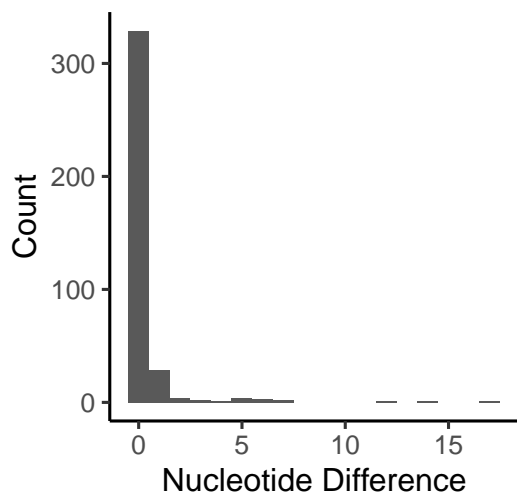


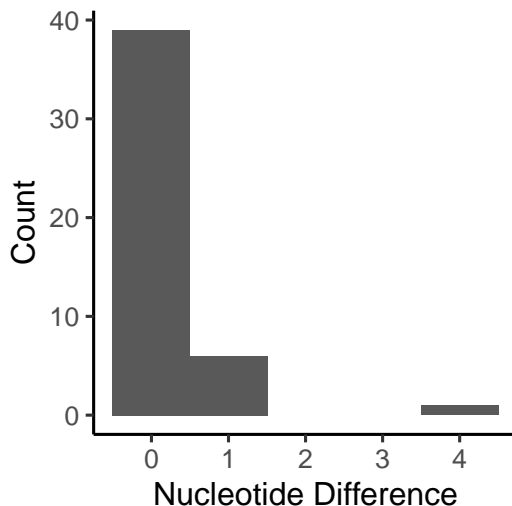
### IGHV1-2\*02

377 sequences assigned  
329 (87.3%) exact matches, in which:  
329 unique CDR3  
7 unique J



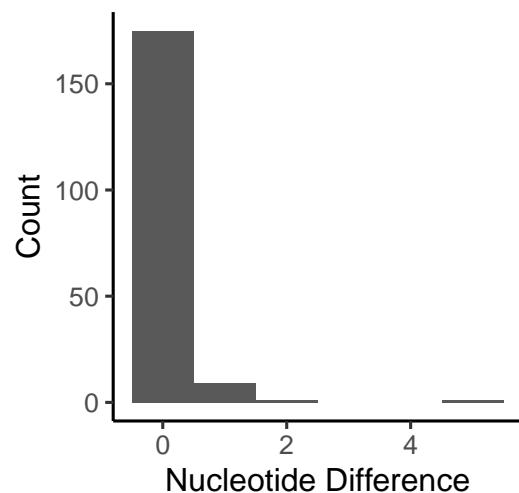
### IGHV1-8\*03

46 sequences assigned  
39 (84.8%) exact matches, in which:  
39 unique CDR3  
4 unique J



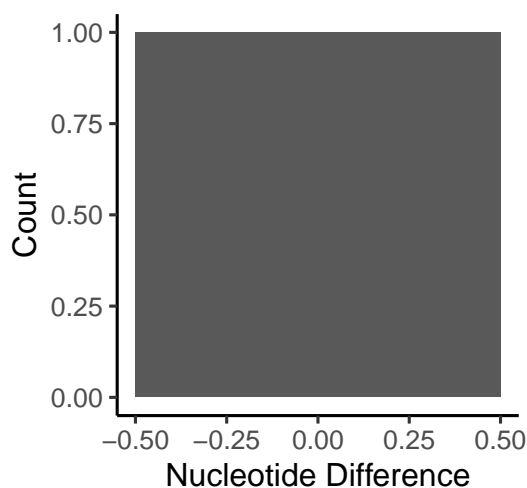
### IGHV1-24\*01

186 sequences assigned  
175 (94.1%) exact matches, in which:  
175 unique CDR3  
7 unique J



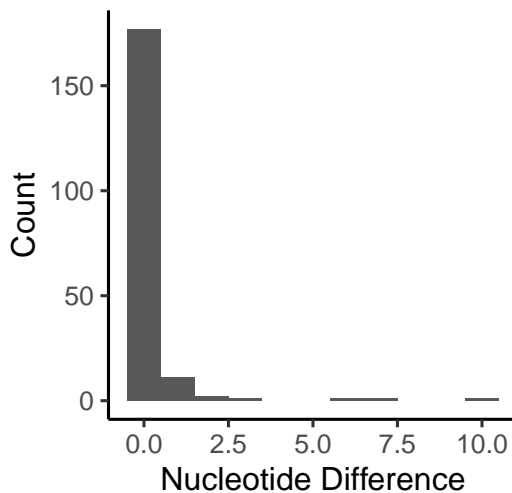
### IGHV1-3\*02

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



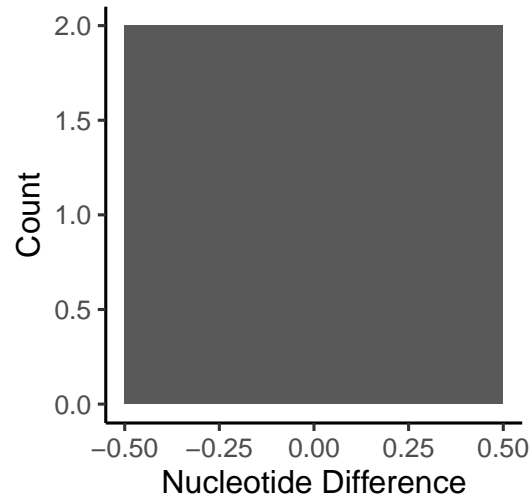
### IGHV1-18\*01

194 sequences assigned  
177 (91.2%) exact matches, in which:  
177 unique CDR3  
7 unique J



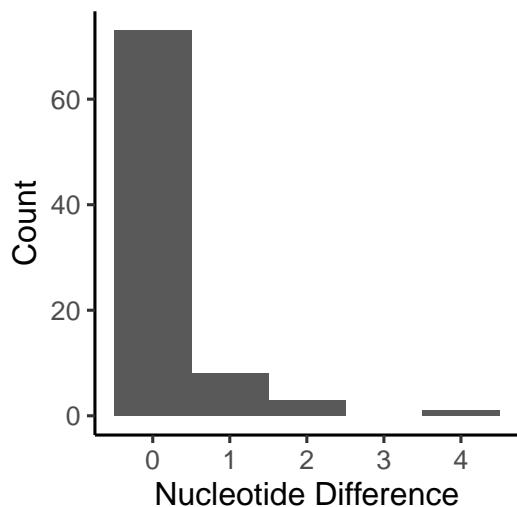
### IGHV1-45\*02

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



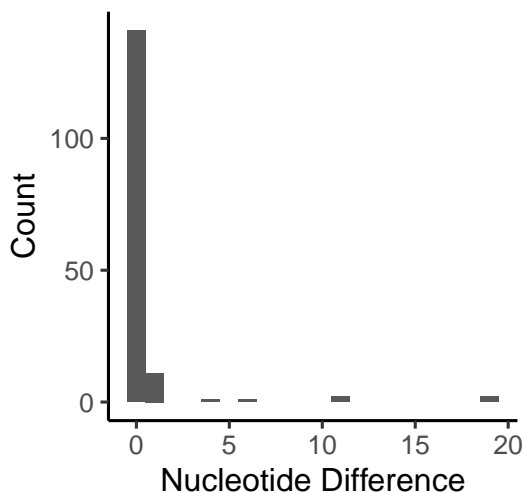
### IGHV1-8\*01

85 sequences assigned  
73 (85.9%) exact matches, in which:  
73 unique CDR3  
5 unique J



