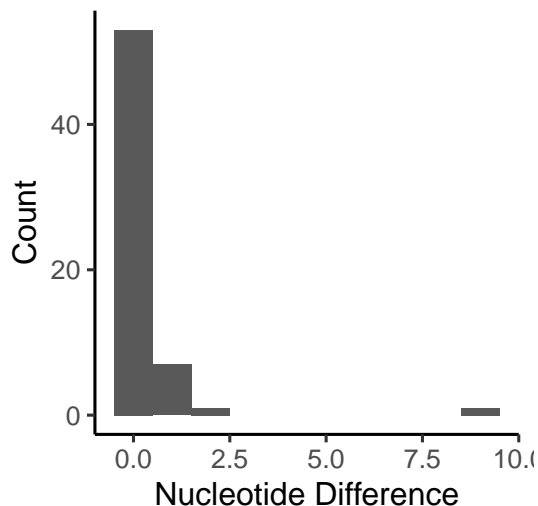


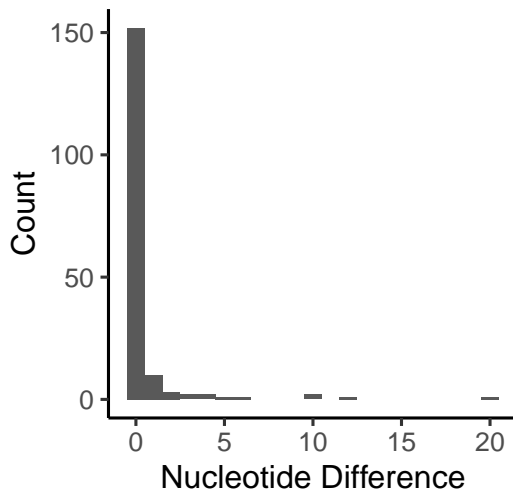
### IGHV1-2\*04

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



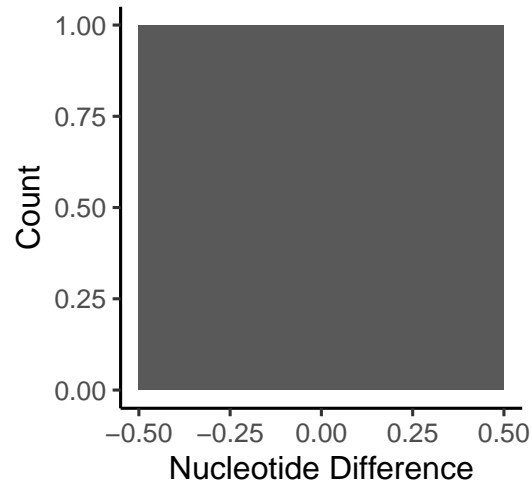
### IGHV1-8\*01

175 sequences assigned  
152 (86.9%) exact matches, in which:  
152 unique CDR3  
6 unique J



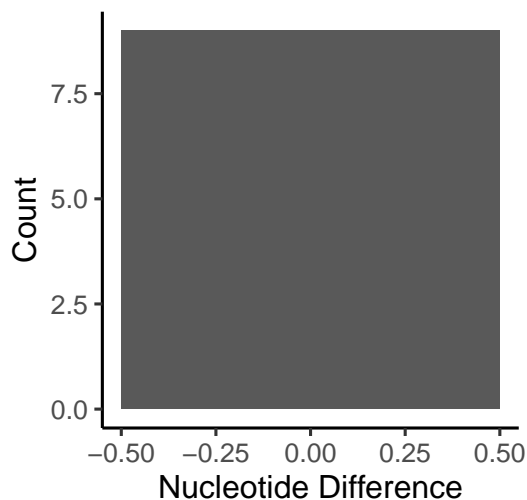
### IGHV1-45\*02

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



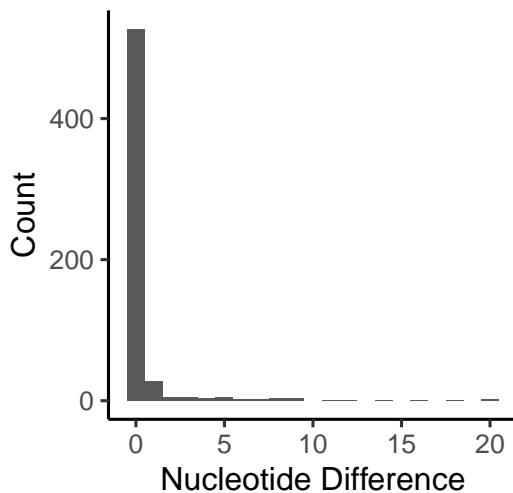
### IGHV1-2\*05

9 sequences assigned  
9 (100%) exact matches, in which:  
9 unique CDR3  
3 unique J



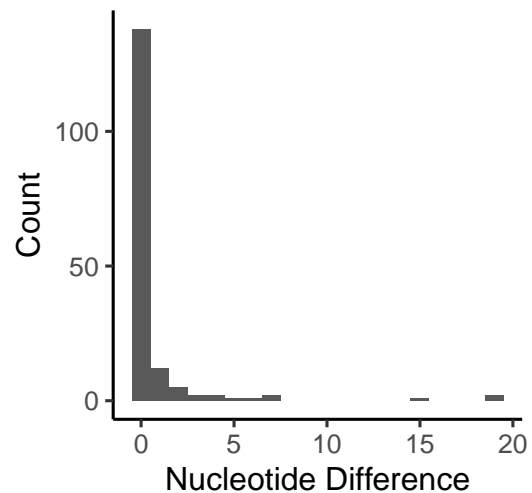
### IGHV1-18\*01

591 sequences assigned  
527 (89.2%) exact matches, in which:  
527 unique CDR3  
6 unique J



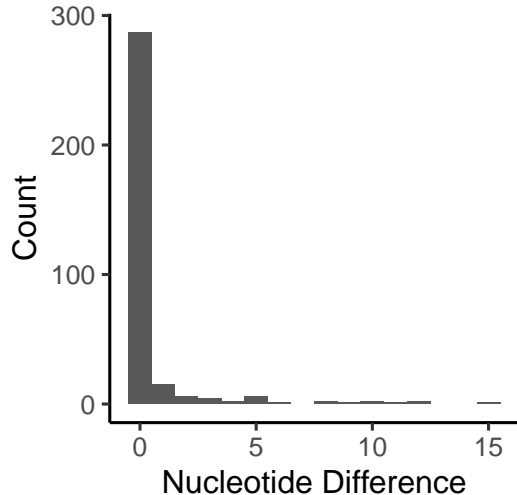
### IGHV1-46\*01

166 sequences assigned  
138 (83.1%) exact matches, in which:  
138 unique CDR3  
6 unique J



