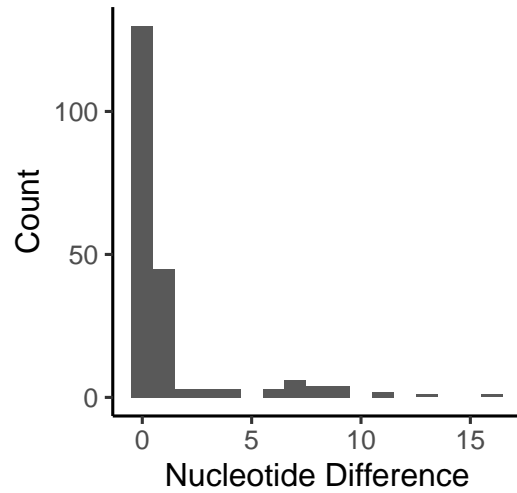
### IGHV3-7\*01

162 sequences assigned  
115 (71%) exact matches, in which:  
114 unique CDR3  
6 unique J



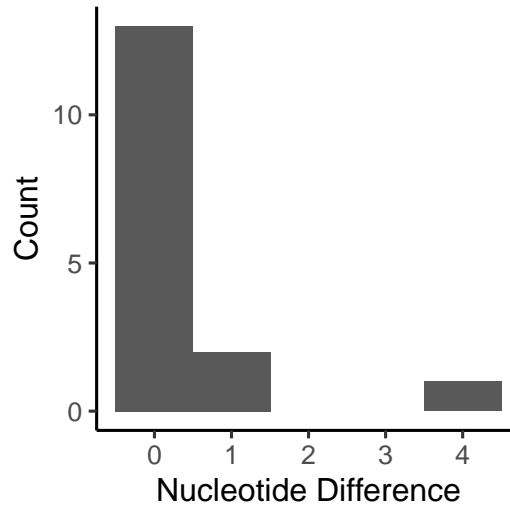
### IGHV3-9\*01

205 sequences assigned  
130 (63.4%) exact matches, in which:  
128 unique CDR3  
6 unique J



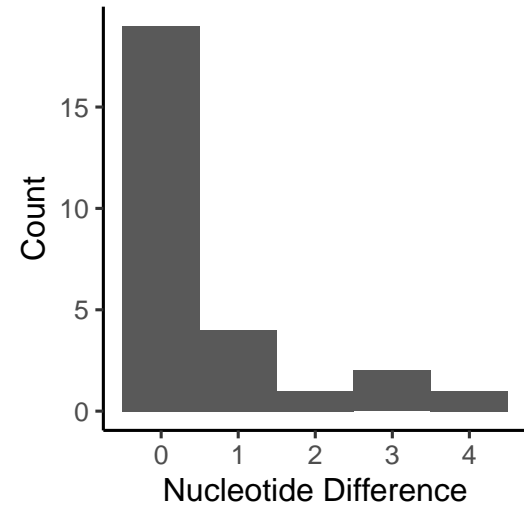
### IGHV3-13\*01

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



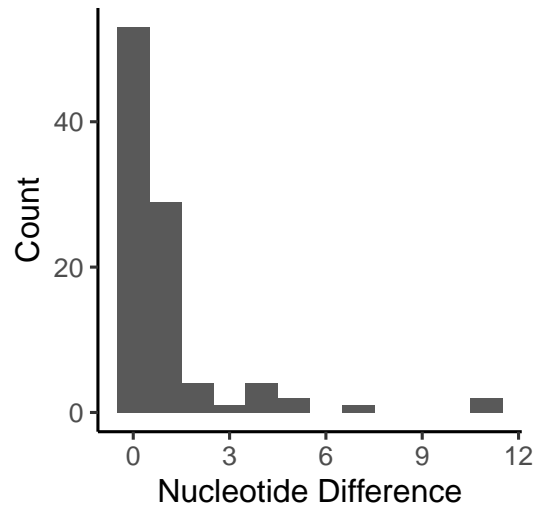
### IGHV3-20\*01

27 sequences assigned  
19 (70.4%) exact matches, in which:  
18 unique CDR3  
5 unique J



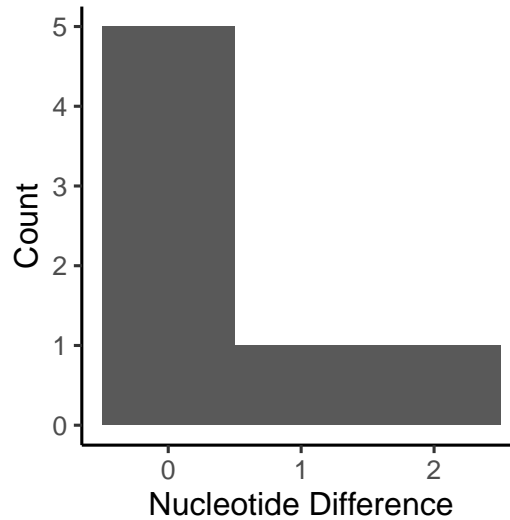
### IGHV3-11\*01

96 sequences assigned  
53 (55.2%) exact matches, in which:  
52 unique CDR3  
6 unique J



