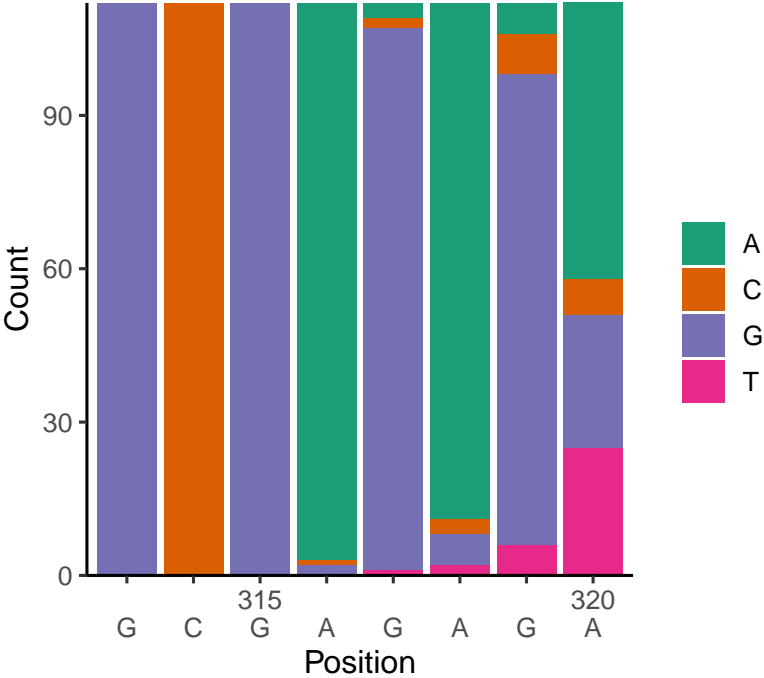
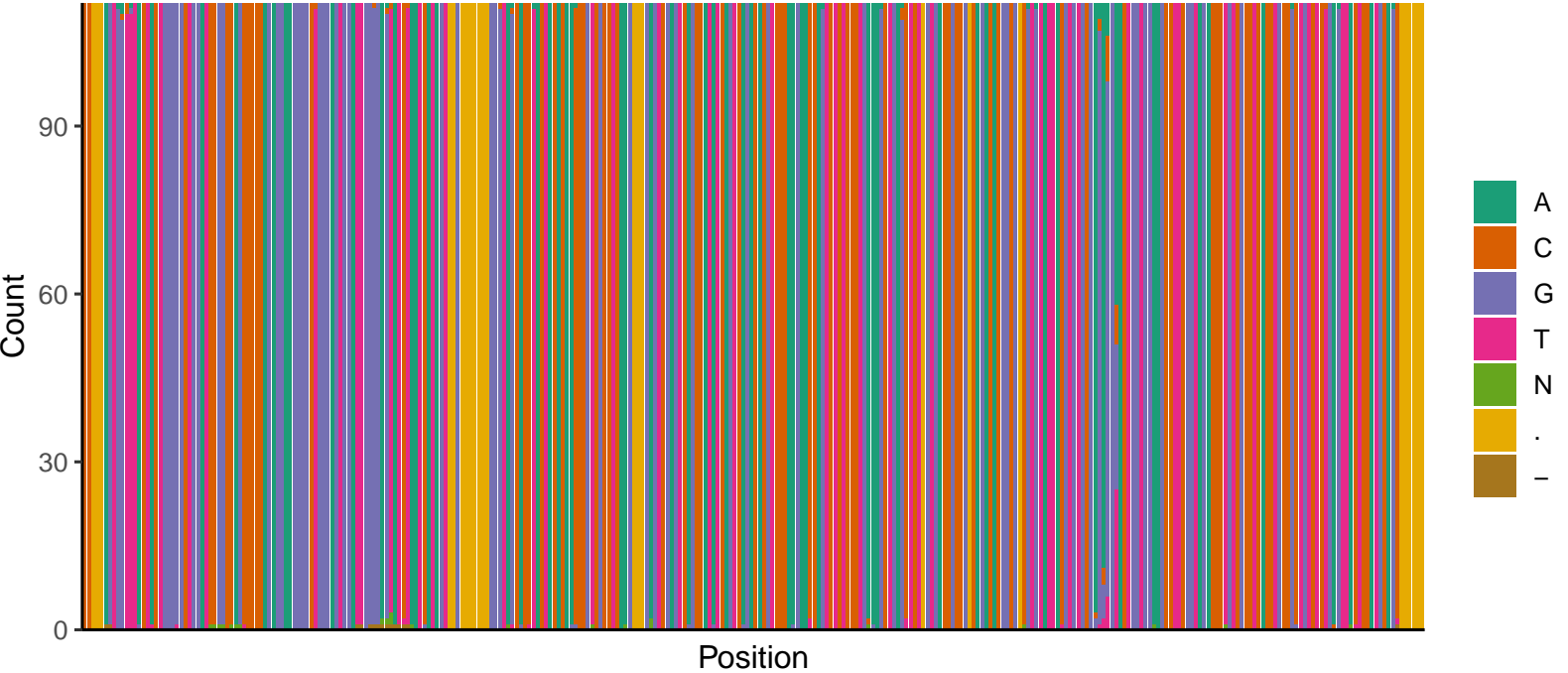