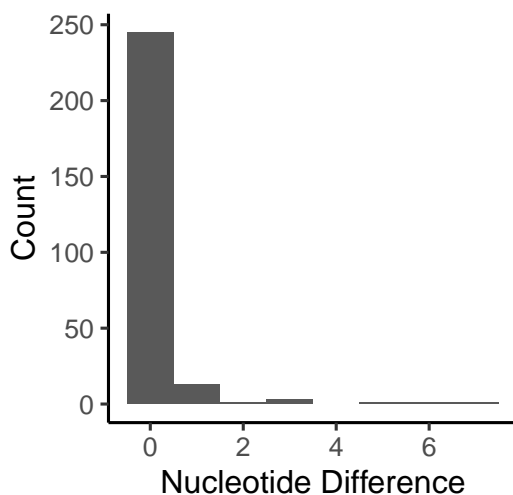
### IGHV1-3\*01

330 sequences assigned  
287 (87%) exact matches, in which:  
287 unique CDR3  
6 unique J



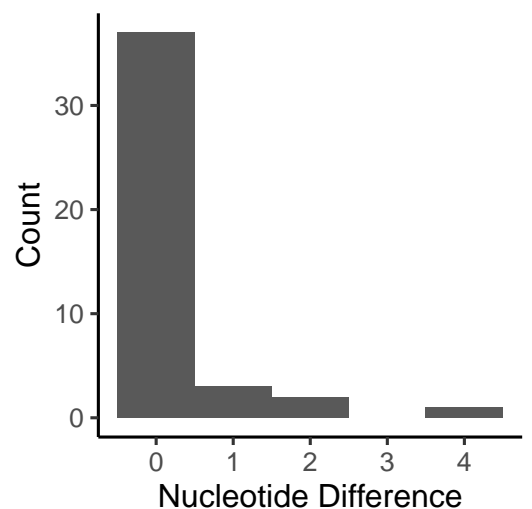
### IGHV1-24\*01

265 sequences assigned  
245 (92.5%) exact matches, in which:  
245 unique CDR3  
6 unique J



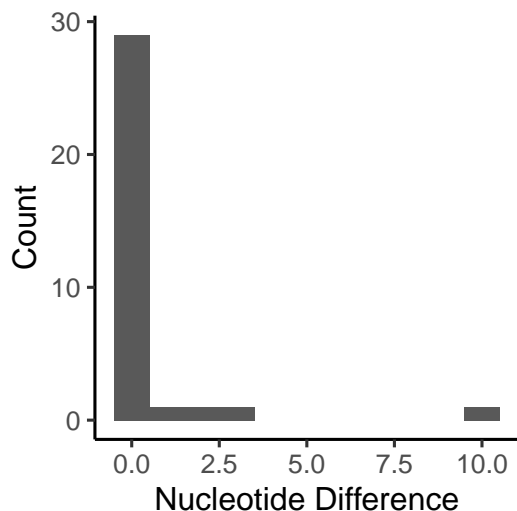
### IGHV1-58\*01

43 sequences assigned  
37 (86%) exact matches, in which:  
37 unique CDR3  
4 unique J



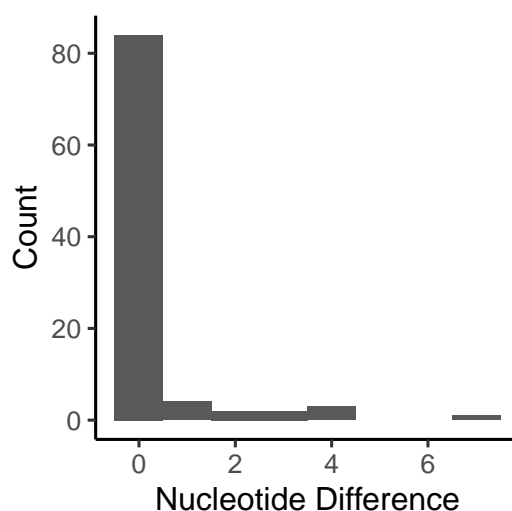
### IGHV1-69-2\*01

33 sequences assigned  
29 (87.9%) exact matches, in which:  
29 unique CDR3  
5 unique J



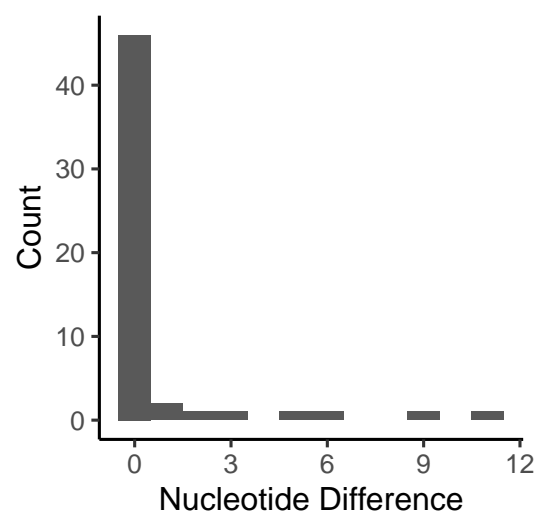
### IGHV2-5\*02

96 sequences assigned  
84 (87.5%) exact matches, in which:  
84 unique CDR3  
6 unique J



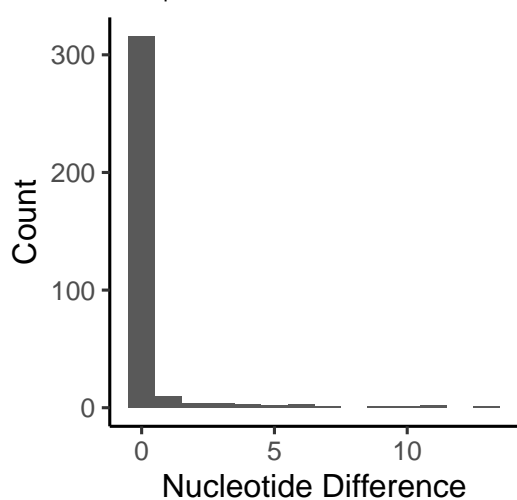
### IGHV2-70\*15

54 sequences assigned  
46 (85.2%) exact matches, in which:  
46 unique CDR3  
4 unique J



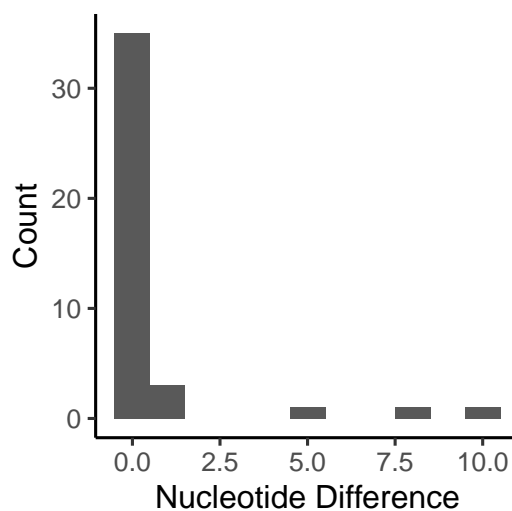
### IGHV1-69\*06

349 sequences assigned  
316 (90.5%) exact matches, in which:  
316 unique CDR3  
6 unique J



