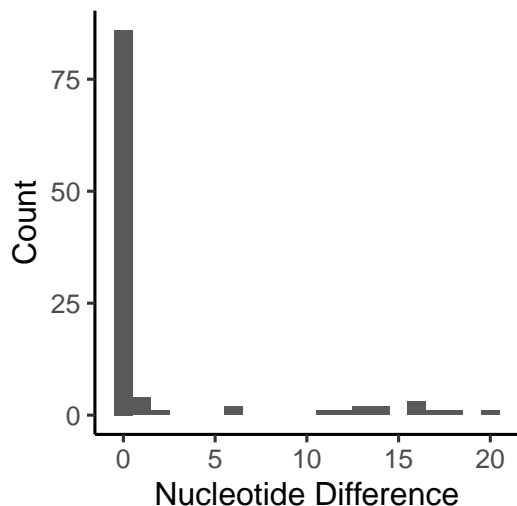


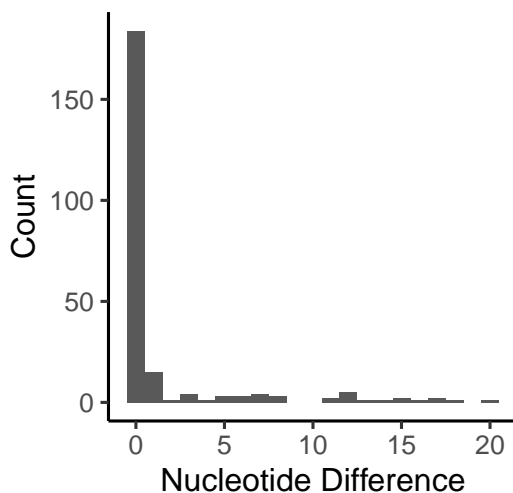
### IGHV1-2\*04

109 sequences assigned  
86 (78.9%) exact matches, in which:  
85 unique CDR3  
6 unique J



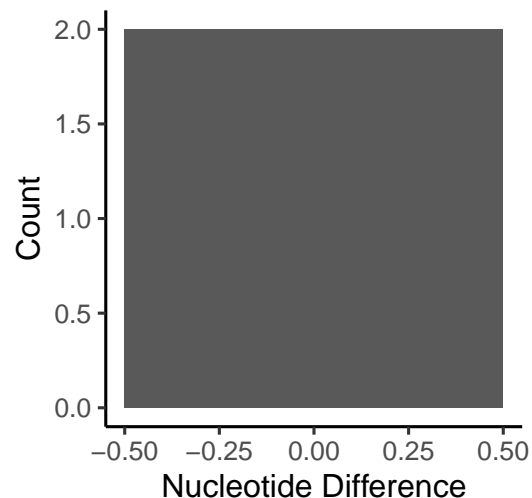
### IGHV1-8\*01

244 sequences assigned  
184 (75.4%) exact matches, in which:  
182 unique CDR3  
5 unique J



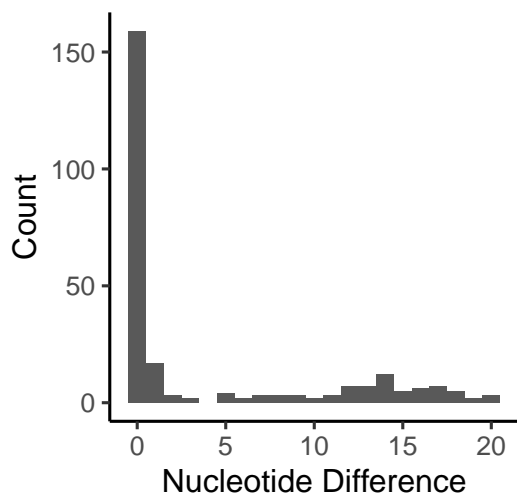
### IGHV1-45\*02

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



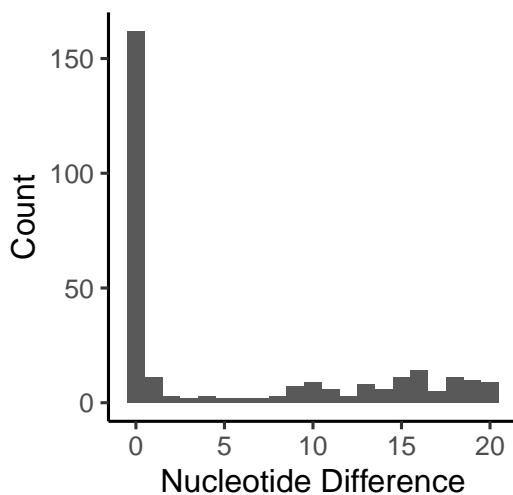
### IGHV1-2\*06

295 sequences assigned  
159 (53.9%) exact matches, in which:  
157 unique CDR3  
6 unique J



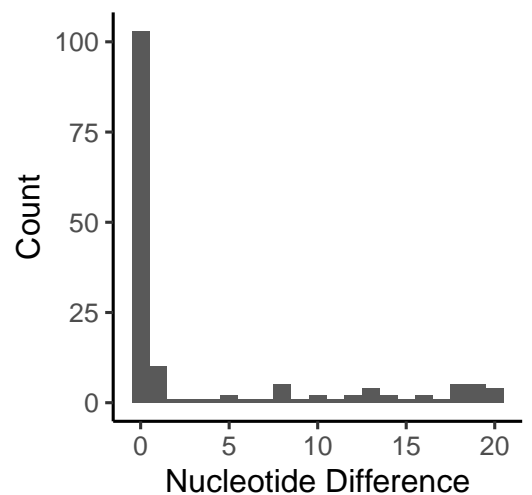
### IGHV1-18\*01

346 sequences assigned  
162 (46.8%) exact matches, in which:  
162 unique CDR3  
6 unique J



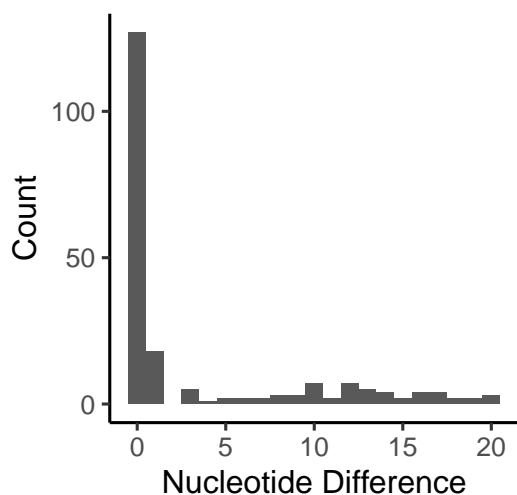
### IGHV1-46\*01

181 sequences assigned  
103 (56.9%) exact matches, in which:  
102 unique CDR3  
6 unique J



