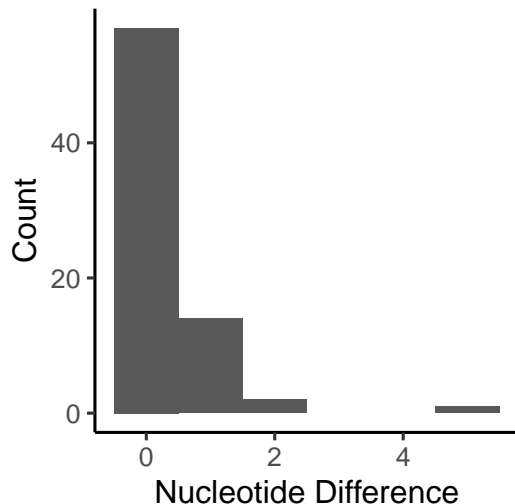


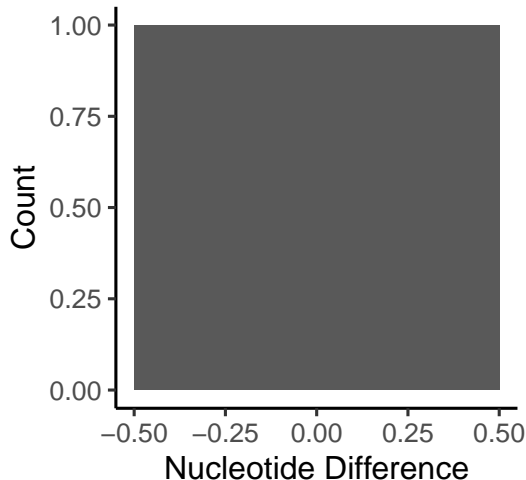
### IGHV1-2\*04

74 sequences assigned  
57 (77%) exact matches, in which:  
57 unique CDR3  
6 unique J



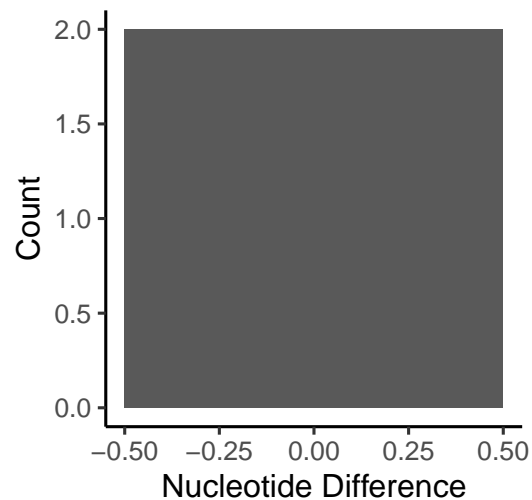
### IGHV1-8\*01

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



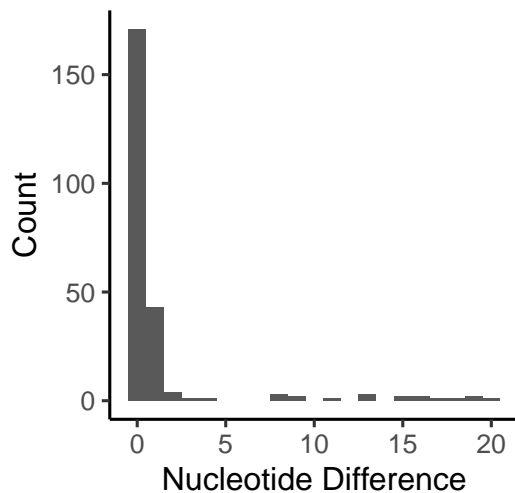
### IGHV1-45\*02

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



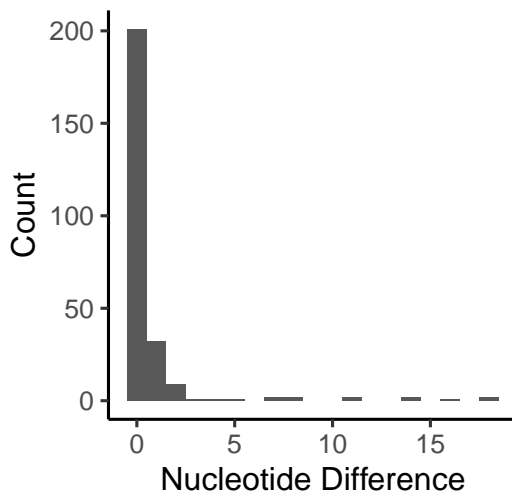
### IGHV1-2\*06

241 sequences assigned  
171 (71%) exact matches, in which:  
171 unique CDR3  
6 unique J



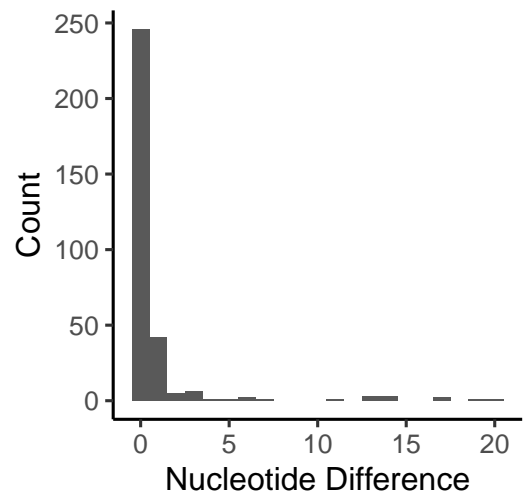
### IGHV1-18\*01

261 sequences assigned  
201 (77%) exact matches, in which:  
201 unique CDR3  
7 unique J



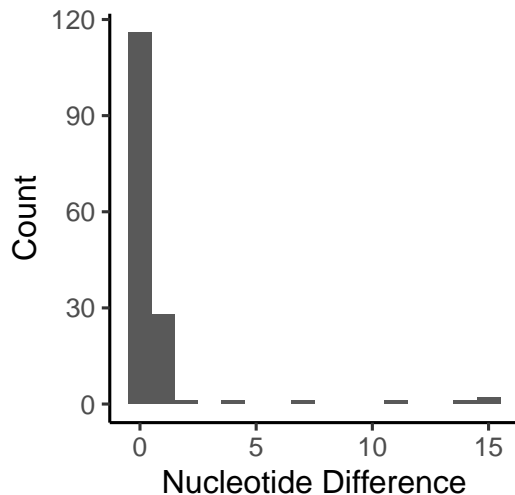
### IGHV1-46\*01

319 sequences assigned  
246 (77.1%) exact matches, in which:  
245 unique CDR3  
7 unique J



