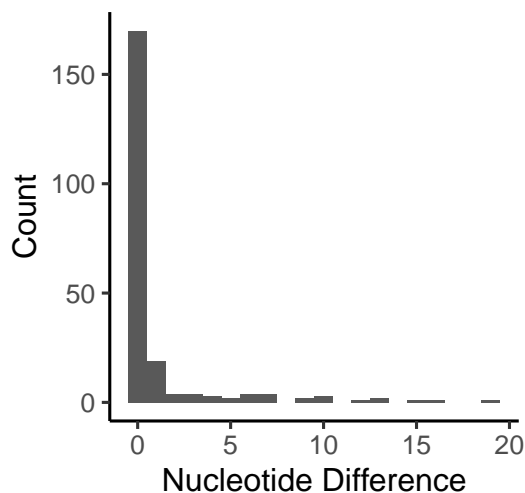


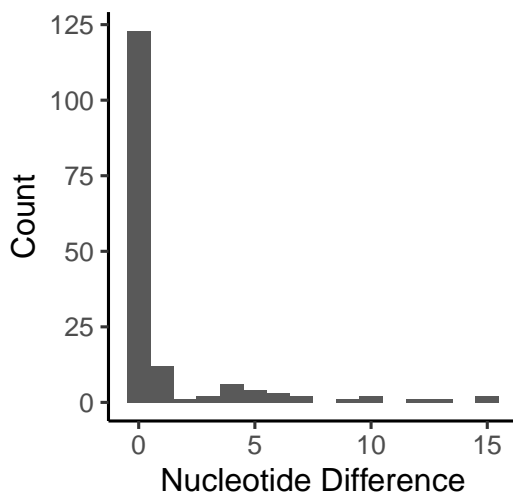
### IGHV1-2\*02

222 sequences assigned  
170 (76.6%) exact matches, in which:  
170 unique CDR3  
6 unique J



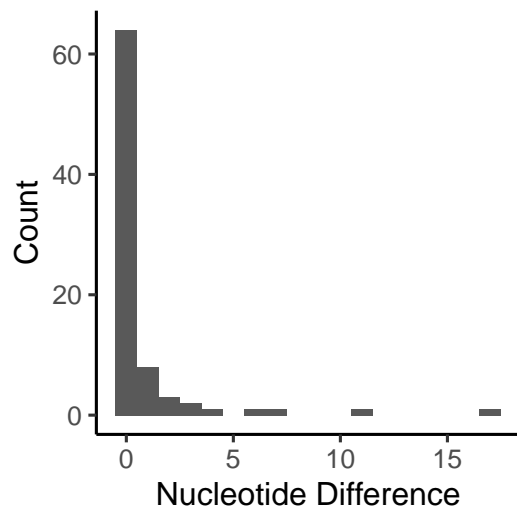
### IGHV1-18\*01

160 sequences assigned  
123 (76.9%) exact matches, in which:  
123 unique CDR3  
5 unique J



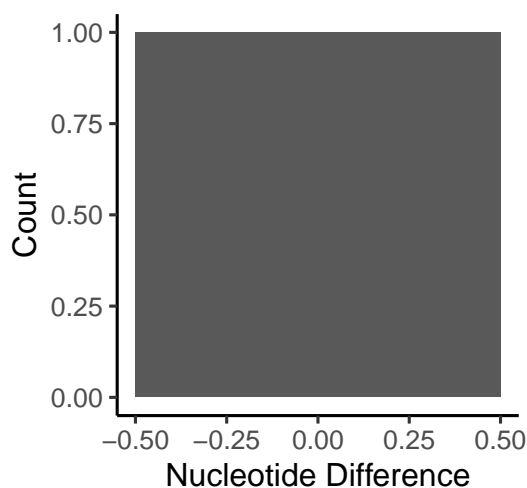
### IGHV1-46\*01

82 sequences assigned  
64 (78%) exact matches, in which:  
64 unique CDR3  
6 unique J



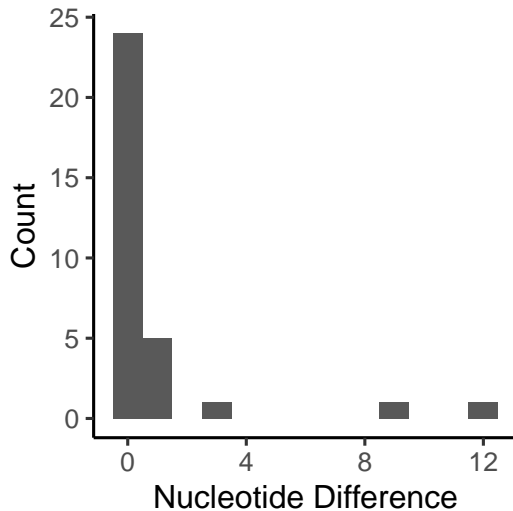
### IGHV1-3\*02

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



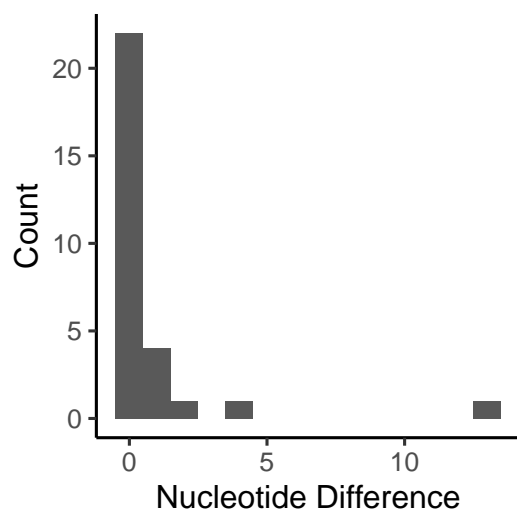
### IGHV1-24\*01

32 sequences assigned  
24 (75%) exact matches, in which:  
24 unique CDR3  
5 unique J