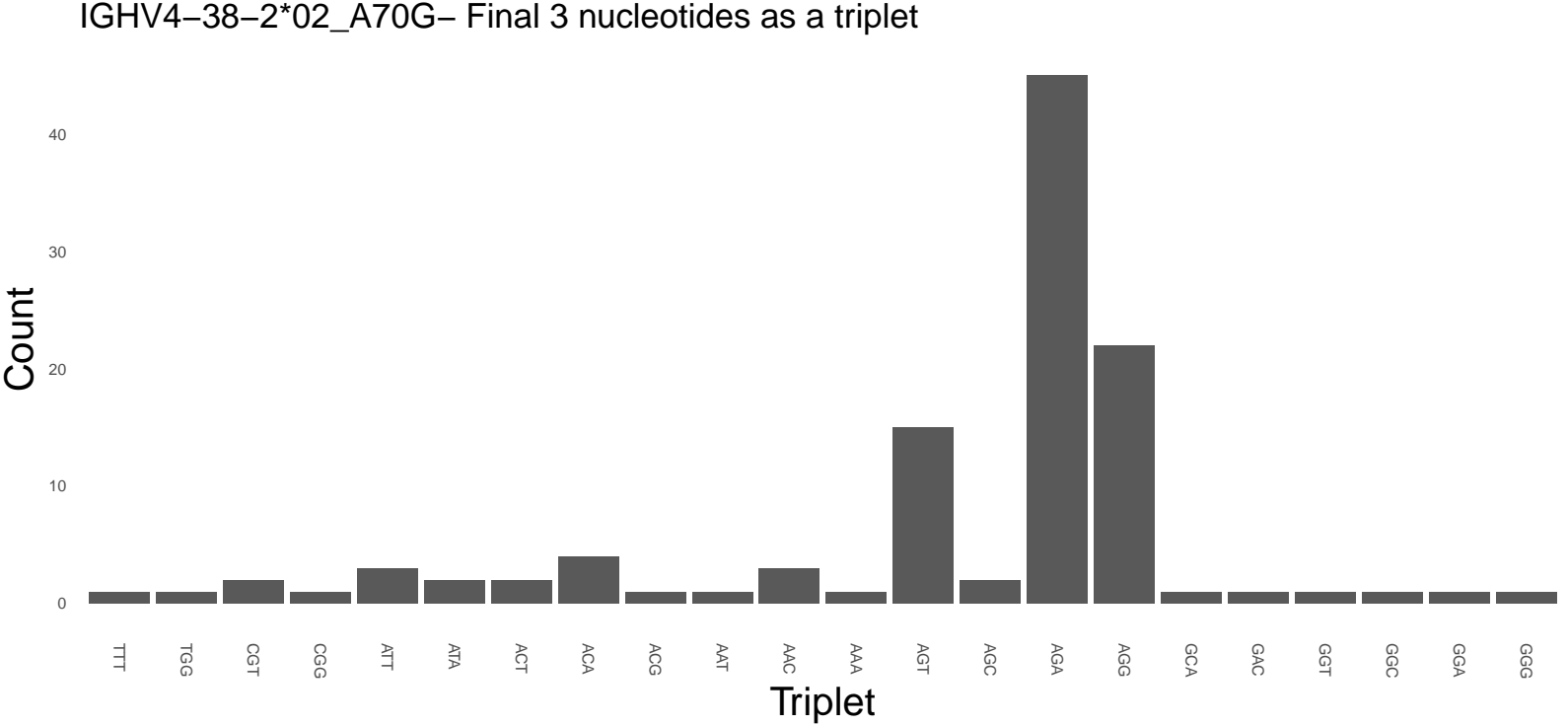
Gene IGHV4-38-2\*02\_A70G



Gene IGHV4-38-2\*02\_A70G

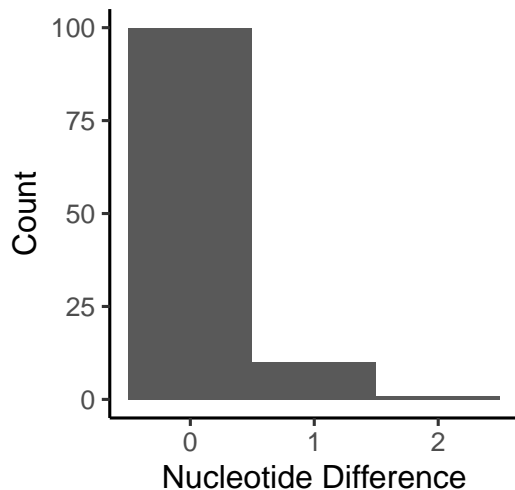


IGHV4-38-2\*02\_A70G- Final 3 nucleotides as a triplet



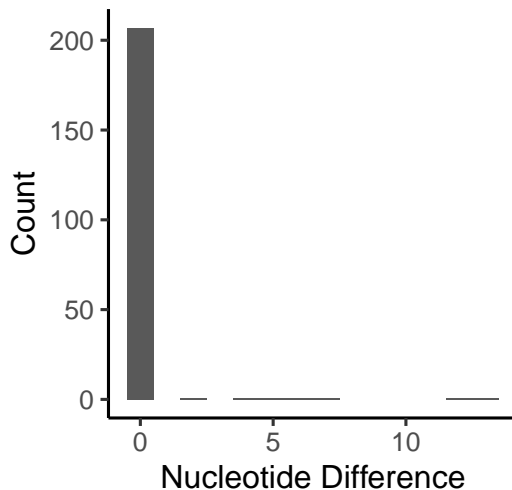
### IGHV1–2\*04

112 sequences assigned  
100 (89.3%) exact matches, in which:  
99 unique CDR3  
6 unique J



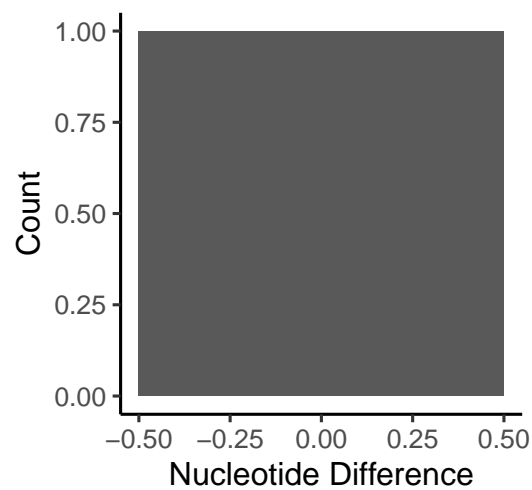
### IGHV1–18\*01

214 sequences assigned  
207 (96.7%) exact matches, in which:  
207 unique CDR3  
6 unique J



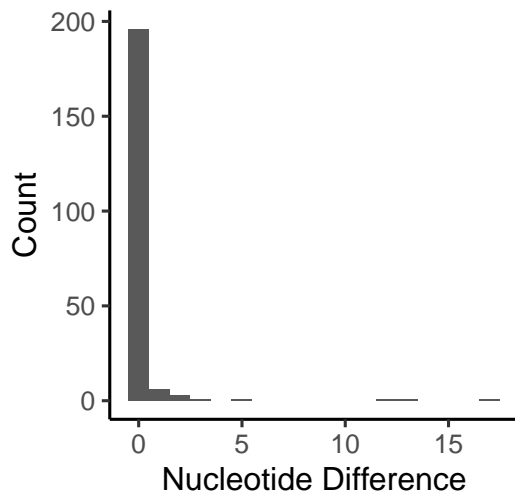
### IGHV1–45\*02

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



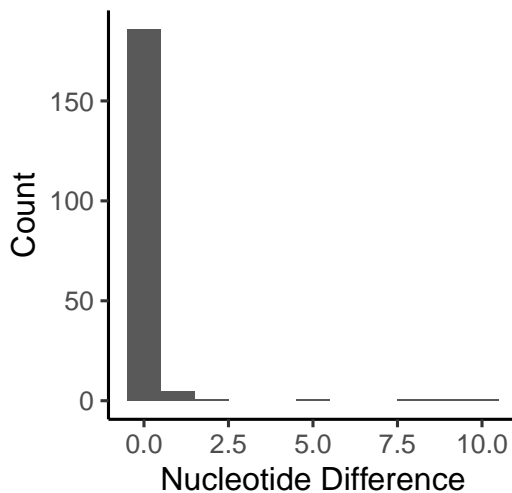
### IGHV1–3\*01

211 sequences assigned  
196 (92.9%) exact matches, in which:  
196 unique CDR3  
6 unique J



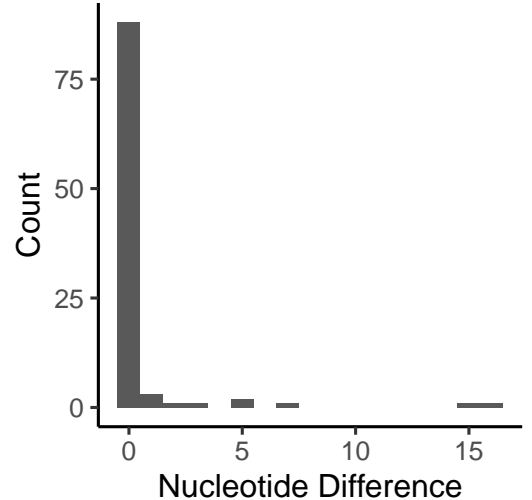
### IGHV1–18\*04

196 sequences assigned  
186 (94.9%) exact matches, in which:  
186 unique CDR3  
6 unique J



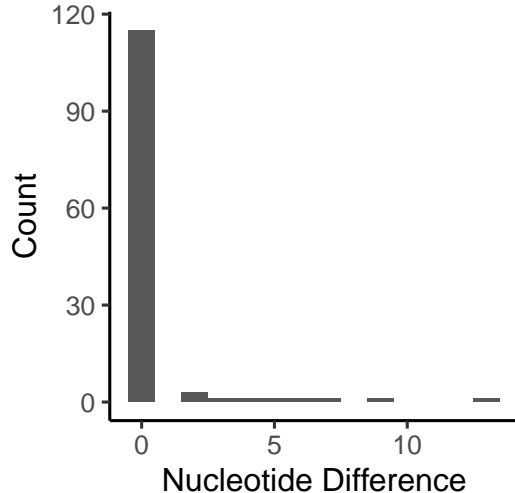
### IGHV1–46\*01

98 sequences assigned  
88 (89.8%) exact matches, in which:  
88 unique CDR3  
6 unique J



