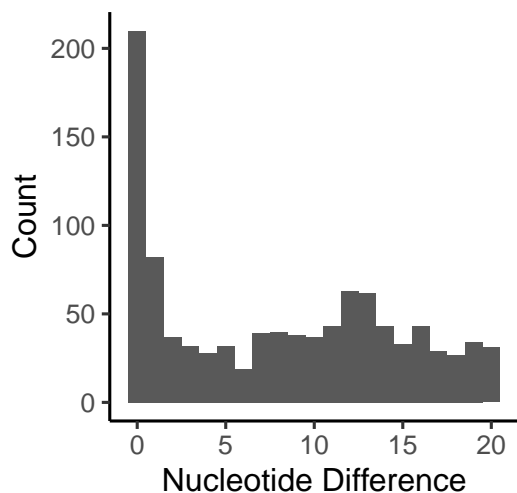


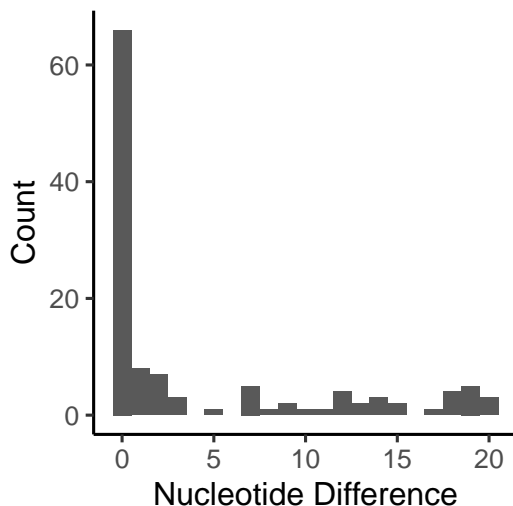
### IGHV1-2\*02

1308 sequences assigned  
210 (16.1%) exact matches, in which:  
209 unique CDR3  
6 unique J



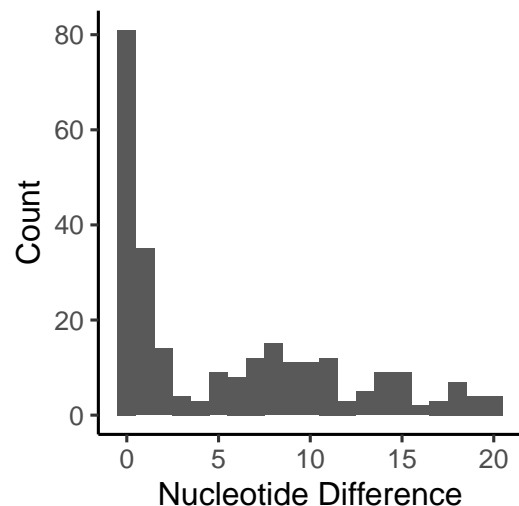
### IGHV1-24\*01

149 sequences assigned  
66 (44.3%) exact matches, in which:  
65 unique CDR3  
6 unique J



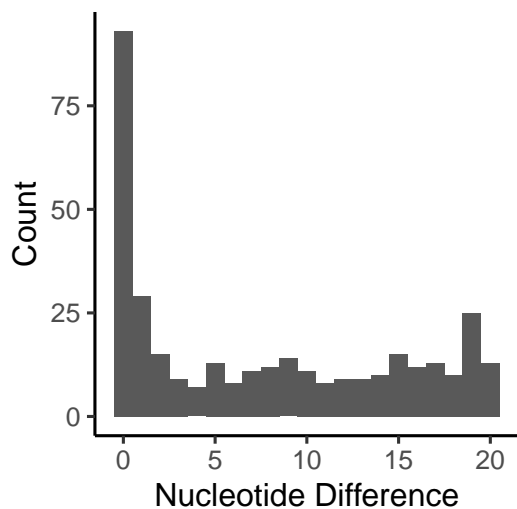
### IGHV1-46\*03

354 sequences assigned  
81 (22.9%) exact matches, in which:  
81 unique CDR3  
5 unique J



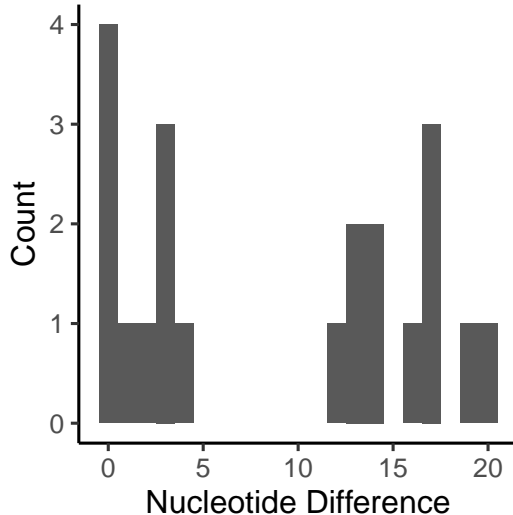
### IGHV1-3\*01

531 sequences assigned  
93 (17.5%) exact matches, in which:  
93 unique CDR3  
6 unique J



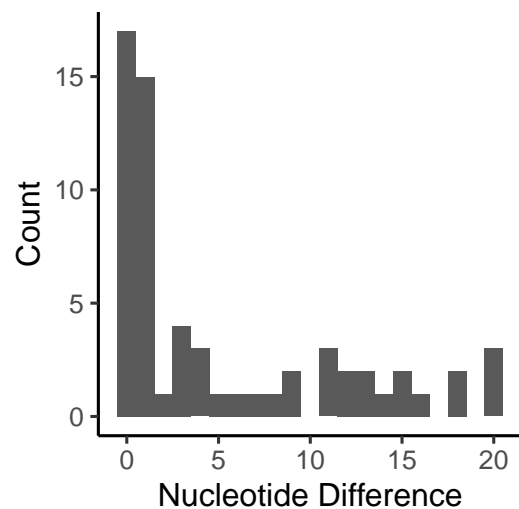
### IGHV1-45\*02

36 sequences assigned  
4 (11.1%) exact matches, in which:  
4 unique CDR3  
3 unique J



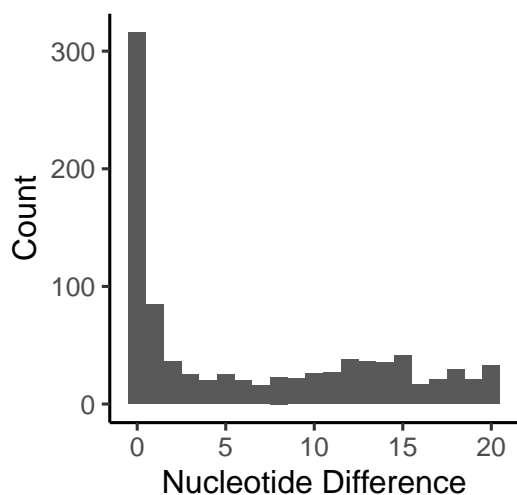
### IGHV1-58\*01

89 sequences assigned  
17 (19.1%) exact matches, in which:  
17 unique CDR3  
4 unique J



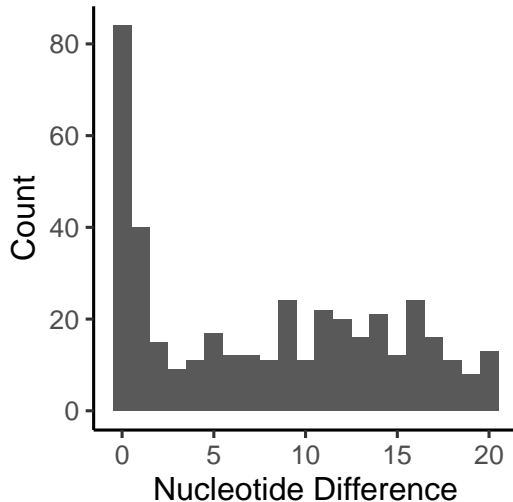
### IGHV1-18\*04

1345 sequences assigned  
316 (23.5%) exact matches, in which:  
315 unique CDR3  
6 unique J



