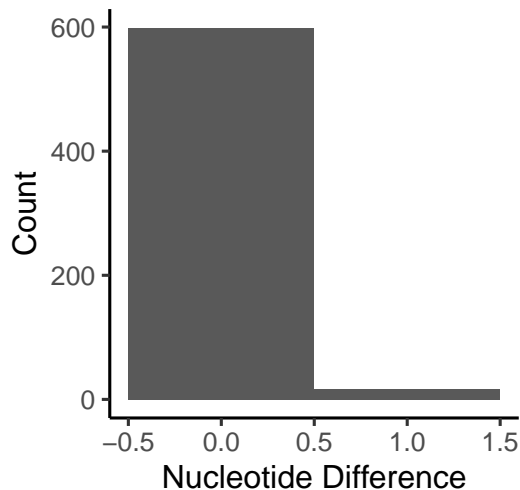


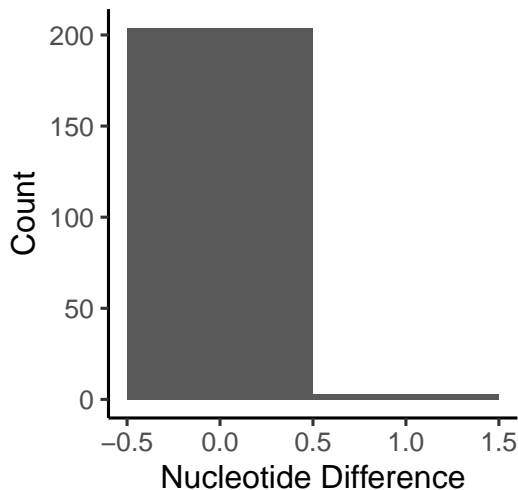
### IGHV1-2\*06

616 sequences assigned  
599 (97.2%) exact matches, in which:  
596 unique CDR3  
6 unique J



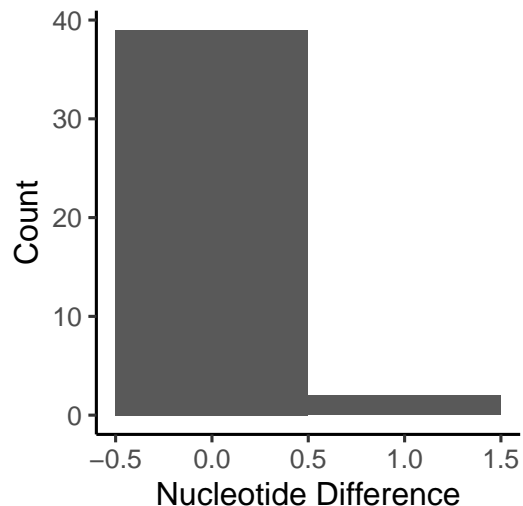
### IGHV1-24\*01

207 sequences assigned  
204 (98.6%) exact matches, in which:  
203 unique CDR3  
6 unique J



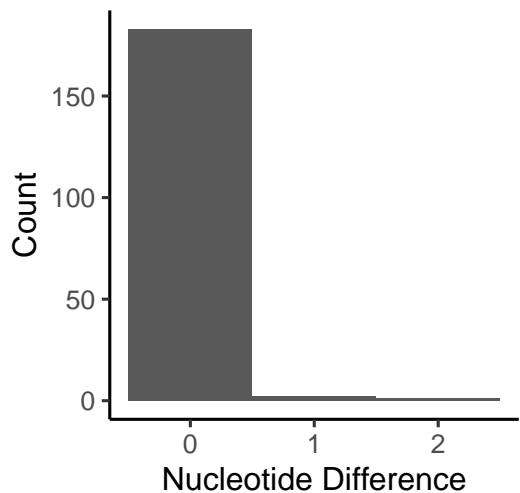
### IGHV1-58\*02

41 sequences assigned  
39 (95.1%) exact matches, in which:  
39 unique CDR3  
5 unique J



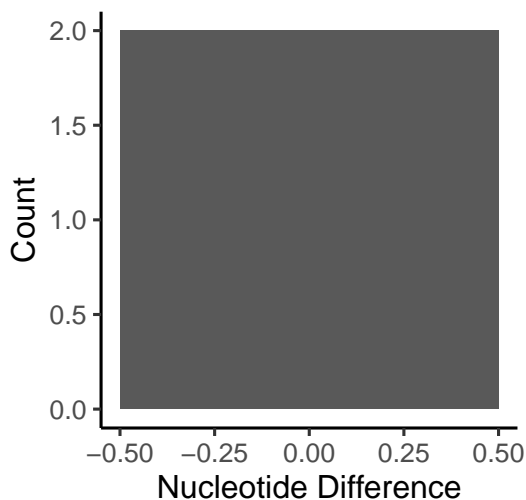
### IGHV1-8\*01

186 sequences assigned  
183 (98.4%) exact matches, in which:  
183 unique CDR3  
6 unique J



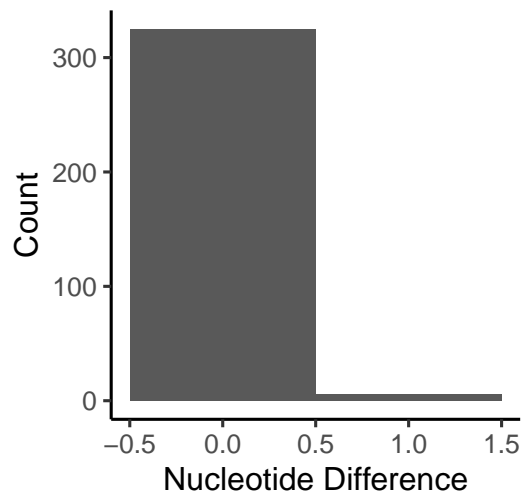
### IGHV1-45\*02

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



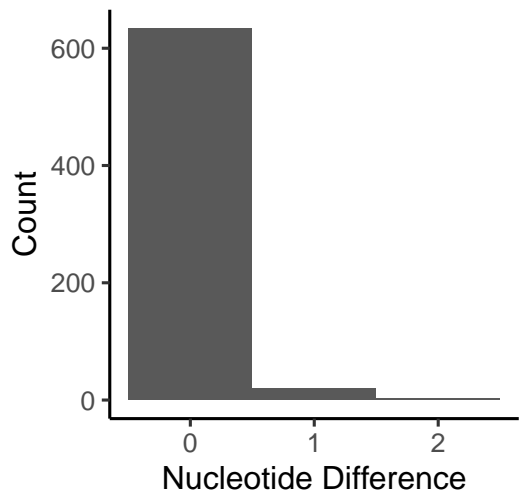
### IGHV1-69\*10

331 sequences assigned  
325 (98.2%) exact matches, in which:  
325 unique CDR3  
6 unique J



