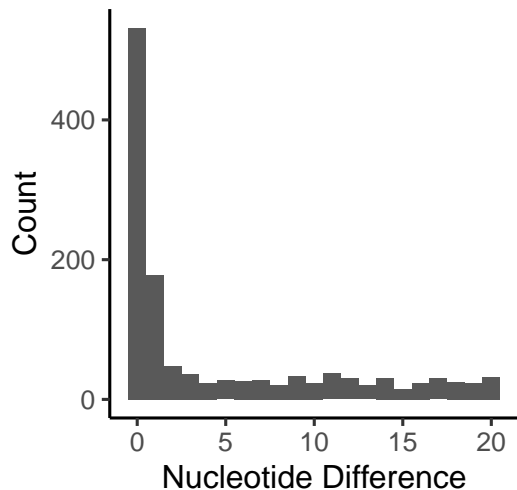


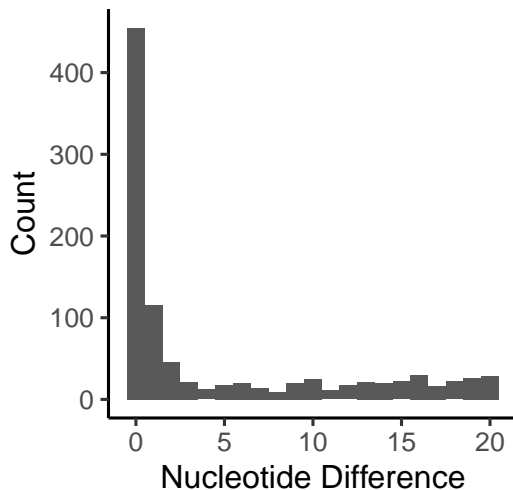
### IGHV1-2\*06

1625 sequences assigned  
532 (32.7%) exact matches, in which:  
522 unique CDR3  
6 unique J



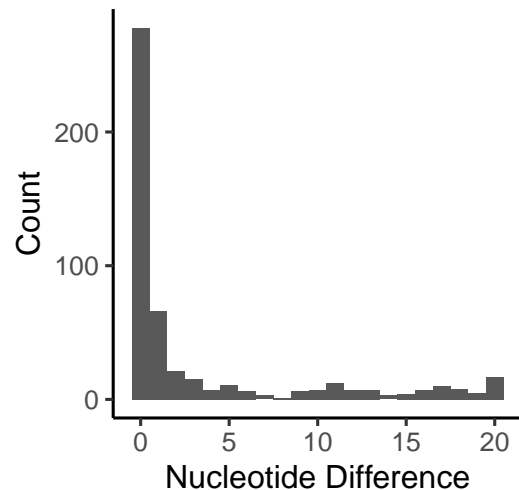
### IGHV1-18\*01

1295 sequences assigned  
455 (35.1%) exact matches, in which:  
450 unique CDR3  
6 unique J



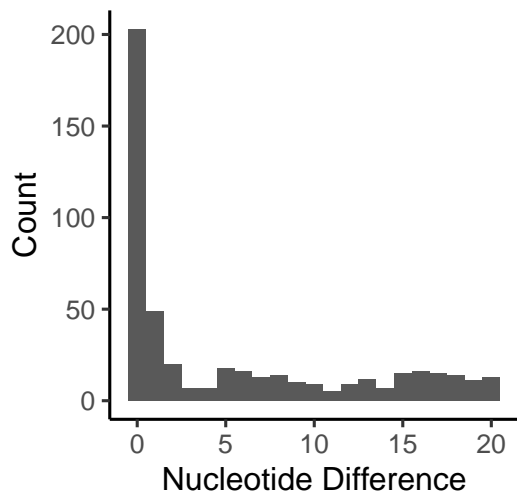
### IGHV1-46\*01

666 sequences assigned  
278 (41.7%) exact matches, in which:  
274 unique CDR3  
6 unique J