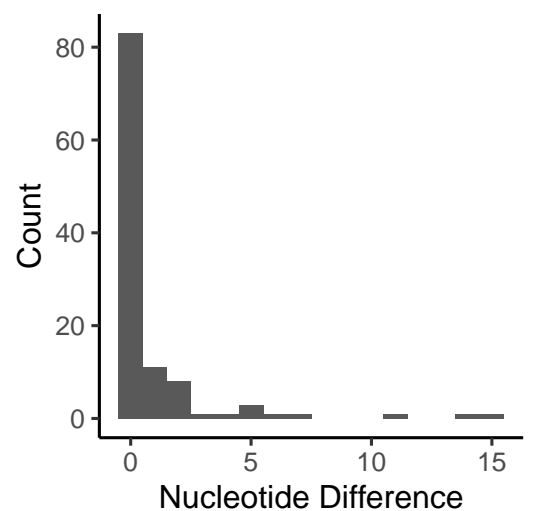
### IGHV2-26\*01

41 sequences assigned  
35 (85.4%) exact matches, in which:  
35 unique CDR3  
5 unique J



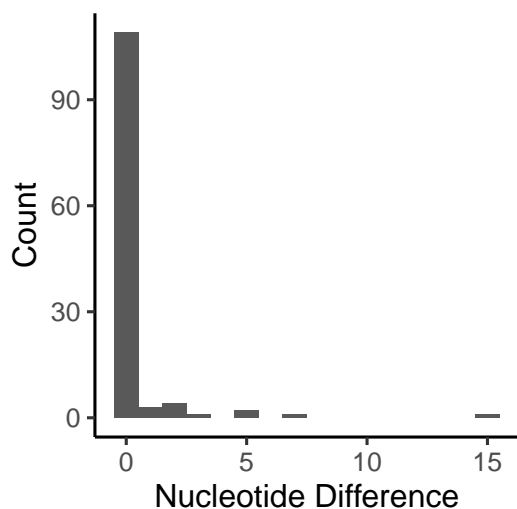
### IGHV3-7\*01

112 sequences assigned  
83 (74.1%) exact matches, in which:  
83 unique CDR3  
5 unique J



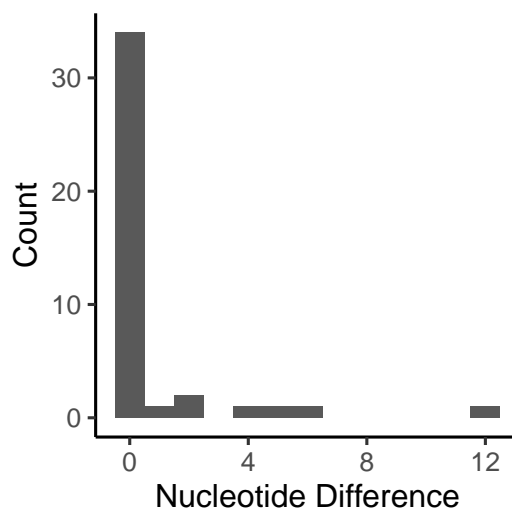
### IGHV2-5\*01

121 sequences assigned  
109 (90.1%) exact matches, in which:  
109 unique CDR3  
6 unique J



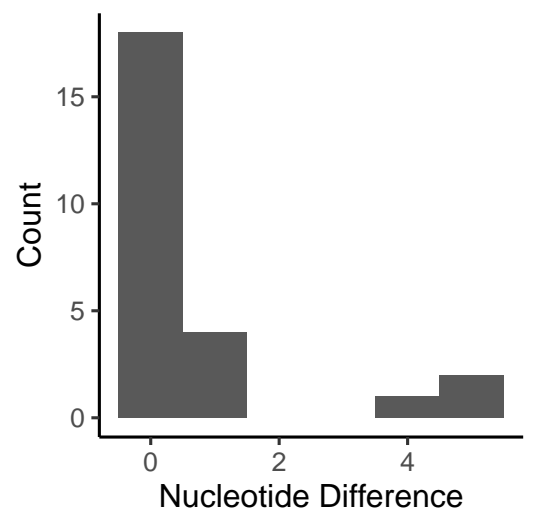
### IGHV2-70\*01

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



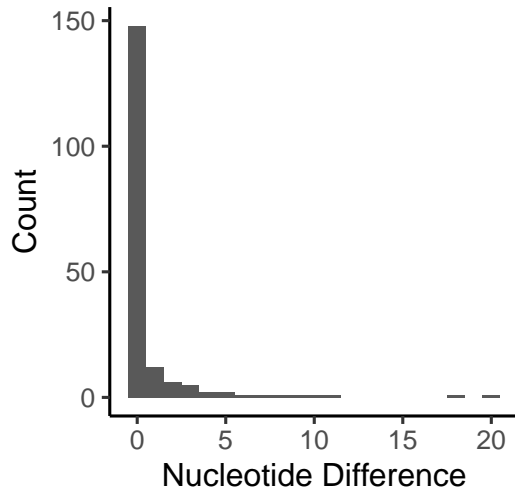
### IGHV3-7\*04

25 sequences assigned  
18 (72%) exact matches, in which:  
18 unique CDR3  
4 unique J



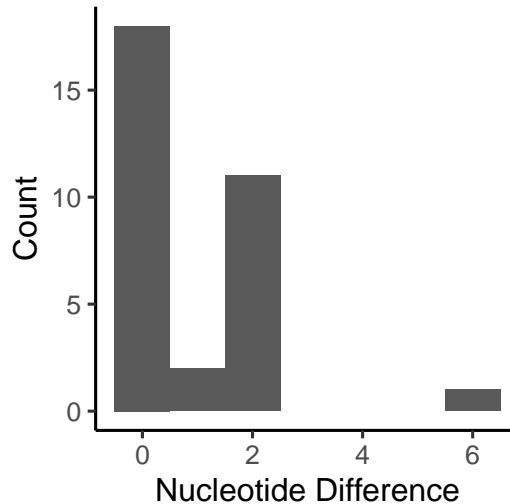
### IGHV3-9\*01

183 sequences assigned  
148 (80.9%) exact matches, in which:  
148 unique CDR3  
6 unique J