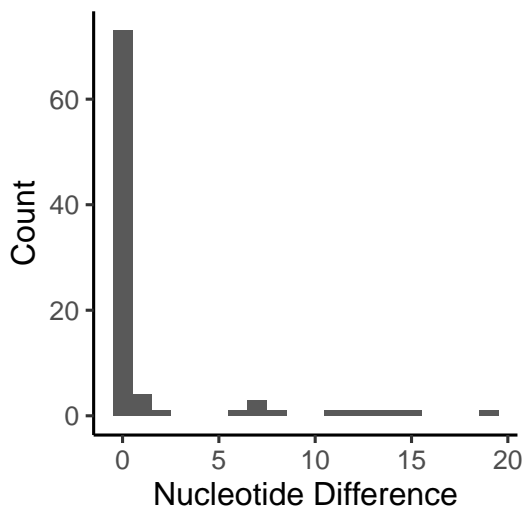
### IGHV1-3\*01

226 sequences assigned  
127 (56.2%) exact matches, in which:  
127 unique CDR3  
6 unique J



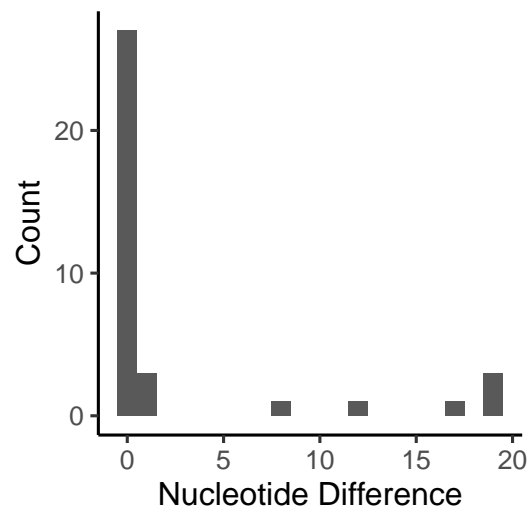
### IGHV1-24\*01

95 sequences assigned  
73 (76.8%) exact matches, in which:  
73 unique CDR3  
5 unique J



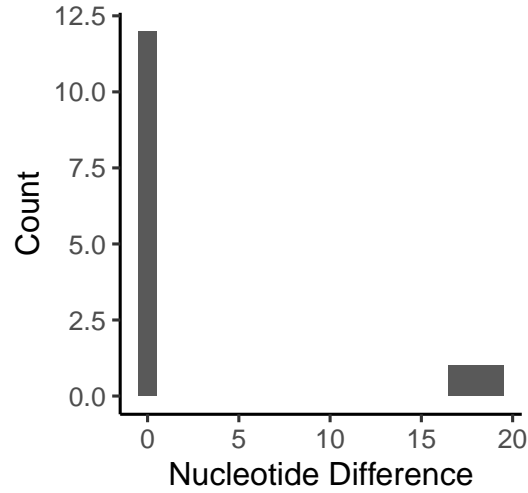
### IGHV1-58\*01

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



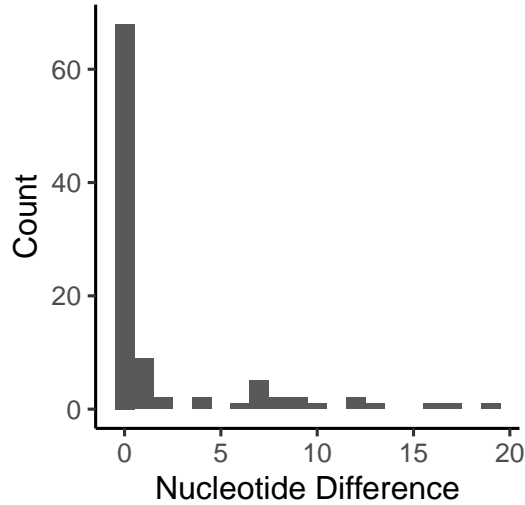
### IGHV1-69-2\*01

15 sequences assigned  
12 (80%) exact matches, in which:  
12 unique CDR3  
3 unique J



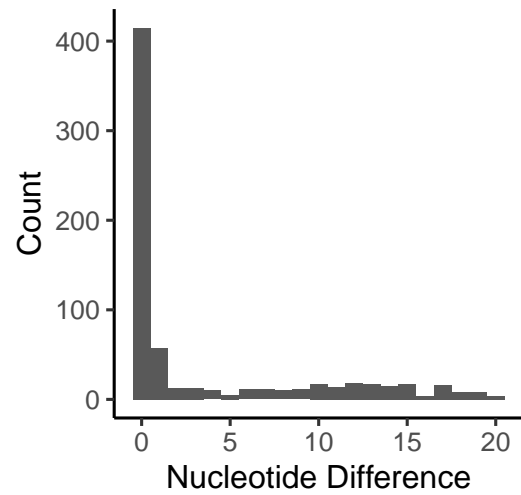
### IGHV2-26\*01

101 sequences assigned  
68 (67.3%) exact matches, in which:  
68 unique CDR3  
6 unique J



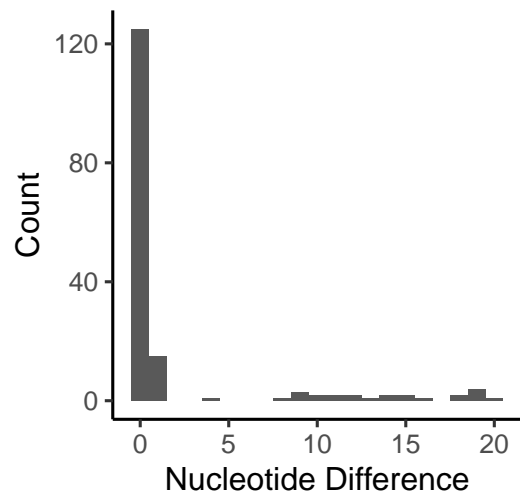
### IGHV3-9\*01

738 sequences assigned  
415 (56.2%) exact matches, in which:  
410 unique CDR3  
6 unique J