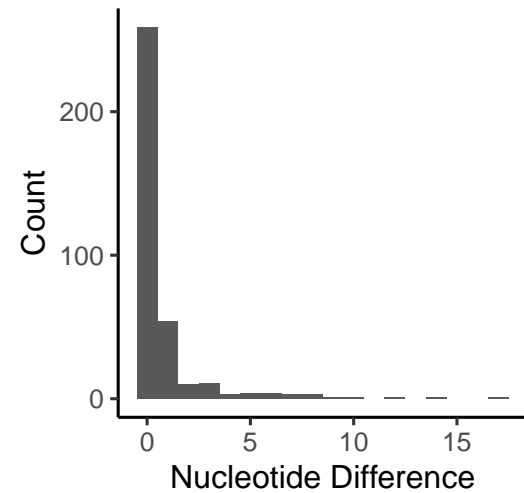
### IGHV3-13\*05

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



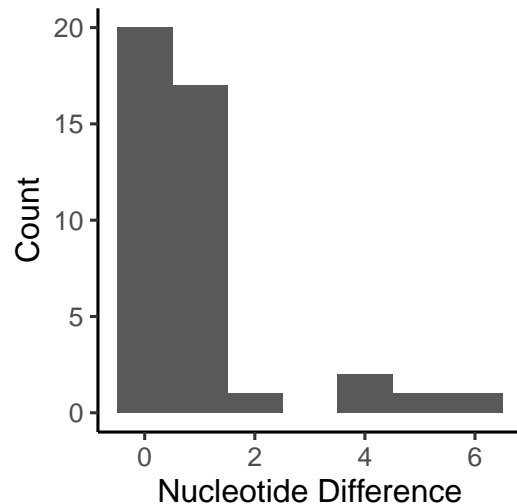
### IGHV3-21\*01

356 sequences assigned  
259 (72.8%) exact matches, in which:  
259 unique CDR3  
6 unique J



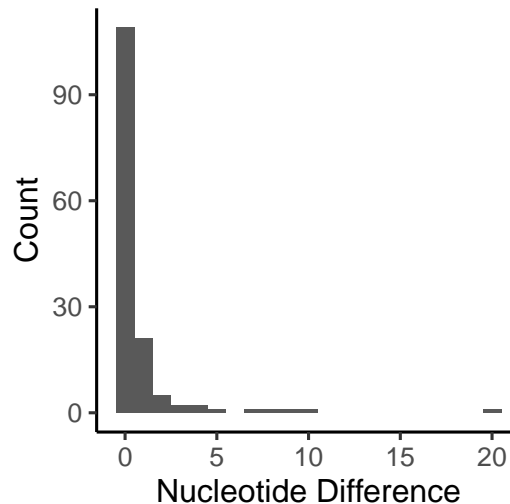
### IGHV3-11\*06

42 sequences assigned  
20 (47.6%) exact matches, in which:  
19 unique CDR3  
4 unique J



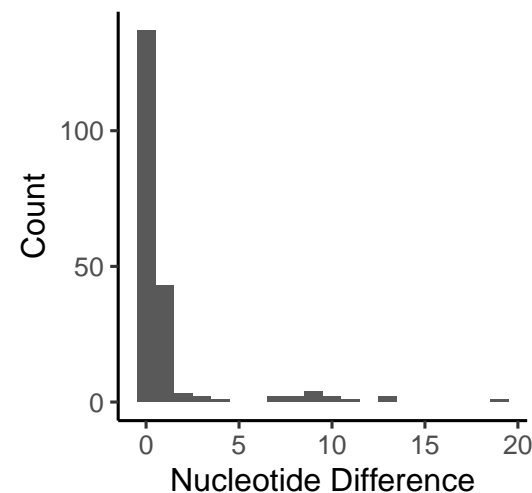
### IGHV3-15\*01

145 sequences assigned  
109 (75.2%) exact matches, in which:  
107 unique CDR3  
6 unique J



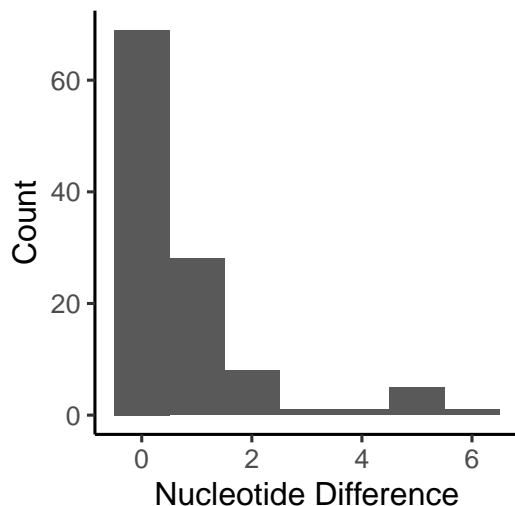
### IGHV3-30-3\*01

200 sequences assigned  
137 (68.5%) exact matches, in which:  
134 unique CDR3  
6 unique J



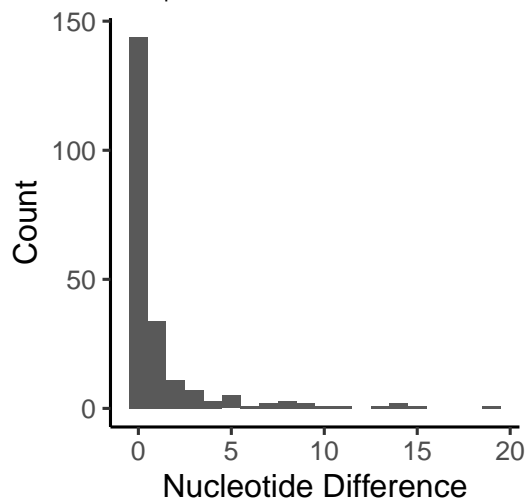
### IGHV3-33\*01

113 sequences assigned  
69 (61.1%) exact matches, in which:  
68 unique CDR3  
5 unique J



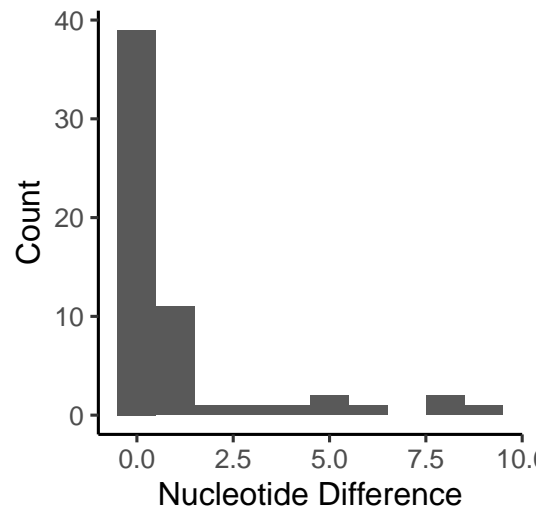
### IGHV3-48\*03

220 sequences assigned  
144 (65.5%) exact matches, in which:  
139 unique CDR3  
5 unique J



