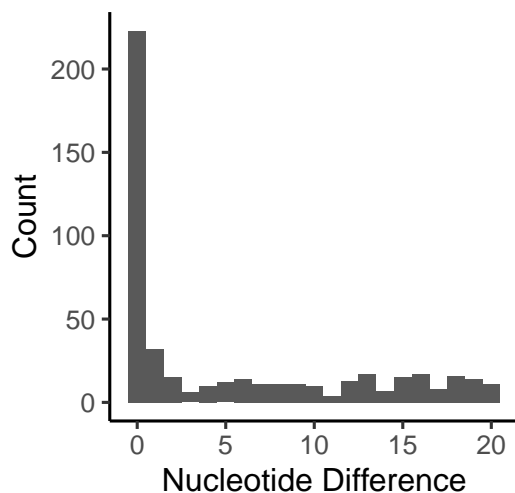


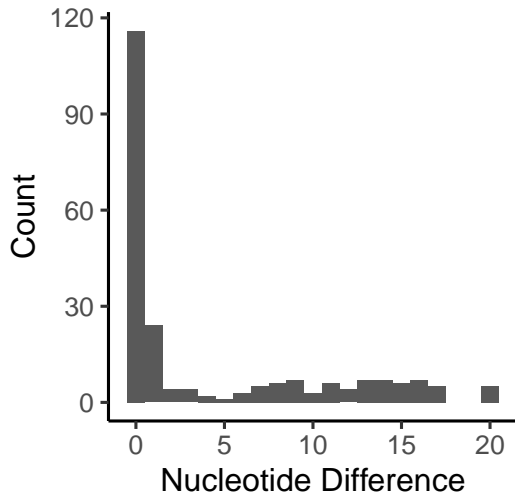
### IGHV1-2\*02

591 sequences assigned  
223 (37.7%) exact matches, in which:  
222 unique CDR3  
6 unique J



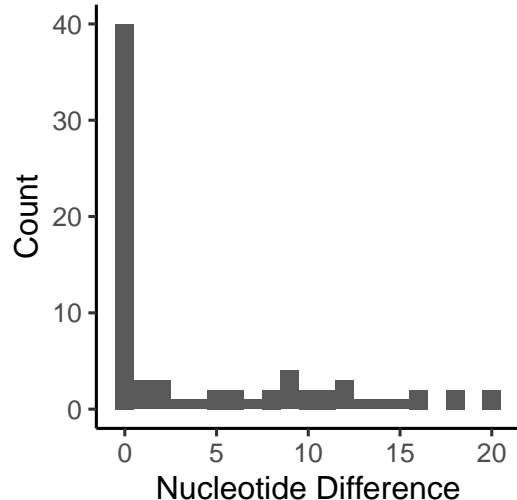
### IGHV1-24\*01

253 sequences assigned  
116 (45.8%) exact matches, in which:  
116 unique CDR3  
6 unique J



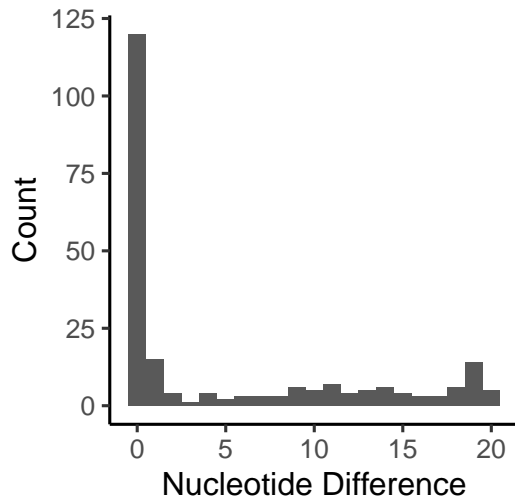
### IGHV1-46\*03

104 sequences assigned  
40 (38.5%) exact matches, in which:  
40 unique CDR3  
4 unique J



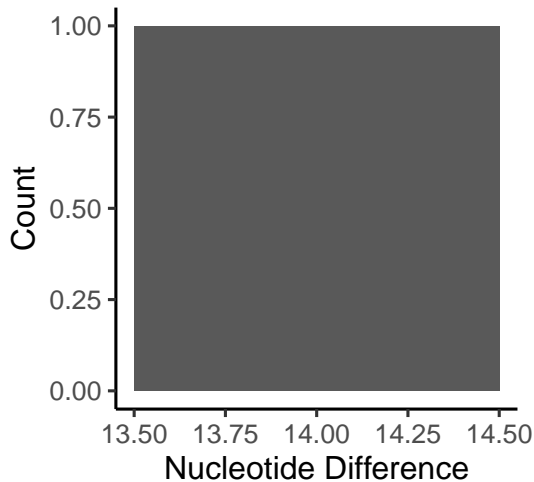
### IGHV1-3\*01

275 sequences assigned  
120 (43.6%) exact matches, in which:  
120 unique CDR3  
6 unique J



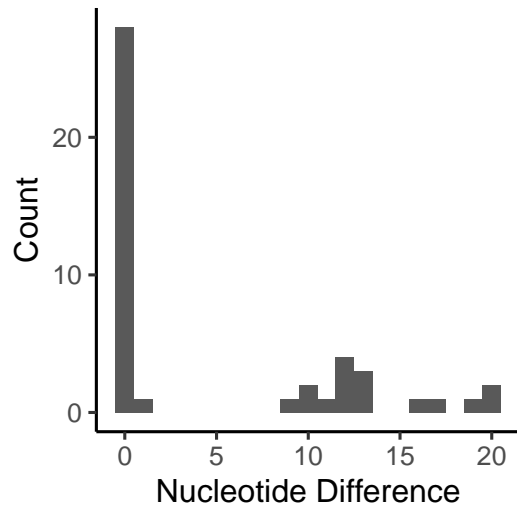
### IGHV1-45\*02

1 sequences assigned  
No exact matches.