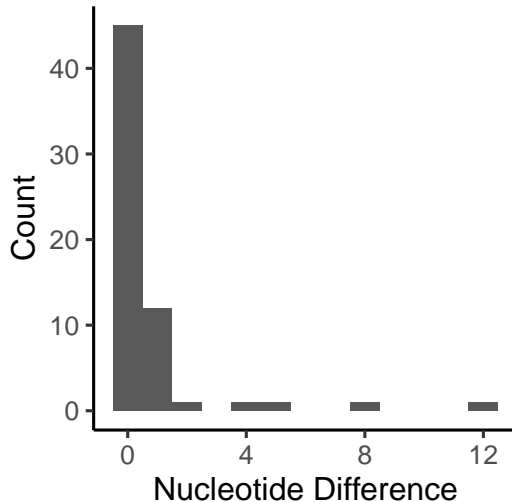
### IGHV1-3\*01

152 sequences assigned  
116 (76.3%) exact matches, in which:  
116 unique CDR3  
6 unique J



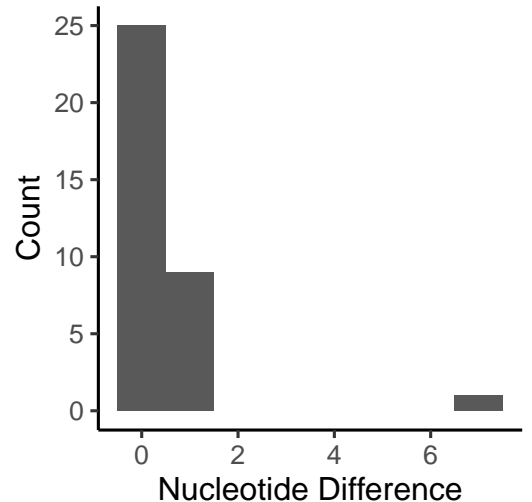
### IGHV1-24\*01

62 sequences assigned  
45 (72.6%) exact matches, in which:  
45 unique CDR3  
7 unique J



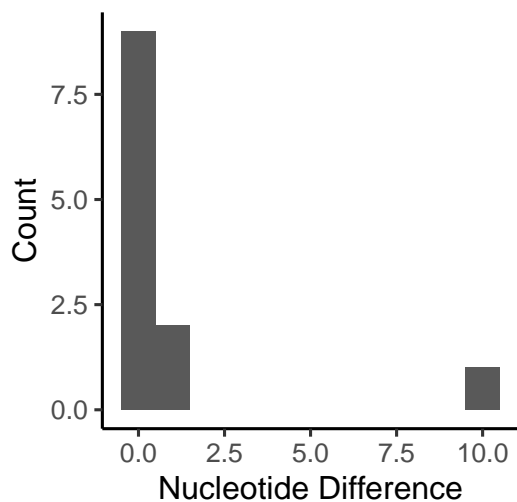
### IGHV1-58\*01

35 sequences assigned  
25 (71.4%) exact matches, in which:  
25 unique CDR3  
5 unique J



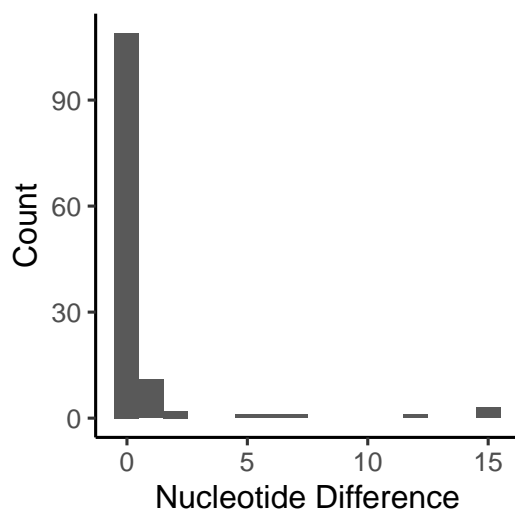
### IGHV1-69-2\*01

12 sequences assigned  
9 (75%) exact matches, in which:  
9 unique CDR3  
4 unique J



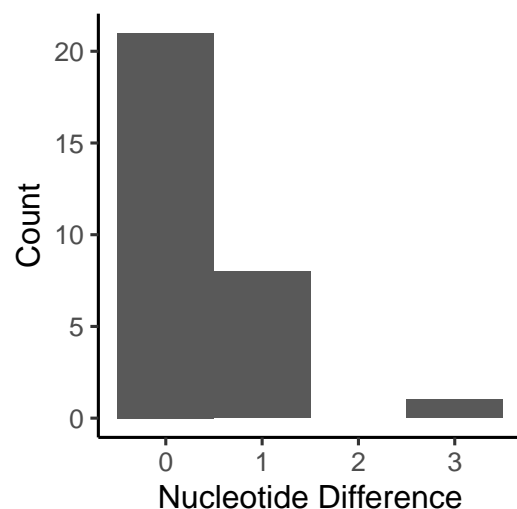
### IGHV2-26\*01

129 sequences assigned  
109 (84.5%) exact matches, in which:  
109 unique CDR3  
7 unique J



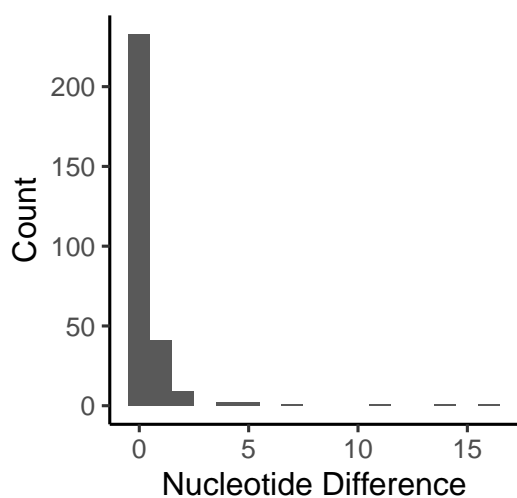
### IGHV3-7\*04

30 sequences assigned  
21 (70%) exact matches, in which:  
21 unique CDR3  
4 unique J