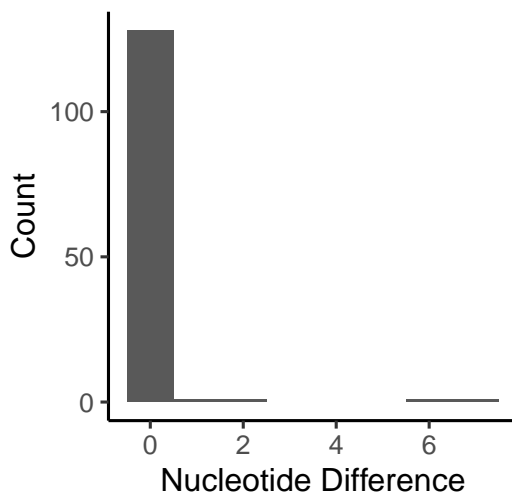
### IGHV1–8\*01

125 sequences assigned  
115 (92%) exact matches, in which:  
115 unique CDR3  
4 unique J



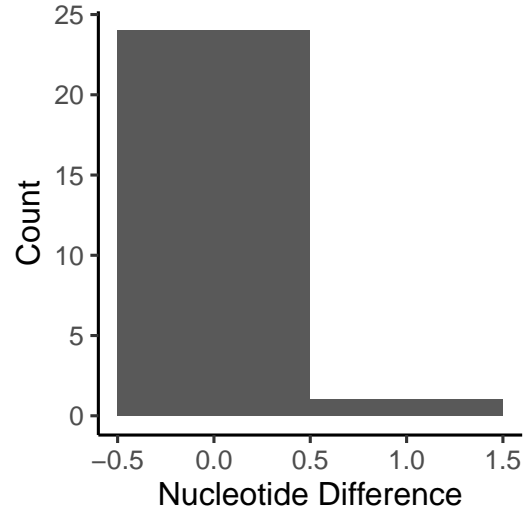
### IGHV1–24\*01

132 sequences assigned  
128 (97%) exact matches, in which:  
128 unique CDR3  
6 unique J



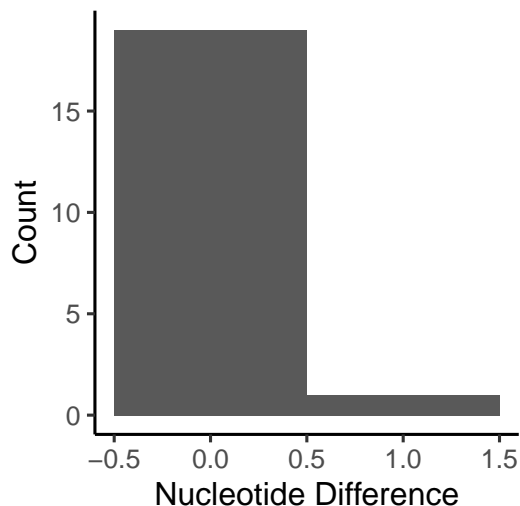
### IGHV1–58\*01

26 sequences assigned  
24 (92.3%) exact matches, in which:  
24 unique CDR3  
5 unique J



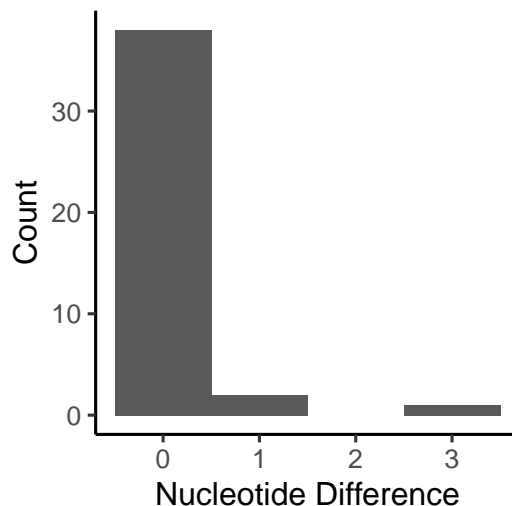
### IGHV1-69-2\*01

20 sequences assigned  
19 (95%) exact matches, in which:  
19 unique CDR3  
4 unique J



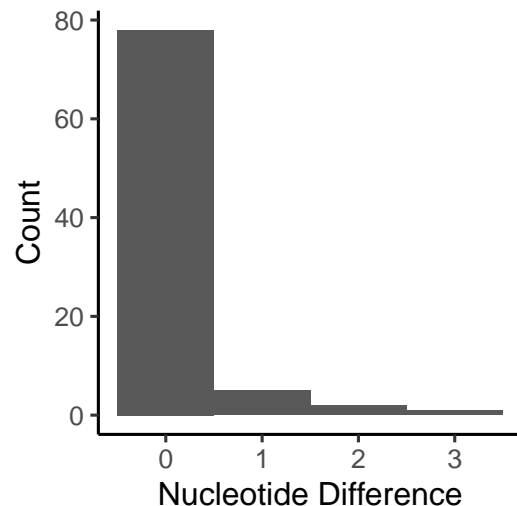
### IGHV2-26\*01

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



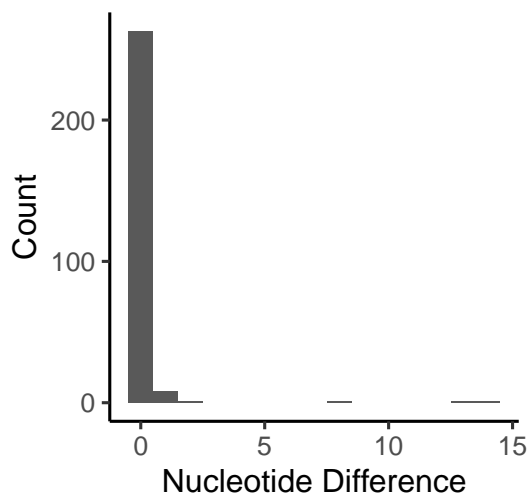
### IGHV3-7\*03

87 sequences assigned  
78 (89.7%) exact matches, in which:  
78 unique CDR3  
5 unique J



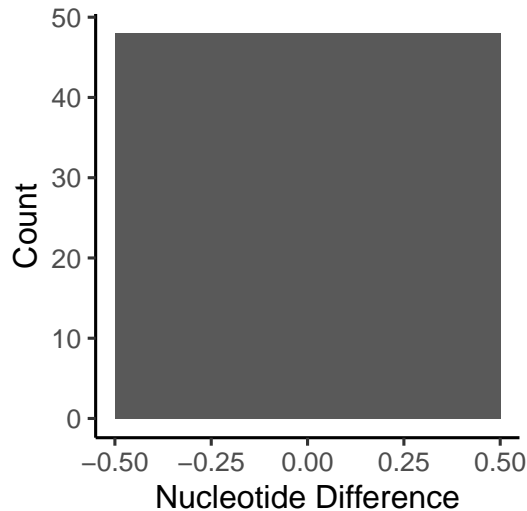
### IGHV1-69\*06

275 sequences assigned  
263 (95.6%) exact matches, in which:  
263 unique CDR3  
6 unique J