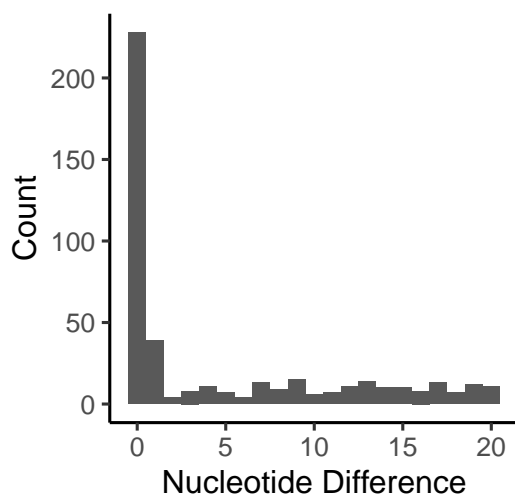
### IGHV1-58\*02

59 sequences assigned  
28 (47.5%) exact matches, in which:  
28 unique CDR3  
5 unique J



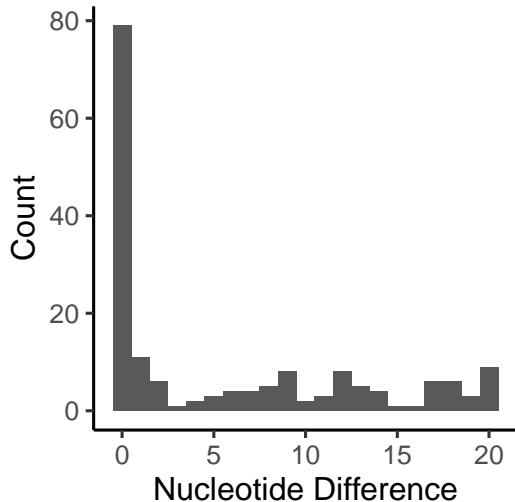
### IGHV1-18\*01

573 sequences assigned  
228 (39.8%) exact matches, in which:  
228 unique CDR3  
6 unique J



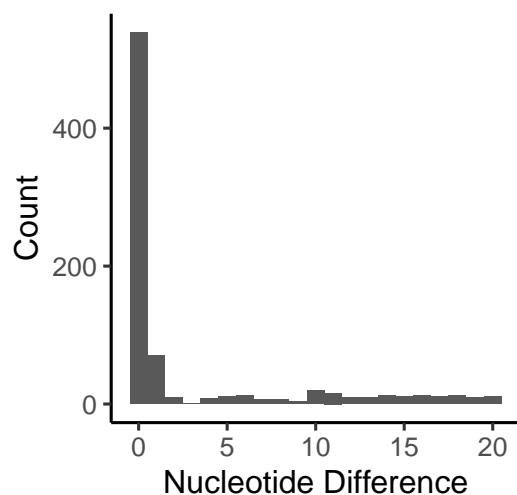
### IGHV1-46\*01

238 sequences assigned  
79 (33.2%) exact matches, in which:  
79 unique CDR3  
6 unique J



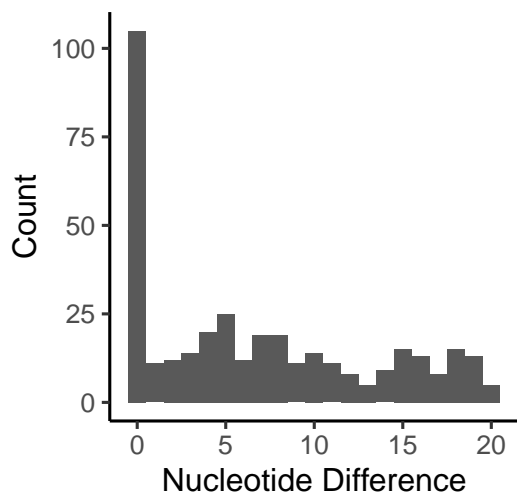
### IGHV1-69\*04

986 sequences assigned  
539 (54.7%) exact matches, in which:  
538 unique CDR3  
6 unique J



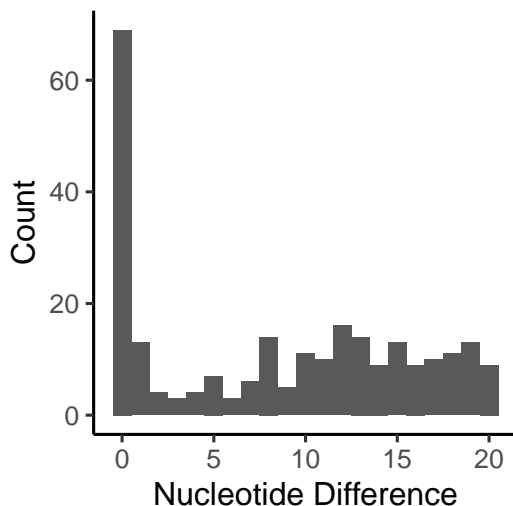
### IGHV2-5\*02

428 sequences assigned  
105 (24.5%) exact matches, in which:  
105 unique CDR3  
5 unique J



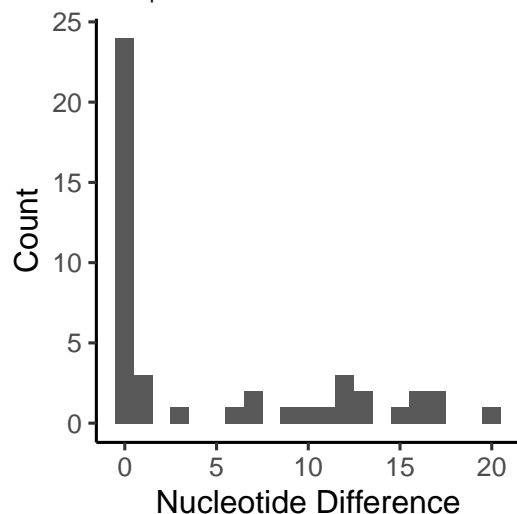
### IGHV3-7\*01

316 sequences assigned  
69 (21.8%) exact matches, in which:  
69 unique CDR3  
6 unique J



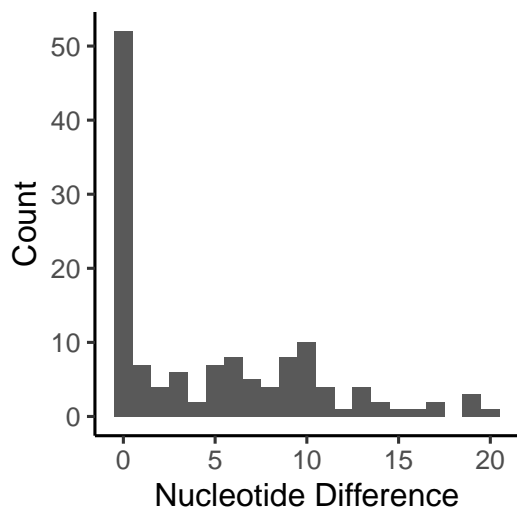
### IGHV3-13\*05

52 sequences assigned  
24 (46.2%) exact matches, in which:  
24 unique CDR3  
4 unique J



