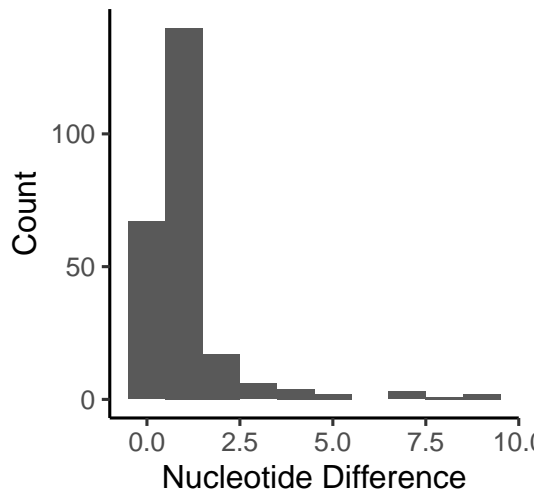


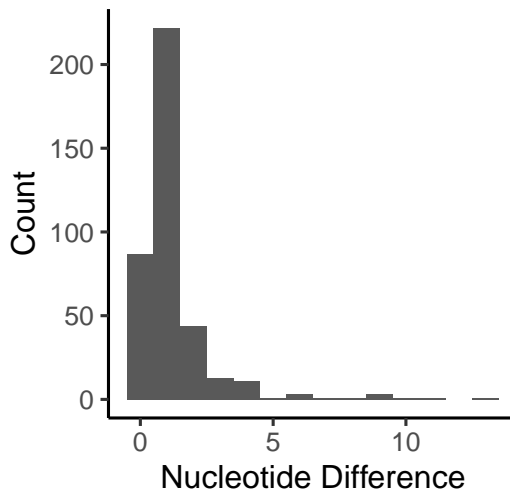
### IGHV1-2\*02

242 sequences assigned  
67 (27.7%) exact matches, in which:  
50 unique CDR3  
3 unique J



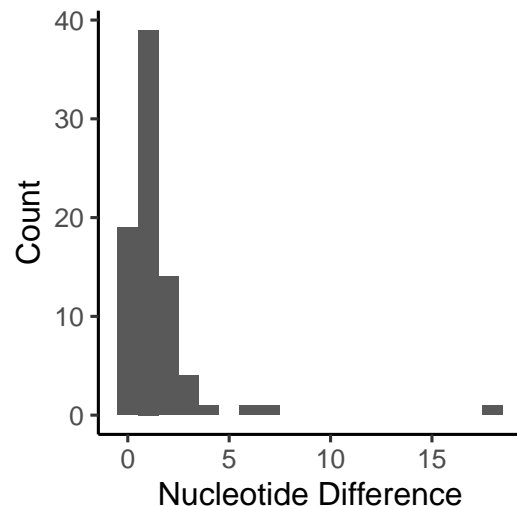
### IGHV1-8\*01

389 sequences assigned  
87 (22.4%) exact matches, in which:  
55 unique CDR3  
5 unique J



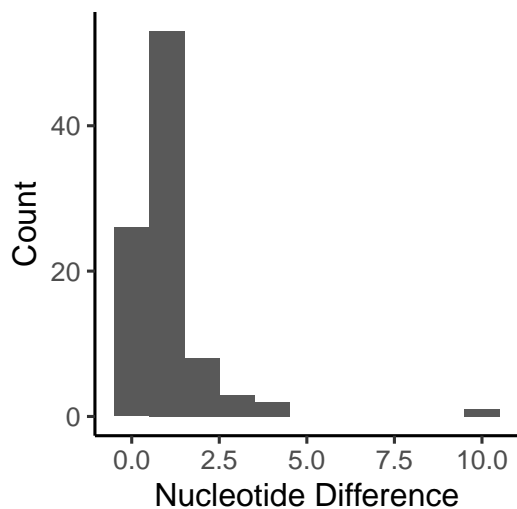
### IGHV1-24\*01

80 sequences assigned  
19 (23.8%) exact matches, in which:  
14 unique CDR3  
3 unique J



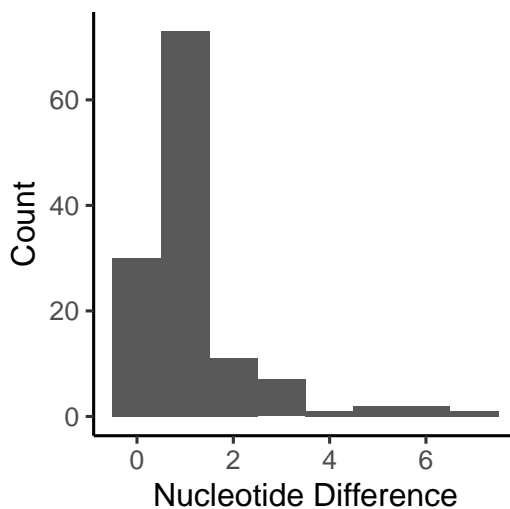
### IGHV1-2\*04

93 sequences assigned  
26 (28%) exact matches, in which:  
23 unique CDR3  
4 unique J



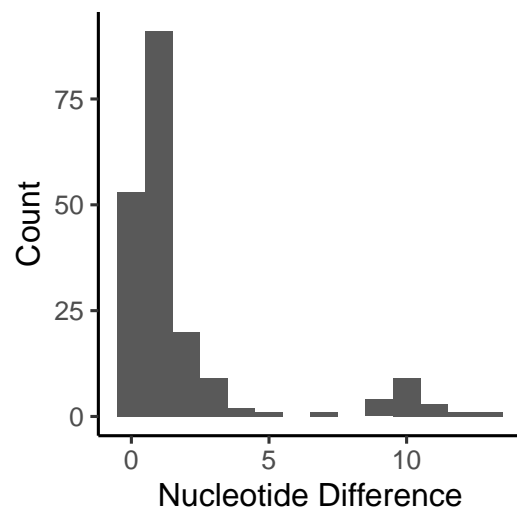
### IGHV1-18\*01

127 sequences assigned  
30 (23.6%) exact matches, in which:  
24 unique CDR3  
4 unique J



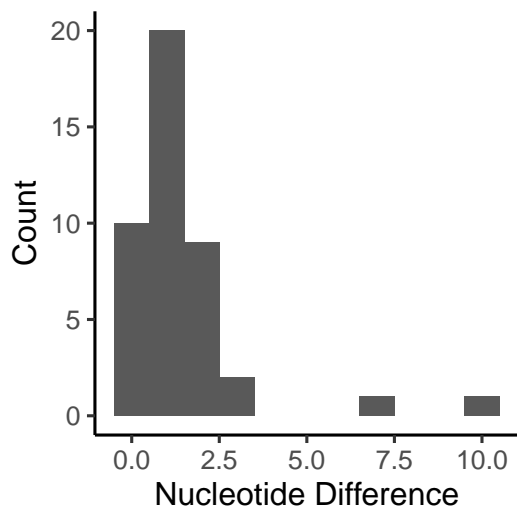
### IGHV1-46\*01

195 sequences assigned  
53 (27.2%) exact matches, in which:  
36 unique CDR3  
3 unique J



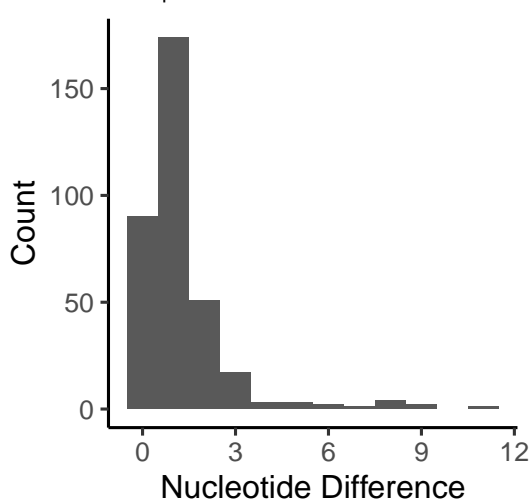
### IGHV1-3\*01\_05

43 sequences assigned  
10 (23.3%) exact matches, in which:  
6 unique CDR3  
3 unique J



