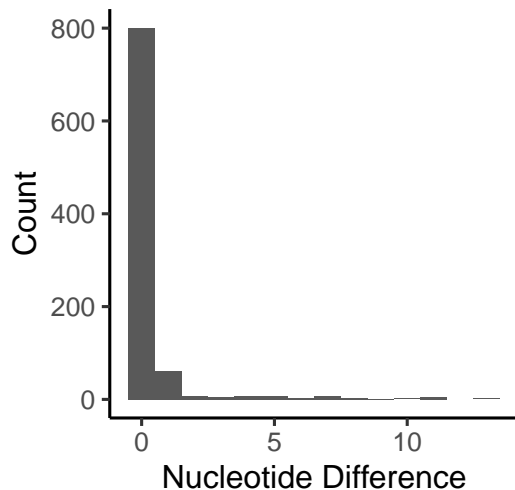


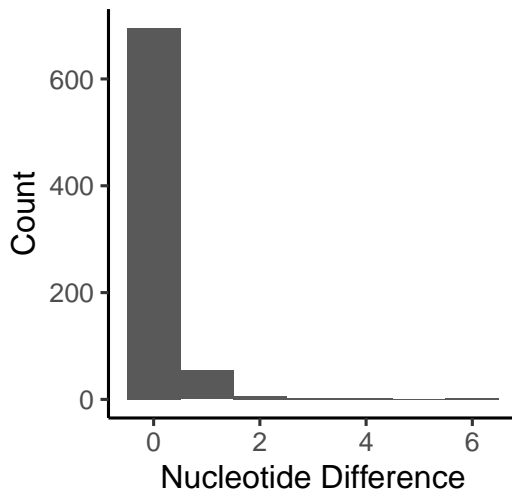
### IGHV1-2\*02

914 sequences assigned  
801 (87.6%) exact matches, in which:  
780 unique CDR3  
6 unique J



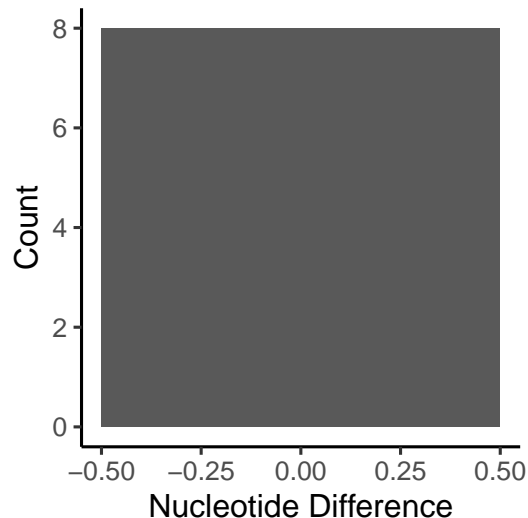
### IGHV1-8\*01

767 sequences assigned  
696 (90.7%) exact matches, in which:  
664 unique CDR3  
6 unique J



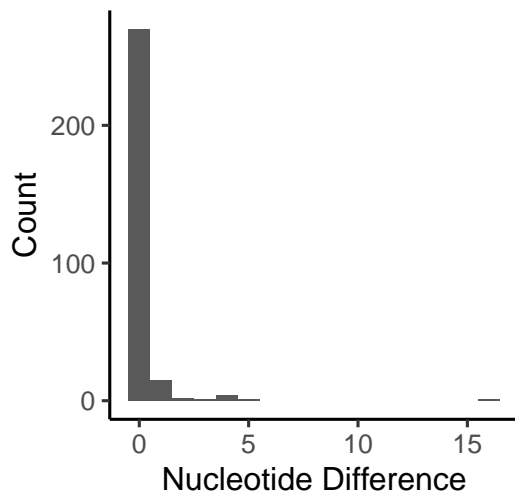
### IGHV1-45\*02

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



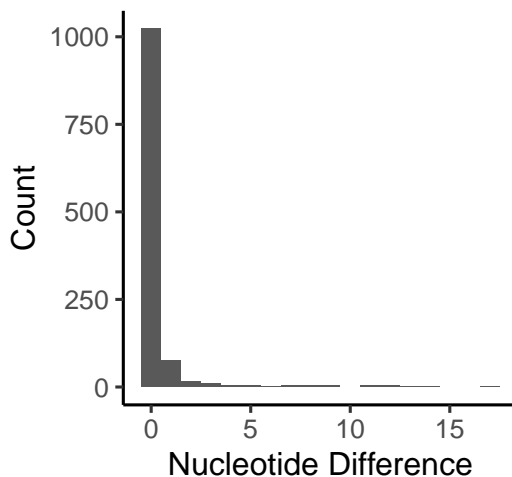
### IGHV1-2\*04

294 sequences assigned  
270 (91.8%) exact matches, in which:  
256 unique CDR3  
5 unique J



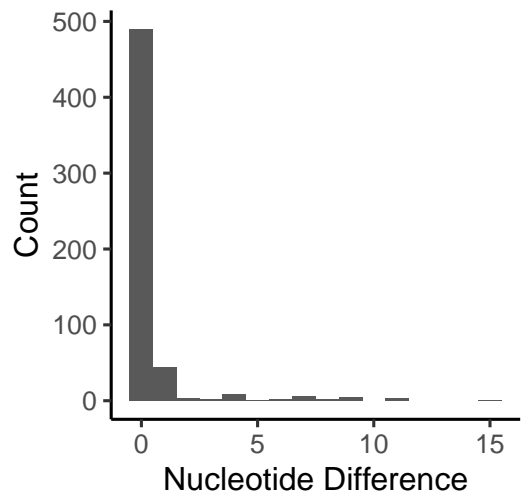
### IGHV1-18\*01

1154 sequences assigned  
1023 (88.6%) exact matches, in which:  
1002 unique CDR3  
6 unique J



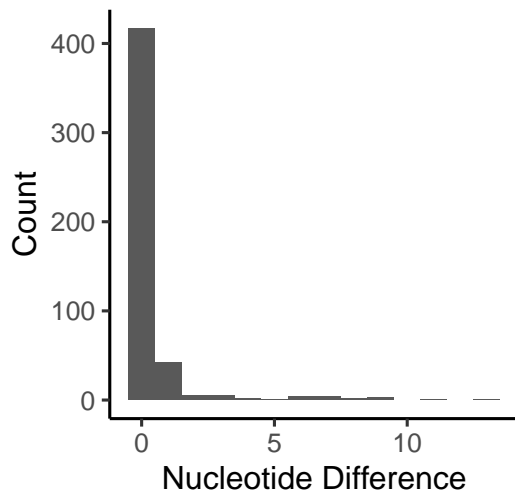
### IGHV1-46\*03

566 sequences assigned  
490 (86.6%) exact matches, in which:  
472 unique CDR3  
6 unique J



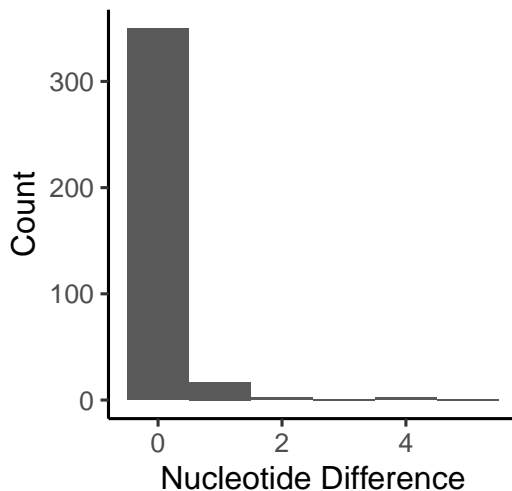
### IGHV1-3\*01

488 sequences assigned  
417 (85.5%) exact matches, in which:  
406 unique CDR3  
6 unique J