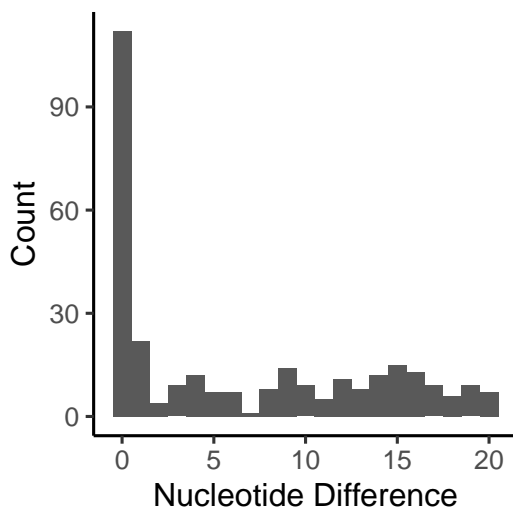
### IGHV2-26\*01

142 sequences assigned  
52 (36.6%) exact matches, in which:  
52 unique CDR3  
5 unique J



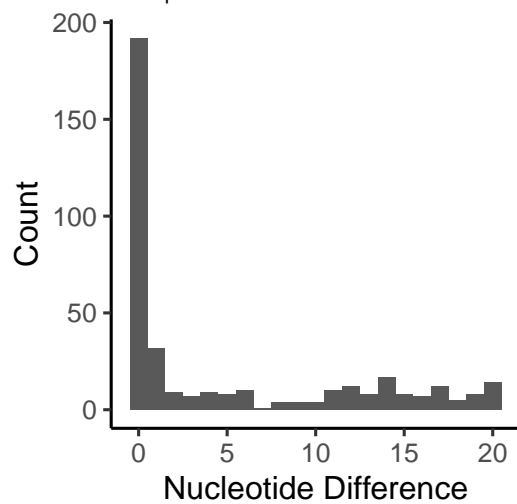
### IGHV3-7\*03

377 sequences assigned  
112 (29.7%) exact matches, in which:  
112 unique CDR3  
6 unique J



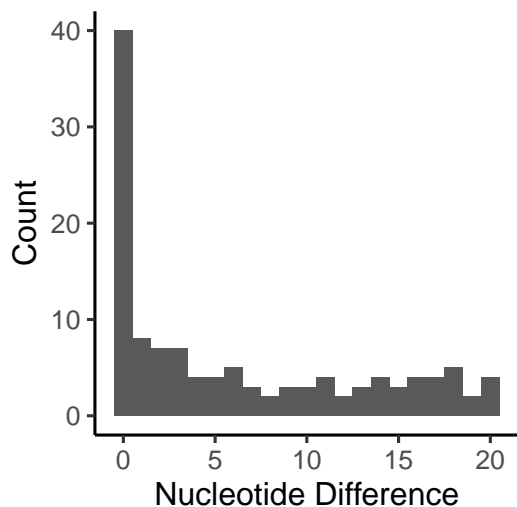
### IGHV3-15\*01

478 sequences assigned  
192 (40.2%) exact matches, in which:  
192 unique CDR3  
6 unique J



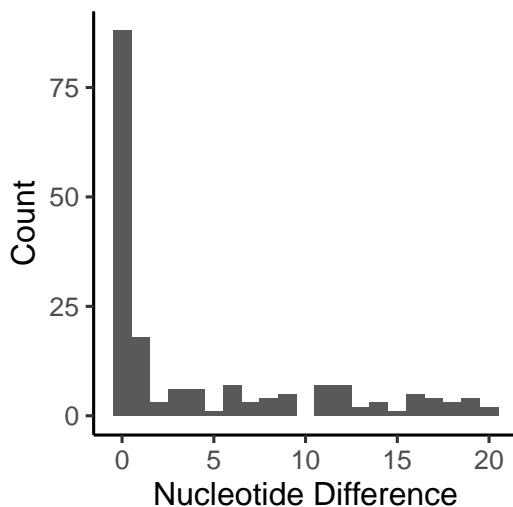
### IGHV2-70\*15

138 sequences assigned  
40 (29%) exact matches, in which:  
40 unique CDR3  
4 unique J



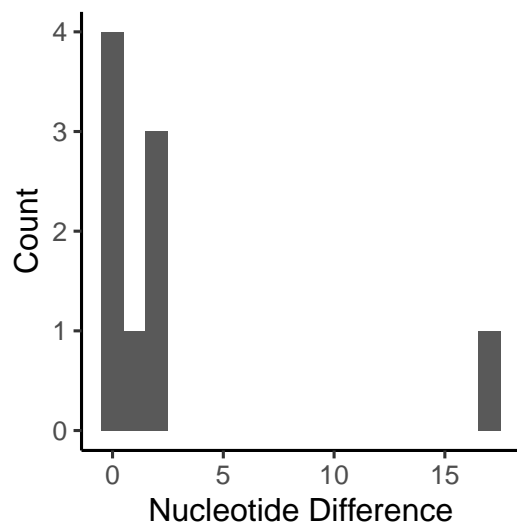
### IGHV3-11\*06

231 sequences assigned  
88 (38.1%) exact matches, in which:  
88 unique CDR3  
6 unique J



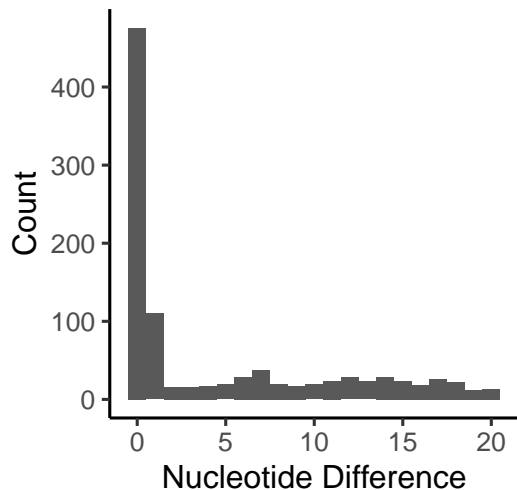
### IGHV3-20\*01

13 sequences assigned  
4 (30.8%) exact matches, in which:  
4 unique CDR3  
2 unique J