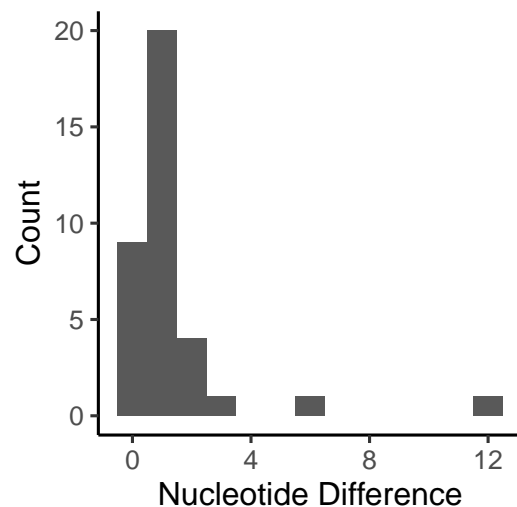
### IGHV1-18\*04

348 sequences assigned  
90 (25.9%) exact matches, in which:  
64 unique CDR3  
5 unique J



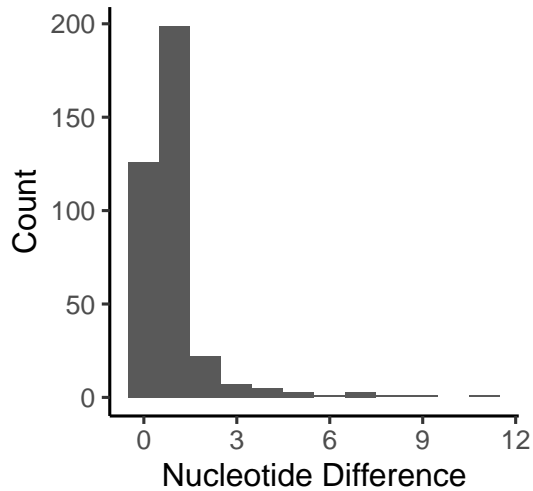
### IGHV1-58\*01\_03

36 sequences assigned  
9 (25%) exact matches, in which:  
8 unique CDR3  
4 unique J



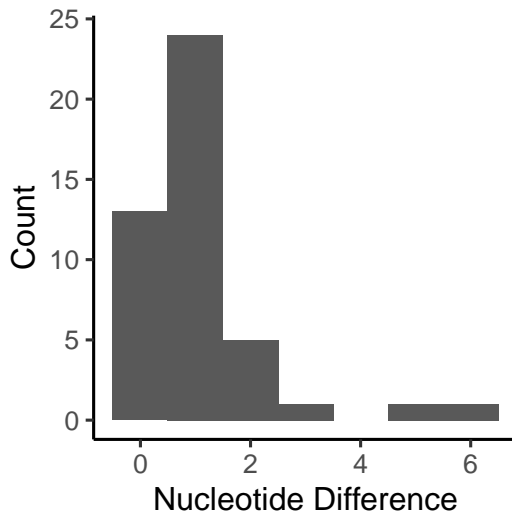
### IGHV1-69\*01\_12\_13

369 sequences assigned  
126 (34.1%) exact matches, in which:  
91 unique CDR3  
6 unique J



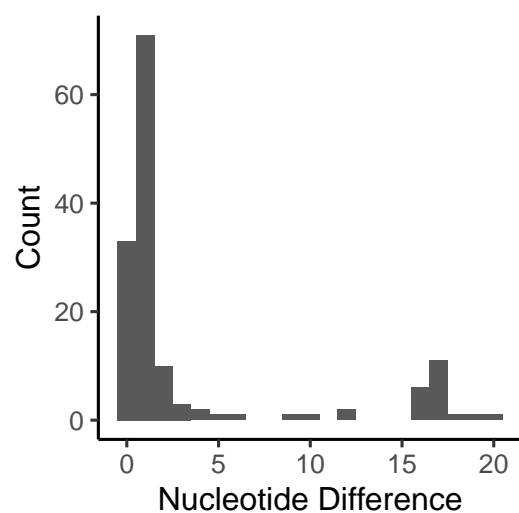
### IGHV2-5\*02

45 sequences assigned  
13 (28.9%) exact matches, in which:  
8 unique CDR3  
3 unique J



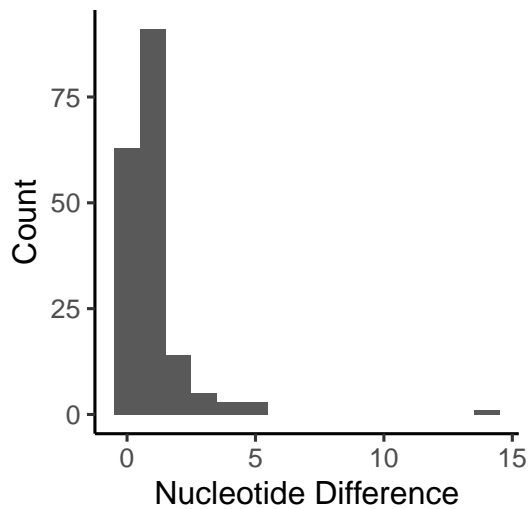
### IGHV3-7\*01

145 sequences assigned  
33 (22.8%) exact matches, in which:  
24 unique CDR3  
5 unique J



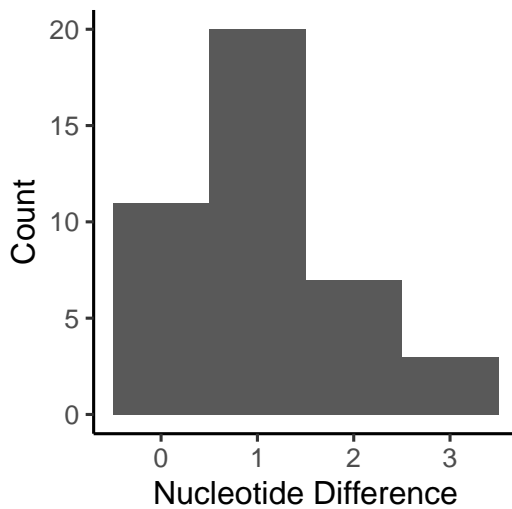
### IGHV1-69\*06\_14

184 sequences assigned  
63 (34.2%) exact matches, in which:  
48 unique CDR3  
5 unique J



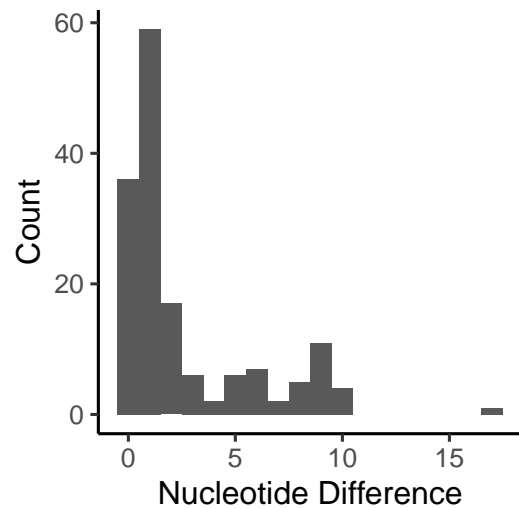
### IGHV2-26\*01

41 sequences assigned  
11 (26.8%) exact matches, in which:  
10 unique CDR3  
4 unique J