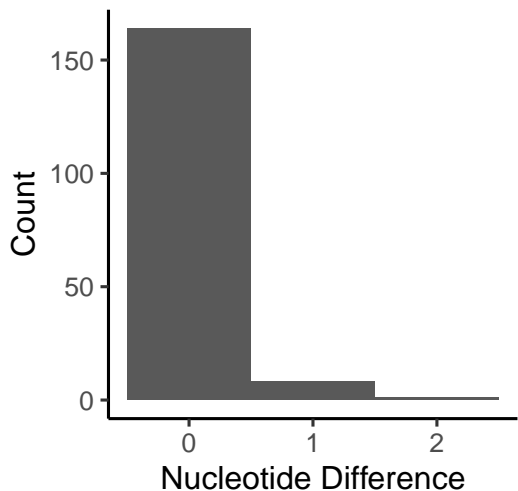
### IGHV1-18\*01

656 sequences assigned  
634 (96.6%) exact matches, in which:  
633 unique CDR3  
6 unique J



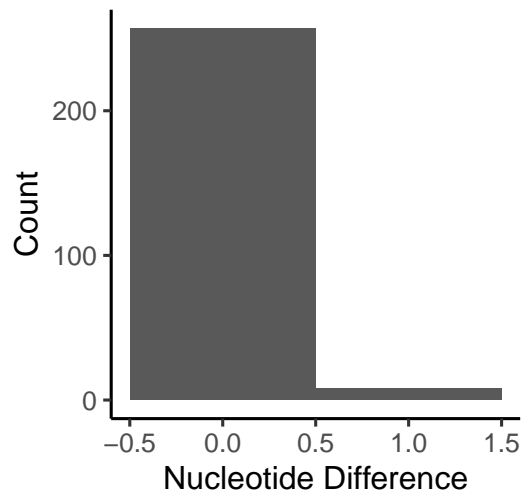
### IGHV1-46\*01

173 sequences assigned  
164 (94.8%) exact matches, in which:  
163 unique CDR3  
6 unique J



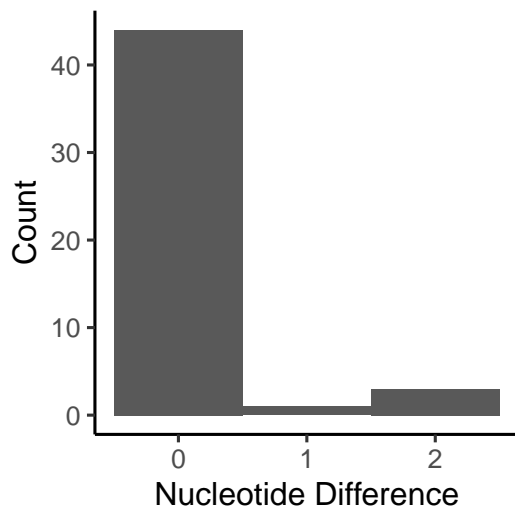
### IGHV1-69\*04\_09

265 sequences assigned  
257 (97%) exact matches, in which:  
257 unique CDR3  
6 unique J



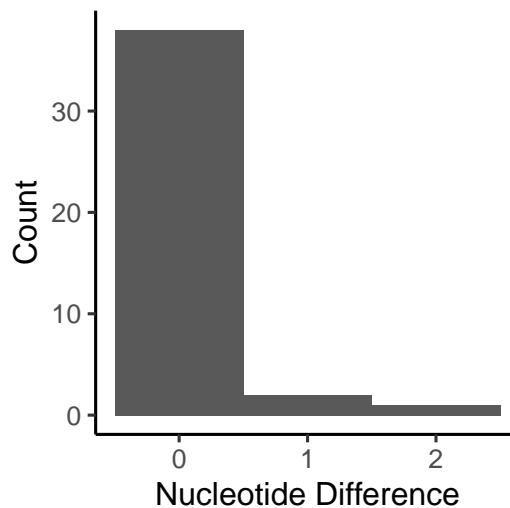
### IGHV2-5\*01

48 sequences assigned  
44 (91.7%) exact matches, in which:  
44 unique CDR3  
6 unique J



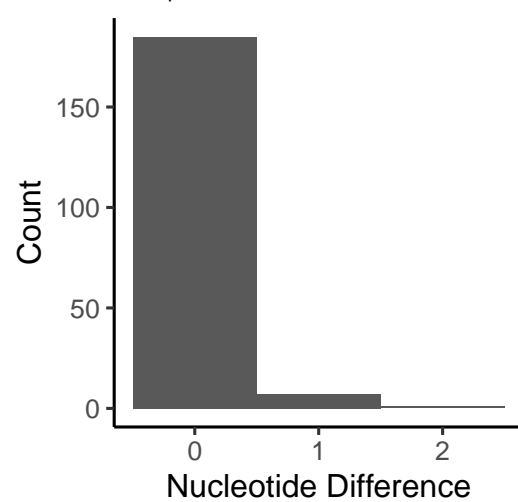
### IGHV2-70\*11\_15

41 sequences assigned  
38 (92.7%) exact matches, in which:  
37 unique CDR3  
4 unique J



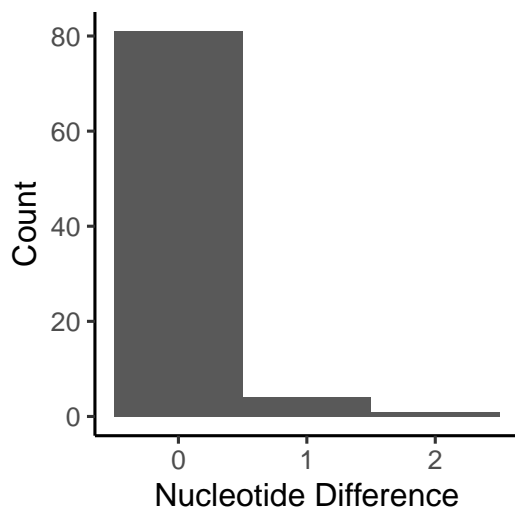
### IGHV3-9\*01

193 sequences assigned  
185 (95.9%) exact matches, in which:  
177 unique CDR3  
6 unique J



