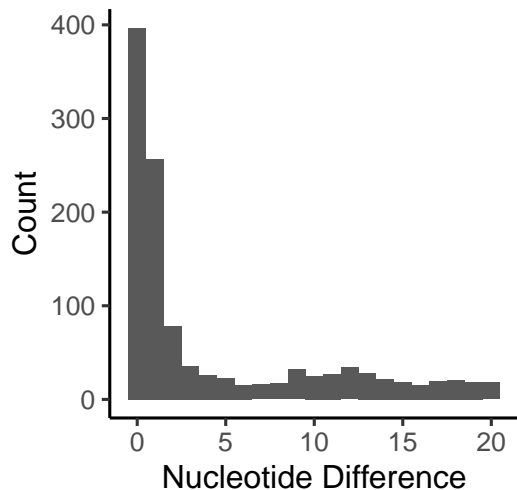


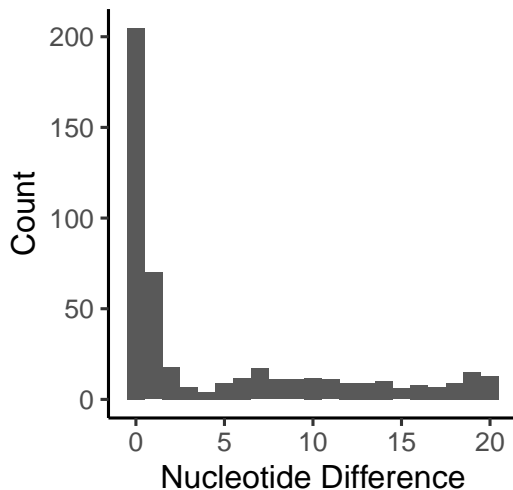
### IGHV1–2\*02

1493 sequences assigned  
397 (26.6%) exact matches, in which:  
387 unique CDR3  
6 unique J



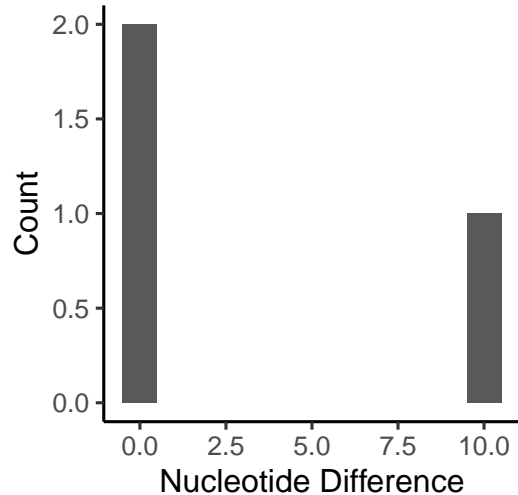
### IGHV1–18\*01

746 sequences assigned  
205 (27.5%) exact matches, in which:  
203 unique CDR3  
6 unique J



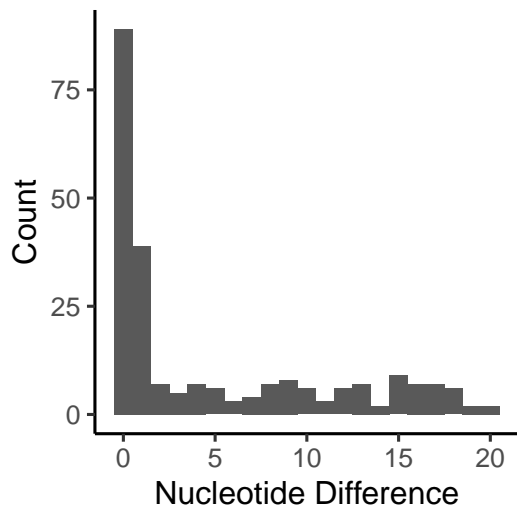
### IGHV1–45\*02

23 sequences assigned  
2 (8.7%) exact matches, in which:  
2 unique CDR3  
2 unique J



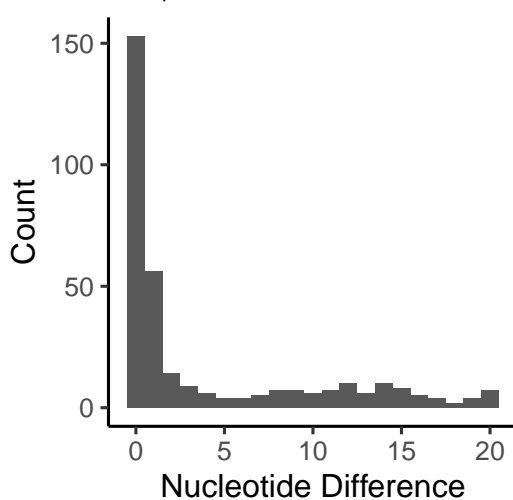
### IGHV1–3\*01

346 sequences assigned  
89 (25.7%) exact matches, in which:  
89 unique CDR3  
5 unique J



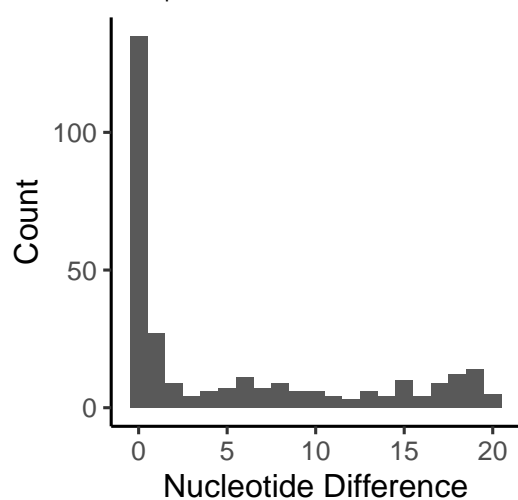
### IGHV1–18\*04

475 sequences assigned  
153 (32.2%) exact matches, in which:  
152 unique CDR3  
5 unique J



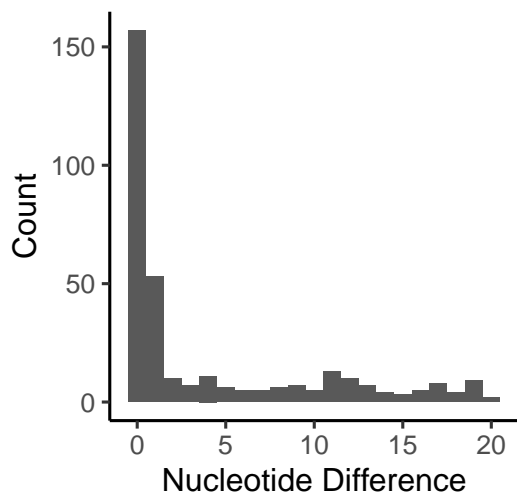
### IGHV1–46\*01

427 sequences assigned  
135 (31.6%) exact matches, in which:  
135 unique CDR3  
6 unique J