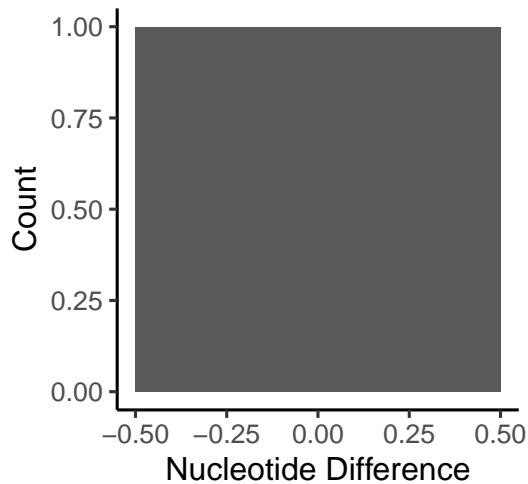
### IGHV3-7\*03

156 sequences assigned  
36 (23.1%) exact matches, in which:  
27 unique CDR3  
3 unique J



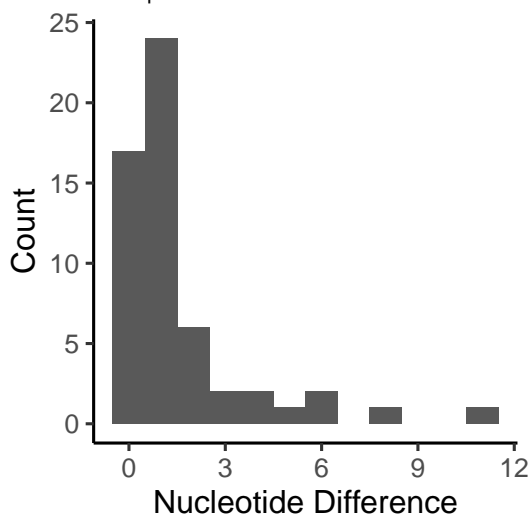
### IGHV2-5\*01

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



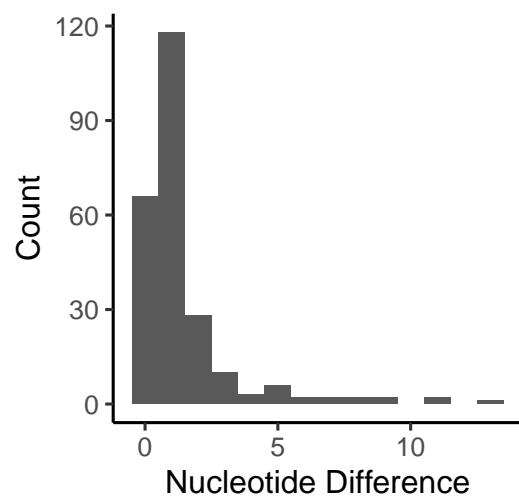
### IGHV2-70\*11\_15

56 sequences assigned  
17 (30.4%) exact matches, in which:  
10 unique CDR3  
3 unique J



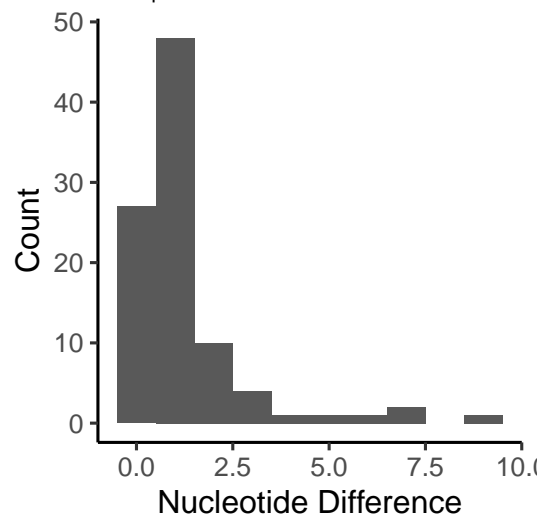
### IGHV3-9\*01

242 sequences assigned  
66 (27.3%) exact matches, in which:  
50 unique CDR3  
5 unique J



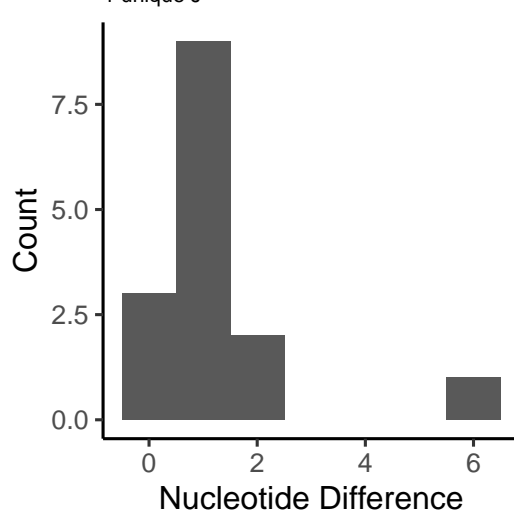
### IGHV3-11\*01

95 sequences assigned  
27 (28.4%) exact matches, in which:  
23 unique CDR3  
4 unique J



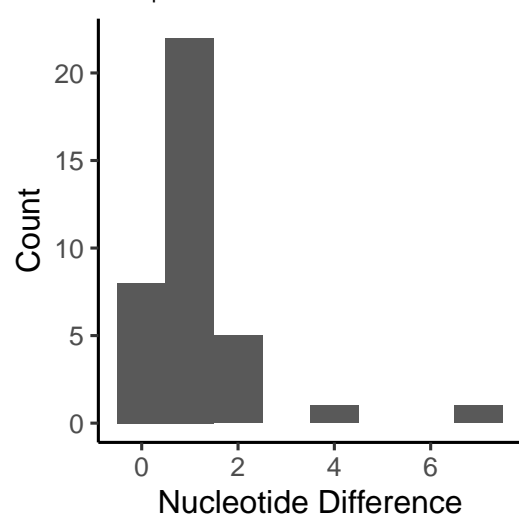
### IGHV3-13\*05

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



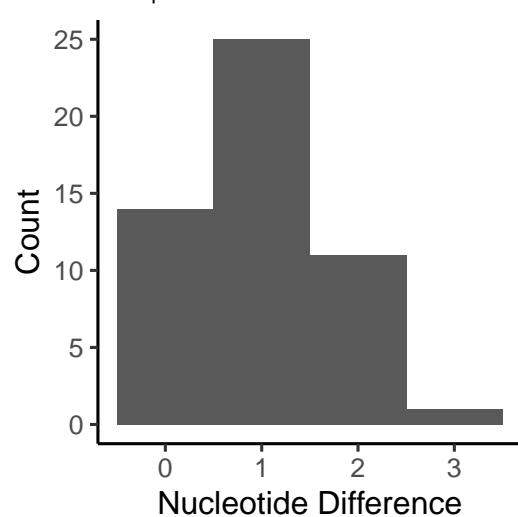
### IGHV3-20\*03\_04

37 sequences assigned  
8 (21.6%) exact matches, in which:  
6 unique CDR3  
2 unique J



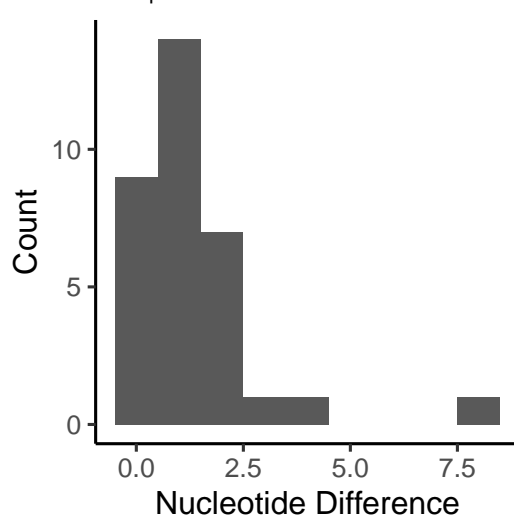
### IGHV3-11\*06

51 sequences assigned  
14 (27.5%) exact matches, in which:  
12 unique CDR3  
3 unique J