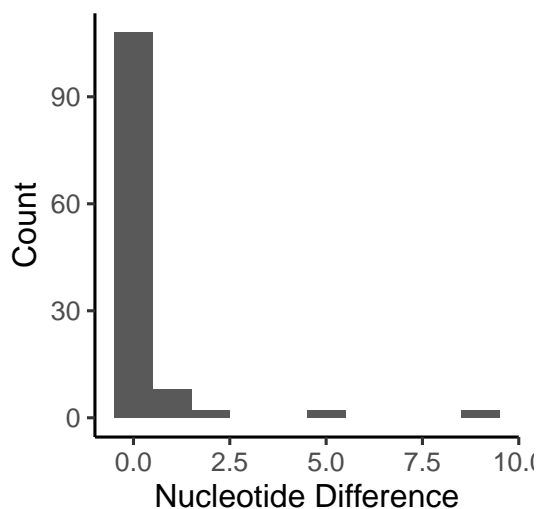
### IGHV1-46\*03

29 sequences assigned  
22 (75.9%) exact matches, in which:  
22 unique CDR3  
5 unique J



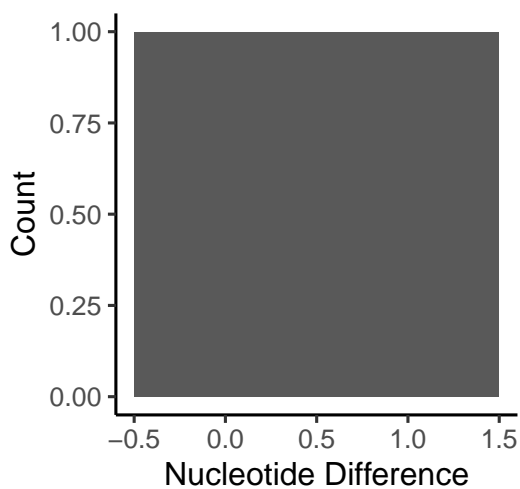
### IGHV1-8\*01

122 sequences assigned  
108 (88.5%) exact matches, in which:  
107 unique CDR3  
6 unique J



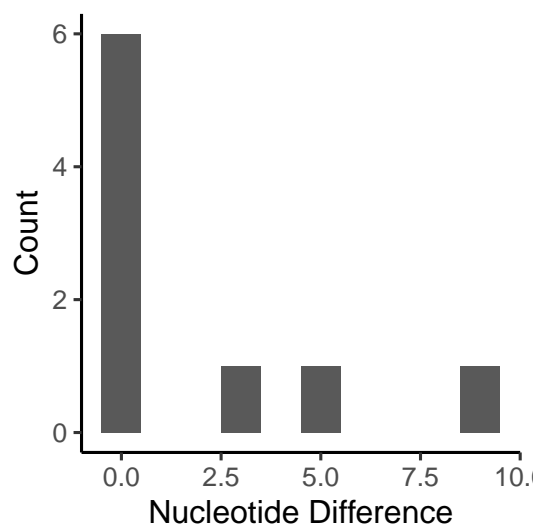
### IGHV1-45\*02

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



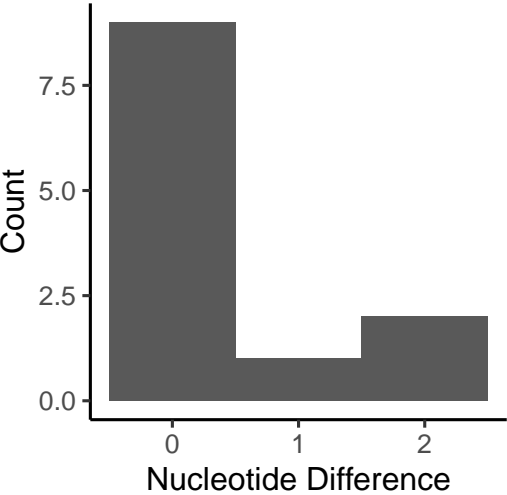
### IGHV1-58\*01

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



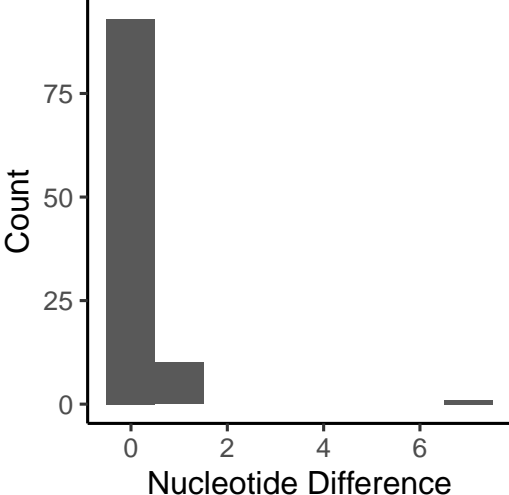
IGHV1-58\*02

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



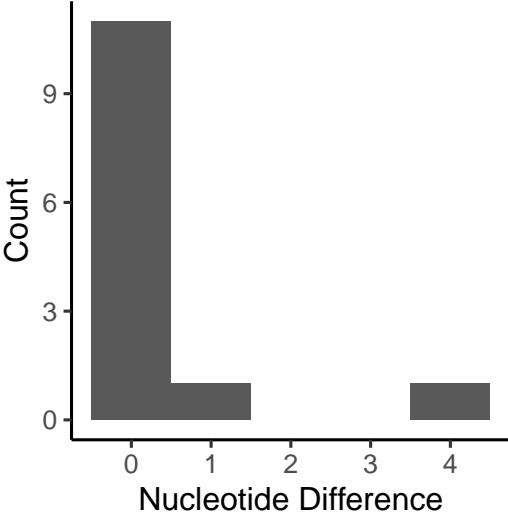
IGHV1-69\*10

104 sequences assigned  
93 (89.4%) exact matches, in which:  
93 unique CDR3  
5 unique J



