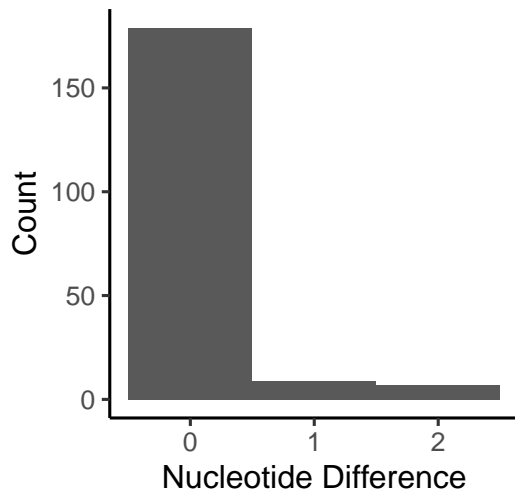


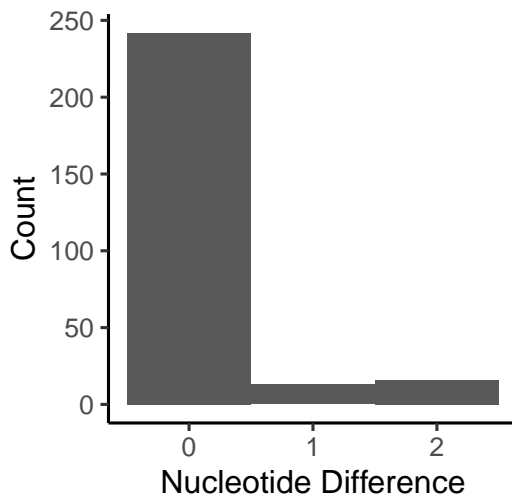
### IGHV1-2\*02

195 sequences assigned  
179 (91.8%) exact matches, in which:  
179 unique CDR3  
6 unique J



### IGHV1-8\*01

271 sequences assigned  
242 (89.3%) exact matches, in which:  
241 unique CDR3  
6 unique J



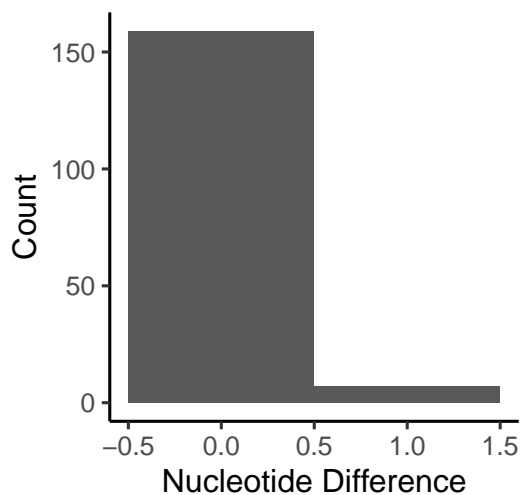
### IGHV1-45\*02

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



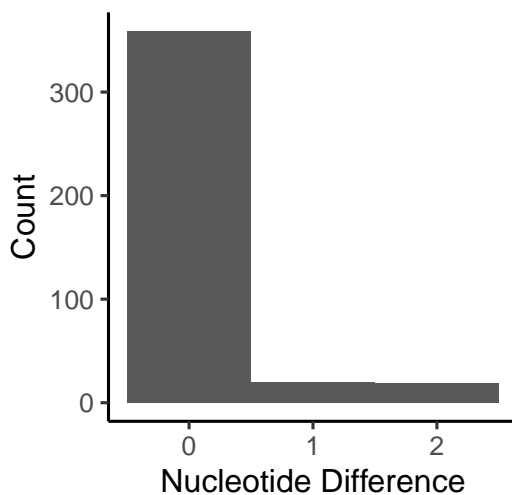
### IGHV1-2\*06

166 sequences assigned  
159 (95.8%) exact matches, in which:  
159 unique CDR3  
6 unique J



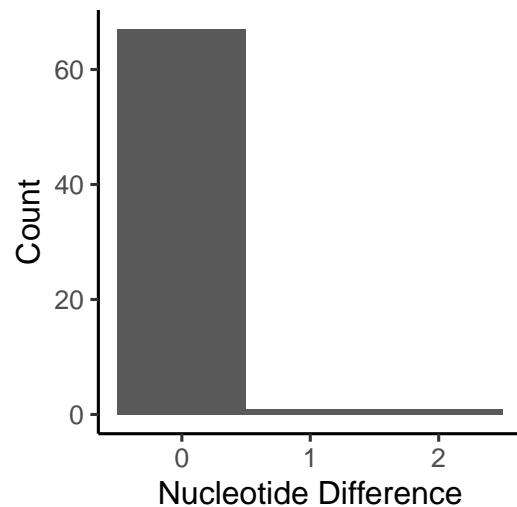
### IGHV1-18\*01

398 sequences assigned  
359 (90.2%) exact matches, in which:  
358 unique CDR3  
7 unique J



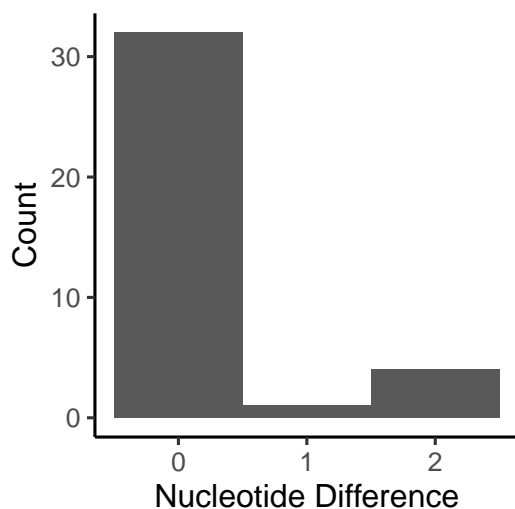
### IGHV1-46\*01

69 sequences assigned  
67 (97.1%) exact matches, in which:  
66 unique CDR3  
6 unique J



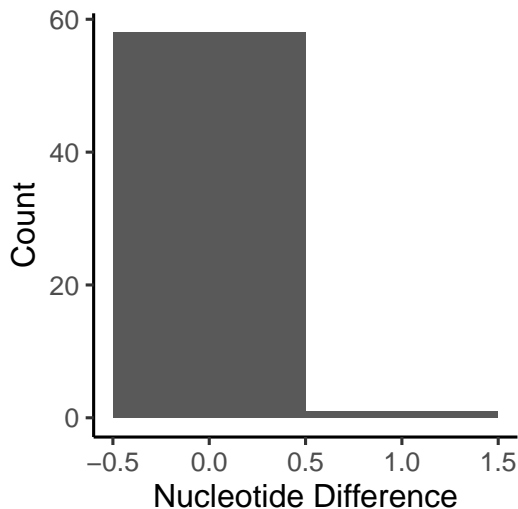
### IGHV1-3\*01\_05

37 sequences assigned  
32 (86.5%) exact matches, in which:  
31 unique CDR3  
4 unique J