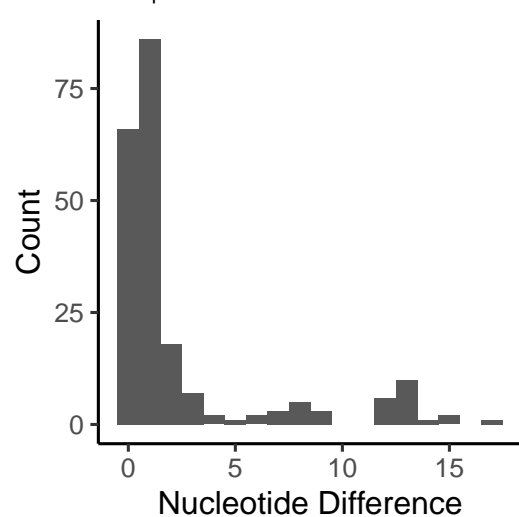
### IGHV3-15\*07

33 sequences assigned  
9 (27.3%) exact matches, in which:  
8 unique CDR3  
4 unique J



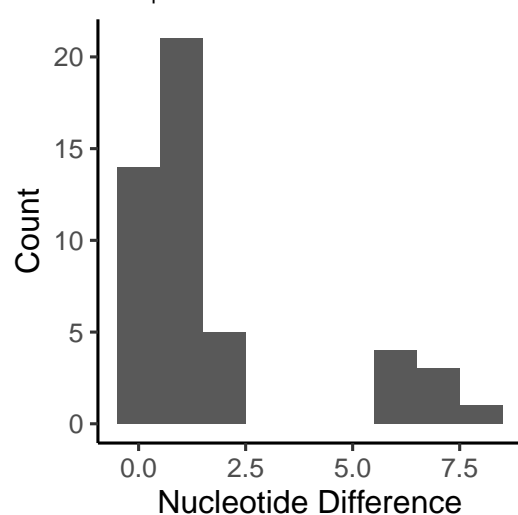
### IGHV3-21\*01\_02

214 sequences assigned  
66 (30.8%) exact matches, in which:  
48 unique CDR3  
6 unique J



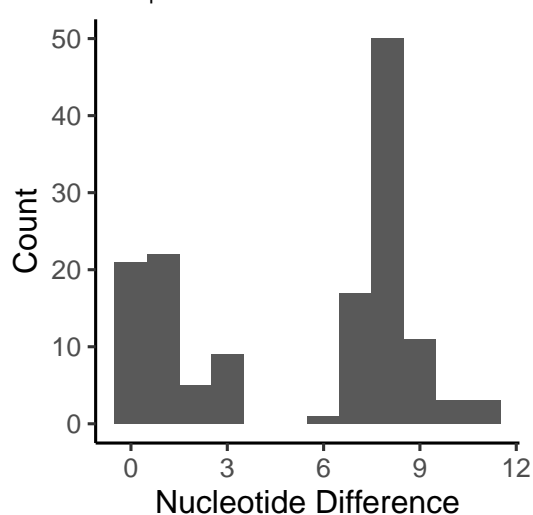
### IGHV3-13\*01

48 sequences assigned  
14 (29.2%) exact matches, in which:  
9 unique CDR3  
3 unique J



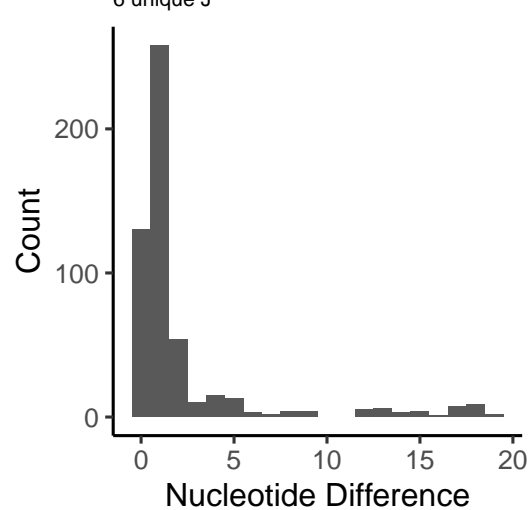
### IGHV3-15\*01\_02

144 sequences assigned  
21 (14.6%) exact matches, in which:  
15 unique CDR3  
3 unique J



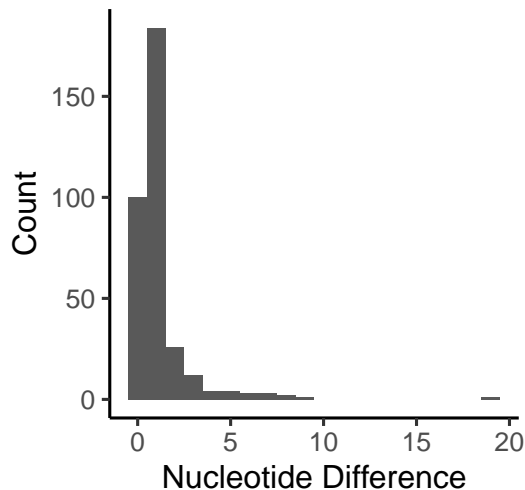
### IGHV3-23\*01\_04

536 sequences assigned  
130 (24.3%) exact matches, in which:  
94 unique CDR3  
6 unique J



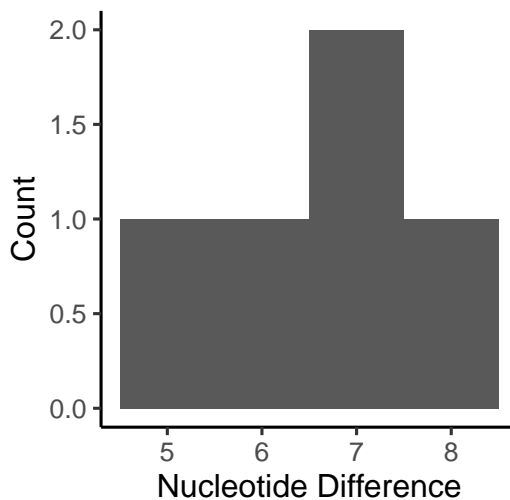
### IGHV3-30-3\*01

340 sequences assigned  
100 (29.4%) exact matches, in which:  
70 unique CDR3  
5 unique J



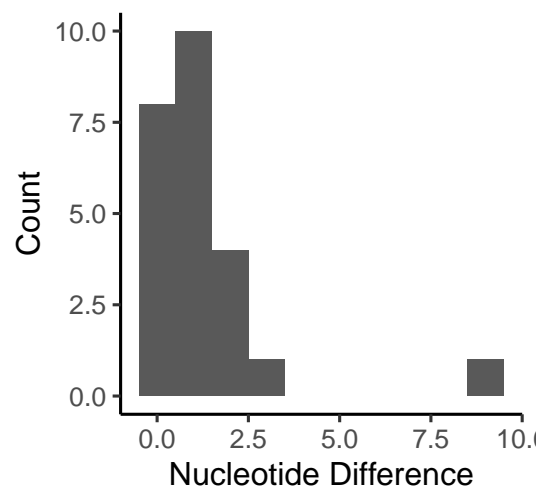
### IGHV3-48\*01

5 sequences assigned  
No exact matches.