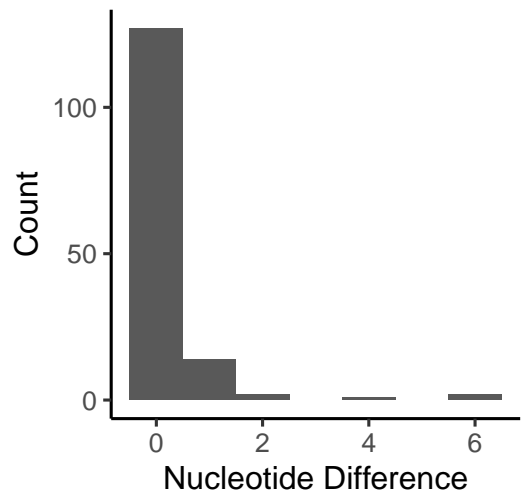
### IGHV1-24\*01

373 sequences assigned  
350 (93.8%) exact matches, in which:  
341 unique CDR3  
6 unique J



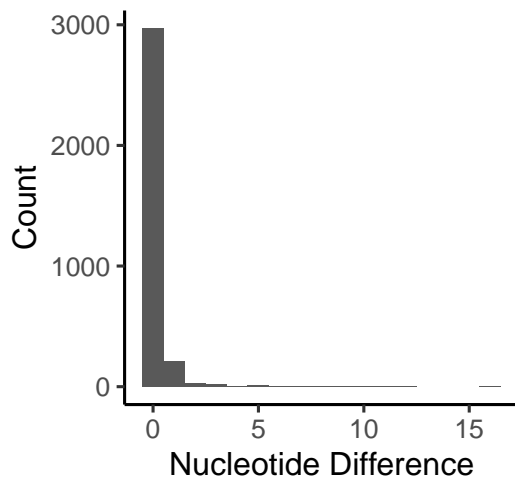
### IGHV1-58\*01

146 sequences assigned  
127 (87%) exact matches, in which:  
124 unique CDR3  
6 unique J



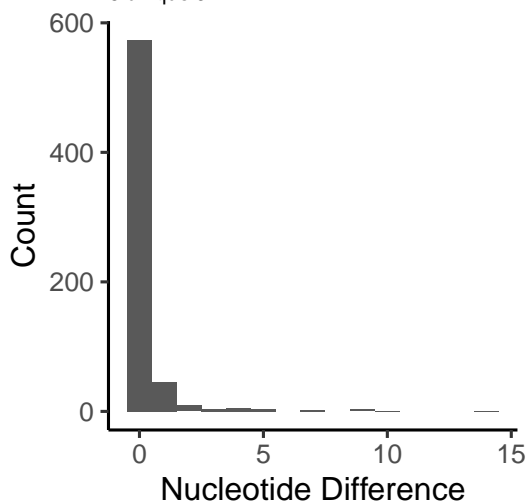
### IGHV1-69\*01

3269 sequences assigned  
2970 (90.9%) exact matches, in which:  
2837 unique CDR3  
6 unique J



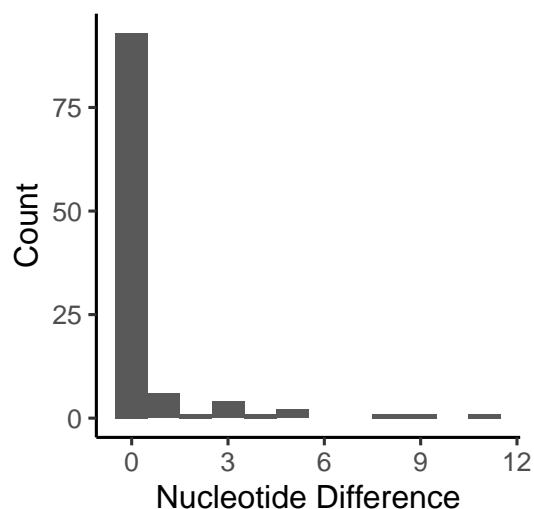
### IGHV2-5\*01

650 sequences assigned  
574 (88.3%) exact matches, in which:  
560 unique CDR3  
6 unique J



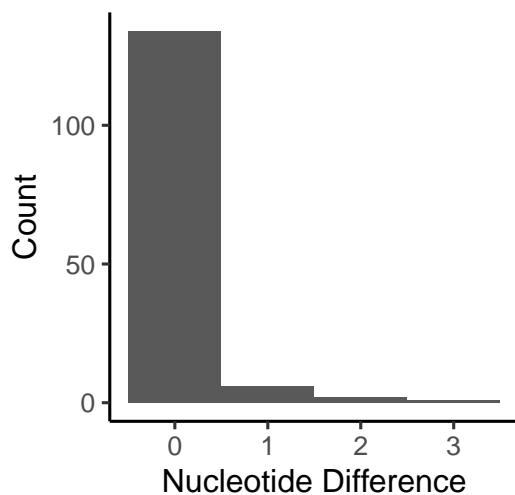
### IGHV2-70\*04

110 sequences assigned  
93 (84.5%) exact matches, in which:  
93 unique CDR3  
6 unique J



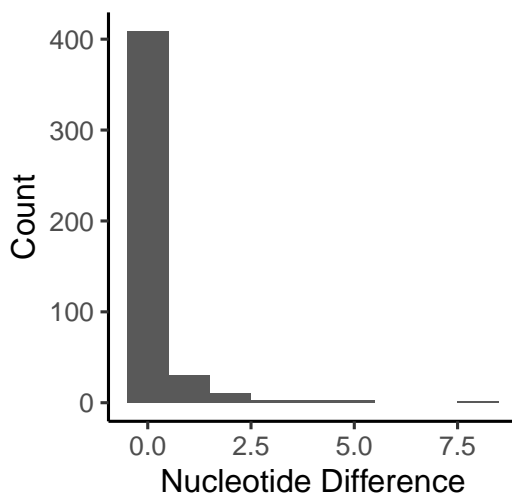
### IGHV1-69-2\*01

144 sequences assigned  
134 (93.1%) exact matches, in which:  
131 unique CDR3  
5 unique J



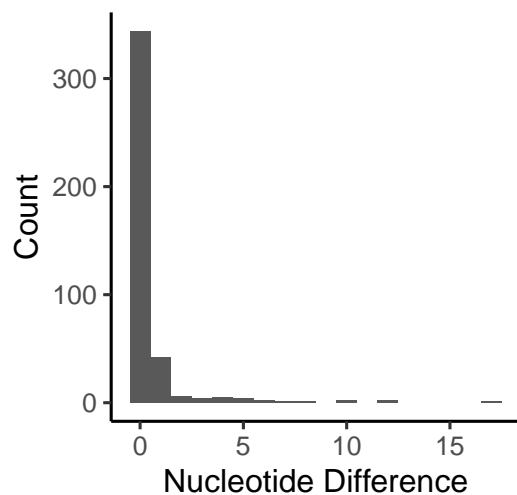
### IGHV2-26\*01

460 sequences assigned  
409 (88.9%) exact matches, in which:  
402 unique CDR3  
6 unique J



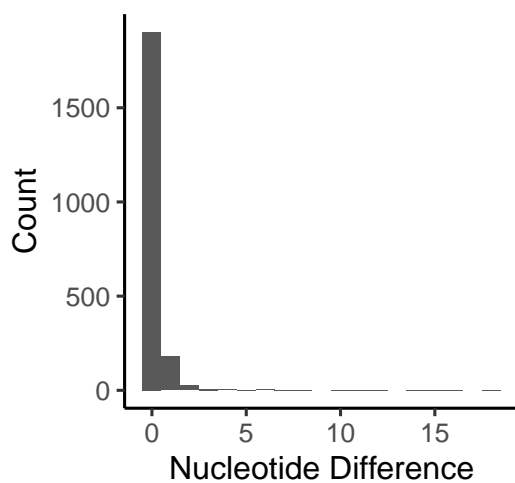
### IGHV3-7\*01

414 sequences assigned  
344 (83.1%) exact matches, in which:  
332 unique CDR3  
6 unique J