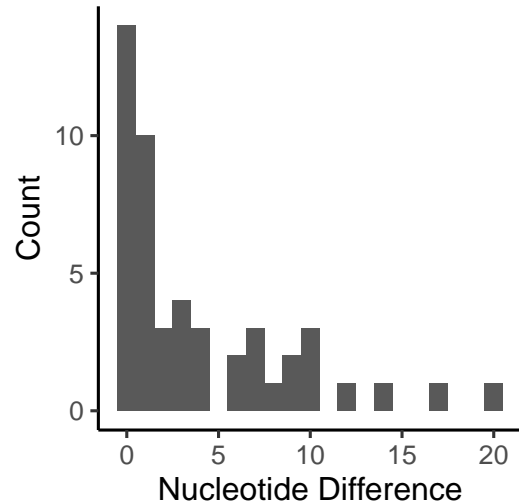
### IGHV1-46\*01

575 sequences assigned  
84 (14.6%) exact matches, in which:  
84 unique CDR3  
4 unique J



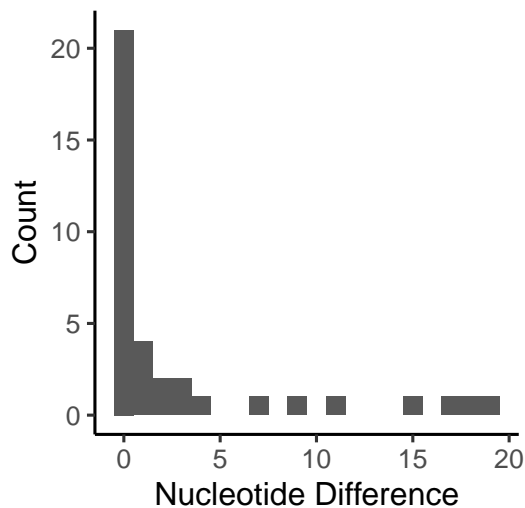
### IGHV1-58\*02

52 sequences assigned  
14 (26.9%) exact matches, in which:  
14 unique CDR3  
3 unique J



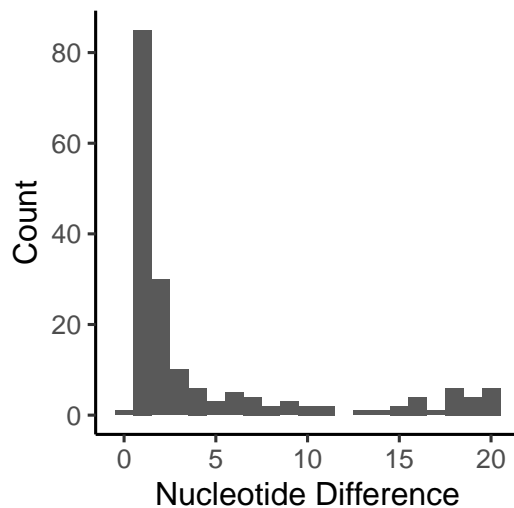
## IGHV1-69-2\*01

67 sequences assigned  
21 (31.3%) exact matches, in which:  
21 unique CDR3  
5 unique J



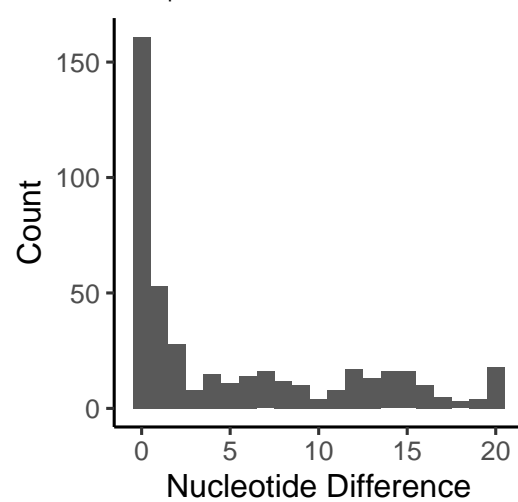
## IGHV1-69\*08

251 sequences assigned  
1 (0.4%) exact matches, in which:  
1 unique CDR3  
1 unique J



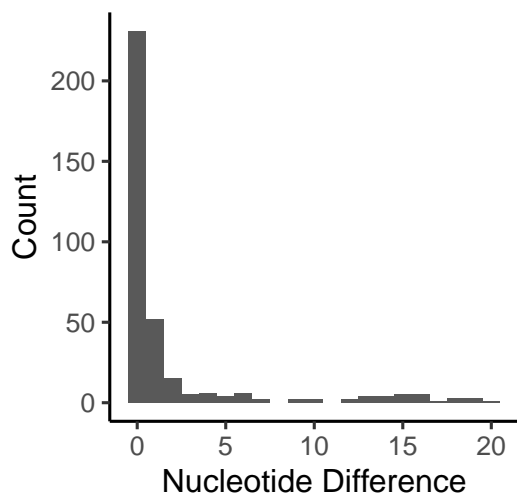
## IGHV2-26\*01

485 sequences assigned  
161 (33.2%) exact matches, in which:  
160 unique CDR3  
5 unique J



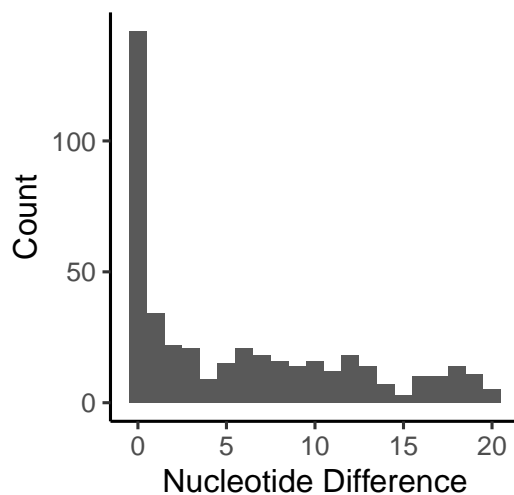
## IGHV1-69\*02

388 sequences assigned  
231 (59.5%) exact matches, in which:  
228 unique CDR3  
6 unique J



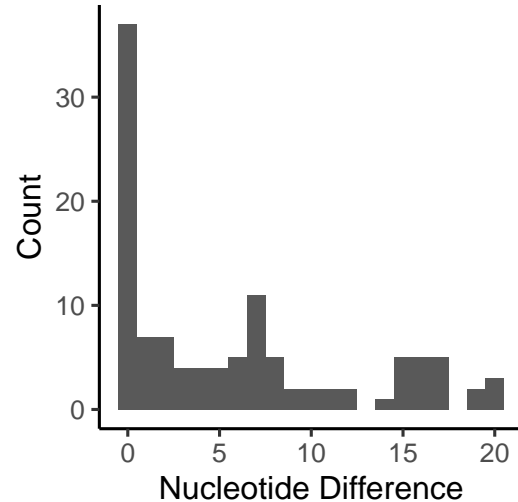
## IGHV2-5\*01

491 sequences assigned  
142 (28.9%) exact matches, in which:  
142 unique CDR3  
6 unique J



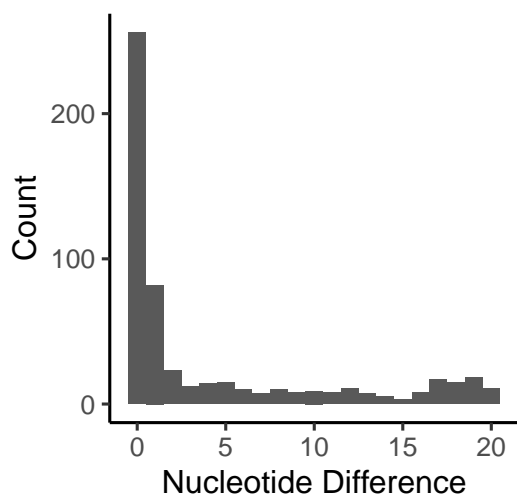
## IGHV2-70\*01

152 sequences assigned  
37 (24.3%) exact matches, in which:  
37 unique CDR3  
6 unique J



