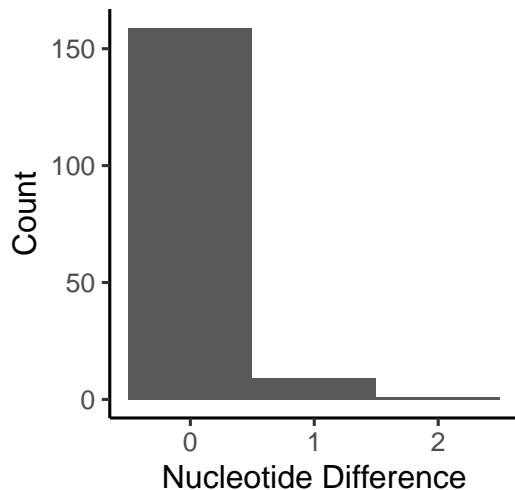


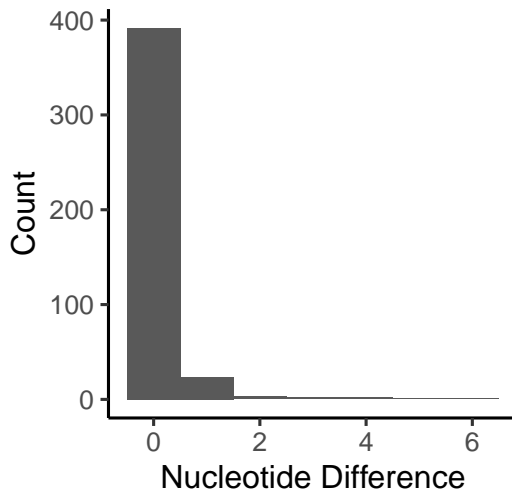
### IGHV1-2\*04

169 sequences assigned  
159 (94.1%) exact matches, in which:  
159 unique CDR3  
7 unique J



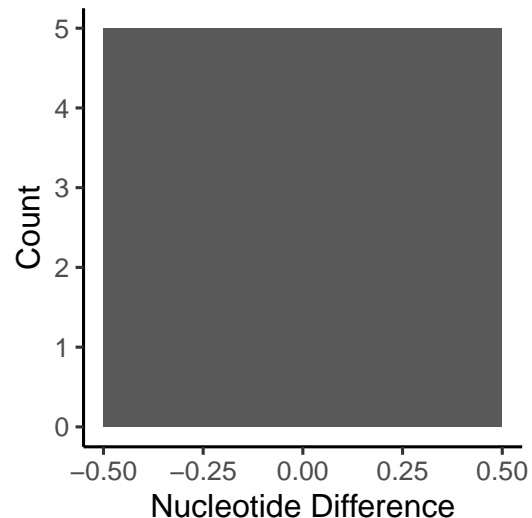
### IGHV1-18\*01

425 sequences assigned  
392 (92.2%) exact matches, in which:  
392 unique CDR3  
7 unique J



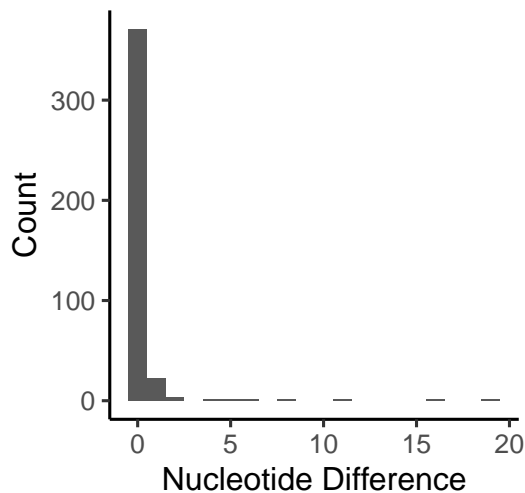
### IGHV1-45\*02

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



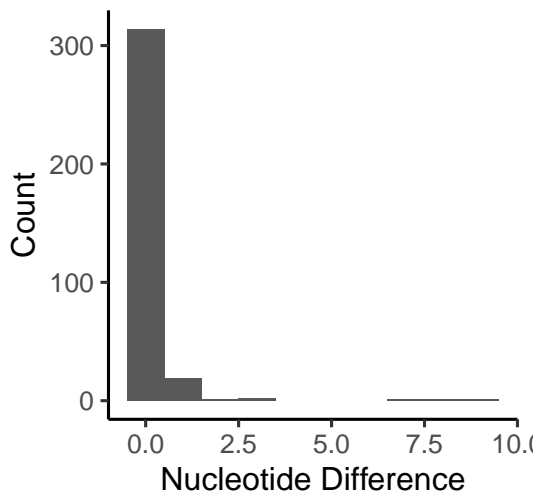
### IGHV1-3\*01

404 sequences assigned  
371 (91.8%) exact matches, in which:  
371 unique CDR3  
7 unique J



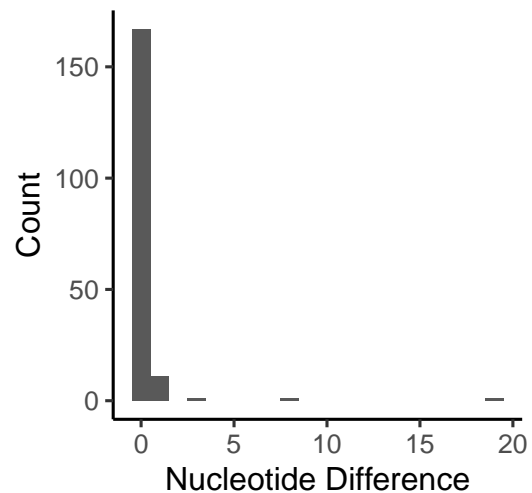
### IGHV1-18\*04

339 sequences assigned  
314 (92.6%) exact matches, in which:  
313 unique CDR3  
6 unique J



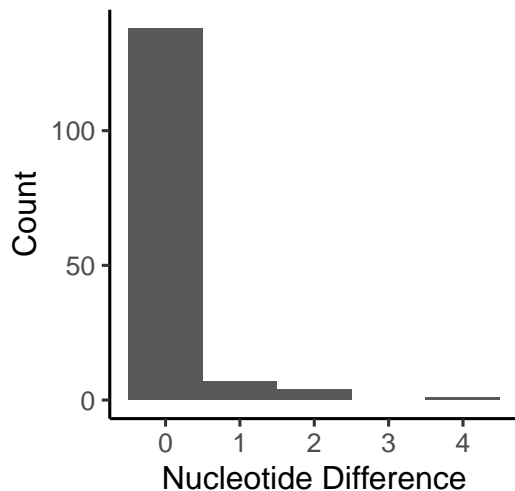
### IGHV1-46\*01

181 sequences assigned  
167 (92.3%) exact matches, in which:  
167 unique CDR3  
7 unique J