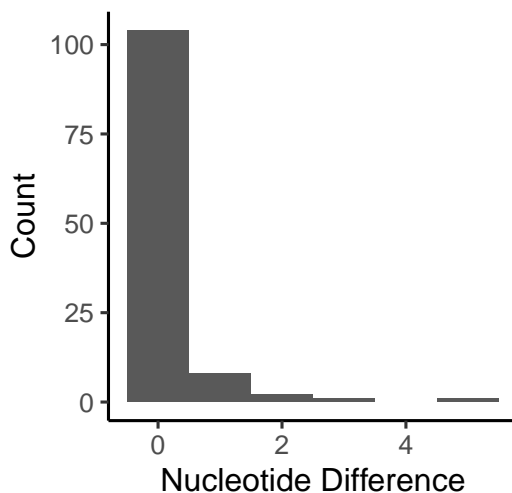
### IGHV1-69\*06

2138 sequences assigned  
1902 (89%) exact matches, in which:  
1808 unique CDR3  
6 unique J



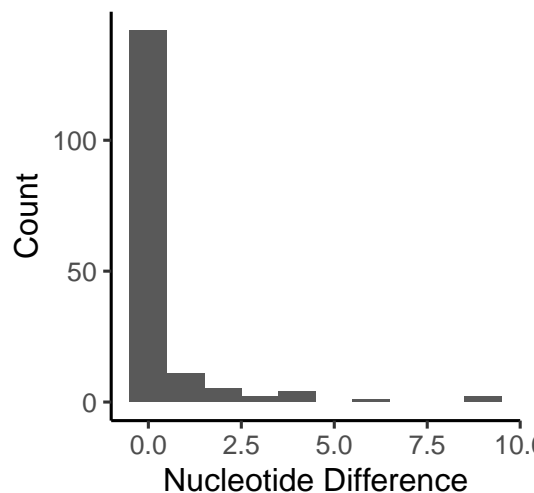
### IGHV2-70\*01

116 sequences assigned  
104 (89.7%) exact matches, in which:  
103 unique CDR3  
6 unique J



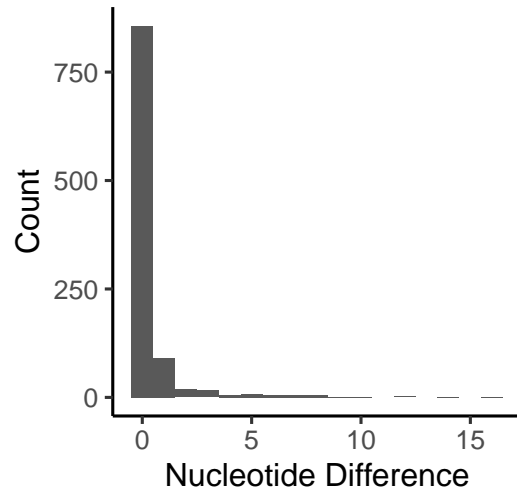
### IGHV3-7\*05

167 sequences assigned  
142 (85%) exact matches, in which:  
137 unique CDR3  
5 unique J



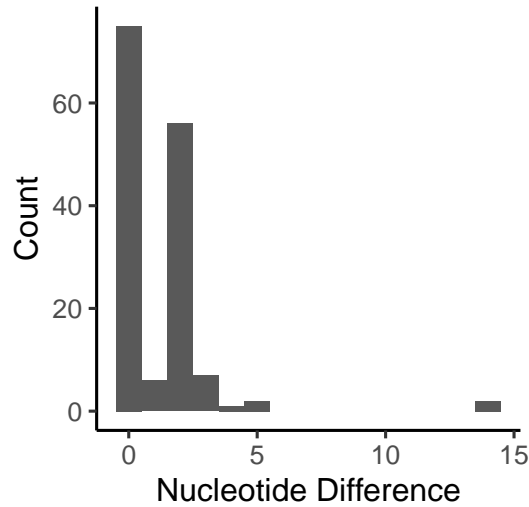
### IGHV3-9\*01

1018 sequences assigned  
857 (84.2%) exact matches, in which:  
822 unique CDR3  
6 unique J



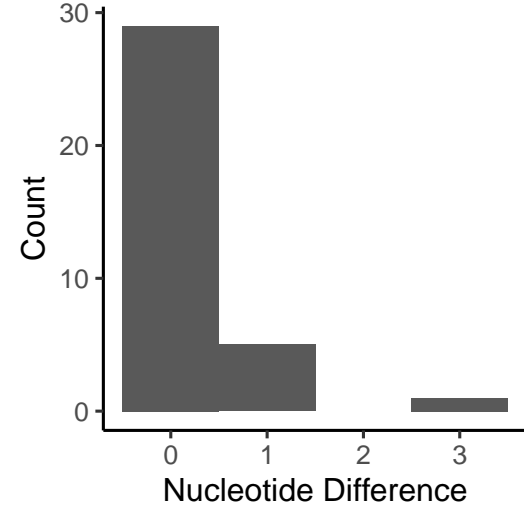
### IGHV3-13\*01

149 sequences assigned  
75 (50.3%) exact matches, in which:  
73 unique CDR3  
5 unique J



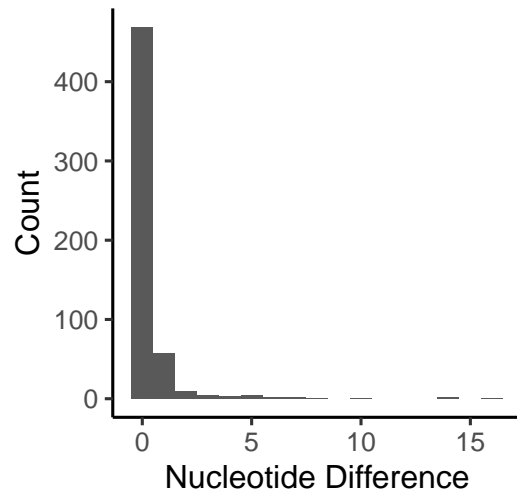
### IGHV3-20\*01

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



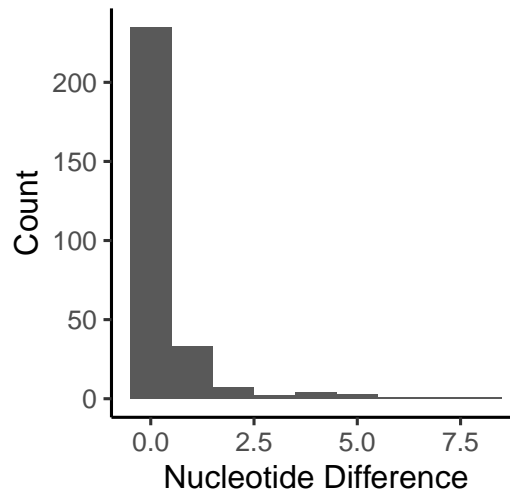
### IGHV3-11\*01

557 sequences assigned  
469 (84.2%) exact matches, in which:  
455 unique CDR3  
6 unique J



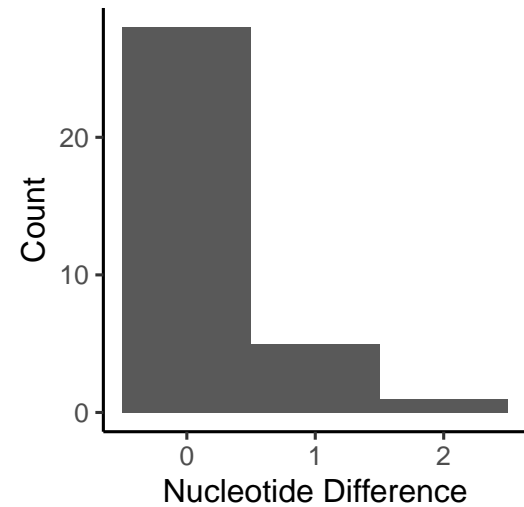
### IGHV3-15\*01

287 sequences assigned  
235 (81.9%) exact matches, in which:  
232 unique CDR3  
6 unique J