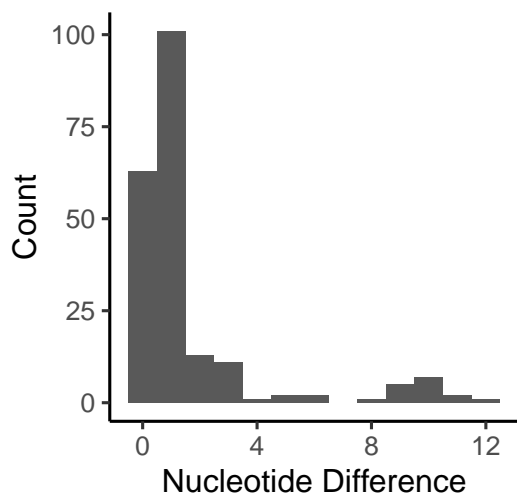
### IGHV3-49\*03\_05

24 sequences assigned  
8 (33.3%) exact matches, in which:  
6 unique CDR3  
3 unique J



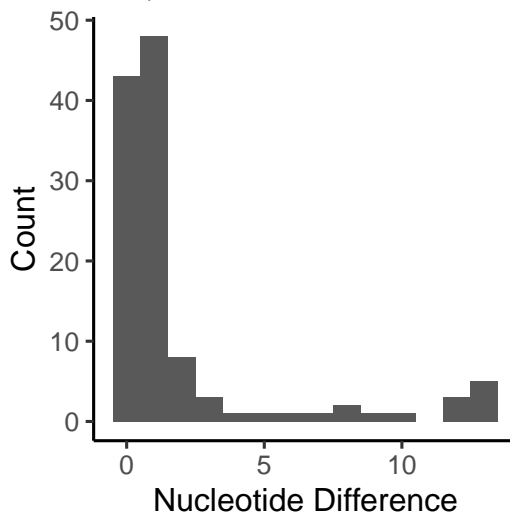
### IGHV3-33\*01

209 sequences assigned  
63 (30.1%) exact matches, in which:  
45 unique CDR3  
4 unique J



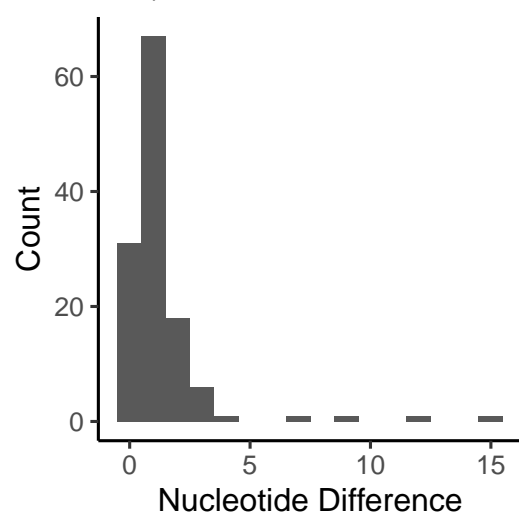
### IGHV3-48\*02

118 sequences assigned  
43 (36.4%) exact matches, in which:  
31 unique CDR3  
5 unique J



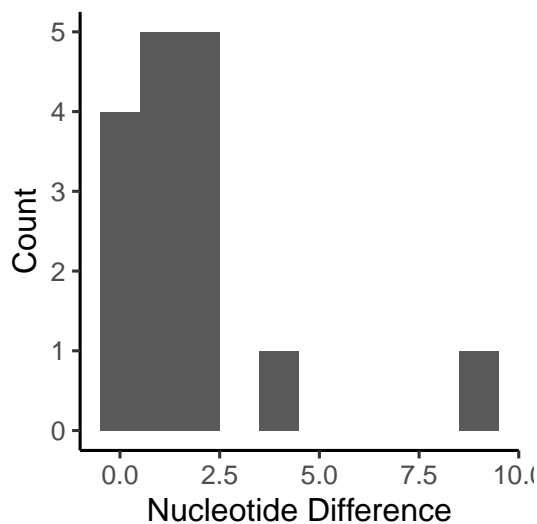
### IGHV3-53\*01\_02

127 sequences assigned  
31 (24.4%) exact matches, in which:  
22 unique CDR3  
5 unique J



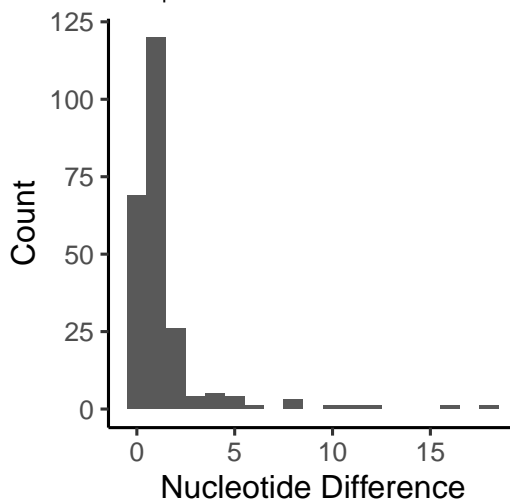
### IGHV3-43\*01

16 sequences assigned  
4 (25%) exact matches, in which:  
3 unique CDR3  
2 unique J



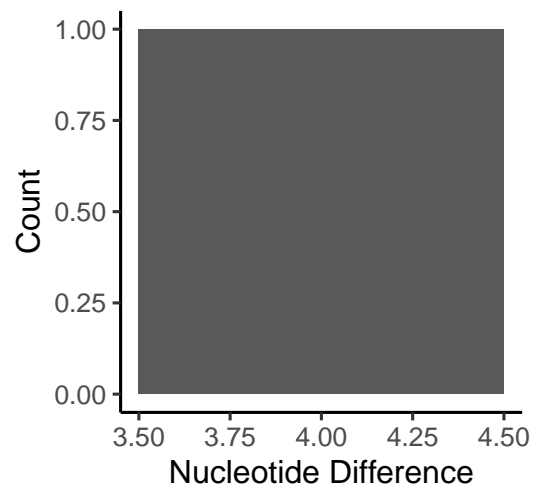
### IGHV3-48\*04

237 sequences assigned  
69 (29.1%) exact matches, in which:  
46 unique CDR3  
5 unique J



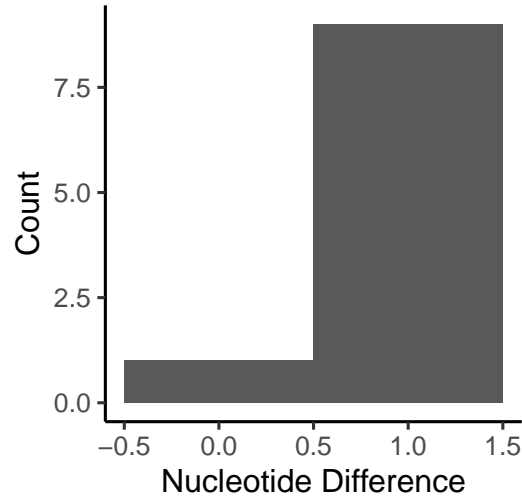
### IGHV3-64\*04

1 sequences assigned  
No exact matches.