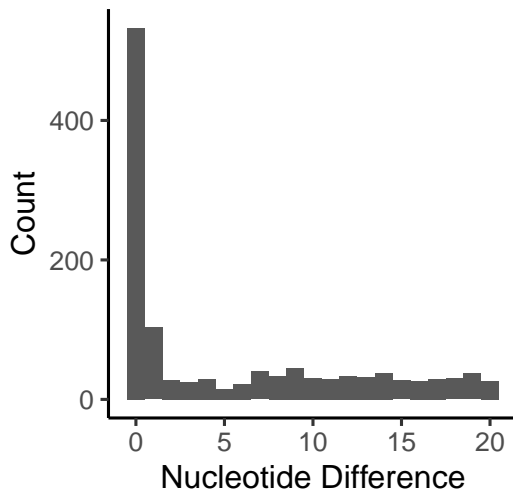
### IGHV3-21\*01

1117 sequences assigned  
476 (42.6%) exact matches, in which:  
474 unique CDR3  
6 unique J



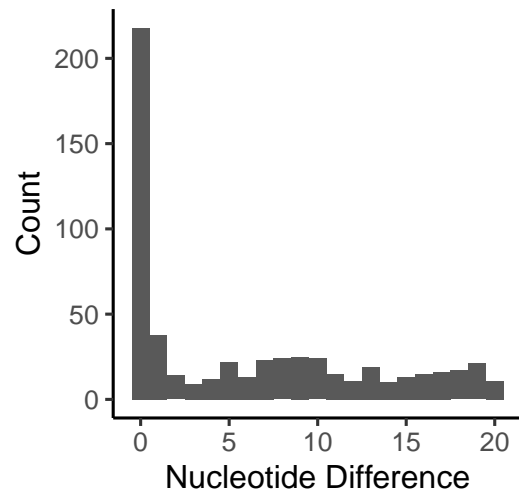
### IGHV3-30\*18

1501 sequences assigned  
533 (35.5%) exact matches, in which:  
532 unique CDR3  
6 unique J



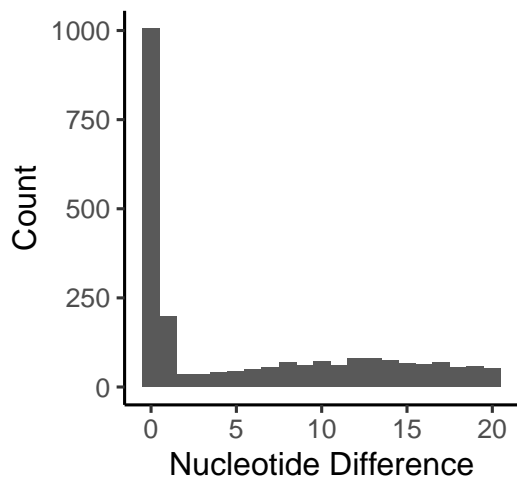
### IGHV3-48\*01

688 sequences assigned  
218 (31.7%) exact matches, in which:  
218 unique CDR3  
6 unique J



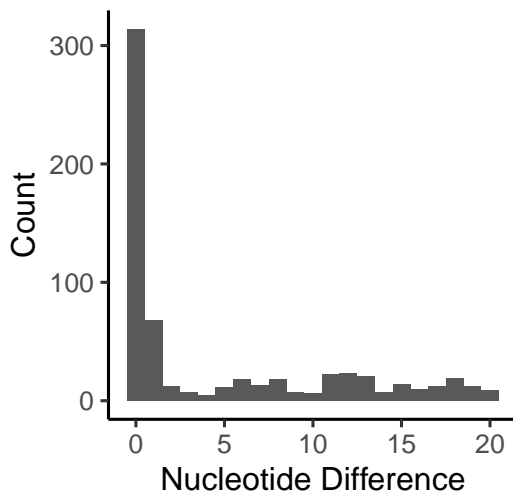
### IGHV3-23\*01

2985 sequences assigned  
1005 (33.7%) exact matches, in which:  
1004 unique CDR3  
6 unique J



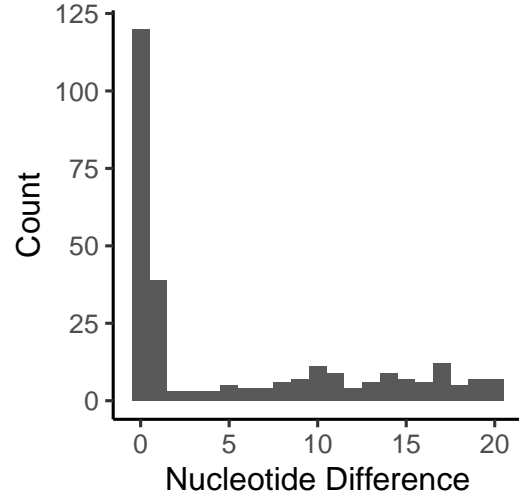
### IGHV3-33\*01

770 sequences assigned  
314 (40.8%) exact matches, in which:  
309 unique CDR3  
6 unique J



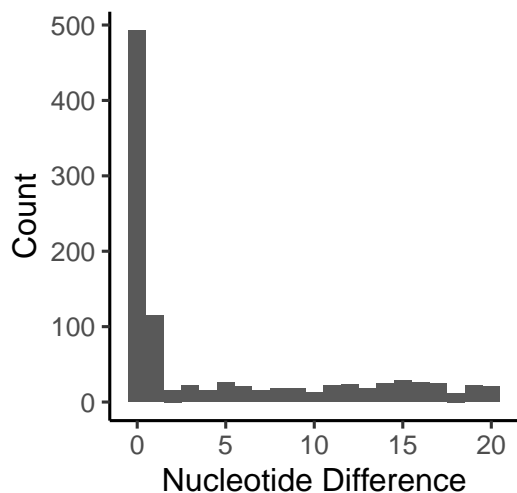
### IGHV3-49\*03

336 sequences assigned  
120 (35.7%) exact matches, in which:  
119 unique CDR3  
5 unique J



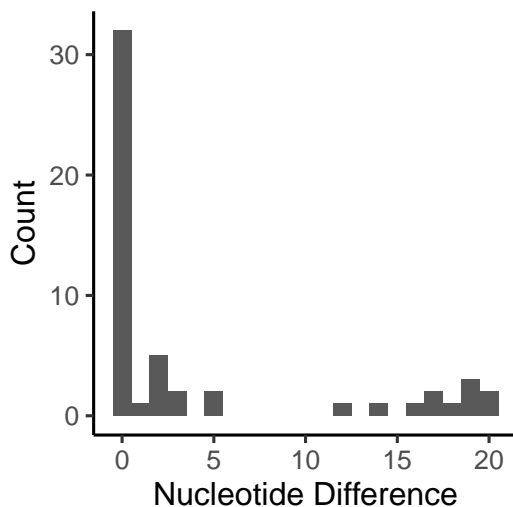
### IGHV3-30-3\*01

1248 sequences assigned  
493 (39.5%) exact matches, in which:  
492 unique CDR3  
6 unique J