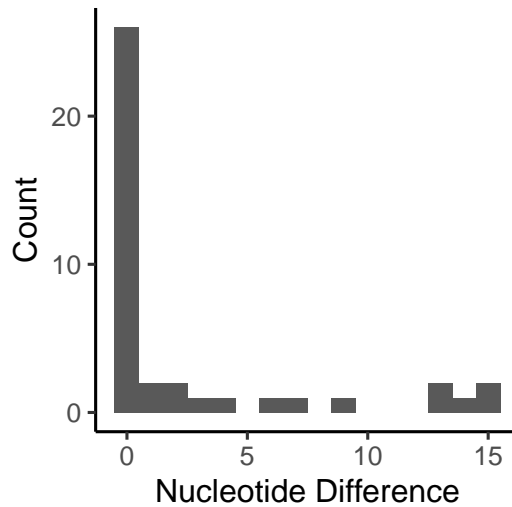
### IGHV1-69\*06

201 sequences assigned  
125 (62.2%) exact matches, in which:  
124 unique CDR3  
5 unique J



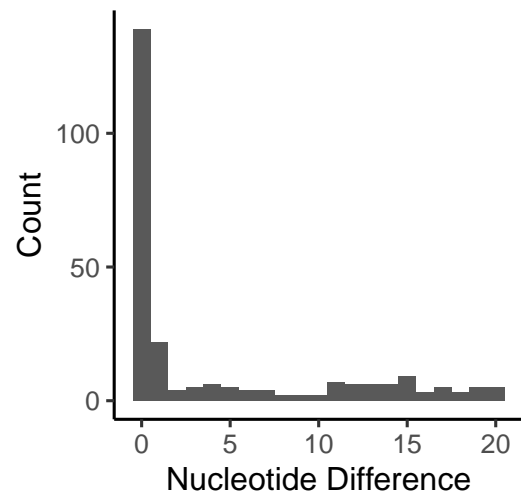
### IGHV2-70\*01

43 sequences assigned  
26 (60.5%) exact matches, in which:  
26 unique CDR3  
5 unique J



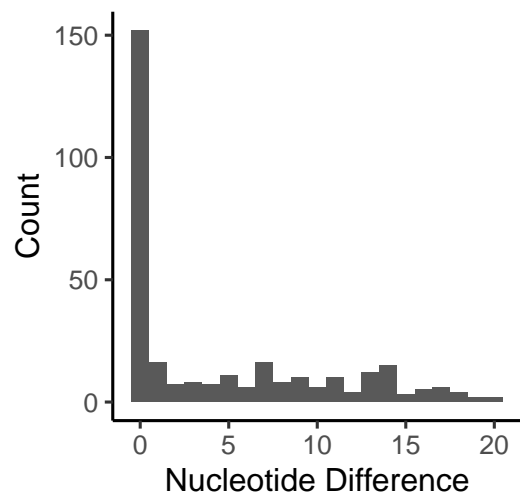
### IGHV3-11\*01

275 sequences assigned  
139 (50.5%) exact matches, in which:  
138 unique CDR3  
6 unique J



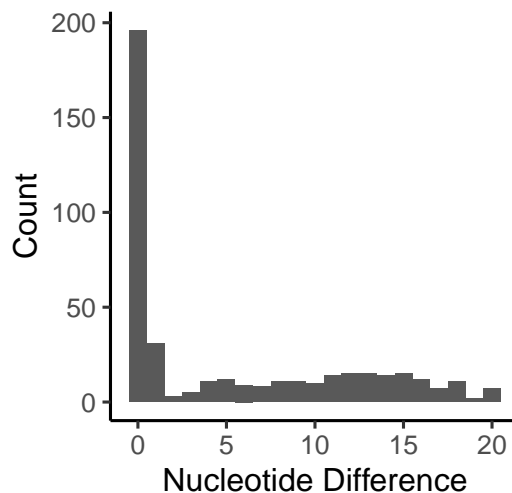
### IGHV2-5\*02

345 sequences assigned  
152 (44.1%) exact matches, in which:  
151 unique CDR3  
5 unique J



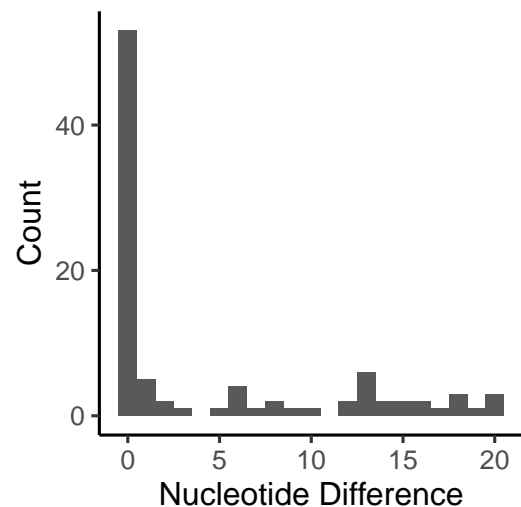
### IGHV3-7\*01

452 sequences assigned  
196 (43.4%) exact matches, in which:  
192 unique CDR3  
6 unique J



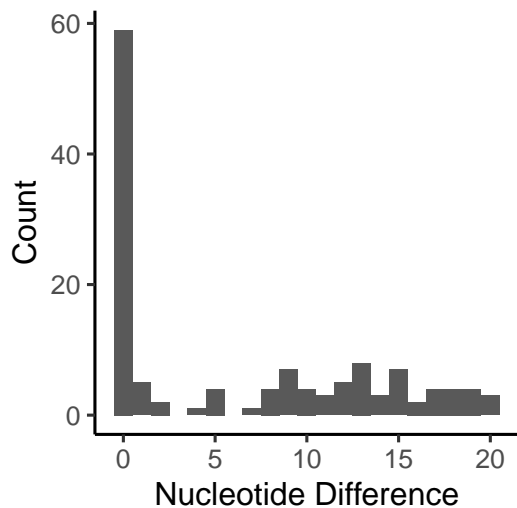
### IGHV3-13\*01

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



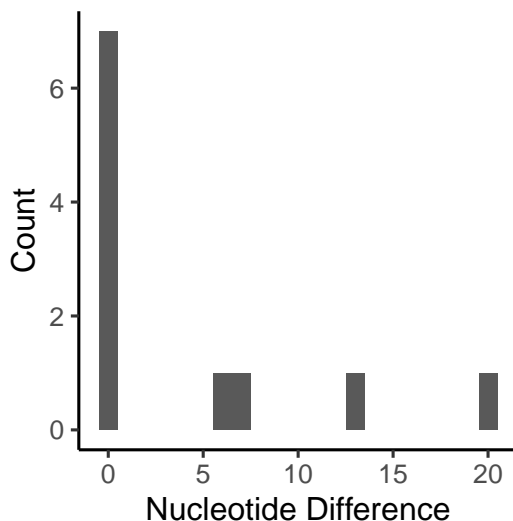
### IGHV3-15\*01

147 sequences assigned  
59 (40.1%) exact matches, in which:  
58 unique CDR3  
5 unique J