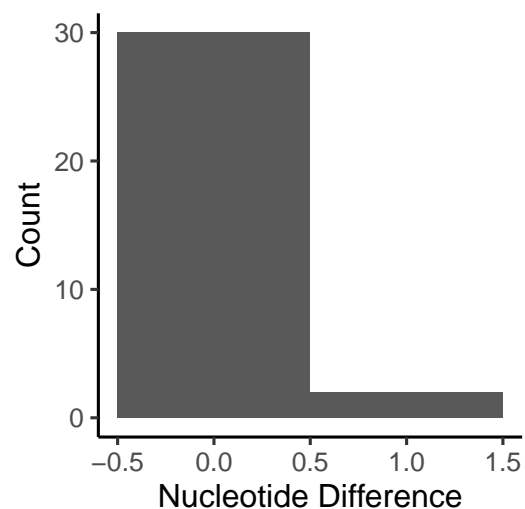
### IGHV1-24\*01

59 sequences assigned  
58 (98.3%) exact matches, in which:  
58 unique CDR3  
7 unique J



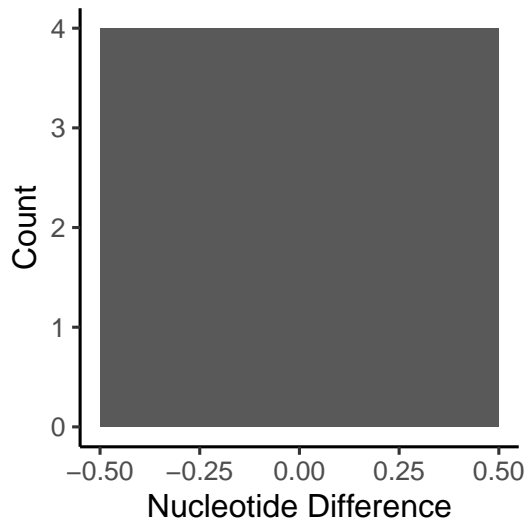
### IGHV1-46\*03

32 sequences assigned  
30 (93.8%) exact matches, in which:  
30 unique CDR3  
5 unique J



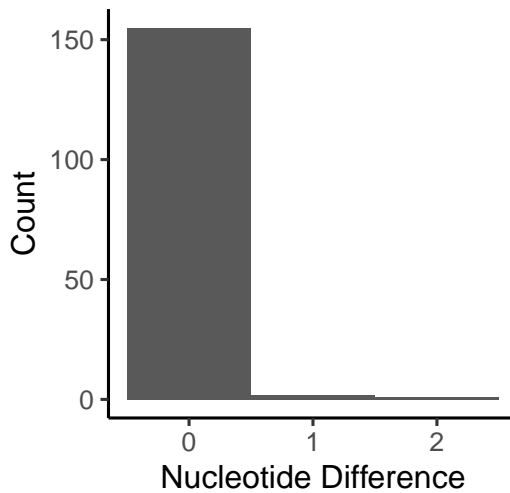
### IGHV1-58\*02

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



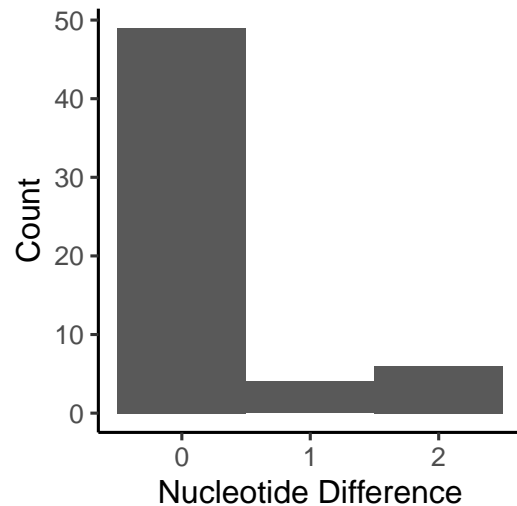
### IGHV1-69\*01\_12\_13

158 sequences assigned  
155 (98.1%) exact matches, in which:  
154 unique CDR3  
6 unique J



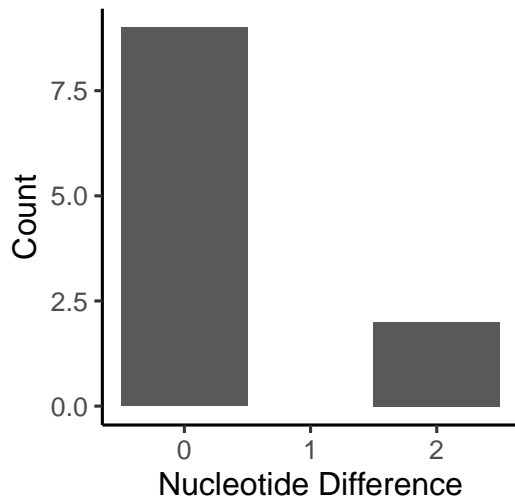
### IGHV2-5\*02

59 sequences assigned  
49 (83.1%) exact matches, in which:  
49 unique CDR3  
6 unique J



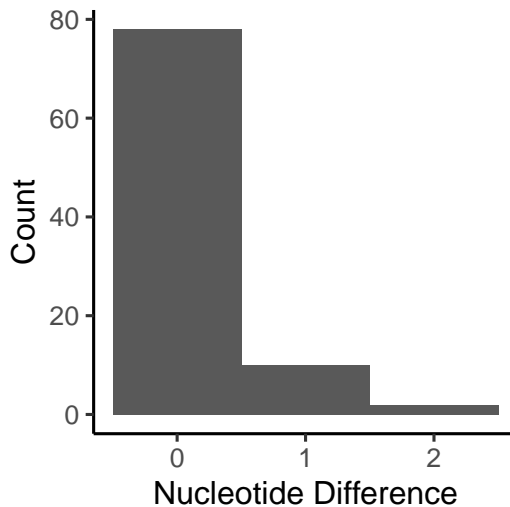
### IGHV1-58\*01\_03

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



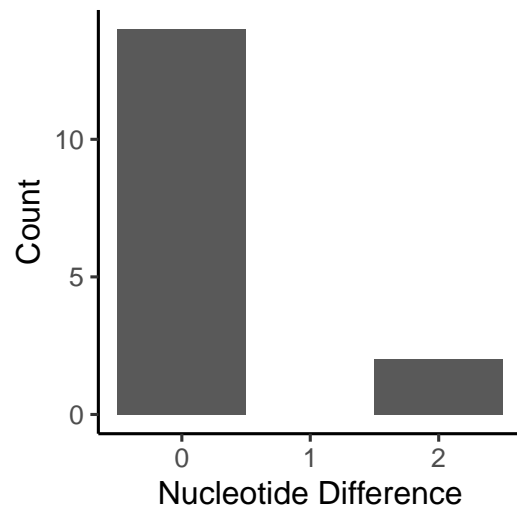
### IGHV1-69\*04\_09

90 sequences assigned  
78 (86.7%) exact matches, in which:  
78 unique CDR3  
6 unique J



