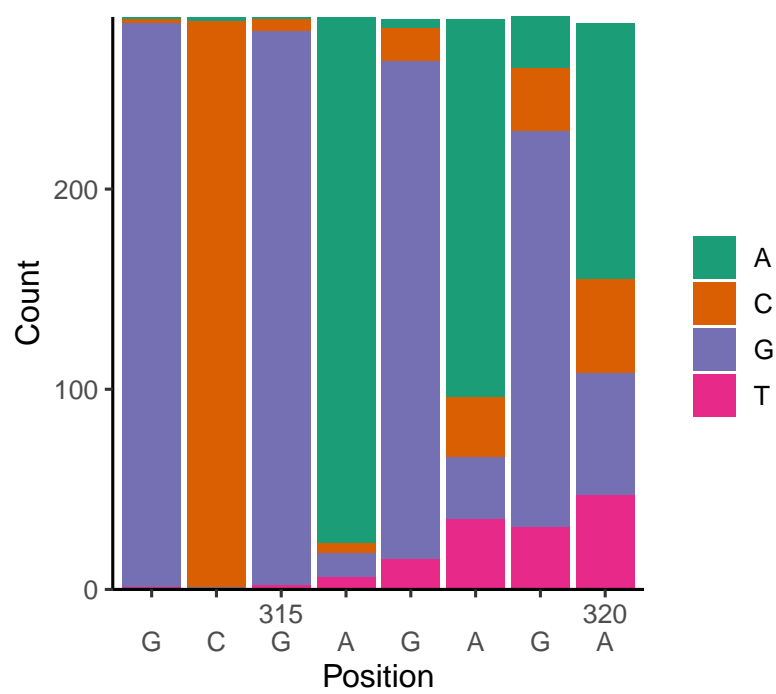
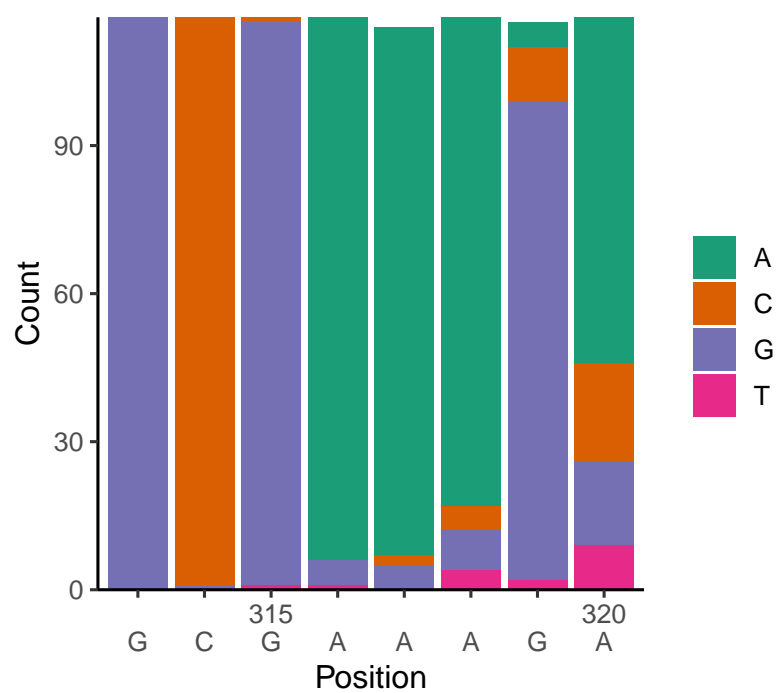