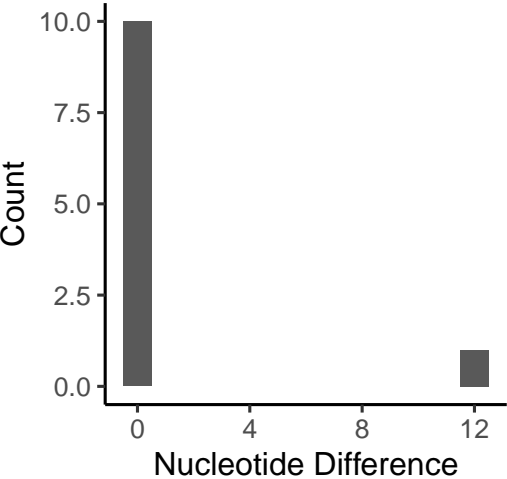
IGHV2-70\*01

13 sequences assigned  
11 (84.6%) exact matches, in which:  
11 unique CDR3  
4 unique J



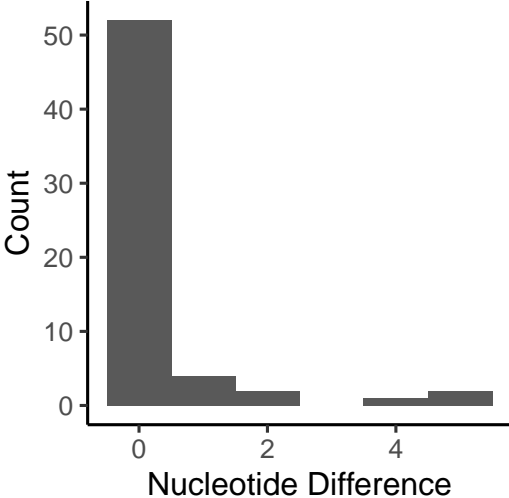
IGHV1-69-2\*01

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



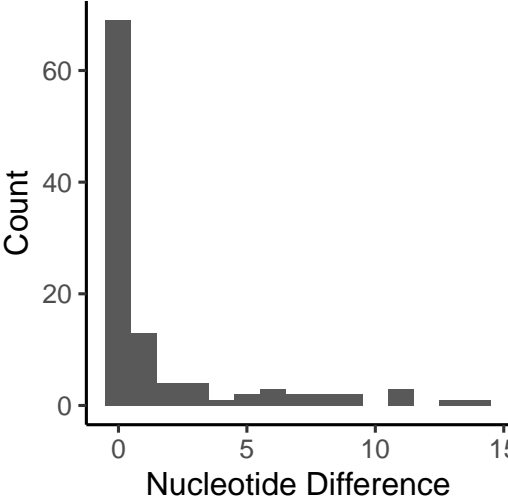
IGHV2-5\*01

61 sequences assigned  
52 (85.2%) exact matches, in which:  
52 unique CDR3  
5 unique J



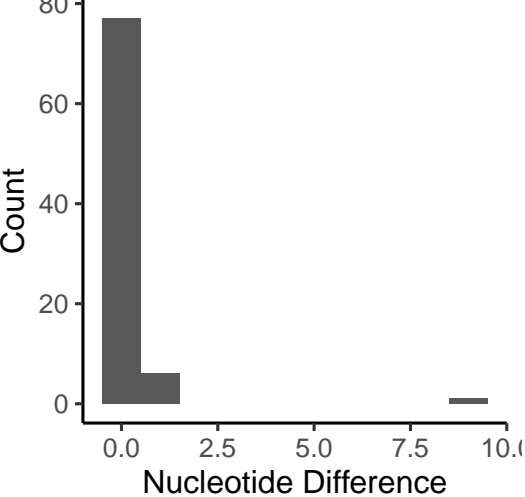
IGHV3-7\*01

107 sequences assigned  
69 (64.5%) exact matches, in which:  
69 unique CDR3  
5 unique J



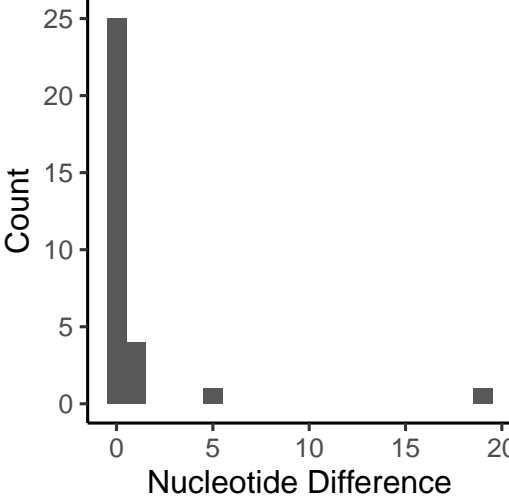
IGHV1-69\*06

84 sequences assigned  
77 (91.7%) exact matches, in which:  
77 unique CDR3  
4 unique J



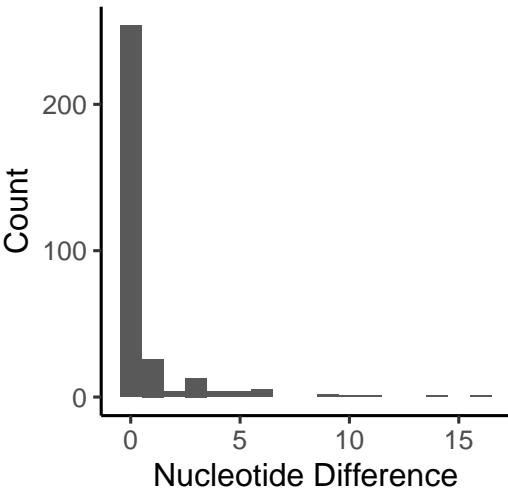
IGHV2-26\*01

31 sequences assigned  
25 (80.6%) exact matches, in which:  
25 unique CDR3  
5 unique J



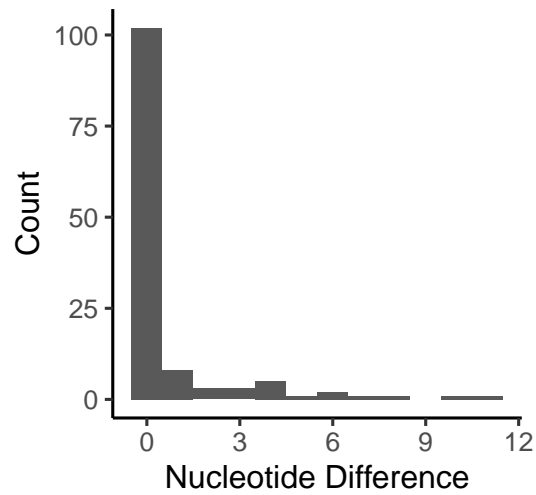
IGHV3-9\*01

316 sequences assigned  
254 (80.4%) exact matches, in which:  
251 unique CDR3  
6 unique J