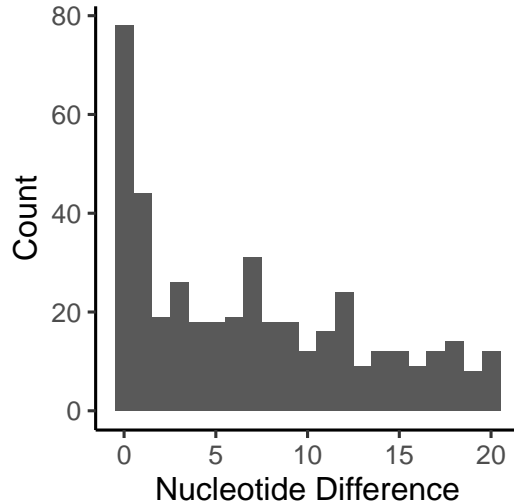
## IGHV1-69\*06

693 sequences assigned  
256 (36.9%) exact matches, in which:  
253 unique CDR3  
5 unique J



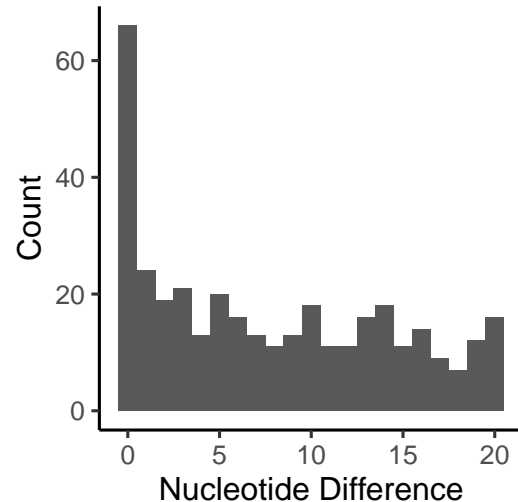
## IGHV2-5\*02

505 sequences assigned  
78 (15.4%) exact matches, in which:  
77 unique CDR3  
6 unique J



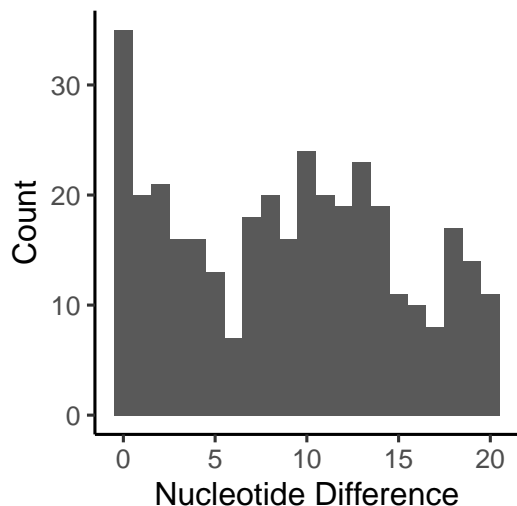
## IGHV2-70\*15

434 sequences assigned  
66 (15.2%) exact matches, in which:  
66 unique CDR3  
6 unique J



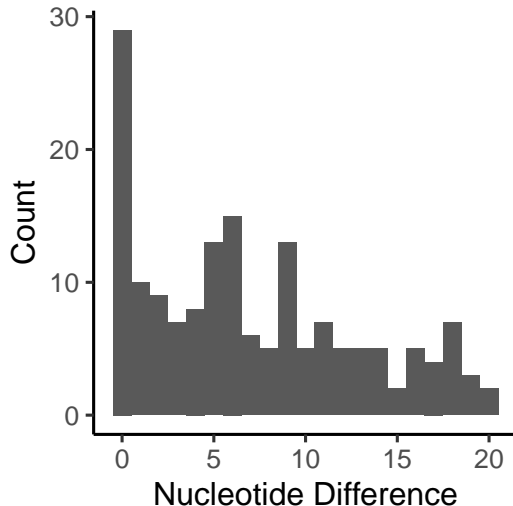
### IGHV3-7\*01

457 sequences assigned  
35 (7.7%) exact matches, in which:  
35 unique CDR3  
6 unique J



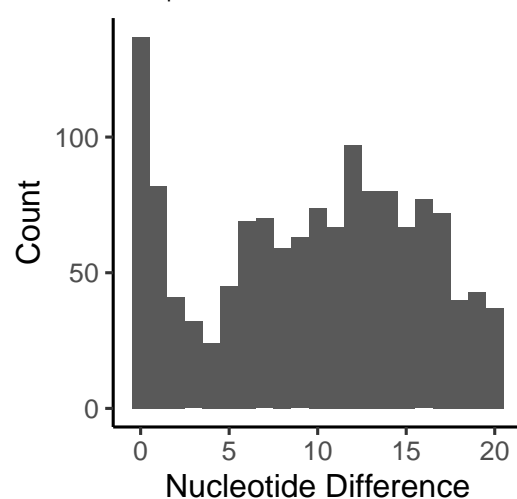
### IGHV3-11\*06

258 sequences assigned  
29 (11.2%) exact matches, in which:  
29 unique CDR3  
4 unique J



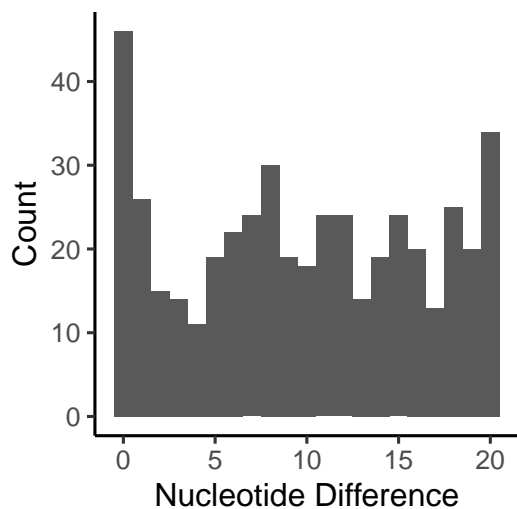
### IGHV3-15\*01

1613 sequences assigned  
137 (8.5%) exact matches, in which:  
135 unique CDR3  
6 unique J



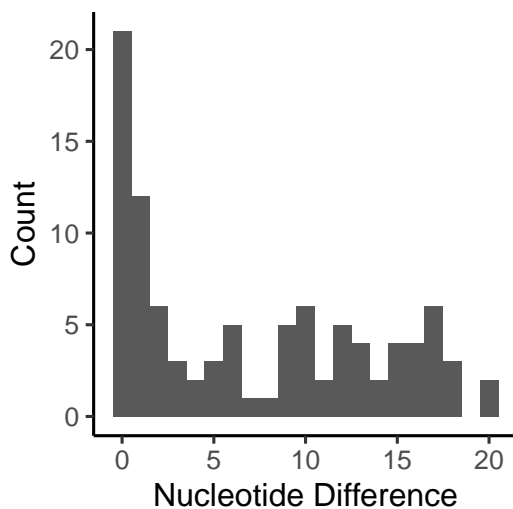
### IGHV3-7\*03

722 sequences assigned  
46 (6.4%) exact matches, in which:  
46 unique CDR3  
5 unique J



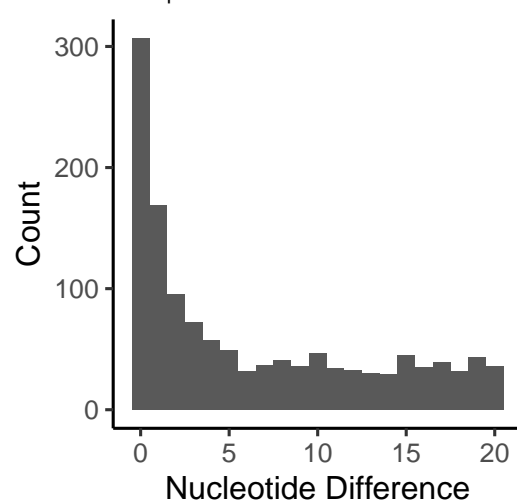
### IGHV3-13\*04

109 sequences assigned  
21 (19.3%) exact matches, in which:  
21 unique CDR3  
5 unique J