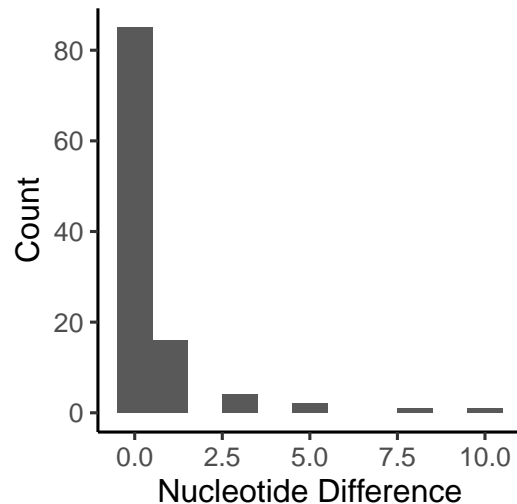
### IGHV3-20\*04

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



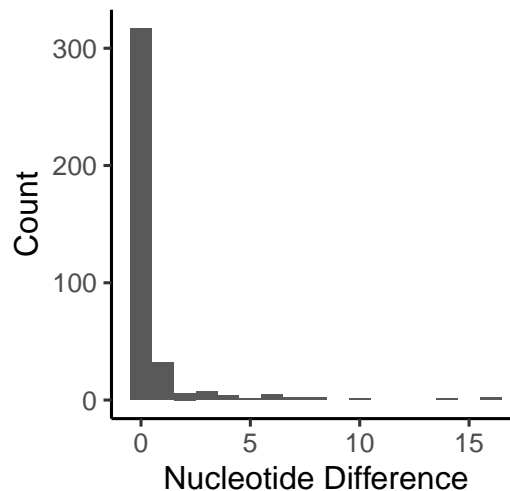
### IGHV3-11\*06

109 sequences assigned  
85 (78%) exact matches, in which:  
84 unique CDR3  
6 unique J



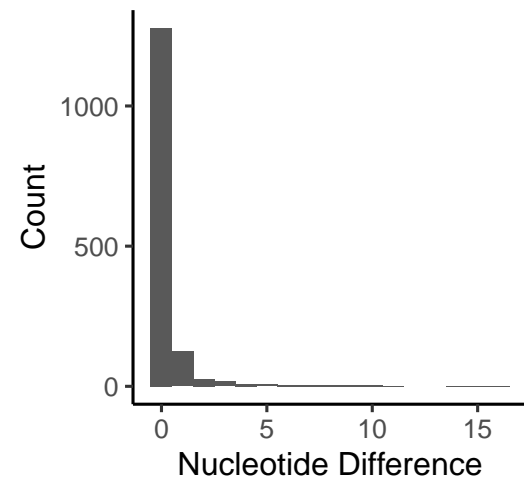
### IGHV3-15\*07

381 sequences assigned  
317 (83.2%) exact matches, in which:  
309 unique CDR3  
6 unique J



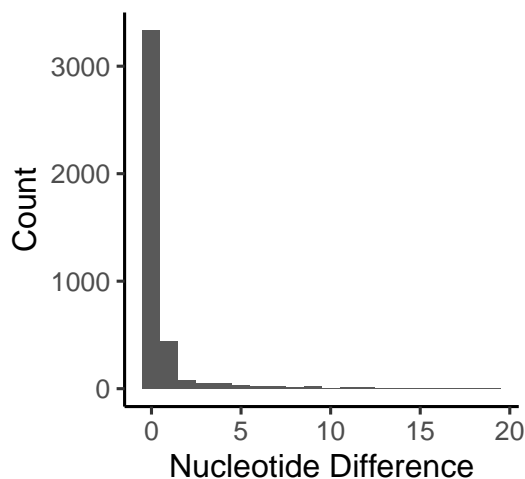
### IGHV3-21\*01

1489 sequences assigned  
1278 (85.8%) exact matches, in which:  
1224 unique CDR3  
6 unique J



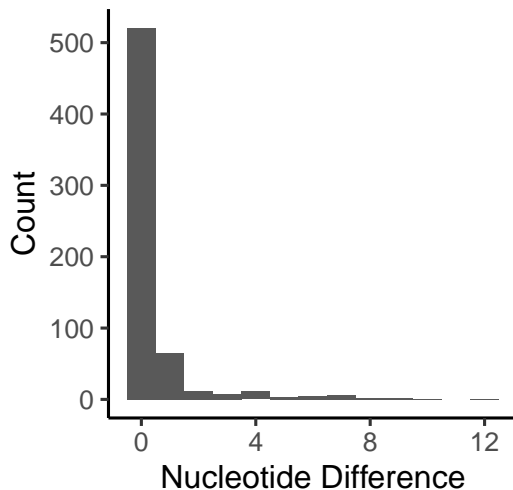
### IGHV3-23\*01

4145 sequences assigned  
3333 (80.4%) exact matches, in which:  
3169 unique CDR3  
6 unique J



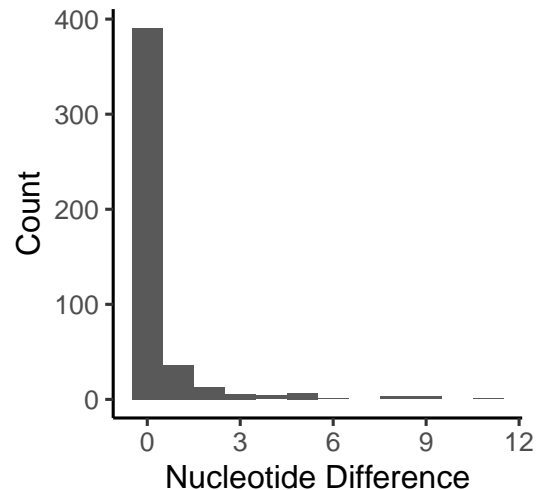
### IGHV3-33\*01

640 sequences assigned  
521 (81.4%) exact matches, in which:  
498 unique CDR3  
6 unique J



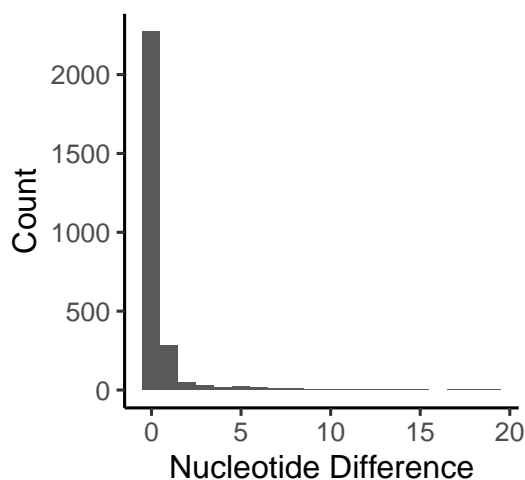
### IGHV3-49\*03

465 sequences assigned  
391 (84.1%) exact matches, in which:  
373 unique CDR3  
6 unique J