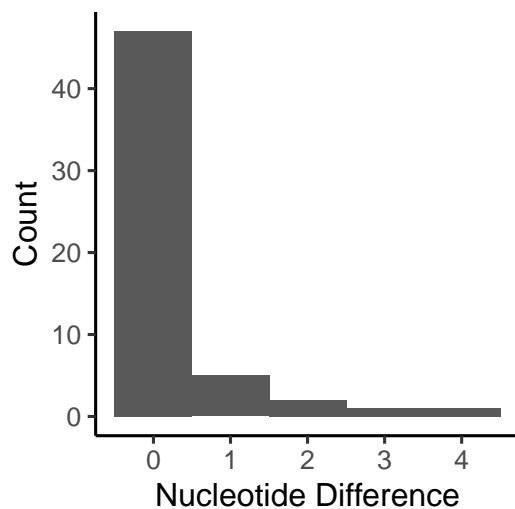
### IGHV1-69\*06

296 sequences assigned  
233 (78.7%) exact matches, in which:  
233 unique CDR3  
6 unique J



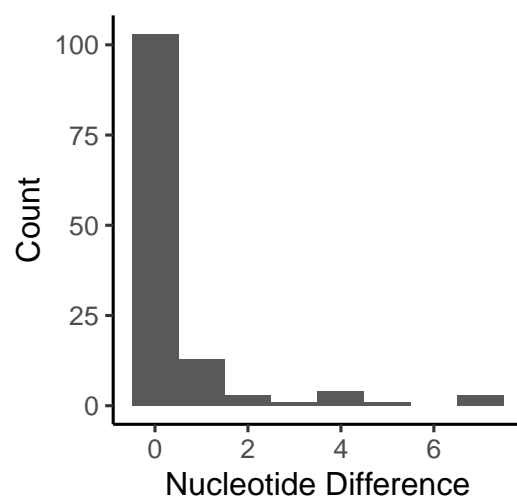
### IGHV2-70\*01

56 sequences assigned  
47 (83.9%) exact matches, in which:  
47 unique CDR3  
5 unique J



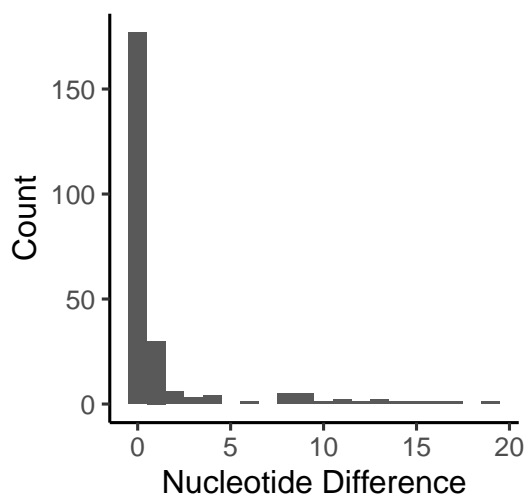
### IGHV3-11\*05

128 sequences assigned  
103 (80.5%) exact matches, in which:  
103 unique CDR3  
5 unique J



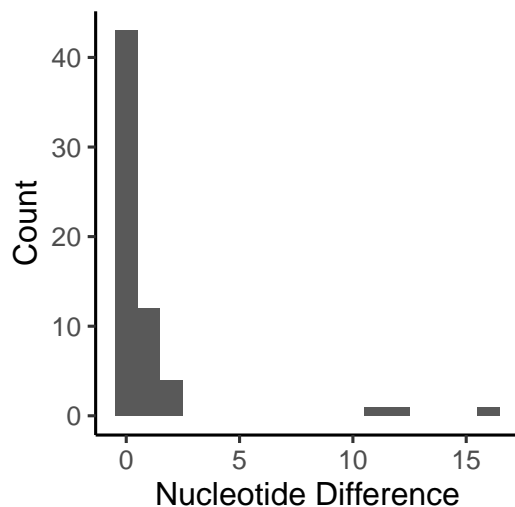
### IGHV2-5\*02

243 sequences assigned  
177 (72.8%) exact matches, in which:  
177 unique CDR3  
7 unique J



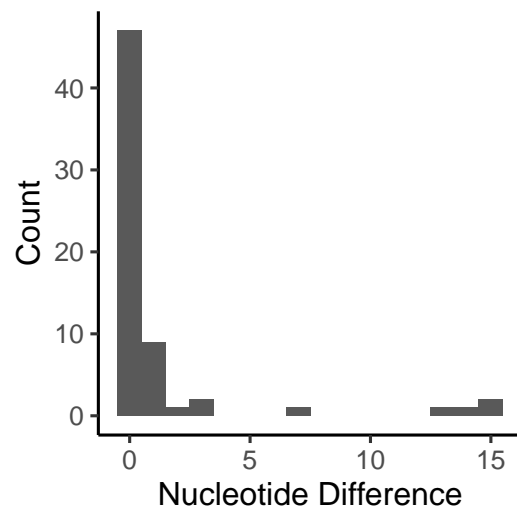
### IGHV3-7\*01

64 sequences assigned  
43 (67.2%) exact matches, in which:  
43 unique CDR3  
6 unique J



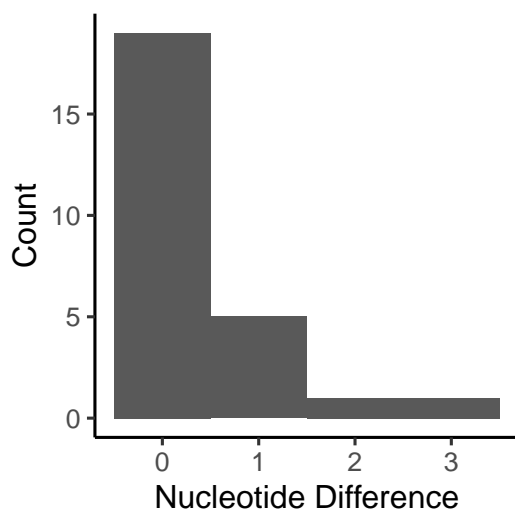
### IGHV3-11\*06

64 sequences assigned  
47 (73.4%) exact matches, in which:  
47 unique CDR3  
5 unique J