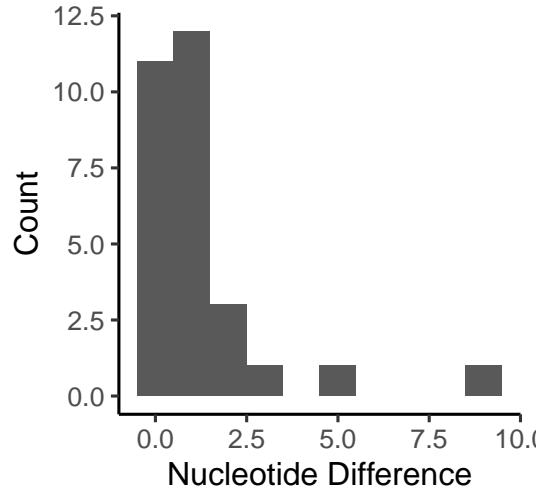
### IGHV3-64\*02\_07

10 sequences assigned  
1 (10%) exact matches, in which:  
1 unique CDR3  
1 unique J



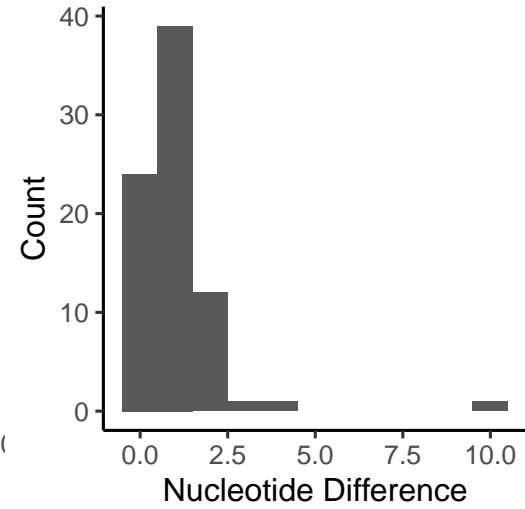
### IGHV3-73\*01\_02

29 sequences assigned  
11 (37.9%) exact matches, in which:  
10 unique CDR3  
2 unique J



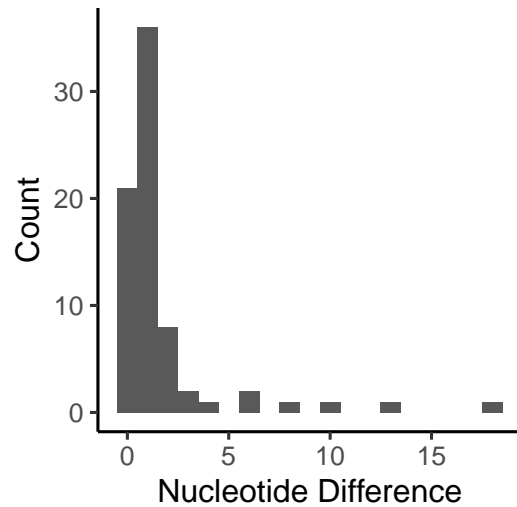
### IGHV3-64D\*09

78 sequences assigned  
24 (30.8%) exact matches, in which:  
17 unique CDR3  
4 unique J



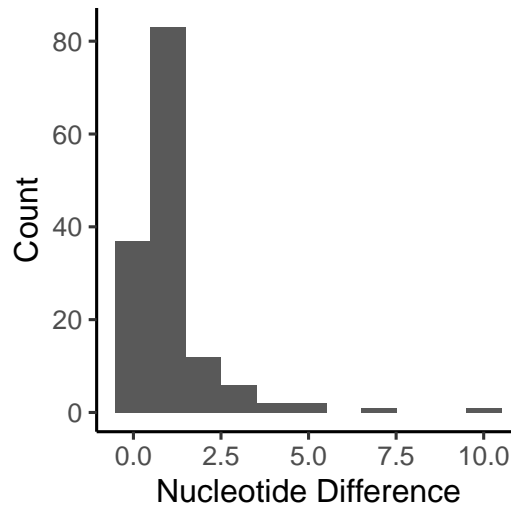
### IGHV3-66\*01

75 sequences assigned  
21 (28%) exact matches, in which:  
14 unique CDR3  
3 unique J



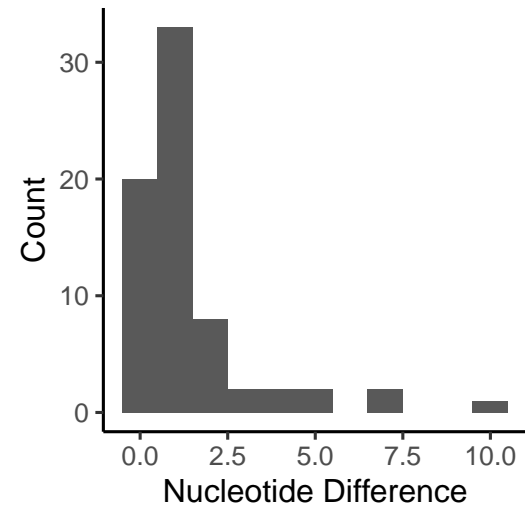
### IGHV3-74\*01\_02

144 sequences assigned  
37 (25.7%) exact matches, in which:  
27 unique CDR3  
2 unique J



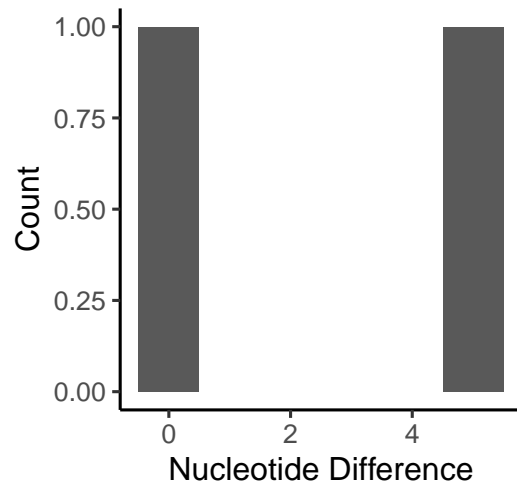
### IGHV4-4\*07

70 sequences assigned  
20 (28.6%) exact matches, in which:  
14 unique CDR3  
4 unique J



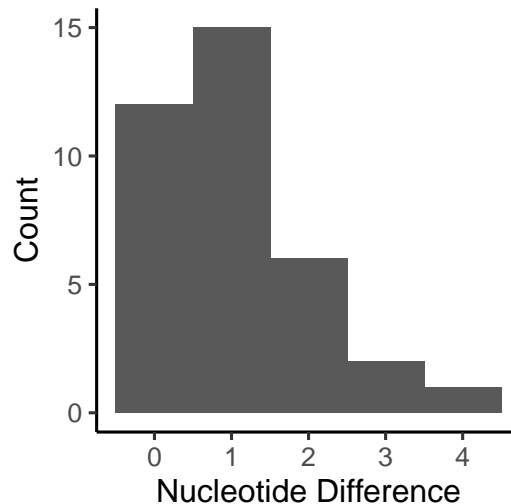
### IGHV3-72\*01

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



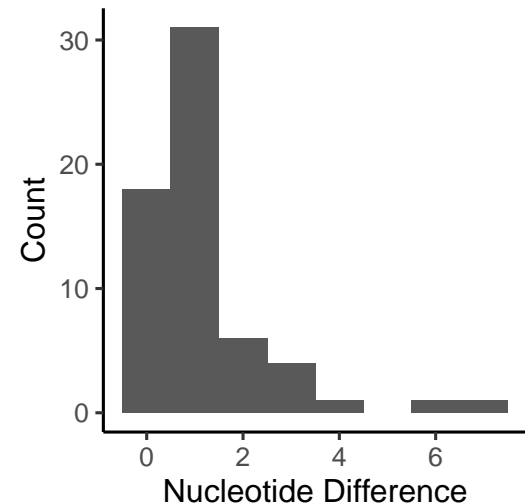
### IGHV3-43D\*03

36 sequences assigned  
12 (33.3%) exact matches, in which:  
9 unique CDR3  
3 unique J



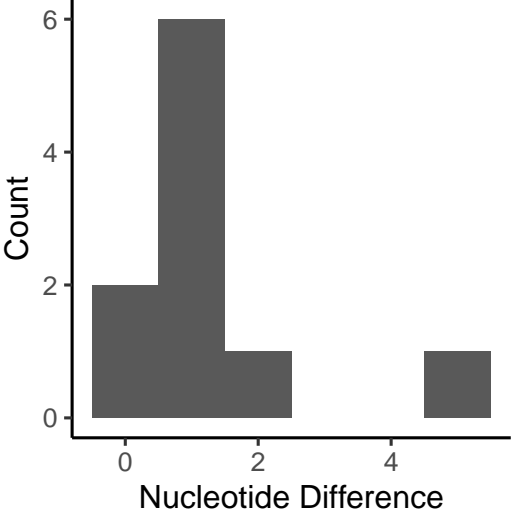
### IGHV4-4\*02\_03

62 sequences assigned  
18 (29%) exact matches, in which:  
15 unique CDR3  
4 unique J