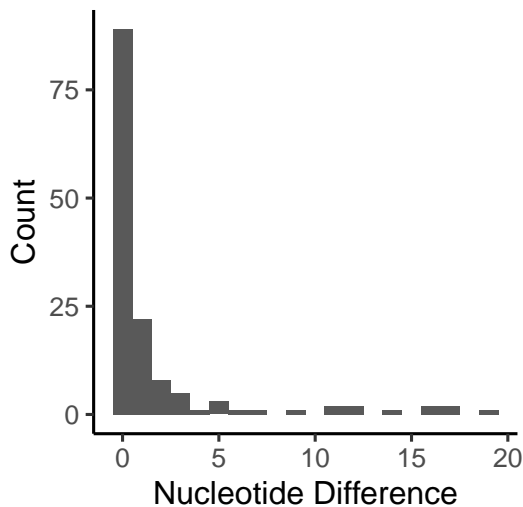
### IGHV1-3\*01

658 sequences assigned  
203 (30.9%) exact matches, in which:  
200 unique CDR3  
6 unique J



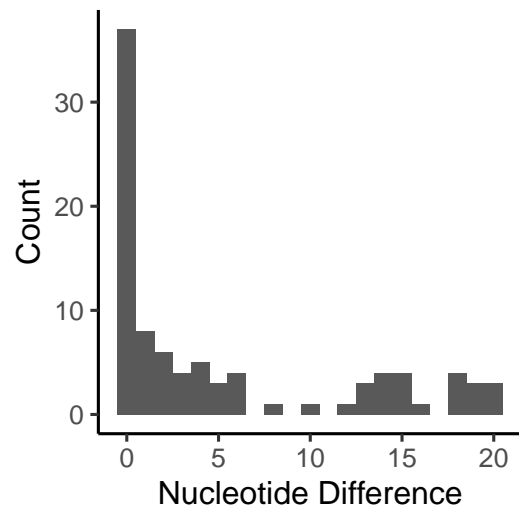
### IGHV1-24\*01

165 sequences assigned  
89 (53.9%) exact matches, in which:  
88 unique CDR3  
6 unique J



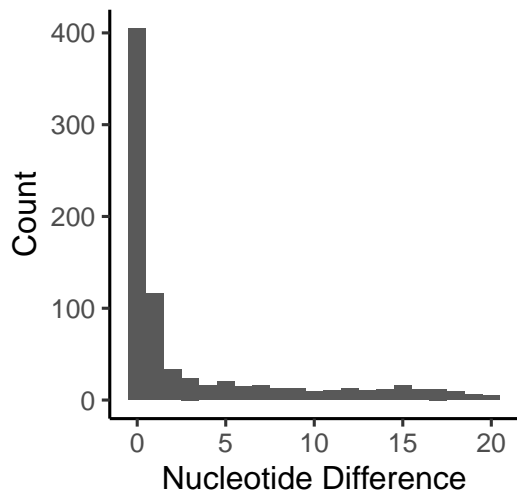
### IGHV1-58\*01

111 sequences assigned  
37 (33.3%) exact matches, in which:  
35 unique CDR3  
4 unique J



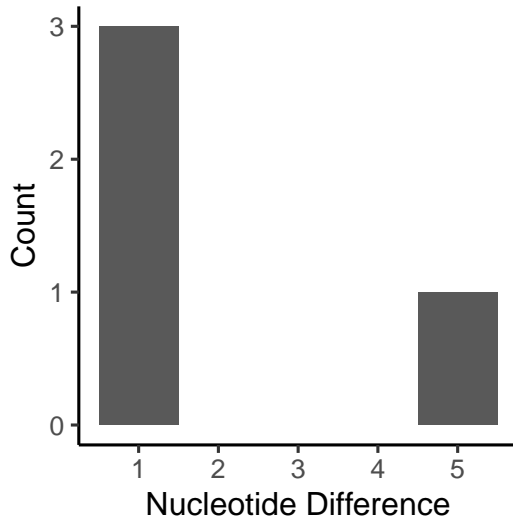
### IGHV1-8\*01

895 sequences assigned  
405 (45.3%) exact matches, in which:  
397 unique CDR3  
6 unique J



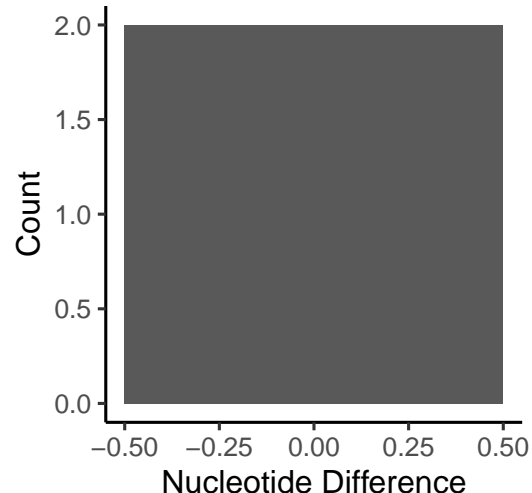
### IGHV1-45\*02

10 sequences assigned  
No exact matches.