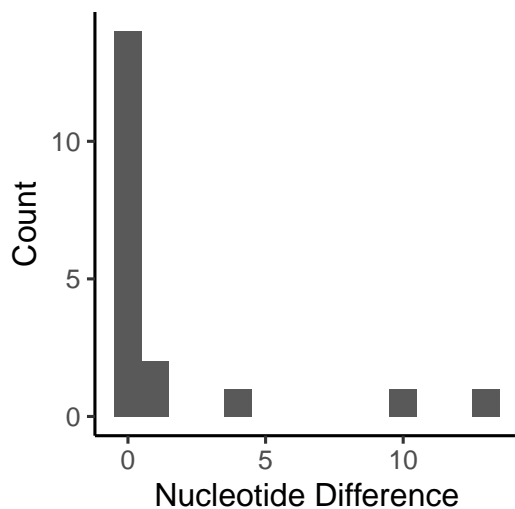
### IGHV3-53\*01

60 sequences assigned  
39 (65%) exact matches, in which:  
39 unique CDR3  
6 unique J



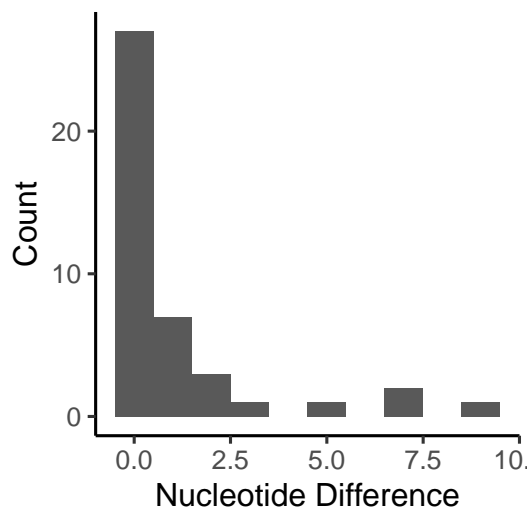
### IGHV3-43\*01

19 sequences assigned  
14 (73.7%) exact matches, in which:  
14 unique CDR3  
3 unique J



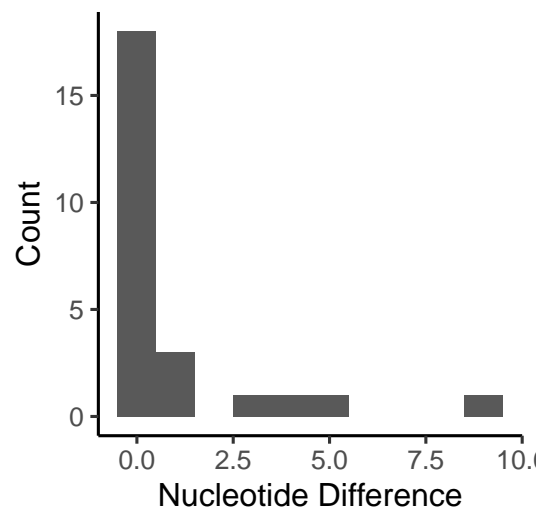
### IGHV3-49\*04

42 sequences assigned  
27 (64.3%) exact matches, in which:  
27 unique CDR3  
4 unique J



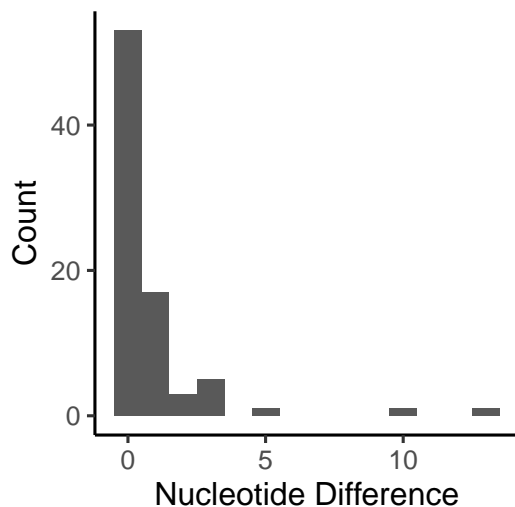
### IGHV3-53\*02

25 sequences assigned  
18 (72%) exact matches, in which:  
18 unique CDR3  
3 unique J



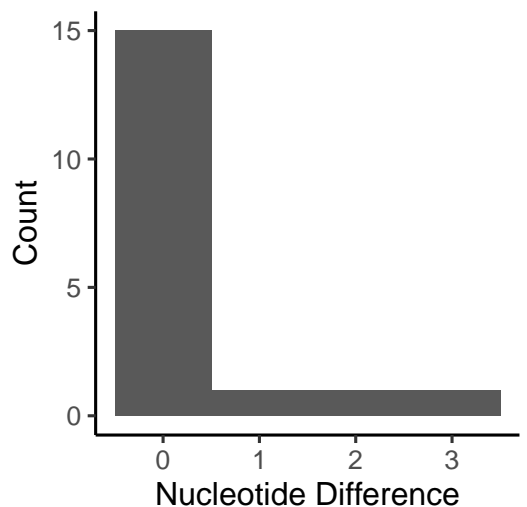
### IGHV3-48\*02

81 sequences assigned  
53 (65.4%) exact matches, in which:  
53 unique CDR3  
5 unique J