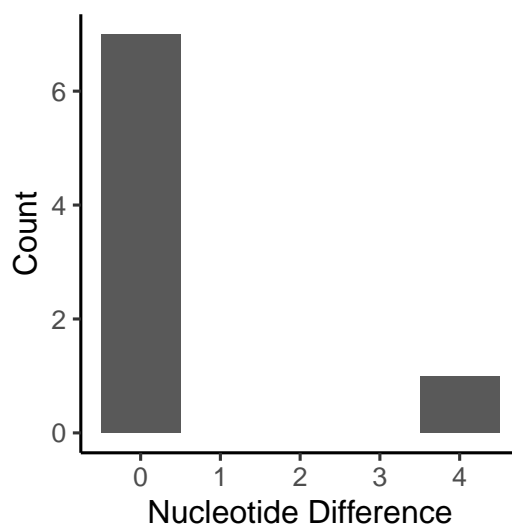
### IGHV3-13\*04

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



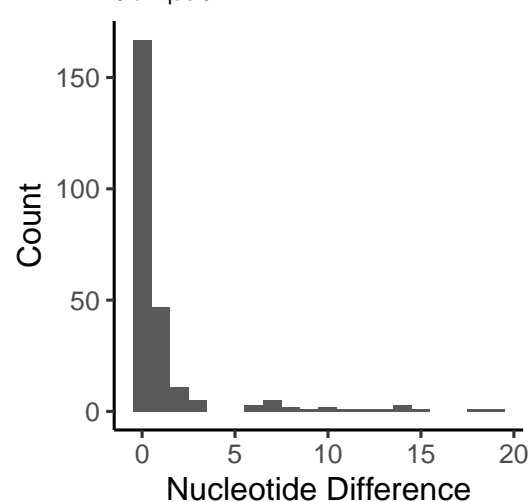
### IGHV3-20\*01

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



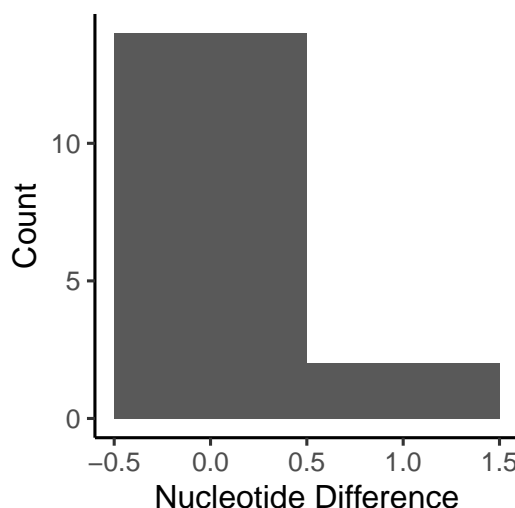
### IGHV3-30-3\*01

254 sequences assigned  
167 (65.7%) exact matches, in which:  
166 unique CDR3  
6 unique J



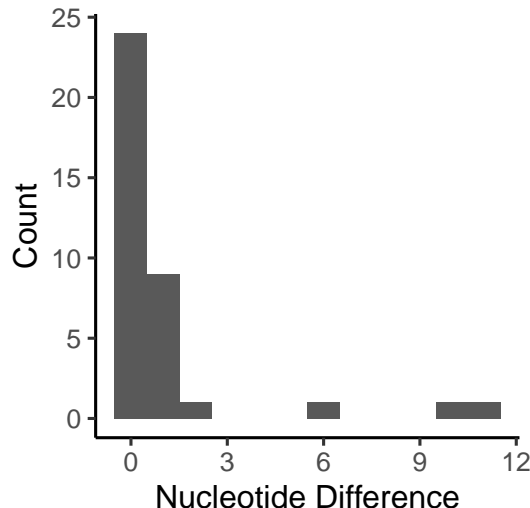
### IGHV3-13\*05

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



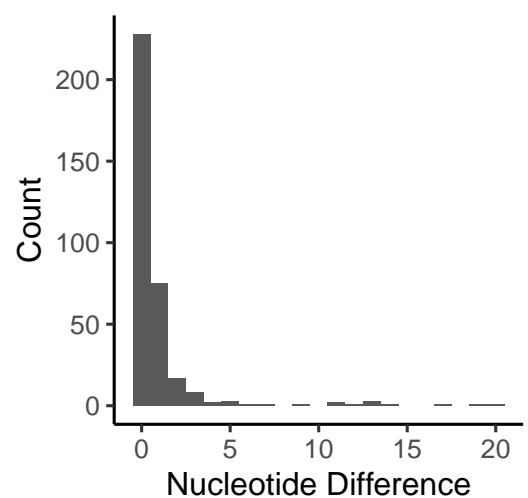
### IGHV3-20\*04

37 sequences assigned  
24 (64.9%) exact matches, in which:  
24 unique CDR3  
5 unique J



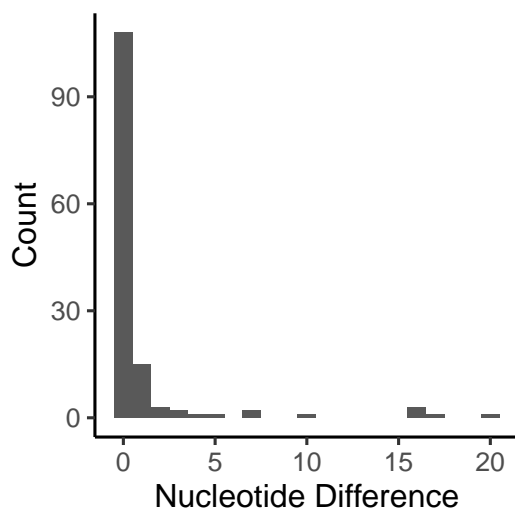
### IGHV3-33\*01

351 sequences assigned  
228 (65%) exact matches, in which:  
227 unique CDR3  
7 unique J



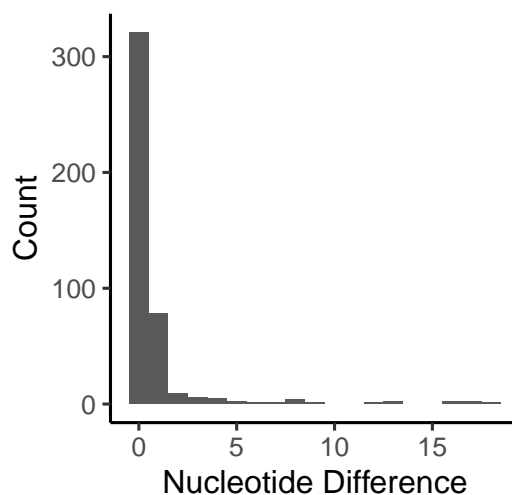
### IGHV3-15\*01

141 sequences assigned  
108 (76.6%) exact matches, in which:  
108 unique CDR3  
7 unique J