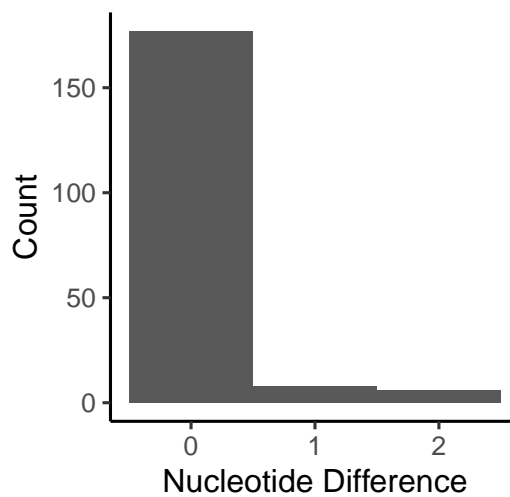
### IGHV2-5\*02

86 sequences assigned  
81 (94.2%) exact matches, in which:  
81 unique CDR3  
6 unique J



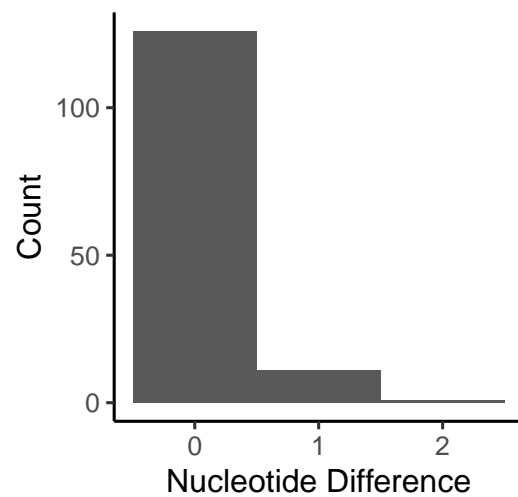
### IGHV3-7\*01

191 sequences assigned  
177 (92.7%) exact matches, in which:  
169 unique CDR3  
5 unique J



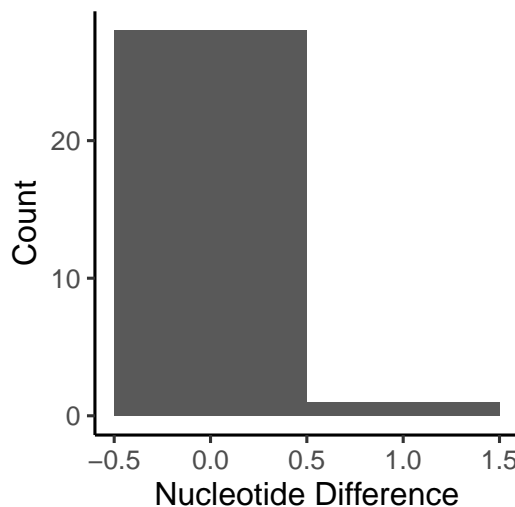
### IGHV3-11\*01

138 sequences assigned  
126 (91.3%) exact matches, in which:  
123 unique CDR3  
6 unique J



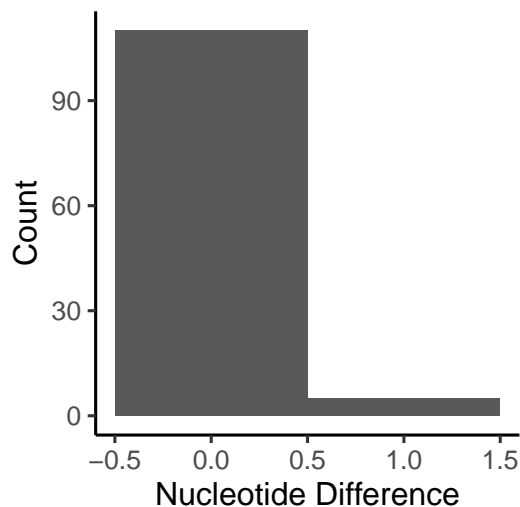
### IGHV2-26\*01

29 sequences assigned  
28 (96.6%) exact matches, in which:  
28 unique CDR3  
5 unique J



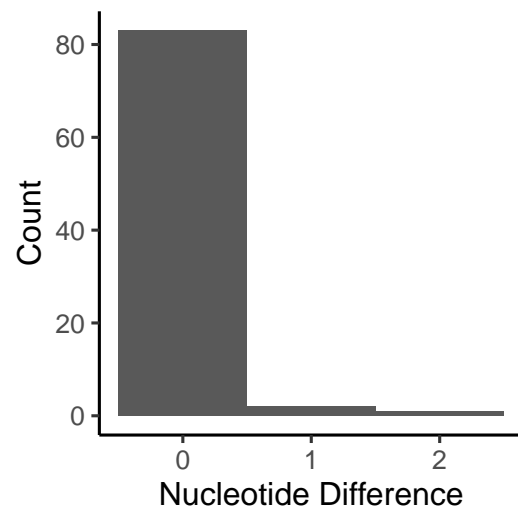
### IGHV3-7\*05

115 sequences assigned  
110 (95.7%) exact matches, in which:  
110 unique CDR3  
6 unique J



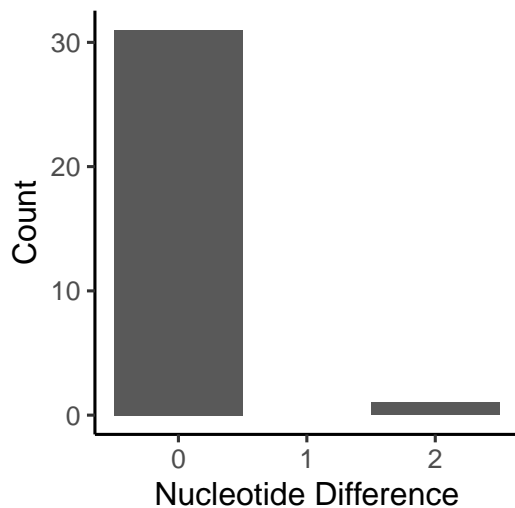
### IGHV3-11\*06

86 sequences assigned  
83 (96.5%) exact matches, in which:  
82 unique CDR3  
4 unique J