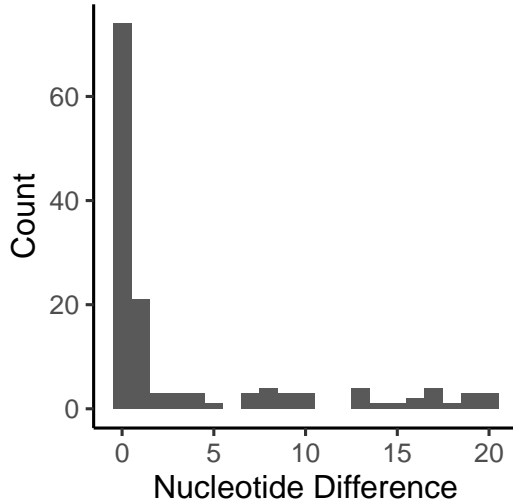
### IGHV1–8\*01

386 sequences assigned  
157 (40.7%) exact matches, in which:  
157 unique CDR3  
6 unique J



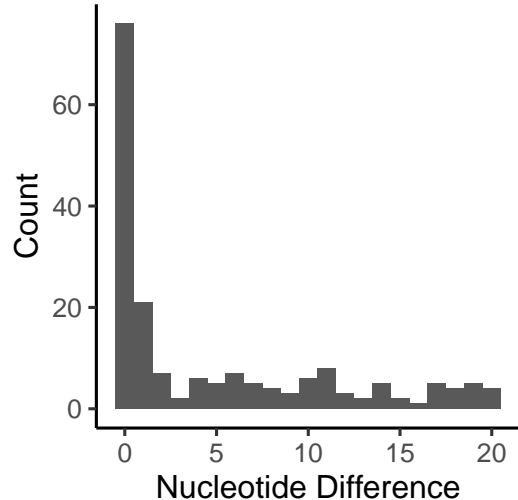
### IGHV1–24\*01

189 sequences assigned  
74 (39.2%) exact matches, in which:  
74 unique CDR3  
6 unique J



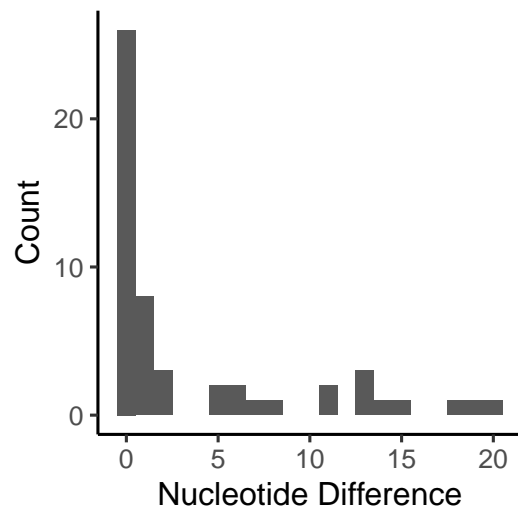
### IGHV1–46\*03

213 sequences assigned  
76 (35.7%) exact matches, in which:  
76 unique CDR3  
6 unique J



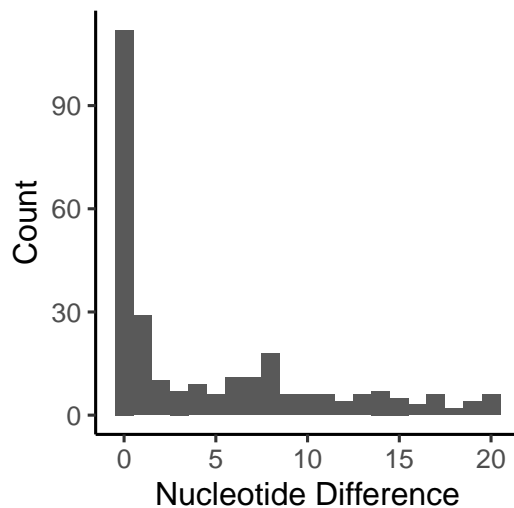
### IGHV1-58\*01

62 sequences assigned  
26 (41.9%) exact matches, in which:  
26 unique CDR3  
6 unique J



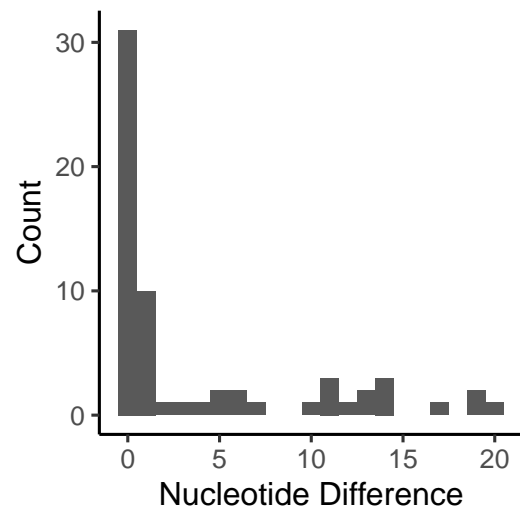
### IGHV2-5\*01

311 sequences assigned  
112 (36%) exact matches, in which:  
112 unique CDR3  
6 unique J



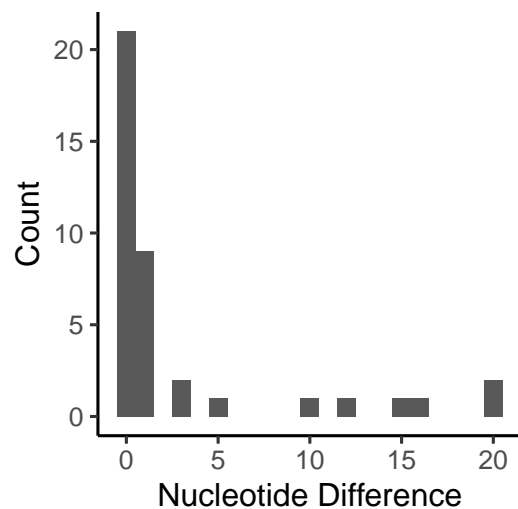
### IGHV2-70\*01

77 sequences assigned  
31 (40.3%) exact matches, in which:  
31 unique CDR3  
5 unique J



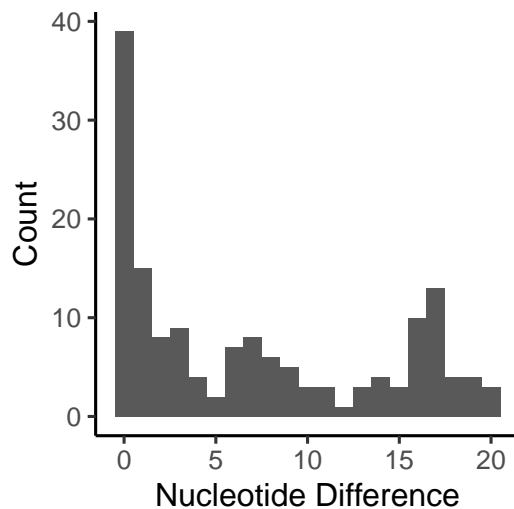
### IGHV1-58\*02

47 sequences assigned  
21 (44.7%) exact matches, in which:  
21 unique CDR3  
5 unique J