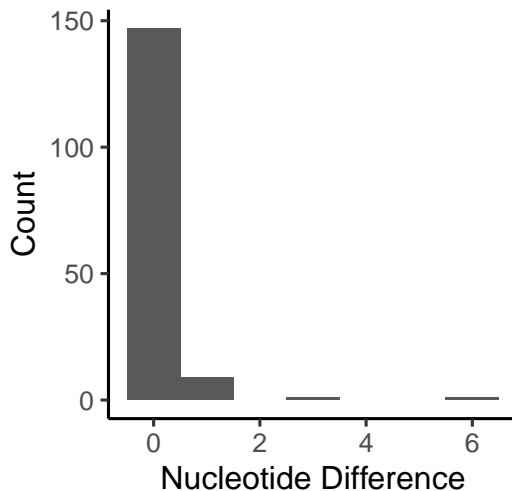
### IGHV1-8\*01

150 sequences assigned  
138 (92%) exact matches, in which:  
138 unique CDR3  
6 unique J



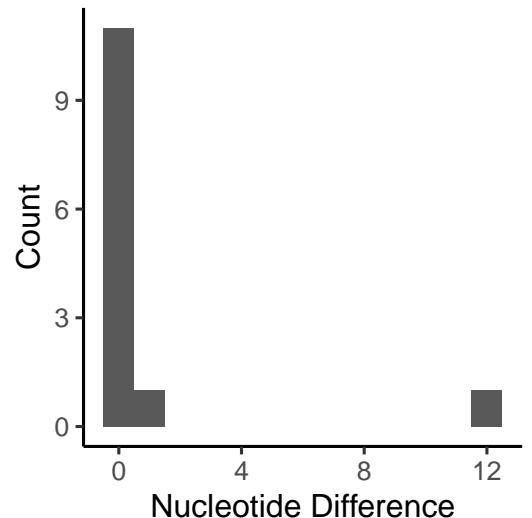
### IGHV1-24\*01

158 sequences assigned  
147 (93%) exact matches, in which:  
147 unique CDR3  
7 unique J



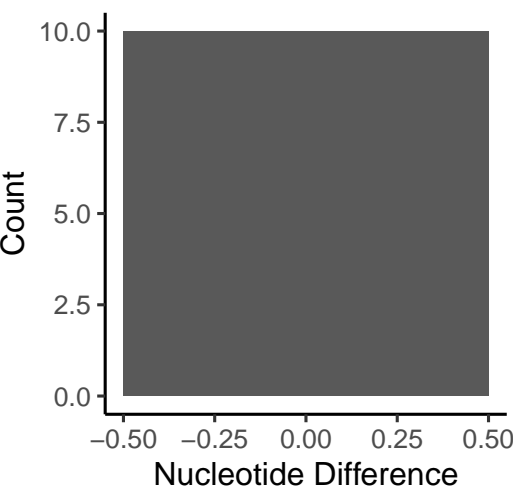
### IGHV1-58\*01

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



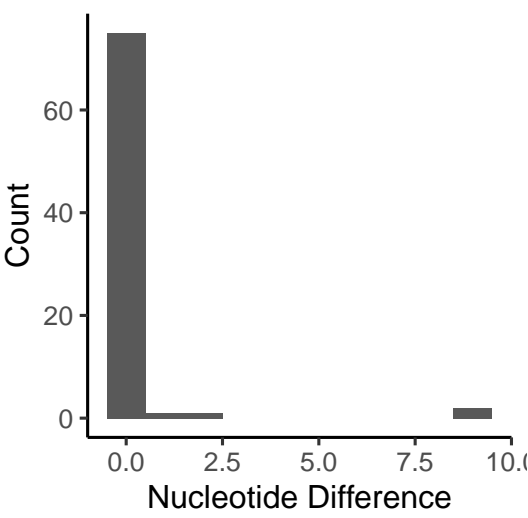
IGHV1-58\*02

10 sequences assigned  
10 (100%) exact matches, in which:  
10 unique CDR3  
3 unique J



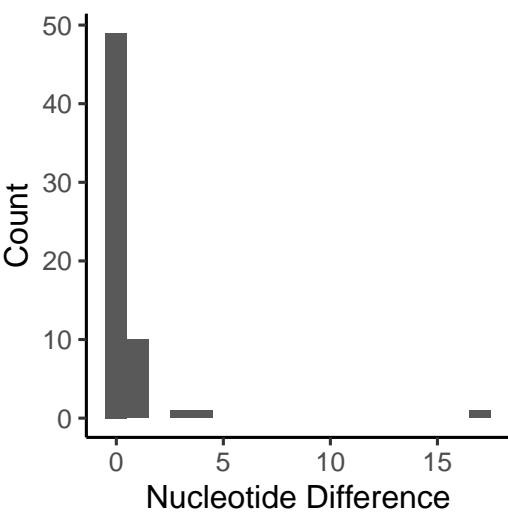
IGHV2-26\*01

79 sequences assigned  
75 (94.9%) exact matches, in which:  
75 unique CDR3  
6 unique J



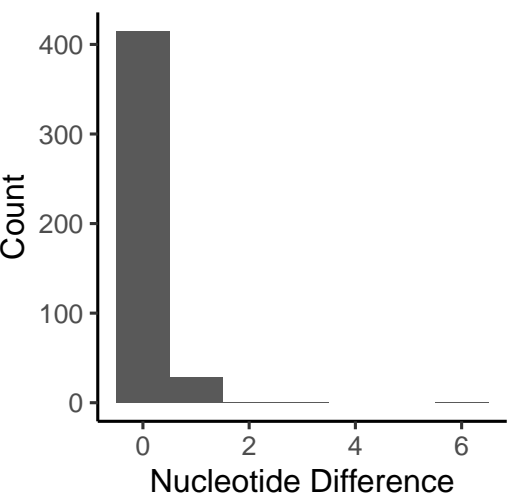
IGHV3-7\*01

62 sequences assigned  
49 (79%) exact matches, in which:  
49 unique CDR3  
5 unique J



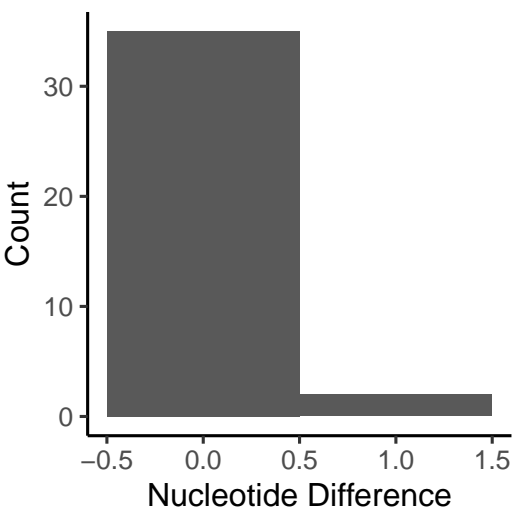
IGHV1-69\*04

447 sequences assigned  
415 (92.8%) exact matches, in which:  
414 unique CDR3  
7 unique J