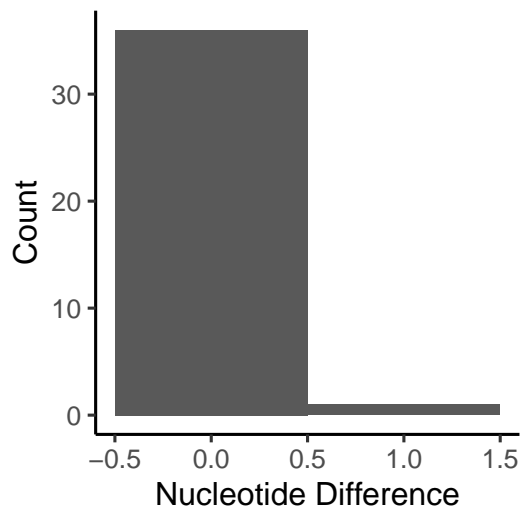
### IGHV3-13\*01

32 sequences assigned  
31 (96.9%) exact matches, in which:  
30 unique CDR3  
4 unique J



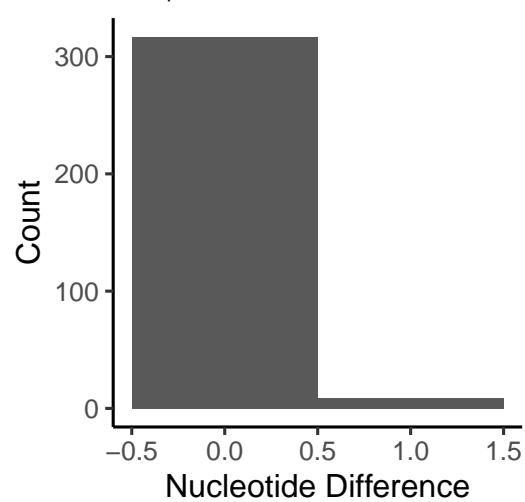
### IGHV3-20\*01\_02

37 sequences assigned  
36 (97.3%) exact matches, in which:  
35 unique CDR3  
5 unique J



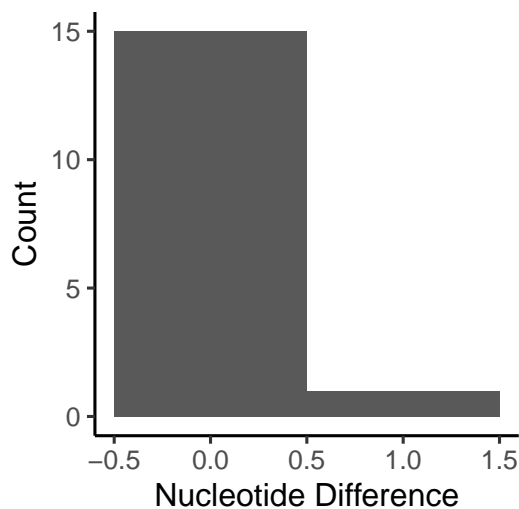
### IGHV3-30-3\*01

326 sequences assigned  
317 (97.2%) exact matches, in which:  
311 unique CDR3  
6 unique J



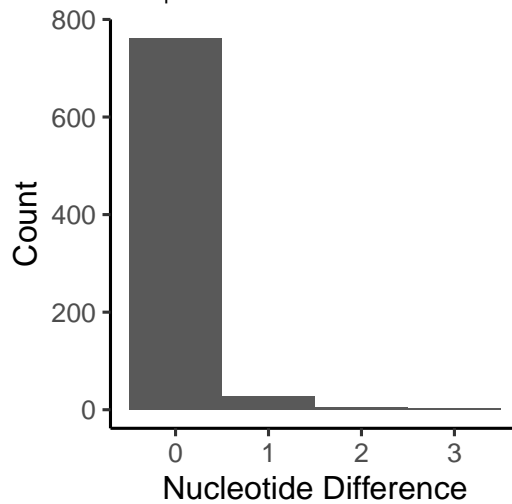
### IGHV3-13\*05

16 sequences assigned  
15 (93.8%) exact matches, in which:  
15 unique CDR3  
5 unique J



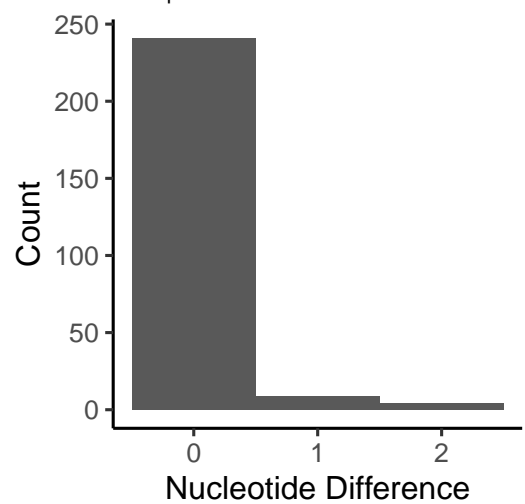
### IGHV3-21\*01\_02

797 sequences assigned  
762 (95.6%) exact matches, in which:  
742 unique CDR3  
6 unique J



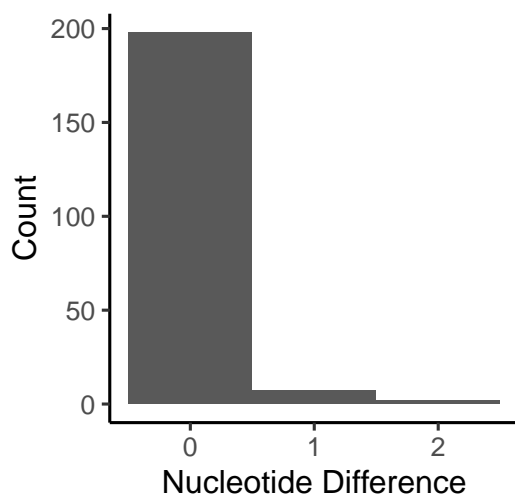
### IGHV3-33\*06

254 sequences assigned  
241 (94.9%) exact matches, in which:  
235 unique CDR3  
6 unique J