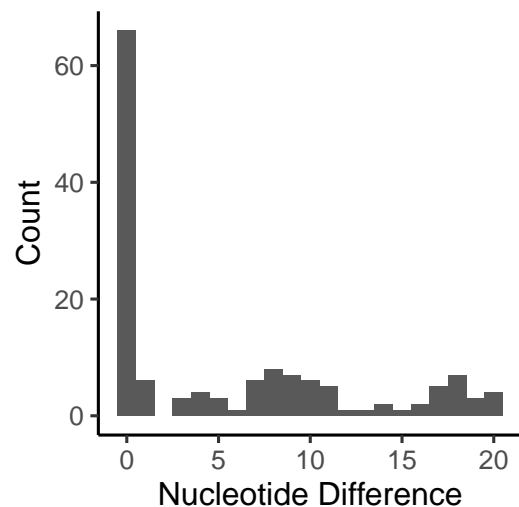
### IGHV3-43\*01

77 sequences assigned  
32 (41.6%) exact matches, in which:  
32 unique CDR3  
3 unique J



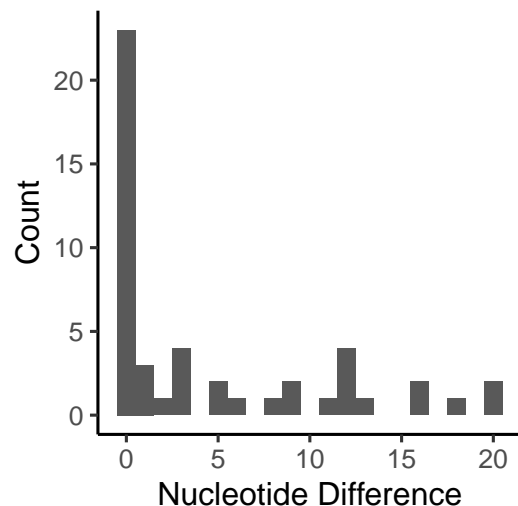
### IGHV3-53\*02

167 sequences assigned  
66 (39.5%) exact matches, in which:  
66 unique CDR3  
5 unique J



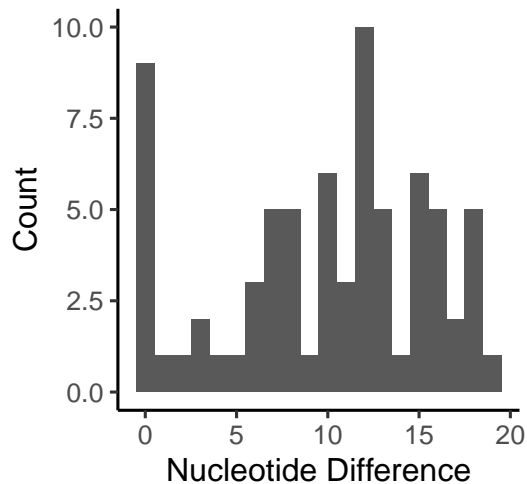
### IGHV3-64\*01

64 sequences assigned  
23 (35.9%) exact matches, in which:  
23 unique CDR3  
5 unique J



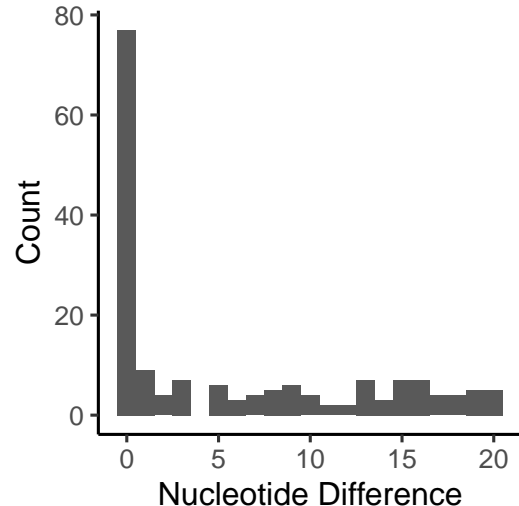
### IGHV3-72\*01

86 sequences assigned  
9 (10.5%) exact matches, in which:  
9 unique CDR3  
3 unique J



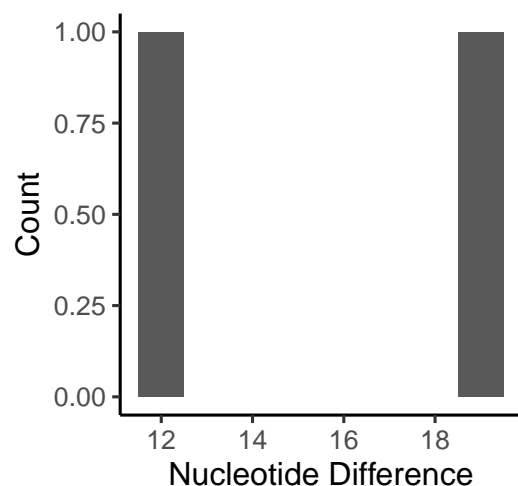
### IGHV3-64D\*06

214 sequences assigned  
77 (36%) exact matches, in which:  
77 unique CDR3  
6 unique J



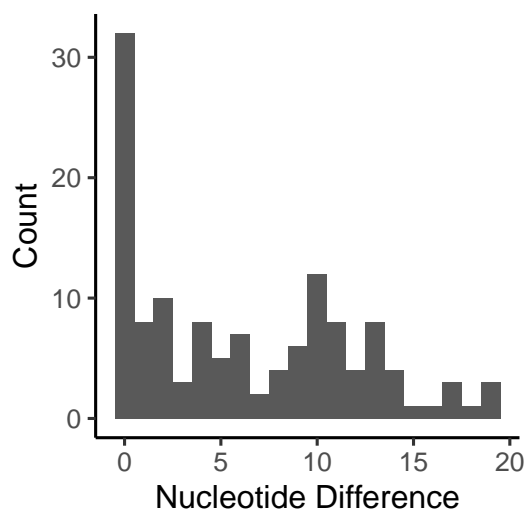
### IGHV3-64\*07

8 sequences assigned  
No exact matches.