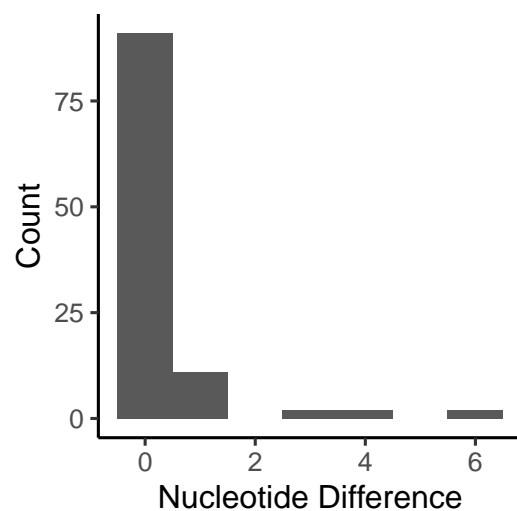
### IGHV2-70\*01

48 sequences assigned  
48 (100%) exact matches, in which:  
48 unique CDR3  
4 unique J



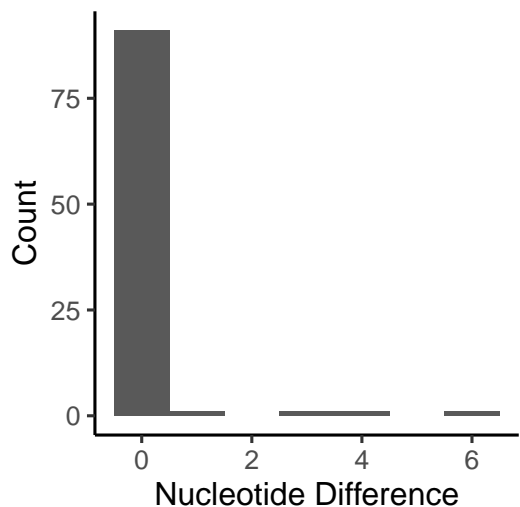
### IGHV3-9\*01

108 sequences assigned  
91 (84.3%) exact matches, in which:  
91 unique CDR3  
5 unique J



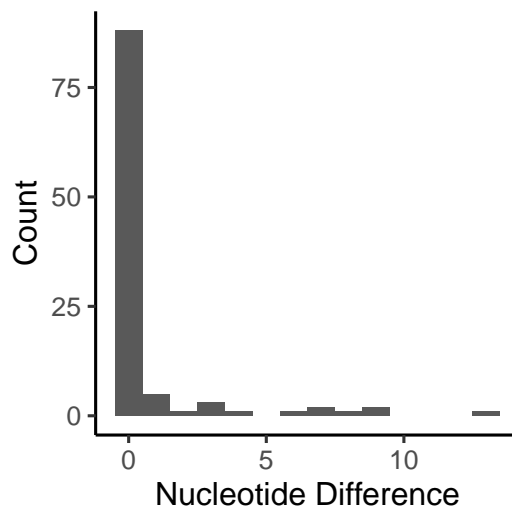
### IGHV2-5\*02

95 sequences assigned  
91 (95.8%) exact matches, in which:  
90 unique CDR3  
6 unique J



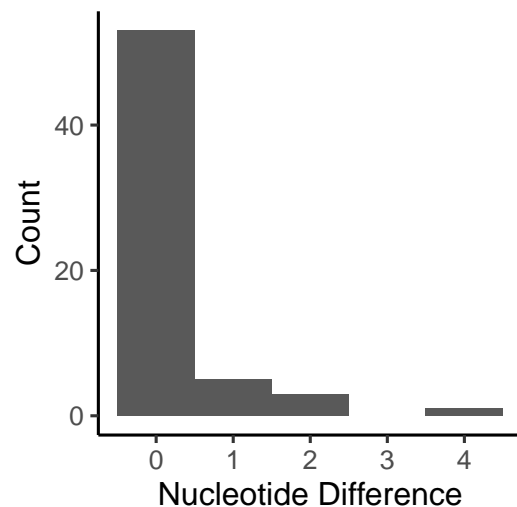
### IGHV3-7\*01

105 sequences assigned  
88 (83.8%) exact matches, in which:  
88 unique CDR3  
6 unique J



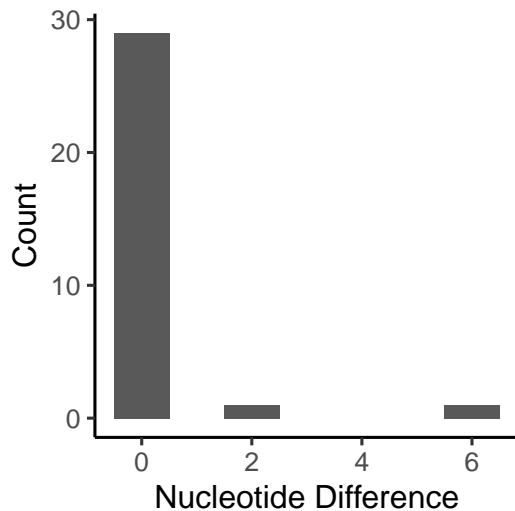
### IGHV3-11\*01

62 sequences assigned  
53 (85.5%) exact matches, in which:  
53 unique CDR3  
5 unique J



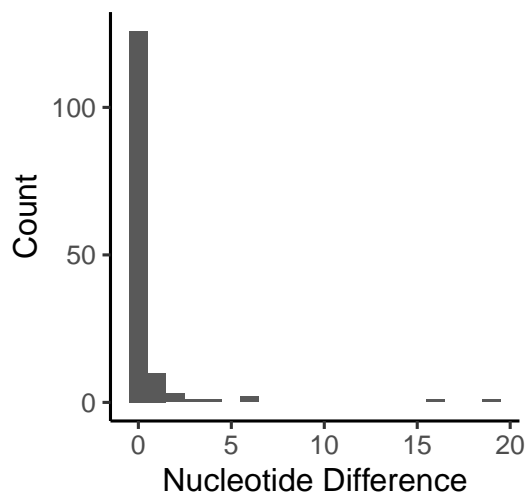
### IGHV3-11\*06

31 sequences assigned  
29 (93.5%) exact matches, in which:  
29 unique CDR3  
5 unique J



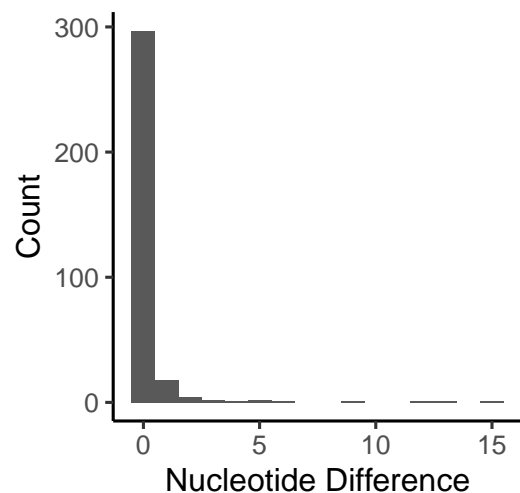
### IGHV3-15\*01

145 sequences assigned  
126 (86.9%) exact matches, in which:  
125 unique CDR3  
5 unique J



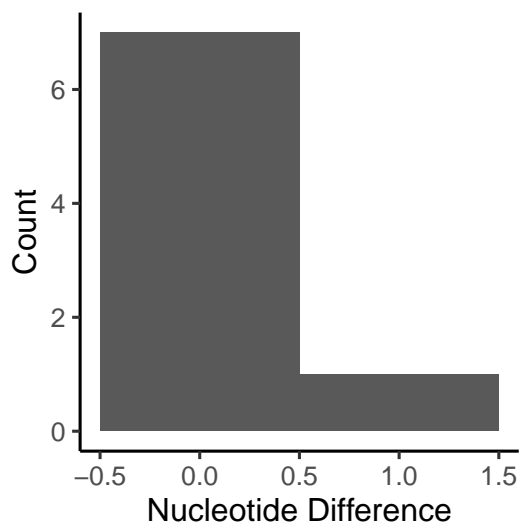
### IGHV3-30-3\*01

330 sequences assigned  
297 (90%) exact matches, in which:  
297 unique CDR3  
6 unique J