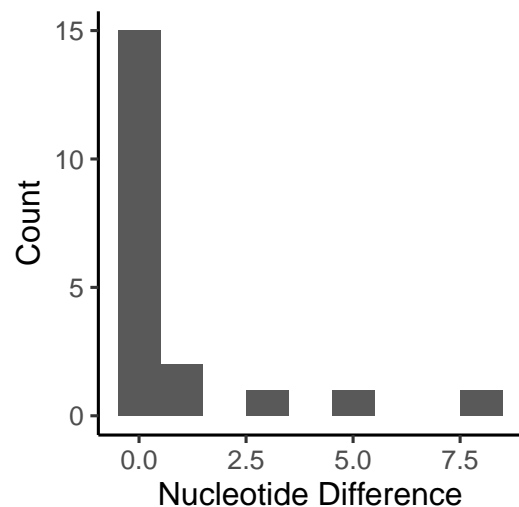
### IGHV1-18\*04

158 sequences assigned  
141 (89.2%) exact matches, in which:  
140 unique CDR3  
6 unique J



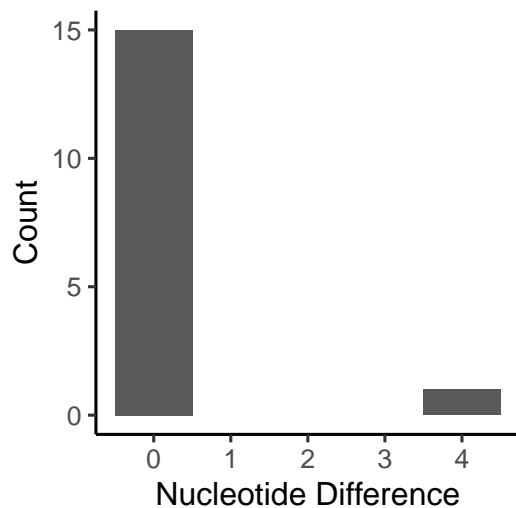
### IGHV1-46\*01

20 sequences assigned  
15 (75%) exact matches, in which:  
15 unique CDR3  
4 unique J



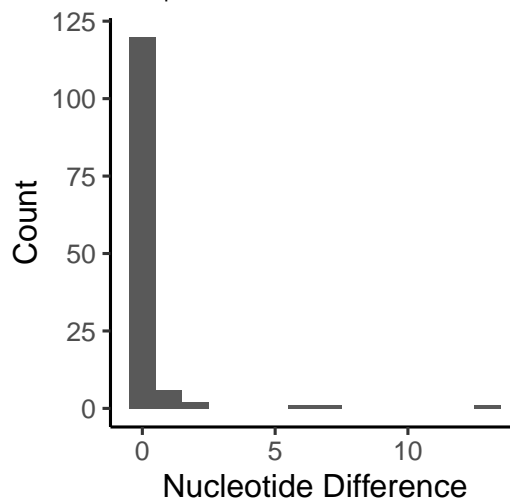
### IGHV1-46\*03

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



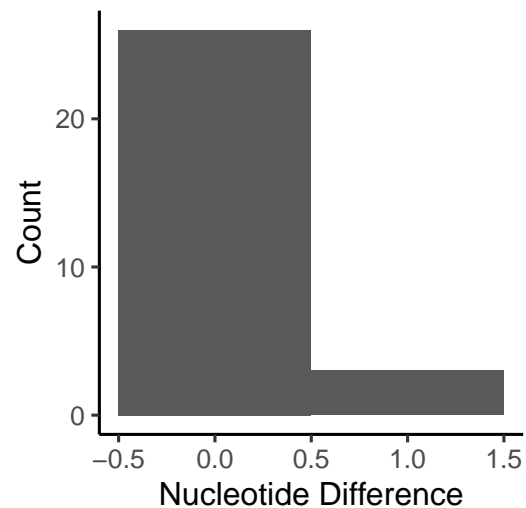
### IGHV1-69\*04\_A163G

131 sequences assigned  
120 (91.6%) exact matches, in which:  
120 unique CDR3  
7 unique J



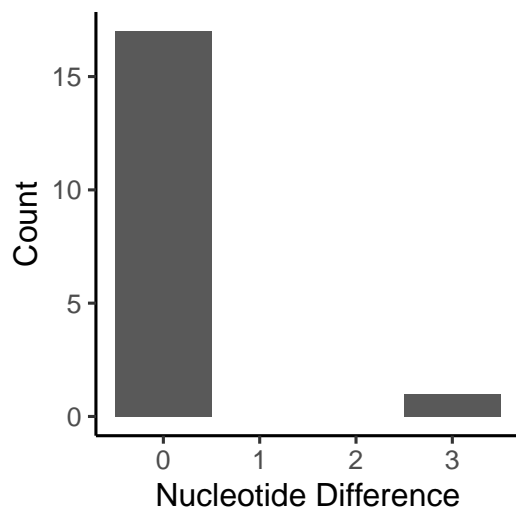
### IGHV2-70\*01

29 sequences assigned  
26 (89.7%) exact matches, in which:  
26 unique CDR3  
4 unique J



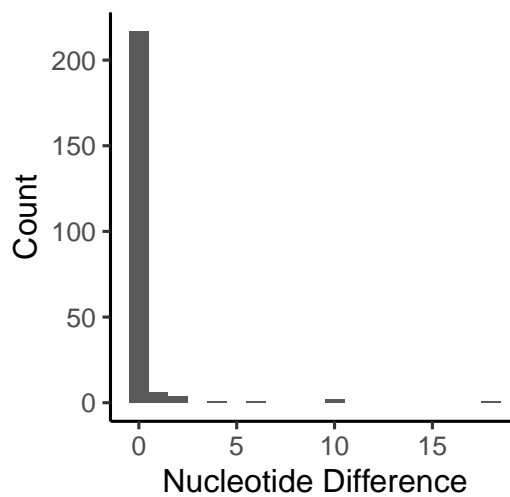
### IGHV1-58\*01

18 sequences assigned  
17 (94.4%) exact matches, in which:  
17 unique CDR3  
4 unique J



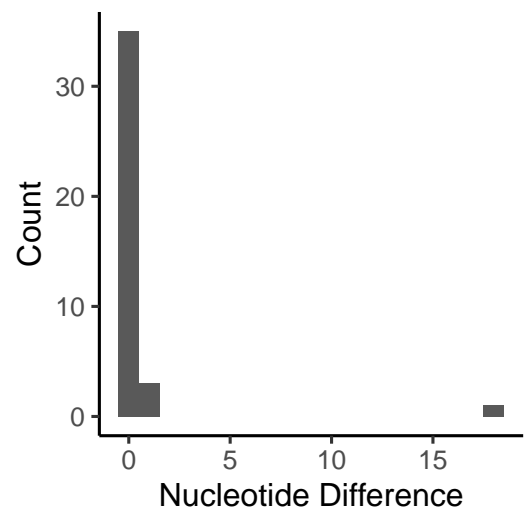
### IGHV2-5\*01

232 sequences assigned  
217 (93.5%) exact matches, in which:  
217 unique CDR3  
7 unique J