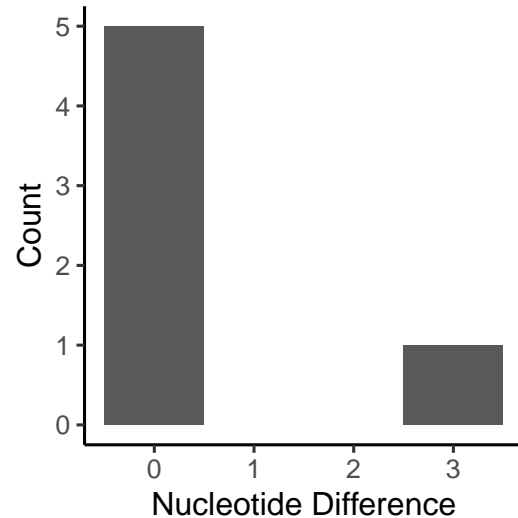
### IGHV3-13\*01

33 sequences assigned  
18 (54.5%) exact matches, in which:  
18 unique CDR3  
5 unique J



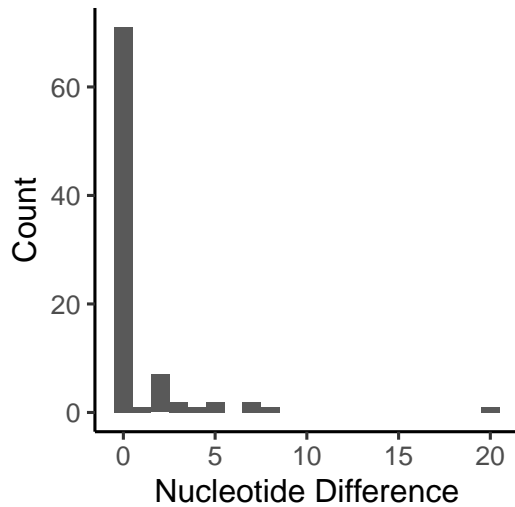
### IGHV3-20\*01

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



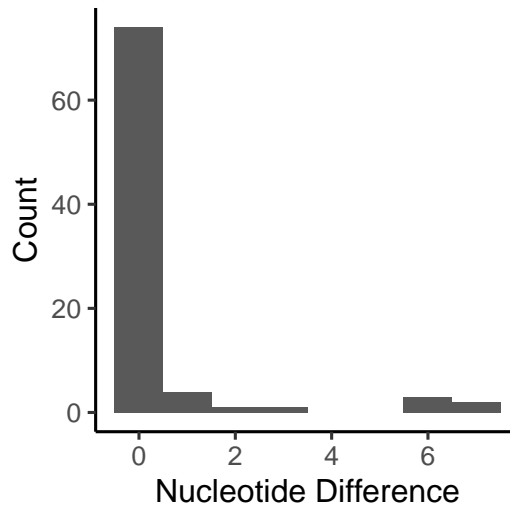
### IGHV3-11\*01

88 sequences assigned  
71 (80.7%) exact matches, in which:  
71 unique CDR3  
6 unique J



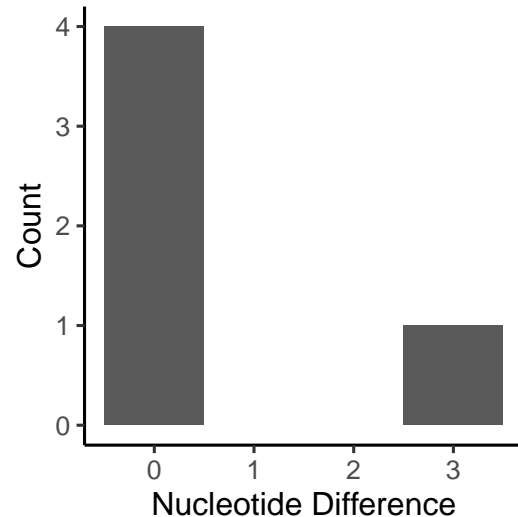
### IGHV3-15\*01

85 sequences assigned  
74 (87.1%) exact matches, in which:  
73 unique CDR3  
6 unique J



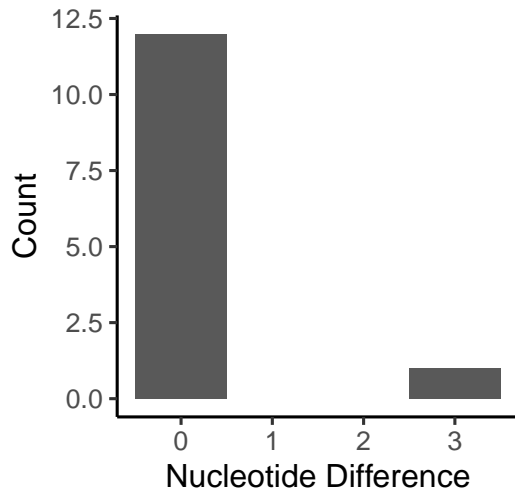
### IGHV3-20\*04

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



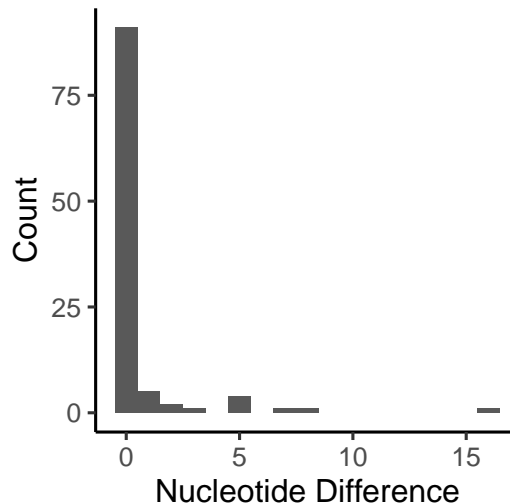
### IGHV3-11\*06

13 sequences assigned  
12 (92.3%) exact matches, in which:  
12 unique CDR3  
3 unique J



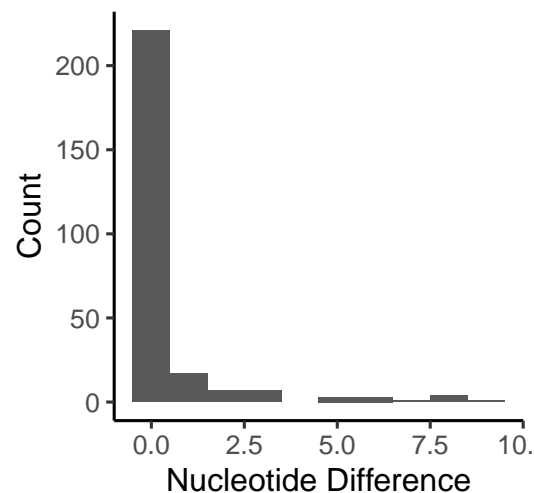
### IGHV3-15\*07

106 sequences assigned  
91 (85.8%) exact matches, in which:  
91 unique CDR3  
5 unique J