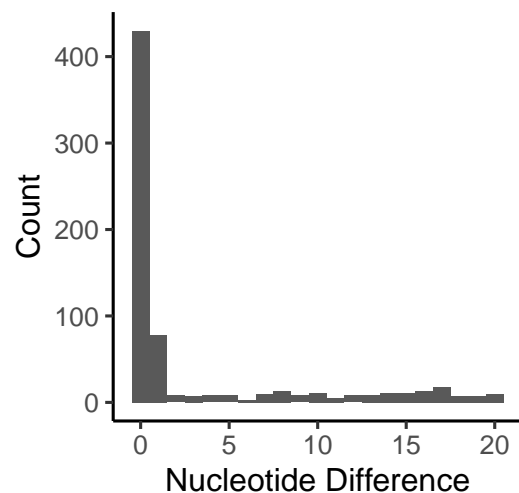
### IGHV3-20\*04

12 sequences assigned  
7 (58.3%) exact matches, in which:  
7 unique CDR3  
3 unique J



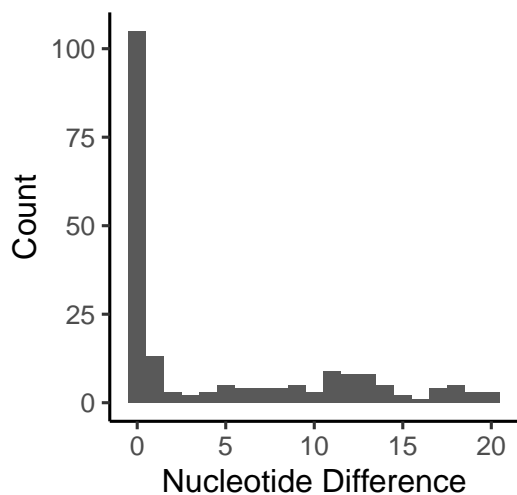
### IGHV3-33\*01

734 sequences assigned  
430 (58.6%) exact matches, in which:  
423 unique CDR3  
6 unique J



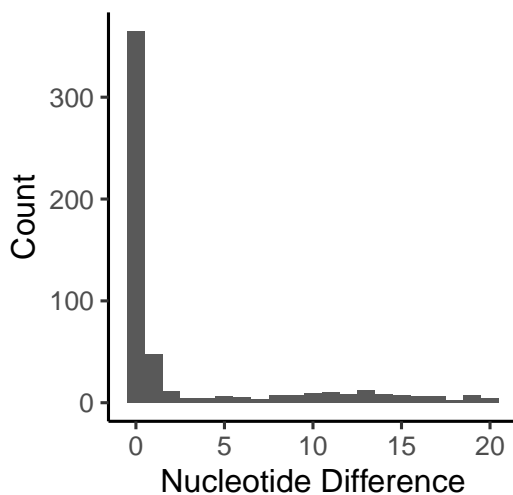
### IGHV3-15\*07

221 sequences assigned  
105 (47.5%) exact matches, in which:  
103 unique CDR3  
6 unique J



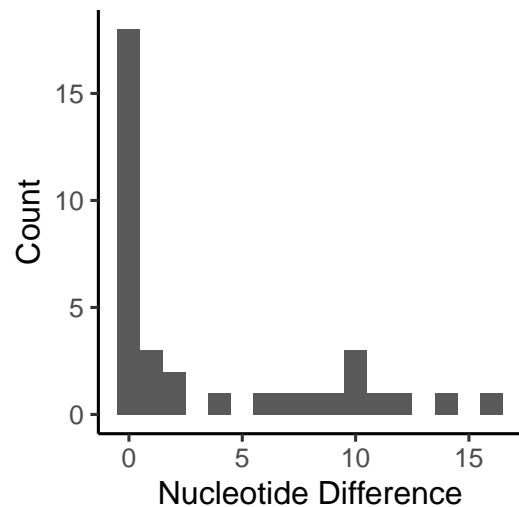
### IGHV3-21\*01

565 sequences assigned  
365 (64.6%) exact matches, in which:  
359 unique CDR3  
6 unique J



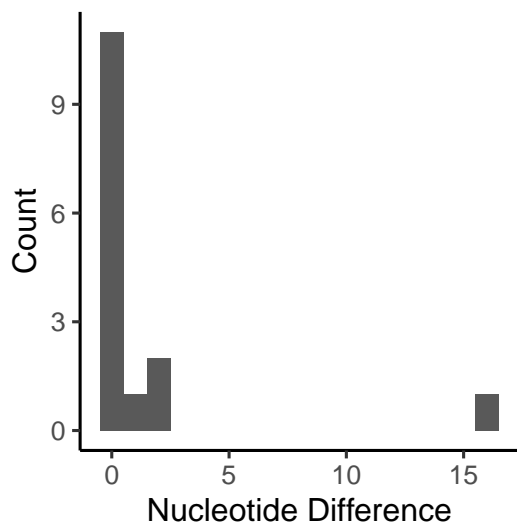
### IGHV3-43\*01

36 sequences assigned  
18 (50%) exact matches, in which:  
18 unique CDR3  
3 unique J



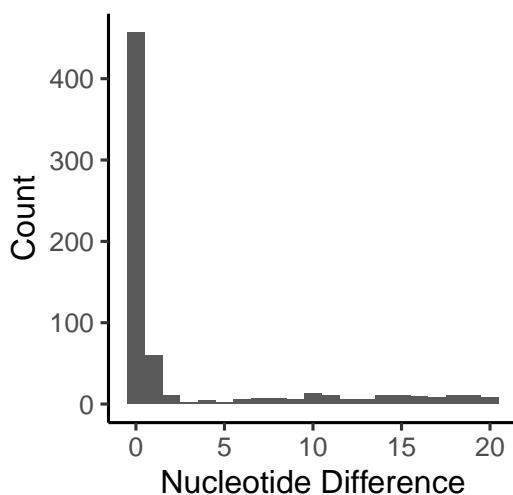
### IGHV3-20\*01

16 sequences assigned  
11 (68.8%) exact matches, in which:  
11 unique CDR3  
3 unique J