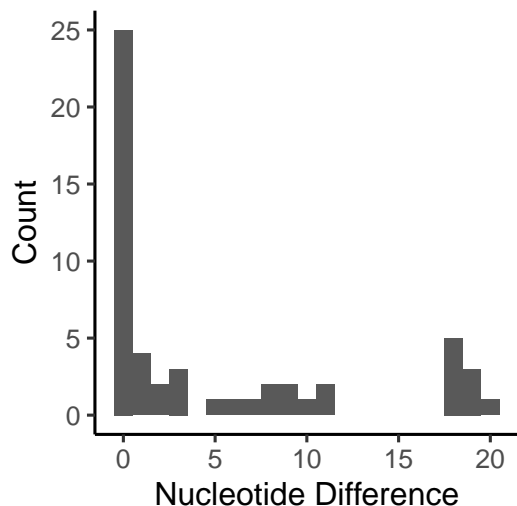
### IGHV1-68\*02

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



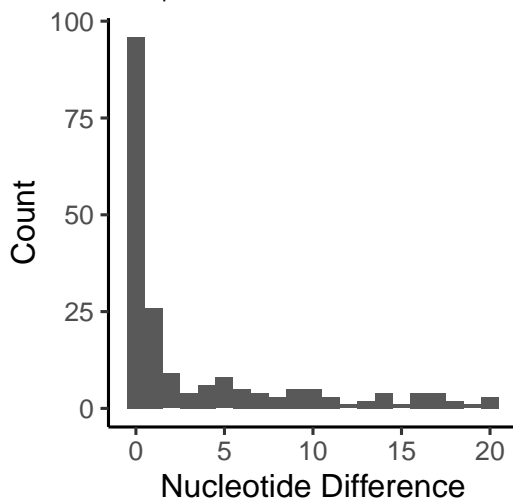
## IGHV1-69-2\*01

81 sequences assigned  
25 (30.9%) exact matches, in which:  
25 unique CDR3  
4 unique J



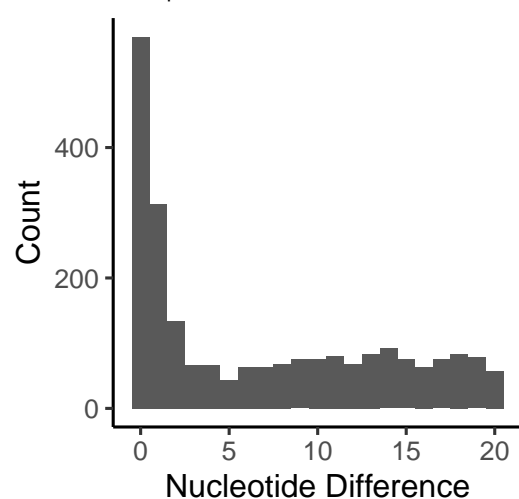
## IGHV2-26\*01

214 sequences assigned  
96 (44.9%) exact matches, in which:  
96 unique CDR3  
5 unique J



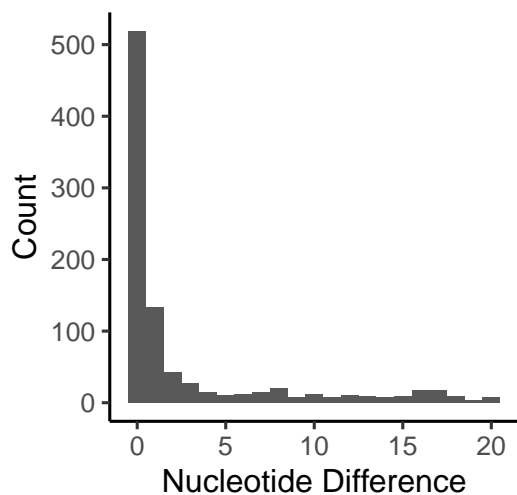
## IGHV3-9\*01

2831 sequences assigned  
570 (20.1%) exact matches, in which:  
554 unique CDR3  
6 unique J