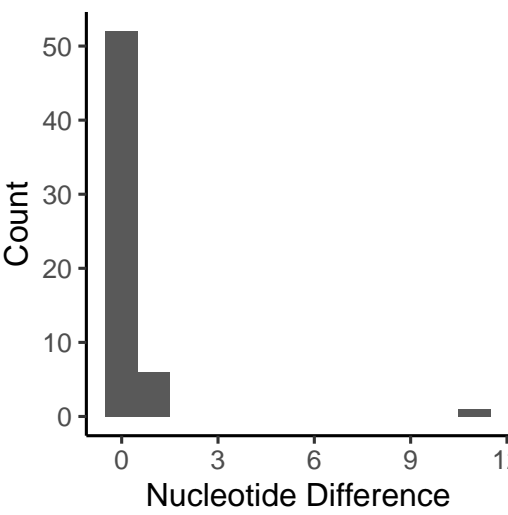
IGHV2-70\*01

37 sequences assigned  
35 (94.6%) exact matches, in which:  
35 unique CDR3  
4 unique J



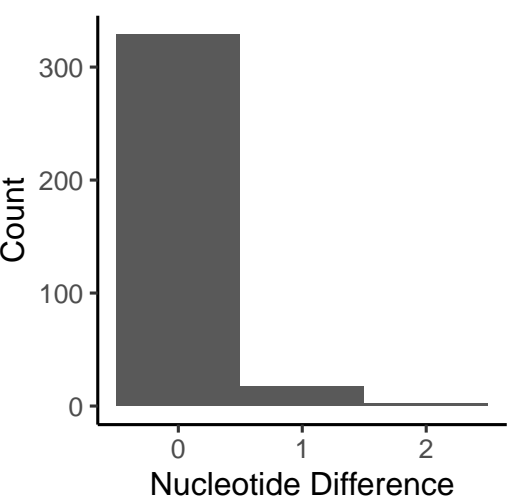
IGHV3-7\*03

60 sequences assigned  
52 (86.7%) exact matches, in which:  
52 unique CDR3  
5 unique J



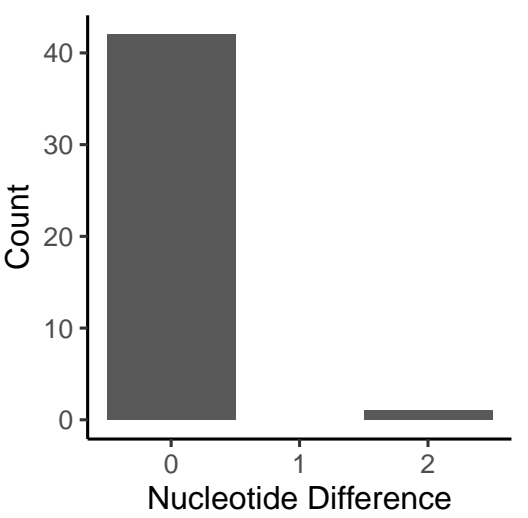
IGHV2-5\*02

348 sequences assigned  
329 (94.5%) exact matches, in which:  
328 unique CDR3  
7 unique J



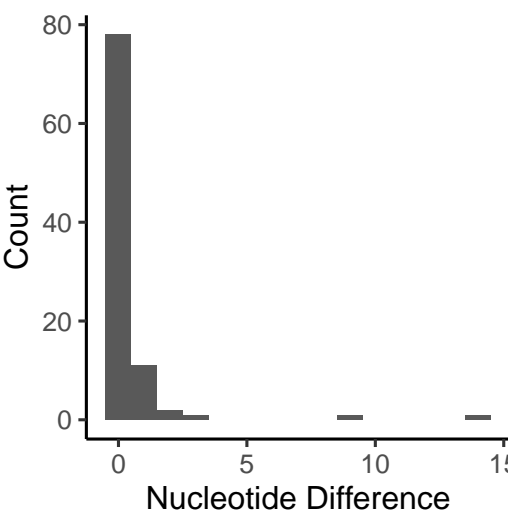
IGHV2-70\*15

43 sequences assigned  
42 (97.7%) exact matches, in which:  
42 unique CDR3  
4 unique J



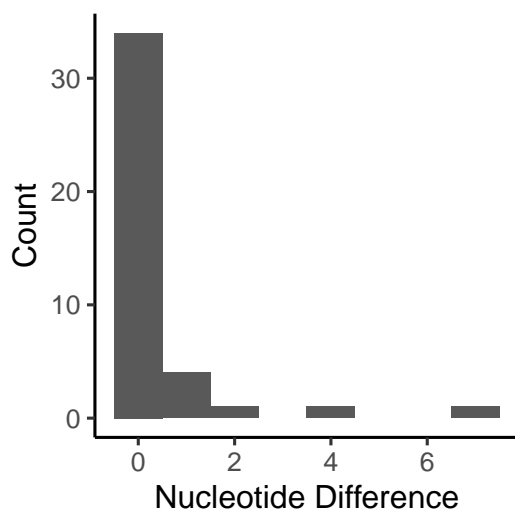
IGHV3-9\*01

94 sequences assigned  
78 (83%) exact matches, in which:  
78 unique CDR3  
5 unique J



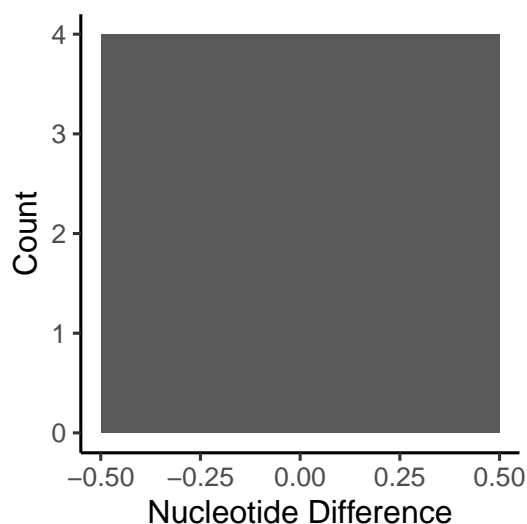
### IGHV3-11\*01

41 sequences assigned  
34 (82.9%) exact matches, in which:  
34 unique CDR3  
4 unique J



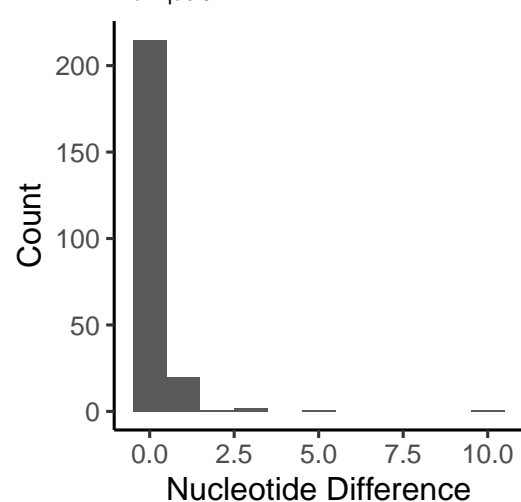
### IGHV3-13\*05

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



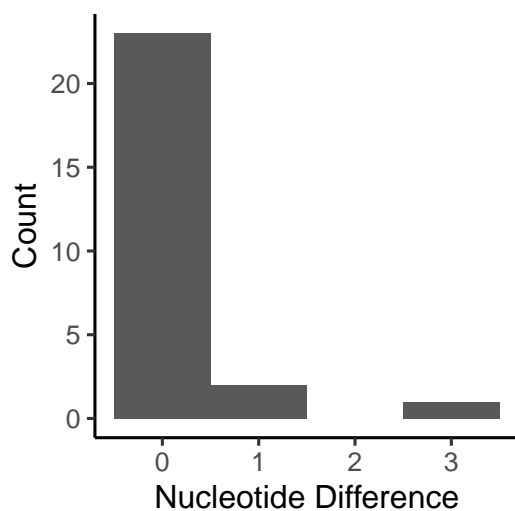
### IGHV3-21\*01

240 sequences assigned  
215 (89.6%) exact matches, in which:  
215 unique CDR3  
7 unique J