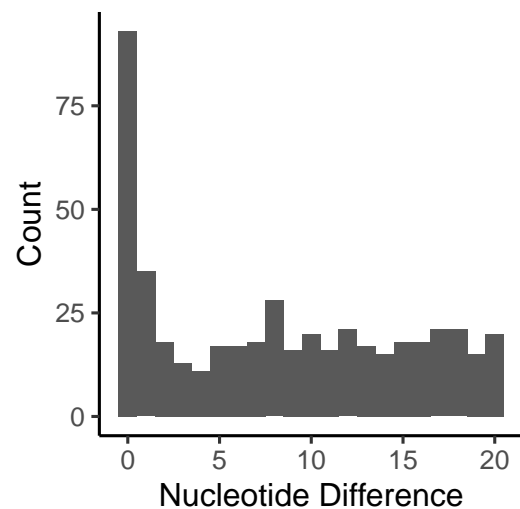
### IGHV2-5\*02

228 sequences assigned  
39 (17.1%) exact matches, in which:  
39 unique CDR3  
5 unique J



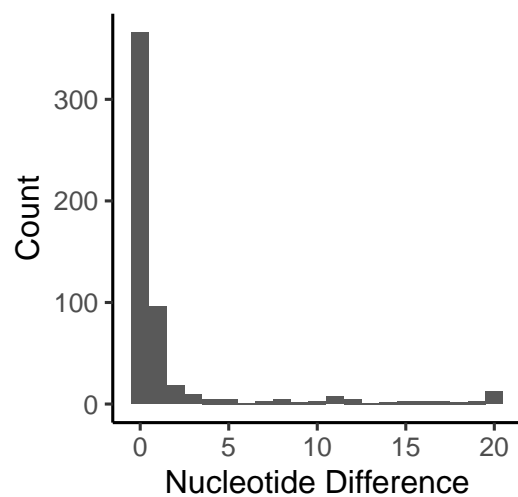
### IGHV3-7\*01

611 sequences assigned  
93 (15.2%) exact matches, in which:  
93 unique CDR3  
6 unique J



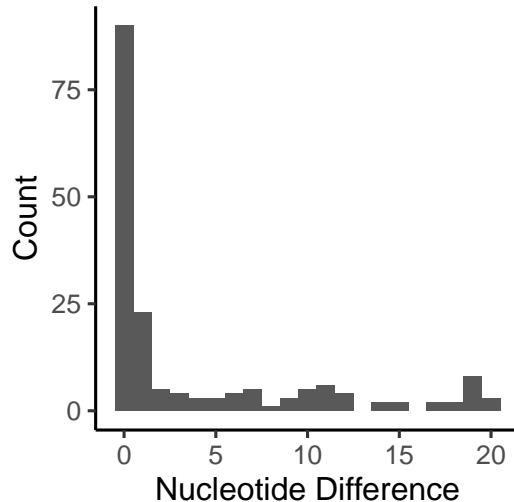
### IGHV1-69\*10

745 sequences assigned  
366 (49.1%) exact matches, in which:  
364 unique CDR3  
6 unique J



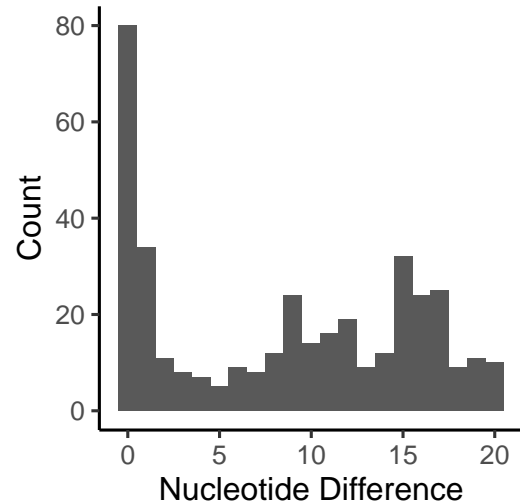
### IGHV2-26\*01

219 sequences assigned  
90 (41.1%) exact matches, in which:  
90 unique CDR3  
5 unique J



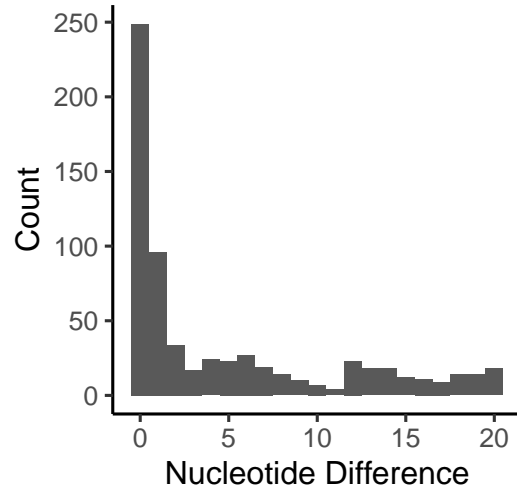
### IGHV3-7\*03

519 sequences assigned  
80 (15.4%) exact matches, in which:  
80 unique CDR3  
5 unique J



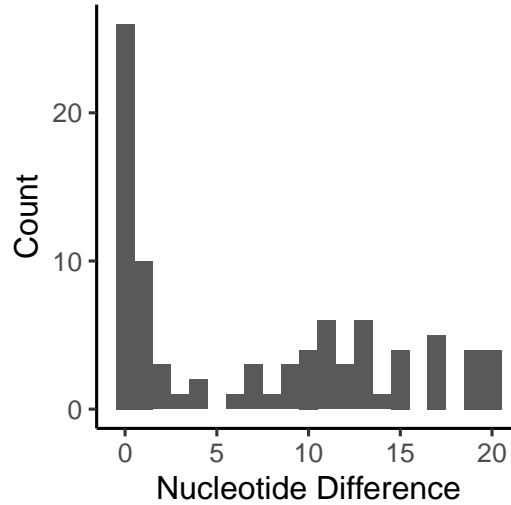
### IGHV3-9\*01

882 sequences assigned  
249 (28.2%) exact matches, in which:  
249 unique CDR3  
6 unique J



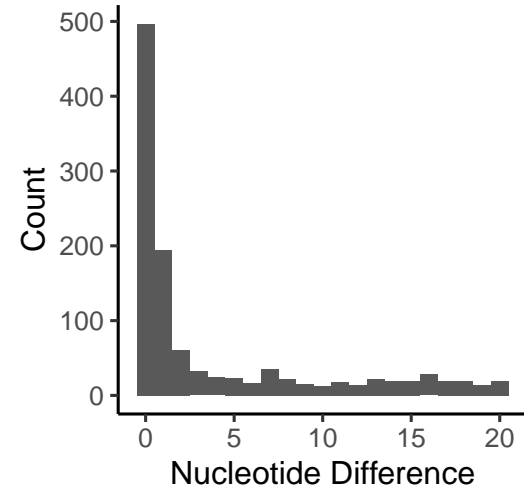
### IGHV3-13\*01

115 sequences assigned  
26 (22.6%) exact matches, in which:  
26 unique CDR3  
5 unique J