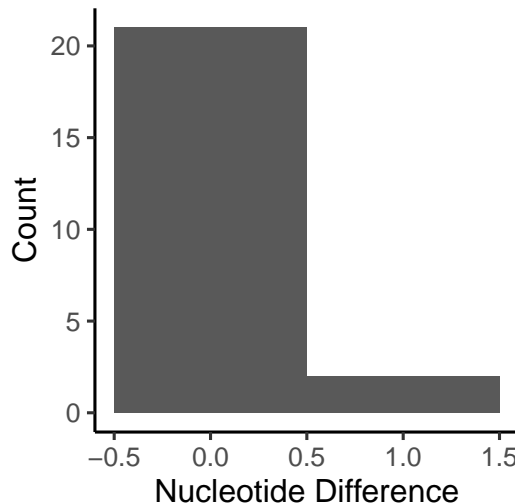
### IGHV2-26\*01

16 sequences assigned  
14 (87.5%) exact matches, in which:  
14 unique CDR3  
5 unique J



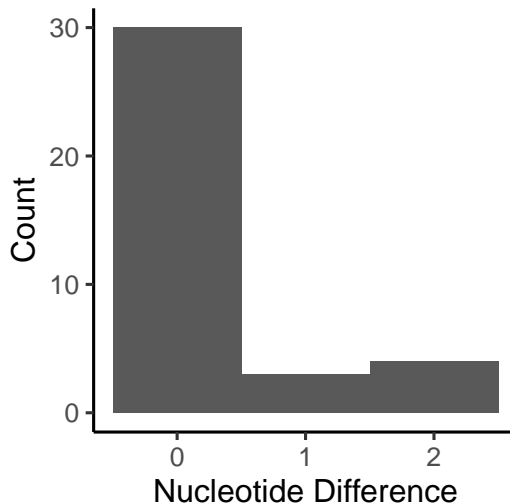
### IGHV1-69\*02

23 sequences assigned  
21 (91.3%) exact matches, in which:  
21 unique CDR3  
6 unique J



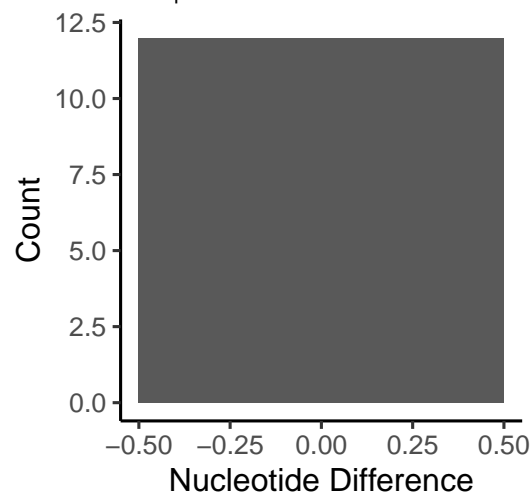
### IGHV2-5\*01

37 sequences assigned  
30 (81.1%) exact matches, in which:  
30 unique CDR3  
5 unique J



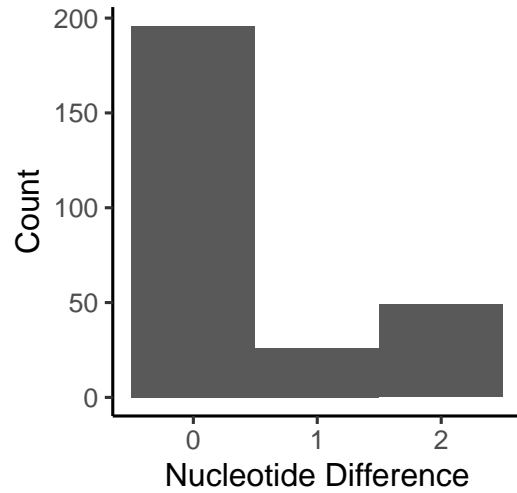
### IGHV2-70\*01

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



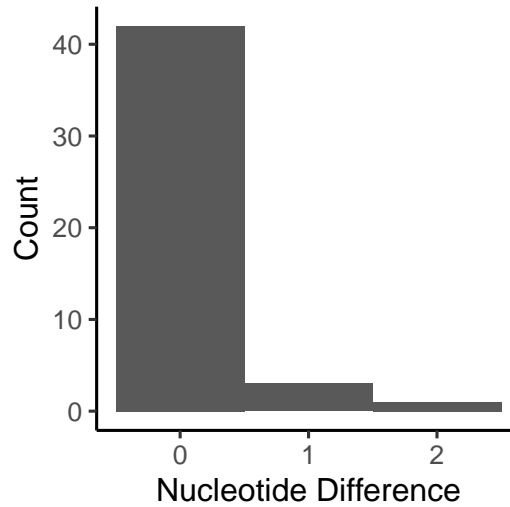
### IGHV3-7\*01

271 sequences assigned  
196 (72.3%) exact matches, in which:  
191 unique CDR3  
7 unique J



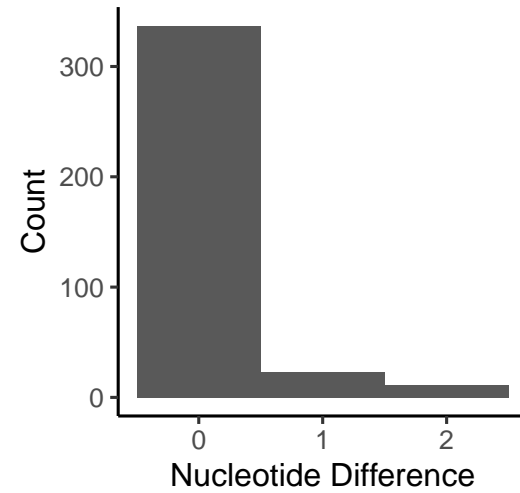
### IGHV3-13\*01

46 sequences assigned  
42 (91.3%) exact matches, in which:  
41 unique CDR3  
6 unique J



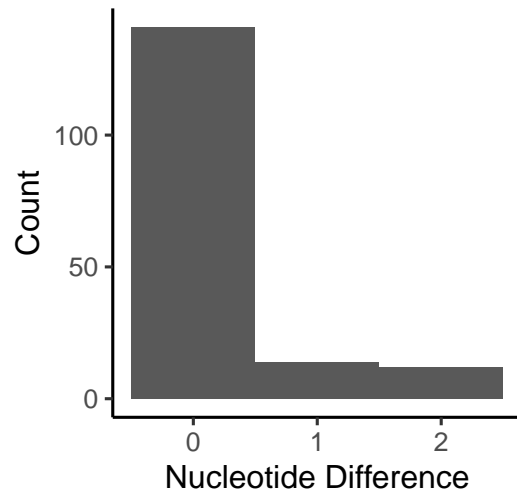
### IGHV3-21\*01\_02

371 sequences assigned  
337 (90.8%) exact matches, in which:  
332 unique CDR3  
7 unique J