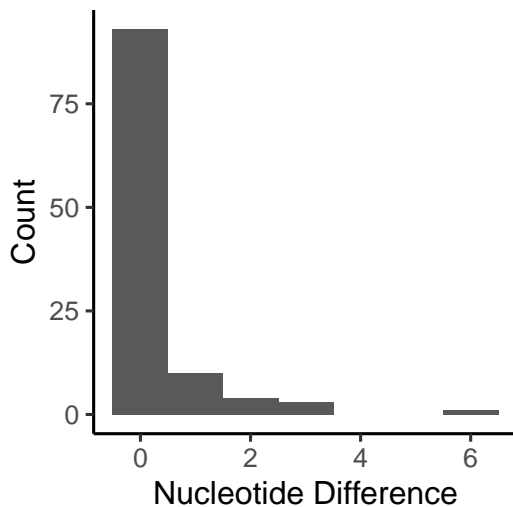
### IGHV3-30-3\*01

2730 sequences assigned  
2272 (83.2%) exact matches, in which:  
2170 unique CDR3  
6 unique J



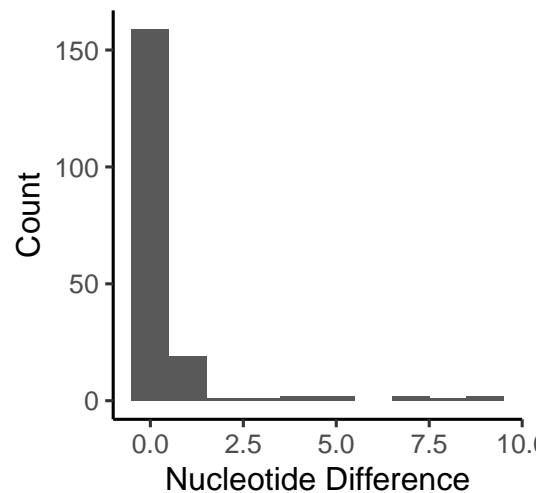
### IGHV3-43\*01

111 sequences assigned  
93 (83.8%) exact matches, in which:  
89 unique CDR3  
6 unique J



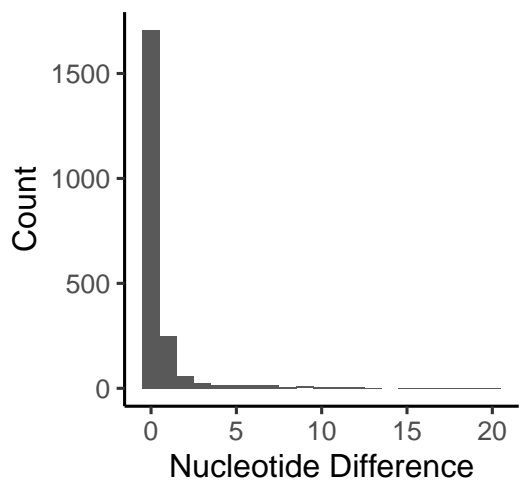
### IGHV3-53\*02

190 sequences assigned  
159 (83.7%) exact matches, in which:  
155 unique CDR3  
6 unique J



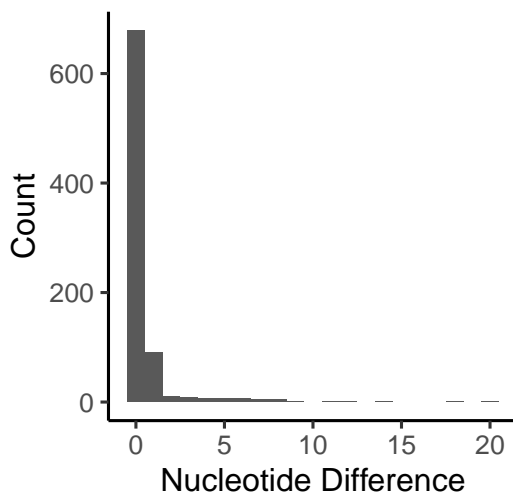
### IGHV3-30\*18

2145 sequences assigned  
1707 (79.6%) exact matches, in which:  
1639 unique CDR3  
6 unique J



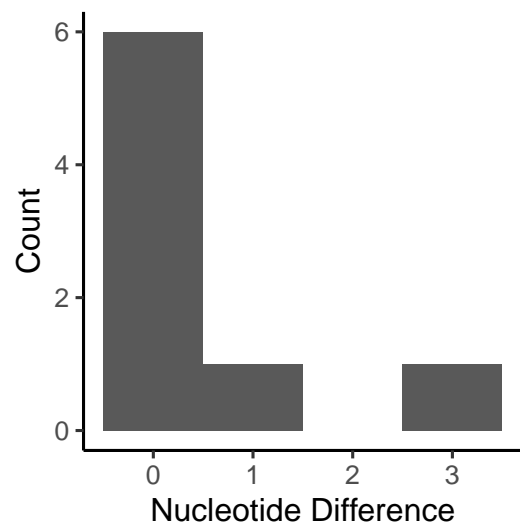
### IGHV3-48\*01

822 sequences assigned  
679 (82.6%) exact matches, in which:  
647 unique CDR3  
6 unique J



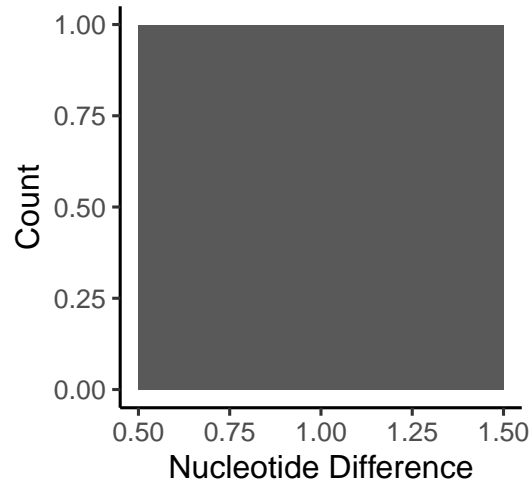
### IGHV3-64\*02

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



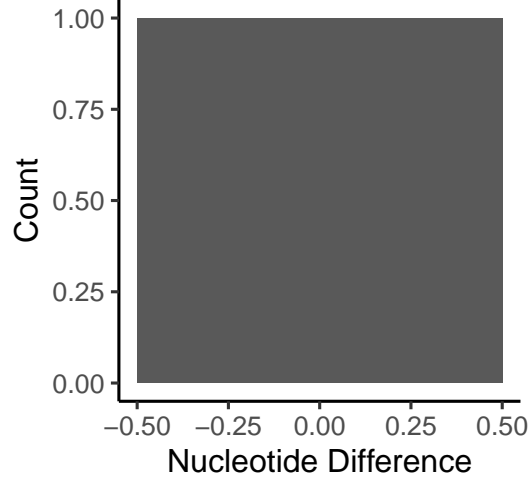
### IGHV3-64\*05

1 sequences assigned  
No exact matches.



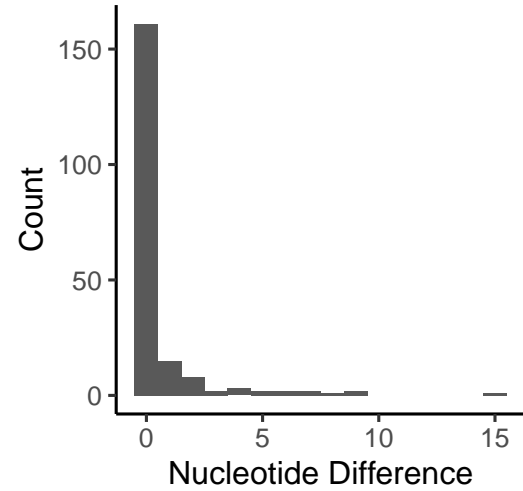
### IGHV3-69-1\*01

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



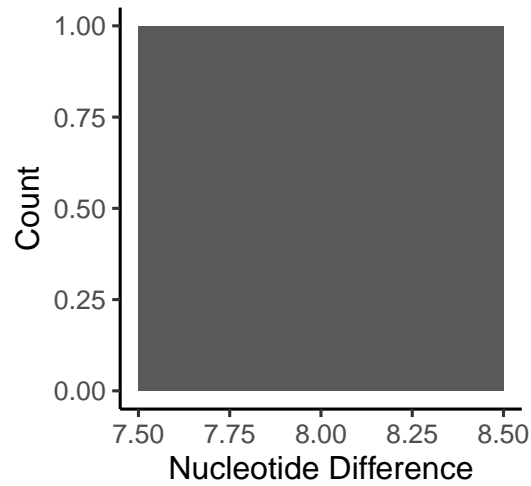
### IGHV3-74\*01

199 sequences assigned  
161 (80.9%) exact matches, in which:  
159 unique CDR3  
6 unique J