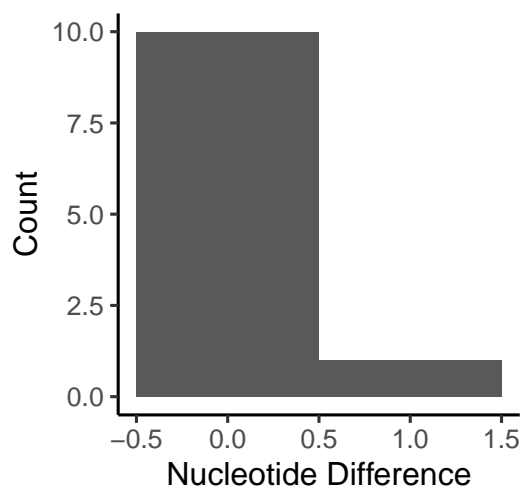
### IGHV2-70\*15

39 sequences assigned  
35 (89.7%) exact matches, in which:  
35 unique CDR3  
3 unique J



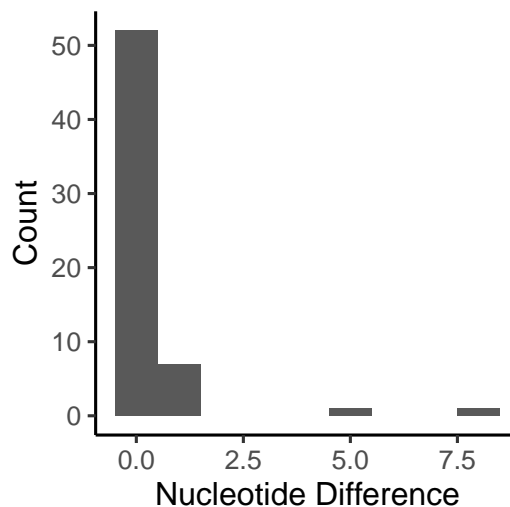
### IGHV1-58\*02

11 sequences assigned  
10 (90.9%) exact matches, in which:  
10 unique CDR3  
4 unique J



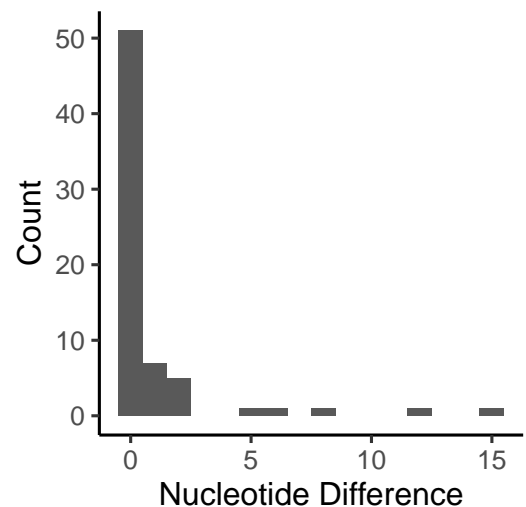
### IGHV2-26\*01

61 sequences assigned  
52 (85.2%) exact matches, in which:  
52 unique CDR3  
6 unique J



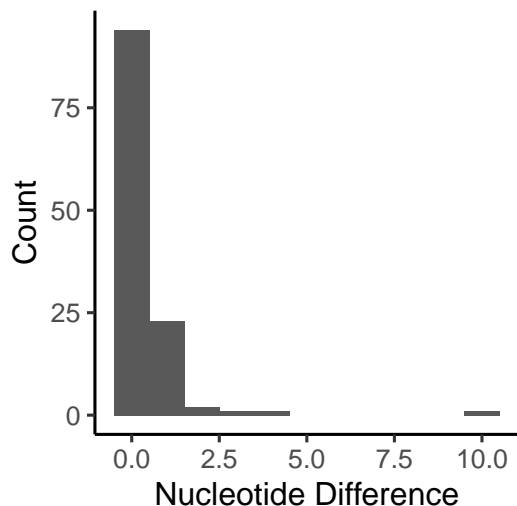
### IGHV3-7\*01

68 sequences assigned  
51 (75%) exact matches, in which:  
51 unique CDR3  
6 unique J



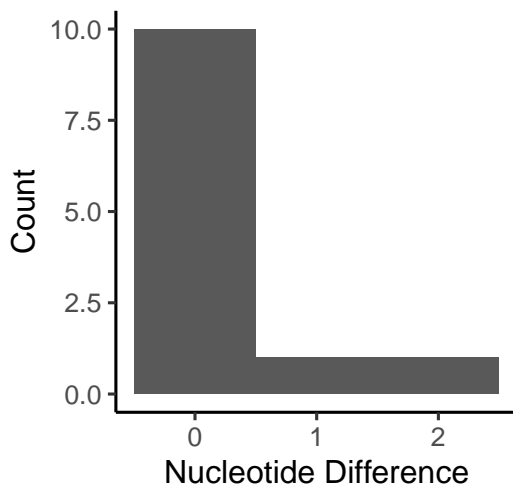
### IGHV3-9\*01

122 sequences assigned  
94 (77%) exact matches, in which:  
94 unique CDR3  
6 unique J



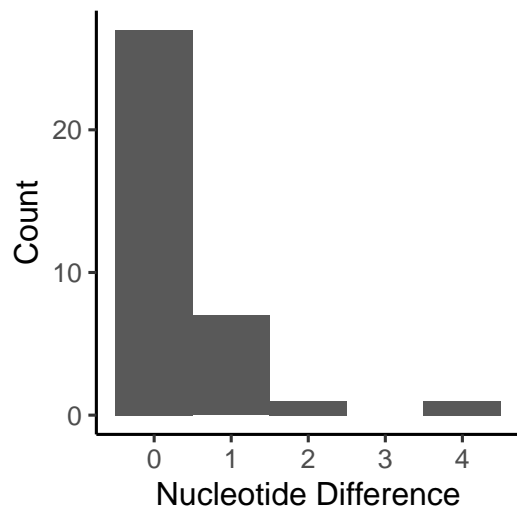
### IGHV3-13\*01

12 sequences assigned  
10 (83.3%) exact matches, in which:  
10 unique CDR3  
3 unique J



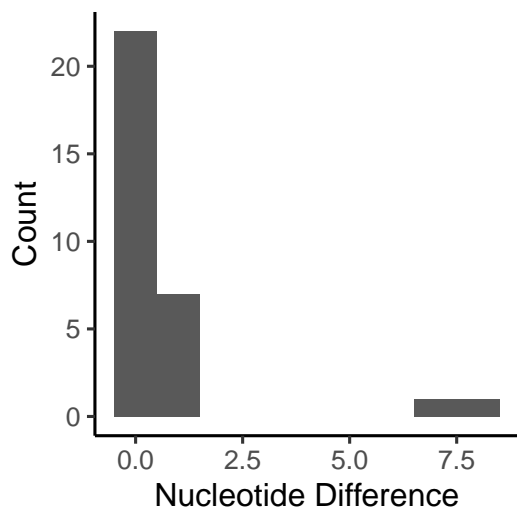
### IGHV3-30\*02\_G49A

36 sequences assigned  
27 (75%) exact matches, in which:  
27 unique CDR3  
4 unique J