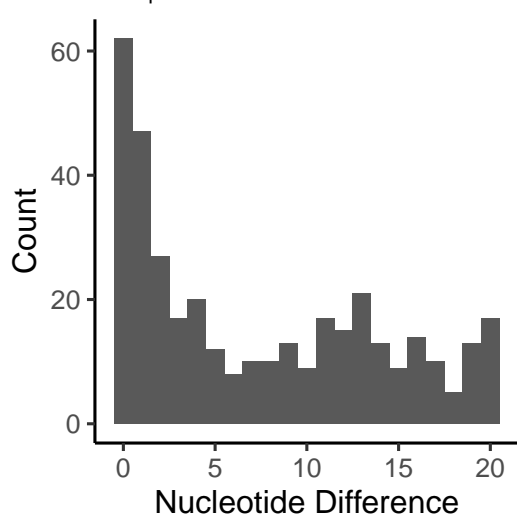
### IGHV3-21\*01

1727 sequences assigned  
307 (17.8%) exact matches, in which:  
300 unique CDR3  
6 unique J



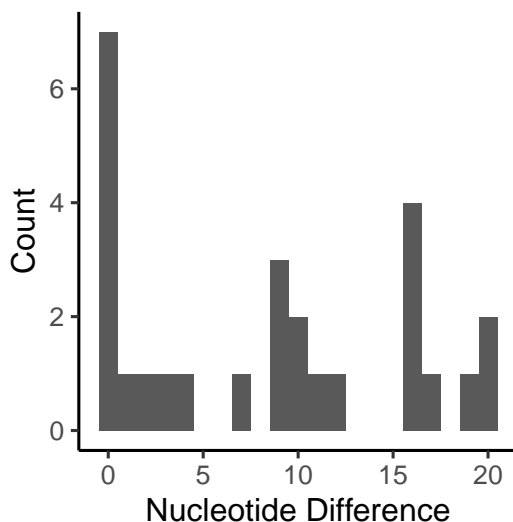
### IGHV3-11\*05

466 sequences assigned  
62 (13.3%) exact matches, in which:  
61 unique CDR3  
5 unique J



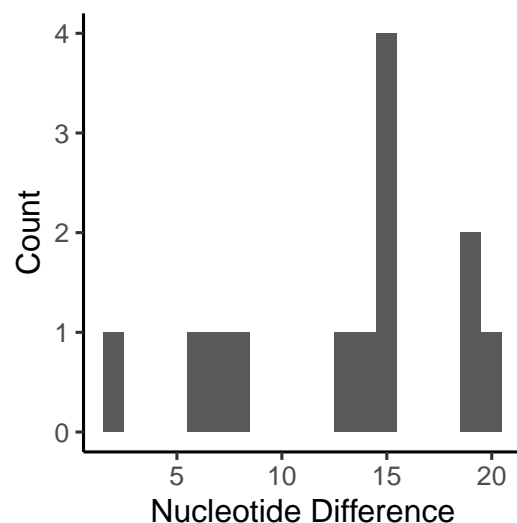
### IGHV3-13\*05

49 sequences assigned  
7 (14.3%) exact matches, in which:  
7 unique CDR3  
2 unique J



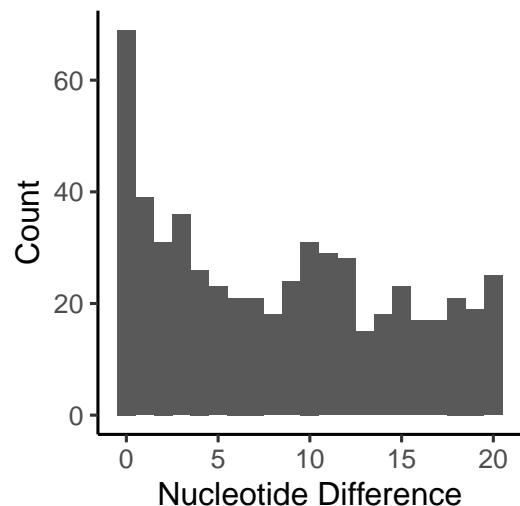
### IGHV3-30-3\*03

31 sequences assigned  
No exact matches.



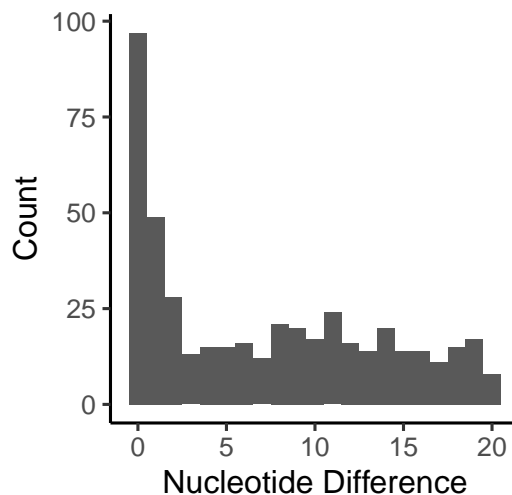
### IGHV3-33\*01

721 sequences assigned  
69 (9.6%) exact matches, in which:  
69 unique CDR3  
6 unique J



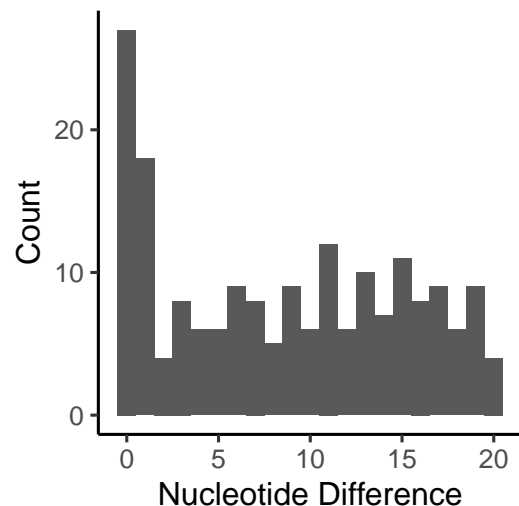
### IGHV3-48\*01

566 sequences assigned  
97 (17.1%) exact matches, in which:  
97 unique CDR3  
5 unique J



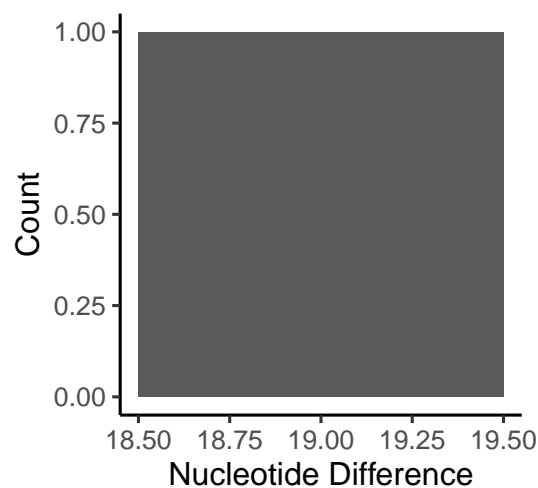
### IGHV3-49\*04

273 sequences assigned  
27 (9.9%) exact matches, in which:  
27 unique CDR3  
4 unique J



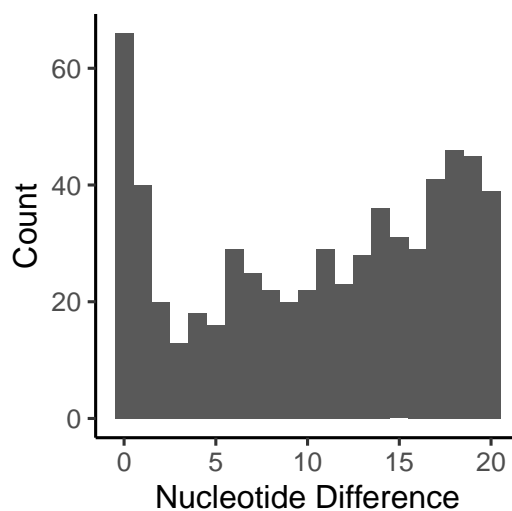
### IGHV3-41\*02

1 sequences assigned  
No exact matches.