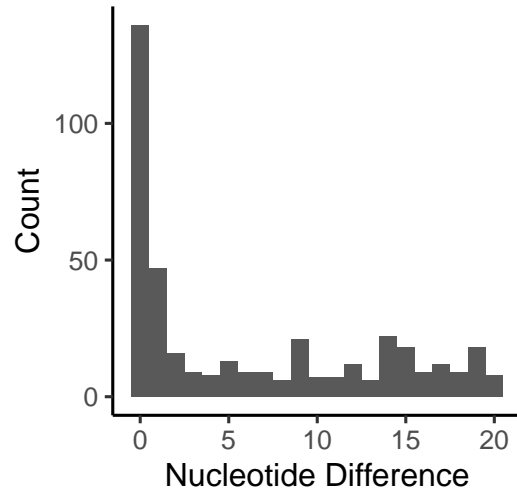
### IGHV3-21\*01

1476 sequences assigned  
497 (33.7%) exact matches, in which:  
497 unique CDR3  
6 unique J



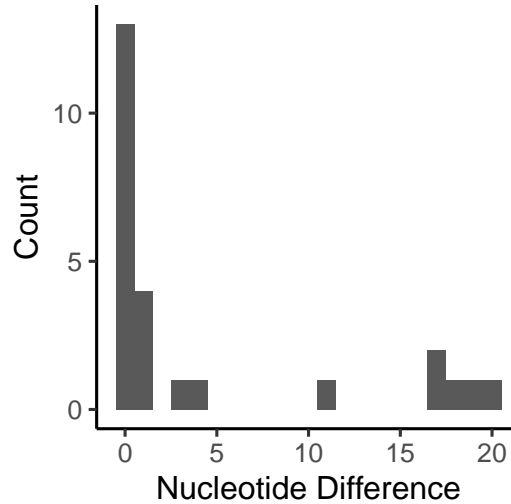
### IGHV3-11\*01

530 sequences assigned  
136 (25.7%) exact matches, in which:  
133 unique CDR3  
6 unique J



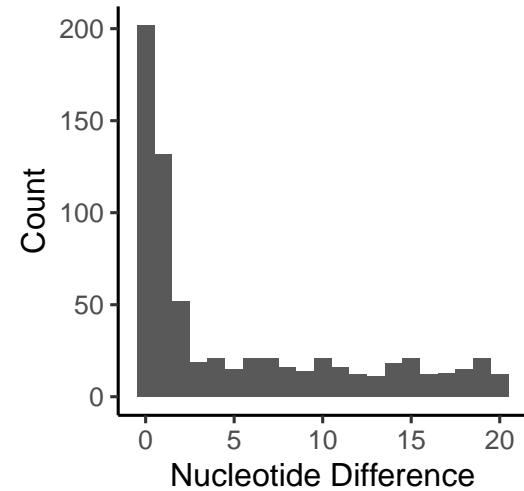
### IGHV3-13\*05

26 sequences assigned  
13 (50%) exact matches, in which:  
13 unique CDR3  
4 unique J



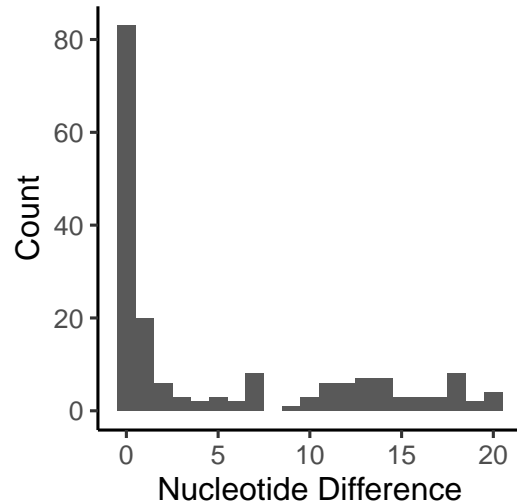
### IGHV3-30\*01

876 sequences assigned  
202 (23.1%) exact matches, in which:  
202 unique CDR3  
6 unique J



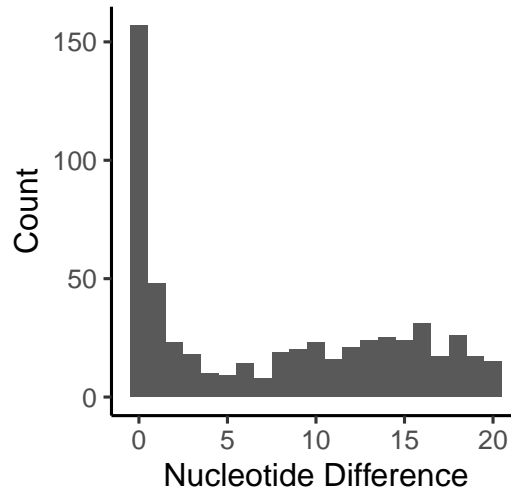
### IGHV3-11\*06

438 sequences assigned  
83 (18.9%) exact matches, in which:  
83 unique CDR3  
6 unique J



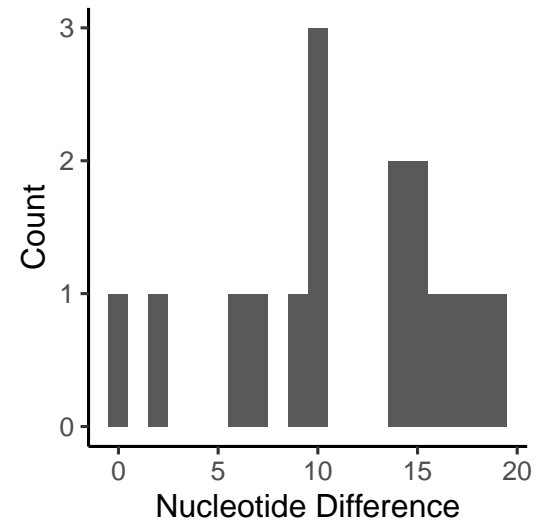
### IGHV3-15\*01

784 sequences assigned  
157 (20%) exact matches, in which:  
156 unique CDR3  
6 unique J



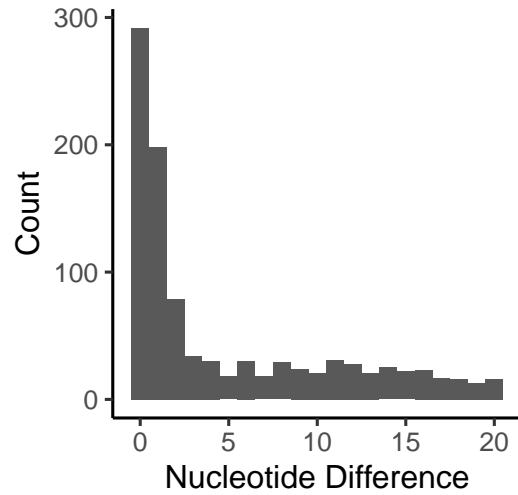
### IGHV3-30-3\*03

52 sequences assigned  
1 (1.9%) exact matches, in which:  
1 unique CDR3  
1 unique J