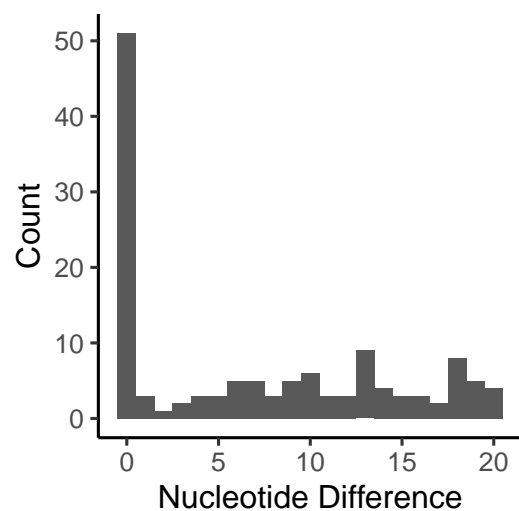
### IGHV3-73\*01

141 sequences assigned  
32 (22.7%) exact matches, in which:  
31 unique CDR3  
5 unique J



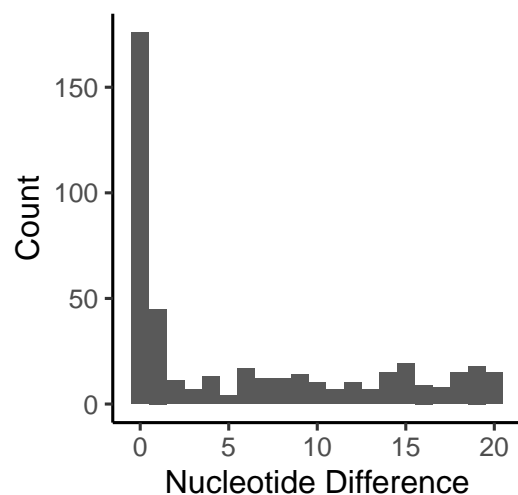
### IGHV4-4\*02

178 sequences assigned  
51 (28.7%) exact matches, in which:  
50 unique CDR3  
5 unique J



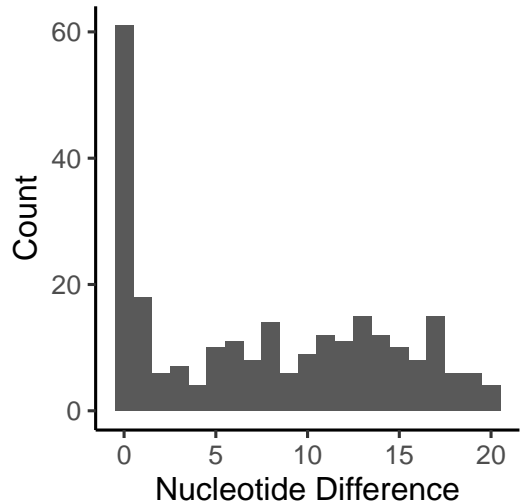
### IGHV3-66\*01

533 sequences assigned  
176 (33%) exact matches, in which:  
176 unique CDR3  
6 unique J



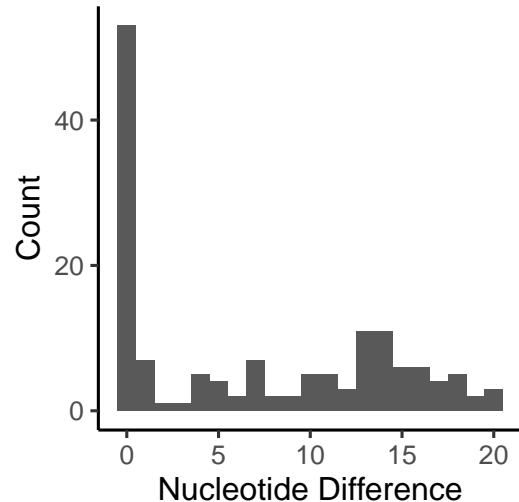
### IGHV3-74\*01

320 sequences assigned  
61 (19.1%) exact matches, in which:  
61 unique CDR3  
5 unique J



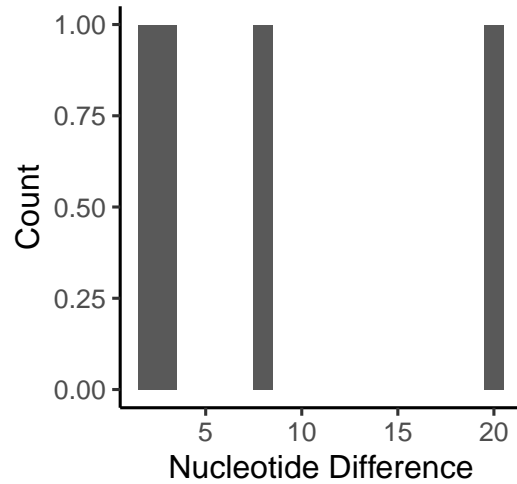
### IGHV4-4\*07

205 sequences assigned  
53 (25.9%) exact matches, in which:  
53 unique CDR3  
4 unique J



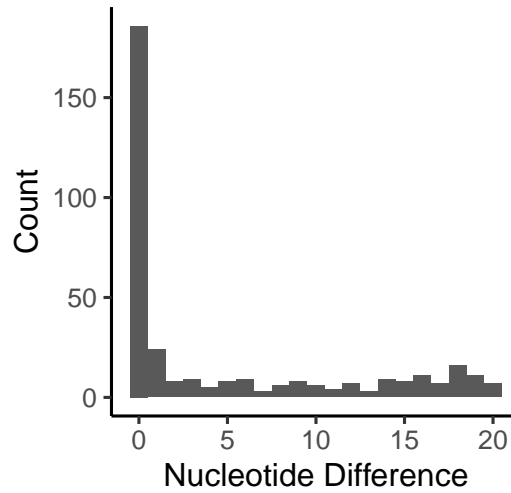
### IGHV4-28\*01

6 sequences assigned  
No exact matches.