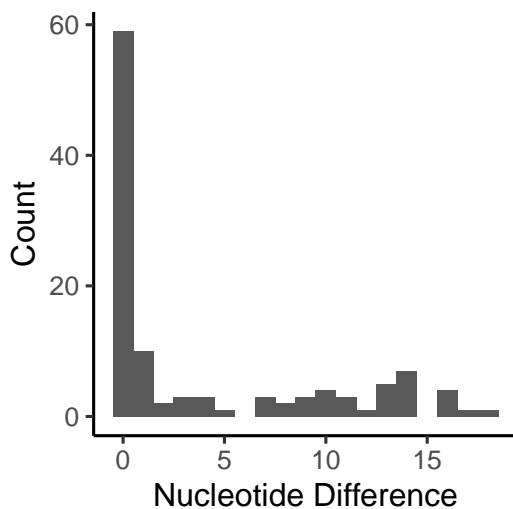
## IGHV1-69\*06

1100 sequences assigned  
519 (47.2%) exact matches, in which:  
515 unique CDR3  
6 unique J



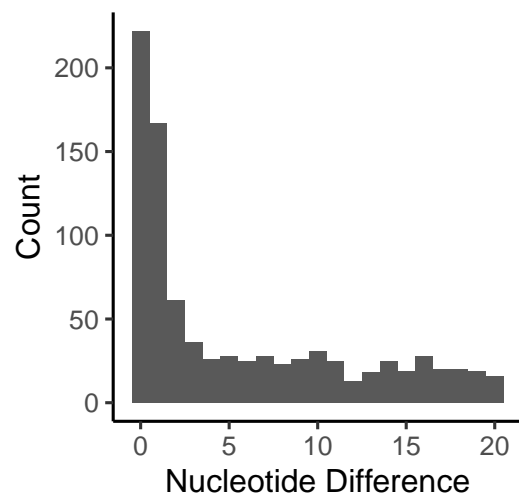
## IGHV2-70\*01

119 sequences assigned  
59 (49.6%) exact matches, in which:  
59 unique CDR3  
5 unique J



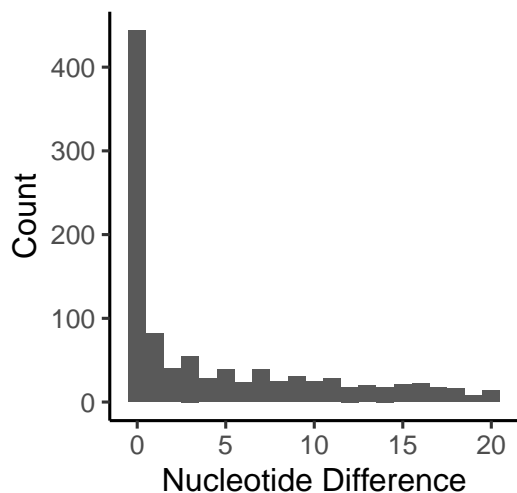
## IGHV3-11\*01

1117 sequences assigned  
222 (19.9%) exact matches, in which:  
219 unique CDR3  
6 unique J



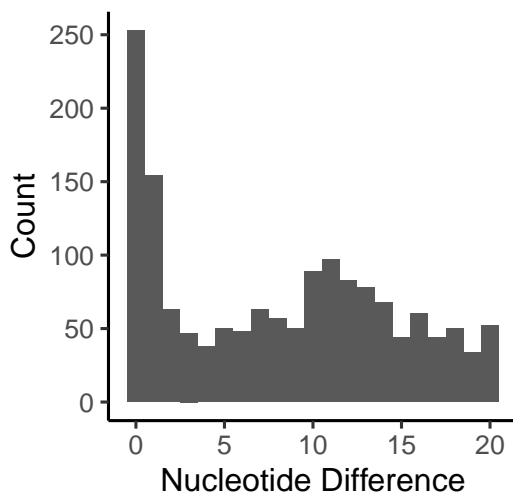
## IGHV2-5\*02

1166 sequences assigned  
444 (38.1%) exact matches, in which:  
438 unique CDR3  
6 unique J