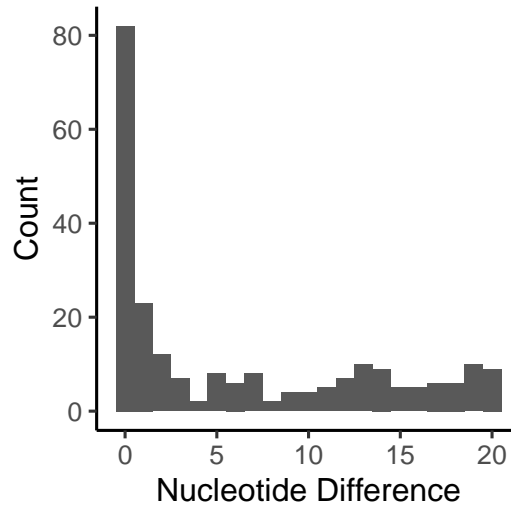
### IGHV3-33\*01

1191 sequences assigned  
292 (24.5%) exact matches, in which:  
292 unique CDR3  
6 unique J



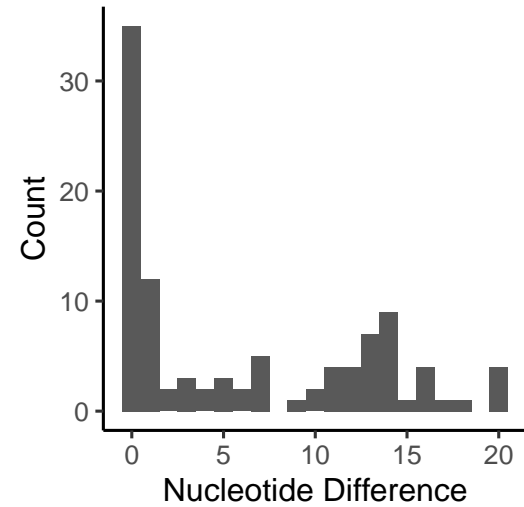
### IGHV3-48\*02

327 sequences assigned  
82 (25.1%) exact matches, in which:  
82 unique CDR3  
5 unique J



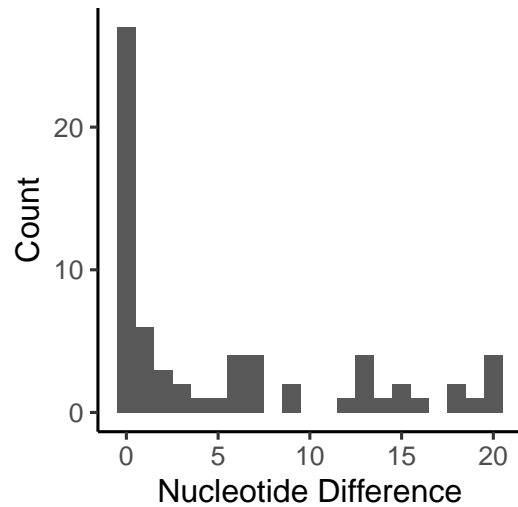
### IGHV3-49\*05

142 sequences assigned  
35 (24.6%) exact matches, in which:  
34 unique CDR3  
5 unique J



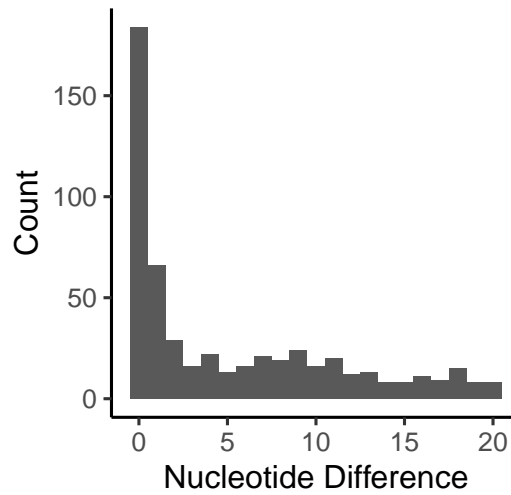
### IGHV3-43\*01

96 sequences assigned  
27 (28.1%) exact matches, in which:  
27 unique CDR3  
3 unique J



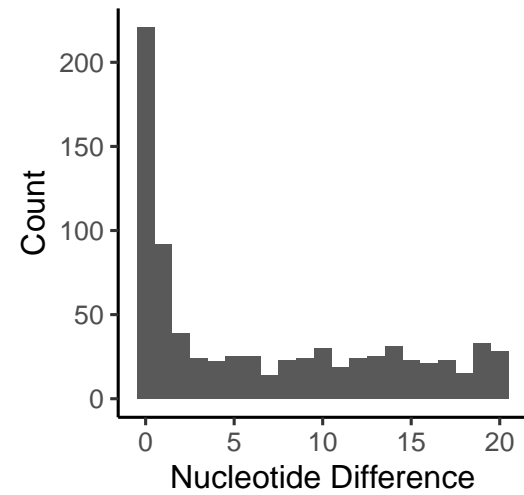
### IGHV3-48\*03

686 sequences assigned  
184 (26.8%) exact matches, in which:  
184 unique CDR3  
6 unique J



### IGHV3-53\*01

1023 sequences assigned  
221 (21.6%) exact matches, in which:  
219 unique CDR3  
6 unique J



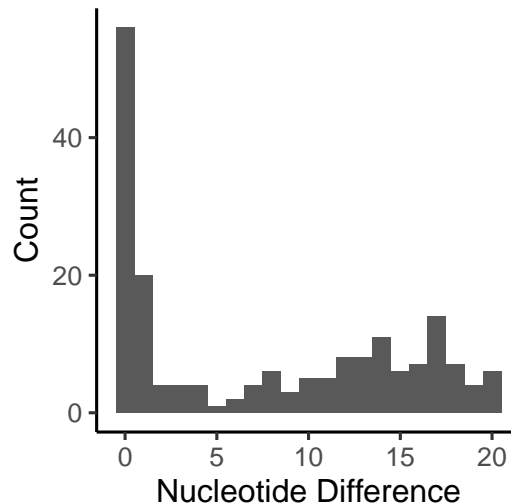
### IGHV3-47\*02

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



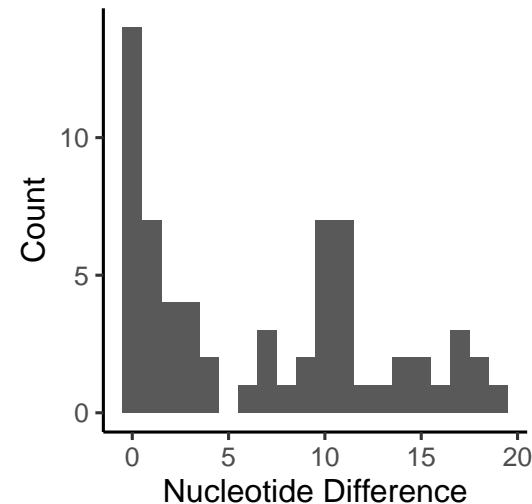
### IGHV3-49\*04

277 sequences assigned  
56 (20.2%) exact matches, in which:  
56 unique CDR3  
6 unique J