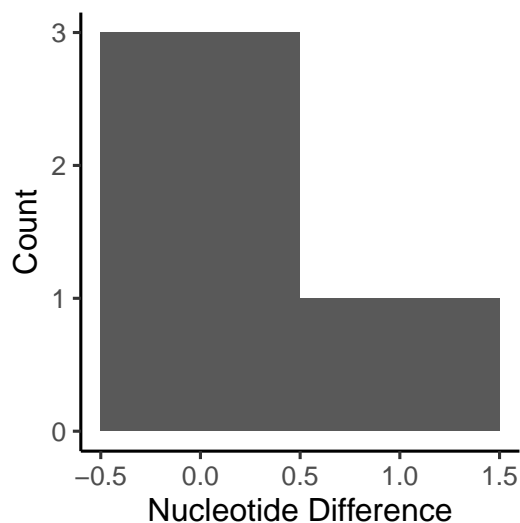
### IGHV3-13\*01

8 sequences assigned  
7 (87.5%) exact matches, in which:  
7 unique CDR3  
3 unique J



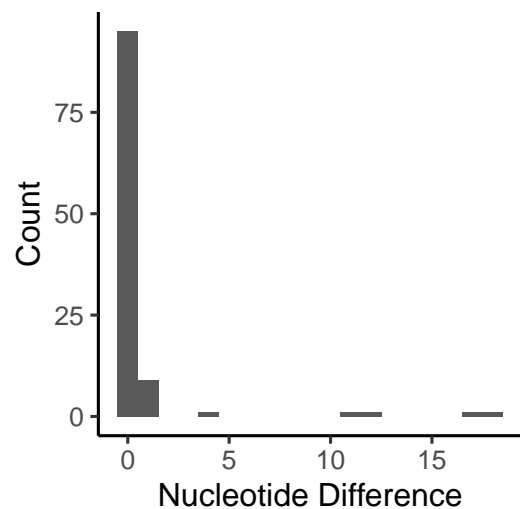
### IGHV3-20\*01

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



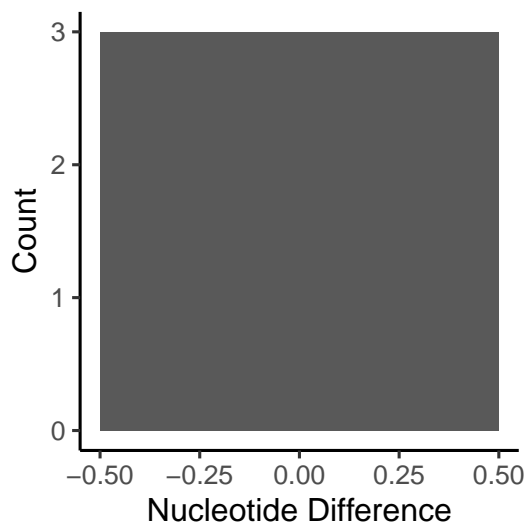
### IGHV3-33\*01

109 sequences assigned  
95 (87.2%) exact matches, in which:  
95 unique CDR3  
6 unique J



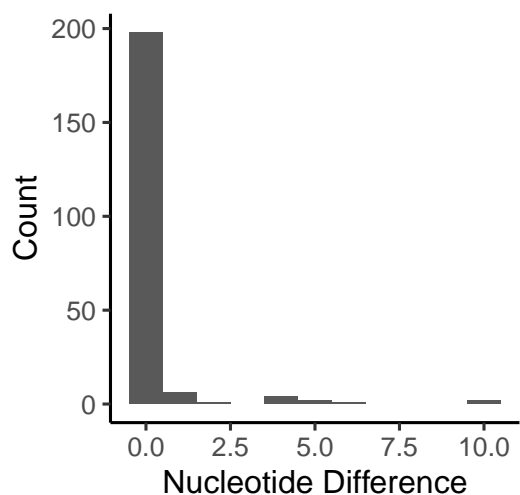
### IGHV3-13\*05

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



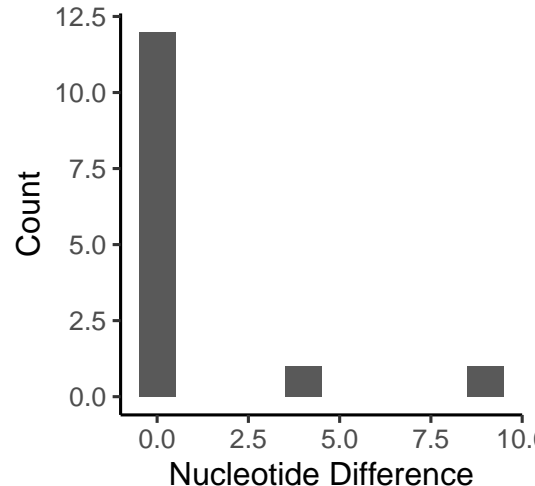
### IGHV3-21\*01

214 sequences assigned  
198 (92.5%) exact matches, in which:  
198 unique CDR3  
5 unique J



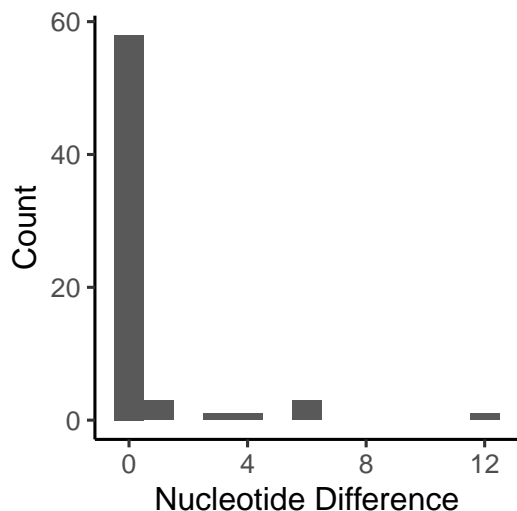
### IGHV3-43\*01

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



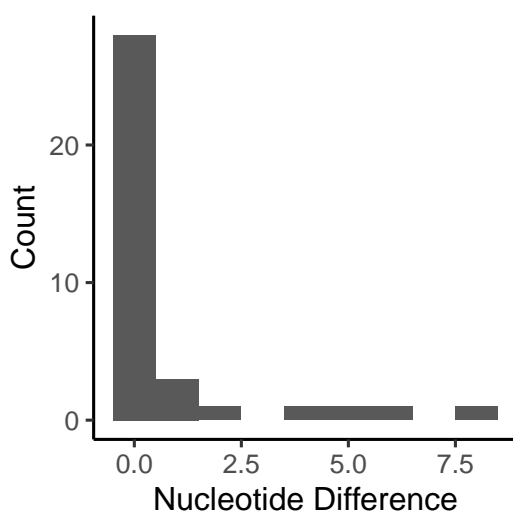
### IGHV3-48\*02

67 sequences assigned  
58 (86.6%) exact matches, in which:  
58 unique CDR3  
5 unique J



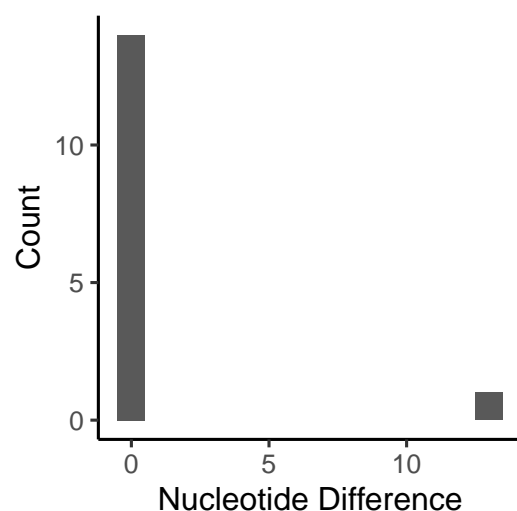
### IGHV3-49\*05

36 sequences assigned  
28 (77.8%) exact matches, in which:  
28 unique CDR3  
4 unique J