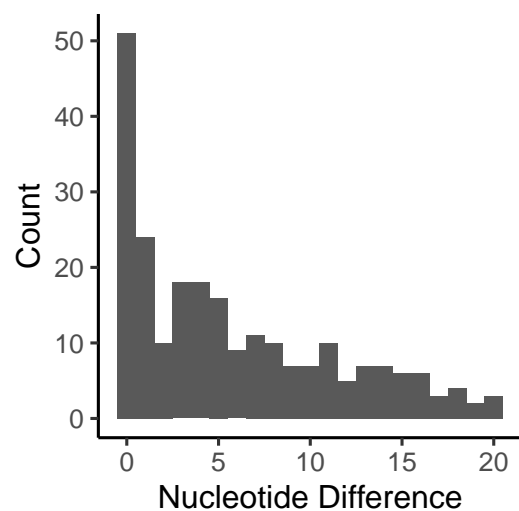
### IGHV3-48\*02

846 sequences assigned  
66 (7.8%) exact matches, in which:  
66 unique CDR3  
5 unique J



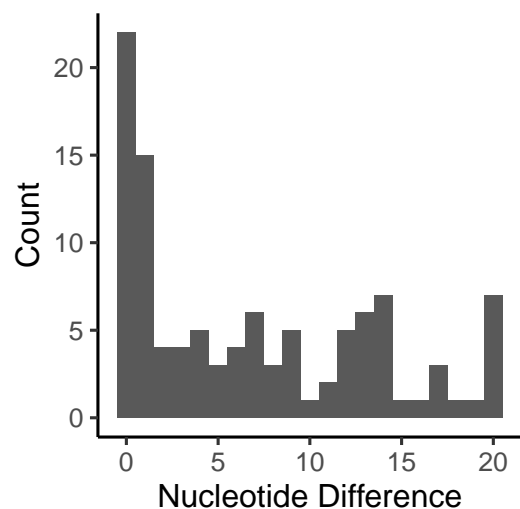
### IGHV3-53\*01

296 sequences assigned  
51 (17.2%) exact matches, in which:  
51 unique CDR3  
5 unique J



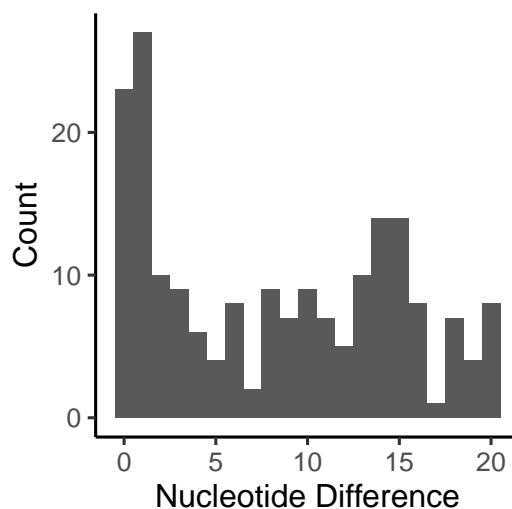
### IGHV3-43\*01

182 sequences assigned  
22 (12.1%) exact matches, in which:  
22 unique CDR3  
5 unique J



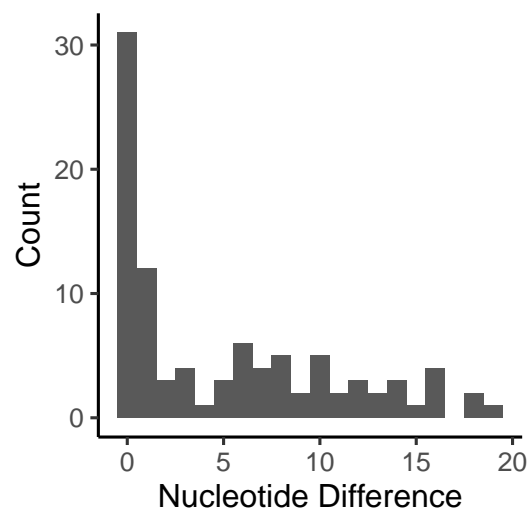
### IGHV3-49\*03

238 sequences assigned  
23 (9.7%) exact matches, in which:  
23 unique CDR3  
3 unique J



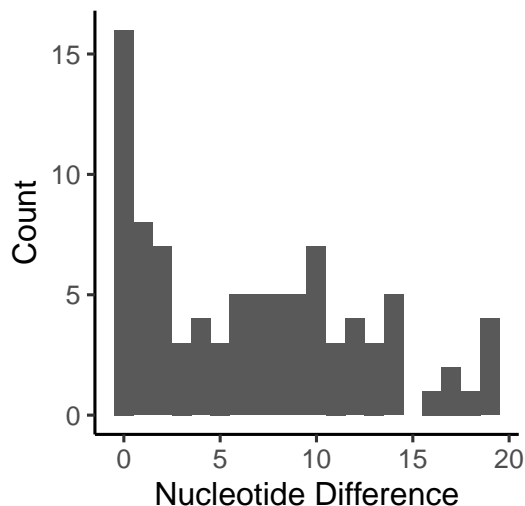
### IGHV3-53\*04

127 sequences assigned  
31 (24.4%) exact matches, in which:  
31 unique CDR3  
5 unique J



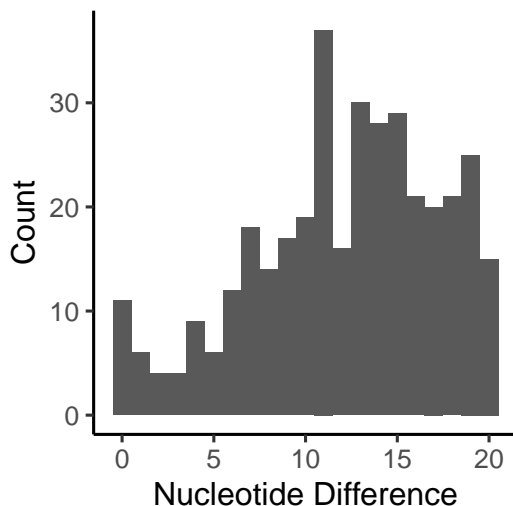
### IGHV3-64\*01

133 sequences assigned  
16 (12%) exact matches, in which:  
16 unique CDR3  
4 unique J



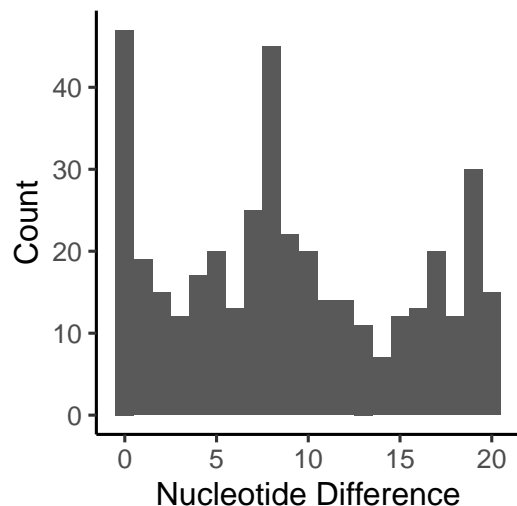
### IGHV3-72\*01

419 sequences assigned  
11 (2.6%) exact matches, in which:  
9 unique CDR3  
3 unique J



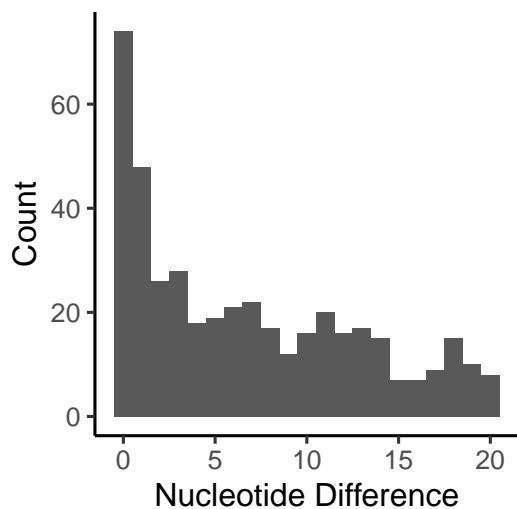
### IGHV3-74\*01

517 sequences assigned  
47 (9.1%) exact matches, in which:  
47 unique CDR3  
6 unique J