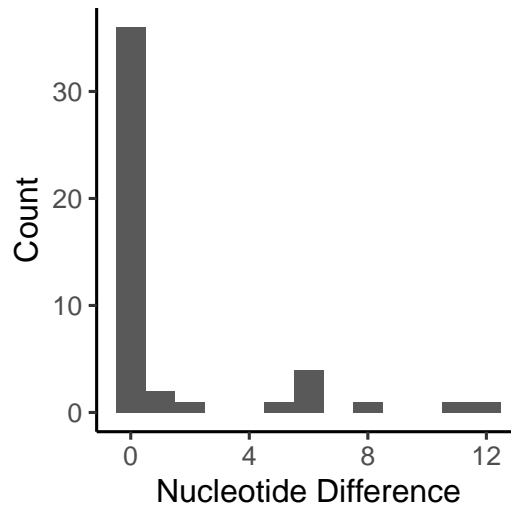
### IGHV3-66\*01

1 sequences assigned  
No exact matches.



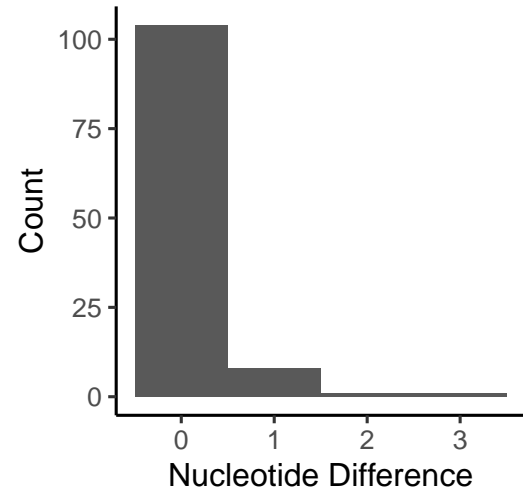
### IGHV3-72\*01

49 sequences assigned  
36 (73.5%) exact matches, in which:  
33 unique CDR3  
4 unique J



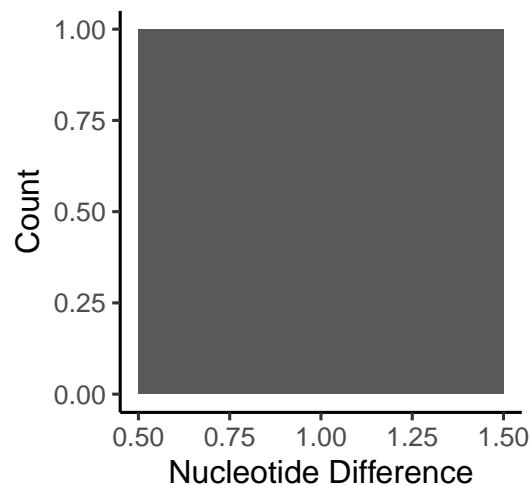
### IGHV3-43D\*03

114 sequences assigned  
104 (91.2%) exact matches, in which:  
103 unique CDR3  
5 unique J



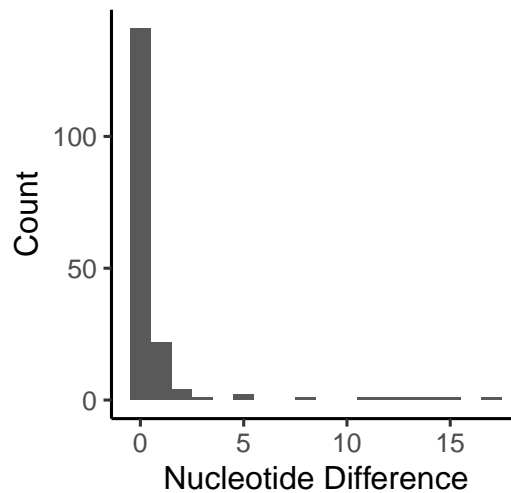
### IGHV3-66\*04

1 sequences assigned  
No exact matches.



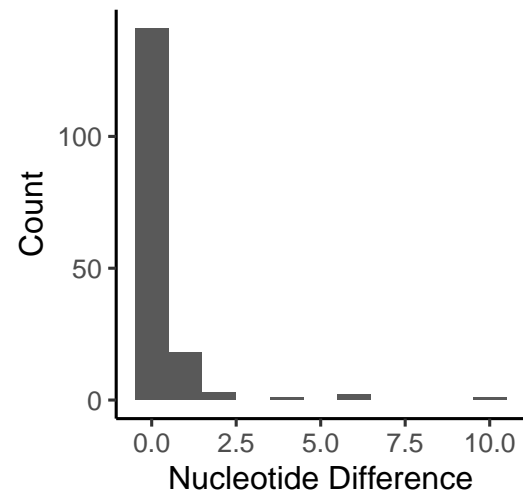
### IGHV3-73\*02

177 sequences assigned  
141 (79.7%) exact matches, in which:  
137 unique CDR3  
6 unique J



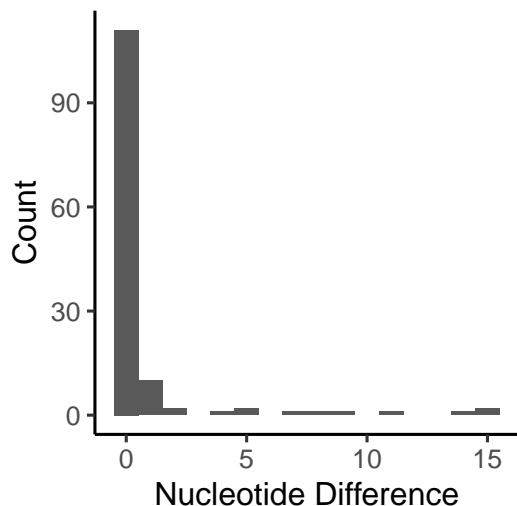
### IGHV3-64D\*08

166 sequences assigned  
141 (84.9%) exact matches, in which:  
135 unique CDR3  
6 unique J



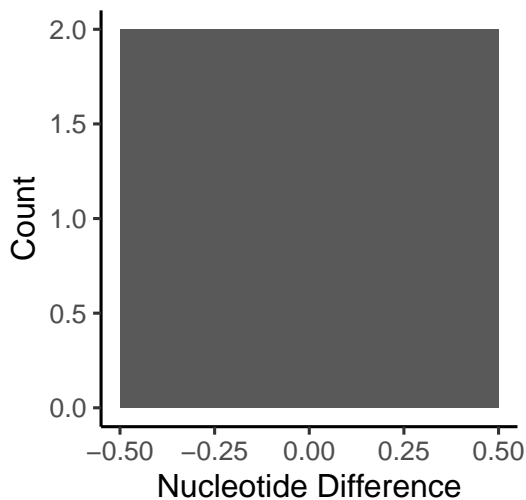
### IGHV4-4\*02

133 sequences assigned  
111 (83.5%) exact matches, in which:  
105 unique CDR3  
6 unique J