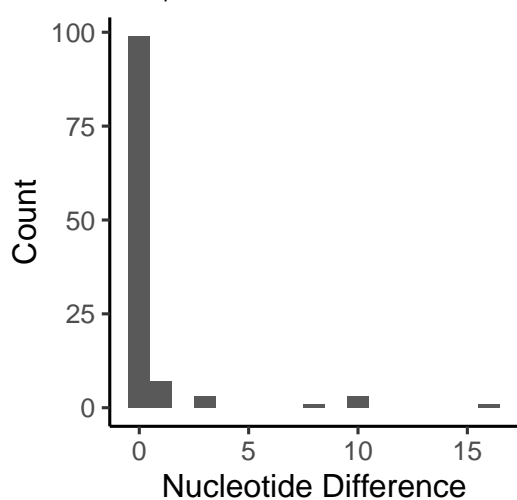
### IGHV3-72\*01

15 sequences assigned  
14 (93.3%) exact matches, in which:  
14 unique CDR3  
3 unique J



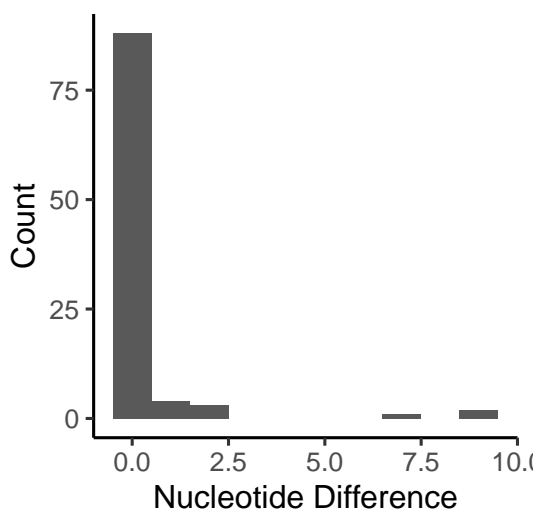
### IGHV3-48\*03

114 sequences assigned  
99 (86.8%) exact matches, in which:  
99 unique CDR3  
5 unique J



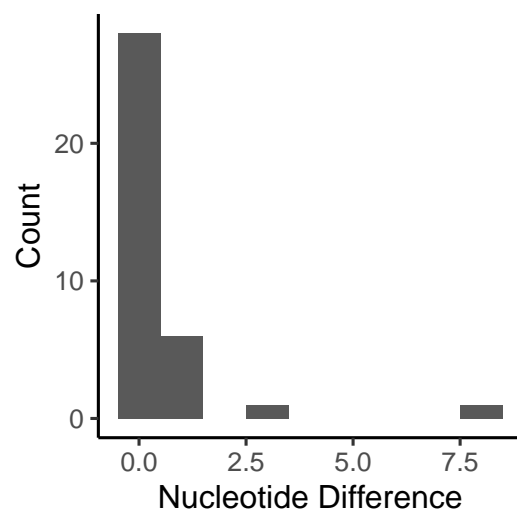
### IGHV3-53\*01

98 sequences assigned  
88 (89.8%) exact matches, in which:  
88 unique CDR3  
6 unique J



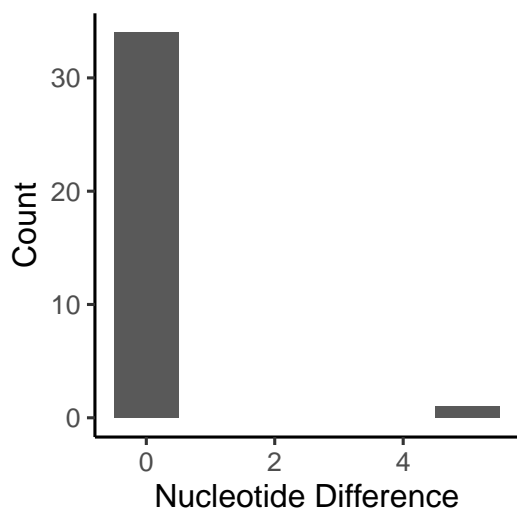
### IGHV3-73\*02

36 sequences assigned  
28 (77.8%) exact matches, in which:  
27 unique CDR3  
4 unique J



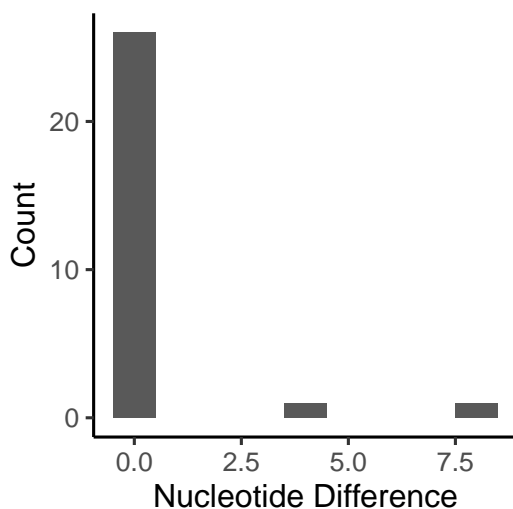
### IGHV3-49\*04

35 sequences assigned  
34 (97.1%) exact matches, in which:  
34 unique CDR3  
5 unique J



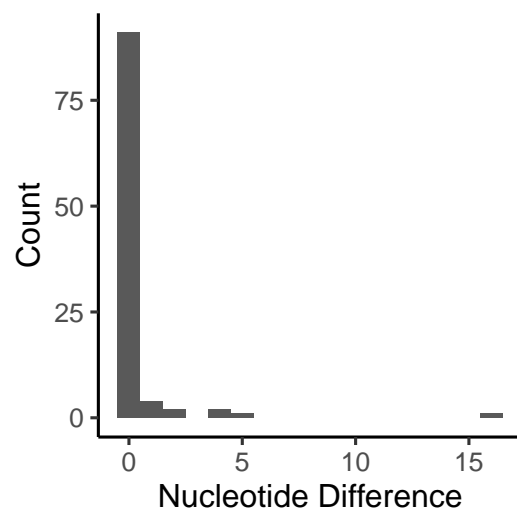
### IGHV3-53\*02

28 sequences assigned  
26 (92.9%) exact matches, in which:  
26 unique CDR3  
6 unique J



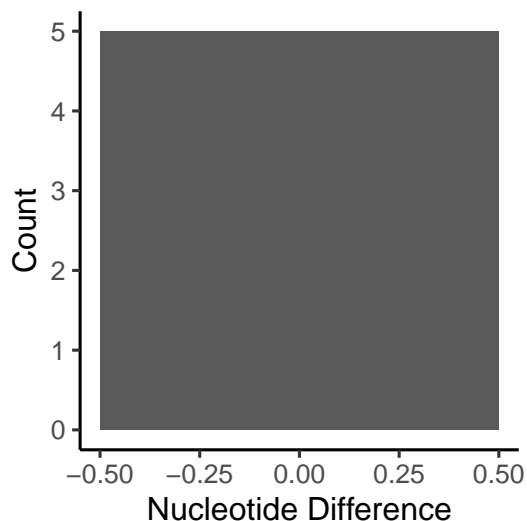
### IGHV3-74\*01

101 sequences assigned  
91 (90.1%) exact matches, in which:  
91 unique CDR3  
5 unique J