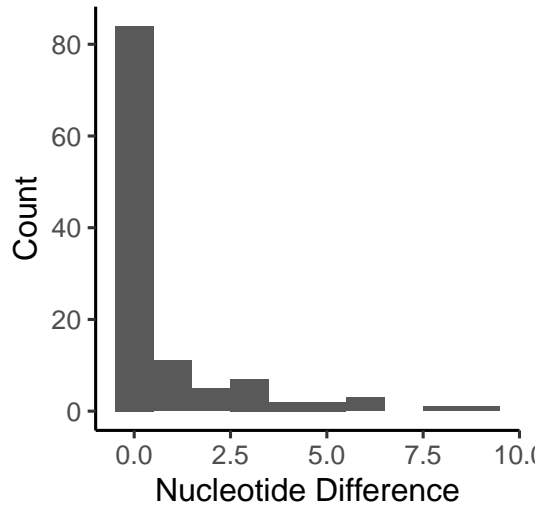
### IGHV3-11\*01

128 sequences assigned  
102 (79.7%) exact matches, in which:  
102 unique CDR3  
5 unique J



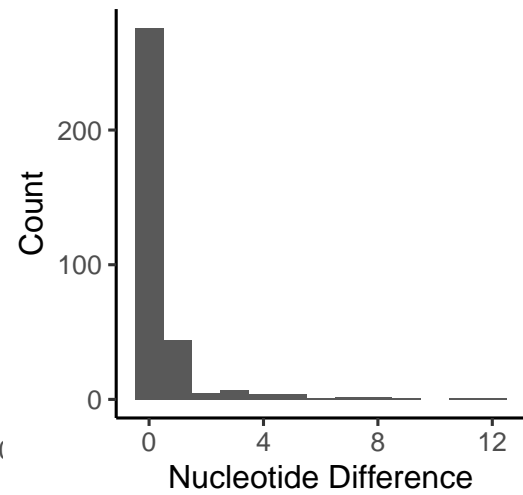
### IGHV3-15\*07

117 sequences assigned  
84 (71.8%) exact matches, in which:  
84 unique CDR3  
5 unique J



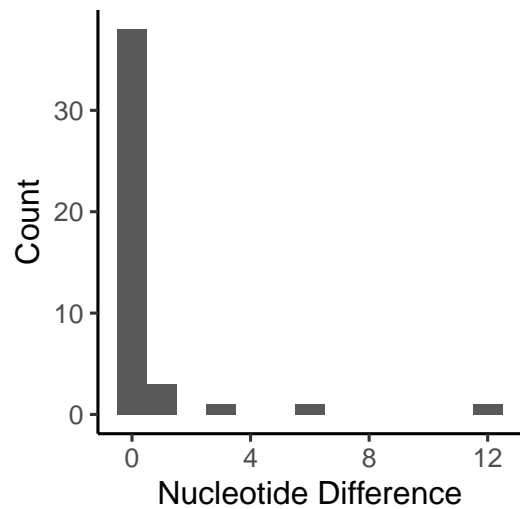
### IGHV3-21\*01

348 sequences assigned  
276 (79.3%) exact matches, in which:  
272 unique CDR3  
6 unique J



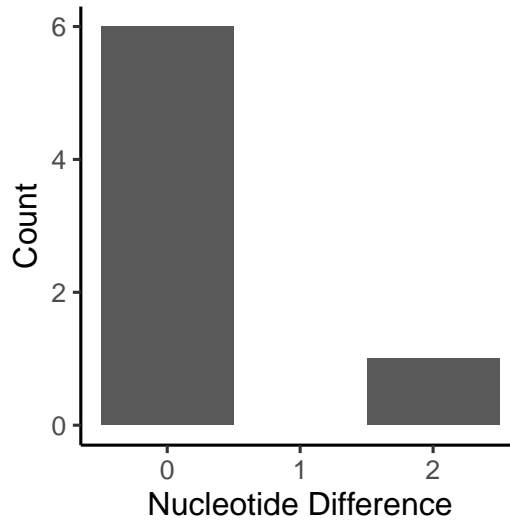
### IGHV3-13\*01

44 sequences assigned  
38 (86.4%) exact matches, in which:  
38 unique CDR3  
5 unique J



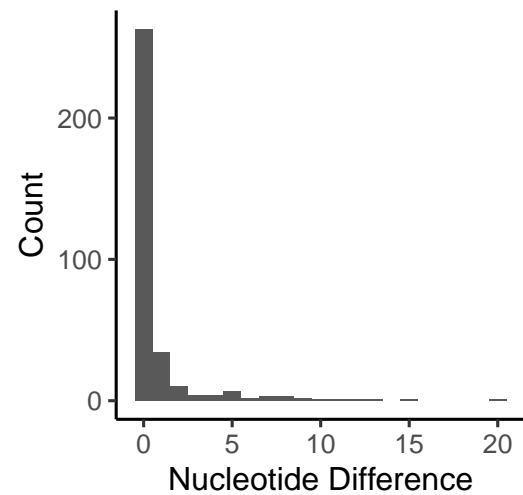
### IGHV3-20\*01

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



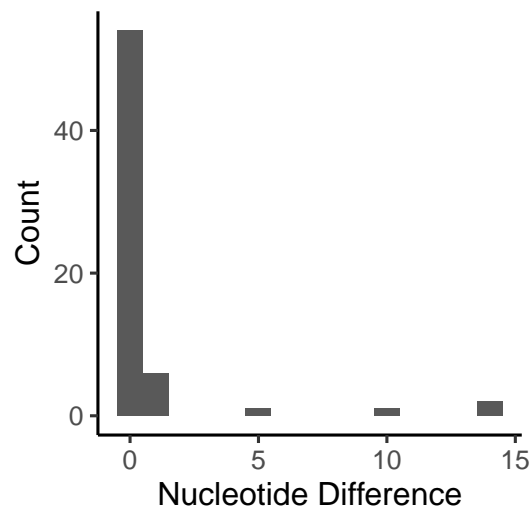
### IGHV3-33\*01

338 sequences assigned  
263 (77.8%) exact matches, in which:  
263 unique CDR3  
6 unique J