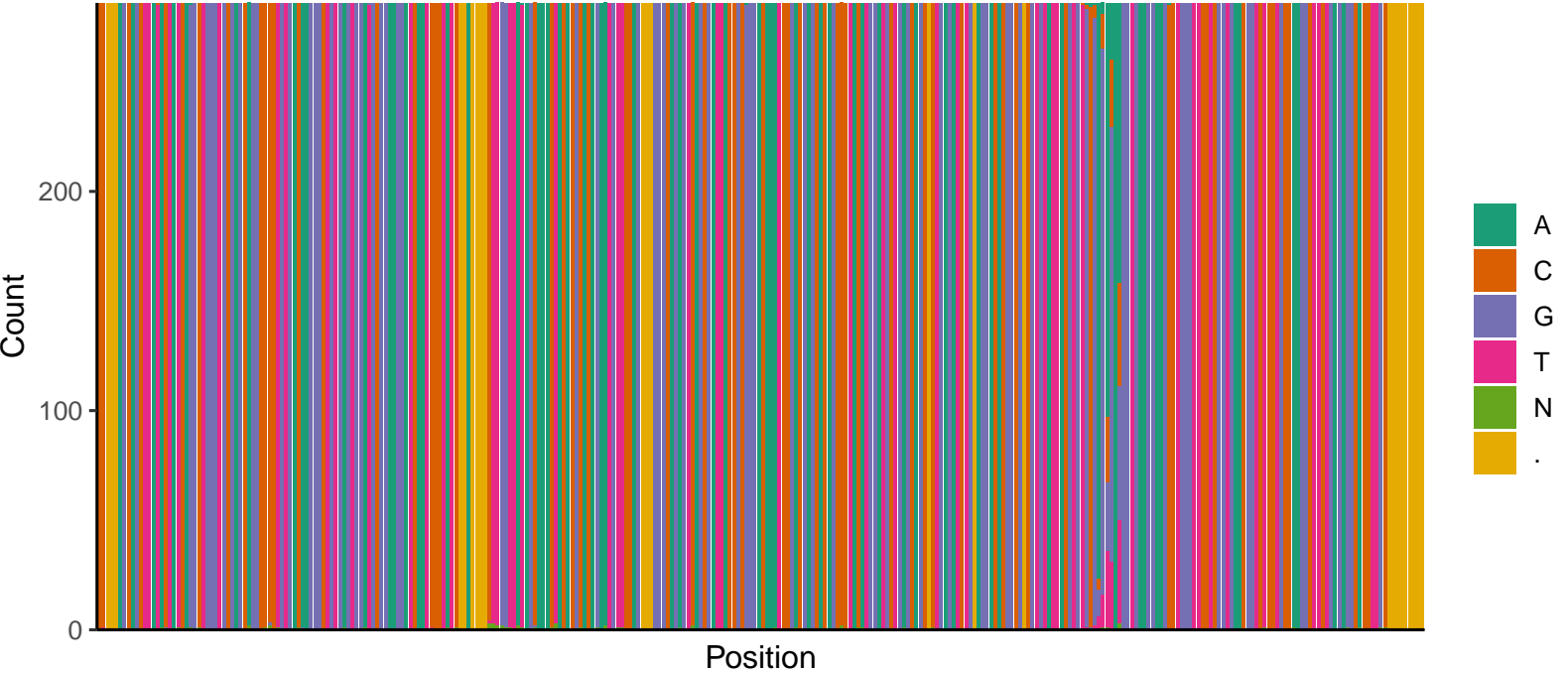
Gene IGHV1-69\*08\_C191T



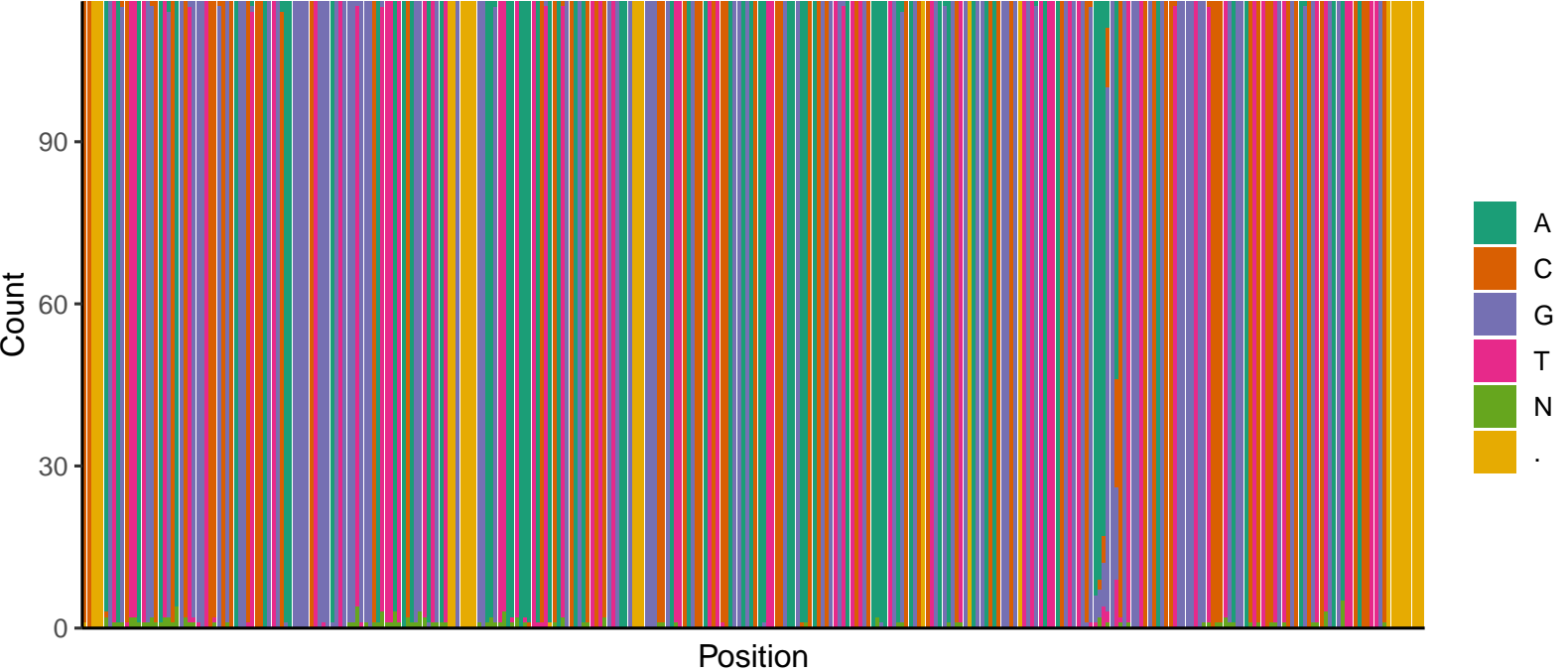
Gene IGHV3-30\*02\_A275G



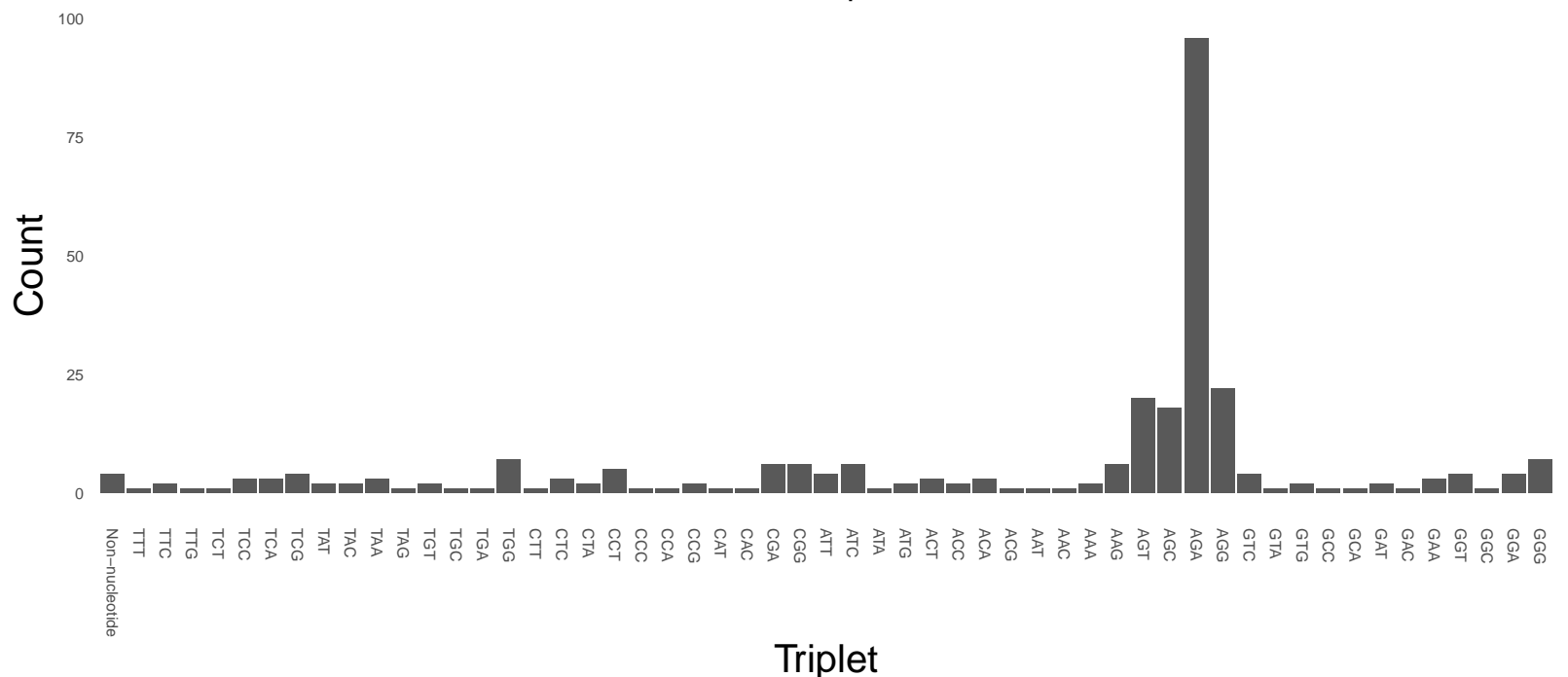
Gene IGHV1-69\*08\_C191T



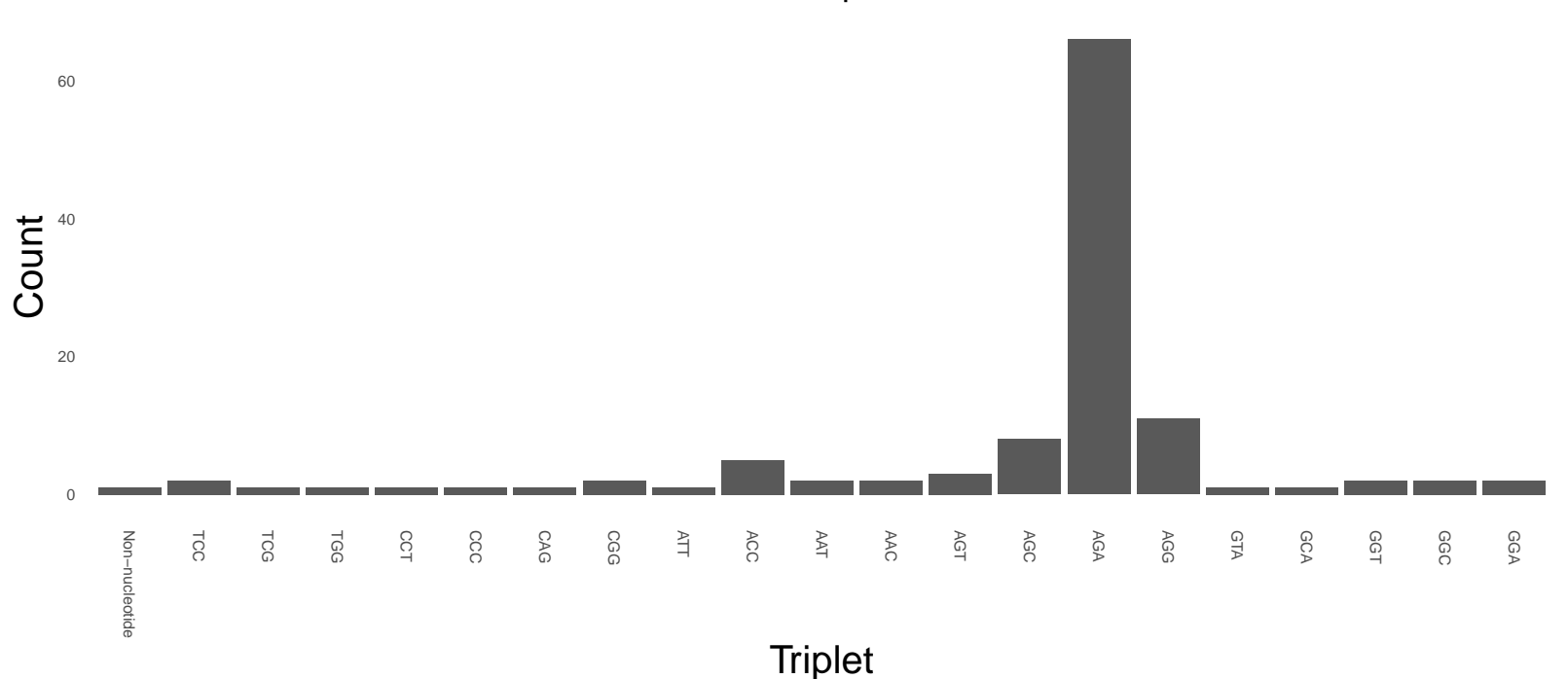
Gene IGHV3-30\*02\_A275G



IGHV1-69\*08\_C191T- Final 3 nucleotides as a triplet

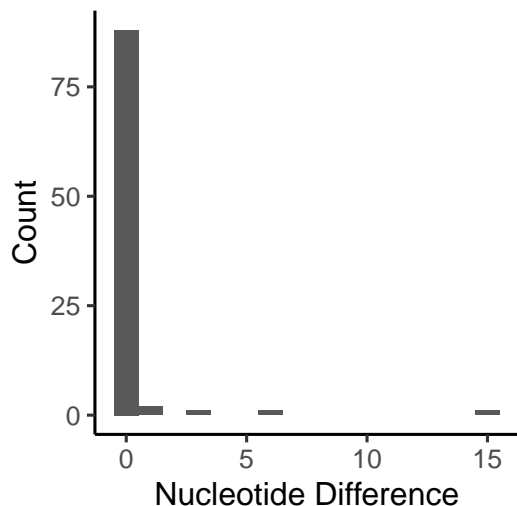


IGHV3-30\*02\_A275G- Final 3 nucleotides as a triplet



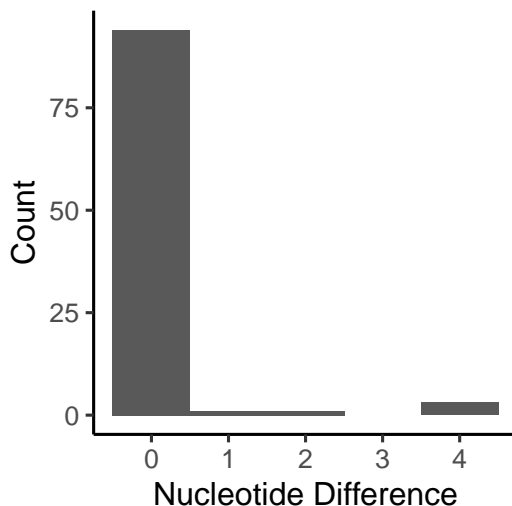
### IGHV1-2\*04

93 sequences assigned  
88 (94.6%) exact matches, in which:  
88 unique CDR3  
6 unique J