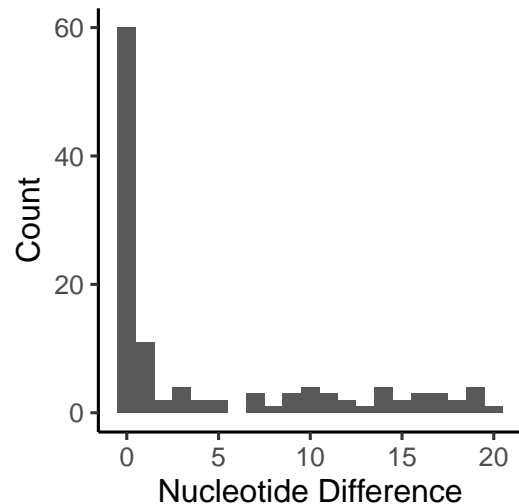
### IGHV3-30-3\*01

722 sequences assigned  
457 (63.3%) exact matches, in which:  
448 unique CDR3  
6 unique J



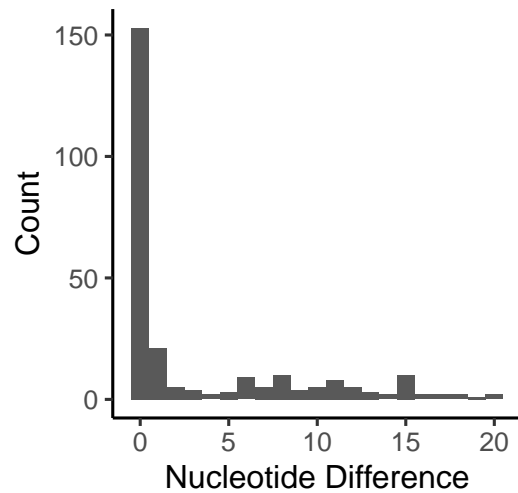
### IGHV3-48\*02

123 sequences assigned  
60 (48.8%) exact matches, in which:  
59 unique CDR3  
4 unique J



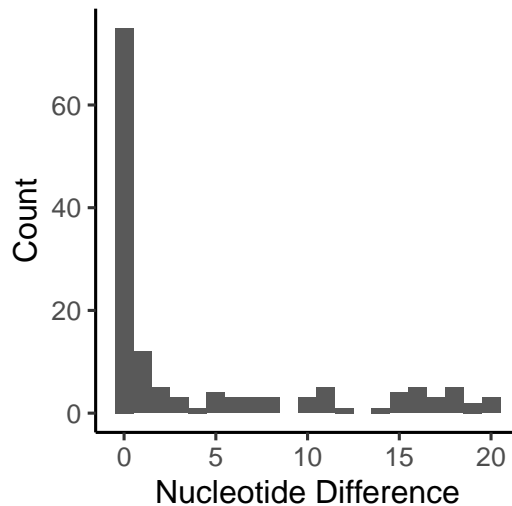
### IGHV3-48\*03

278 sequences assigned  
153 (55%) exact matches, in which:  
152 unique CDR3  
6 unique J



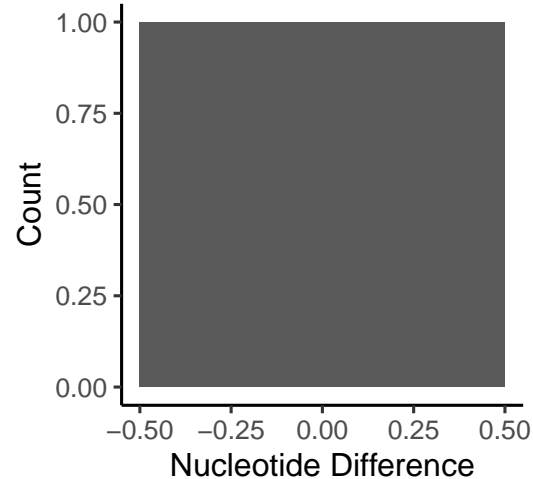
### IGHV3-53\*01

155 sequences assigned  
75 (48.4%) exact matches, in which:  
75 unique CDR3  
5 unique J



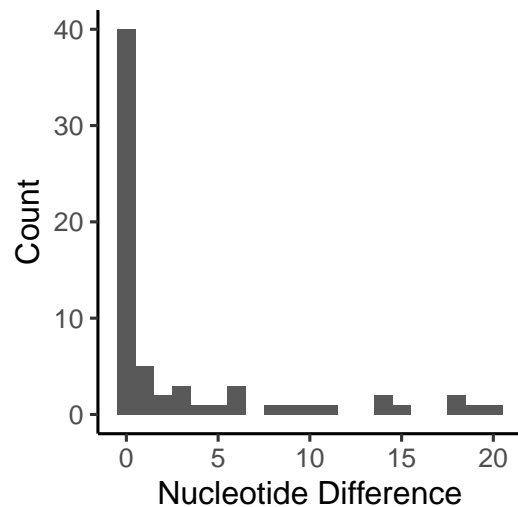
### IGHV3-69-1\*02

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



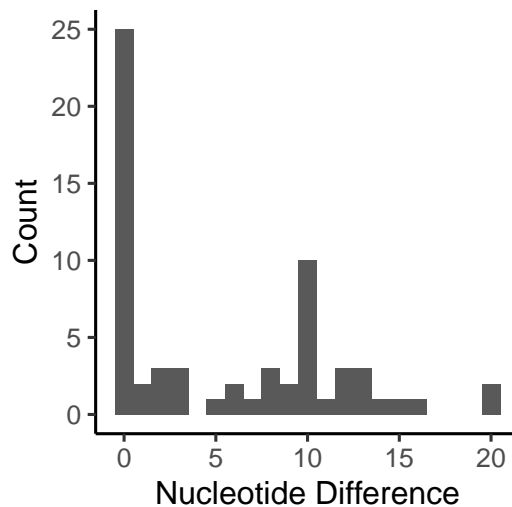
### IGHV3-49\*04

73 sequences assigned  
40 (54.8%) exact matches, in which:  
40 unique CDR3  
5 unique J