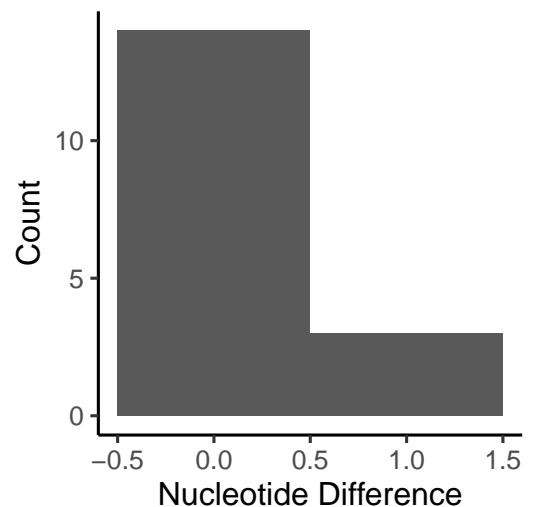
### IGHV3-49\*05

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



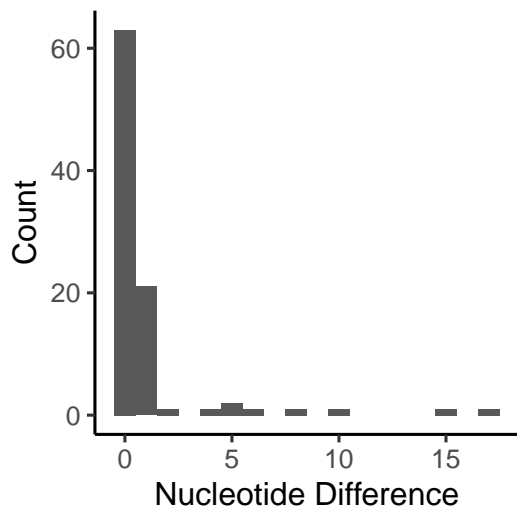
### IGHV3-64\*01

17 sequences assigned  
14 (82.4%) exact matches, in which:  
14 unique CDR3  
3 unique J



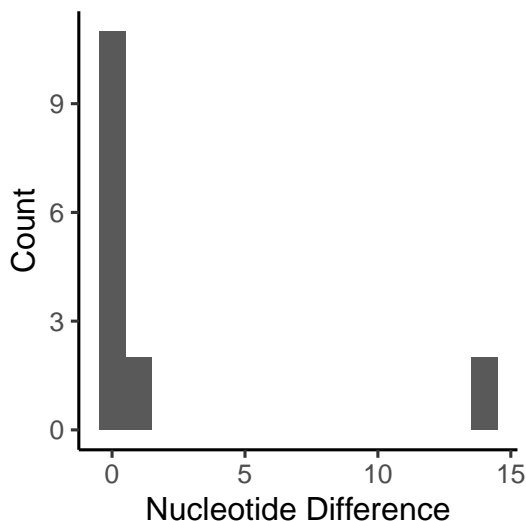
### IGHV3-66\*01

93 sequences assigned  
63 (67.7%) exact matches, in which:  
63 unique CDR3  
5 unique J



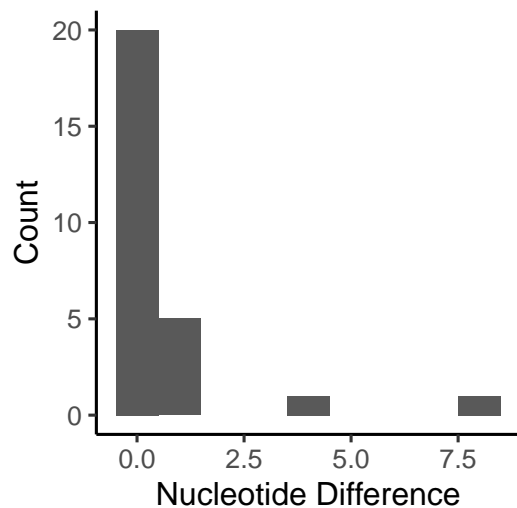
### IGHV3-73\*01

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



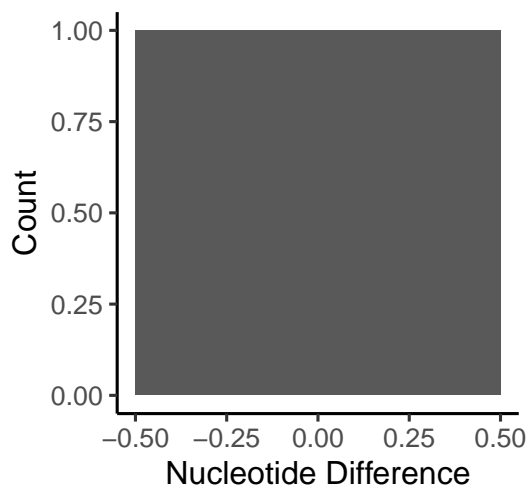
### IGHV3-43D\*03

27 sequences assigned  
20 (74.1%) exact matches, in which:  
20 unique CDR3  
3 unique J



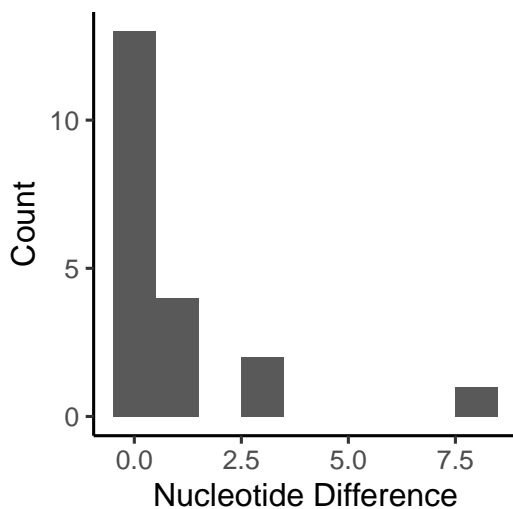
### IGHV3-69-1\*02

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



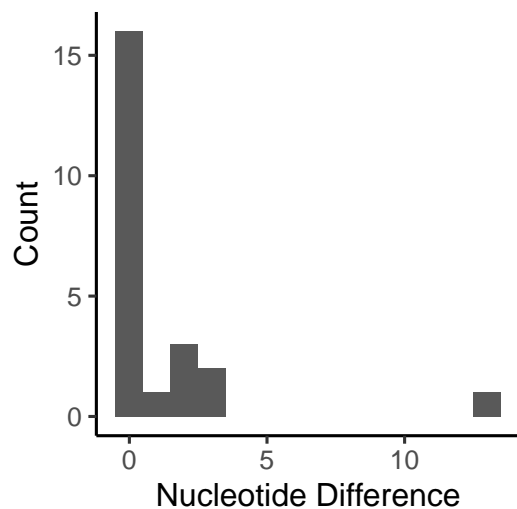
### IGHV3-73\*02

20 sequences assigned  
13 (65%) exact matches, in which:  
13 unique CDR3  
4 unique J