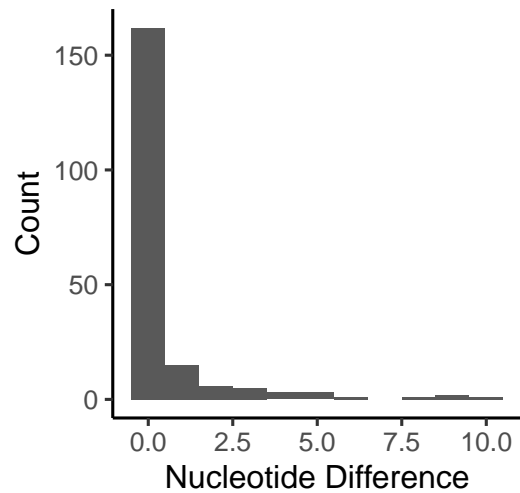
### IGHV3-21\*01

266 sequences assigned  
221 (83.1%) exact matches, in which:  
221 unique CDR3  
6 unique J



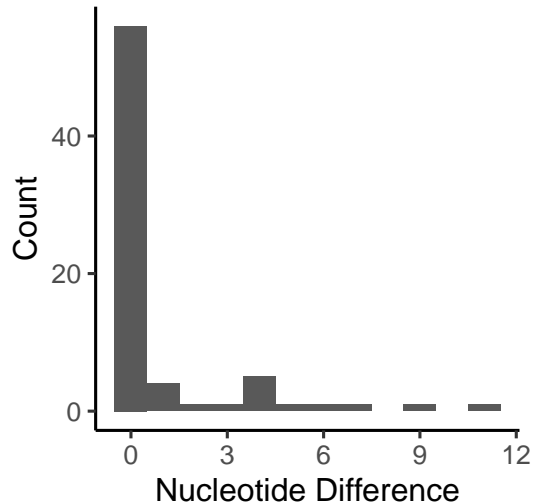
### IGHV3-30-3\*01

200 sequences assigned  
162 (81%) exact matches, in which:  
162 unique CDR3  
6 unique J



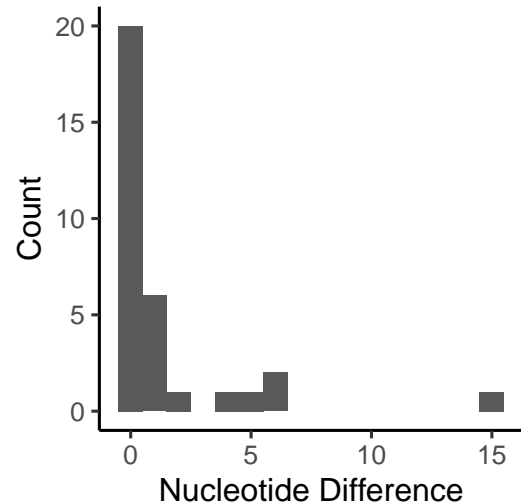
### IGHV3-48\*01

72 sequences assigned  
56 (77.8%) exact matches, in which:  
56 unique CDR3  
4 unique J



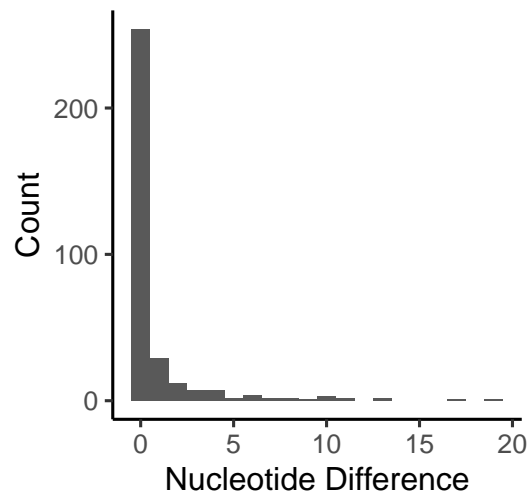
### IGHV3-49\*05

32 sequences assigned  
20 (62.5%) exact matches, in which:  
20 unique CDR3  
5 unique J



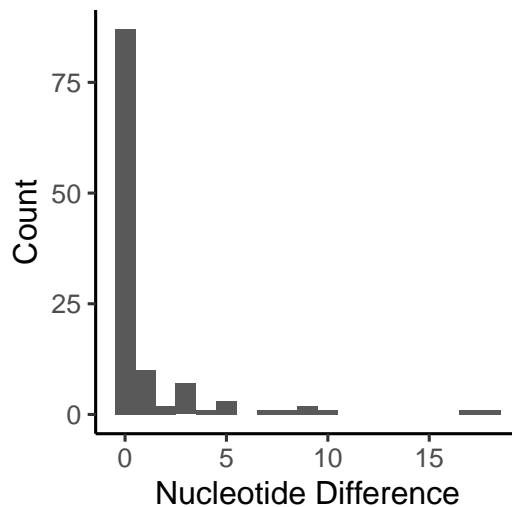
### IGHV3-33\*01

329 sequences assigned  
254 (77.2%) exact matches, in which:  
254 unique CDR3  
6 unique J



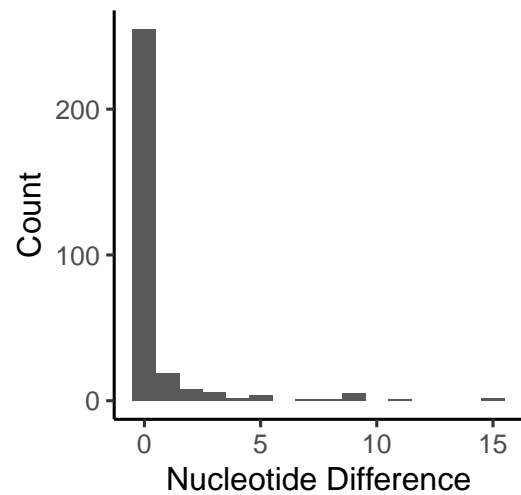
### IGHV3-48\*02

117 sequences assigned  
87 (74.4%) exact matches, in which:  
87 unique CDR3  
5 unique J



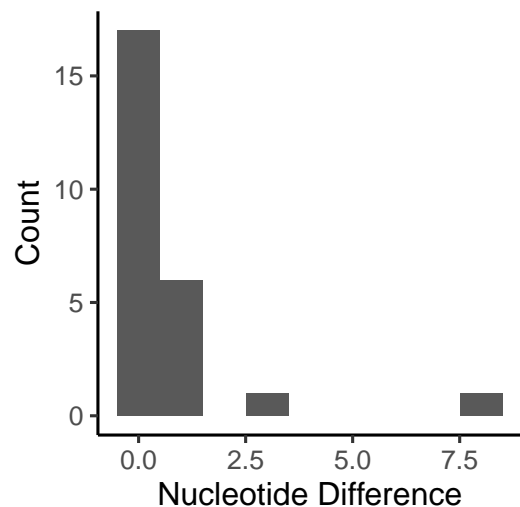
### IGHV3-53\*01

305 sequences assigned  
255 (83.6%) exact matches, in which:  
254 unique CDR3  
5 unique J