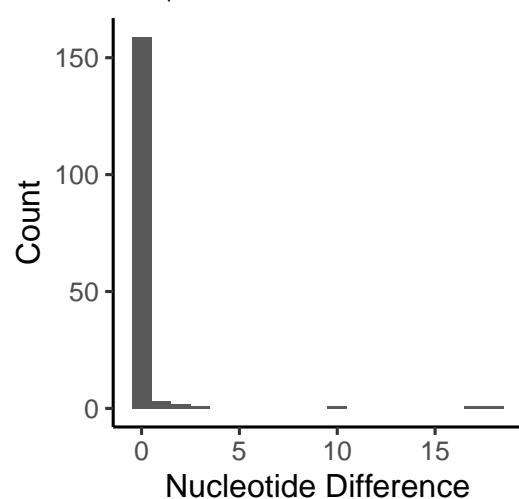
### IGHV1-8\*01

99 sequences assigned  
94 (94.9%) exact matches, in which:  
93 unique CDR3  
5 unique J



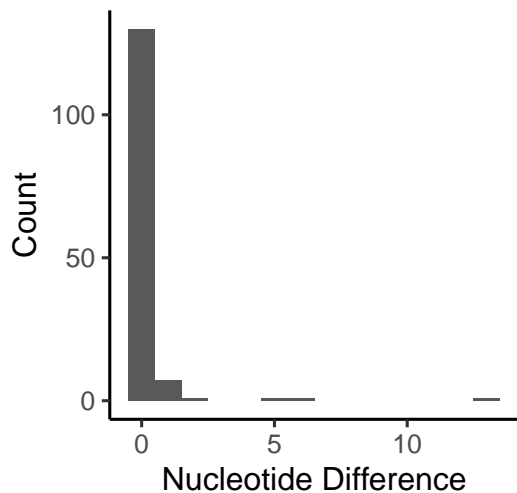
### IGHV1-24\*01

168 sequences assigned  
159 (94.6%) exact matches, in which:  
159 unique CDR3  
5 unique J



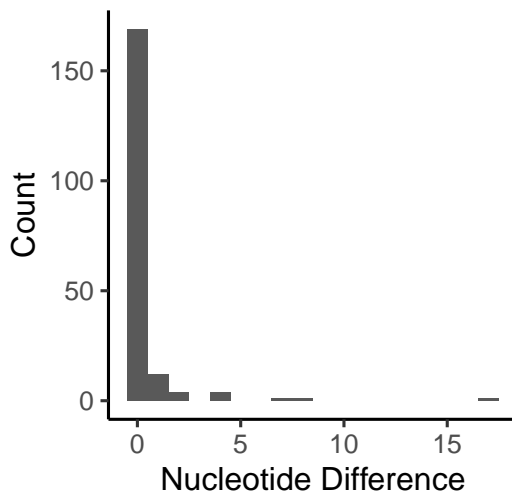
### IGHV1-2\*06

141 sequences assigned  
130 (92.2%) exact matches, in which:  
129 unique CDR3  
6 unique J



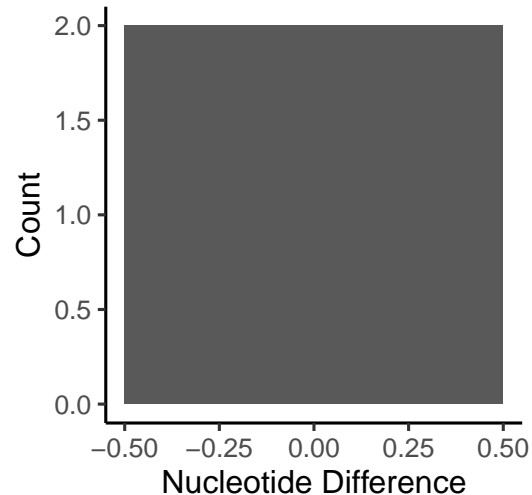
### IGHV1-18\*01

192 sequences assigned  
169 (88%) exact matches, in which:  
169 unique CDR3  
6 unique J



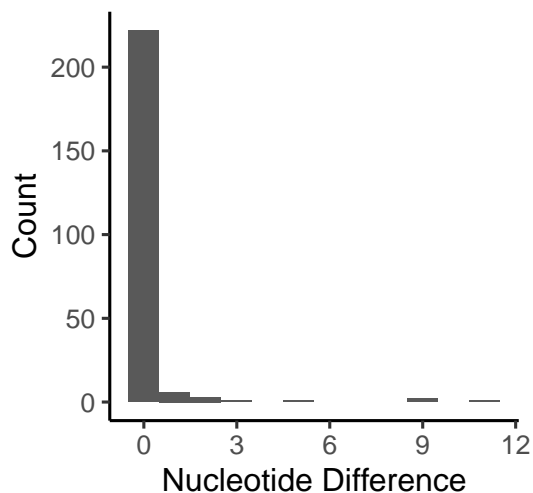
### IGHV1-45\*02

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



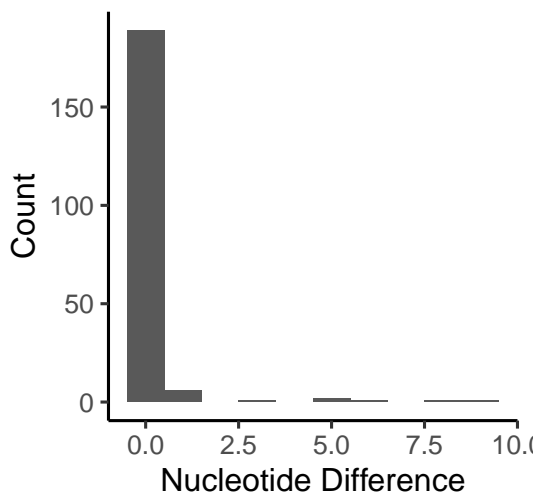
### IGHV1-3\*01

236 sequences assigned  
222 (94.1%) exact matches, in which:  
221 unique CDR3  
5 unique J



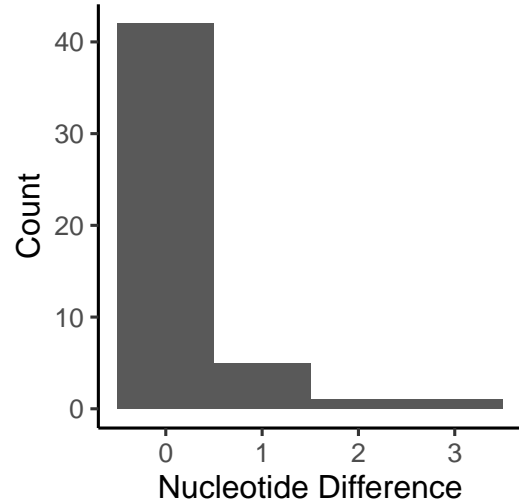
### IGHV1-18\*04

201 sequences assigned  
189 (94%) exact matches, in which:  
188 unique CDR3  
6 unique J



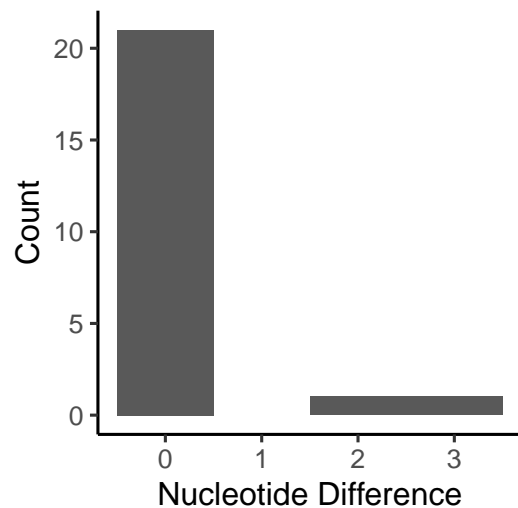
### IGHV1-46\*03

49 sequences assigned  
42 (85.7%) exact matches, in which:  
42 unique CDR3  
5 unique J



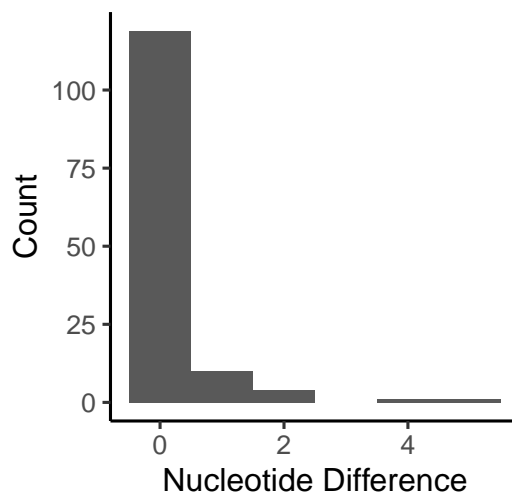
### IGHV1–58\*02

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



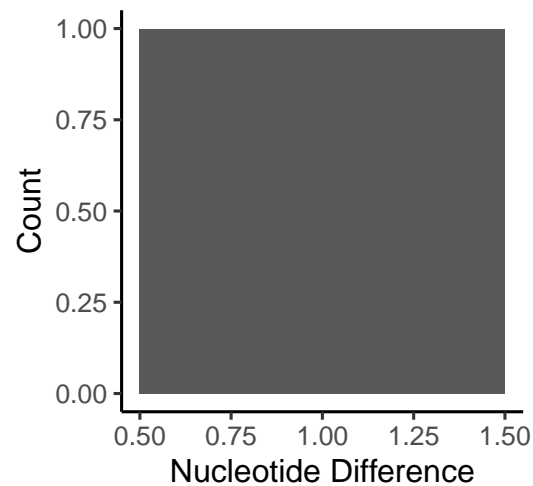
### IGHV2–5\*02

135 sequences assigned  
119 (88.1%) exact matches, in which:  
119 unique CDR3  
6 unique J



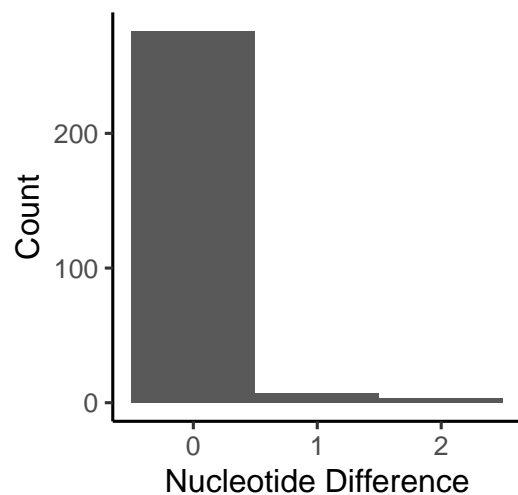
### IGHV2–70D\*04

1 sequences assigned  
No exact matches.