### IGHV3-64\*01

87 sequences assigned  
14 (16.1%) exact matches, in which:  
14 unique CDR3  
3 unique J



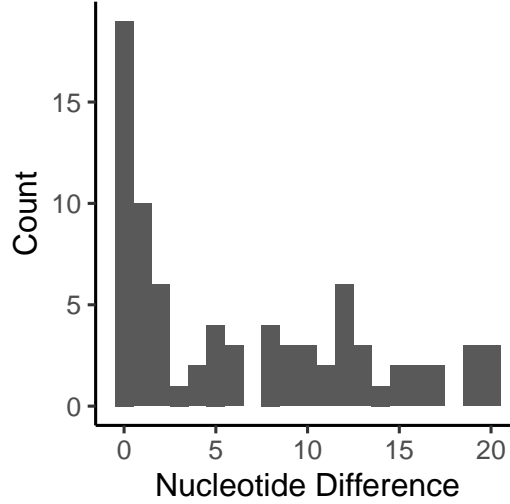
### IGHV3-66\*03

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



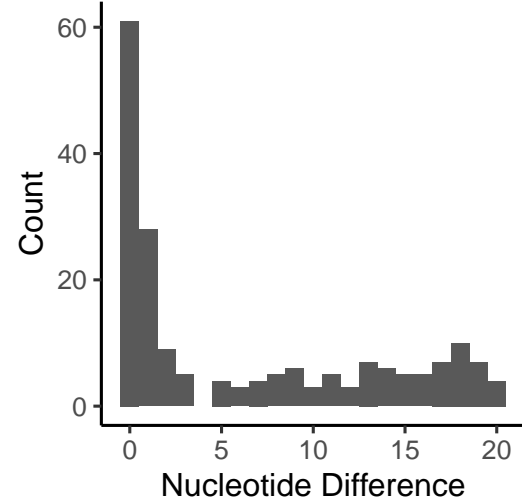
### IGHV3-73\*02

94 sequences assigned  
19 (20.2%) exact matches, in which:  
19 unique CDR3  
3 unique J



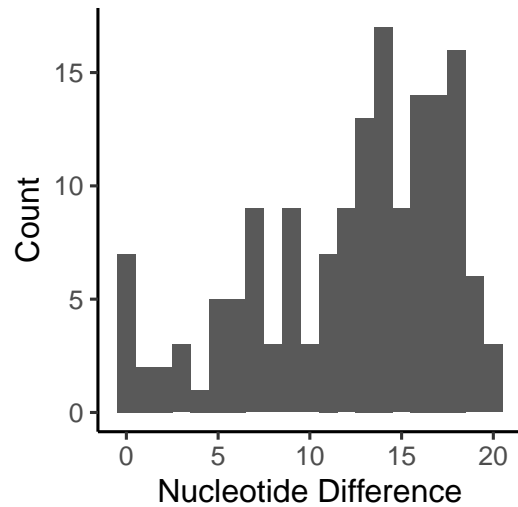
### IGHV4-4\*02

279 sequences assigned  
61 (21.9%) exact matches, in which:  
61 unique CDR3  
5 unique J



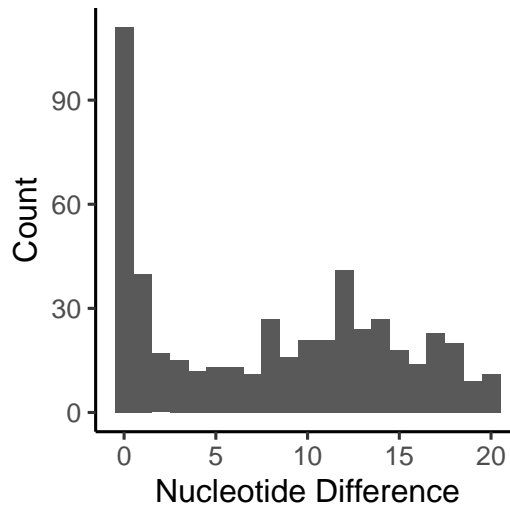
### IGHV3-72\*01

205 sequences assigned  
7 (3.4%) exact matches, in which:  
7 unique CDR3  
4 unique J



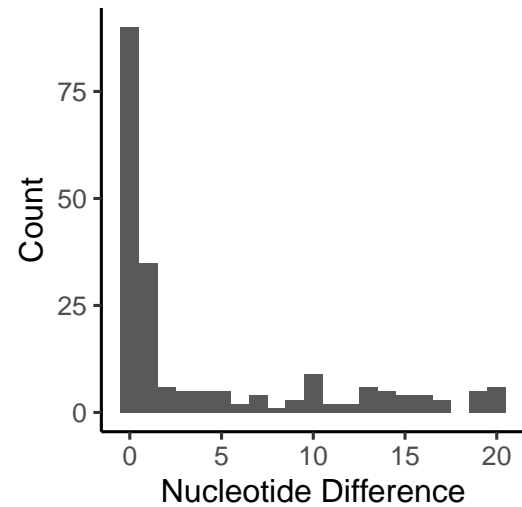
### IGHV3-74\*01

601 sequences assigned  
111 (18.5%) exact matches, in which:  
110 unique CDR3  
5 unique J



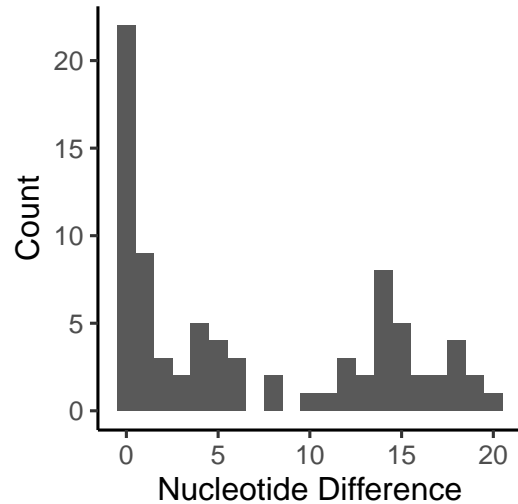
### IGHV4-4\*07

271 sequences assigned  
90 (33.2%) exact matches, in which:  
89 unique CDR3  
6 unique J