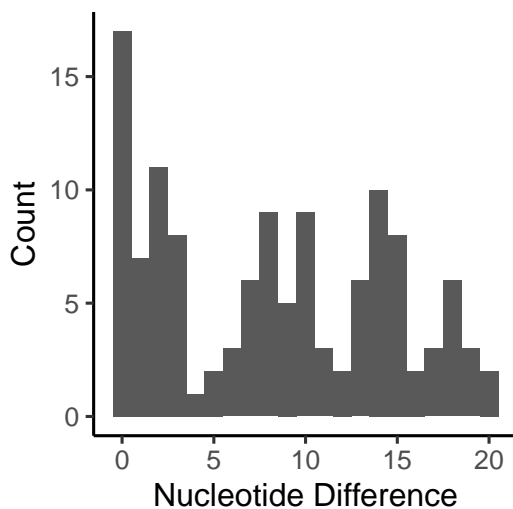
### IGHV3-66\*01

573 sequences assigned  
74 (12.9%) exact matches, in which:  
73 unique CDR3  
5 unique J



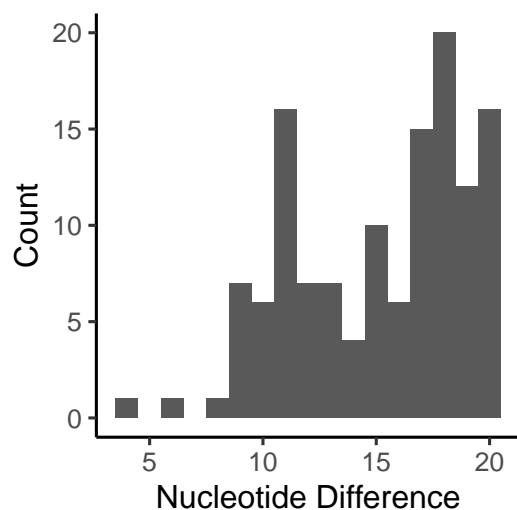
### IGHV3-73\*01

157 sequences assigned  
17 (10.8%) exact matches, in which:  
17 unique CDR3  
4 unique J



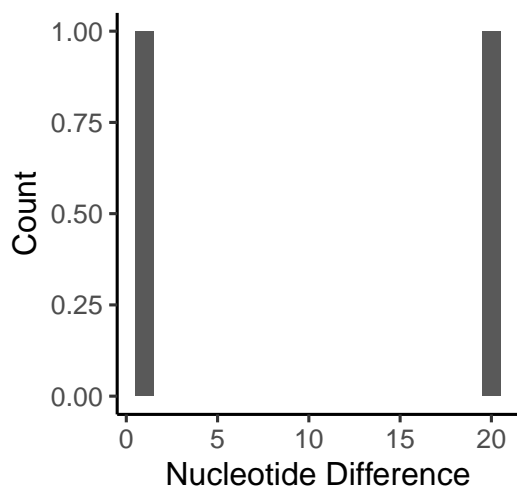
### IGHV3-74\*03

175 sequences assigned  
No exact matches.



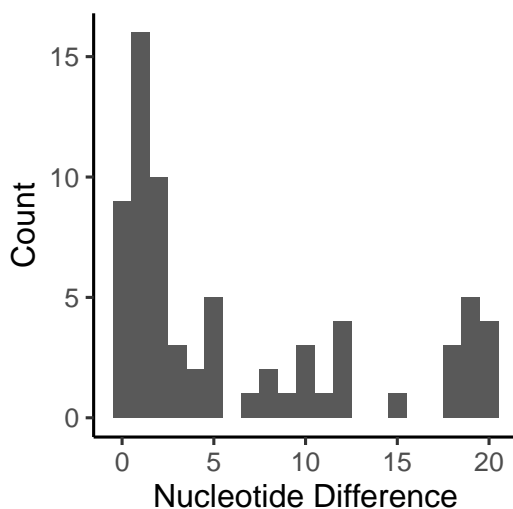
### IGHV3-69-1\*02

4 sequences assigned  
No exact matches.



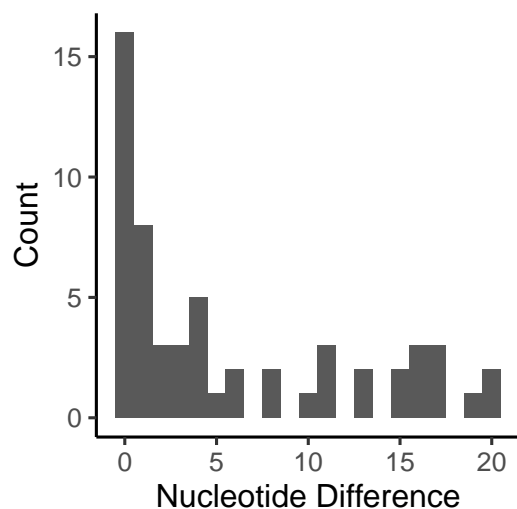
### IGHV3-73\*02

99 sequences assigned  
9 (9.1%) exact matches, in which:  
9 unique CDR3  
3 unique J



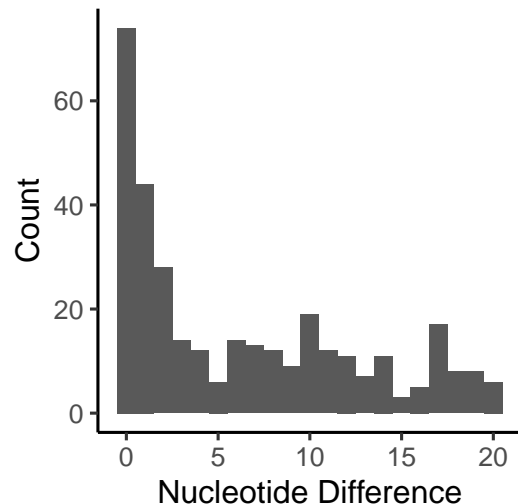
### IGHV3-43D\*03

75 sequences assigned  
16 (21.3%) exact matches, in which:  
16 unique CDR3  
5 unique J



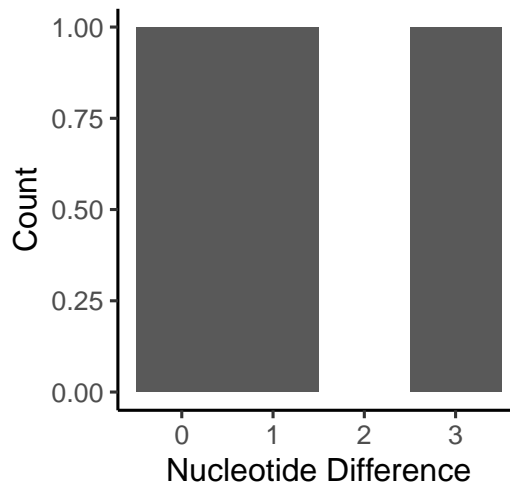
### IGHV3-64D\*09

418 sequences assigned  
74 (17.7%) exact matches, in which:  
74 unique CDR3  
6 unique J



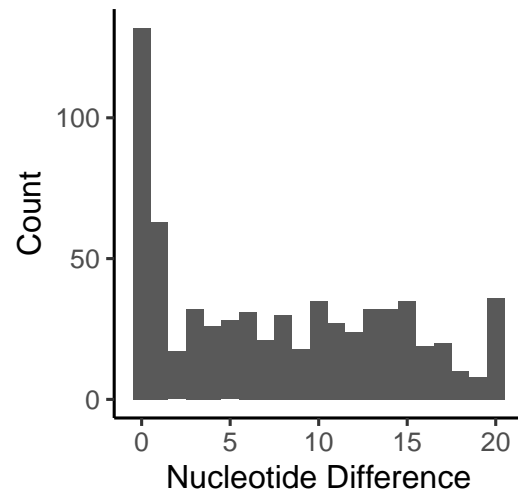
### IGHV4-28\*03

3 sequences assigned  
1 (33.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