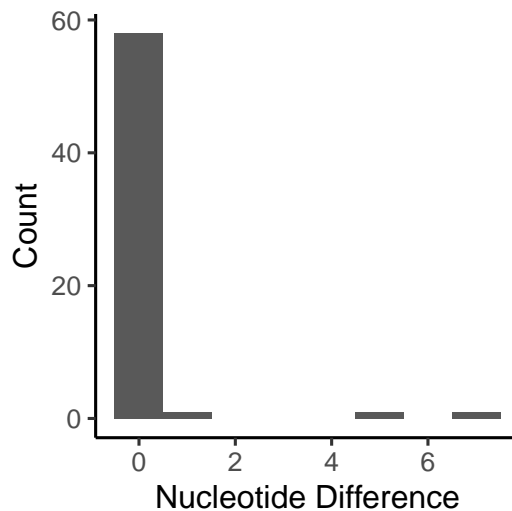
### IGHV1–69\*08\_C191T

286 sequences assigned  
276 (96.5%) exact matches, in which:  
275 unique CDR3  
6 unique J



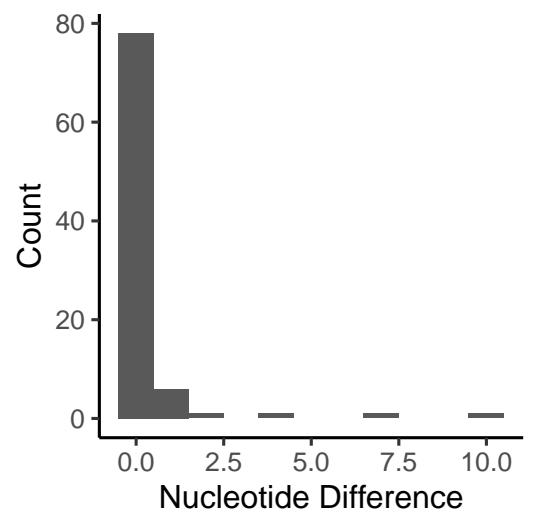
### IGHV2–26\*01

61 sequences assigned  
58 (95.1%) exact matches, in which:  
58 unique CDR3  
6 unique J



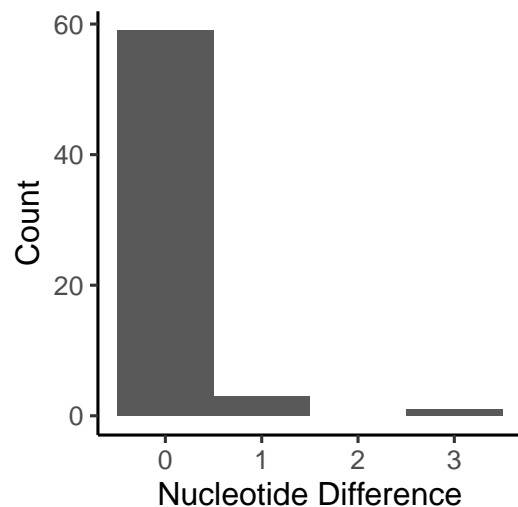
### IGHV3–7\*01

89 sequences assigned  
78 (87.6%) exact matches, in which:  
78 unique CDR3  
6 unique J



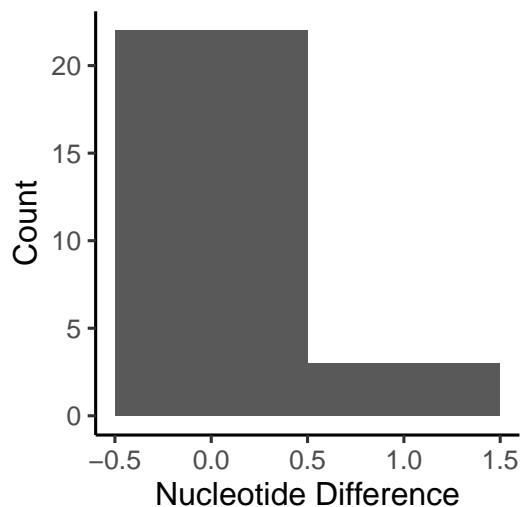
### IGHV2–5\*01

63 sequences assigned  
59 (93.7%) exact matches, in which:  
59 unique CDR3  
5 unique J



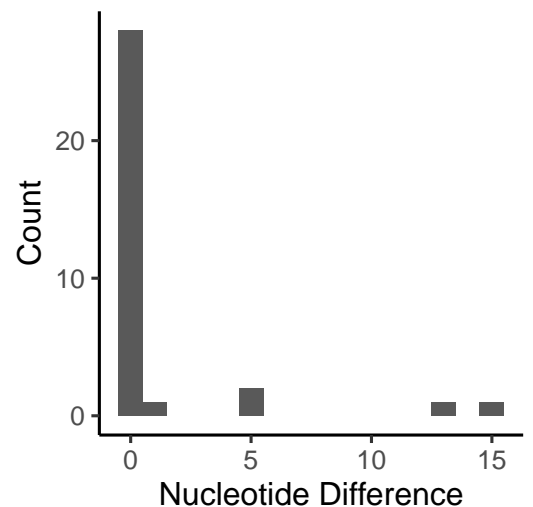
### IGHV2–70\*15

25 sequences assigned  
22 (88%) exact matches, in which:  
22 unique CDR3  
5 unique J



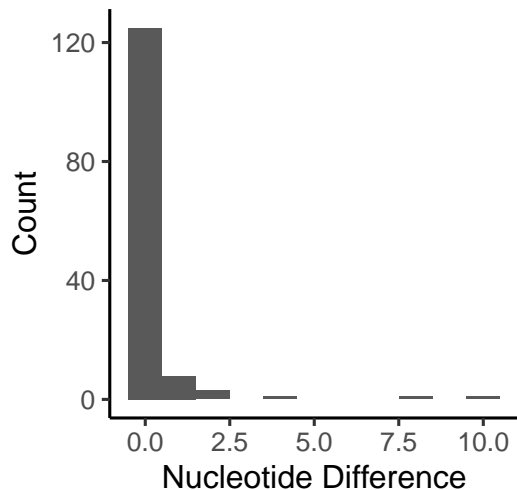
### IGHV3–7\*05

34 sequences assigned  
28 (82.4%) exact matches, in which:  
28 unique CDR3  
5 unique J



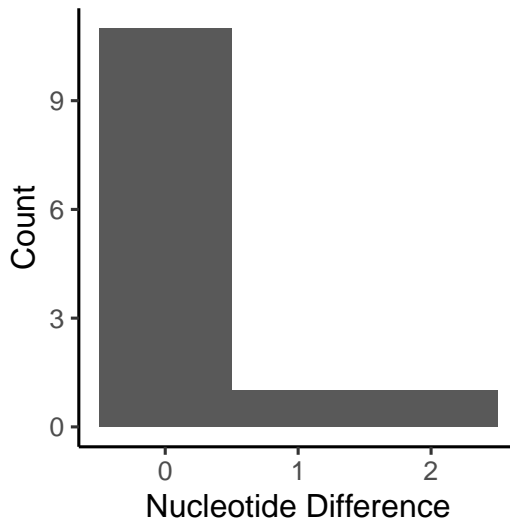
### IGHV3-9\*01

139 sequences assigned  
125 (89.9%) exact matches, in which:  
124 unique CDR3  
5 unique J