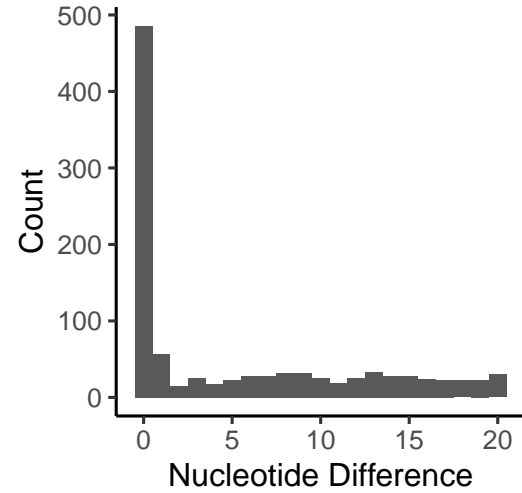
### IGHV4-31\*03

502 sequences assigned  
186 (37.1%) exact matches, in which:  
184 unique CDR3  
5 unique J



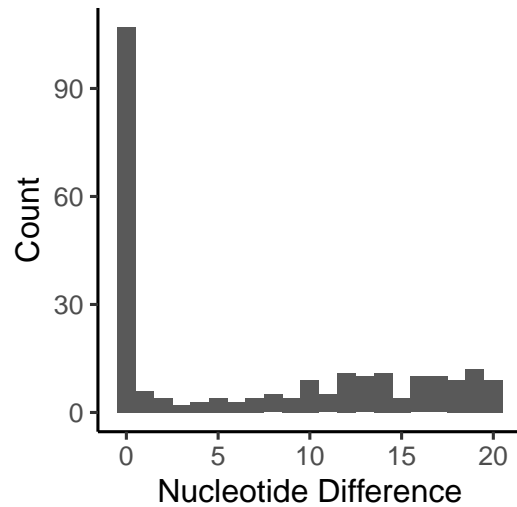
### IGHV4-39\*01

1368 sequences assigned  
486 (35.5%) exact matches, in which:  
481 unique CDR3  
6 unique J



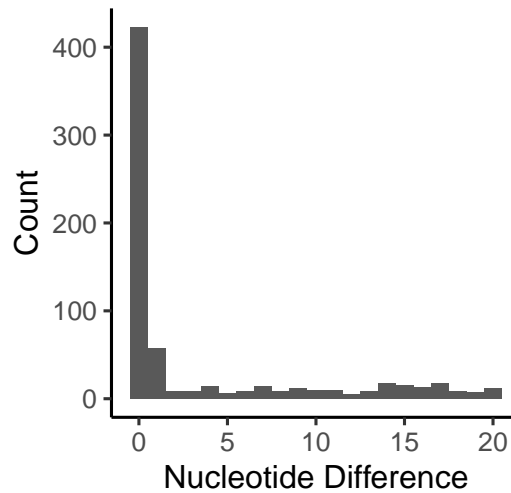
### IGHV4-30-4\*01

310 sequences assigned  
107 (34.5%) exact matches, in which:  
107 unique CDR3  
5 unique J



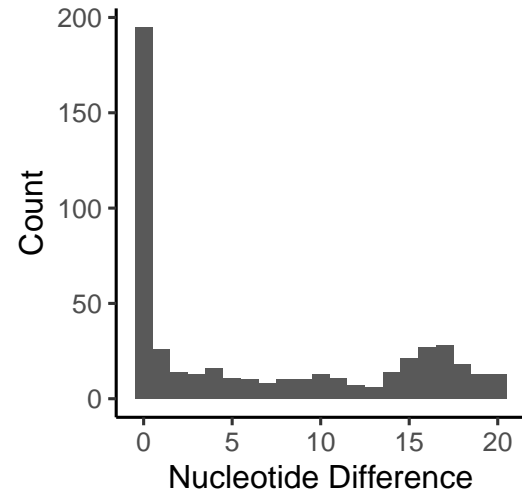
### IGHV4-34\*01

838 sequences assigned  
423 (50.5%) exact matches, in which:  
421 unique CDR3  
6 unique J



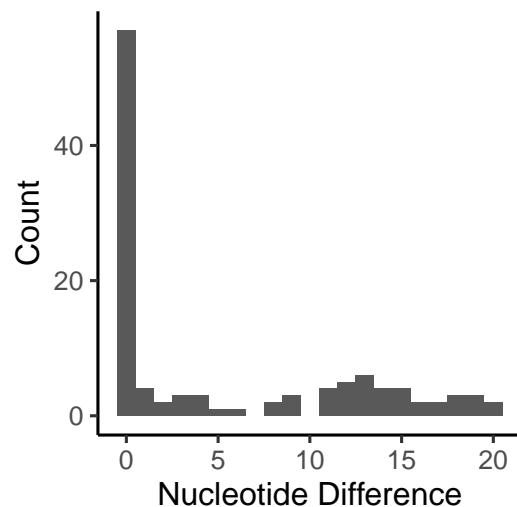
### IGHV4-59\*01

606 sequences assigned  
195 (32.2%) exact matches, in which:  
194 unique CDR3  
6 unique J



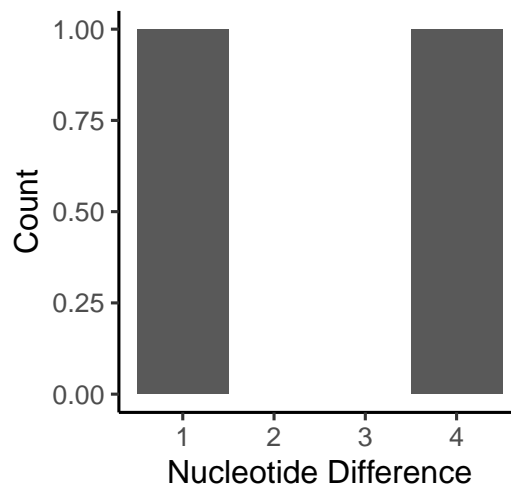
### IGHV4-30-2\*01

143 sequences assigned  
57 (39.9%) exact matches, in which:  
57 unique CDR3  
6 unique J



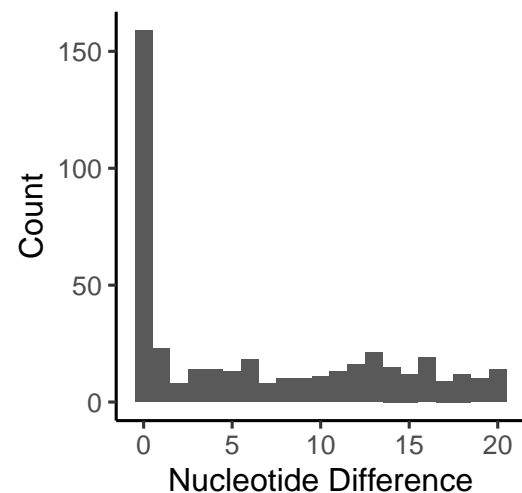
### IGHV4-38-2\*02

2 sequences assigned  
No exact matches.