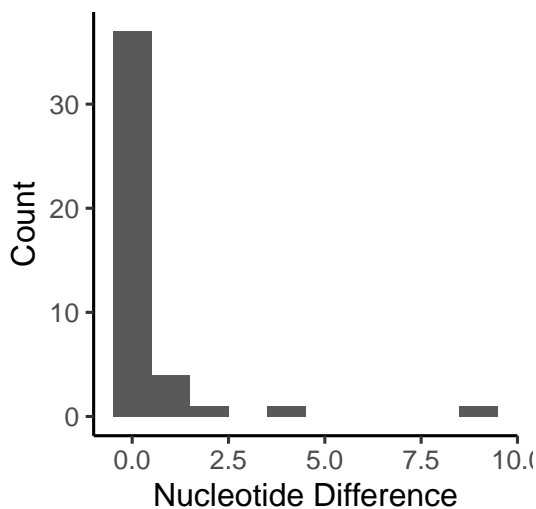
### IGHV3-11\*01

31 sequences assigned  
22 (71%) exact matches, in which:  
22 unique CDR3  
6 unique J



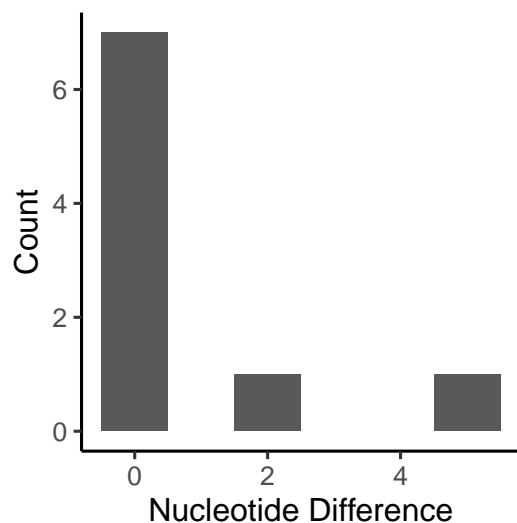
### IGHV3-15\*01

44 sequences assigned  
37 (84.1%) exact matches, in which:  
37 unique CDR3  
5 unique J



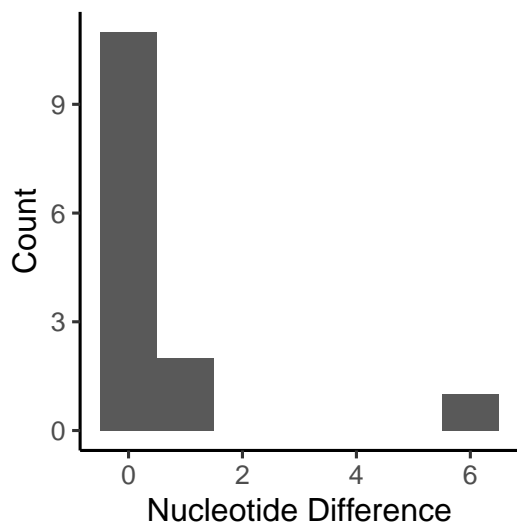
### IGHV3-43\*01

9 sequences assigned  
7 (77.8%) exact matches, in which:  
7 unique CDR3  
3 unique J



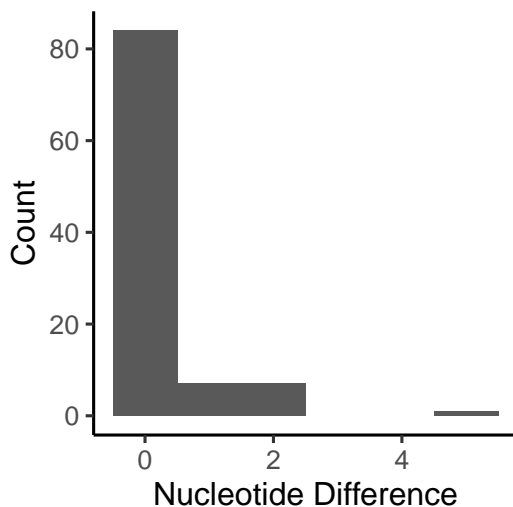
### IGHV3-11\*04

14 sequences assigned  
11 (78.6%) exact matches, in which:  
11 unique CDR3  
3 unique J



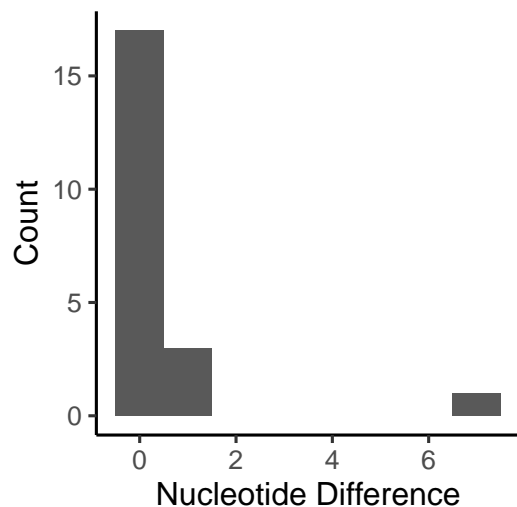
### IGHV3-21\*01

99 sequences assigned  
84 (84.8%) exact matches, in which:  
84 unique CDR3  
7 unique J



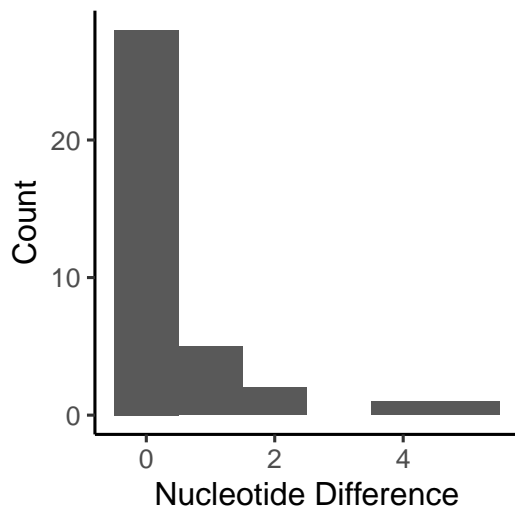
### IGHV3-48\*01

21 sequences assigned  
17 (81%) exact matches, in which:  
17 unique CDR3  
4 unique J



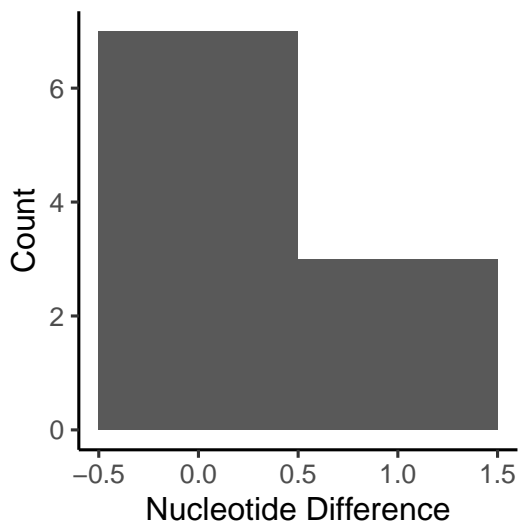
### IGHV3-48\*04

37 sequences assigned  
28 (75.7%) exact matches, in which:  
28 unique CDR3  
5 unique J