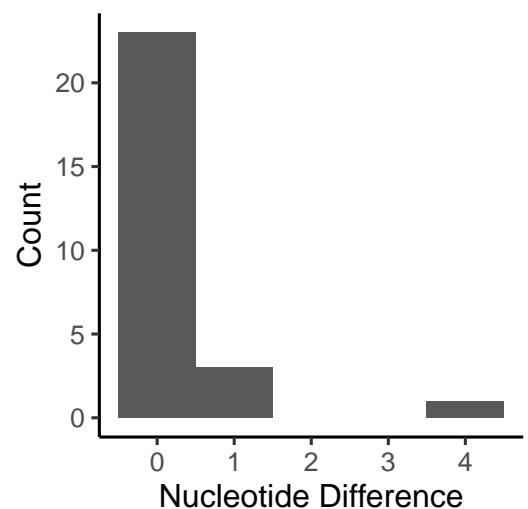
### IGHV3-21\*01

438 sequences assigned  
321 (73.3%) exact matches, in which:  
319 unique CDR3  
7 unique J



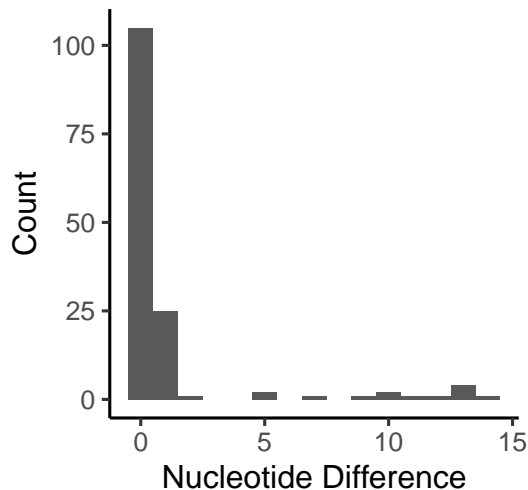
### IGHV3-43\*01

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



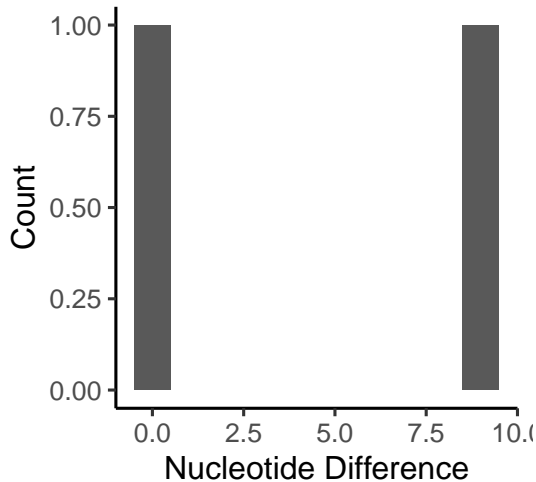
### IGHV3-48\*02

146 sequences assigned  
105 (71.9%) exact matches, in which:  
105 unique CDR3  
7 unique J



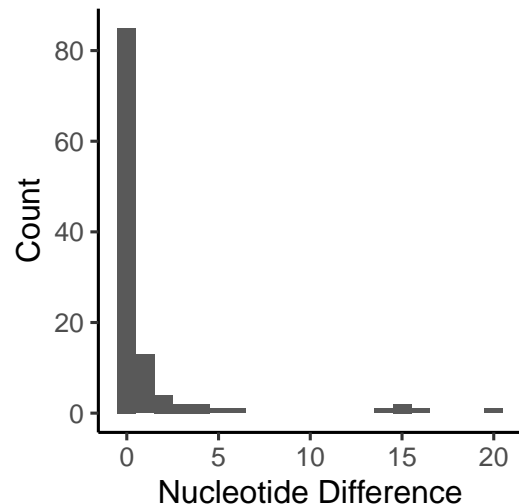
### IGHV3-64\*02

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



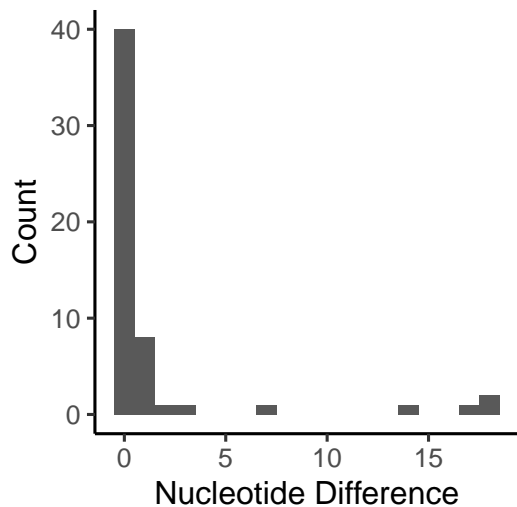
### IGHV3-74\*01

114 sequences assigned  
85 (74.6%) exact matches, in which:  
85 unique CDR3  
6 unique J



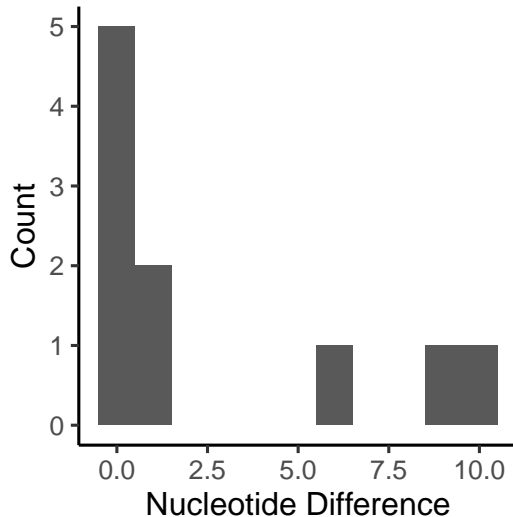
### IGHV3-49\*05

55 sequences assigned  
40 (72.7%) exact matches, in which:  
40 unique CDR3  
7 unique J