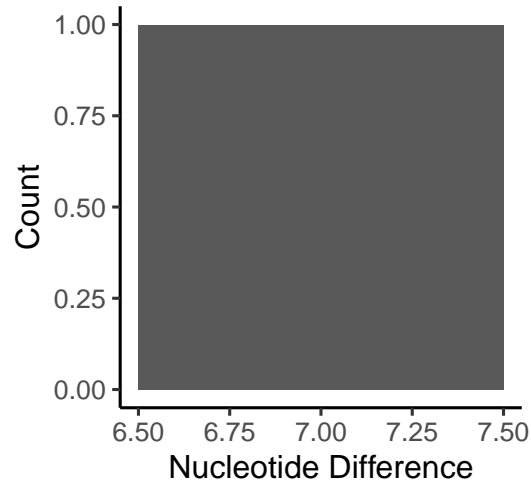
### IGHV4-59\*08

563 sequences assigned  
159 (28.2%) exact matches, in which:  
159 unique CDR3  
6 unique J



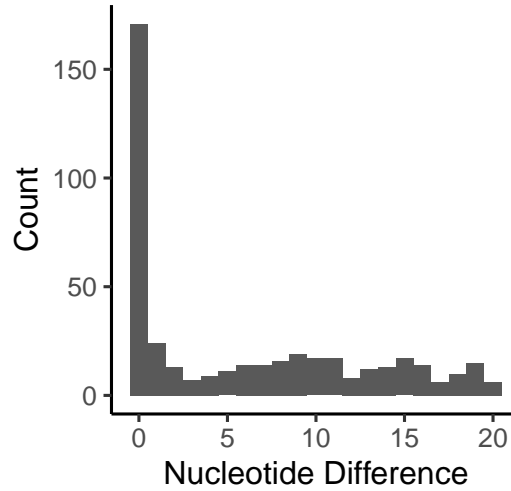
### IGHV4-61\*03

1 sequences assigned  
No exact matches.



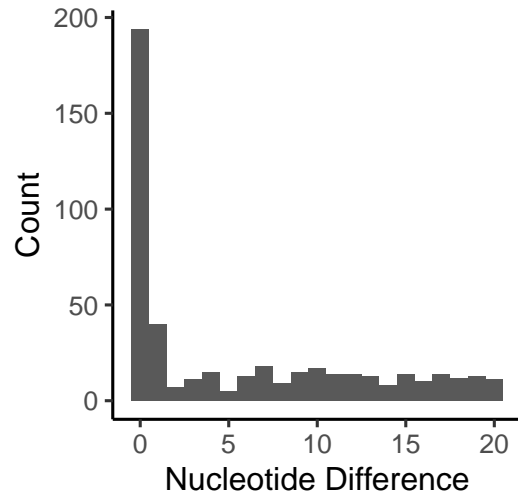
### IGHV5-51\*03

529 sequences assigned  
171 (32.3%) exact matches, in which:  
170 unique CDR3  
6 unique J



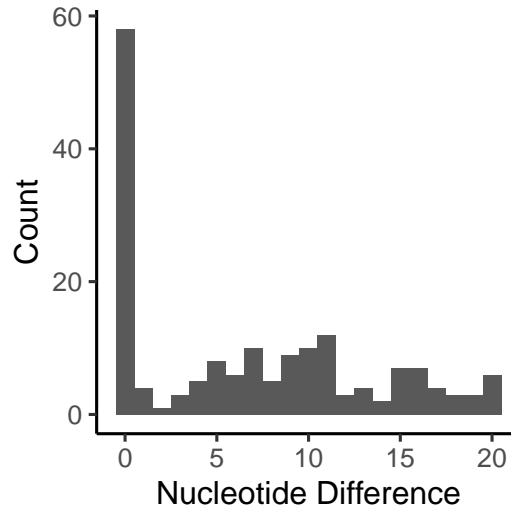
### IGHV5-10-1\*03

634 sequences assigned  
194 (30.6%) exact matches, in which:  
193 unique CDR3  
6 unique J



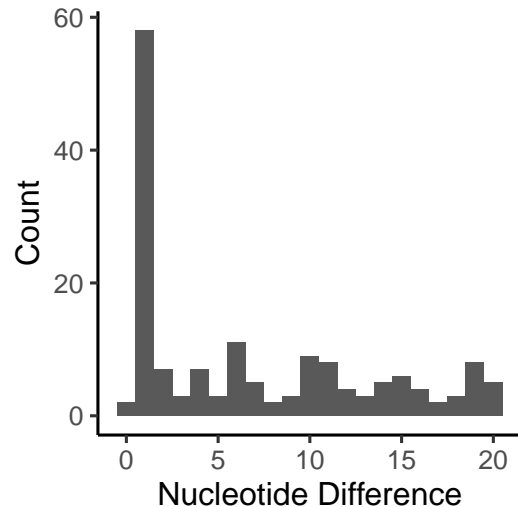
### IGHV6-1\*01

208 sequences assigned  
58 (27.9%) exact matches, in which:  
58 unique CDR3  
5 unique J



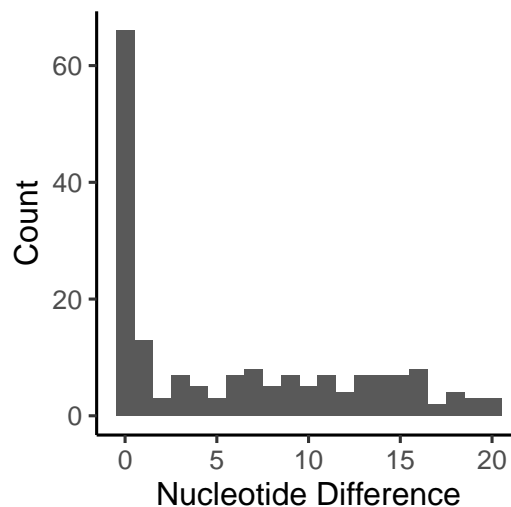
### IGHV5-51\*01

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



### IGHV7-4-1\*02

211 sequences assigned  
66 (31.3%) exact matches, in which:  
65 unique CDR3  
6 unique J





Warning – no inferred sequences found.