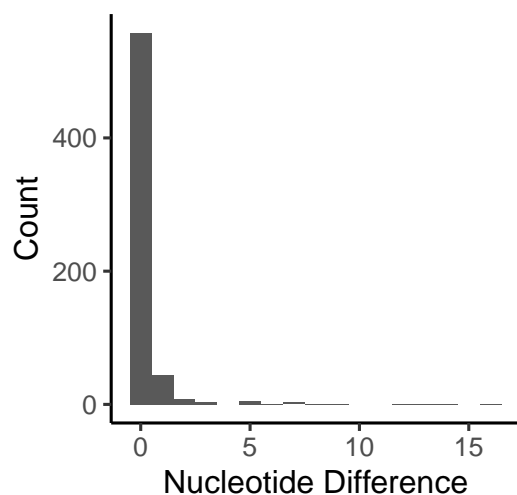
### IGHV4-28\*03

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



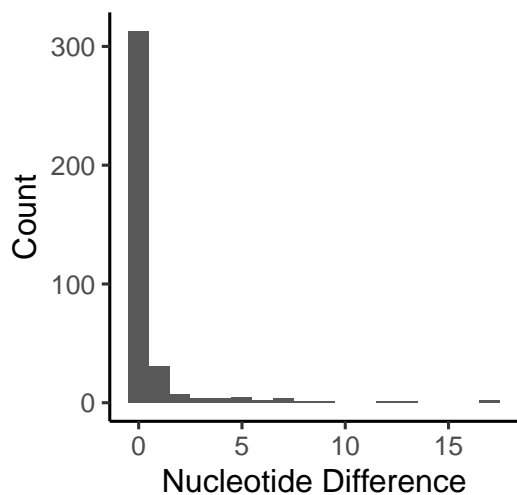
### IGHV4-30-2\*01

629 sequences assigned  
558 (88.7%) exact matches, in which:  
533 unique CDR3  
6 unique J



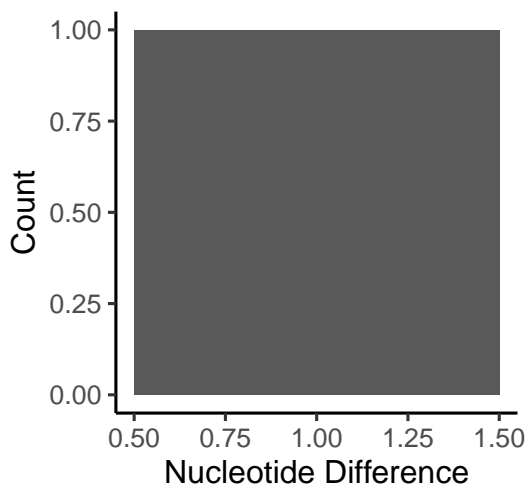
### IGHV4-4\*07

377 sequences assigned  
313 (83%) exact matches, in which:  
311 unique CDR3  
6 unique J



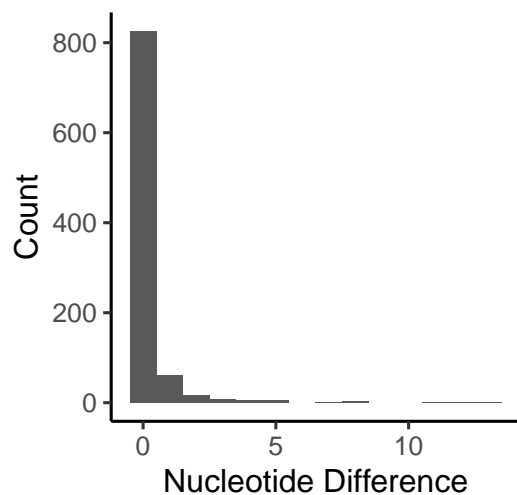
### IGHV4-28\*06

1 sequences assigned  
No exact matches.



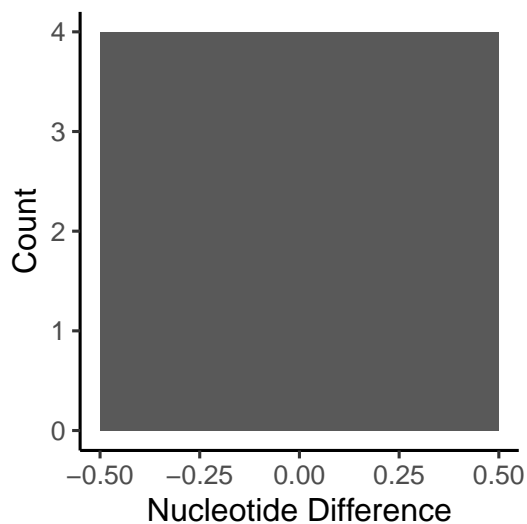
### IGHV4-31\*03

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



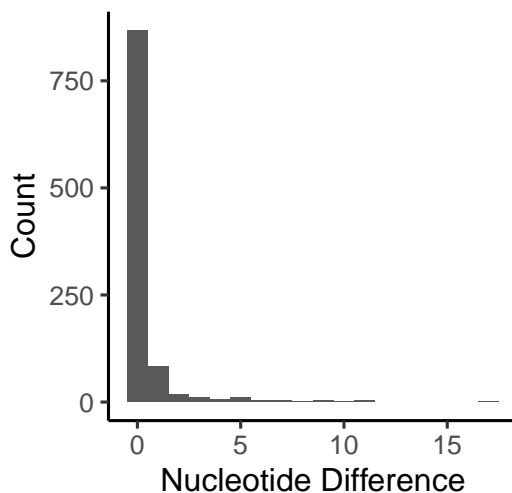
### IGHV4-28\*01

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



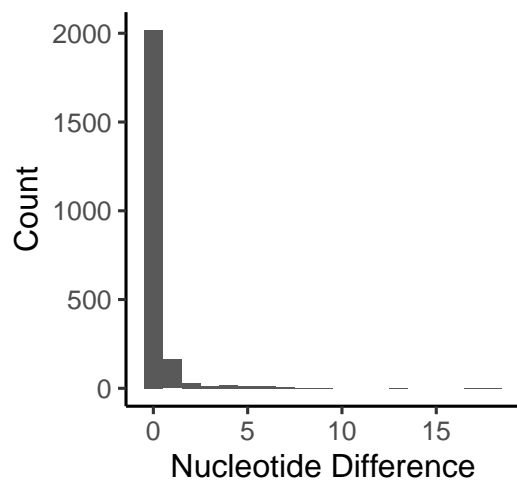
### IGHV4-30-4\*01

1011 sequences assigned  
868 (85.9%) exact matches, in which:  
845 unique CDR3  
6 unique J



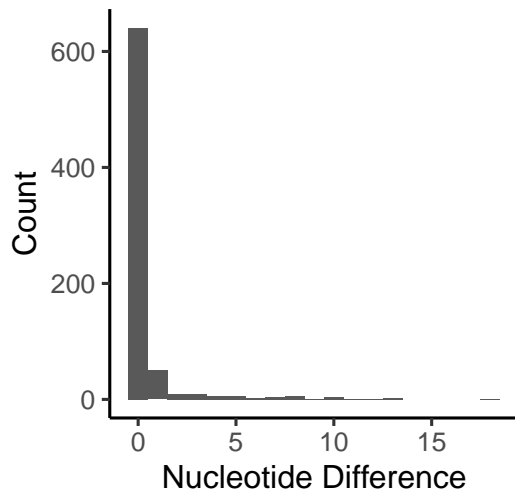
### IGHV4-34\*01

2290 sequences assigned  
2018 (88.1%) exact matches, in which:  
1921 unique CDR3  
6 unique J