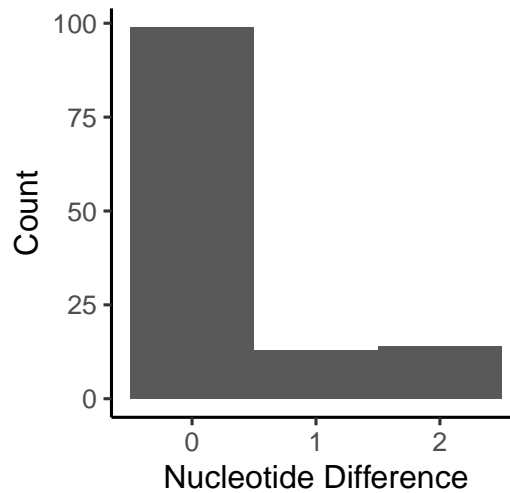
### IGHV3-9\*01

167 sequences assigned  
141 (84.4%) exact matches, in which:  
138 unique CDR3  
7 unique J



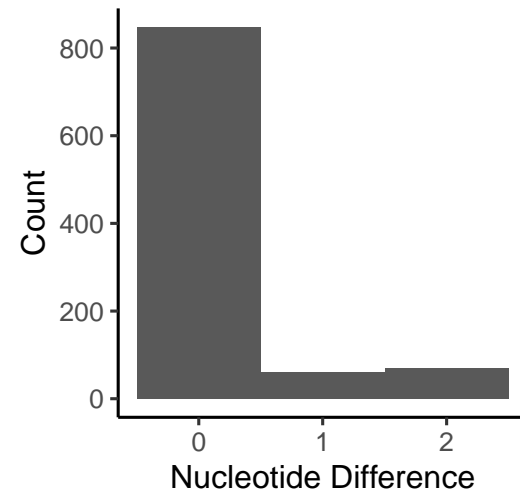
### IGHV3-15\*01\_02

126 sequences assigned  
99 (78.6%) exact matches, in which:  
97 unique CDR3  
7 unique J



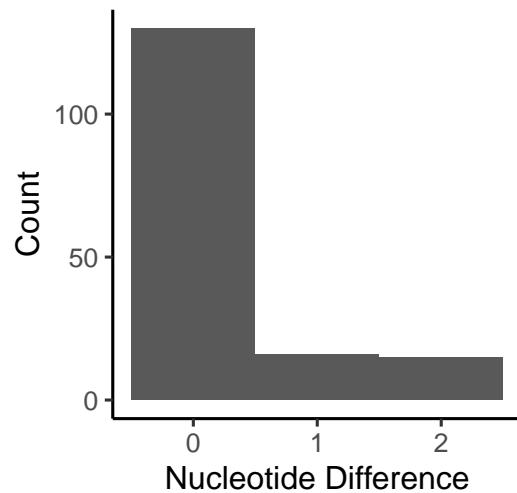
### IGHV3-23\*01\_04

978 sequences assigned  
848 (86.7%) exact matches, in which:  
819 unique CDR3  
7 unique J



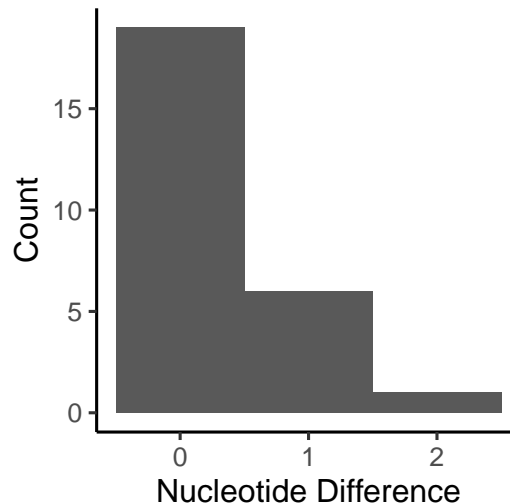
### IGHV3-11\*01

161 sequences assigned  
130 (80.7%) exact matches, in which:  
129 unique CDR3  
7 unique J



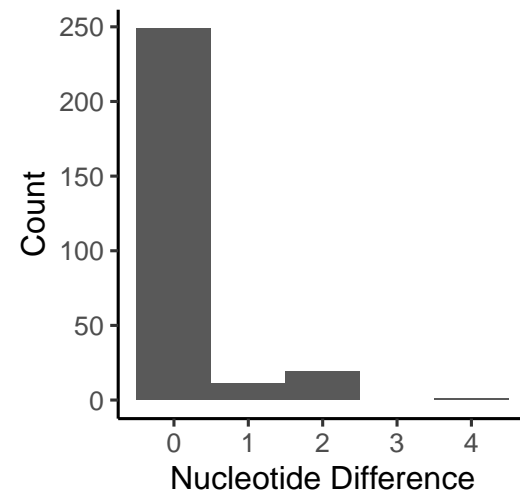
### IGHV3-20\*01\_02

26 sequences assigned  
19 (73.1%) exact matches, in which:  
19 unique CDR3  
6 unique J



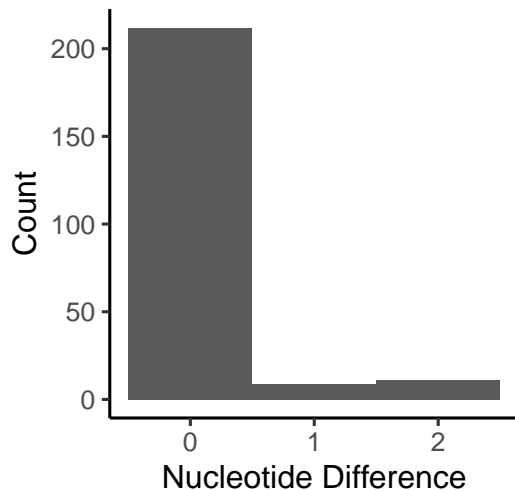
### IGHV3-30-3\*01

280 sequences assigned  
249 (88.9%) exact matches, in which:  
249 unique CDR3  
7 unique J