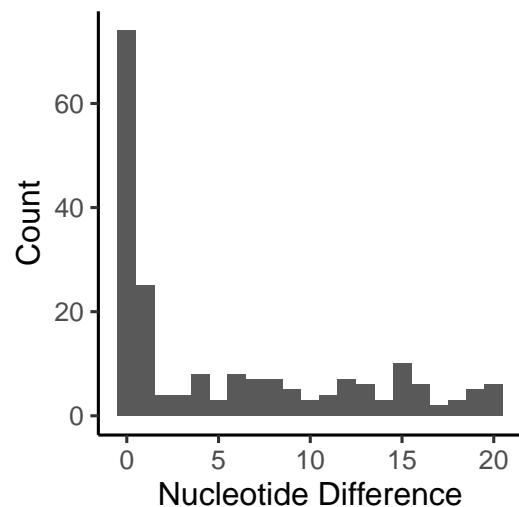
## IGHV3-7\*01

1888 sequences assigned  
253 (13.4%) exact matches, in which:  
243 unique CDR3  
6 unique J



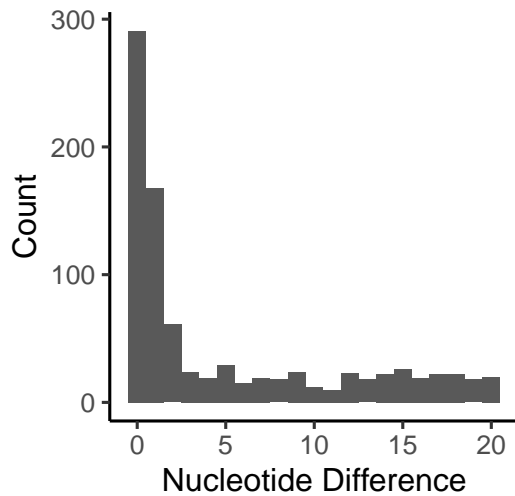
## IGHV3-13\*01

238 sequences assigned  
74 (31.1%) exact matches, in which:  
72 unique CDR3  
4 unique J



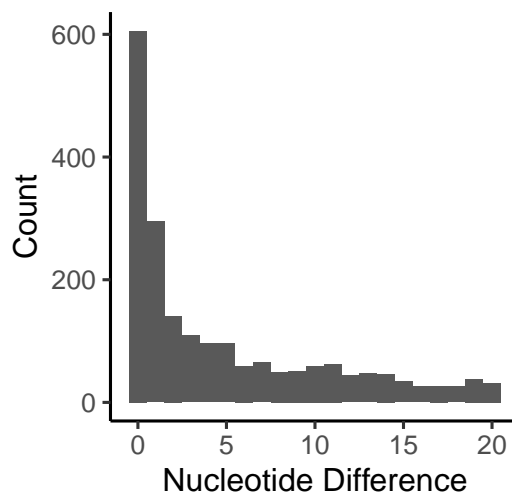
### IGHV3-15\*01

1158 sequences assigned  
291 (25.1%) exact matches, in which:  
284 unique CDR3  
6 unique J



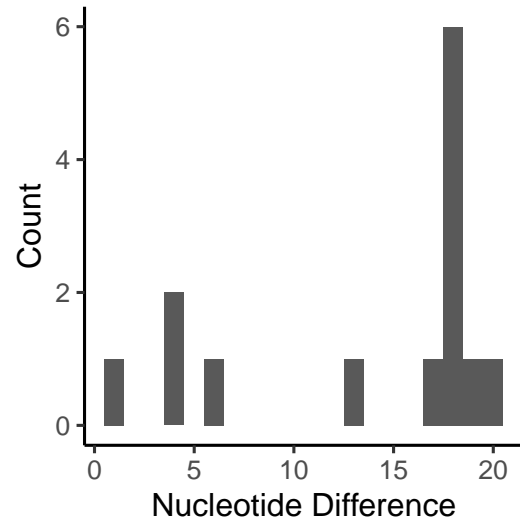
### IGHV3-21\*01

2504 sequences assigned  
606 (24.2%) exact matches, in which:  
591 unique CDR3  
6 unique J