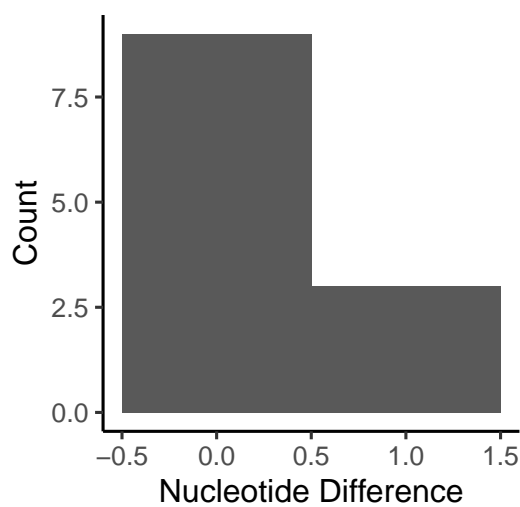
### IGHV3-15\*01

65 sequences assigned  
54 (83.1%) exact matches, in which:  
54 unique CDR3  
4 unique J



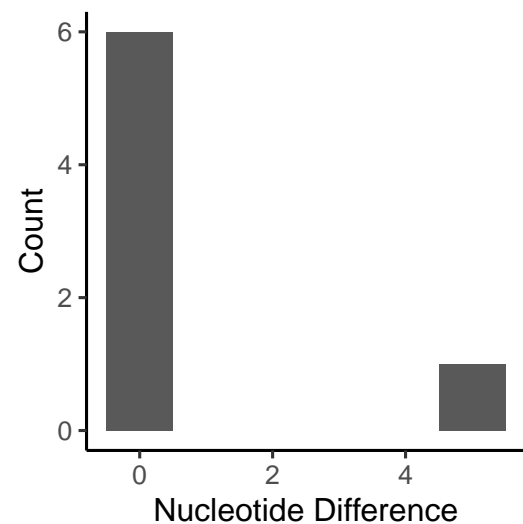
### IGHV3-20\*04

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



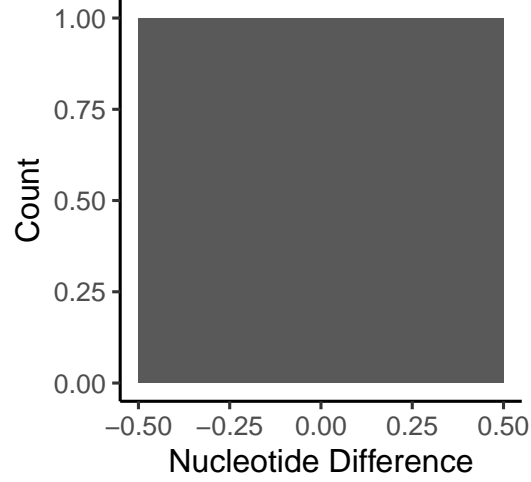
### IGHV3-43\*01

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



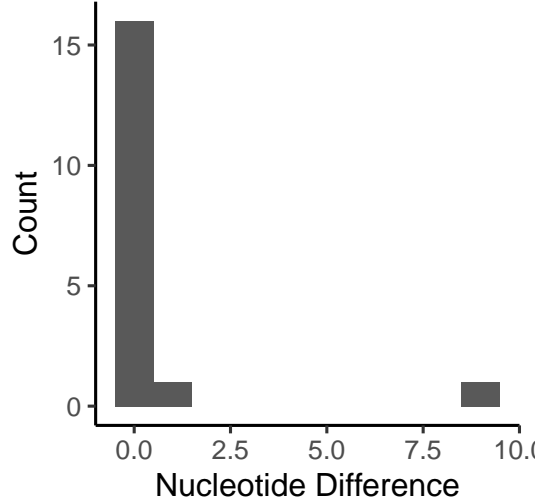
### IGHV3-47\*02

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



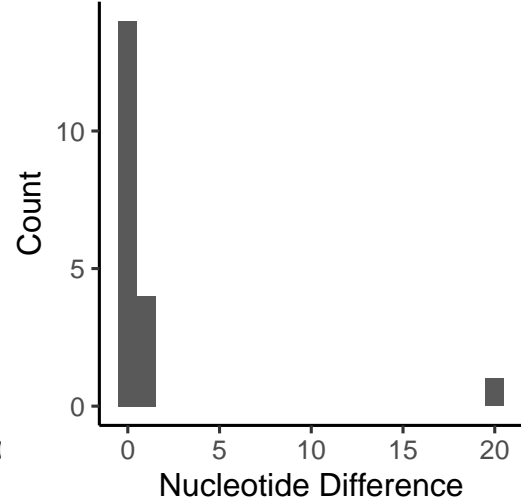
### IGHV3-49\*03

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



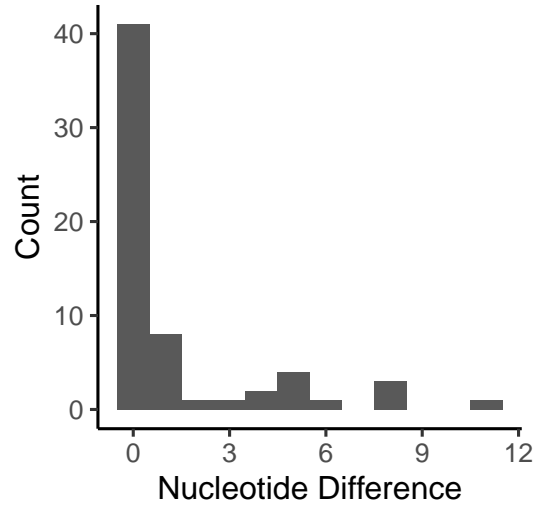
### IGHV3-53\*02

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



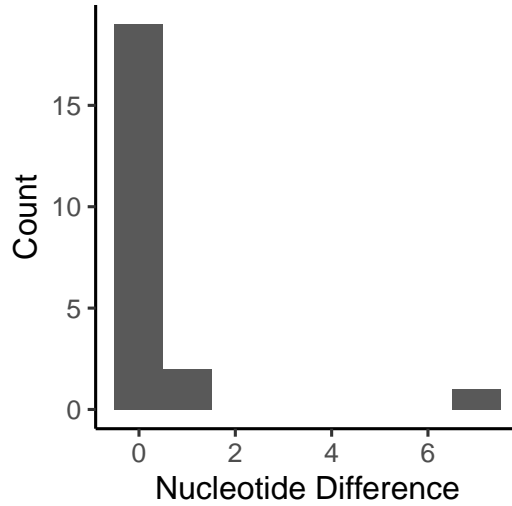
### IGHV3-48\*01

62 sequences assigned  