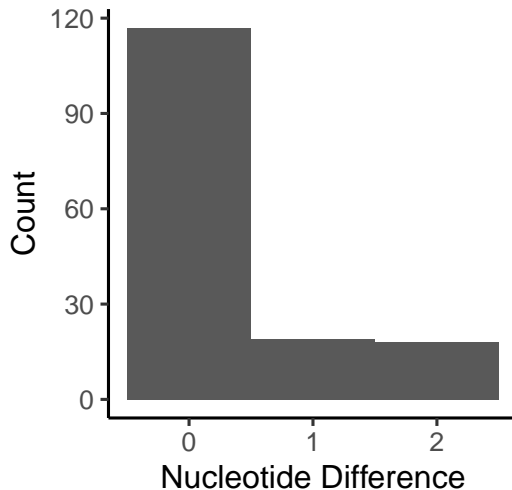
### IGHV3–33\*01

232 sequences assigned  
212 (91.4%) exact matches, in which:  
208 unique CDR3  
7 unique J



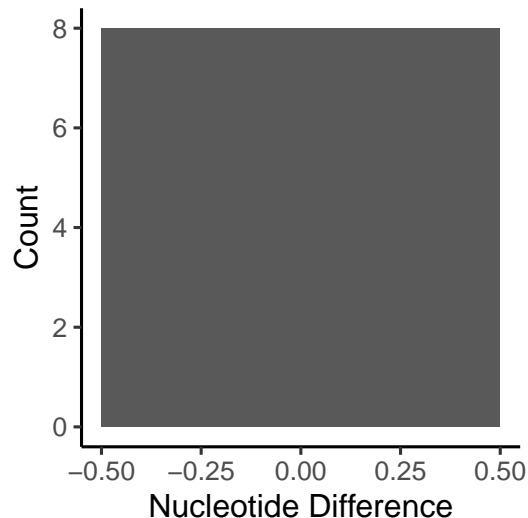
### IGHV3–48\*02

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



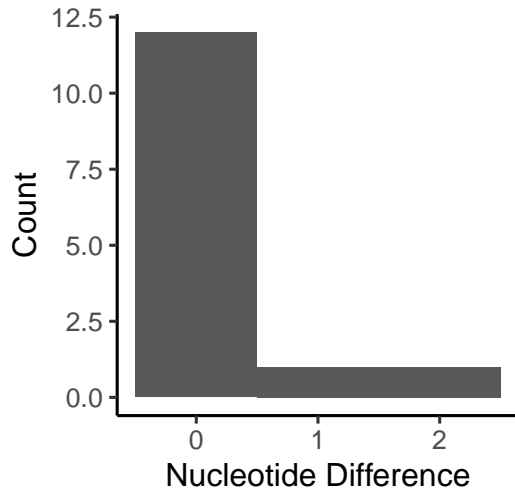
### IGHV3–64\*01

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



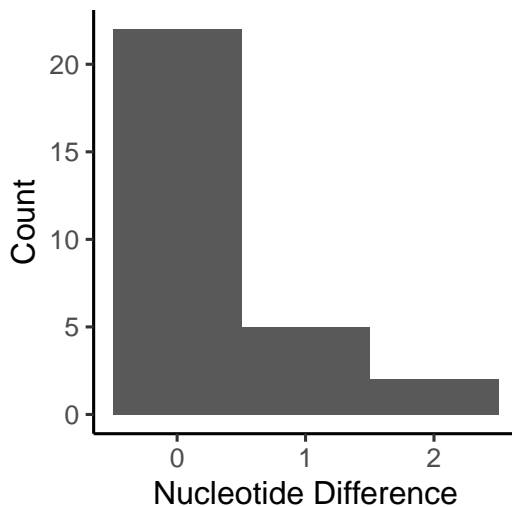
### IGHV3–43\*01

14 sequences assigned  
12 (85.7%) exact matches, in which:  
12 unique CDR3  
4 unique J



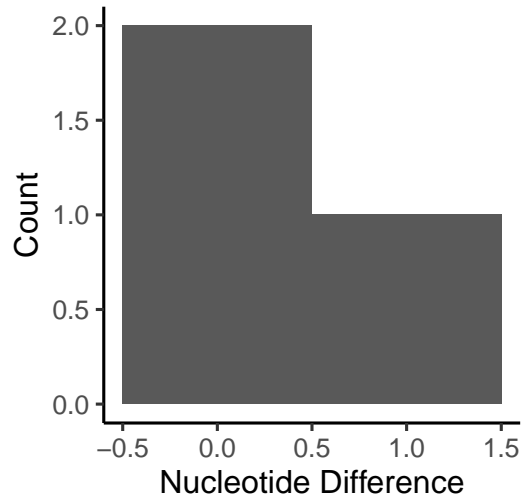
### IGHV3–49\*03\_05

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



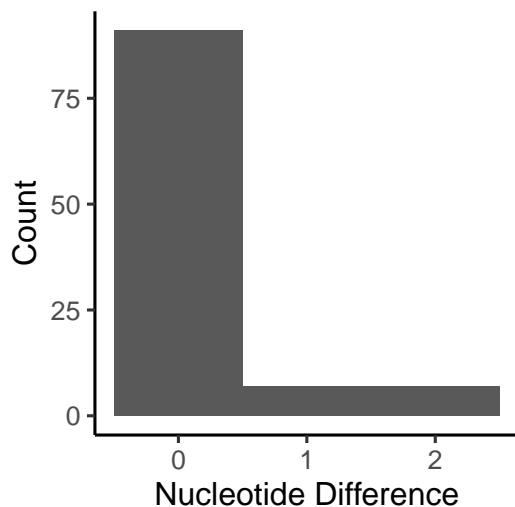
### IGHV3–64\*02\_07

3 sequences assigned  
2 (66.7%) exact matches, in which:  
2 unique CDR3  
1 unique J



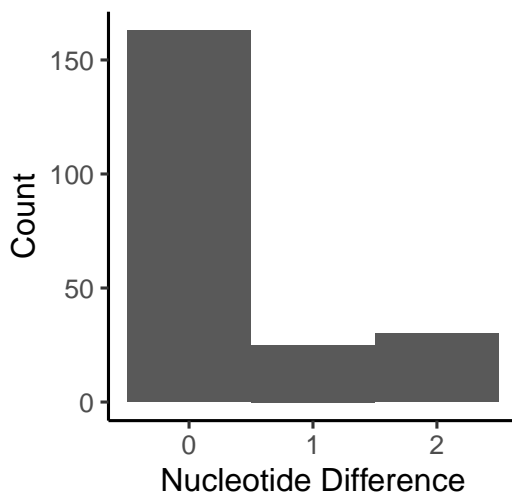
### IGHV3–48\*01

105 sequences assigned  
91 (86.7%) exact matches, in which:  
89 unique CDR3  
6 unique J



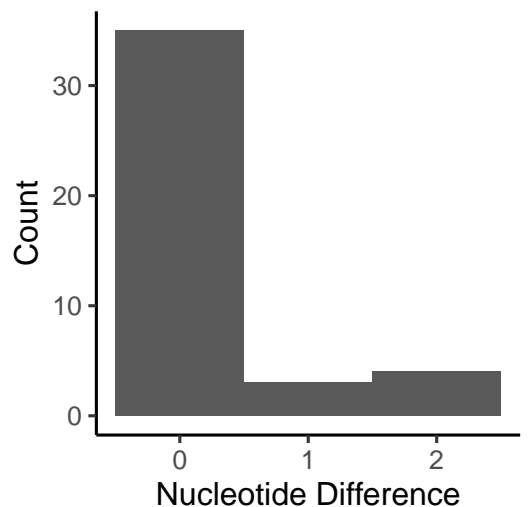
### IGHV3–53\*01\_02

218 sequences assigned  
163 (74.8%) exact matches, in which:  
158 unique CDR3  
6 unique J