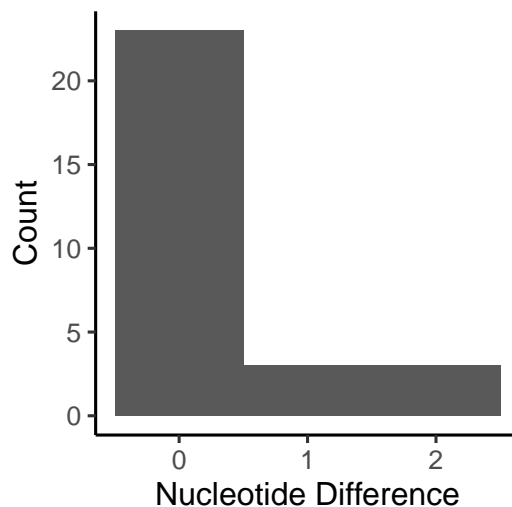
### IGHV3-43\*01

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



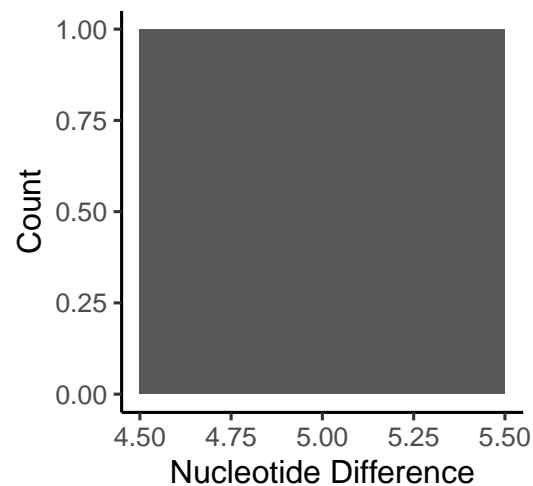
### IGHV3-49\*03

29 sequences assigned  
23 (79.3%) exact matches, in which:  
23 unique CDR3  
5 unique J



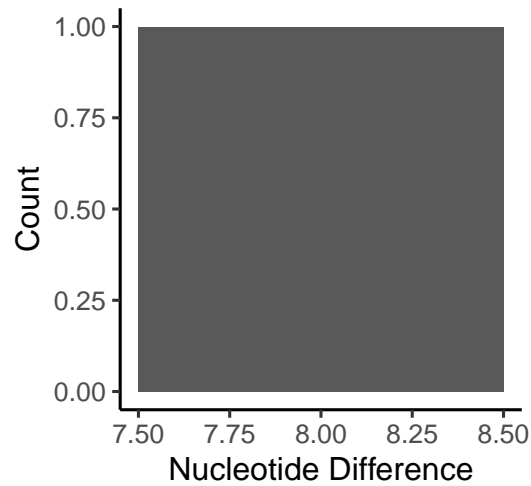
### IGHV3-64\*02

1 sequences assigned  
No exact matches.



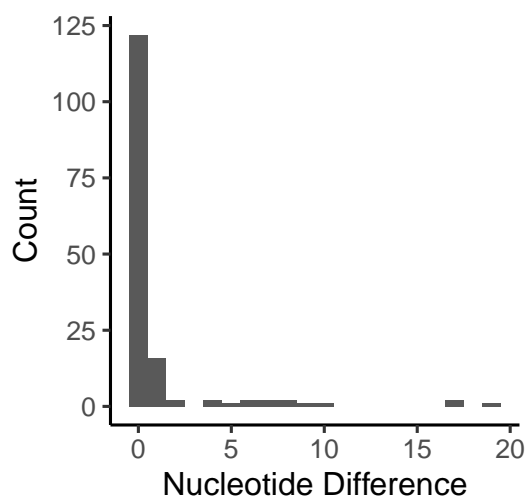
### IGHV3-66\*01

1 sequences assigned  
No exact matches.



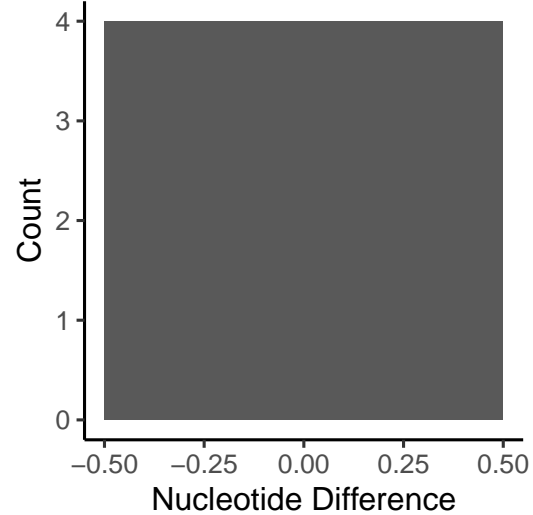
### IGHV3-74\*01

156 sequences assigned  
122 (78.2%) exact matches, in which:  
122 unique CDR3  
5 unique J