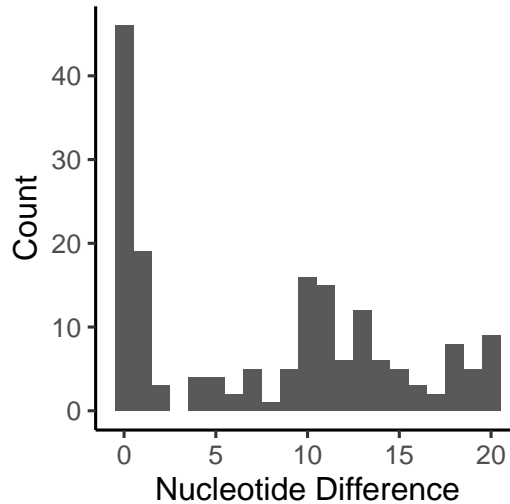
### IGHV3-73\*01

97 sequences assigned  
22 (22.7%) exact matches, in which:  
22 unique CDR3  
5 unique J



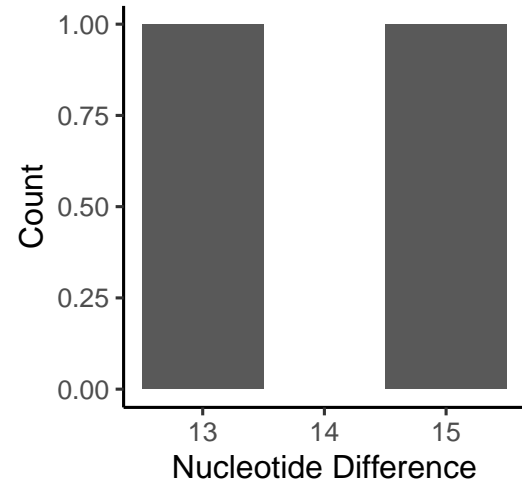
### IGHV3-64D\*06

300 sequences assigned  
46 (15.3%) exact matches, in which:  
46 unique CDR3  
4 unique J



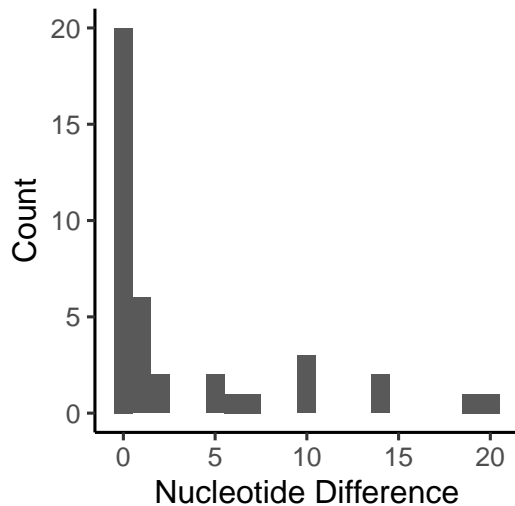
### IGHV4-28\*07

2 sequences assigned  
No exact matches.



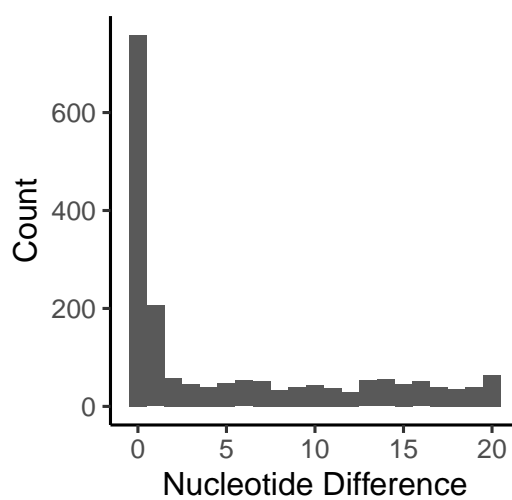
### IGHV4-31\*01

40 sequences assigned  
20 (50%) exact matches, in which:  
20 unique CDR3  
6 unique J



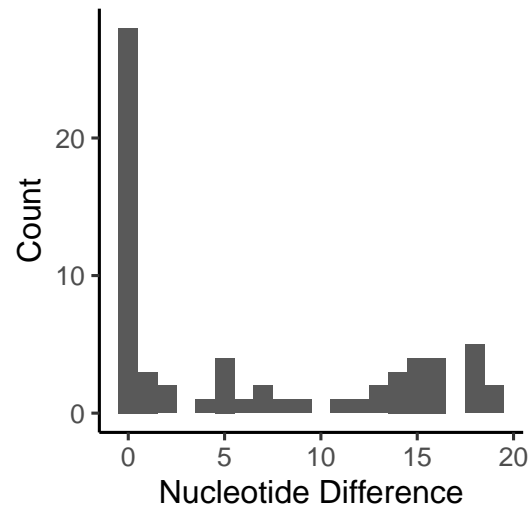
### IGHV4-39\*01

2406 sequences assigned  
759 (31.5%) exact matches, in which:  
758 unique CDR3  
6 unique J



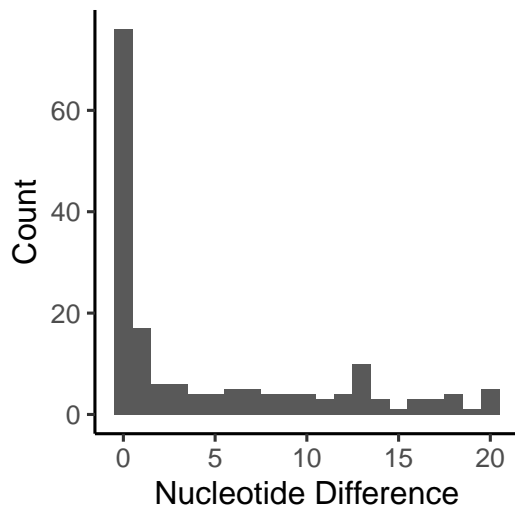
### IGHV4-61\*01

101 sequences assigned  
28 (27.7%) exact matches, in which:  
28 unique CDR3  
5 unique J



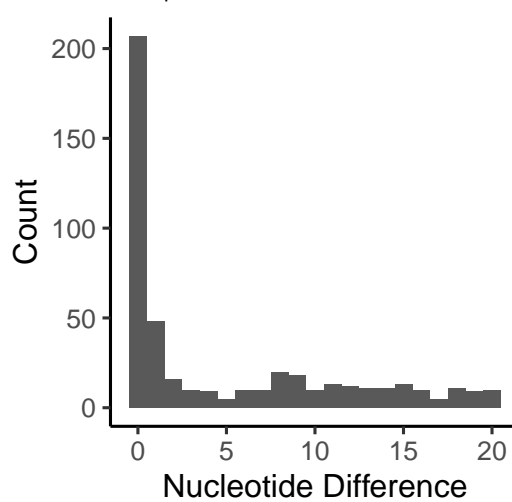
### IGHV4-31\*03

249 sequences assigned  
76 (30.5%) exact matches, in which:  
76 unique CDR3  
5 unique J