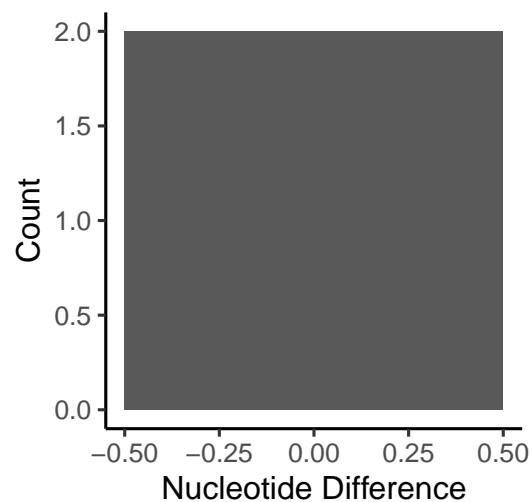
### IGHV3-53\*04

10 sequences assigned  
7 (70%) exact matches, in which:  
7 unique CDR3  
3 unique J



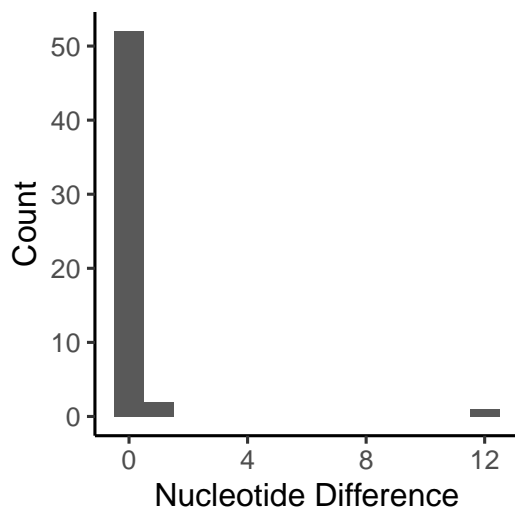
### IGHV3-72\*01

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



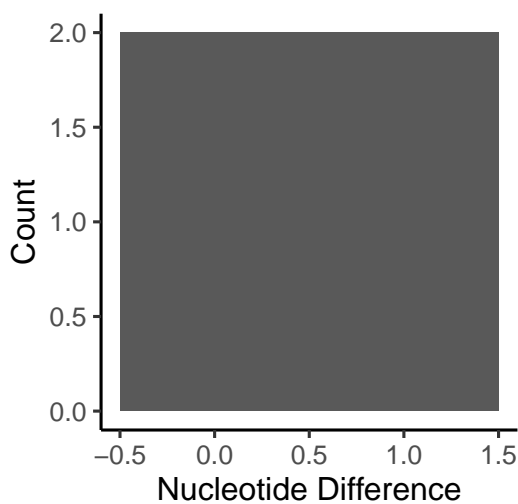
### IGHV3-49\*03

56 sequences assigned  
52 (92.9%) exact matches, in which:  
52 unique CDR3  
6 unique J



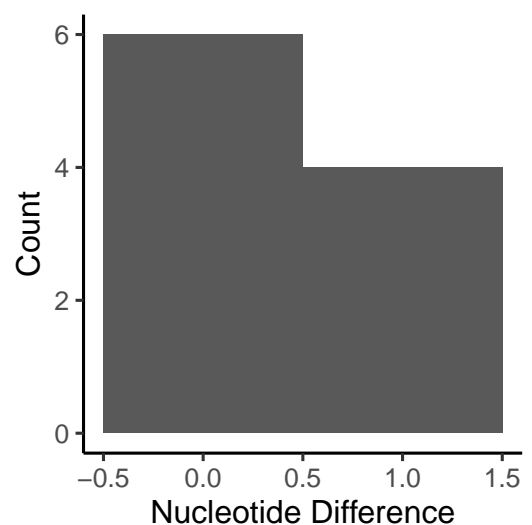
### IGHV3-64\*01

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



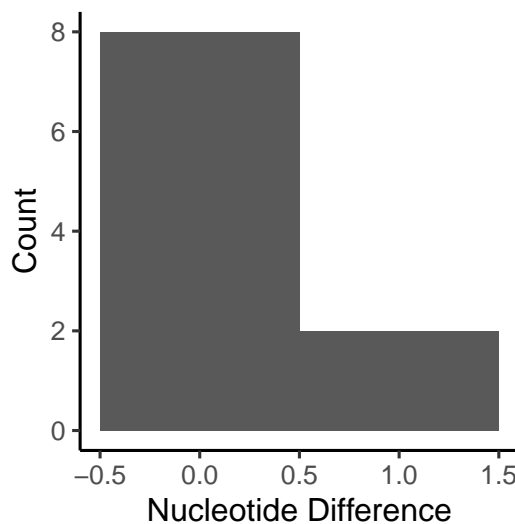
### IGHV3-73\*01

10 sequences assigned  
6 (60%) exact matches, in which:  
6 unique CDR3  
3 unique J



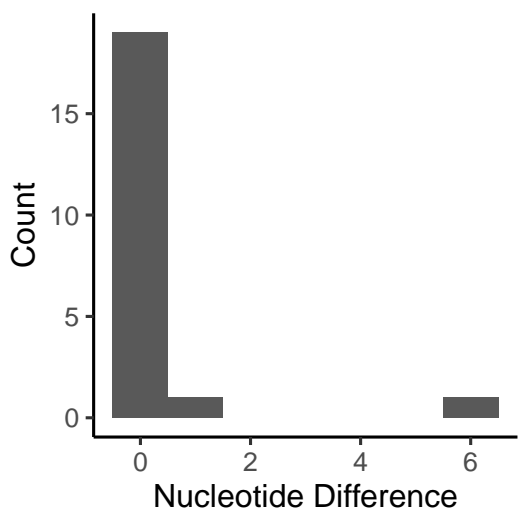
### IGHV3-53\*02

10 sequences assigned  
8 (80%) exact matches, in which:  
8 unique CDR3  
4 unique J



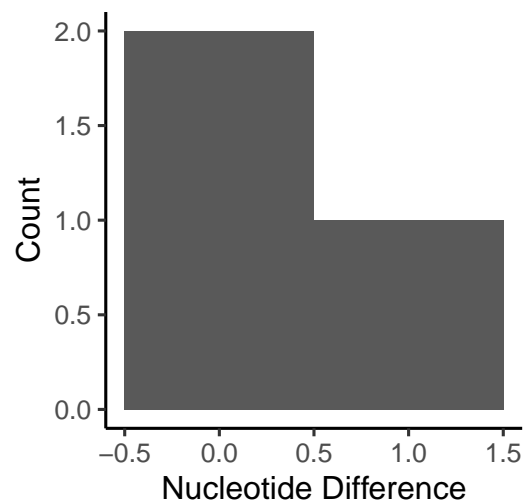
### IGHV3-66\*01

21 sequences assigned  
19 (90.5%) exact matches, in which:  
19 unique CDR3  
4 unique J