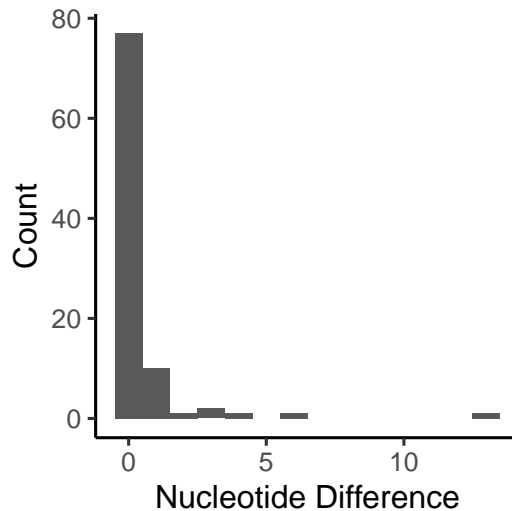
### IGHV3-11\*06

26 sequences assigned  
23 (88.5%) exact matches, in which:  
23 unique CDR3  
5 unique J



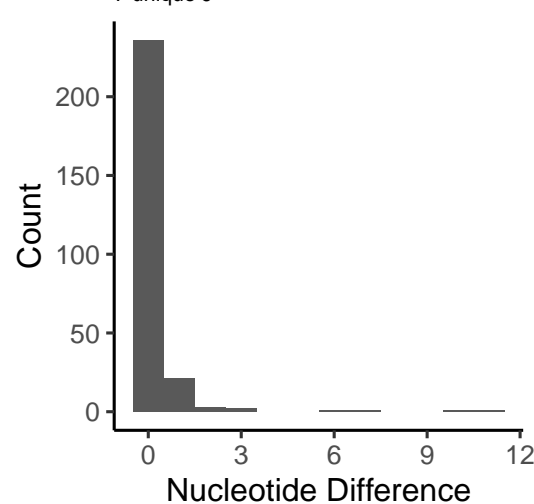
### IGHV3-15\*01

94 sequences assigned  
77 (81.9%) exact matches, in which:  
77 unique CDR3  
6 unique J



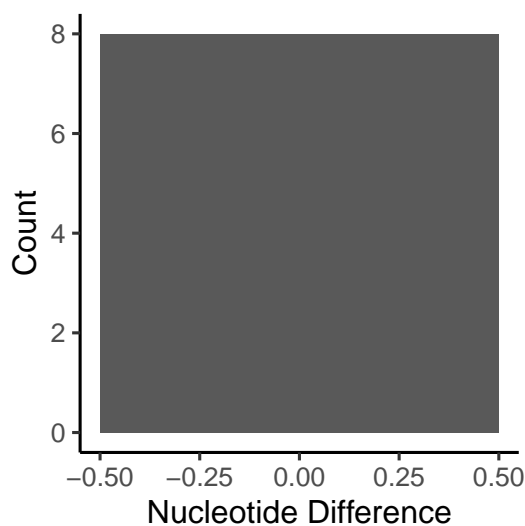
### IGHV3-23\*04

266 sequences assigned  
236 (88.7%) exact matches, in which:  
236 unique CDR3  
7 unique J



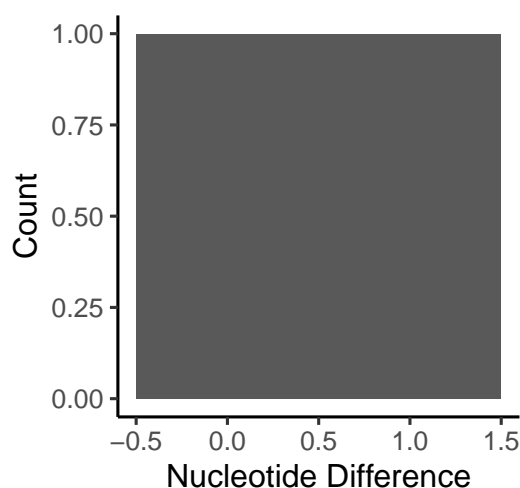
### IGHV3-13\*01

8 sequences assigned  
8 (100%) exact matches, in which:  
8 unique CDR3  
5 unique J



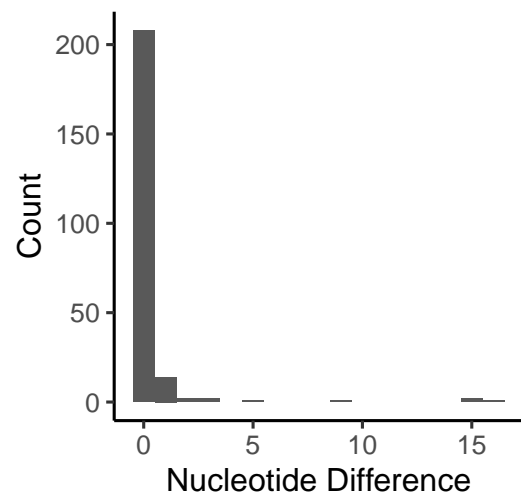
### IGHV3-20\*01

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



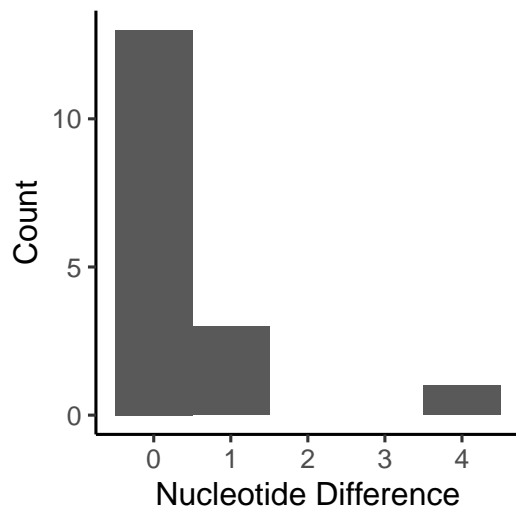
### IGHV3-33\*01

231 sequences assigned  
208 (90%) exact matches, in which:  
208 unique CDR3  
7 unique J