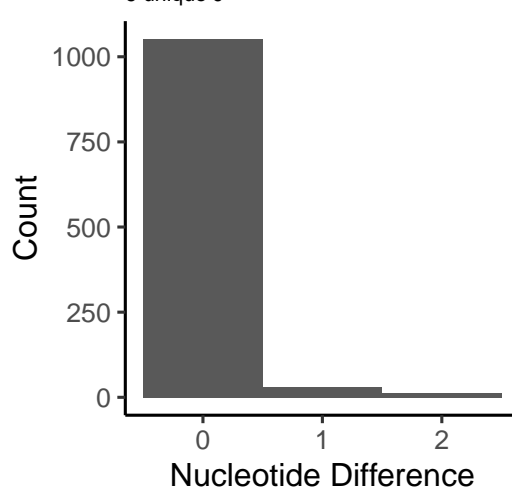
### IGHV3-15\*01\_02

207 sequences assigned  
198 (95.7%) exact matches, in which:  
197 unique CDR3  
6 unique J



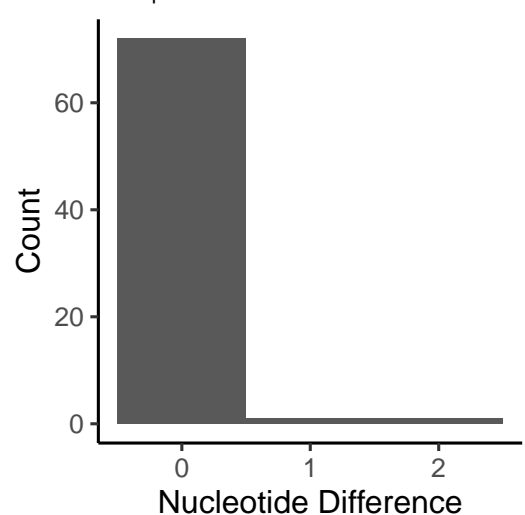
### IGHV3-23\*01\_04

1095 sequences assigned  
1052 (96.1%) exact matches, in which:  
1008 unique CDR3  
6 unique J



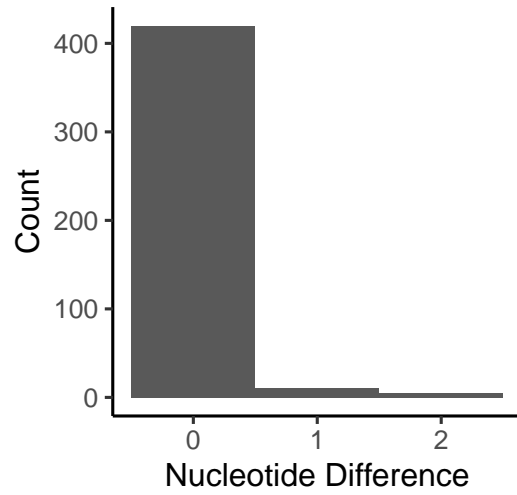
### IGHV3-43\*01

74 sequences assigned  
72 (97.3%) exact matches, in which:  
71 unique CDR3  
5 unique J



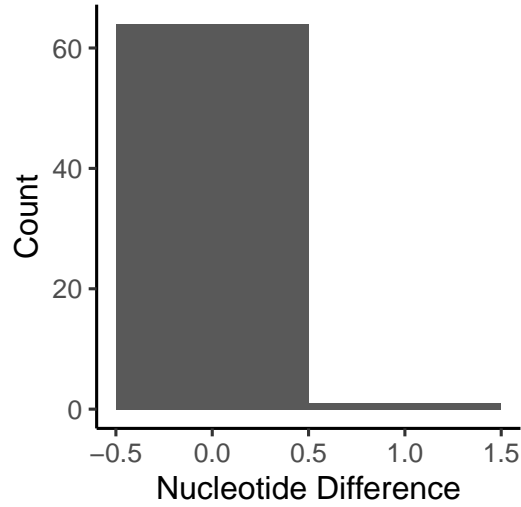
### IGHV3-48\*04

436 sequences assigned  
420 (96.3%) exact matches, in which:  
405 unique CDR3  
6 unique J



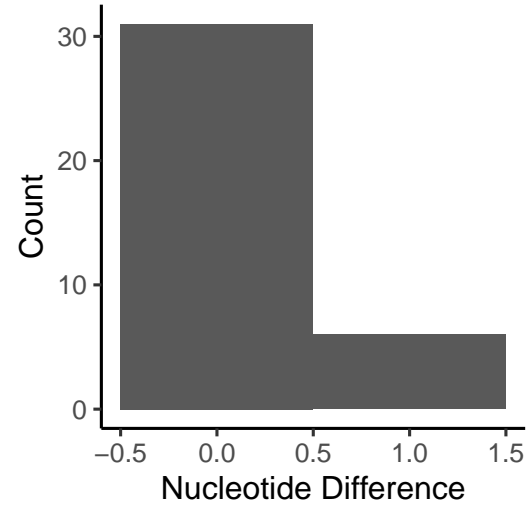
### IGHV3-64\*01

65 sequences assigned  
64 (98.5%) exact matches, in which:  
62 unique CDR3  
5 unique J



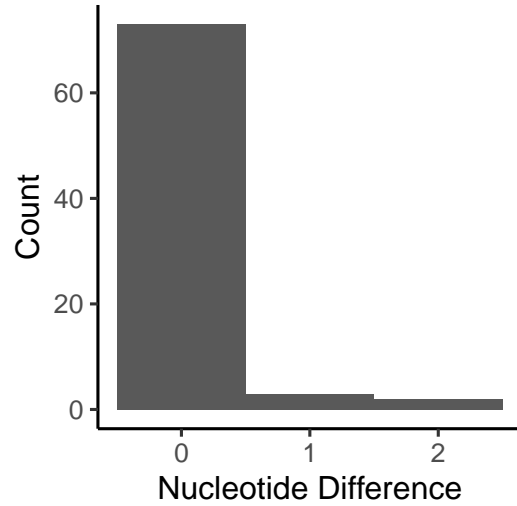
### IGHV3-73\*01\_02

37 sequences assigned  
31 (83.8%) exact matches, in which:  
30 unique CDR3  
4 unique J