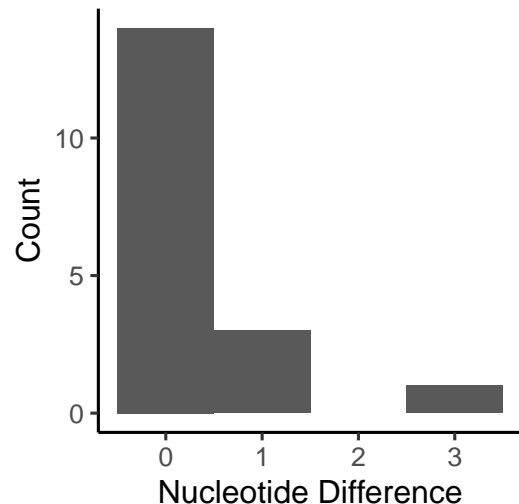
### IGHV3-13\*01

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



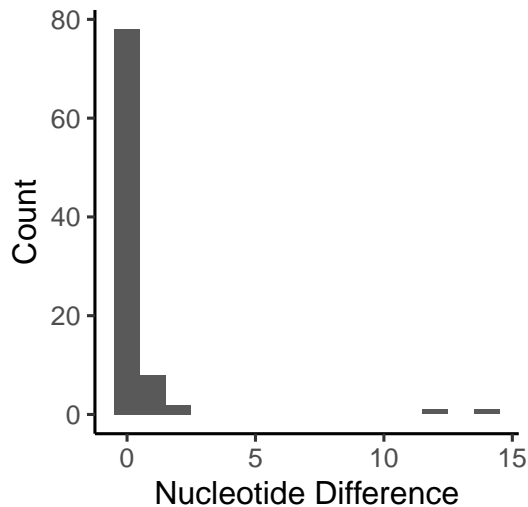
### IGHV3-20\*01

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



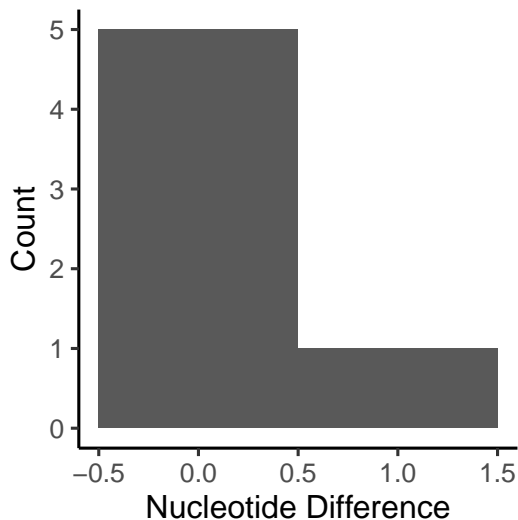
### IGHV3-11\*01

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



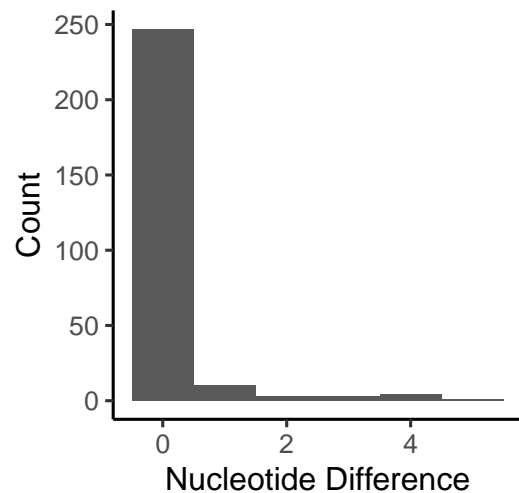
### IGHV3-13\*05

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



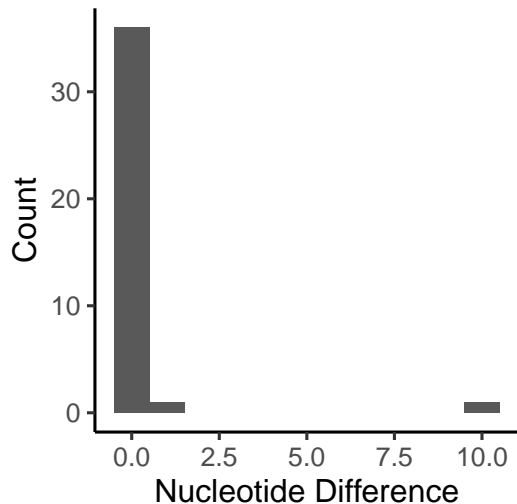
### IGHV3-21\*01

268 sequences assigned  
247 (92.2%) exact matches, in which:  
247 unique CDR3  
6 unique J



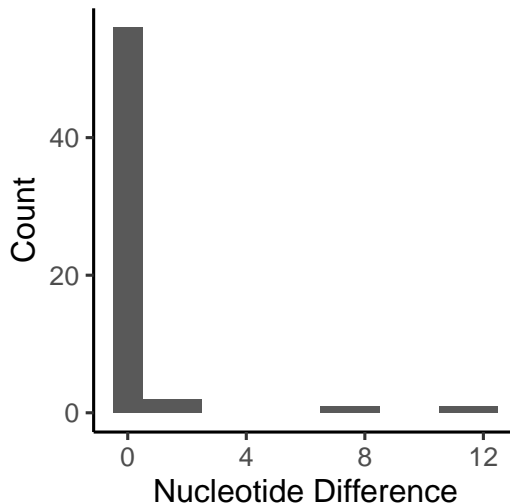
### IGHV3-11\*06

38 sequences assigned  
36 (94.7%) exact matches, in which:  
36 unique CDR3  
4 unique J



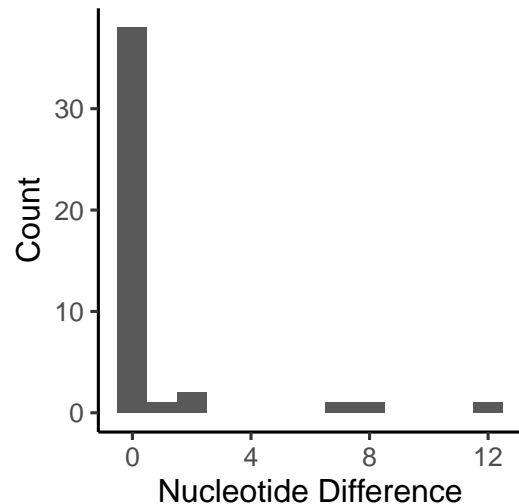
### IGHV3-15\*01

64 sequences assigned  
56 (87.5%) exact matches, in which:  
56 unique CDR3  
5 unique J



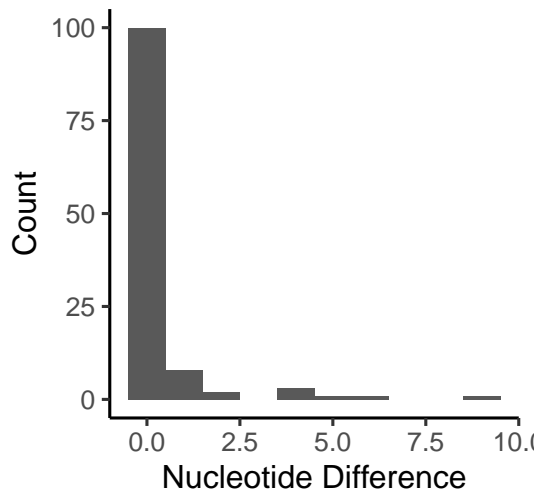
### IGHV3-30-5\*01

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



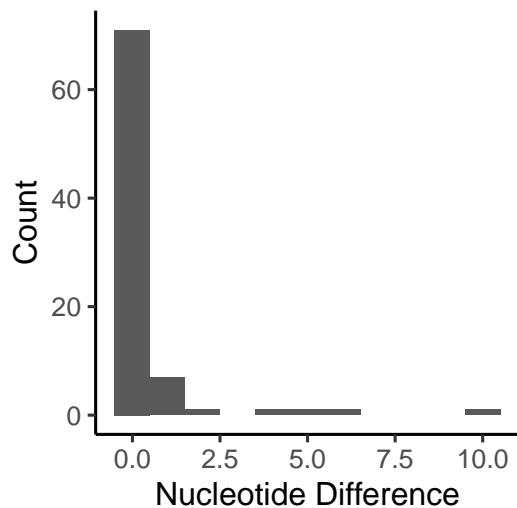
### IGHV3–30\*02\_A275G

116 sequences assigned  
100 (86.2%) exact matches, in which:  
100 unique CDR3  
6 unique J



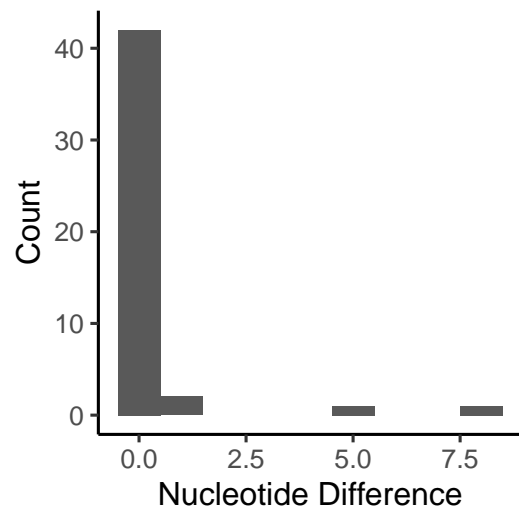
### IGHV3–48\*01

83 sequences assigned  
71 (85.5%) exact matches, in which:  
71 unique CDR3  
5 unique J