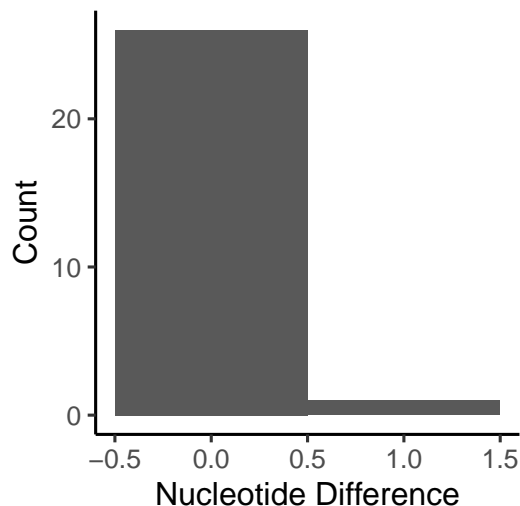
### IGHV3-43\*01

17 sequences assigned  
13 (76.5%) exact matches, in which:  
13 unique CDR3  
4 unique J



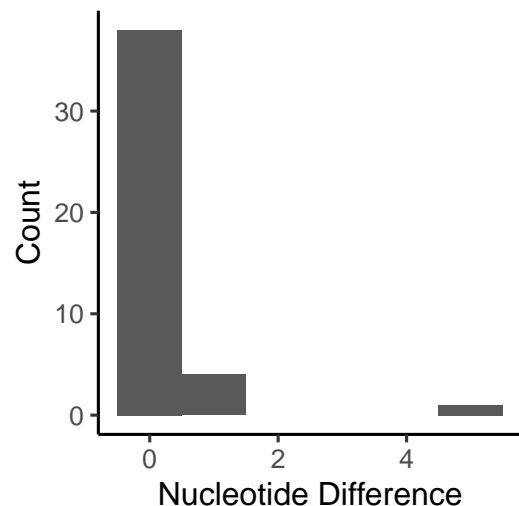
### IGHV3-49\*03

27 sequences assigned  
26 (96.3%) exact matches, in which:  
26 unique CDR3  
6 unique J



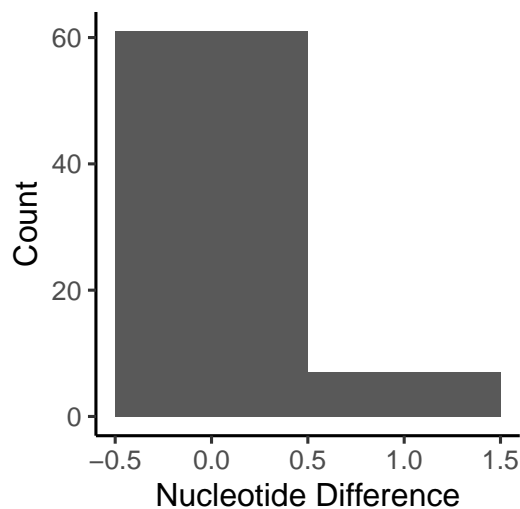
### IGHV3-53\*04

43 sequences assigned  
38 (88.4%) exact matches, in which:  
38 unique CDR3  
6 unique J



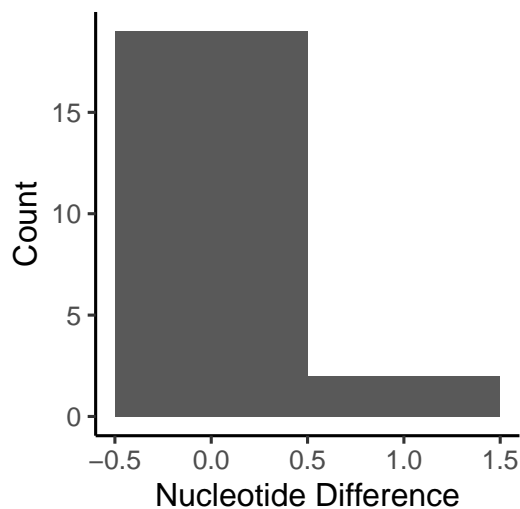
### IGHV3-48\*02

68 sequences assigned  
61 (89.7%) exact matches, in which:  
61 unique CDR3  
6 unique J



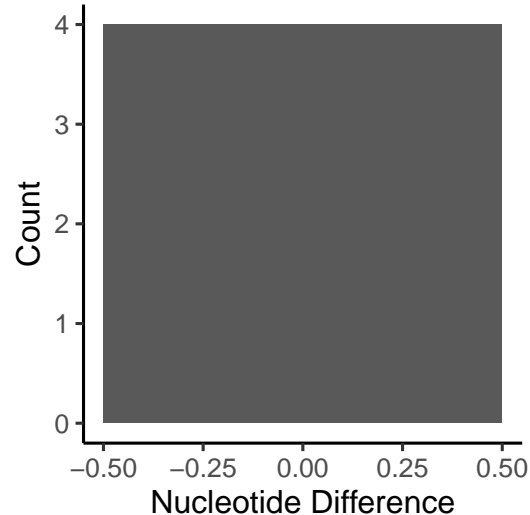
### IGHV3-49\*05

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



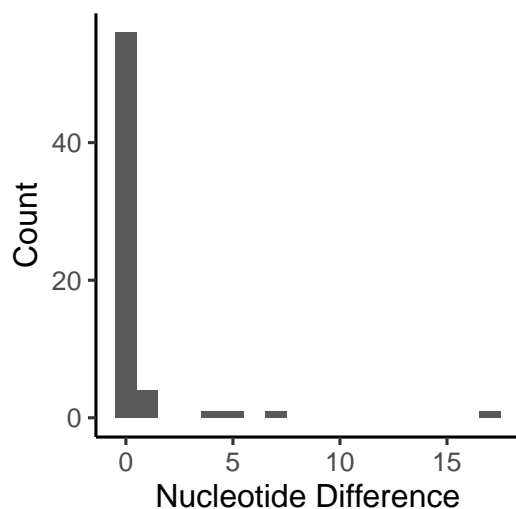
### IGHV3-64\*01

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



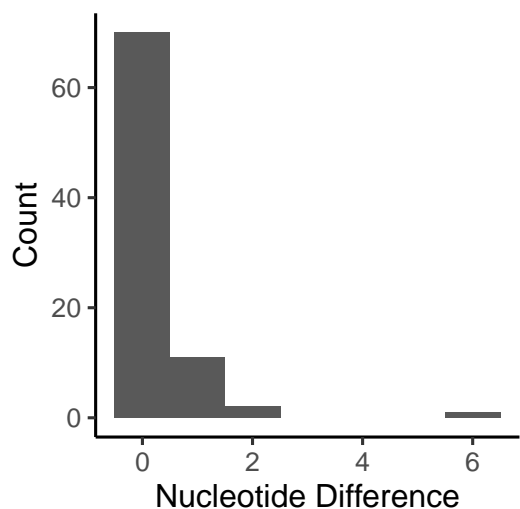
### IGHV3-48\*04

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



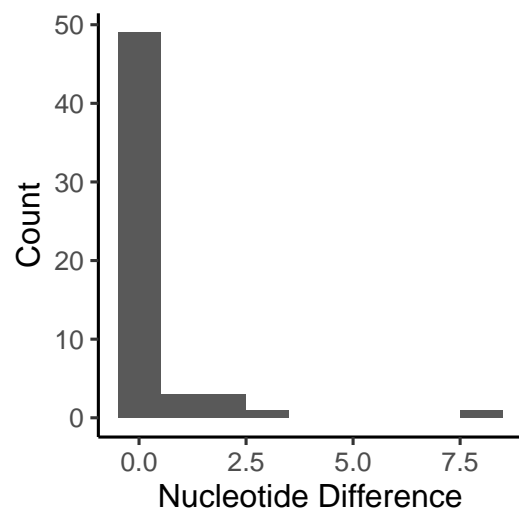
### IGHV3-53\*01

85 sequences assigned  
70 (82.4%) exact matches, in which:  
70 unique CDR3  
6 unique J