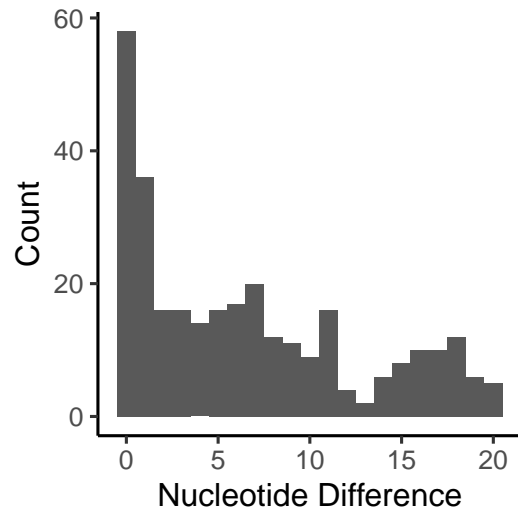
### IGHV4-38-2\*02

863 sequences assigned  
132 (15.3%) exact matches, in which:  
132 unique CDR3  
6 unique J



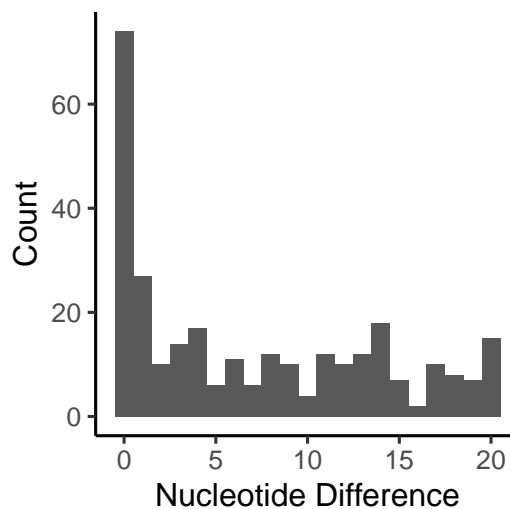
### IGHV4-4\*07

404 sequences assigned  
58 (14.4%) exact matches, in which:  
56 unique CDR3  
5 unique J



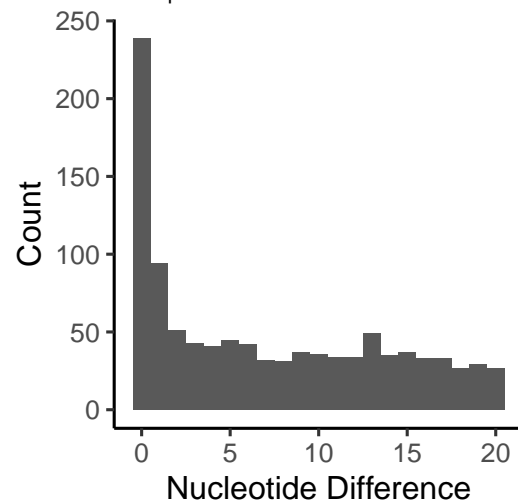
### IGHV4-31\*03

491 sequences assigned  
74 (15.1%) exact matches, in which:  
73 unique CDR3  
5 unique J



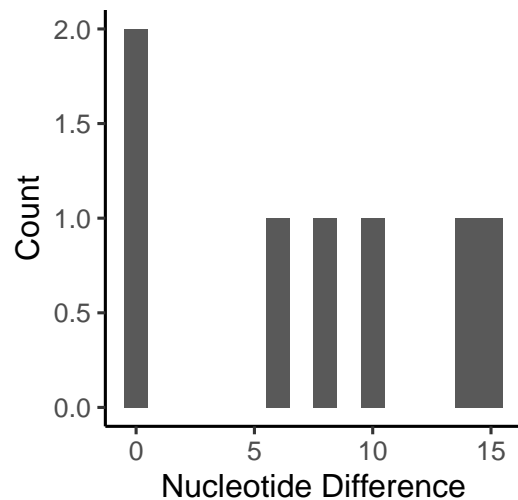
### IGHV4-39\*01

1410 sequences assigned  
239 (17%) exact matches, in which:  
238 unique CDR3  
6 unique J



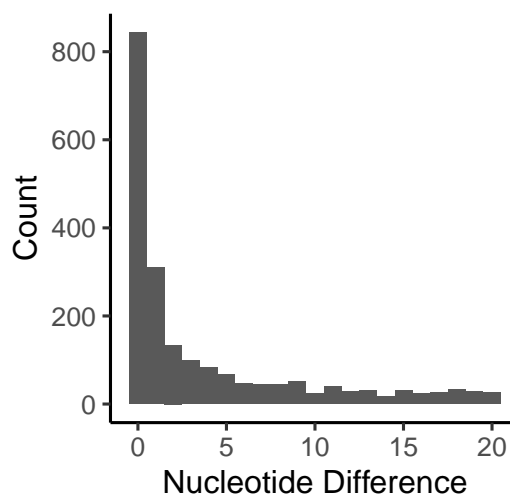
### IGHV4-28\*01

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



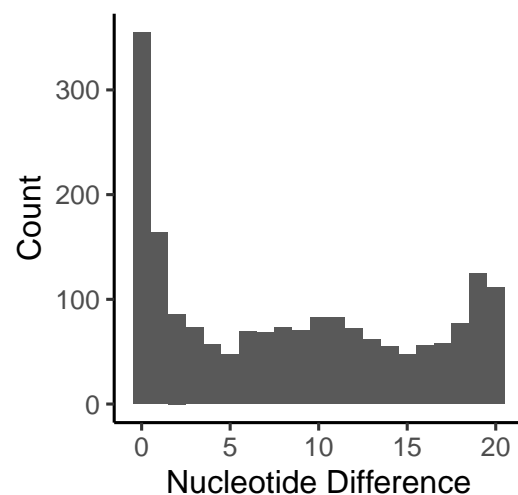
### IGHV4-34\*01

2401 sequences assigned  
844 (35.2%) exact matches, in which:  
831 unique CDR3  
6 unique J



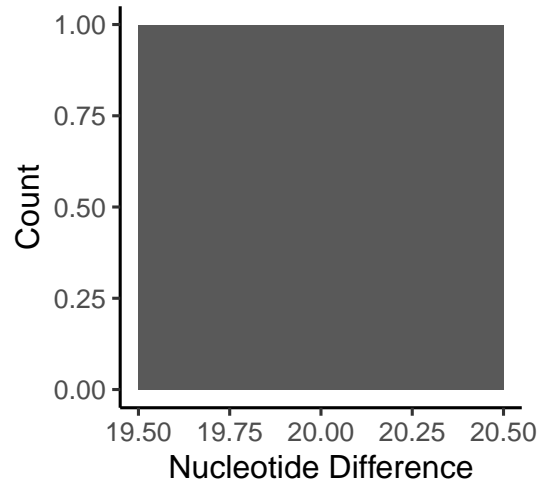
### IGHV4-39\*07

2926 sequences assigned  
355 (12.1%) exact matches, in which:  
354 unique CDR3  
6 unique J



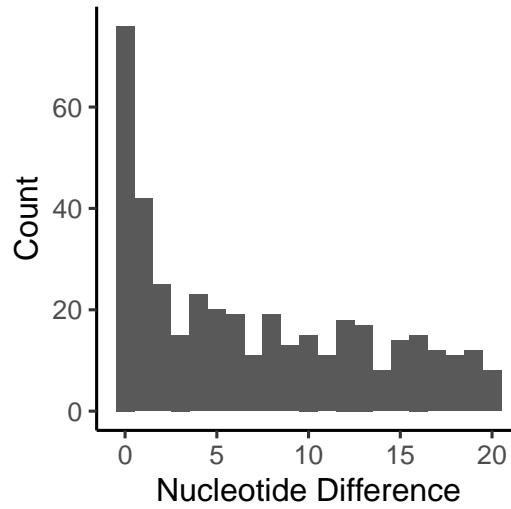
### IGHV4-55\*01

1 sequences assigned  
No exact matches.