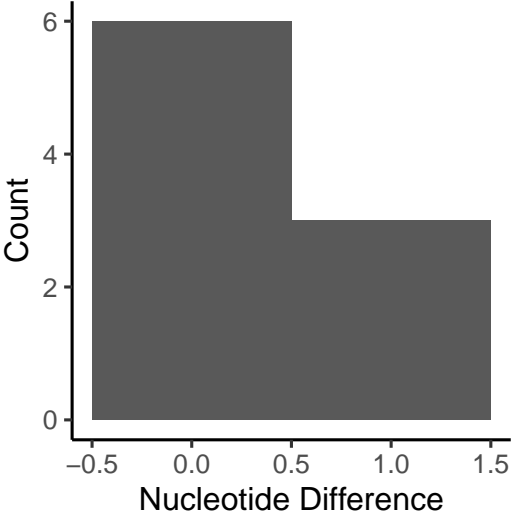
### IGHV3–66\*02

42 sequences assigned  
35 (83.3%) exact matches, in which:  
34 unique CDR3  
4 unique J



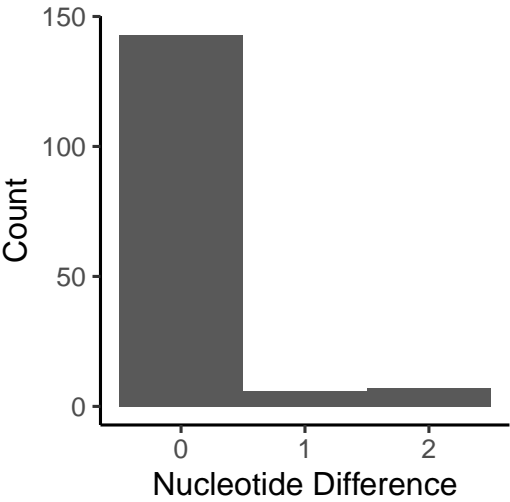
IGHV3-72\*01

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



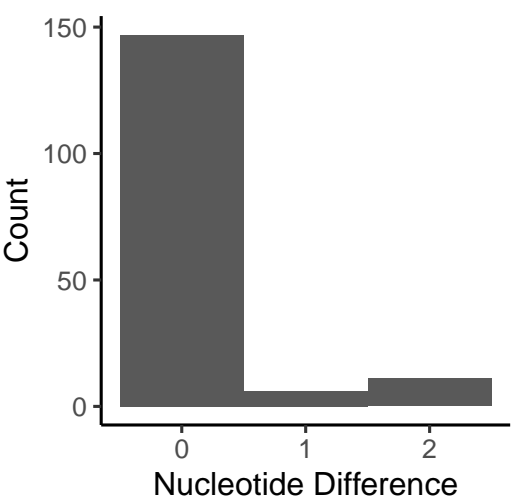
IGHV4-4\*07

156 sequences assigned  
143 (91.7%) exact matches, in which:  
141 unique CDR3  
6 unique J



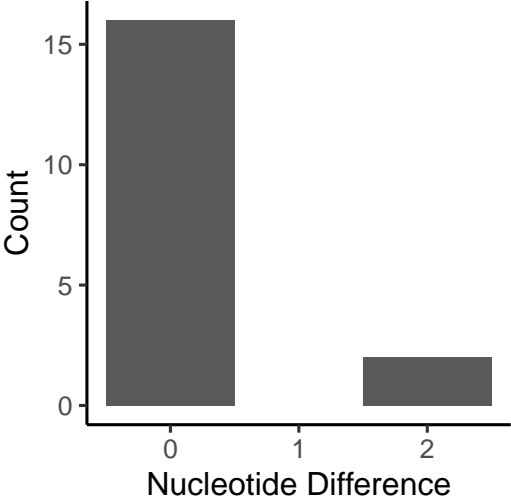
IGHV4-30-4\*01

164 sequences assigned  
147 (89.6%) exact matches, in which:  
145 unique CDR3  
7 unique J



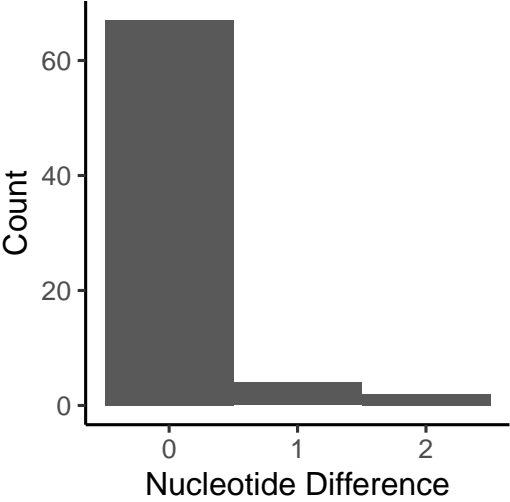
IGHV3-73\*01\_02

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



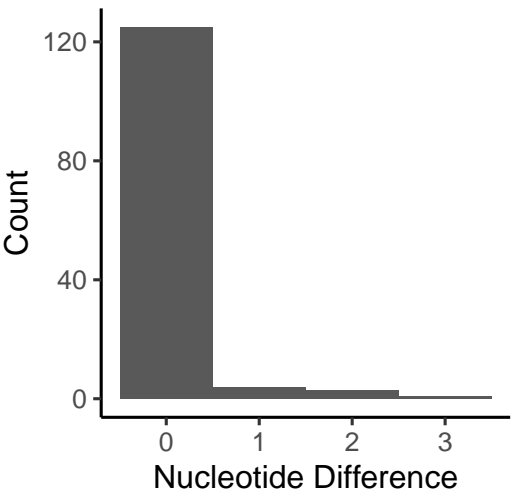
IGHV4-4\*02\_03

73 sequences assigned  
67 (91.8%) exact matches, in which:  
67 unique CDR3  
4 unique J



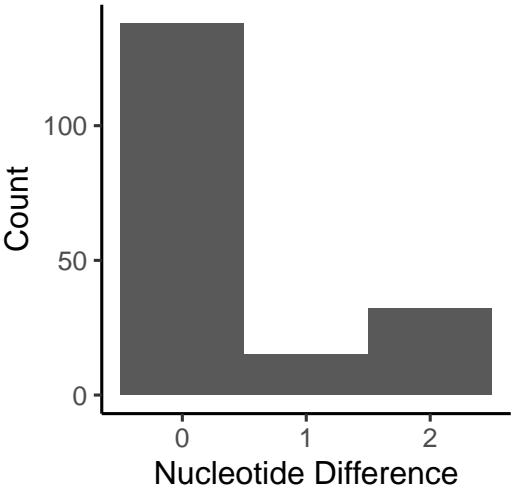
IGHV4-30-2\*01

133 sequences assigned  
125 (94%) exact matches, in which:  
123 unique CDR3  
6 unique J