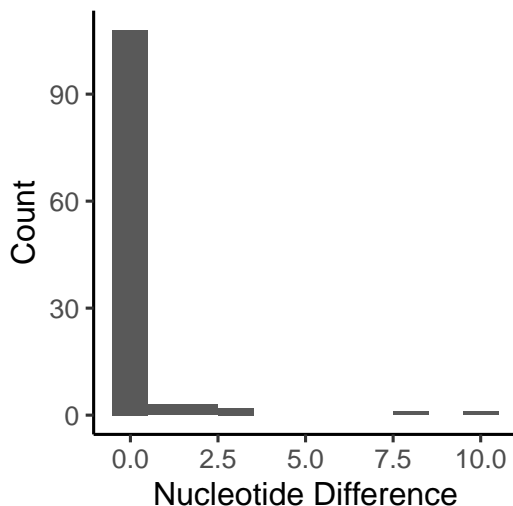
### IGHV3-43D\*04

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



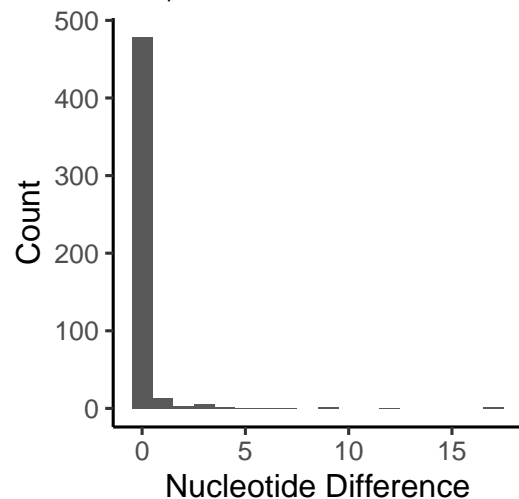
### IGHV4-30-4\*01

118 sequences assigned  
108 (91.5%) exact matches, in which:  
108 unique CDR3  
5 unique J



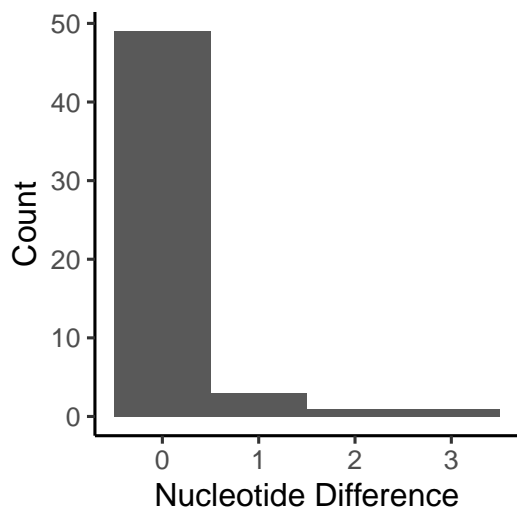
### IGHV4-34\*01

512 sequences assigned  
479 (93.6%) exact matches, in which:  
479 unique CDR3  
6 unique J



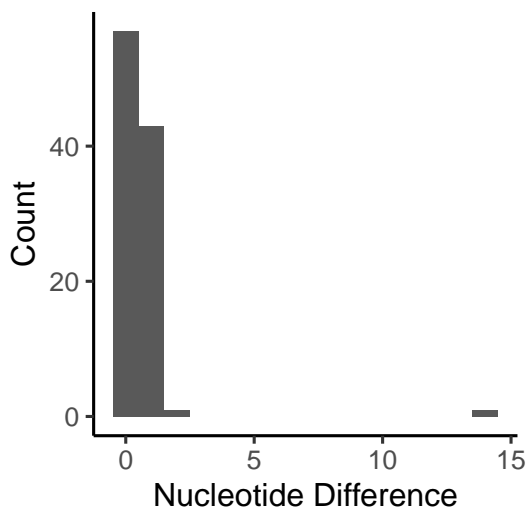
### IGHV3-64D\*09

54 sequences assigned  
49 (90.7%) exact matches, in which:  
49 unique CDR3  
4 unique J



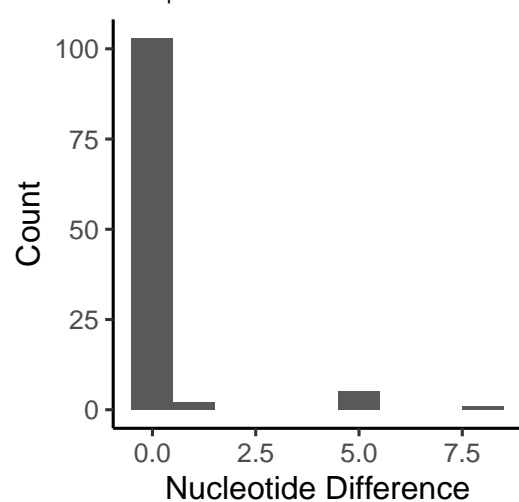
### IGHV4-30-2\*01

102 sequences assigned  
57 (55.9%) exact matches, in which:  
57 unique CDR3  
4 unique J



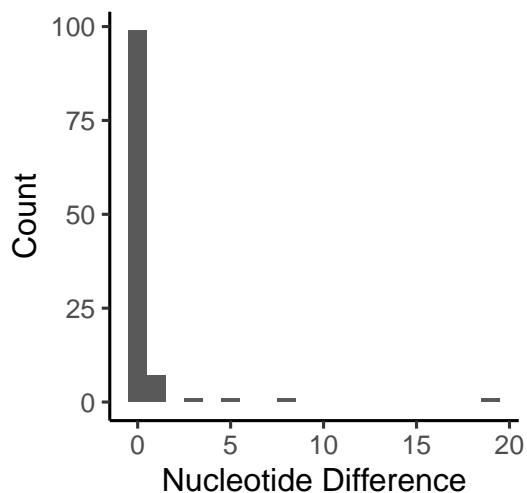
### IGHV4-38-2\*02\_A70G

112 sequences assigned  
103 (92%) exact matches, in which:  
103 unique CDR3  
5 unique J



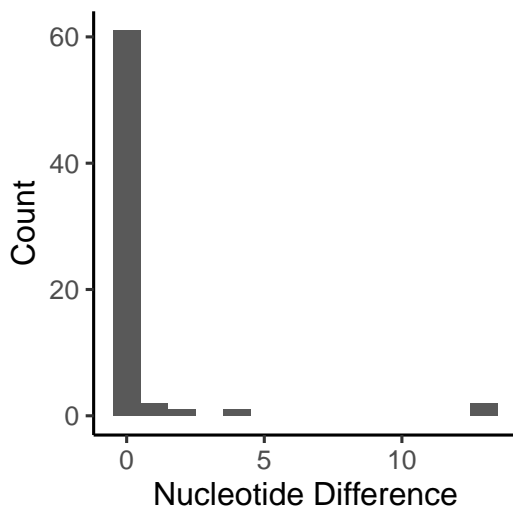
### IGHV4-4\*02

110 sequences assigned  
99 (90%) exact matches, in which:  
99 unique CDR3  
5 unique J



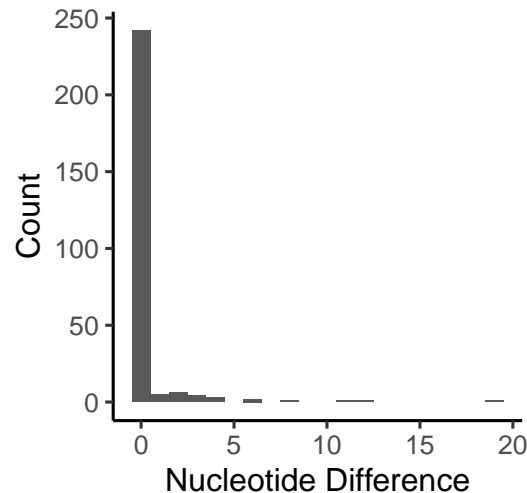
### IGHV4-31\*03

67 sequences assigned  
61 (91%) exact matches, in which:  
61 unique CDR3  
6 unique J