41 (66.1%) exact matches, in which:  
41 unique CDR3  
6 unique J



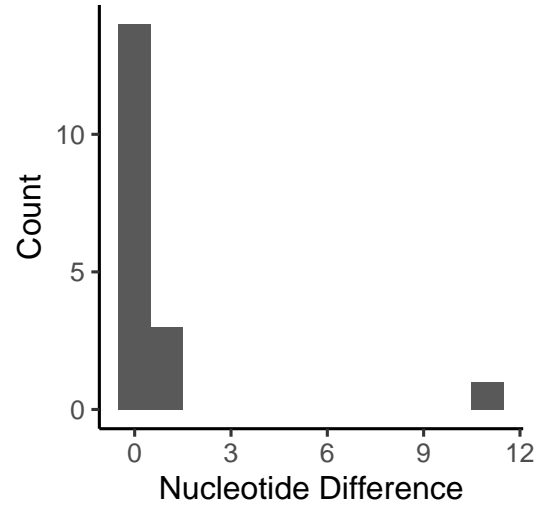
### IGHV3-49\*05

22 sequences assigned  
19 (86.4%) exact matches, in which:  
19 unique CDR3  
4 unique J



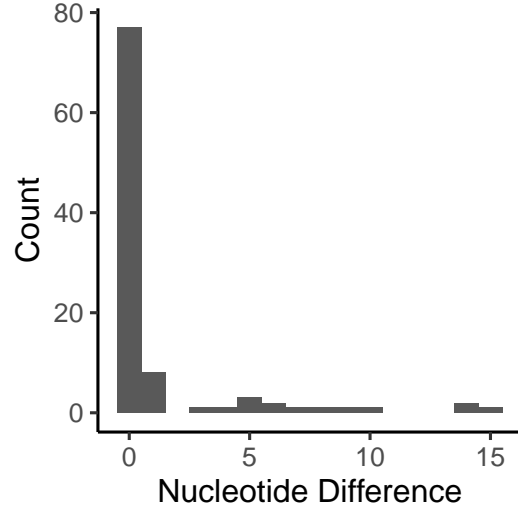
### IGHV3-64\*01

18 sequences assigned  
14 (77.8%) exact matches, in which:  
14 unique CDR3  
6 unique J



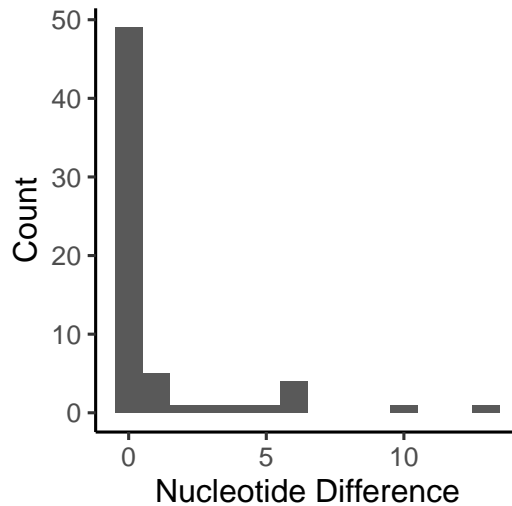
### IGHV3-48\*02

99 sequences assigned  
77 (77.8%) exact matches, in which:  
76 unique CDR3  
5 unique J



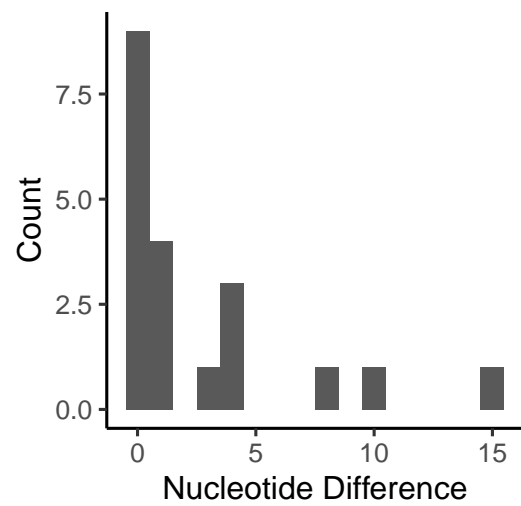
### IGHV3-53\*01

65 sequences assigned  
49 (75.4%) exact matches, in which:  
49 unique CDR3  
5 unique J



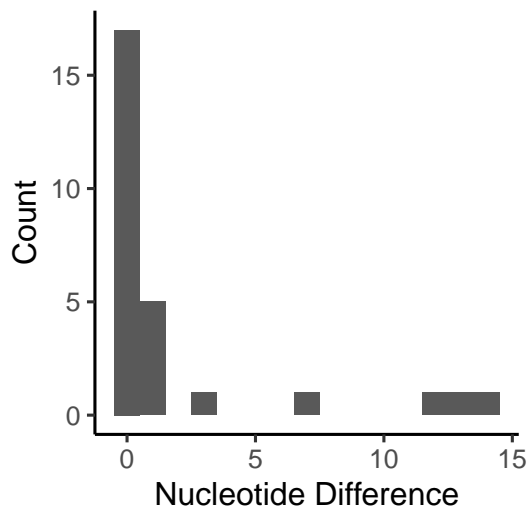
### IGHV3-72\*01

20 sequences assigned  
9 (45%) exact matches, in which:  
9 unique CDR3  
2 unique J