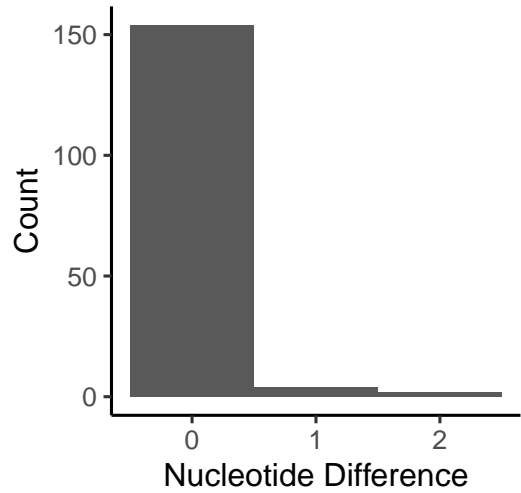
### IGHV3-49\*03\_05

78 sequences assigned  
73 (93.6%) exact matches, in which:  
71 unique CDR3  
6 unique J



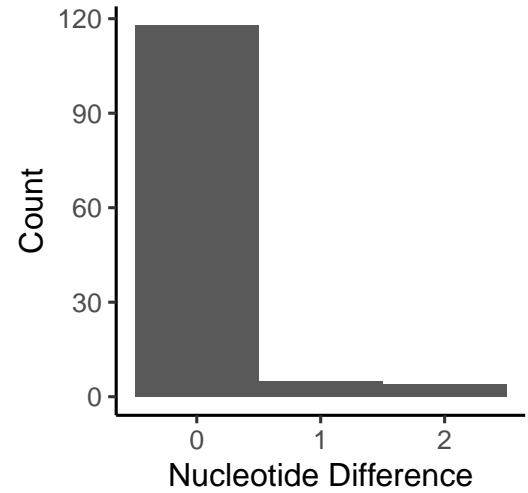
### IGHV3-66\*01

160 sequences assigned  
154 (96.2%) exact matches, in which:  
149 unique CDR3  
6 unique J



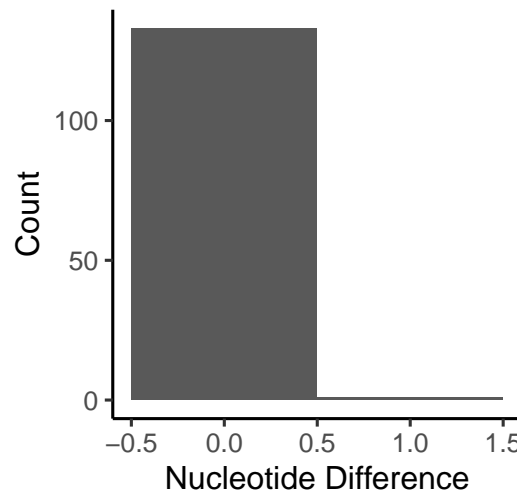
### IGHV3-74\*01\_02

127 sequences assigned  
118 (92.9%) exact matches, in which:  
112 unique CDR3  
6 unique J



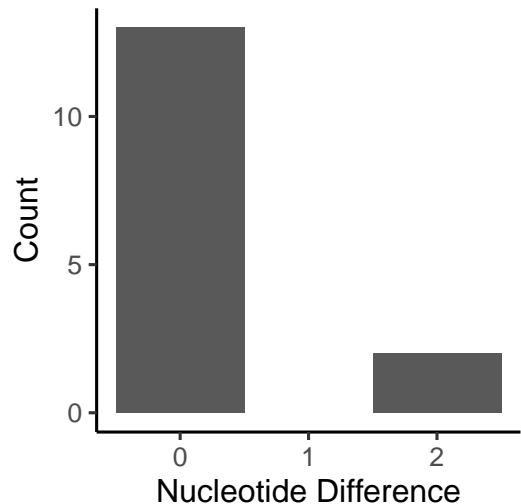
### IGHV3-53\*04

134 sequences assigned  
133 (99.3%) exact matches, in which:  
128 unique CDR3  
5 unique J



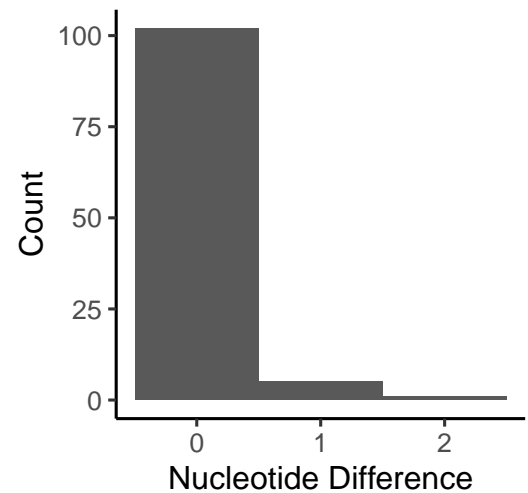
### IGHV3-72\*01

15 sequences assigned  
13 (86.7%) exact matches, in which:  
13 unique CDR3  
2 unique J



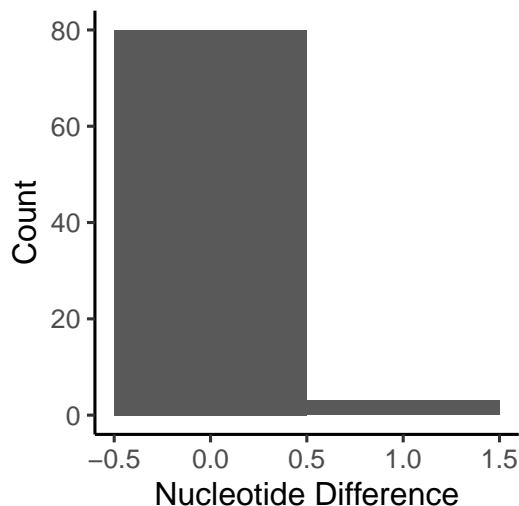
### IGHV3-43D\*03

108 sequences assigned  
102 (94.4%) exact matches, in which:  
99 unique CDR3  
6 unique J