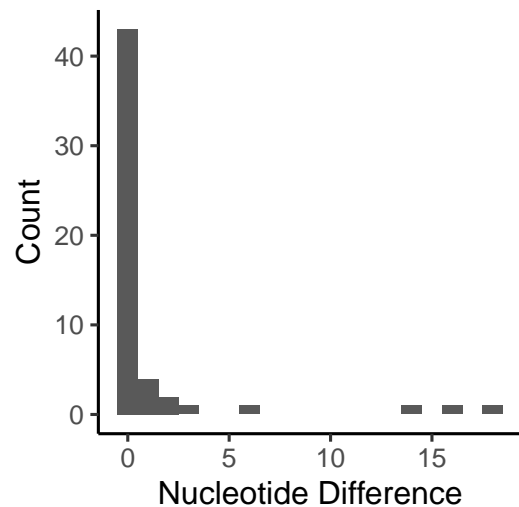
### IGHV3-72\*01

11 sequences assigned  
5 (45.5%) exact matches, in which:  
5 unique CDR3  
3 unique J



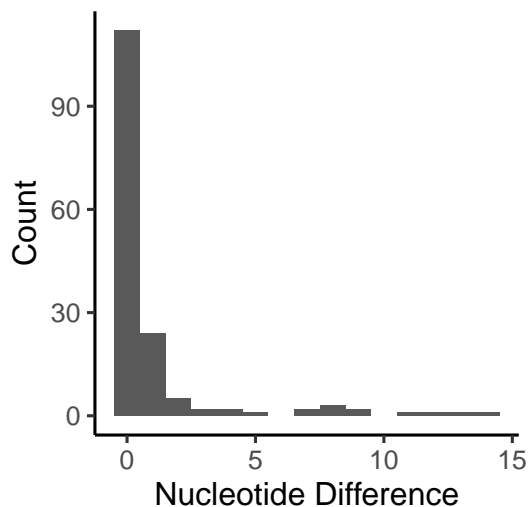
### IGHV3-64D\*06

56 sequences assigned  
43 (76.8%) exact matches, in which:  
42 unique CDR3  
7 unique J



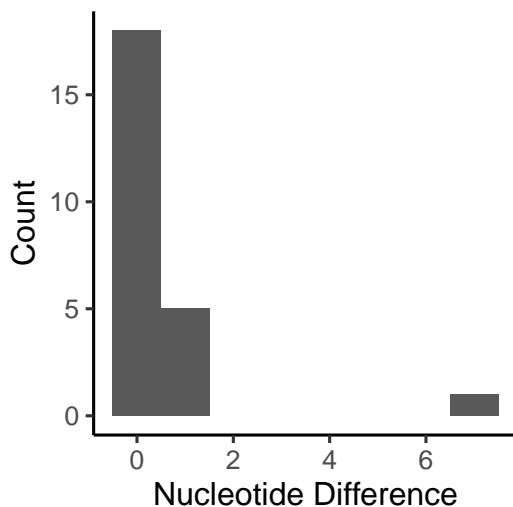
### IGHV3-53\*01

158 sequences assigned  
112 (70.9%) exact matches, in which:  
112 unique CDR3  
6 unique J



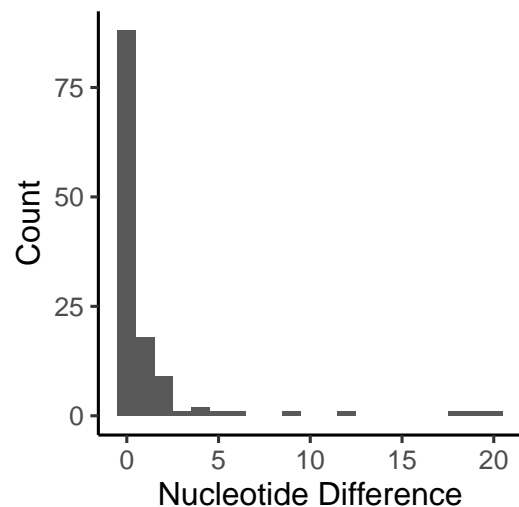
### IGHV3-73\*02

24 sequences assigned  
18 (75%) exact matches, in which:  
18 unique CDR3  
5 unique J



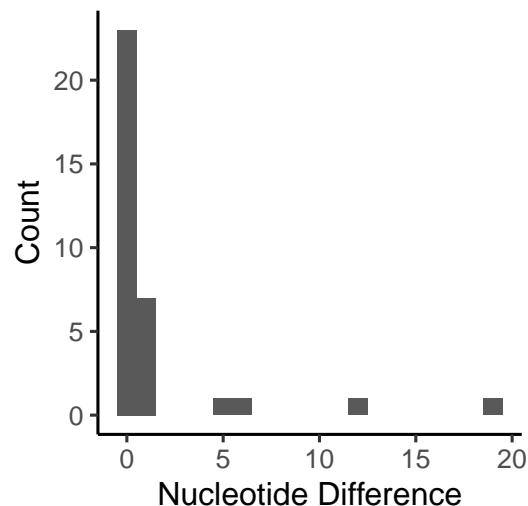
### IGHV4-4\*02

128 sequences assigned  
88 (68.8%) exact matches, in which:  
87 unique CDR3  
7 unique J



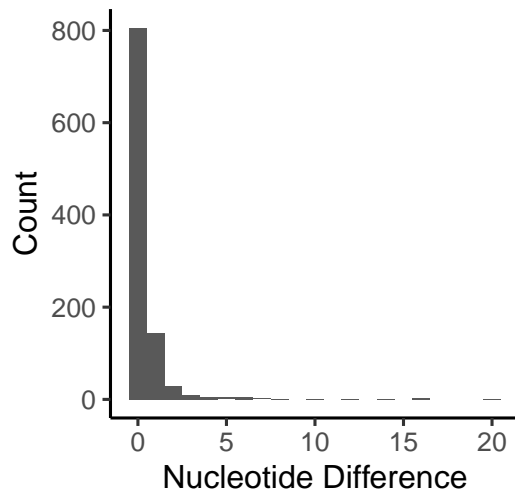
### IGHV4-30-2\*01

36 sequences assigned  
23 (63.9%) exact matches, in which:  
23 unique CDR3  
7 unique J