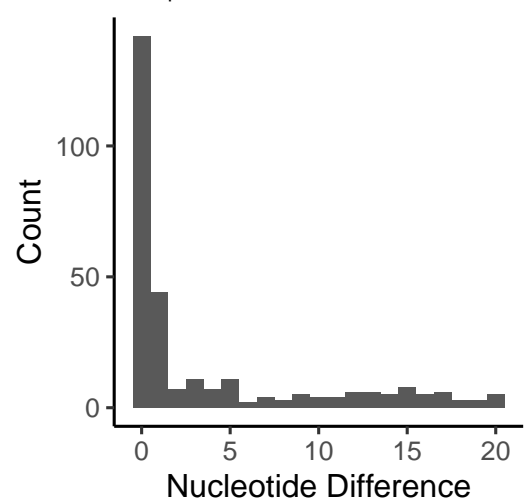
### IGHV4-59\*01

617 sequences assigned  
207 (33.5%) exact matches, in which:  
203 unique CDR3  
6 unique J



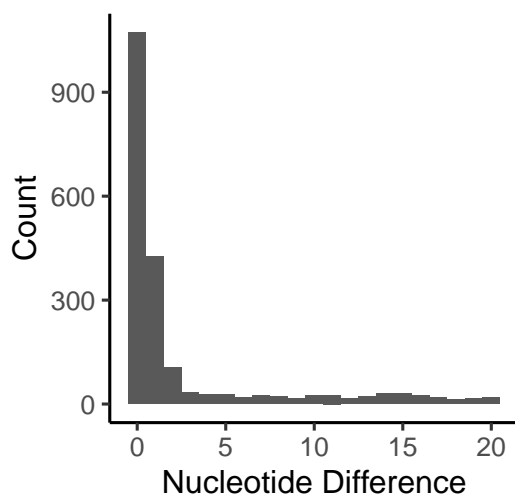
### IGHV5-10-1\*03

403 sequences assigned  
142 (35.2%) exact matches, in which:  
142 unique CDR3  
4 unique J



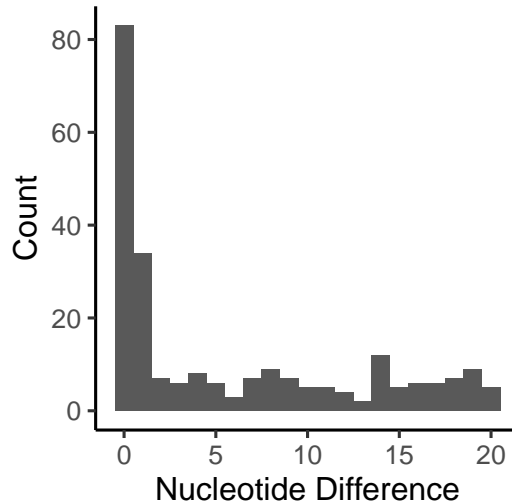
### IGHV4-34\*01

2336 sequences assigned  
1073 (45.9%) exact matches, in which:  
1066 unique CDR3  
6 unique J



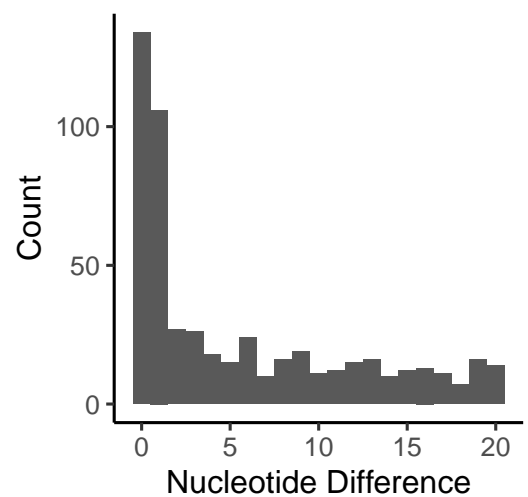
### IGHV4-59\*08

286 sequences assigned  
83 (29%) exact matches, in which:  
83 unique CDR3  
6 unique J



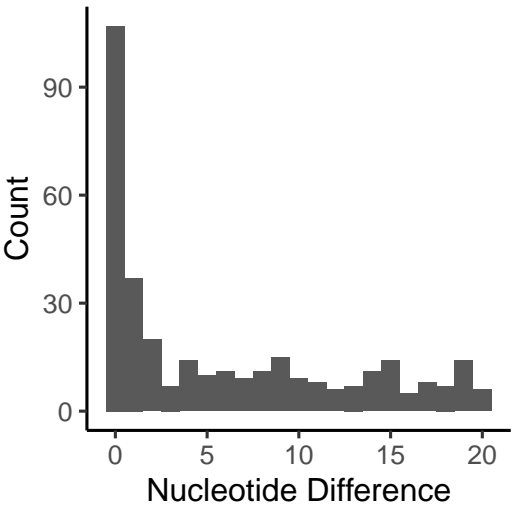
### IGHV5-51\*01

686 sequences assigned  
134 (19.5%) exact matches, in which:  
134 unique CDR3  
6 unique J



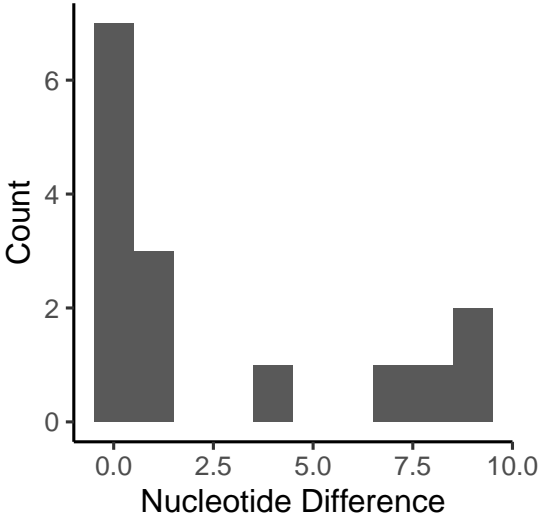
IGHV5-51\*03

426 sequences assigned  
107 (25.1%) exact matches, in which:  
106 unique CDR3  
6 unique J



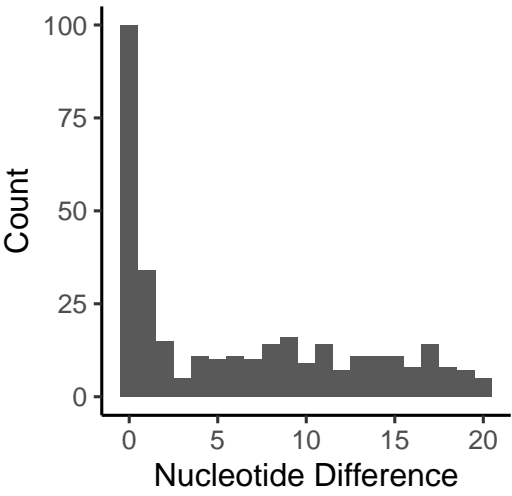
IGHV7-4-1\*01

25 sequences assigned  
7 (28%) exact matches, in which:  
7 unique CDR3  
2 unique J



IGHV6-1\*01

385 sequences assigned  
100 (26%) exact matches, in which:  
99 unique CDR3  
5 unique J



IGHV3/OR16-9\*01

1 sequences assigned  
No exact matches.