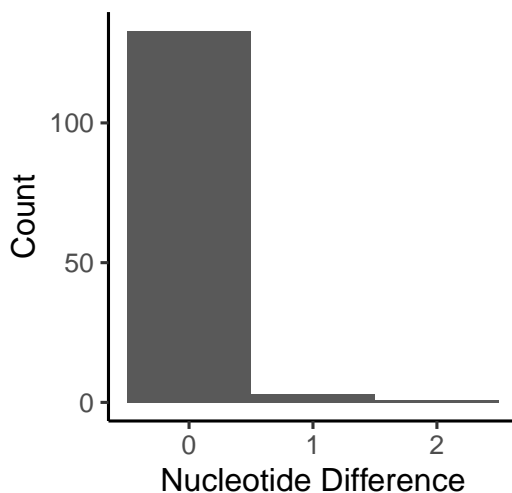
### IGHV3-64D\*06

83 sequences assigned  
80 (96.4%) exact matches, in which:  
74 unique CDR3  
5 unique J



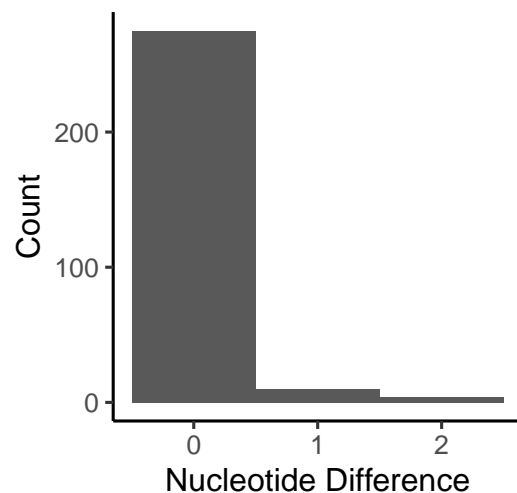
### IGHV4-30-4\*01

137 sequences assigned  
133 (97.1%) exact matches, in which:  
130 unique CDR3  
5 unique J



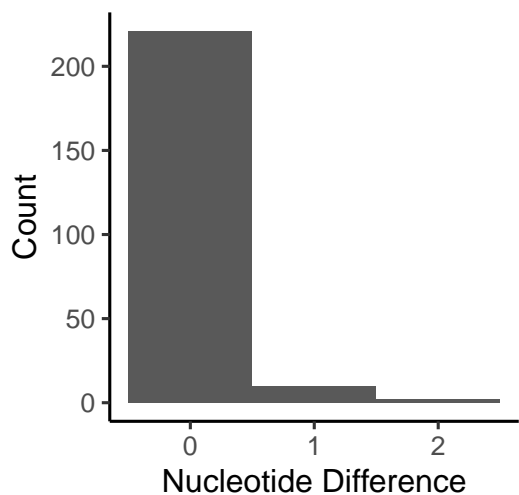
### IGHV4-38-2\*02

289 sequences assigned  
275 (95.2%) exact matches, in which:  
270 unique CDR3  
6 unique J



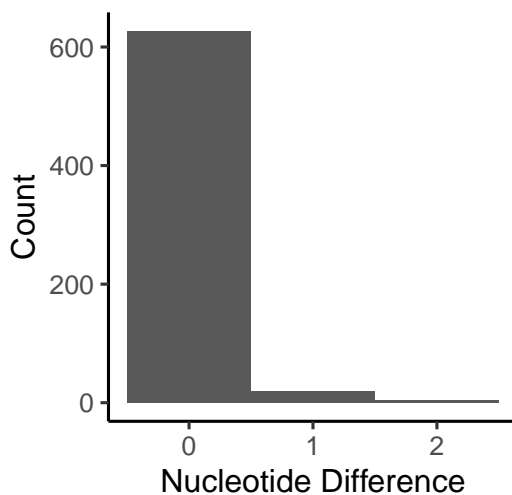
### IGHV4-4\*02\_03

233 sequences assigned  
221 (94.8%) exact matches, in which:  
219 unique CDR3  
6 unique J



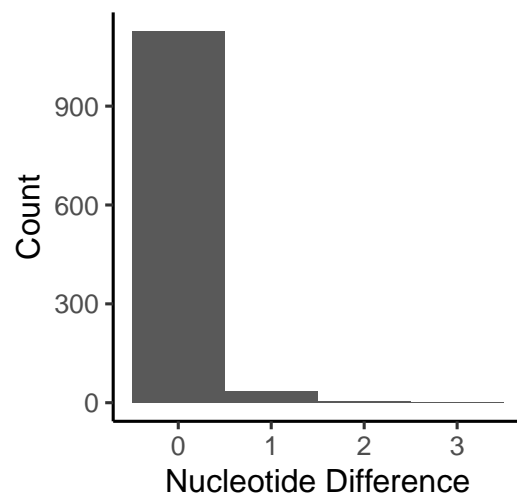
### IGHV4-31\*02

651 sequences assigned  
627 (96.3%) exact matches, in which:  
619 unique CDR3  
6 unique J



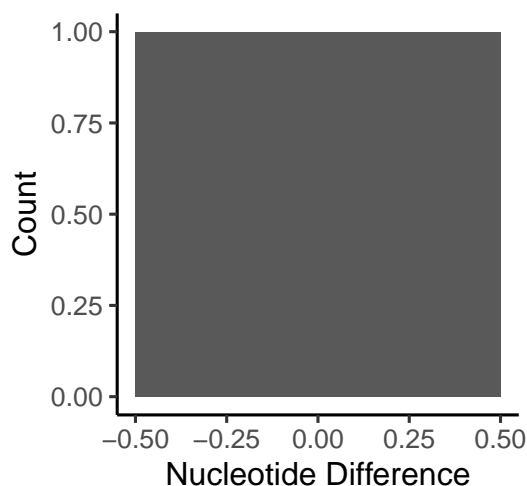
### IGHV4-39\*07

1168 sequences assigned  
1128 (96.6%) exact matches, in which:  
1078 unique CDR3  
6 unique J