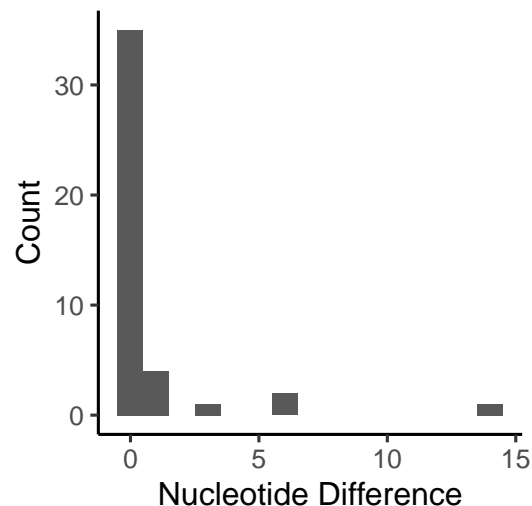
### IGHV4-34\*01

1019 sequences assigned  
806 (79.1%) exact matches, in which:  
798 unique CDR3  
7 unique J



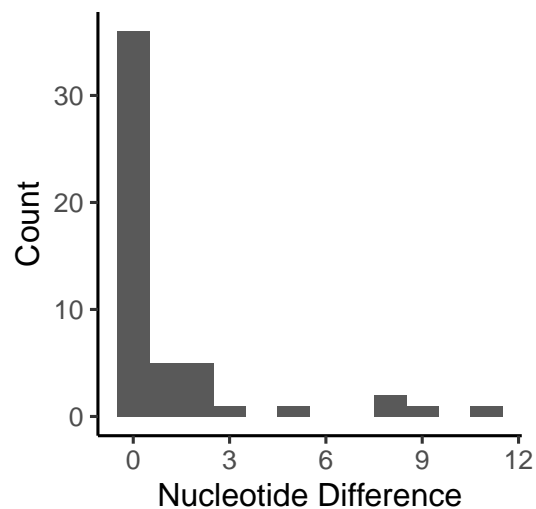
### IGHV4-61\*01

44 sequences assigned  
35 (79.5%) exact matches, in which:  
35 unique CDR3  
6 unique J



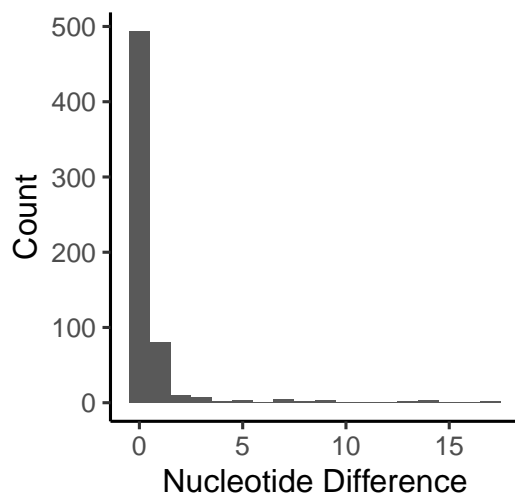
### IGHV4-30-4\*01

52 sequences assigned  
36 (69.2%) exact matches, in which:  
36 unique CDR3  
6 unique J



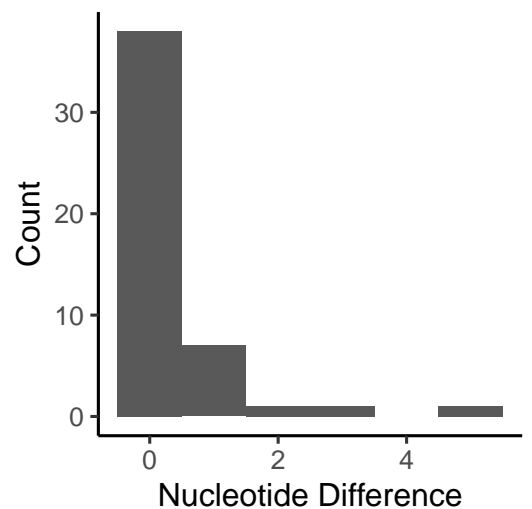
### IGHV4-39\*01

625 sequences assigned  
494 (79%) exact matches, in which:  
490 unique CDR3  
7 unique J



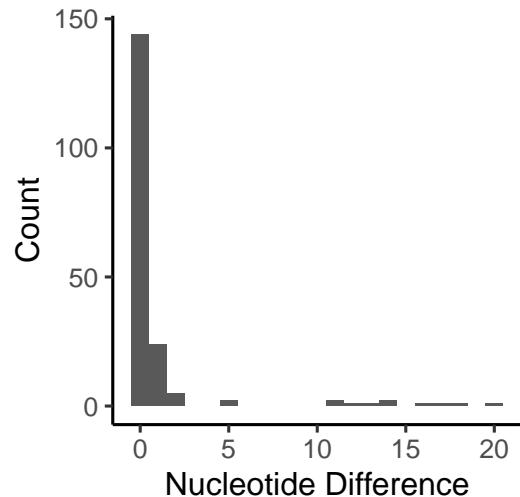
### IGHV5-10-1\*01

48 sequences assigned  
38 (79.2%) exact matches, in which:  
38 unique CDR3  
6 unique J



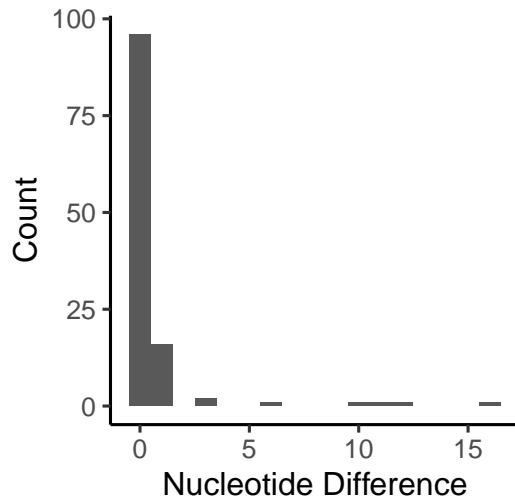
### IGHV4-31\*03

186 sequences assigned  
144 (77.4%) exact matches, in which:  
144 unique CDR3  
6 unique J