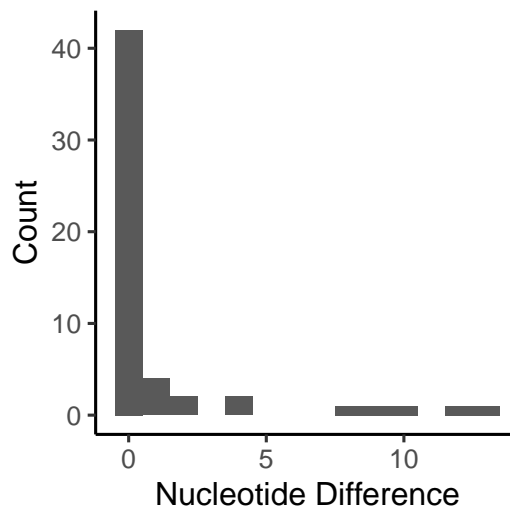
### IGHV3-73\*01

27 sequences assigned  
17 (63%) exact matches, in which:  
17 unique CDR3  
5 unique J



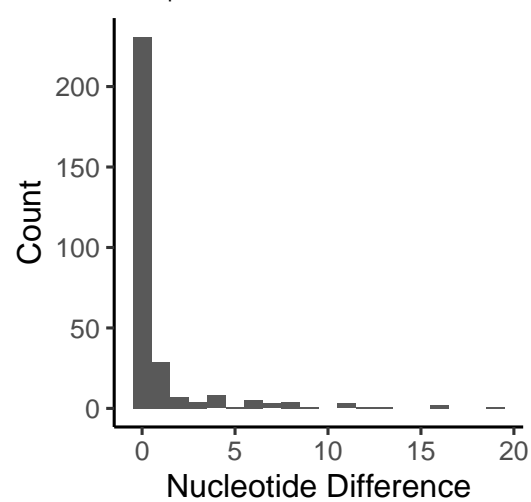
### IGHV4-4\*07

55 sequences assigned  
42 (76.4%) exact matches, in which:  
42 unique CDR3  
5 unique J



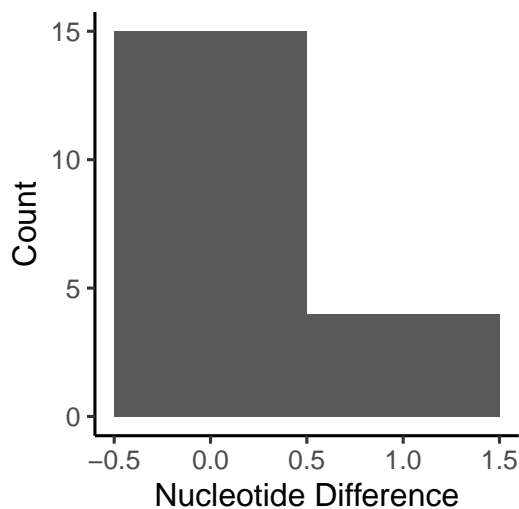
### IGHV4-39\*01

301 sequences assigned  
231 (76.7%) exact matches, in which:  
230 unique CDR3  
6 unique J



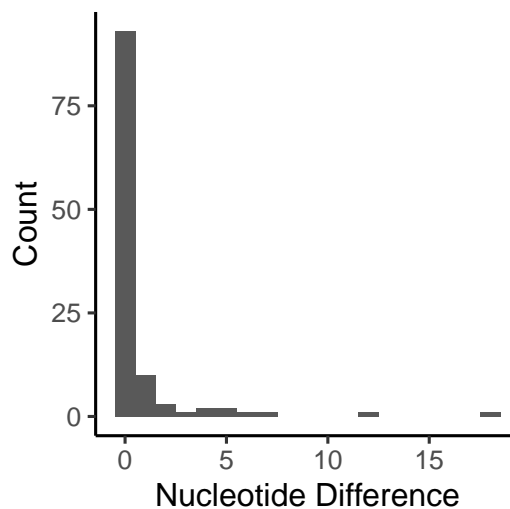
### IGHV3-73\*02

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



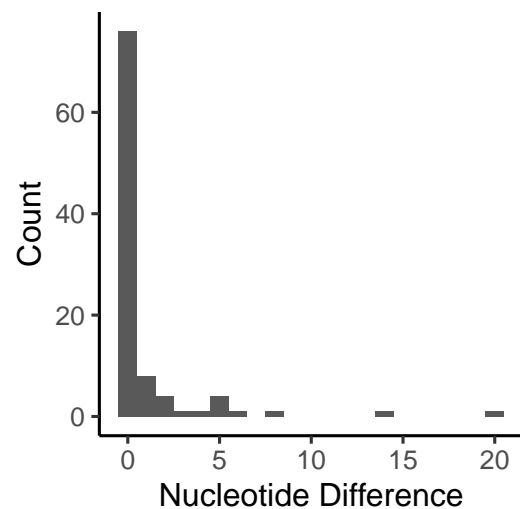
### IGHV4-31\*03

115 sequences assigned  
93 (80.9%) exact matches, in which:  
92 unique CDR3  
6 unique J



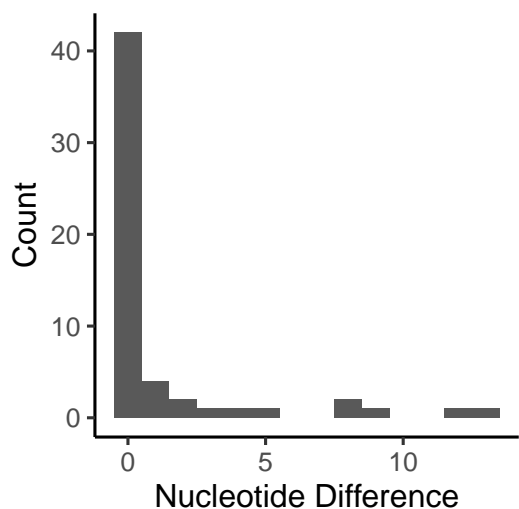
### IGHV4-59\*01

98 sequences assigned  
76 (77.6%) exact matches, in which:  
76 unique CDR3  
5 unique J