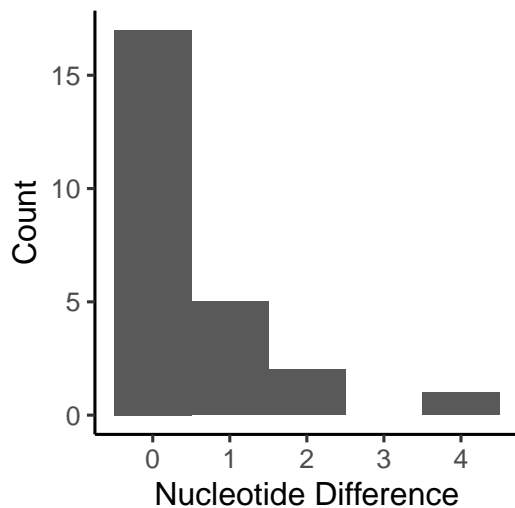
### IGHV3-73\*02

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



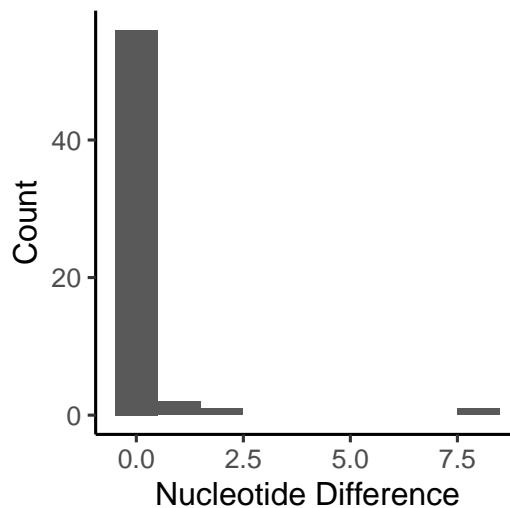
### IGHV3-74\*01

25 sequences assigned  
17 (68%) exact matches, in which:  
17 unique CDR3  
6 unique J



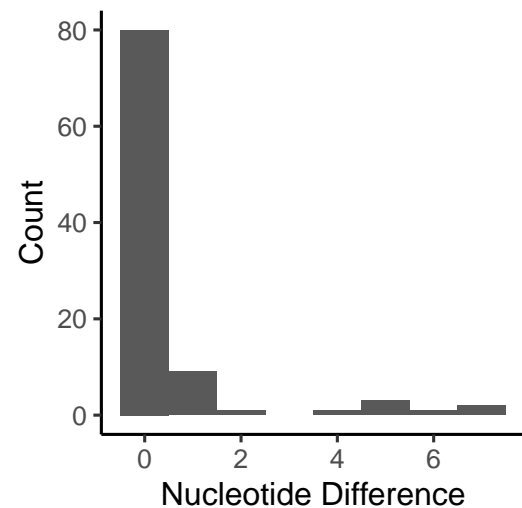
### IGHV4-30-2\*01

60 sequences assigned  
56 (93.3%) exact matches, in which:  
56 unique CDR3  
7 unique J



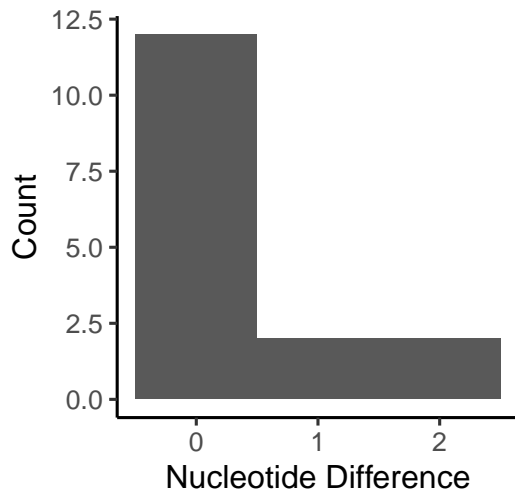
### IGHV4-38-2\*02

97 sequences assigned  
80 (82.5%) exact matches, in which:  
80 unique CDR3  
6 unique J



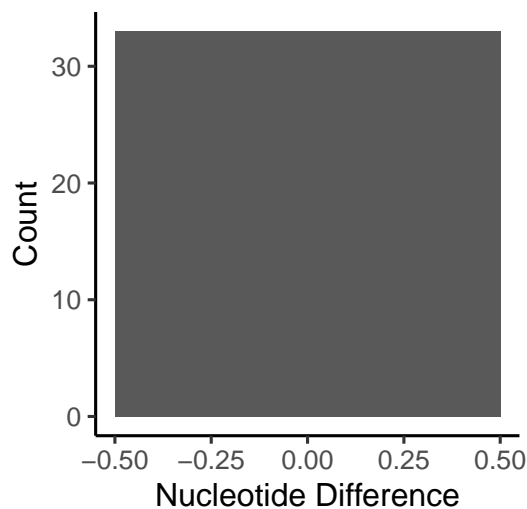
### IGHV3-43D\*03

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



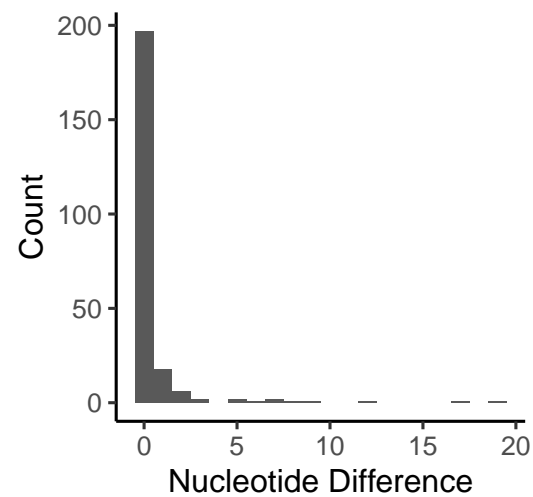
### IGHV4-30-4\*07

33 sequences assigned  
33 (100%) exact matches, in which:  
33 unique CDR3  
6 unique J



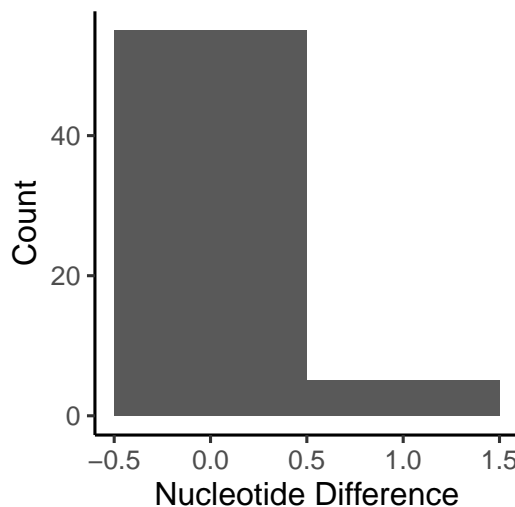
### IGHV4-39\*01

233 sequences assigned  
197 (84.5%) exact matches, in which:  
197 unique CDR3  
7 unique J