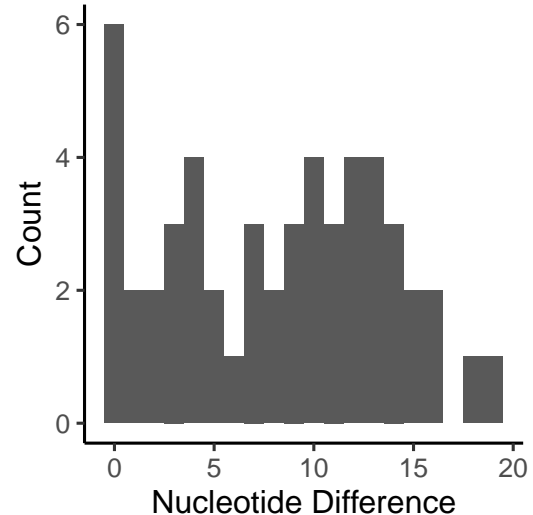
### IGHV3-53\*02

77 sequences assigned  
25 (32.5%) exact matches, in which:  
25 unique CDR3  
5 unique J



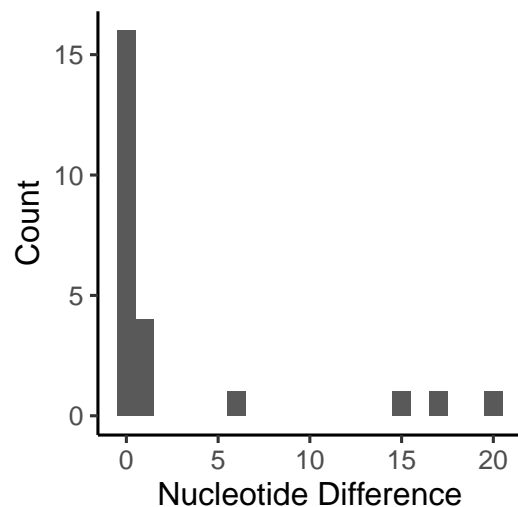
### IGHV3-72\*01

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



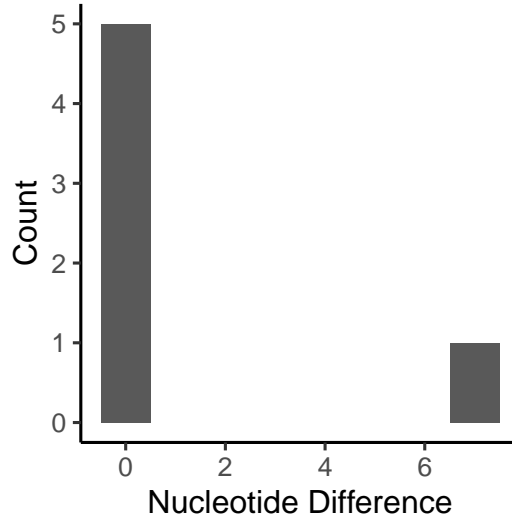
### IGHV3-49\*05

28 sequences assigned  
16 (57.1%) exact matches, in which:  
15 unique CDR3  
3 unique J



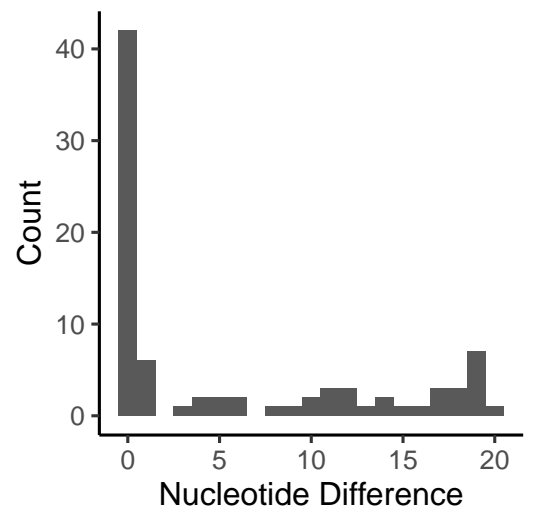
### IGHV3-64\*02

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



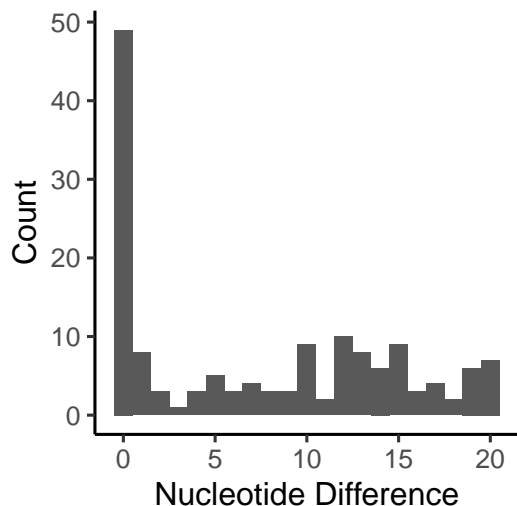
### IGHV3-73\*02

87 sequences assigned  
42 (48.3%) exact matches, in which:  
42 unique CDR3  
5 unique J



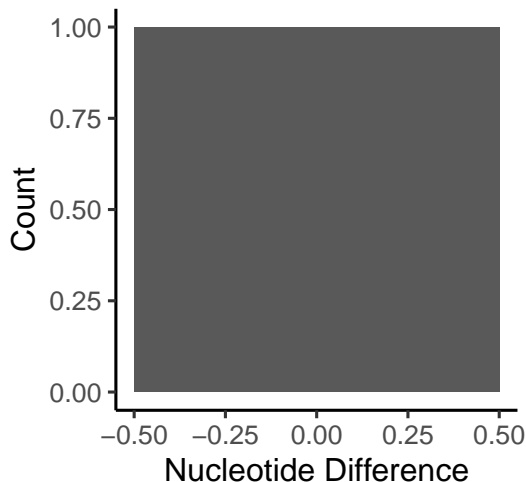
### IGHV3-74\*01

168 sequences assigned  
49 (29.2%) exact matches, in which:  
49 unique CDR3  
4 unique J