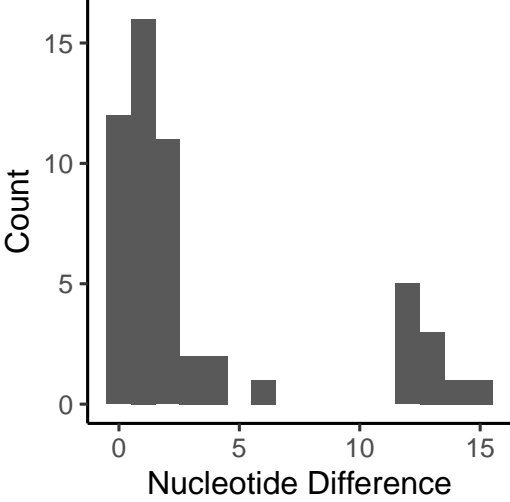
IGHV4-28\*01\_07

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



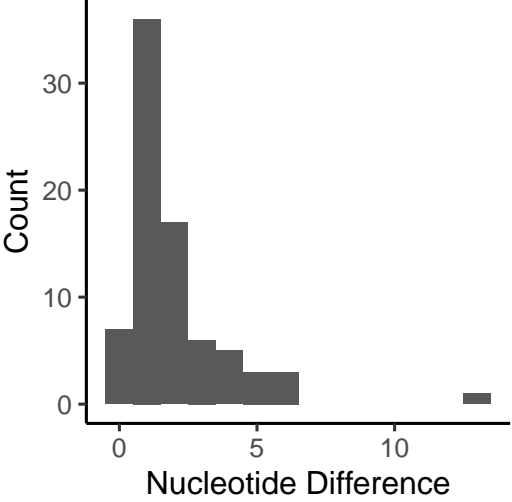
IGHV4-31\*02

56 sequences assigned  
12 (21.4%) exact matches, in which:  
11 unique CDR3  
5 unique J



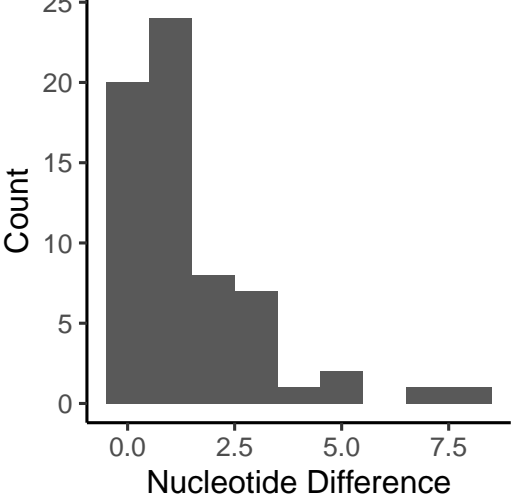
IGHV4-38-2\*02

78 sequences assigned  
7 (9%) exact matches, in which:  
5 unique CDR3  
4 unique J



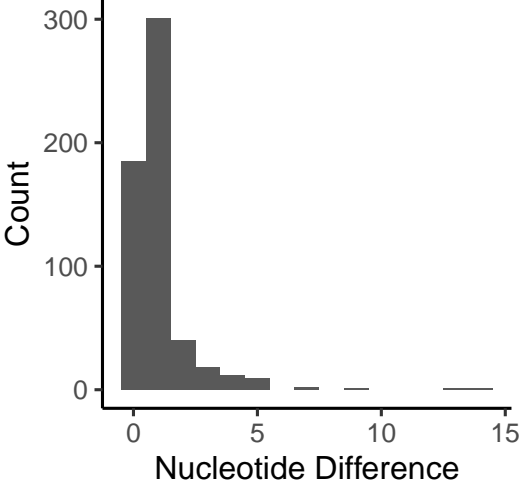
IGHV4-30-2\*01

65 sequences assigned  
20 (30.8%) exact matches, in which:  
16 unique CDR3  
5 unique J



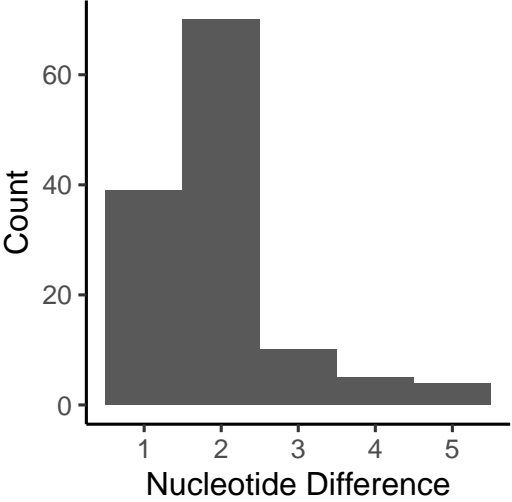
IGHV4-34\*01\_02

570 sequences assigned  
185 (32.5%) exact matches, in which:  
117 unique CDR3  
6 unique J



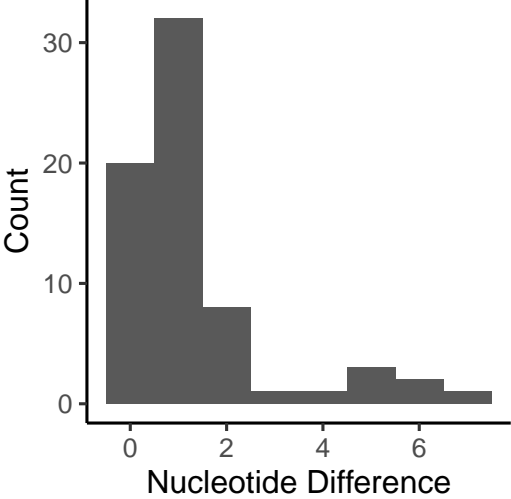
IGHV4-39\*02

128 sequences assigned  
No exact matches.



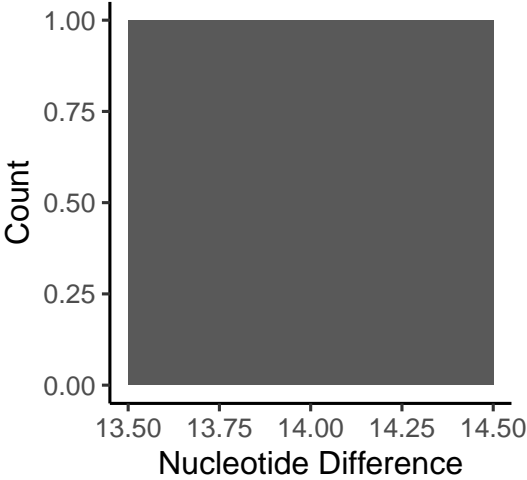
IGHV4-30-4\*01

68 sequences assigned  
20 (29.4%) exact matches, in which:  
13 unique CDR3  
4 unique J



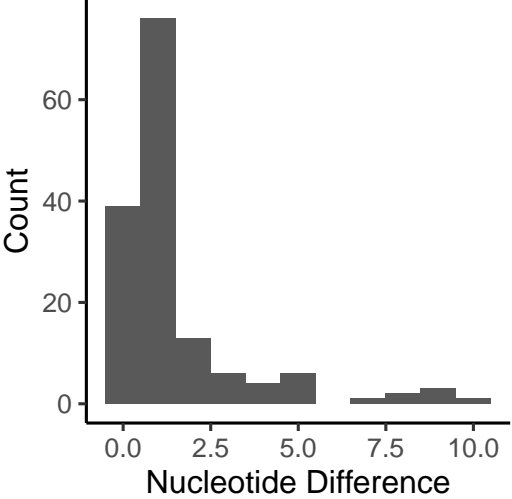
IGHV4-38-2\*01

1 sequences assigned  
No exact matches.