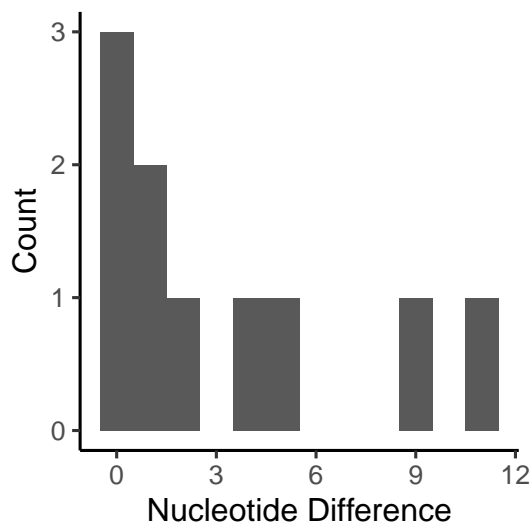
### IGHV3-43D\*04

23 sequences assigned  
16 (69.6%) exact matches, in which:  
16 unique CDR3  
2 unique J



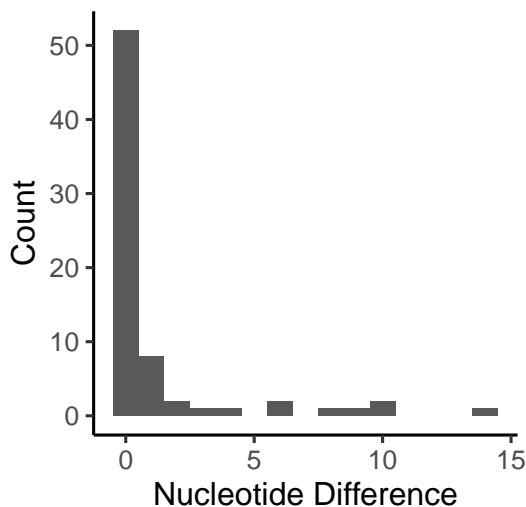
### IGHV3-72\*01

10 sequences assigned  
3 (30%) exact matches, in which:  
3 unique CDR3  
2 unique J



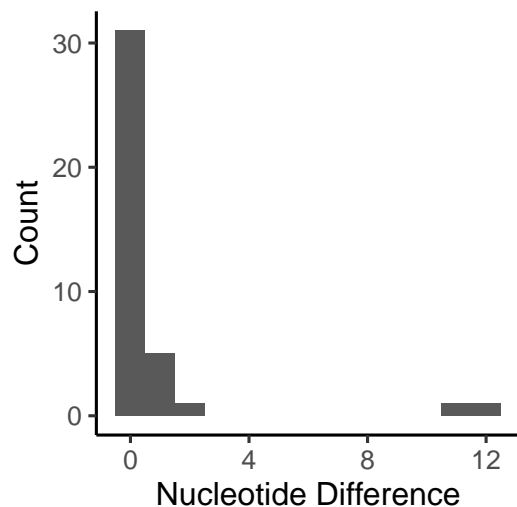
### IGHV3-74\*01

71 sequences assigned  
52 (73.2%) exact matches, in which:  
51 unique CDR3  
5 unique J



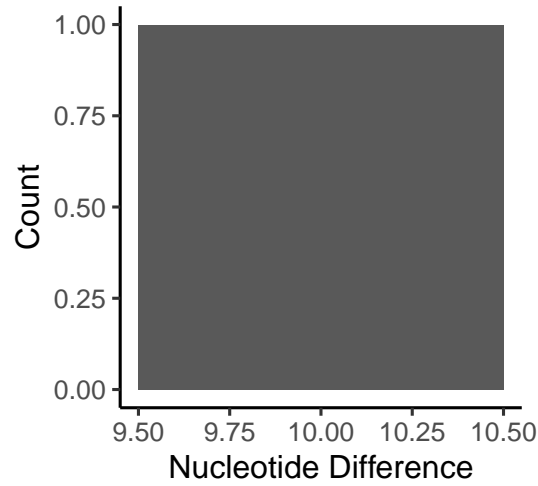
### IGHV3-64D\*06

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



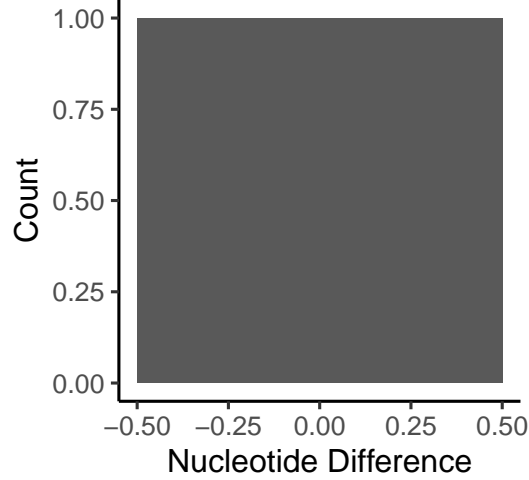
### IGHV3–NL1\*01

1 sequences assigned  
No exact matches.