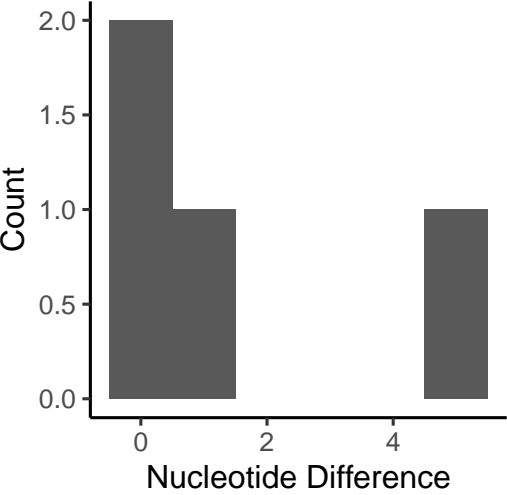
### IGHV3-66\*01

57 sequences assigned  
49 (86%) exact matches, in which:  
49 unique CDR3  
4 unique J



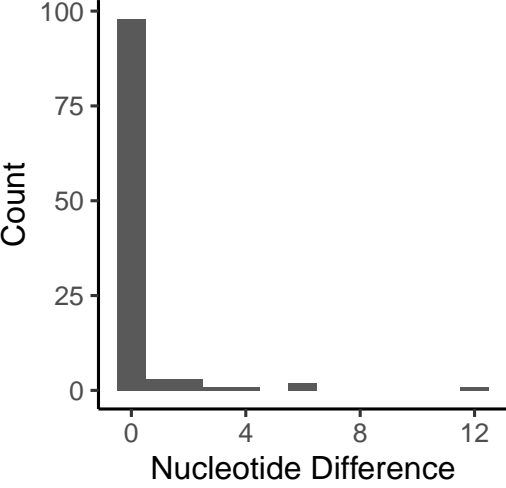
IGHV3-72\*01

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



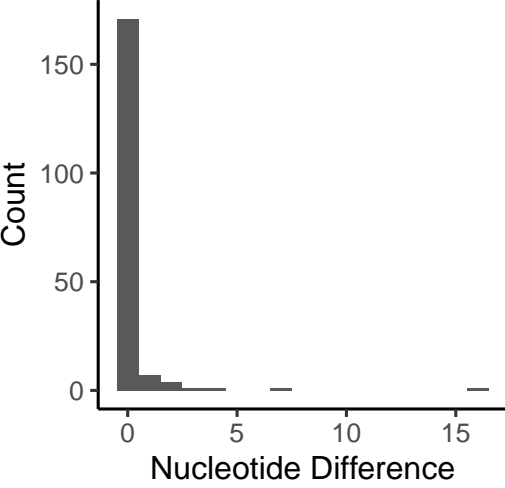
IGHV3-74\*01

109 sequences assigned  
98 (89.9%) exact matches, in which:  
98 unique CDR3  
7 unique J



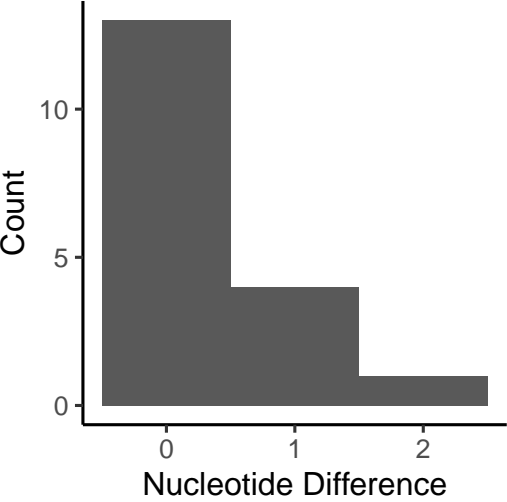
IGHV4-4\*02

186 sequences assigned  
171 (91.9%) exact matches, in which:  
171 unique CDR3  
7 unique J



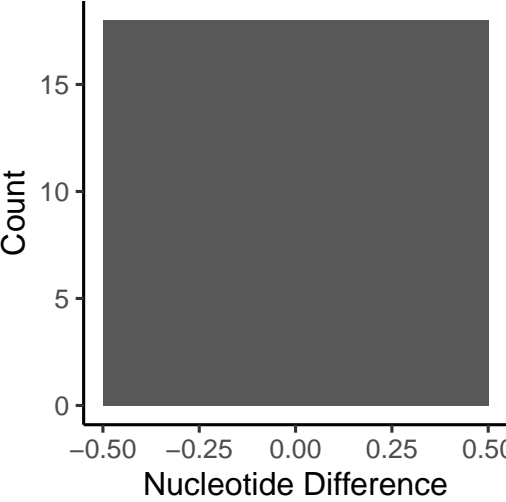
IGHV3-73\*01

18 sequences assigned  
13 (72.2%) exact matches, in which:  
13 unique CDR3  
5 unique J



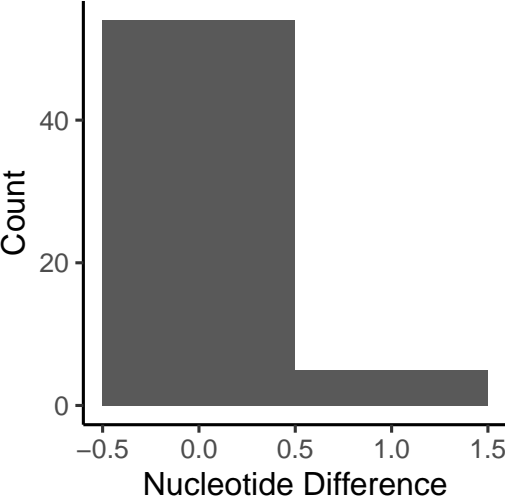
IGHV3-64D\*06

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



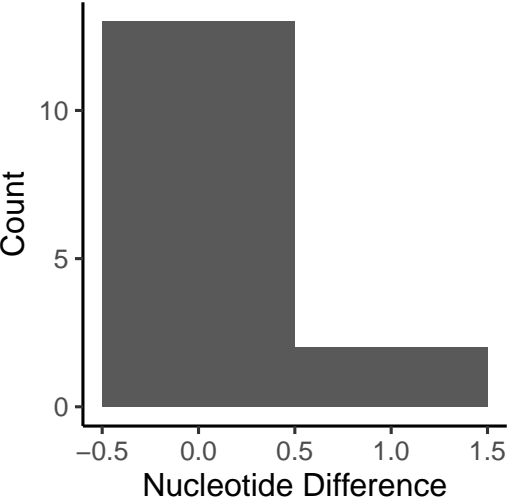
IGHV4-30-2\*01

59 sequences assigned  
54 (91.5%) exact matches, in which:  
54 unique CDR3  
5 unique J