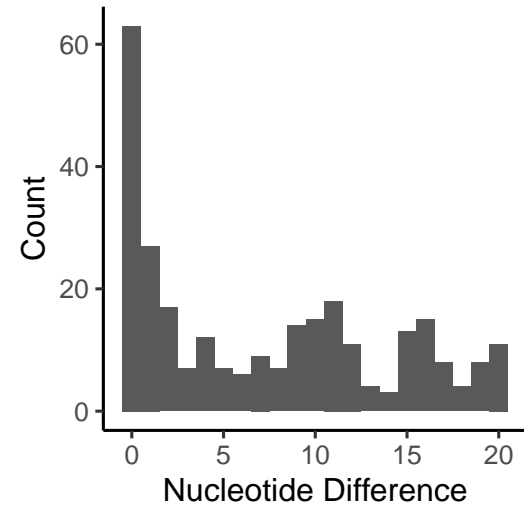
### IGHV4-59\*08

532 sequences assigned  
76 (14.3%) exact matches, in which:  
76 unique CDR3  
6 unique J



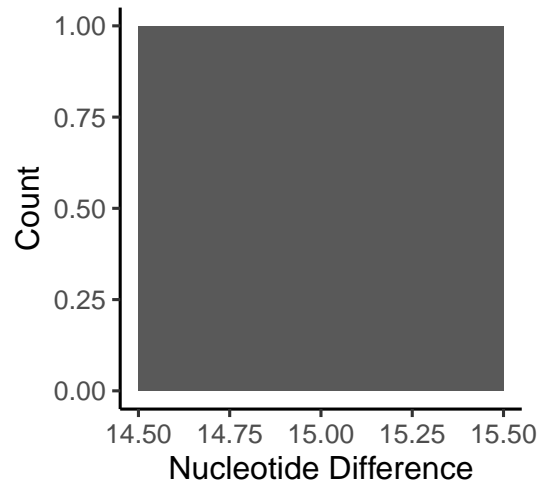
### IGHV5-10-1\*03

418 sequences assigned  
63 (15.1%) exact matches, in which:  
63 unique CDR3  
6 unique J



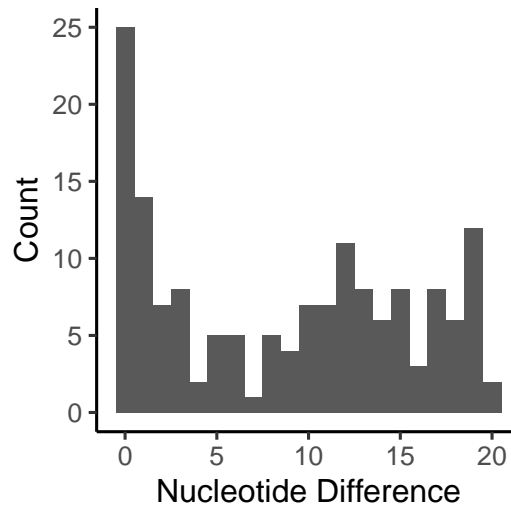
### IGHV4-55\*08

1 sequences assigned  
No exact matches.



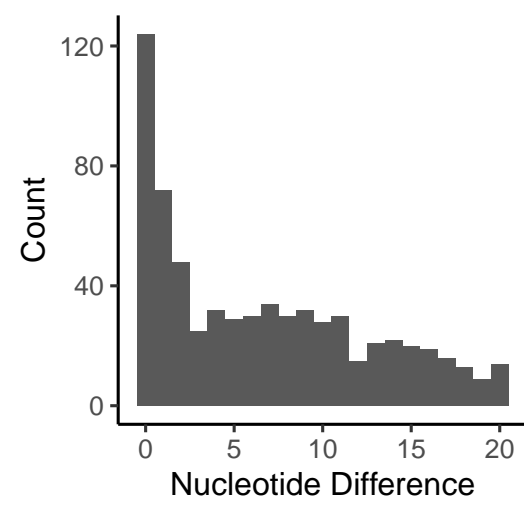
### IGHV4-61\*01

238 sequences assigned  
25 (10.5%) exact matches, in which:  
25 unique CDR3  
5 unique J



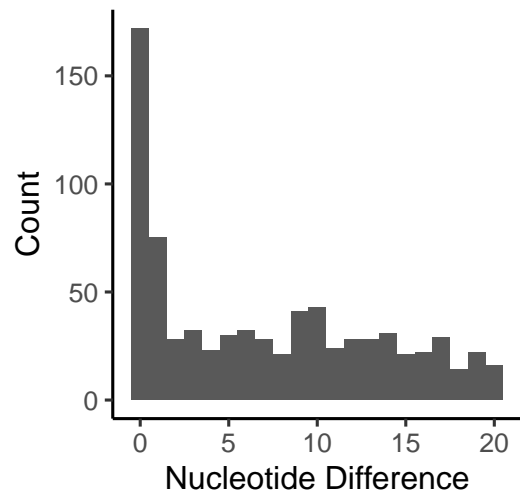
### IGHV5-51\*01

835 sequences assigned  
124 (14.9%) exact matches, in which:  
124 unique CDR3  
6 unique J



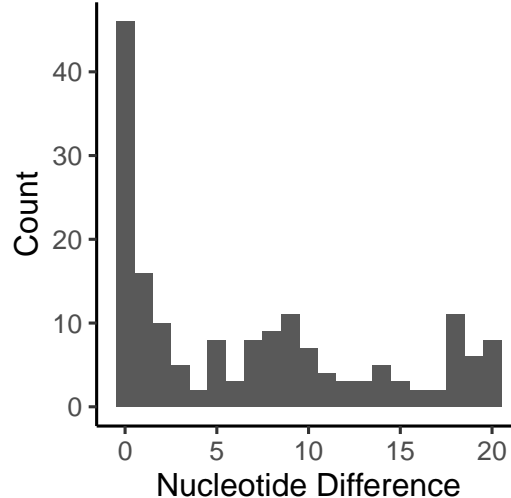
### IGHV4-59\*01

1074 sequences assigned  
172 (16%) exact matches, in which:  
171 unique CDR3  
6 unique J



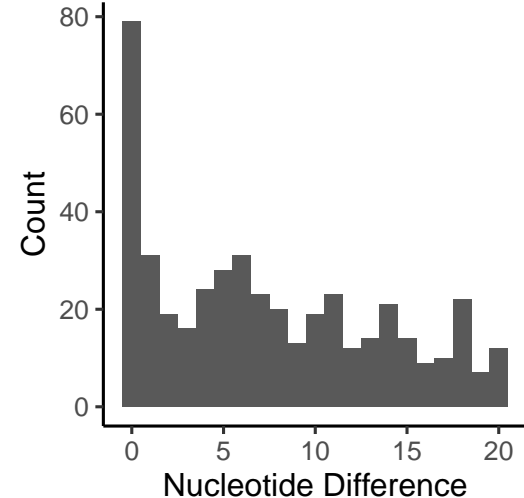
### IGHV5-10-1\*01

217 sequences assigned  
46 (21.2%) exact matches, in which:  
46 unique CDR3  
6 unique J



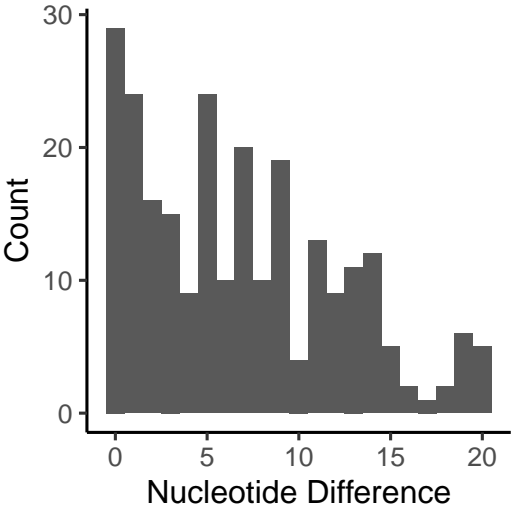
### IGHV5-51\*03

600 sequences assigned  
79 (13.2%) exact matches, in which:  
79 unique CDR3  
6 unique J



# IGHV6-1\*01

257 sequences assigned  
29 (11.3%) exact matches, in which:  
29 unique CDR3  
5 unique J







Warning – no inferred sequences found.