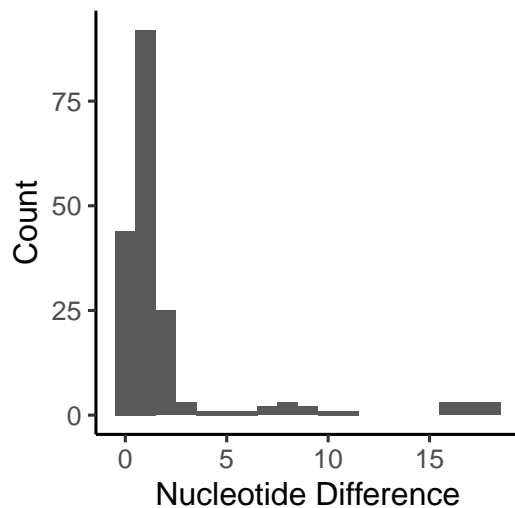
IGHV4-39\*07

151 sequences assigned  
39 (25.8%) exact matches, in which:  
29 unique CDR3  
4 unique J



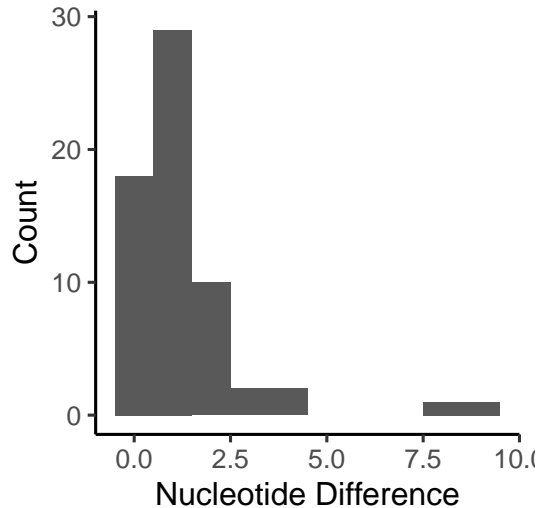
### IGHV4-59\*01\_07

185 sequences assigned  
44 (23.8%) exact matches, in which:  
33 unique CDR3  
4 unique J



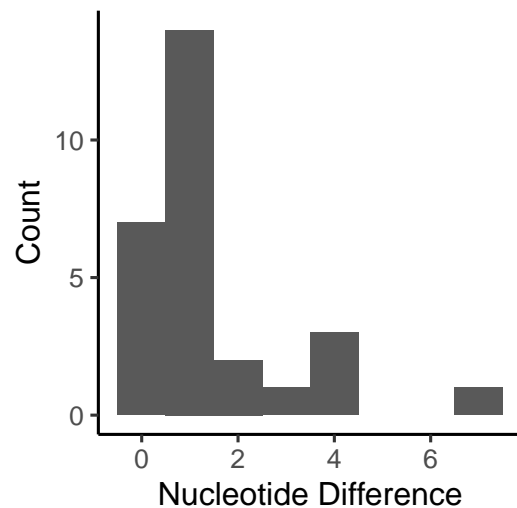
### IGHV5-10-1\*01\_03

63 sequences assigned  
18 (28.6%) exact matches, in which:  
11 unique CDR3  
3 unique J



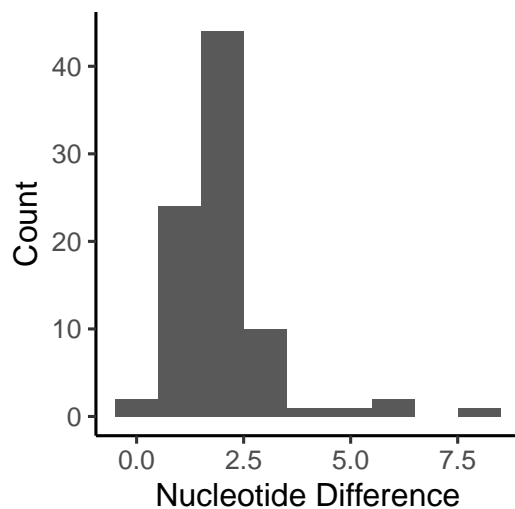
### IGHV6-1\*01\_02

28 sequences assigned  
7 (25%) exact matches, in which:  
5 unique CDR3  
2 unique J



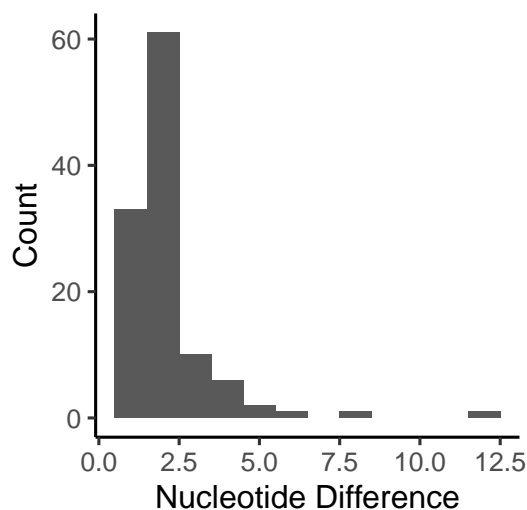
### IGHV4-59\*12

85 sequences assigned  
2 (2.4%) exact matches, in which:  
2 unique CDR3  
1 unique J



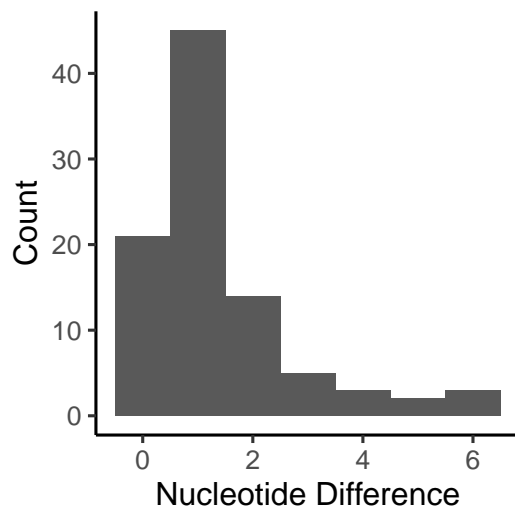
### IGHV5-51\*07

115 sequences assigned  
No exact matches.



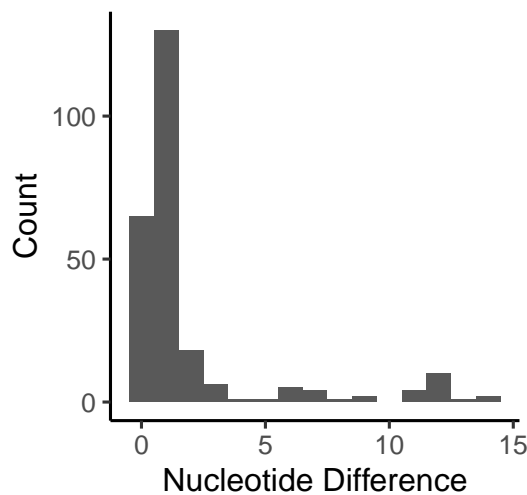
### IGHV4-61\*01

93 sequences assigned  
21 (22.6%) exact matches, in which:  
17 unique CDR3  
4 unique J



### IGHV5-51\*01\_03

250 sequences assigned  
65 (26%) exact matches, in which:  
50 unique CDR3  
5 unique J







Warning – no inferred sequences found.

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