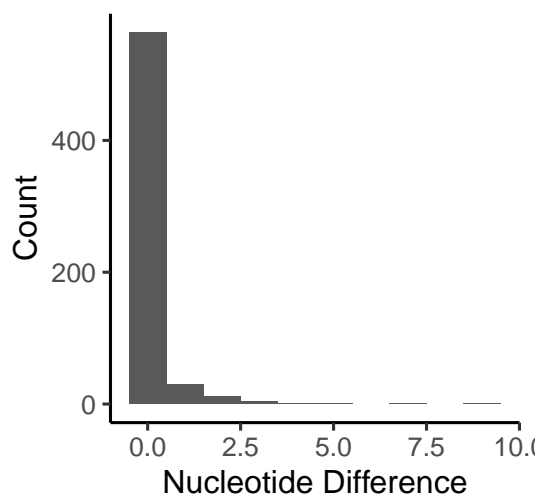
### IGHV4-4\*07

60 sequences assigned  
55 (91.7%) exact matches, in which:  
55 unique CDR3  
6 unique J



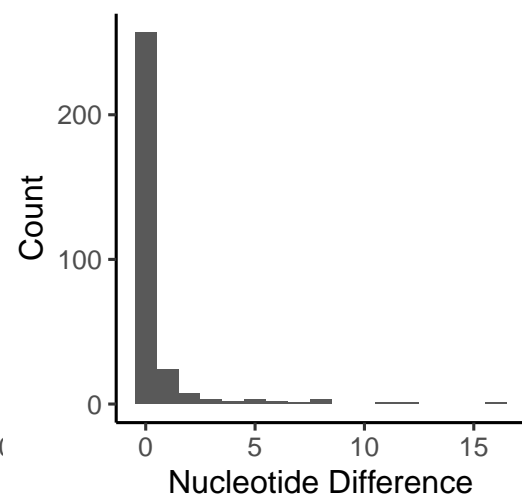
### IGHV4-34\*01

614 sequences assigned  
564 (91.9%) exact matches, in which:  
564 unique CDR3  
7 unique J



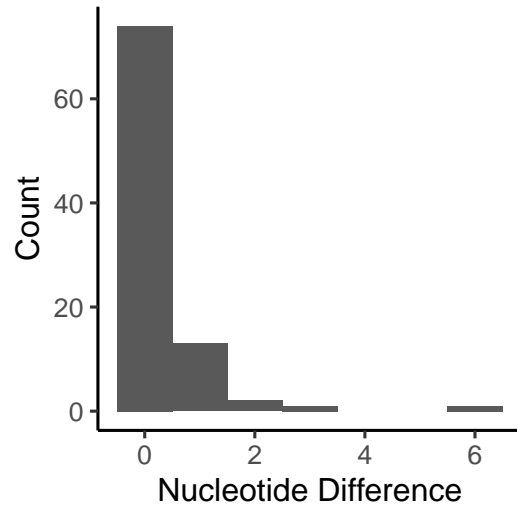
### IGHV4-39\*07

305 sequences assigned  
257 (84.3%) exact matches, in which:  
256 unique CDR3  
6 unique J



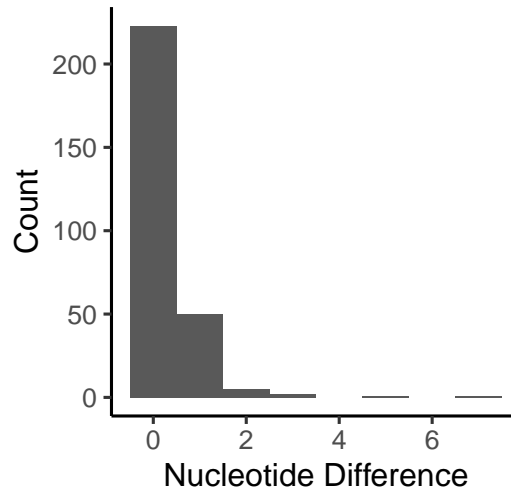
## IGHV4-59\*01

91 sequences assigned  
74 (81.3%) exact matches, in which:  
74 unique CDR3  
6 unique J



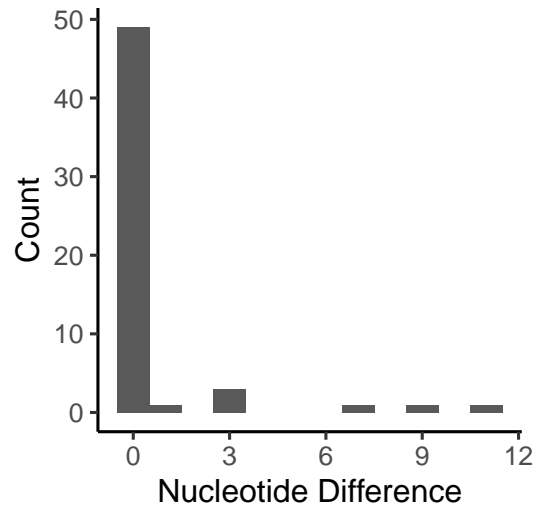
## IGHV5-51\*01

282 sequences assigned  
223 (79.1%) exact matches, in which:  
223 unique CDR3  
7 unique J



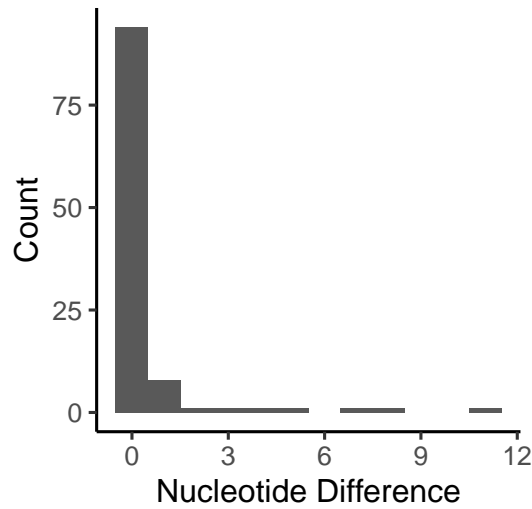
## IGHV4-59\*08

56 sequences assigned  
49 (87.5%) exact matches, in which:  
49 unique CDR3  
5 unique J



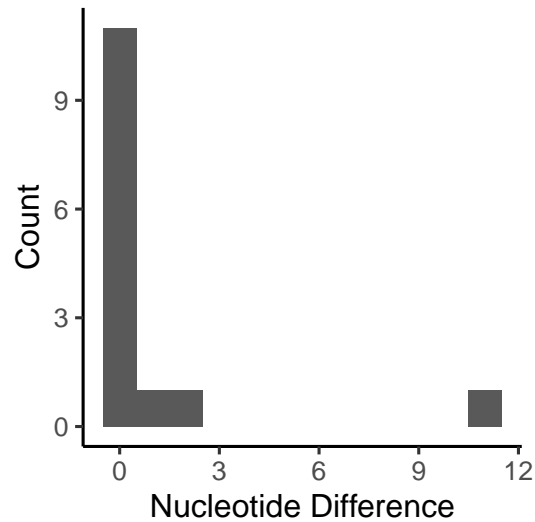
## IGHV5-51\*03

110 sequences assigned  
94 (85.5%) exact matches, in which:  
94 unique CDR3  
6 unique J