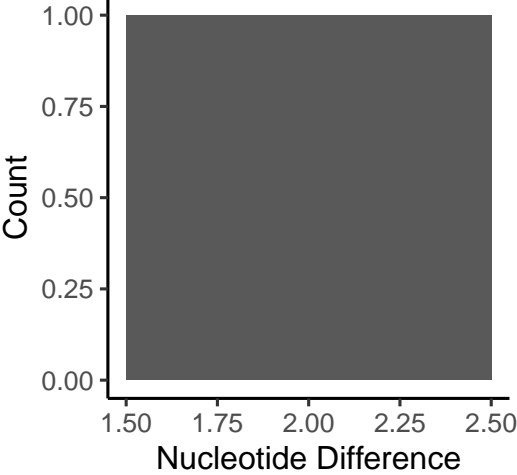
IGHV3-74\*01\_02

185 sequences assigned  
138 (74.6%) exact matches, in which:  
132 unique CDR3  
7 unique J



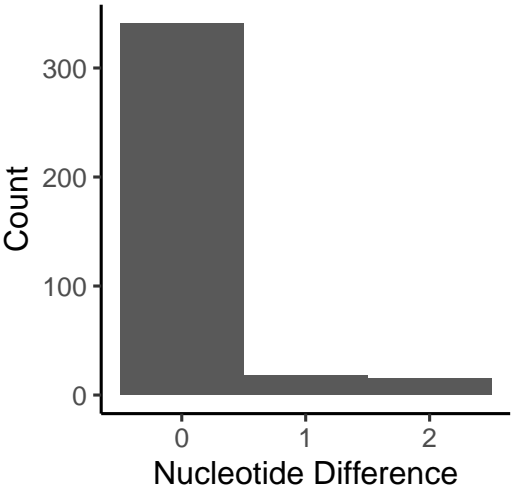
IGHV4-28\*01\_07

1 sequences assigned  
No exact matches.



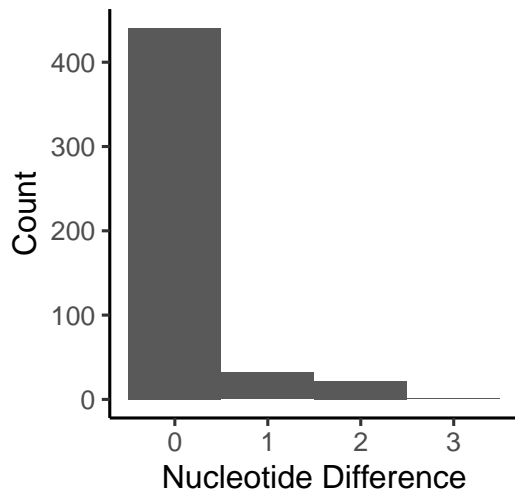
IGHV4-31\*02

374 sequences assigned  
341 (91.2%) exact matches, in which:  
339 unique CDR3  
7 unique J



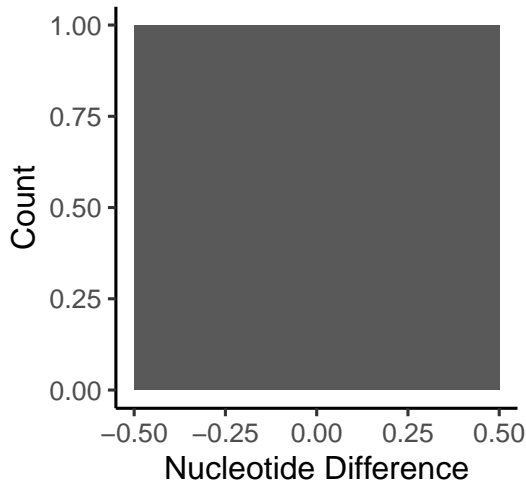
### IGHV4-34\*01\_02

496 sequences assigned  
441 (88.9%) exact matches, in which:  
440 unique CDR3  
7 unique J



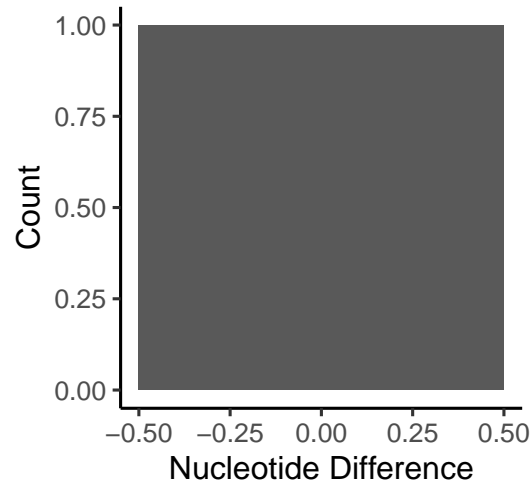
### IGHV4-59\*11

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



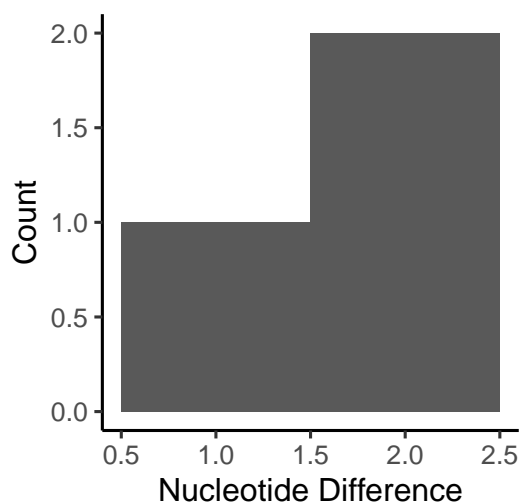
### IGHV5-51\*07

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



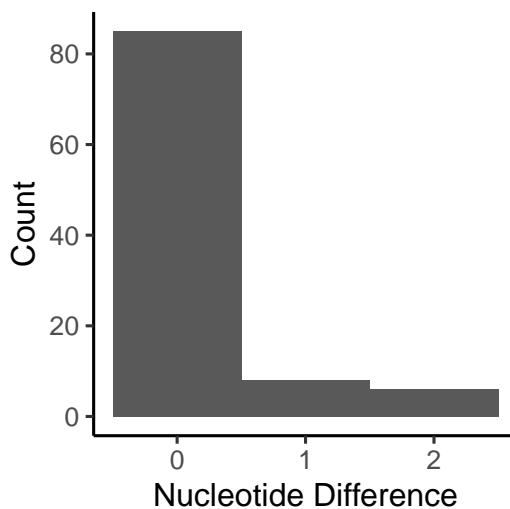
### IGHV4-39\*02

3 sequences assigned  
No exact matches.