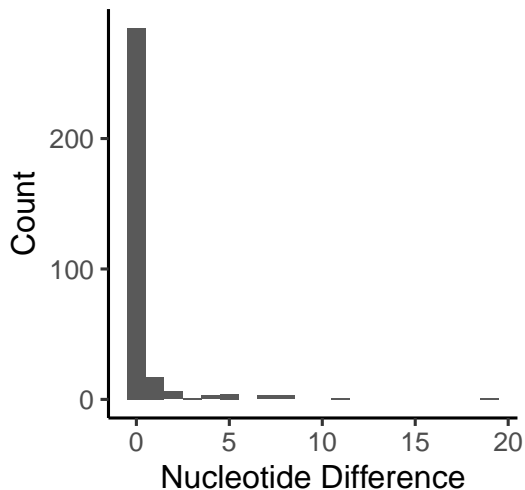
### IGHV4-38-2\*02

745 sequences assigned  
641 (86%) exact matches, in which:  
619 unique CDR3  
6 unique J



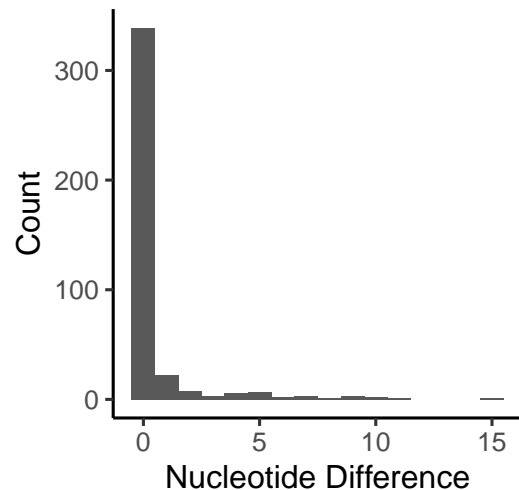
### IGHV4-61\*01

324 sequences assigned  
285 (88%) exact matches, in which:  
278 unique CDR3  
6 unique J



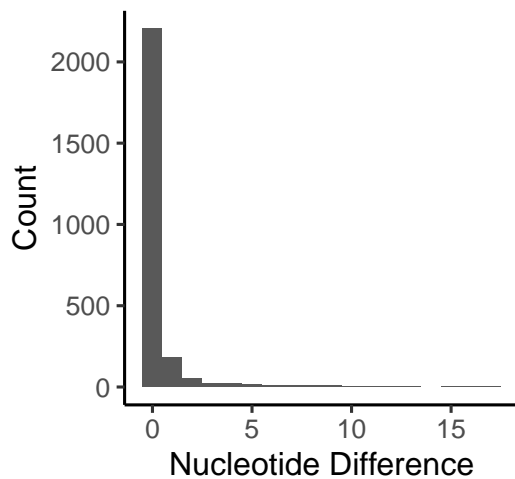
### IGHV5-51\*03

398 sequences assigned  
339 (85.2%) exact matches, in which:  
325 unique CDR3  
6 unique J



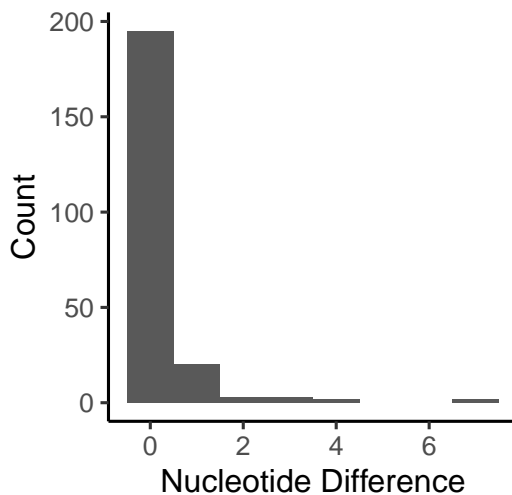
### IGHV4-39\*01

2547 sequences assigned  
2204 (86.5%) exact matches, in which:  
2109 unique CDR3  
6 unique J



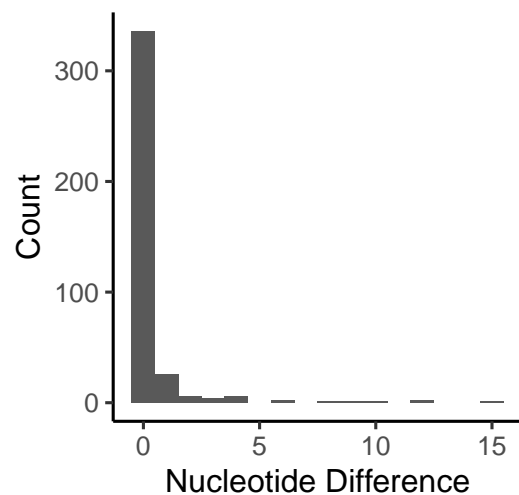
### IGHV5-10-1\*03

225 sequences assigned  
195 (86.7%) exact matches, in which:  
189 unique CDR3  
5 unique J



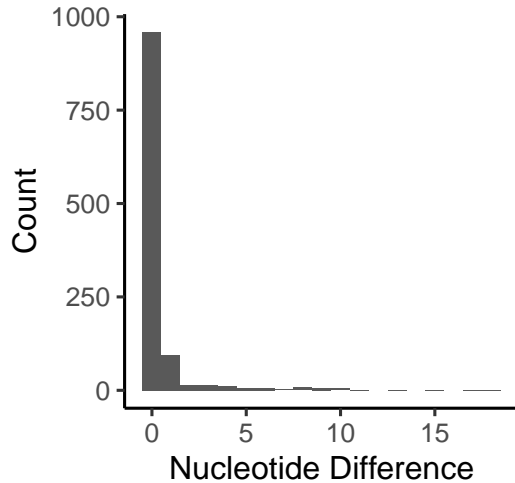
### IGHV6-1\*01

386 sequences assigned  
336 (87%) exact matches, in which:  
325 unique CDR3  
6 unique J



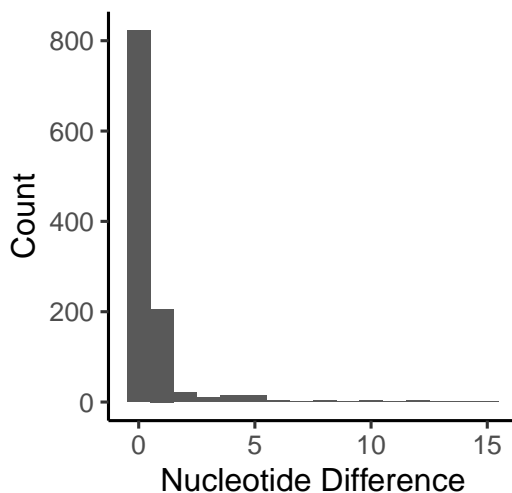
### IGHV4-59\*01

1133 sequences assigned  
959 (84.6%) exact matches, in which:  
937 unique CDR3  
6 unique J



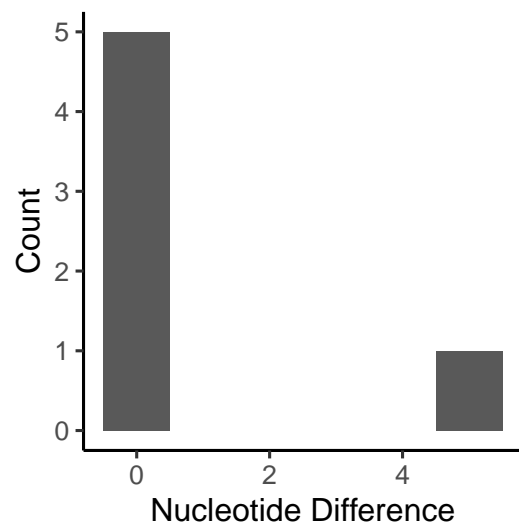
### IGHV5-51\*01

1112 sequences assigned  
823 (74%) exact matches, in which:  
795 unique CDR3  
6 unique J



### IGHV7-4-1\*01

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



Allele Usage





Warning – no inferred sequences found.