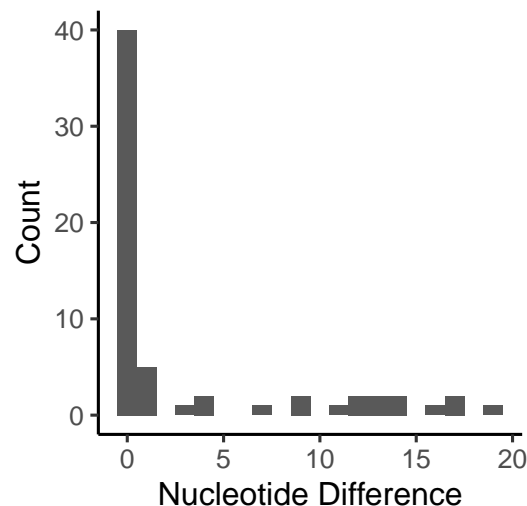
### IGHV4-28\*01

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



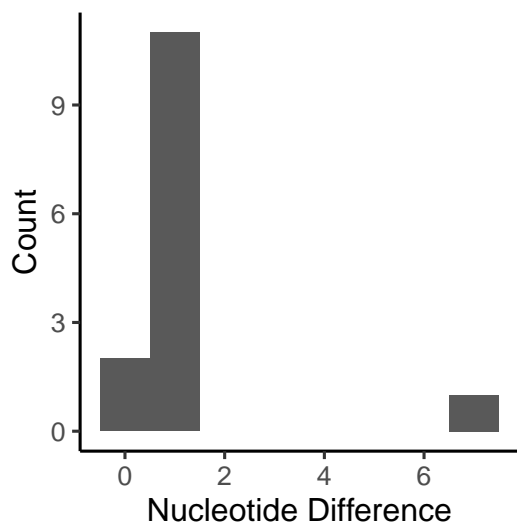
### IGHV4-30-4\*01

71 sequences assigned  
40 (56.3%) exact matches, in which:  
40 unique CDR3  
4 unique J



### IGHV3-43D\*04

14 sequences assigned  
2 (14.3%) exact matches, in which:  
2 unique CDR3  
1 unique J



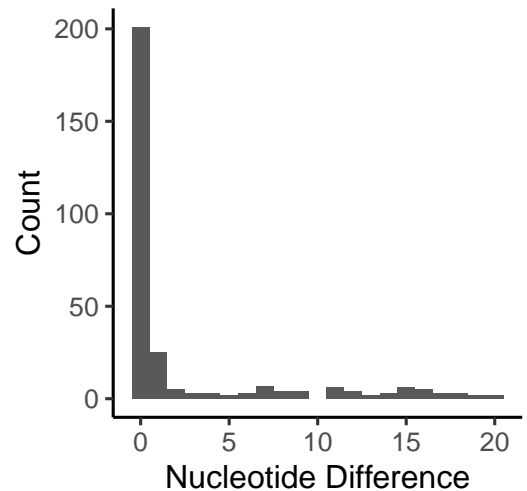
### IGHV4-28\*03

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



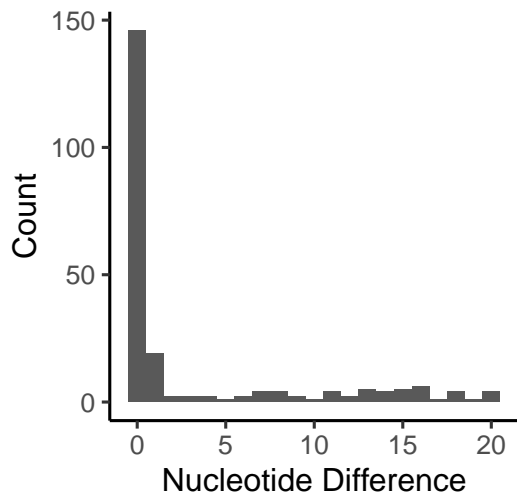
### IGHV4-31\*03

325 sequences assigned  
201 (61.8%) exact matches, in which:  
199 unique CDR3  
6 unique J



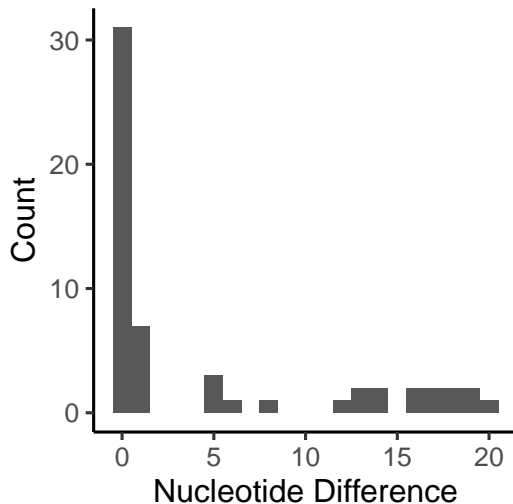
### IGHV4-4\*02

233 sequences assigned  
146 (62.7%) exact matches, in which:  
145 unique CDR3  
6 unique J



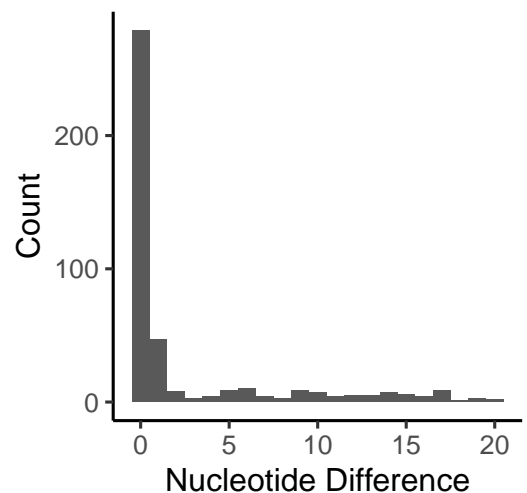
### IGHV4-30-2\*01

61 sequences assigned  
31 (50.8%) exact matches, in which:  
31 unique CDR3  
5 unique J



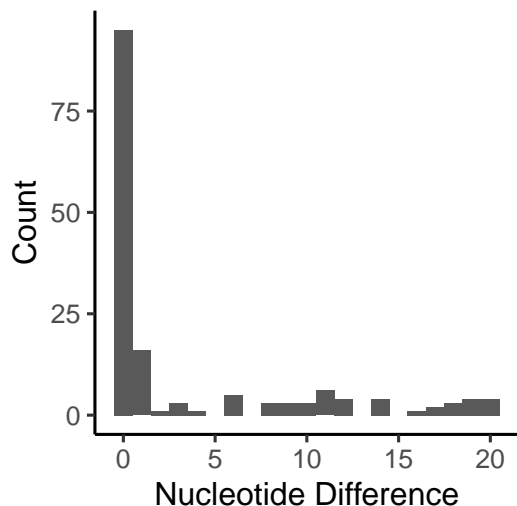
### IGHV4-34\*01

456 sequences assigned  
279 (61.2%) exact matches, in which:  
277 unique CDR3  
6 unique J