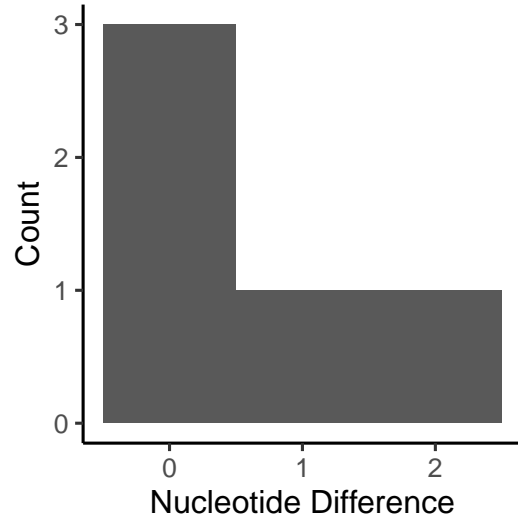
### IGHV4-28\*01

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



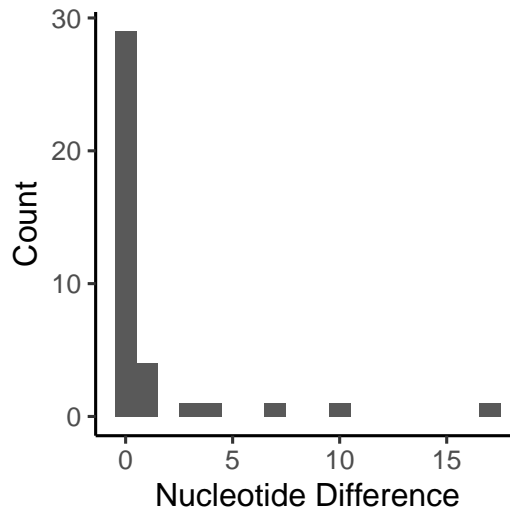
### IGHV3-72\*01

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



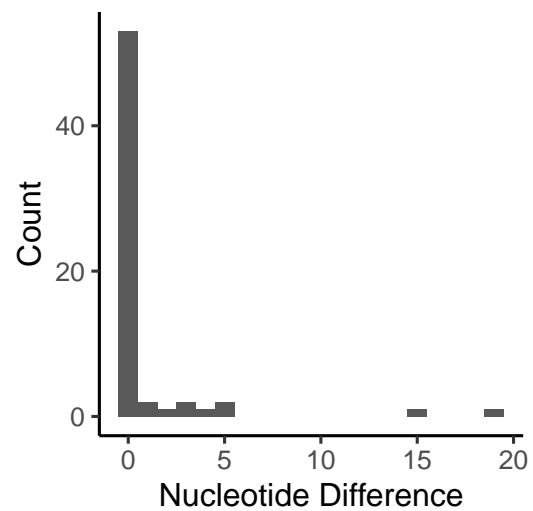
### IGHV3-64D\*06

38 sequences assigned  
29 (76.3%) exact matches, in which:  
29 unique CDR3  
6 unique J



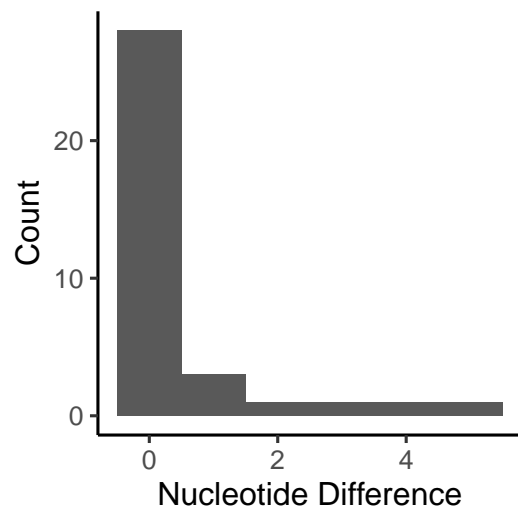
### IGHV4-30-4\*01

63 sequences assigned  
53 (84.1%) exact matches, in which:  
53 unique CDR3  
6 unique J



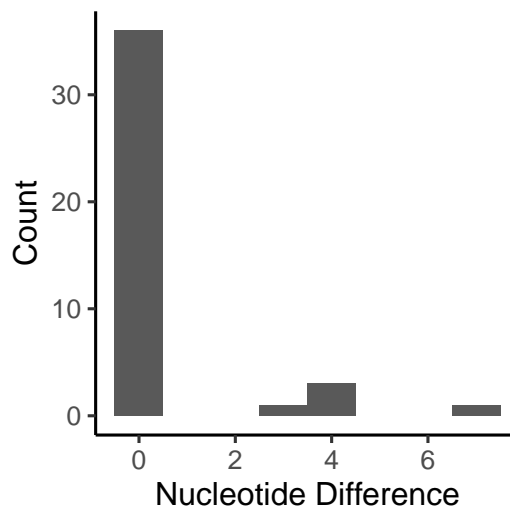
### IGHV3-73\*02

35 sequences assigned  
28 (80%) exact matches, in which:  
28 unique CDR3  
5 unique J



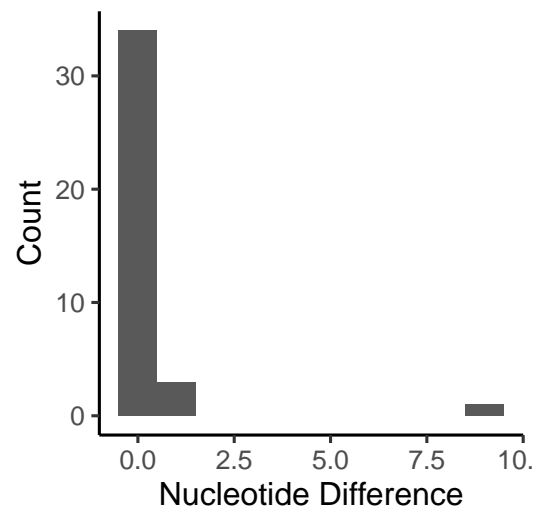
### IGHV4-4\*02

41 sequences assigned  
36 (87.8%) exact matches, in which:  
36 unique CDR3  
5 unique J



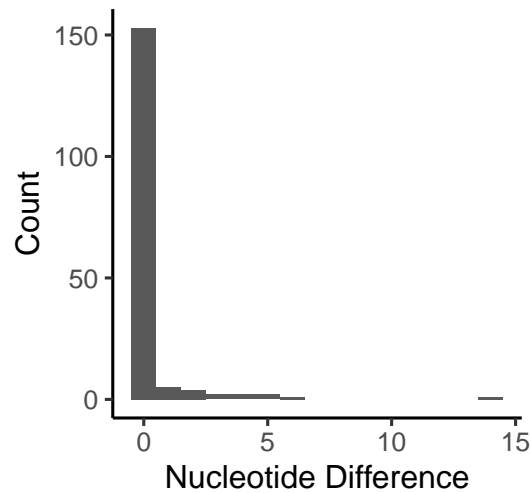
### IGHV4-30-2\*01

38 sequences assigned  
34 (89.5%) exact matches, in which:  
34 unique CDR3  
4 unique J



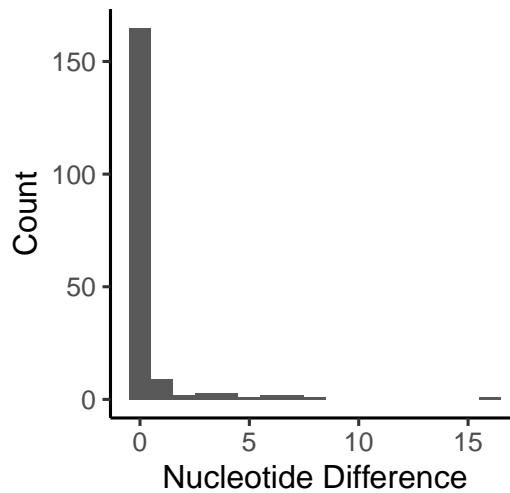
### IGHV4–31\*03

170 sequences assigned  
153 (90%) exact matches, in which:  
153 unique CDR3  
6 unique J