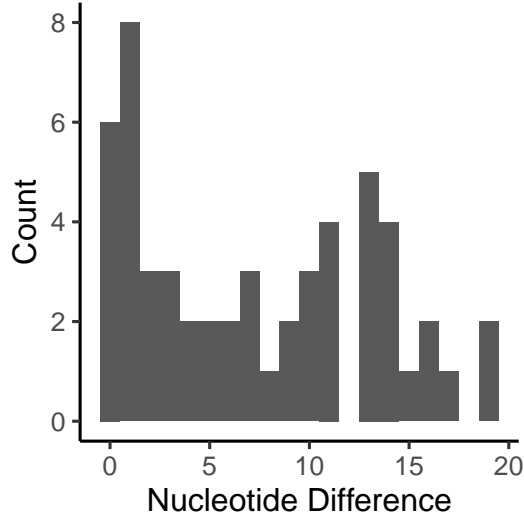
### IGHV3-30-3\*03

40 sequences assigned  
No exact matches.



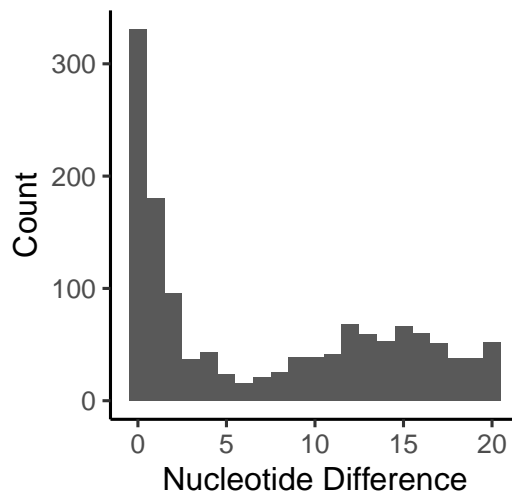
### IGHV3-20\*01

57 sequences assigned  
6 (10.5%) exact matches, in which:  
6 unique CDR3  
3 unique J



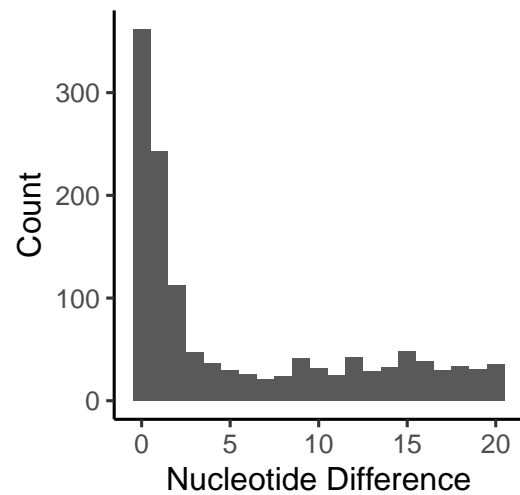
### IGHV3-23\*04

1806 sequences assigned  
331 (18.3%) exact matches, in which:  
325 unique CDR3  
6 unique J



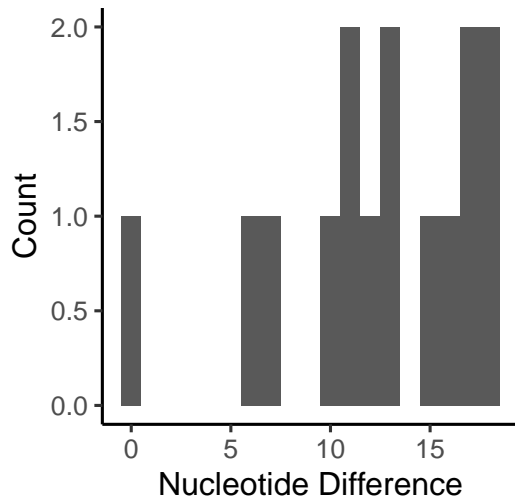
### IGHV3-33\*01

1599 sequences assigned  
362 (22.6%) exact matches, in which:  
357 unique CDR3  
6 unique J