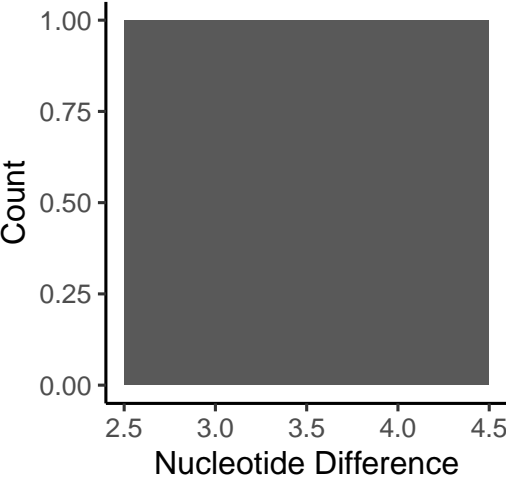
IGHV3-73\*02

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



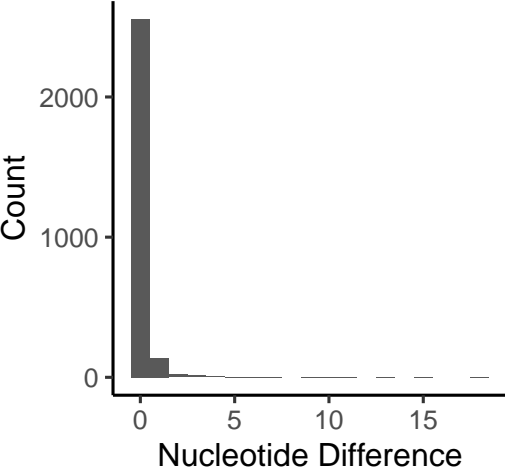
IGHV3-NL1\*01

2 sequences assigned  
No exact matches.



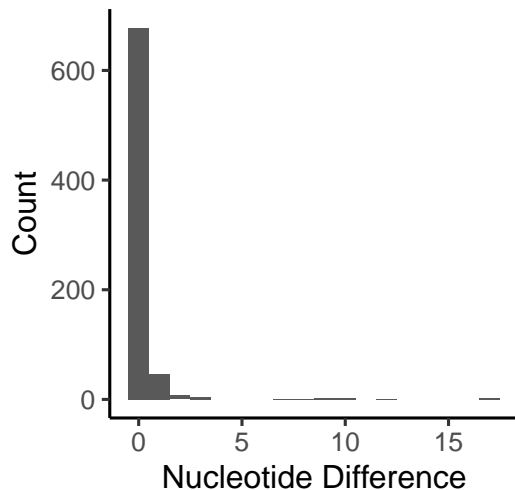
IGHV4-34\*01

2751 sequences assigned  
2556 (92.9%) exact matches, in which:  
2554 unique CDR3  
7 unique J



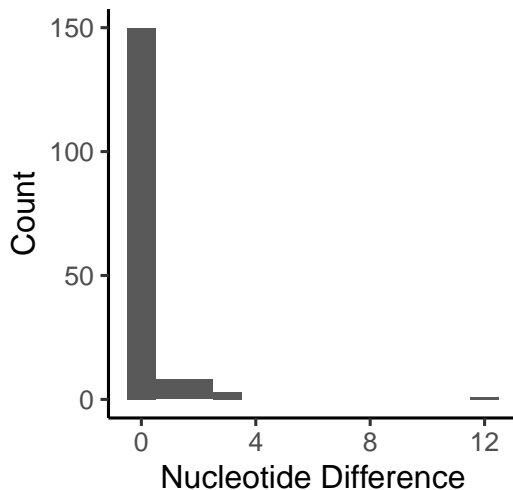
### IGHV4–39\*01

748 sequences assigned  
678 (90.6%) exact matches, in which:  
678 unique CDR3  
6 unique J



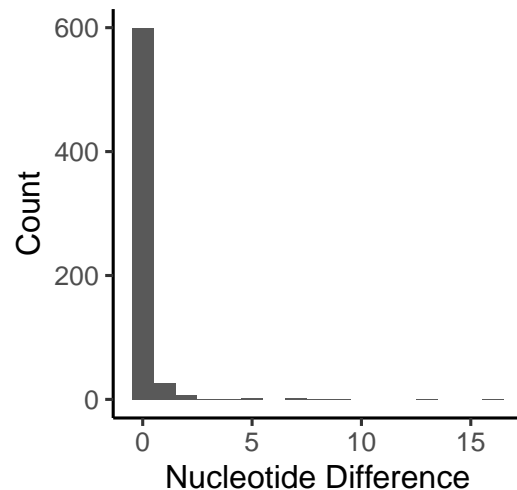
### IGHV4–59\*08

170 sequences assigned  
150 (88.2%) exact matches, in which:  
150 unique CDR3  
6 unique J



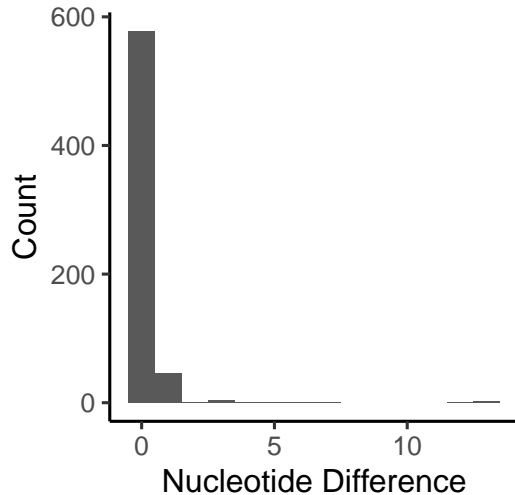
### IGHV5–51\*01

643 sequences assigned  
600 (93.3%) exact matches, in which:  
599 unique CDR3  
7 unique J



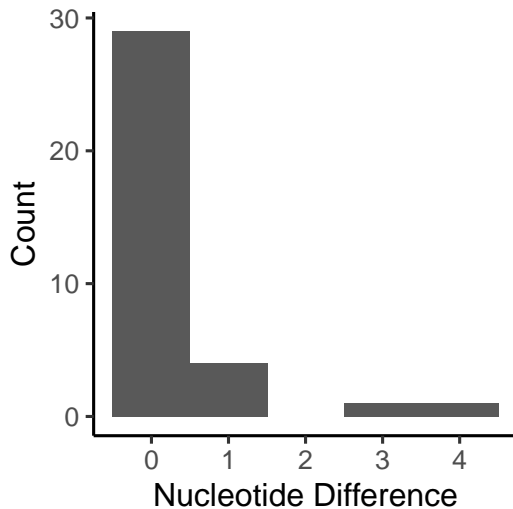
### IGHV4–39\*07

637 sequences assigned  
578 (90.7%) exact matches, in which:  
577 unique CDR3  
7 unique J