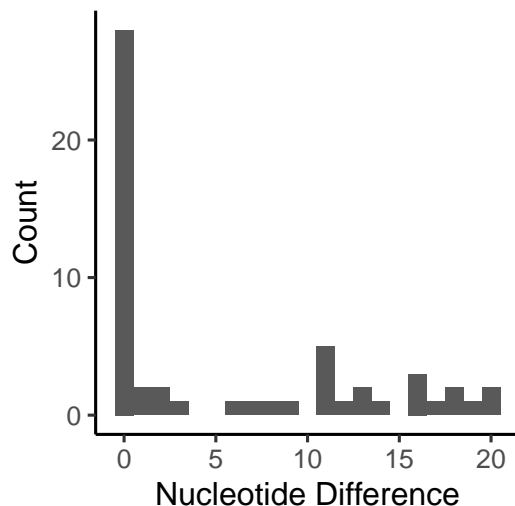
### IGHV4-38-2\*02\_A70G

176 sequences assigned  
95 (54%) exact matches, in which:  
95 unique CDR3  
6 unique J



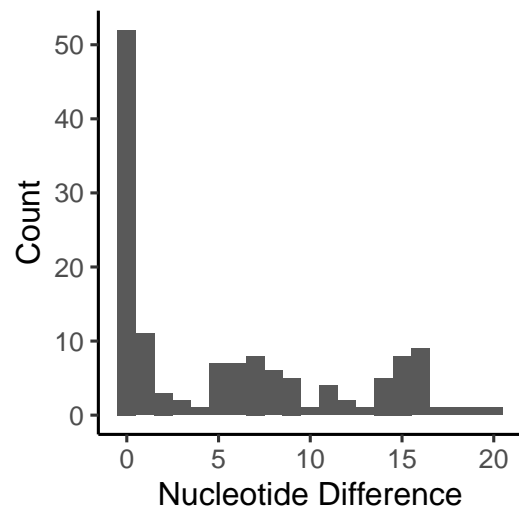
### IGHV4-61\*01

62 sequences assigned  
28 (45.2%) exact matches, in which:  
28 unique CDR3  
5 unique J



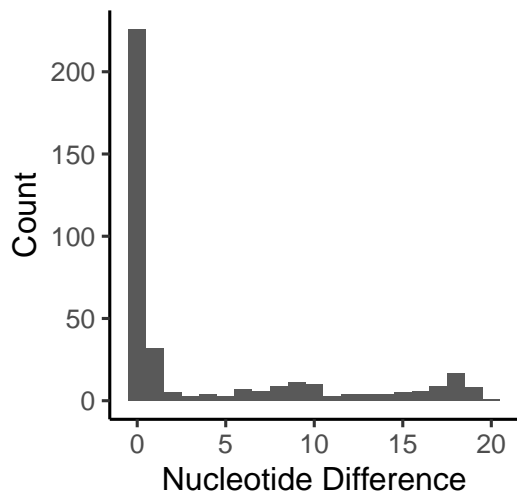
### IGHV7-4-1\*02

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



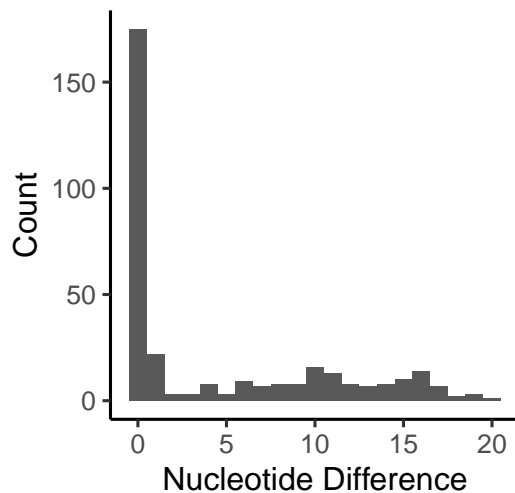
### IGHV4-39\*01

459 sequences assigned  
226 (49.2%) exact matches, in which:  
224 unique CDR3  
6 unique J



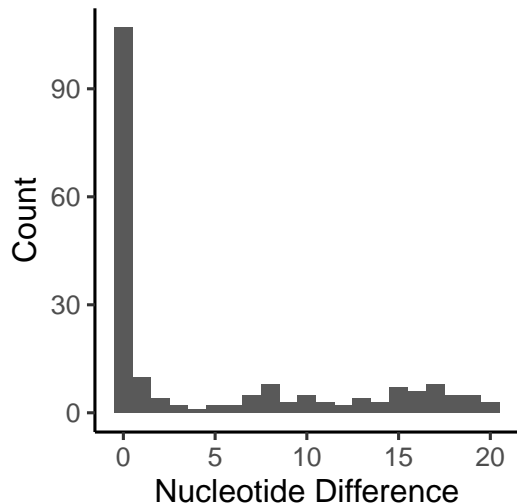
### IGHV5-51\*01

366 sequences assigned  
175 (47.8%) exact matches, in which:  
174 unique CDR3  
6 unique J



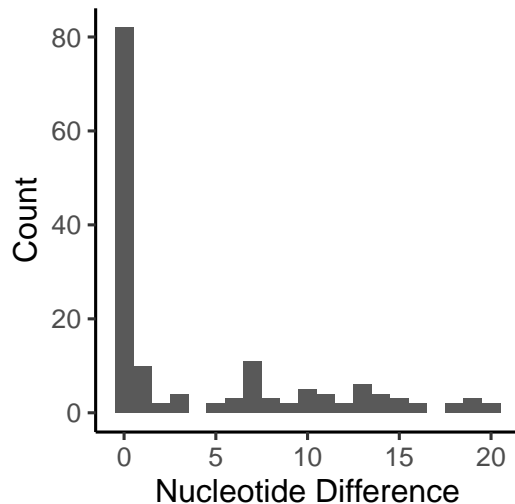
### IGHV4-59\*01

233 sequences assigned  
107 (45.9%) exact matches, in which:  
106 unique CDR3  
6 unique J



### IGHV6-1\*01

159 sequences assigned  
82 (51.6%) exact matches, in which:  
81 unique CDR3  
5 unique J





Warning – no inferred sequences found.