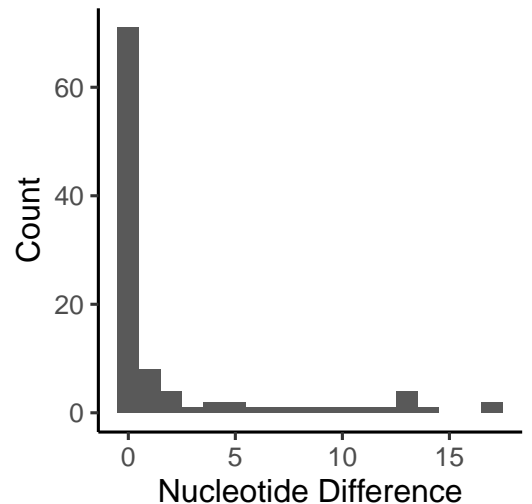
### IGHV4-59\*01

125 sequences assigned  
96 (76.8%) exact matches, in which:  
96 unique CDR3  
7 unique J



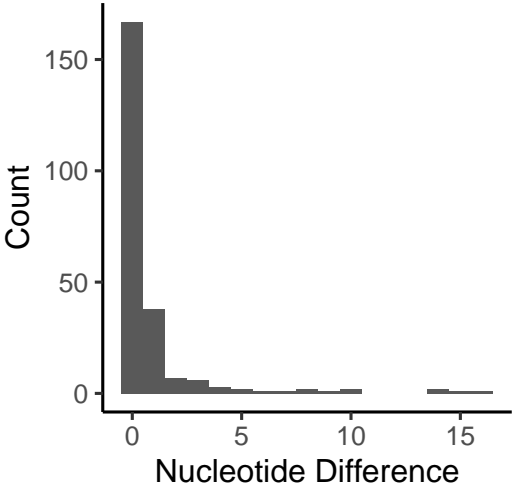
### IGHV5-10-1\*03

103 sequences assigned  
71 (68.9%) exact matches, in which:  
71 unique CDR3  
6 unique J



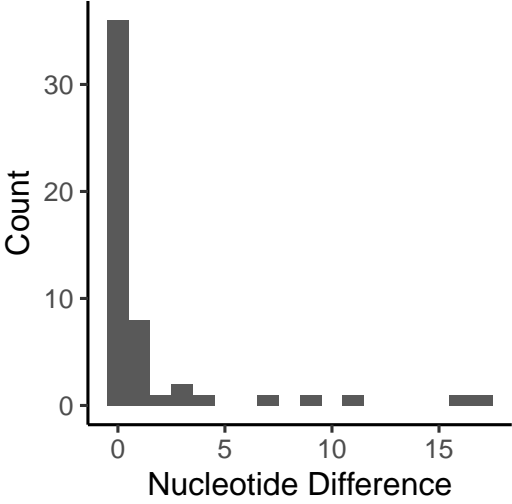
### IGHV5–51\*01

234 sequences assigned  
167 (71.4%) exact matches, in which:  
167 unique CDR3  
7 unique J



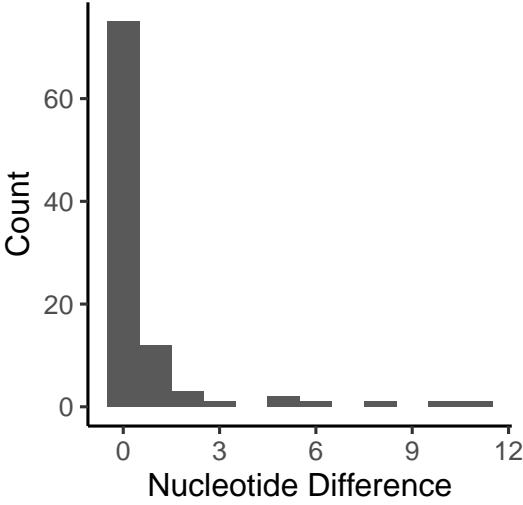
### IGHV6–1\*01

54 sequences assigned  
36 (66.7%) exact matches, in which:  
36 unique CDR3  
6 unique J

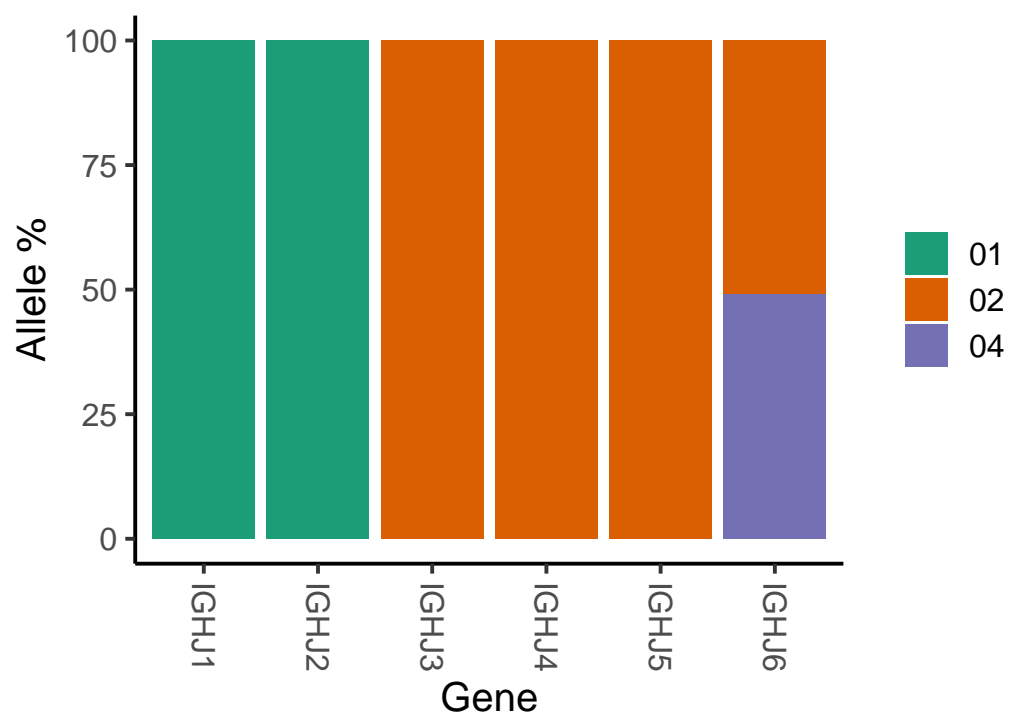


### IGHV7–4–1\*02

98 sequences assigned  
75 (76.5%) exact matches, in which:  
75 unique CDR3  
6 unique J



Allele Usage



Sequence Count by IGHJ6 allele usage