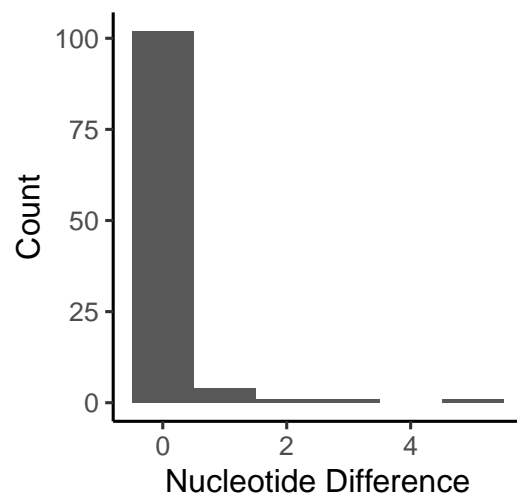
### IGHV4–61\*01

35 sequences assigned  
29 (82.9%) exact matches, in which:  
29 unique CDR3  
5 unique J



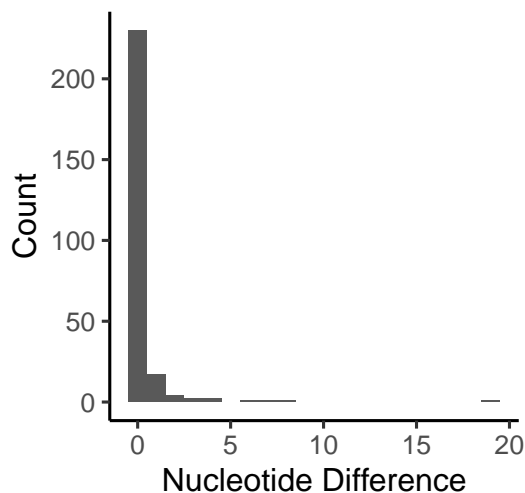
### IGHV6–1\*01

109 sequences assigned  
102 (93.6%) exact matches, in which:  
101 unique CDR3  
7 unique J



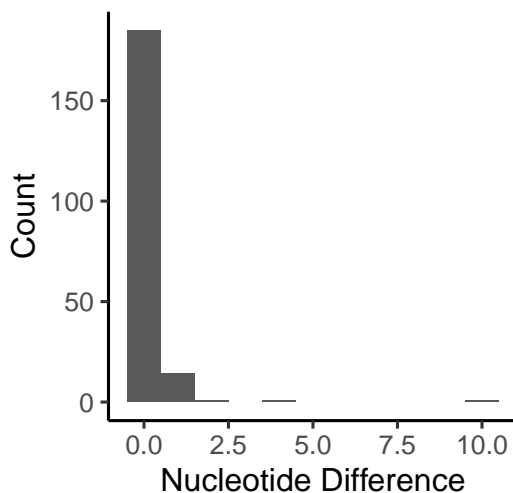
### IGHV4–59\*01

260 sequences assigned  
230 (88.5%) exact matches, in which:  
230 unique CDR3  
7 unique J



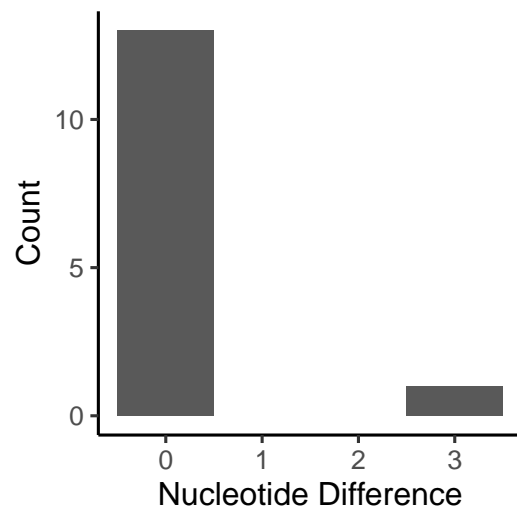
### IGHV5–10–1\*03

202 sequences assigned  
185 (91.6%) exact matches, in which:  
185 unique CDR3  
7 unique J

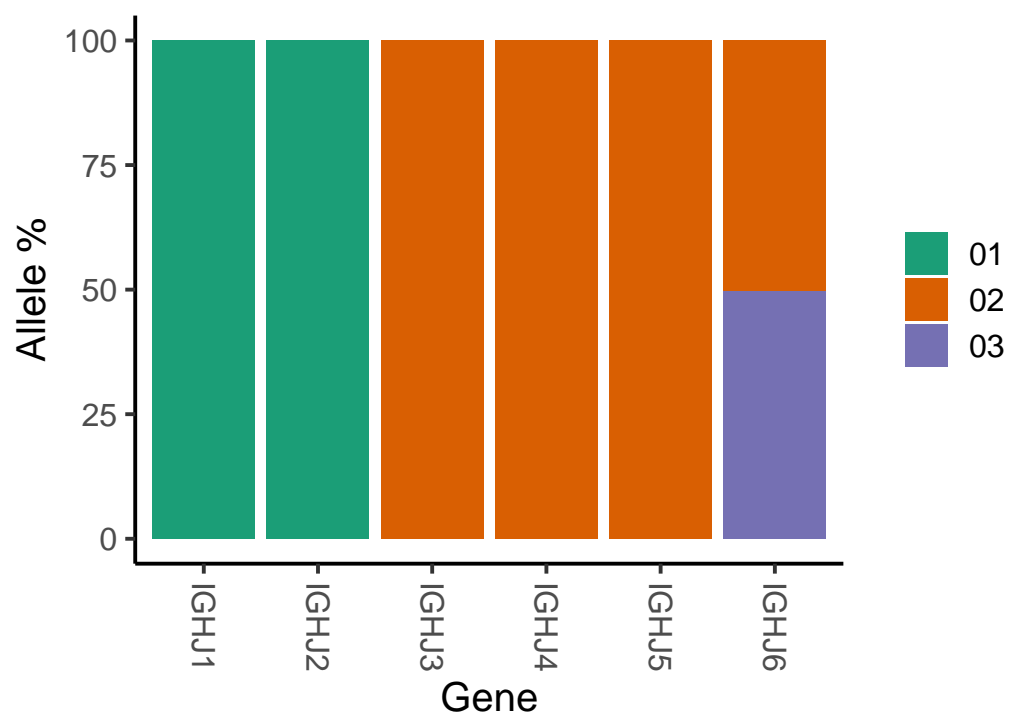


### IGHV7–4–1\*01

14 sequences assigned  
13 (92.9%) exact matches, in which:  
13 unique CDR3  
4 unique J



Allele Usage



Sequence Count by IGHJ6 allele usage