### IGHV4-39\*07

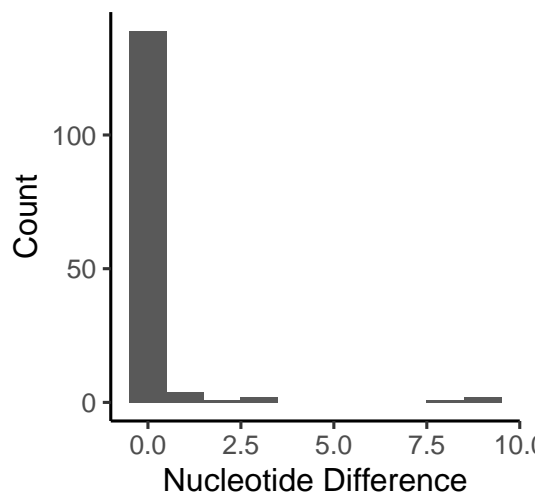
267 sequences assigned  
242 (90.6%) exact matches, in which:  
242 unique CDR3  
6 unique J





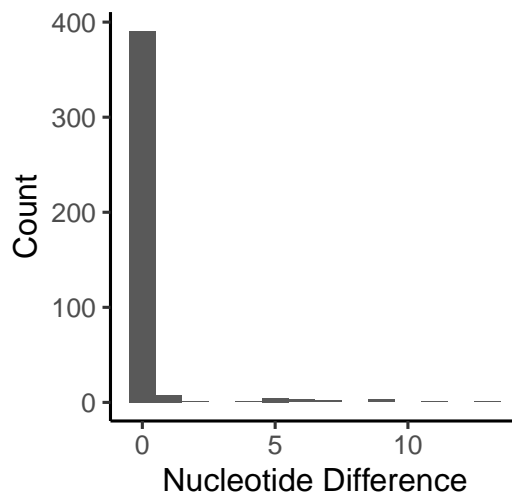
### IGHV4–59\*01

149 sequences assigned  
139 (93.3%) exact matches, in which:  
139 unique CDR3  
6 unique J



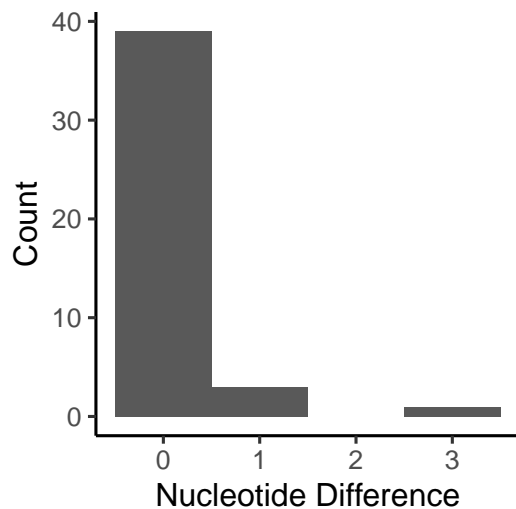
### IGHV5–51\*01

416 sequences assigned  
391 (94%) exact matches, in which:  
391 unique CDR3  
5 unique J



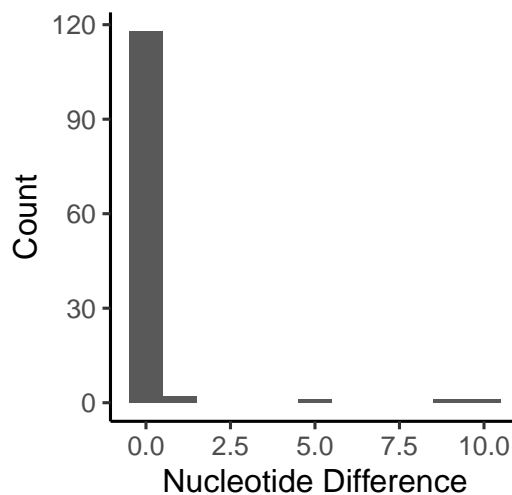
### IGHV4–61\*01

43 sequences assigned  
39 (90.7%) exact matches, in which:  
39 unique CDR3  
6 unique J



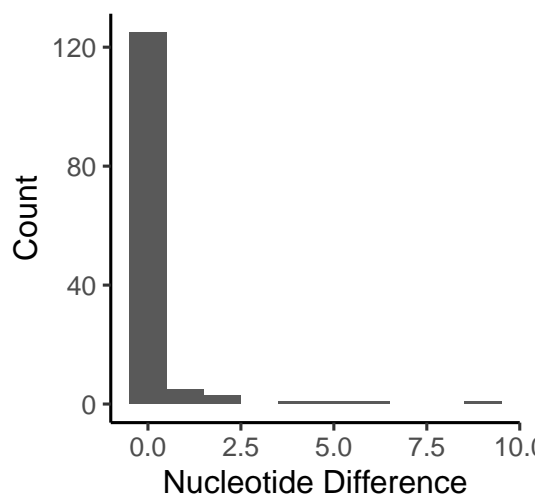
### IGHV6–1\*01

123 sequences assigned  
118 (95.9%) exact matches, in which:  
118 unique CDR3  
5 unique J



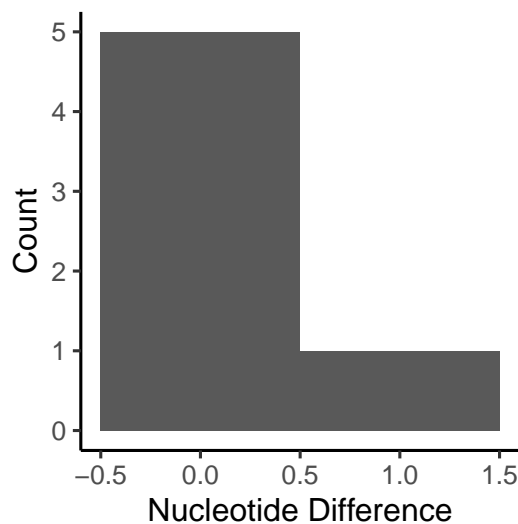
### IGHV5–10–1\*03

137 sequences assigned  
125 (91.2%) exact matches, in which:  
125 unique CDR3  
5 unique J

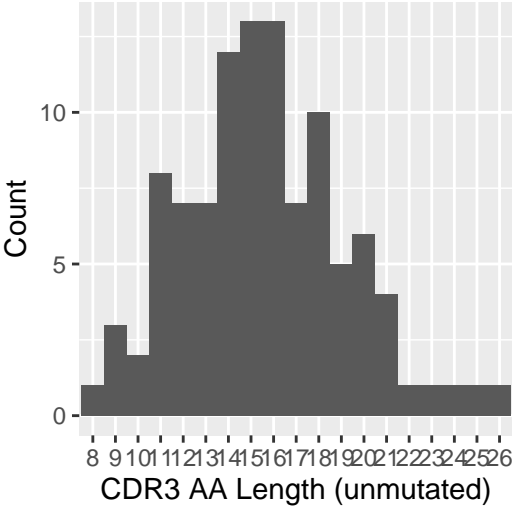


### IGHV7–4–1\*01

6 sequences assigned  
5 (83.3%) exact matches, in which:  
5 unique CDR3  
2 unique J



IGHV4-38-2\*02\_A70G



Allele Usage