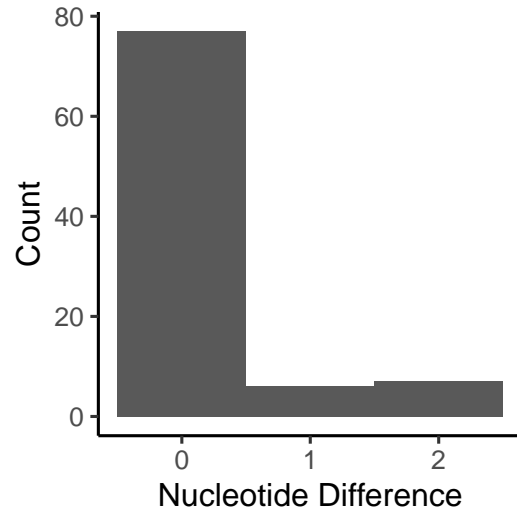
### IGHV4-61\*01

99 sequences assigned  
85 (85.9%) exact matches, in which:  
82 unique CDR3  
5 unique J



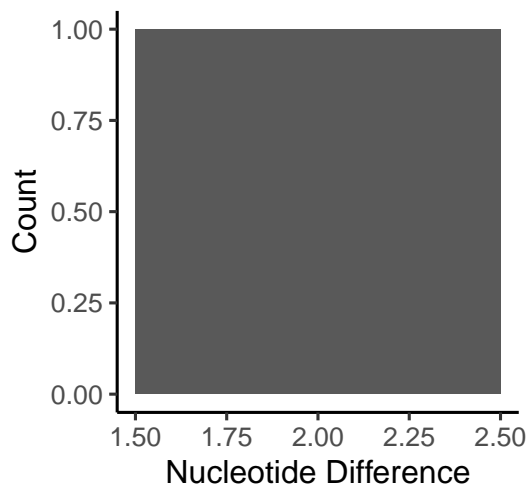
### IGHV6-1\*01\_02

90 sequences assigned  
77 (85.6%) exact matches, in which:  
77 unique CDR3  
6 unique J



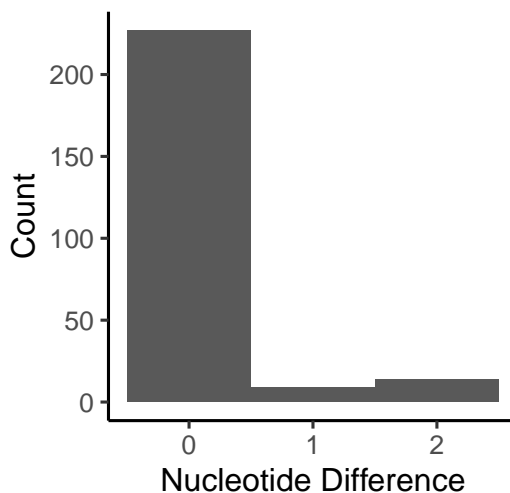
### IGHV4-59\*02

1 sequences assigned  
No exact matches.



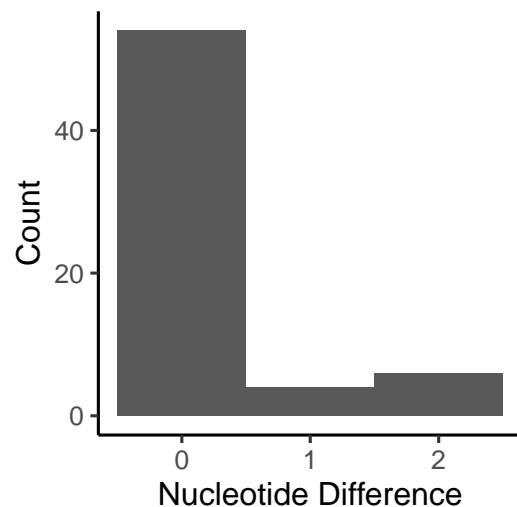
### IGHV4-61\*02

250 sequences assigned  
227 (90.8%) exact matches, in which:  
221 unique CDR3  
6 unique J

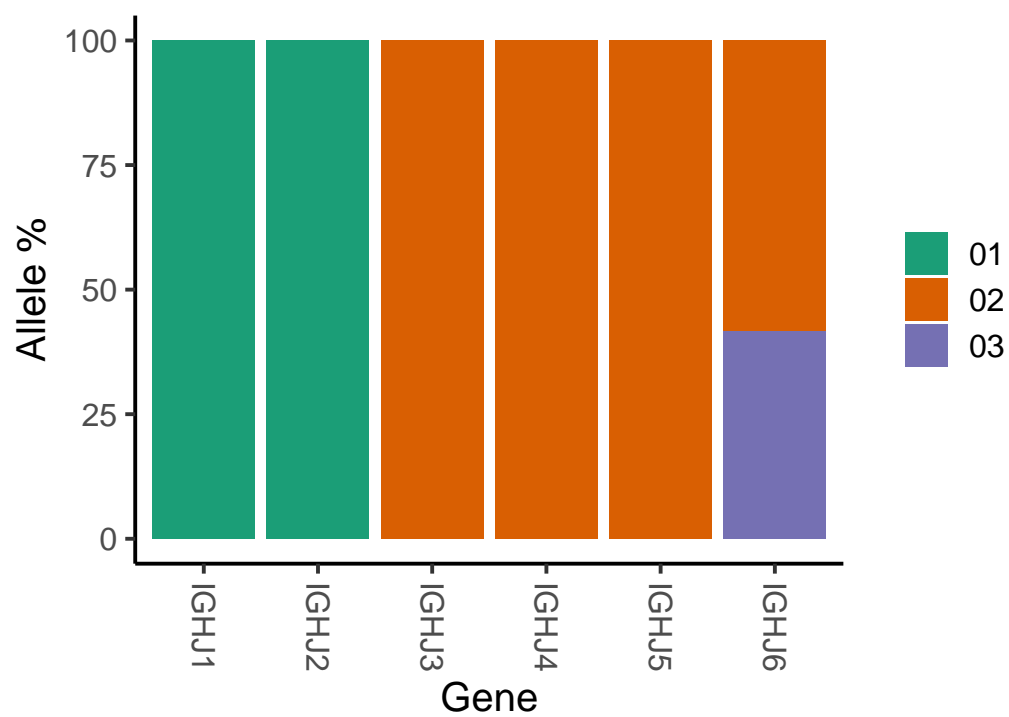


### IGHV7-4-1\*02

64 sequences assigned  
54 (84.4%) exact matches, in which:  
54 unique CDR3  
6 unique J



Allele Usage



### Sequence Count byIGHJ6 allele usage