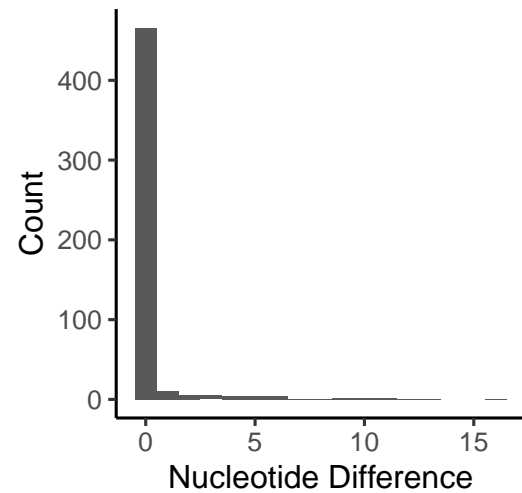
### IGHV4–59\*01

189 sequences assigned  
165 (87.3%) exact matches, in which:  
165 unique CDR3  
6 unique J



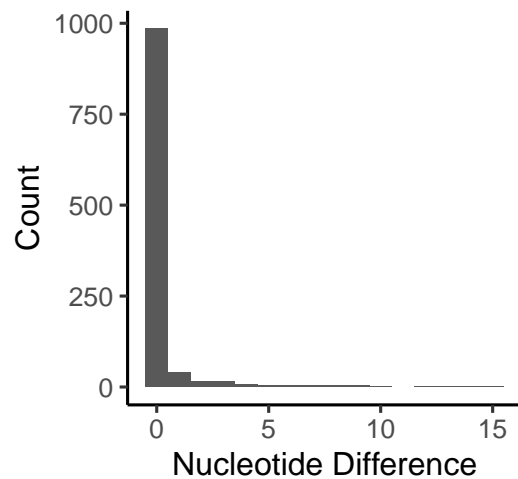
### IGHV5–51\*01

511 sequences assigned  
466 (91.2%) exact matches, in which:  
466 unique CDR3  
6 unique J



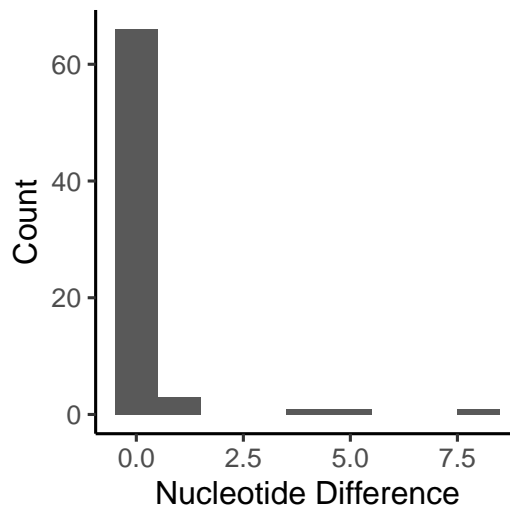
### IGHV4–34\*01

1094 sequences assigned  
985 (90%) exact matches, in which:  
983 unique CDR3  
6 unique J



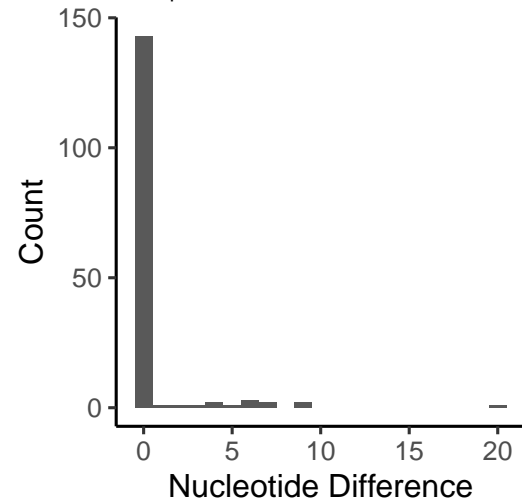
### IGHV4–61\*01

72 sequences assigned  
66 (91.7%) exact matches, in which:  
66 unique CDR3  
5 unique J



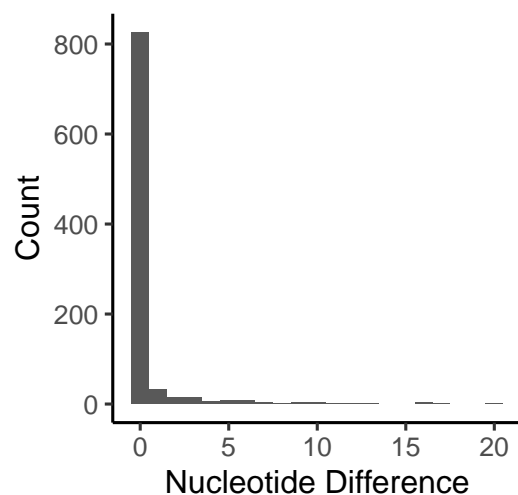
### IGHV6–1\*01

157 sequences assigned  
143 (91.1%) exact matches, in which:  
143 unique CDR3  
6 unique J



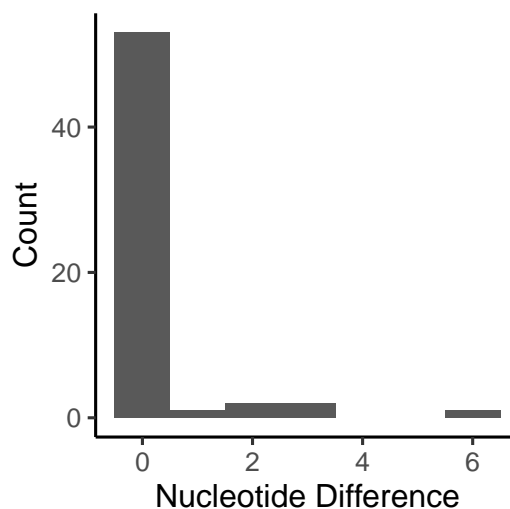
### IGHV4–39\*01

935 sequences assigned  
826 (88.3%) exact matches, in which:  
826 unique CDR3  
6 unique J



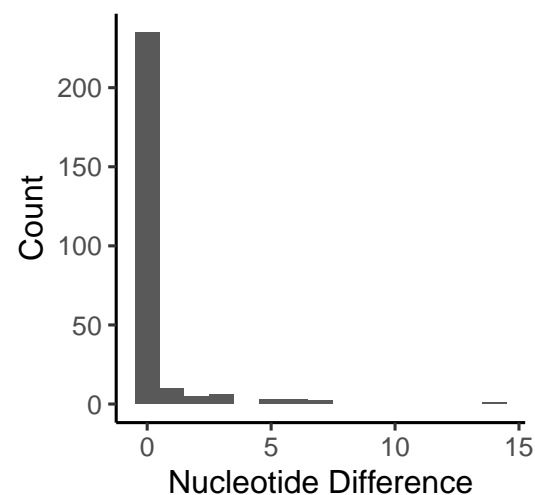
### IGHV5–10–1\*03

59 sequences assigned  
53 (89.8%) exact matches, in which:  
53 unique CDR3  
5 unique J



### IGHV7–4–1\*02

265 sequences assigned  
235 (88.7%) exact matches, in which:  
235 unique CDR3  
6 unique J





Warning – no inferred sequences found.