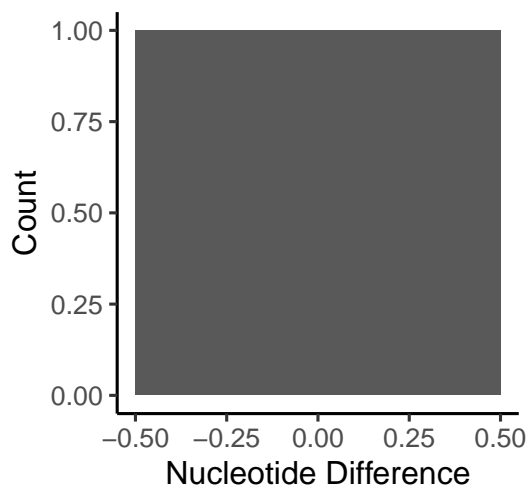
### IGHV3–49\*04

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



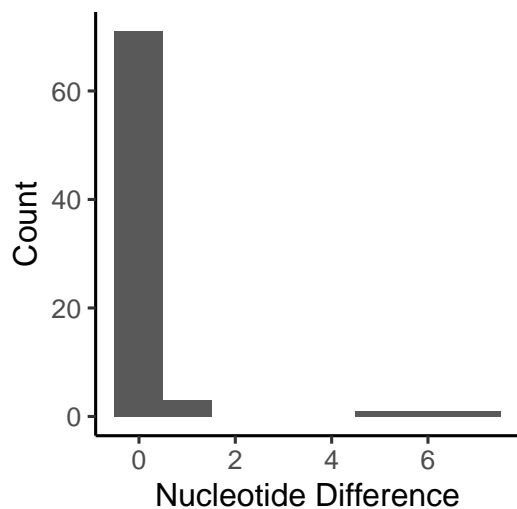
### IGHV3–38–3\*01

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



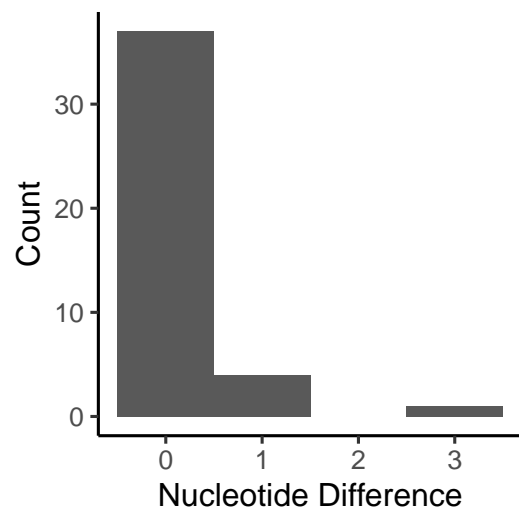
### IGHV3–48\*02

77 sequences assigned  
71 (92.2%) exact matches, in which:  
71 unique CDR3  
5 unique J



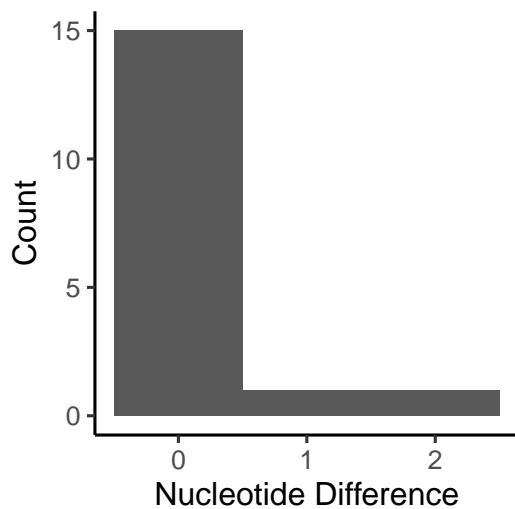
### IGHV3–53\*02

42 sequences assigned  
37 (88.1%) exact matches, in which:  
37 unique CDR3  
5 unique J



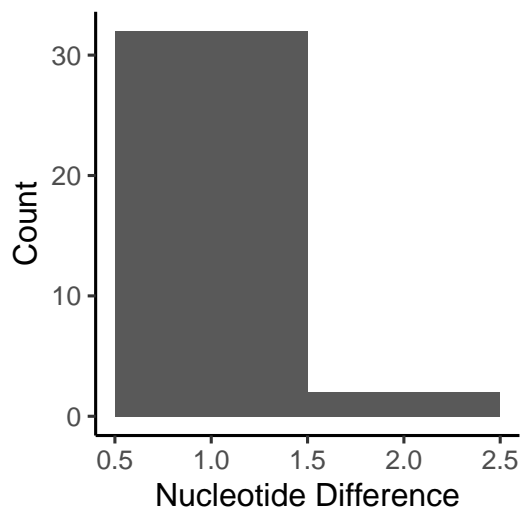
### IGHV3–43\*01

17 sequences assigned  
15 (88.2%) exact matches, in which:  
15 unique CDR3  
3 unique J



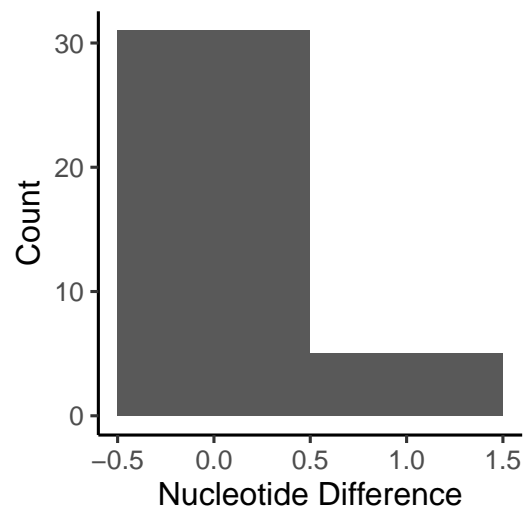
### IGHV3–49\*03

34 sequences assigned  
No exact matches.



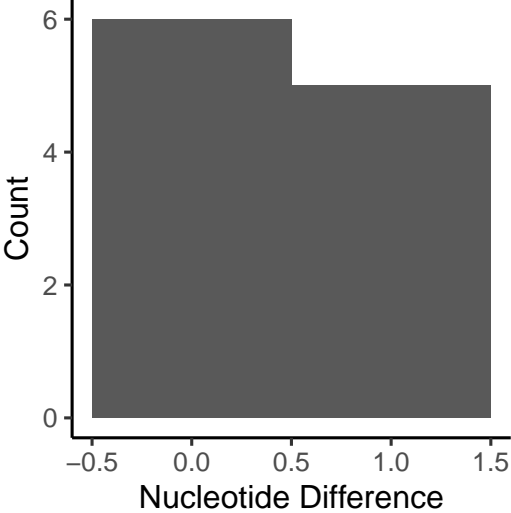
### IGHV3–53\*04

36 sequences assigned  
31 (86.1%) exact matches, in which:  
31 unique CDR3  
4 unique J



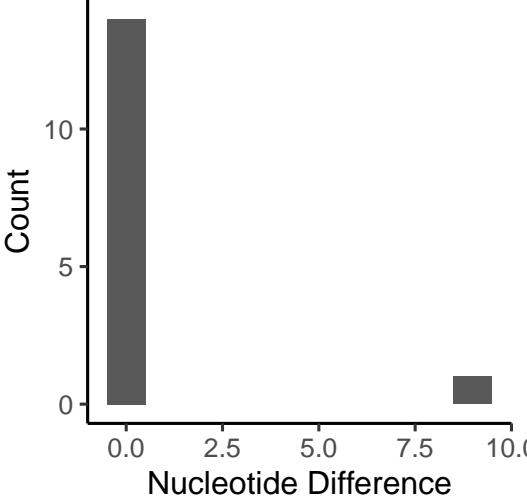
IGHV3-64\*01

11 sequences assigned  
6 (54.5%) exact matches, in which:  
6 unique CDR3  
3 unique J



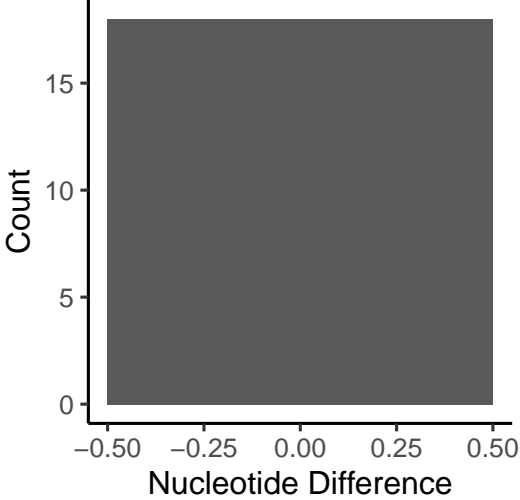
IGHV3-72\*01

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



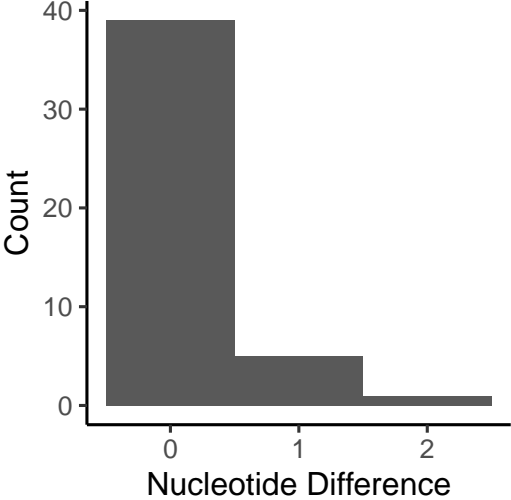
IGHV3-43D\*03

18 sequences assigned  
18 (100%) exact matches, in which:  
18 unique CDR3  
3 unique J



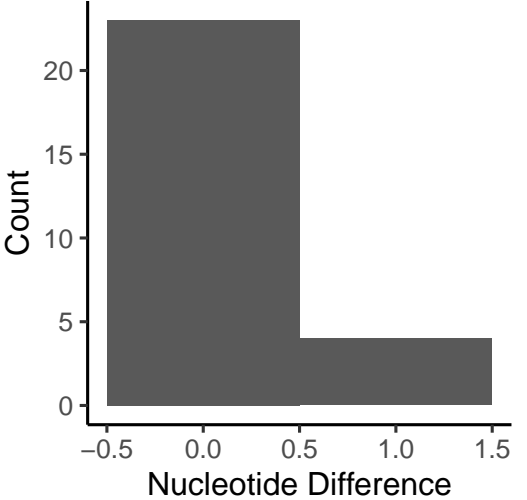
IGHV3-66\*01

45 sequences assigned  
39 (86.7%) exact matches, in which:  
39 unique CDR3  
6 unique J