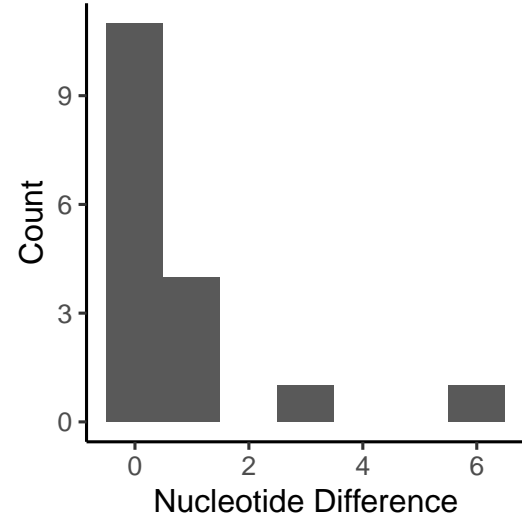
### IGHV4–28\*03

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



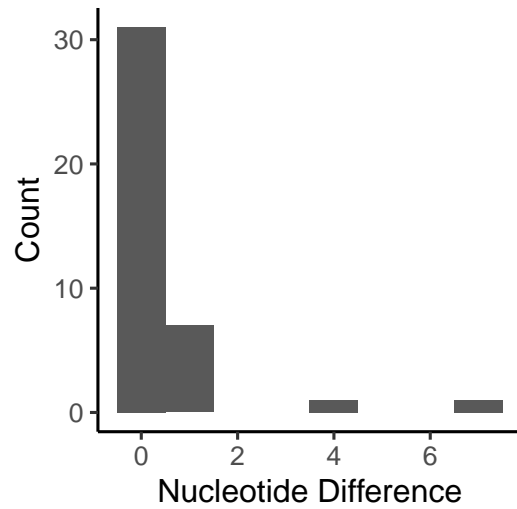
### IGHV4–30–2\*01

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



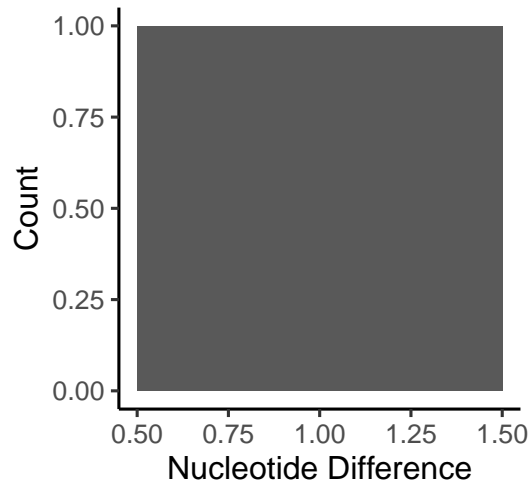
### IGHV4–4\*02

40 sequences assigned  
31 (77.5%) exact matches, in which:  
31 unique CDR3  
6 unique J



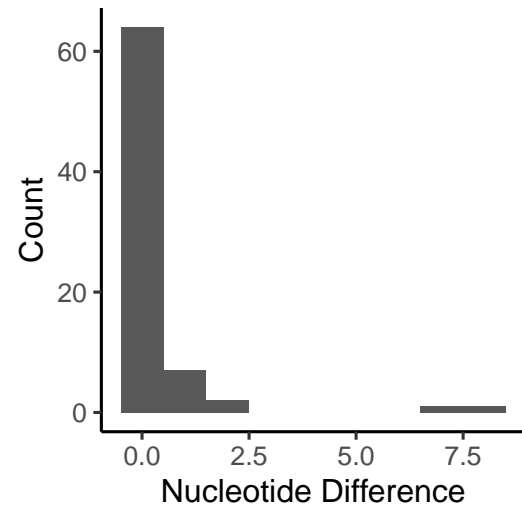
### IGHV4–28\*04

1 sequences assigned  
No exact matches.



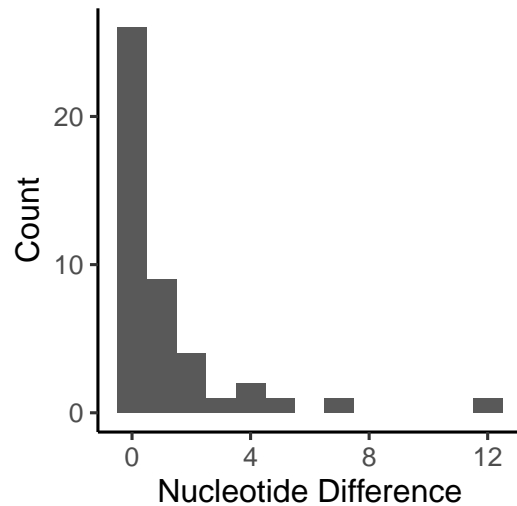
### IGHV4–31\*03

75 sequences assigned  
64 (85.3%) exact matches, in which:  
63 unique CDR3  
5 unique J



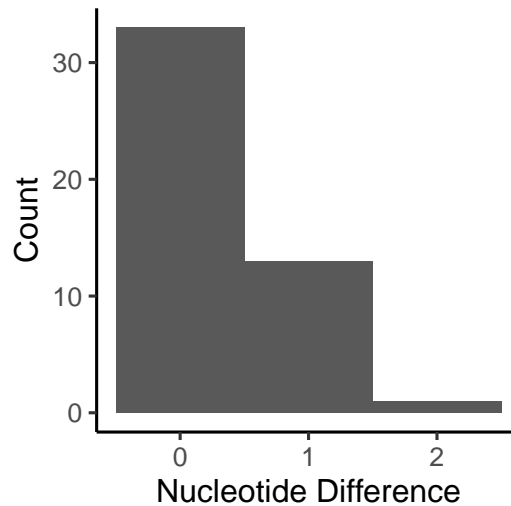
### IGHV4–4\*07

45 sequences assigned  
26 (57.8%) exact matches, in which:  
25 unique CDR3  
5 unique J



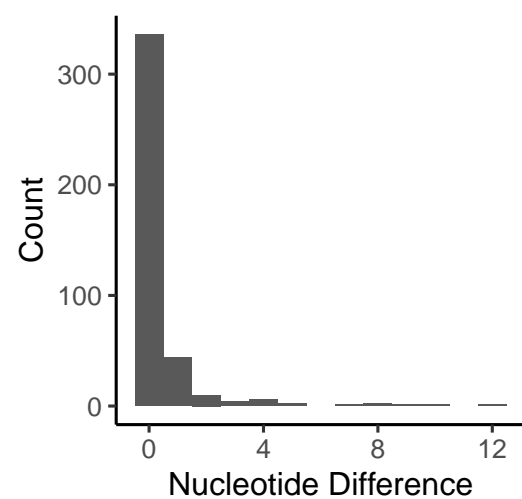
### IGHV4–30–4\*01

47 sequences assigned  
33 (70.2%) exact matches, in which:  
33 unique CDR3  
5 unique J