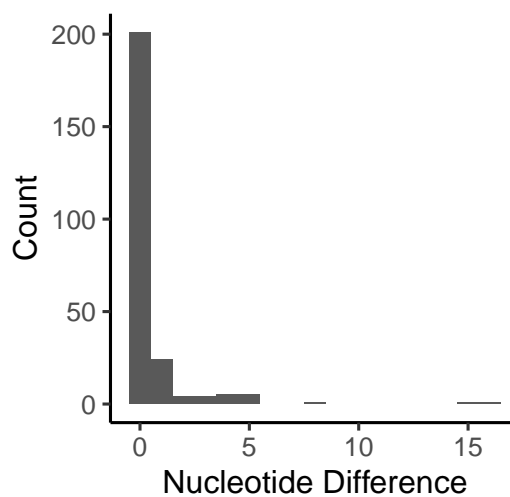
### IGHV3-74\*01

57 sequences assigned  
42 (73.7%) exact matches, in which:  
42 unique CDR3  
5 unique J



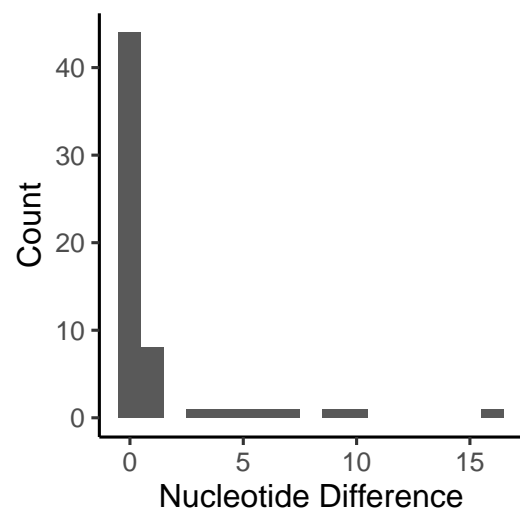
### IGHV4-34\*01

247 sequences assigned  
201 (81.4%) exact matches, in which:  
199 unique CDR3  
6 unique J



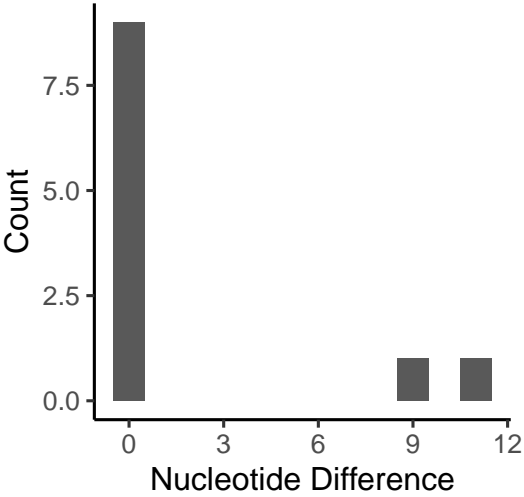
### IGHV4-59\*08

60 sequences assigned  
44 (73.3%) exact matches, in which:  
44 unique CDR3  
6 unique J



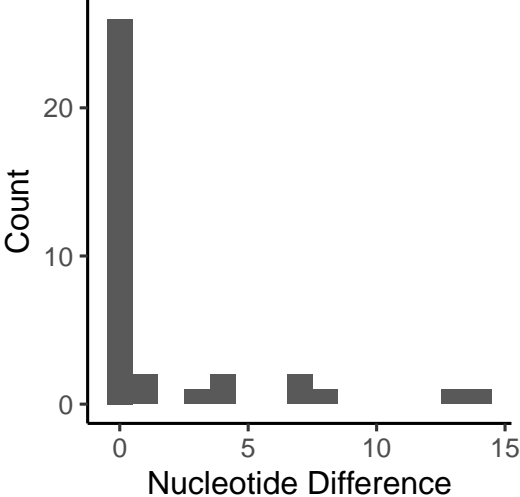
IGHV4-61\*01

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



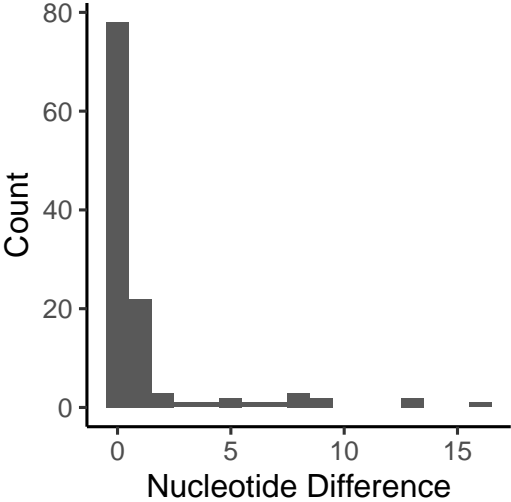
IGHV6-1\*01

36 sequences assigned  
26 (72.2%) exact matches, in which:  
26 unique CDR3  
4 unique J



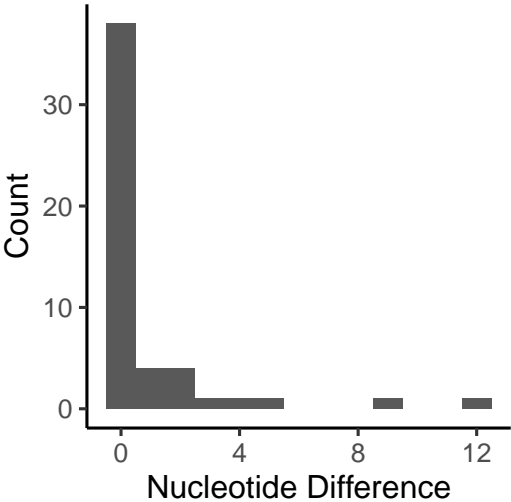
IGHV5-51\*01

117 sequences assigned  
78 (66.7%) exact matches, in which:  
76 unique CDR3  
5 unique J



IGHV5-51\*03

51 sequences assigned  
38 (74.5%) exact matches, in which:  
38 unique CDR3  
5 unique J





Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.