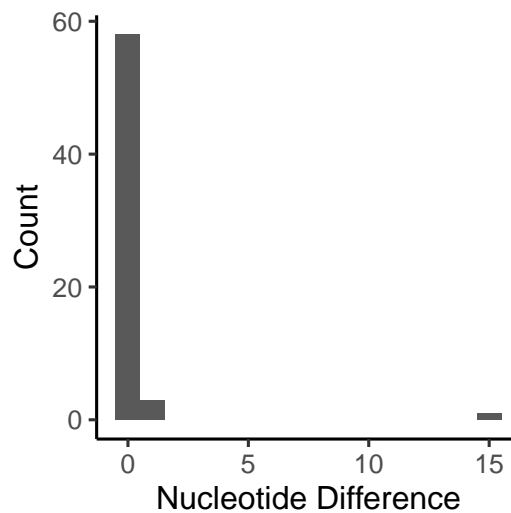
## IGHV4-61\*01

14 sequences assigned  
11 (78.6%) exact matches, in which:  
11 unique CDR3  
5 unique J

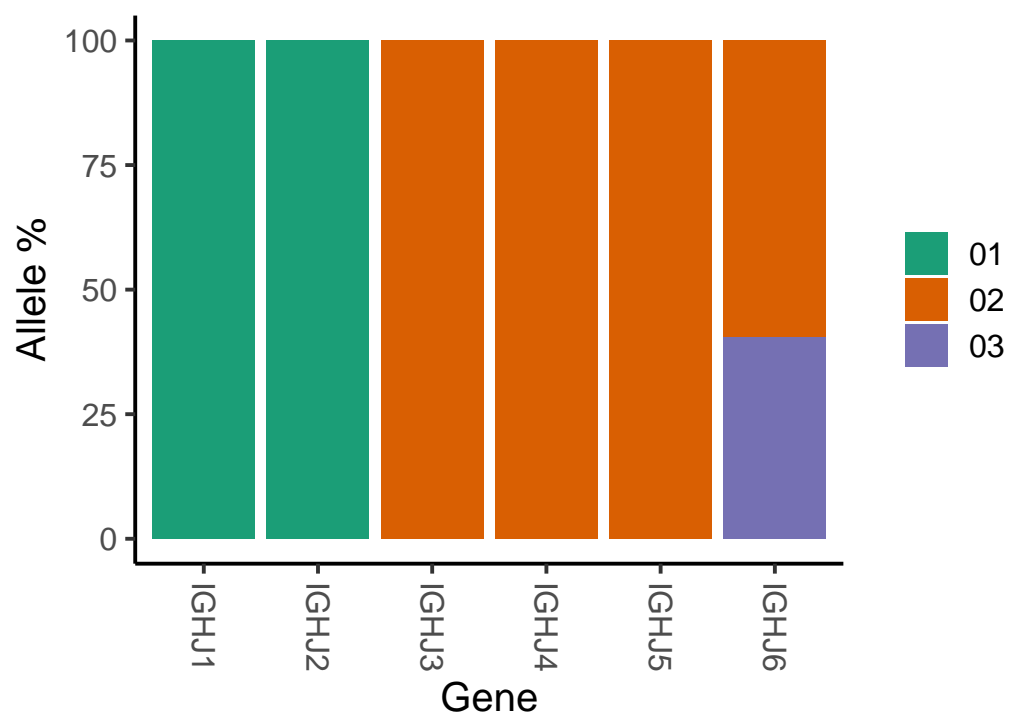


## IGHV6-1\*01

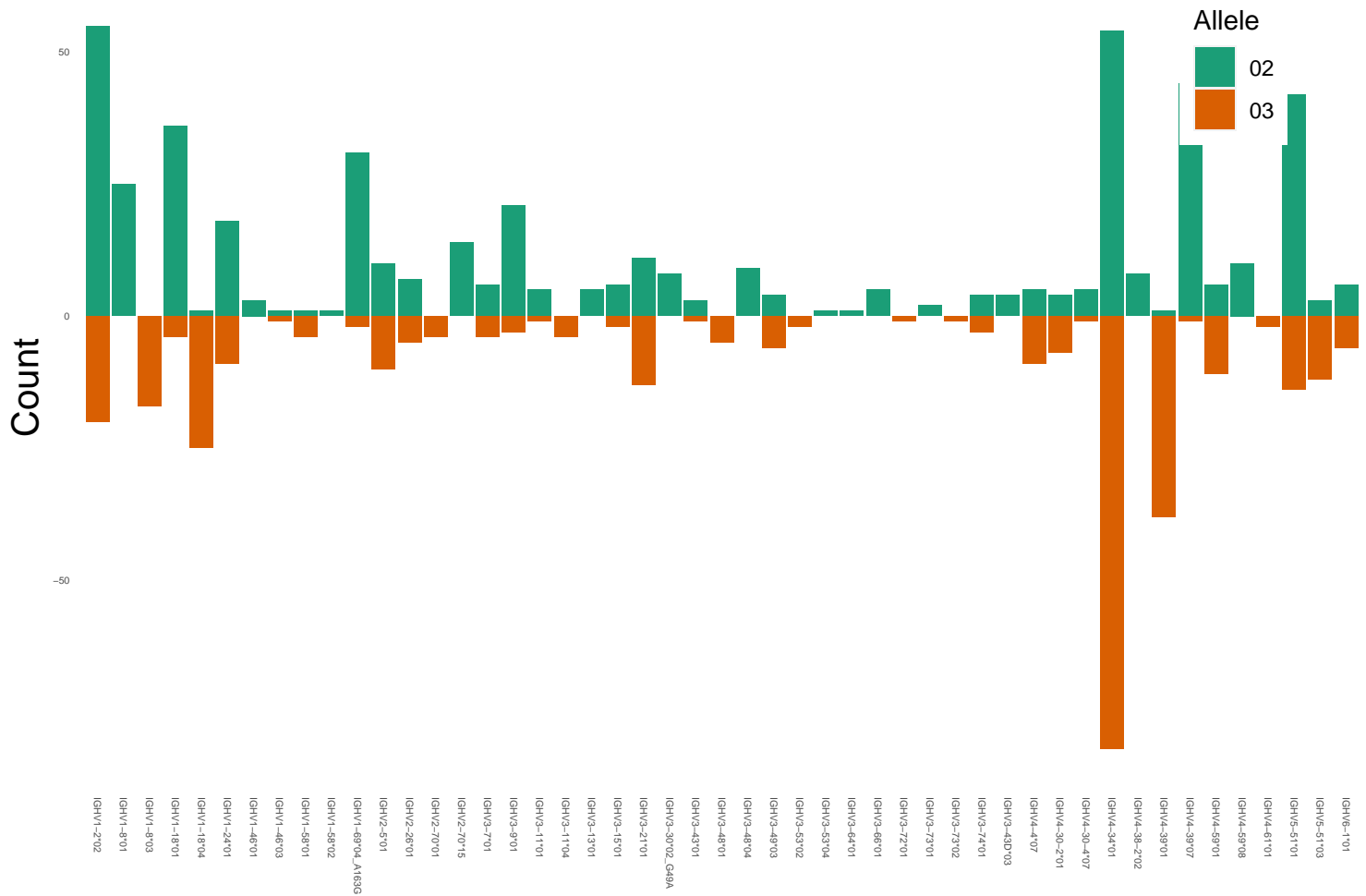
62 sequences assigned  
58 (93.5%) exact matches, in which:  
58 unique CDR3  
6 unique J



Allele Usage



### Sequence Count byIGHJ6 allele usage





Warning – no inferred sequences found.