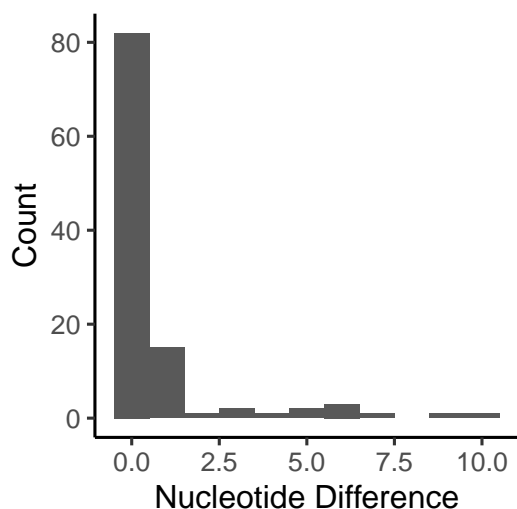
### IGHV4–34\*01

409 sequences assigned  
336 (82.2%) exact matches, in which:  
332 unique CDR3  
6 unique J



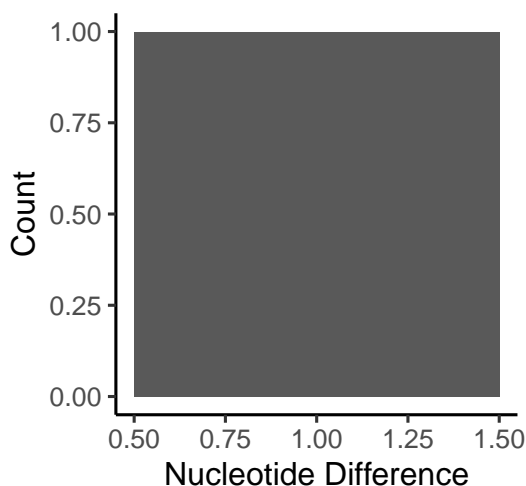
### IGHV4-38-2\*02

110 sequences assigned  
82 (74.5%) exact matches, in which:  
82 unique CDR3  
6 unique J



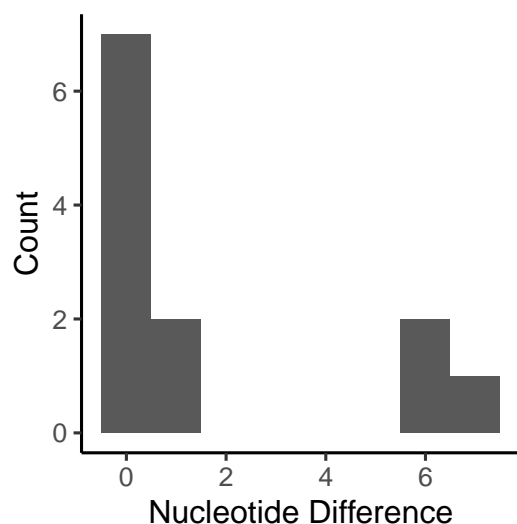
### IGHV4-55\*09

1 sequences assigned  
No exact matches.



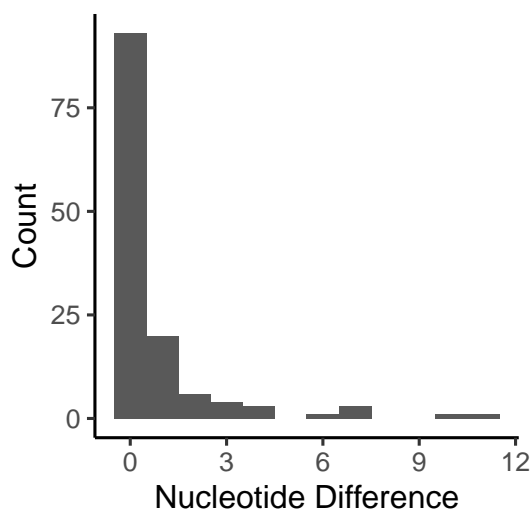
### IGHV4-61\*01

12 sequences assigned  
7 (58.3%) exact matches, in which:  
7 unique CDR3  
2 unique J



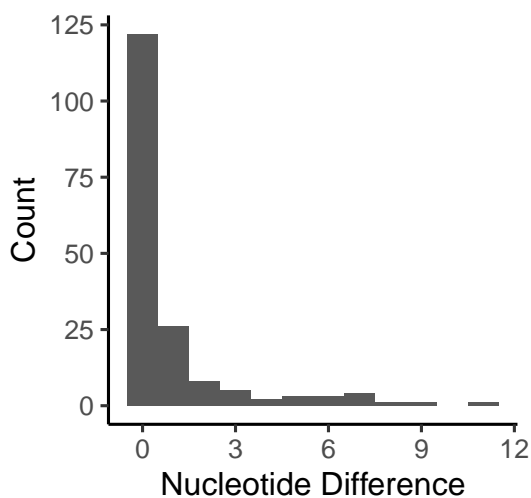
### IGHV4-38-2\*02\_A70G

132 sequences assigned  
93 (70.5%) exact matches, in which:  
92 unique CDR3  
6 unique J



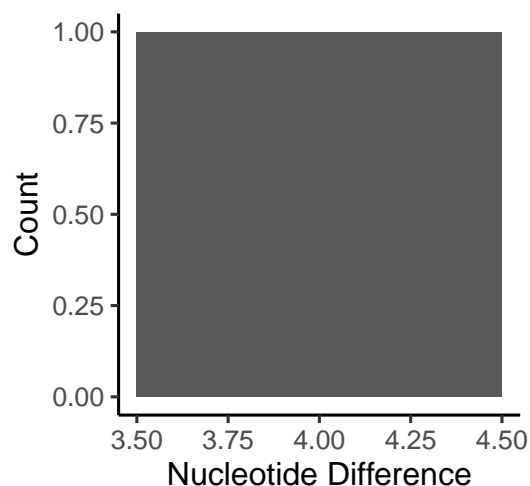
### IGHV4-59\*01

176 sequences assigned  
122 (69.3%) exact matches, in which:  
122 unique CDR3  
6 unique J



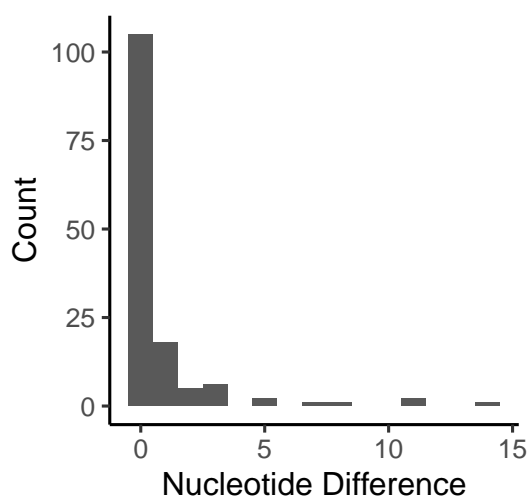
### IGHV4/OR15-8\*01

1 sequences assigned  
No exact matches.