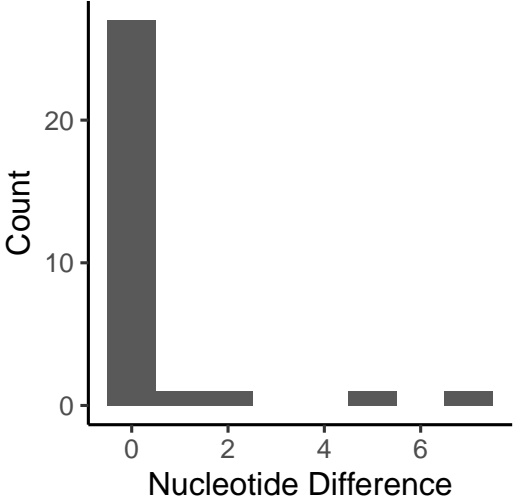
IGHV3-73\*01

27 sequences assigned  
23 (85.2%) exact matches, in which:  
23 unique CDR3  
4 unique J



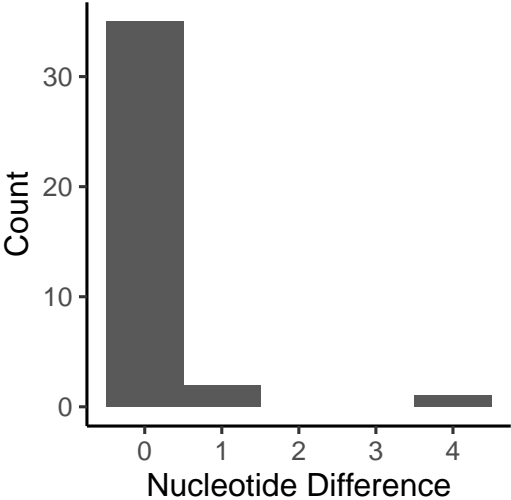
IGHV3-64D\*09

31 sequences assigned  
27 (87.1%) exact matches, in which:  
27 unique CDR3  
4 unique J



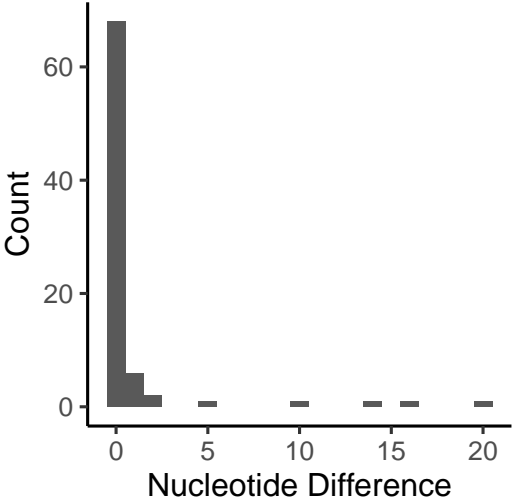
IGHV3-66\*02

38 sequences assigned  
35 (92.1%) exact matches, in which:  
35 unique CDR3  
5 unique J



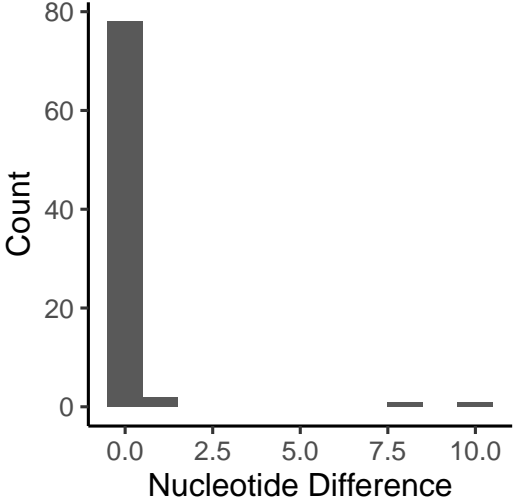
IGHV3-74\*01

81 sequences assigned  
68 (84%) exact matches, in which:  
68 unique CDR3  
5 unique J



IGHV4-4\*02

82 sequences assigned  
78 (95.1%) exact matches, in which:  
78 unique CDR3  
6 unique J





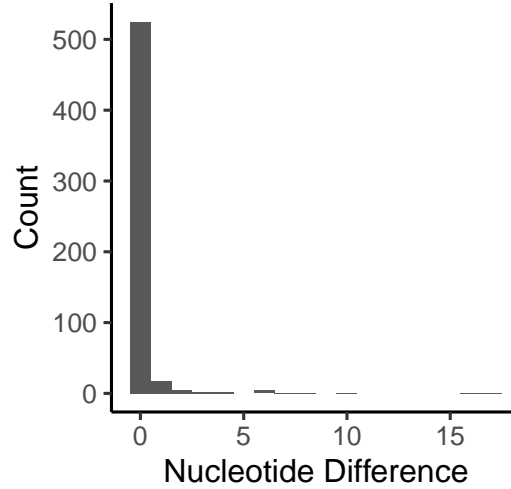
### IGHV4-28\*05

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



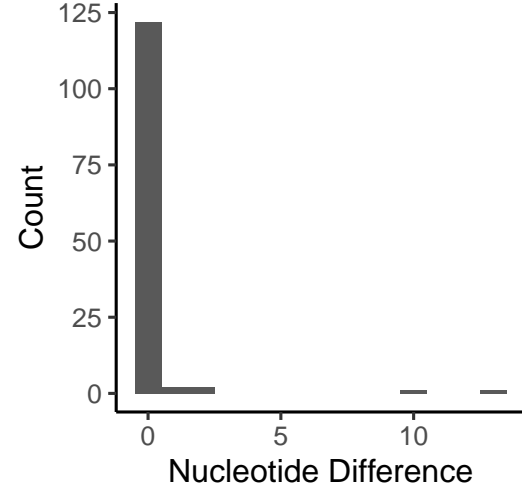
### IGHV4-34\*01

560 sequences assigned  
525 (93.8%) exact matches, in which:  
525 unique CDR3  
6 unique J



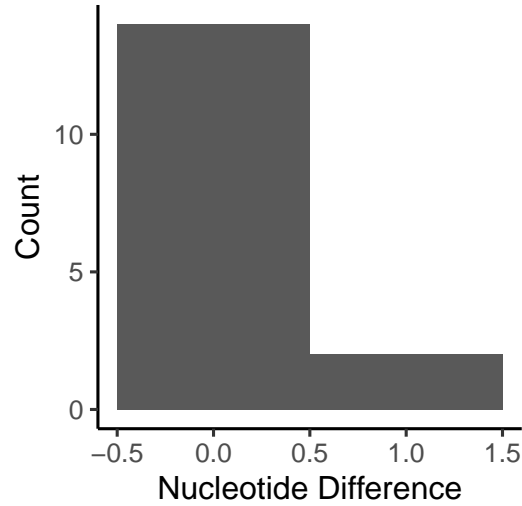
### IGHV4-59\*01

128 sequences assigned  
122 (95.3%) exact matches, in which:  
122 unique CDR3  
5 unique J



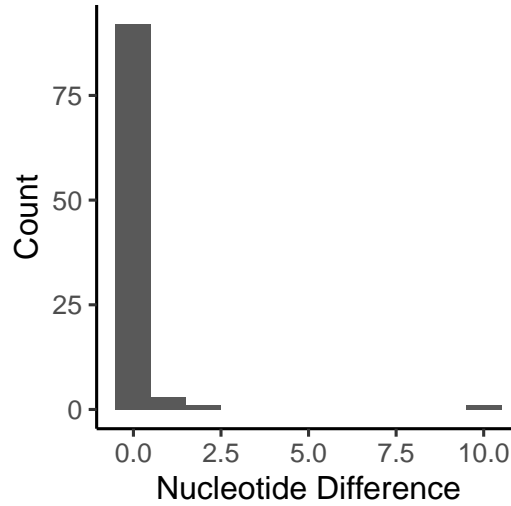
### IGHV4-30-2\*01

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



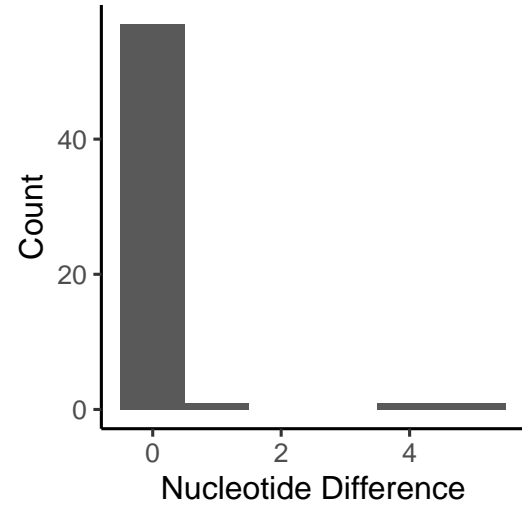
### IGHV4-38-2\*02

98 sequences assigned  
92 (93.9%) exact matches, in which:  
92 unique CDR3  
4 unique J