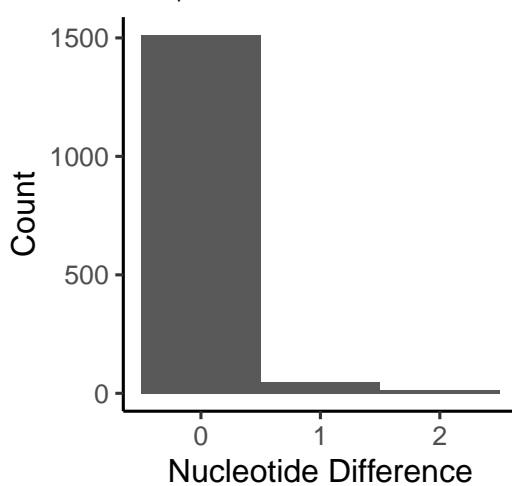
### IGHV4-28\*01\_07

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



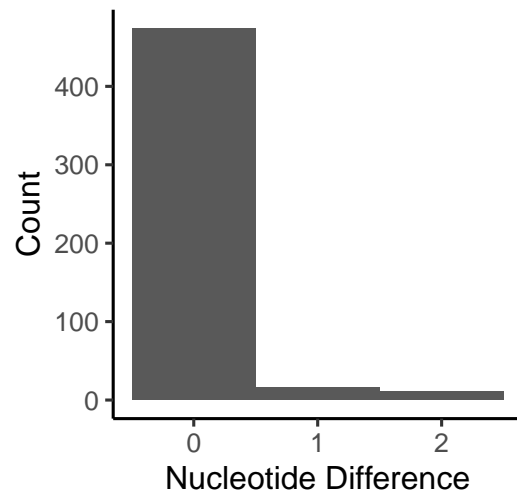
### IGHV4-34\*01\_02

1574 sequences assigned  
1512 (96.1%) exact matches, in which:  
1462 unique CDR3  
6 unique J



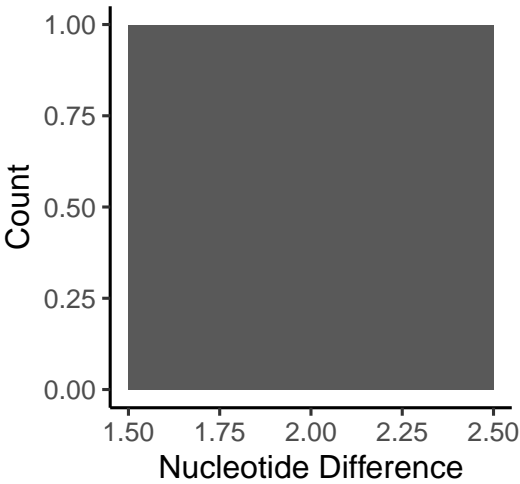
### IGHV4-59\*08

501 sequences assigned  
474 (94.6%) exact matches, in which:  
461 unique CDR3  
6 unique J



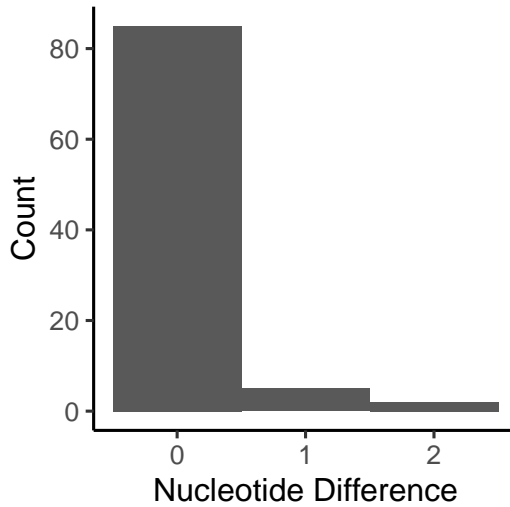
### IGHV4-61\*01

1 sequences assigned  
No exact matches.



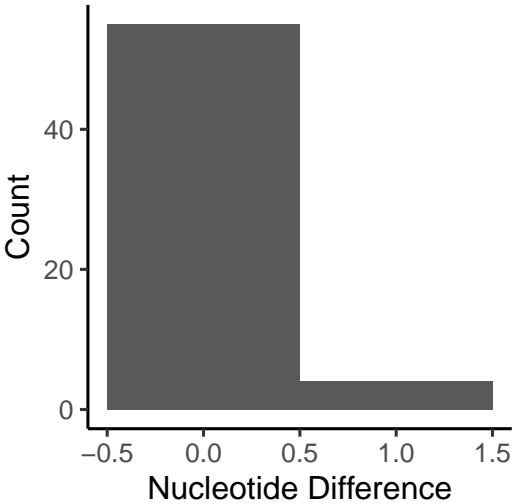
### IGHV6-1\*01\_02

92 sequences assigned  
85 (92.4%) exact matches, in which:  
85 unique CDR3  
5 unique J



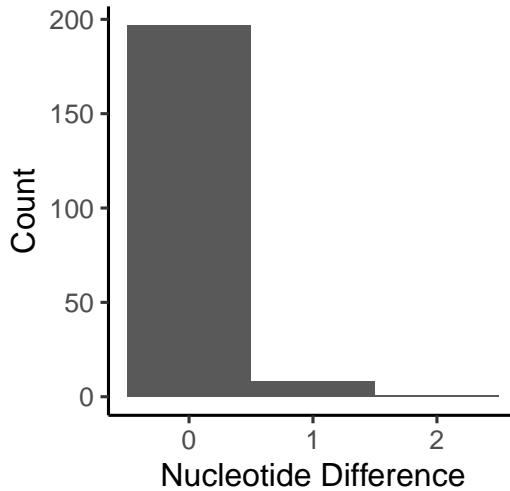
### IGHV5-10-1\*01\_03

59 sequences assigned  
55 (93.2%) exact matches, in which:  
55 unique CDR3  
5 unique J



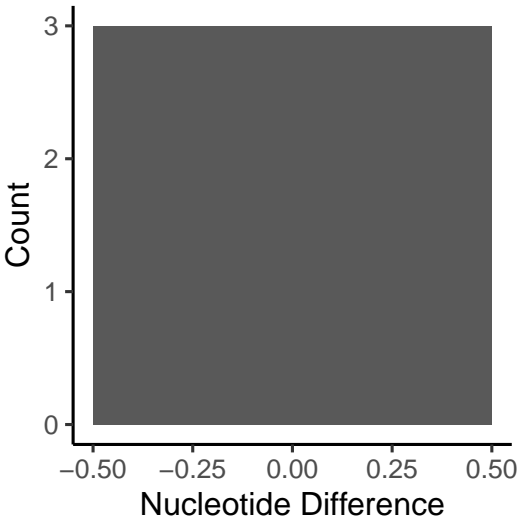
### IGHV7-4-1\*02

206 sequences assigned  
197 (95.6%) exact matches, in which:  
197 unique CDR3  
5 unique J



### IGHV5-51\*01\_03

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





[illegible]