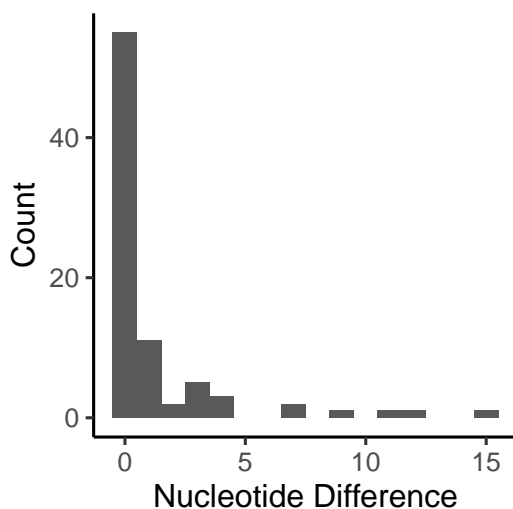
### IGHV4-39\*01

142 sequences assigned  
105 (73.9%) exact matches, in which:  
104 unique CDR3  
6 unique J



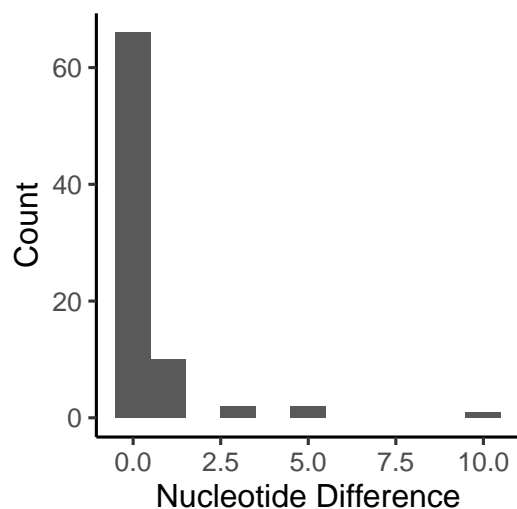
### IGHV4-59\*08

82 sequences assigned  
55 (67.1%) exact matches, in which:  
54 unique CDR3  
6 unique J



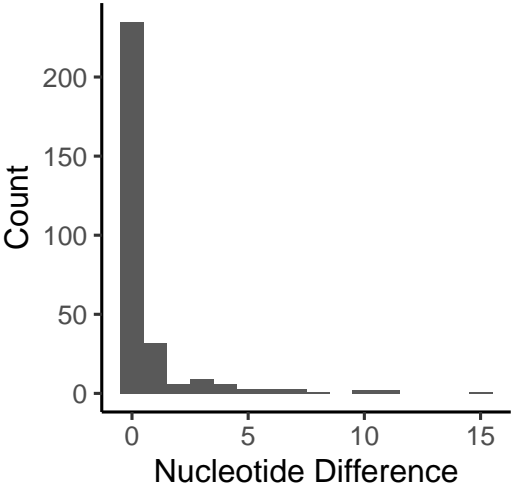
### IGHV5-10-1\*03

81 sequences assigned  
66 (81.5%) exact matches, in which:  
66 unique CDR3  
5 unique J



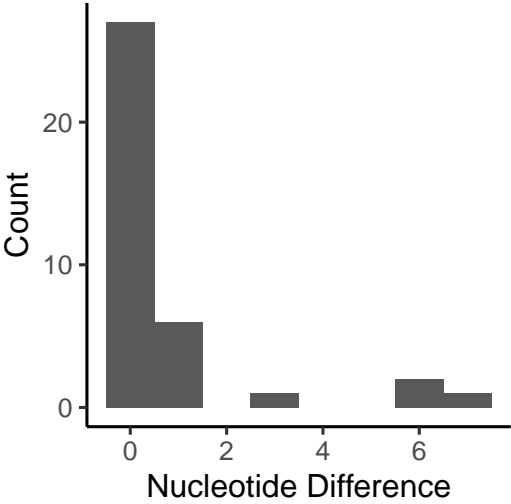
# IGHV5-51\*01

303 sequences assigned  
235 (77.6%) exact matches, in which:  
233 unique CDR3  
6 unique J



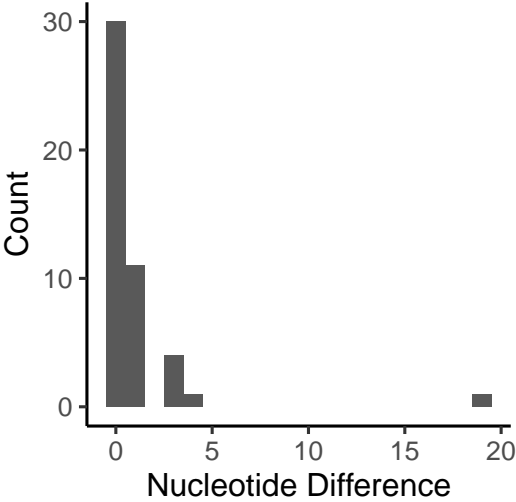
# IGHV6-1\*01

37 sequences assigned  
27 (73%) exact matches, in which:  
27 unique CDR3  
4 unique J



# IGHV7-4-1\*02

47 sequences assigned  
30 (63.8%) exact matches, in which:  
30 unique CDR3  
6 unique J







Warning – no inferred sequences found.