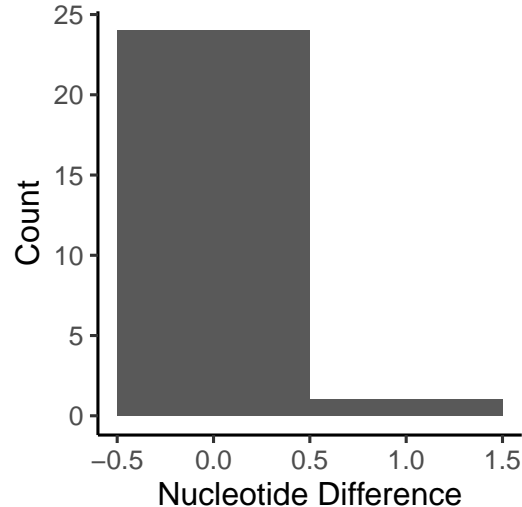
### IGHV4-59\*08

60 sequences assigned  
57 (95%) exact matches, in which:  
57 unique CDR3  
5 unique J



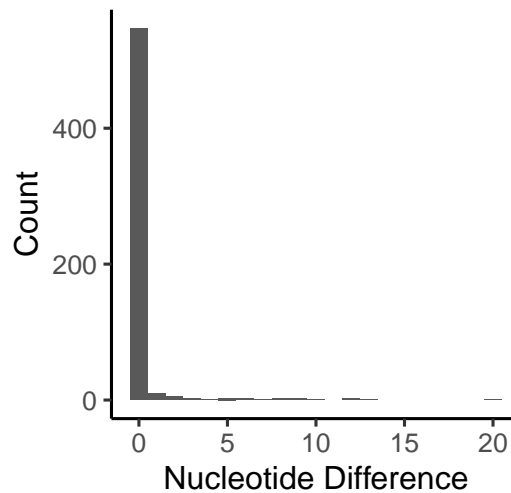
### IGHV4-30-4\*07

25 sequences assigned  
24 (96%) exact matches, in which:  
24 unique CDR3  
4 unique J



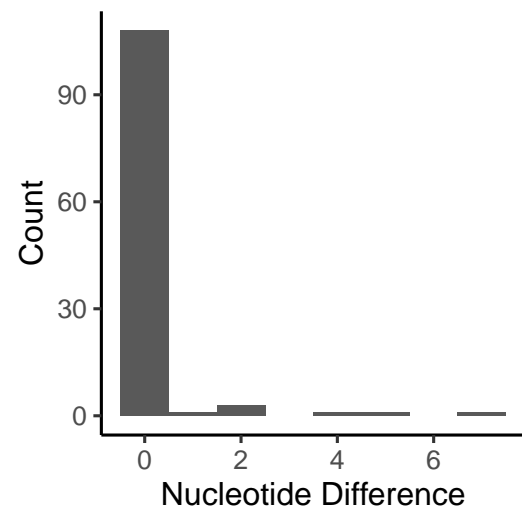
### IGHV4-39\*01

581 sequences assigned  
547 (94.1%) exact matches, in which:  
546 unique CDR3  
6 unique J



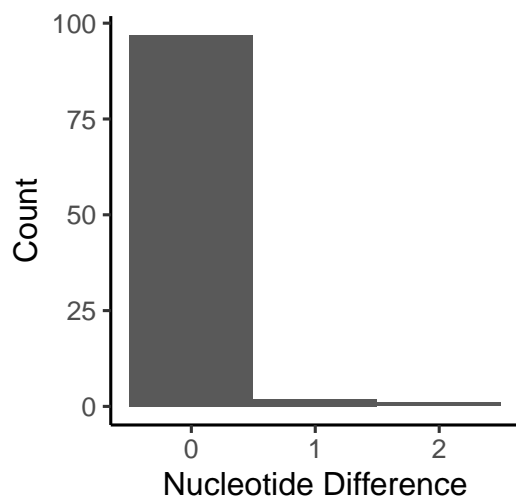
### IGHV4-61\*02

115 sequences assigned  
108 (93.9%) exact matches, in which:  
108 unique CDR3  
5 unique J



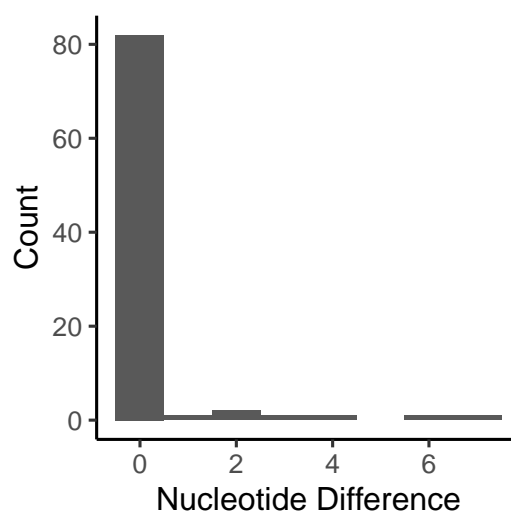
### IGHV5-10-1\*03

100 sequences assigned  
97 (97%) exact matches, in which:  
97 unique CDR3  
5 unique J



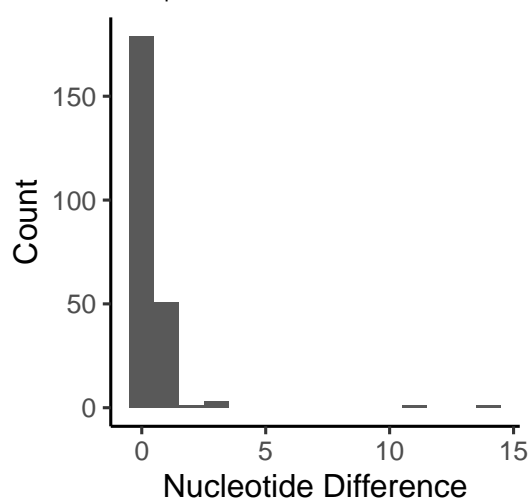
### IGHV6-1\*01

89 sequences assigned  
82 (92.1%) exact matches, in which:  
82 unique CDR3  
6 unique J



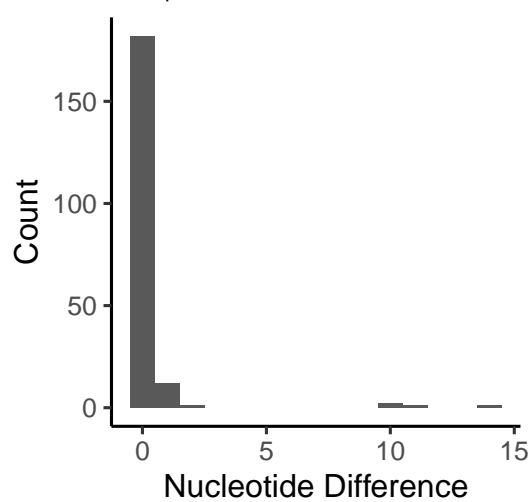
### IGHV5-51\*01

236 sequences assigned  
179 (75.8%) exact matches, in which:  
179 unique CDR3  
6 unique J



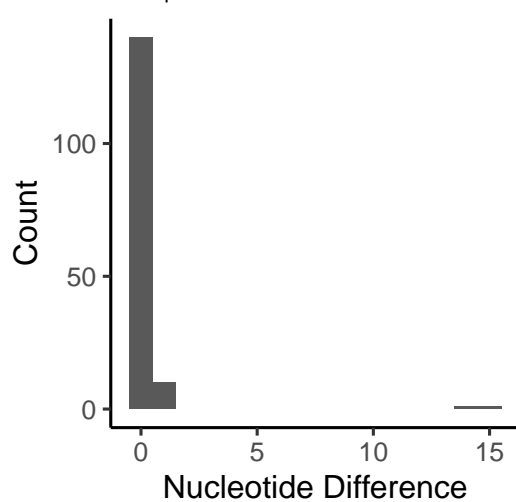
### IGHV7-4-1\*02

199 sequences assigned  
182 (91.5%) exact matches, in which:  
182 unique CDR3  
6 unique J

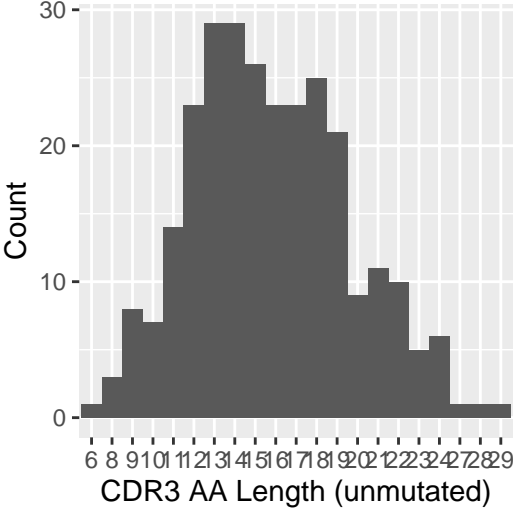


### IGHV5-51\*03

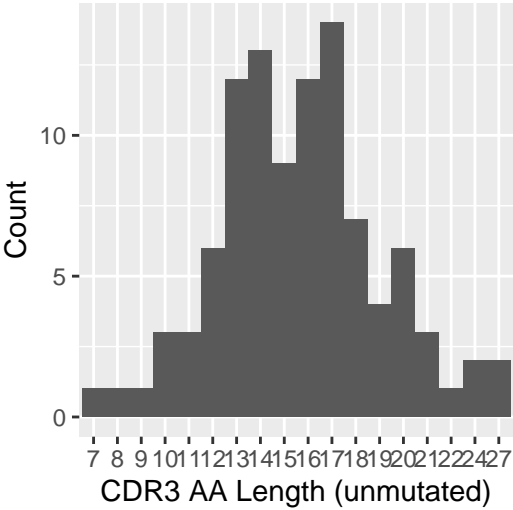
152 sequences assigned  
140 (92.1%) exact matches, in which:  
140 unique CDR3  
4 unique J



IGHV1-69\*08\_C191T



IGHV3-30\*02\_A275G





[illegible]