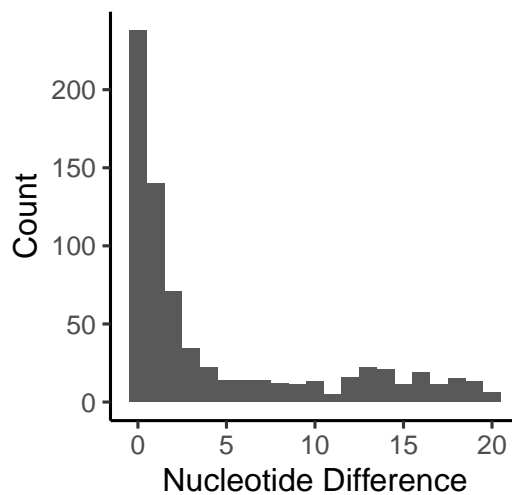
### IGHV3-20\*04

18 sequences assigned  
1 (5.6%) exact matches, in which:  
1 unique CDR3  
1 unique J



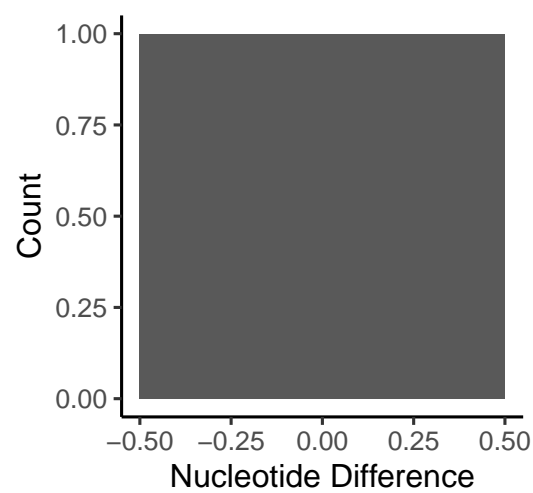
### IGHV3-30\*01

913 sequences assigned  
238 (26.1%) exact matches, in which:  
232 unique CDR3  
6 unique J



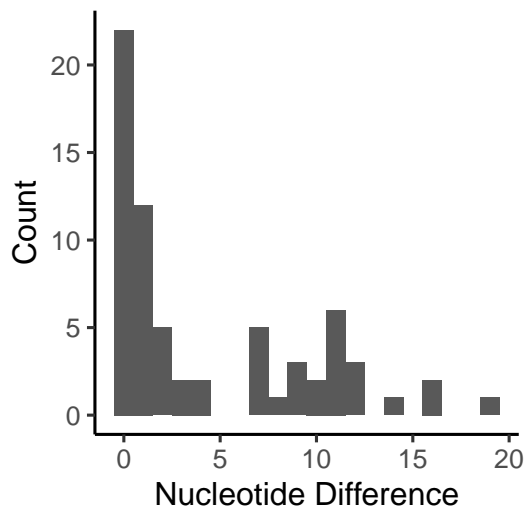
### IGHV3-35\*01

2 sequences assigned  
1 (50%) exact matches, in which:  
1 unique CDR3  
1 unique J



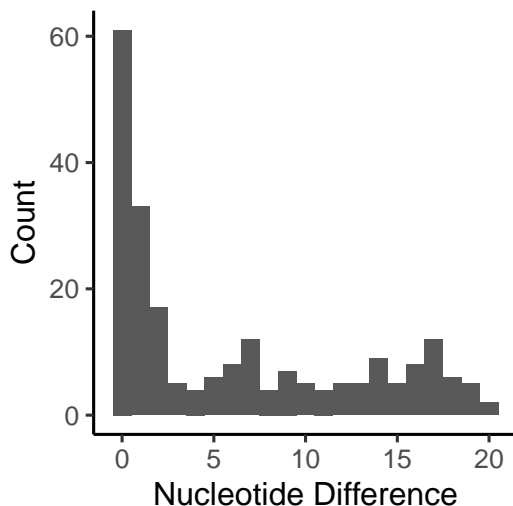
### IGHV3-43\*01

80 sequences assigned  
22 (27.5%) exact matches, in which:  
19 unique CDR3  
3 unique J



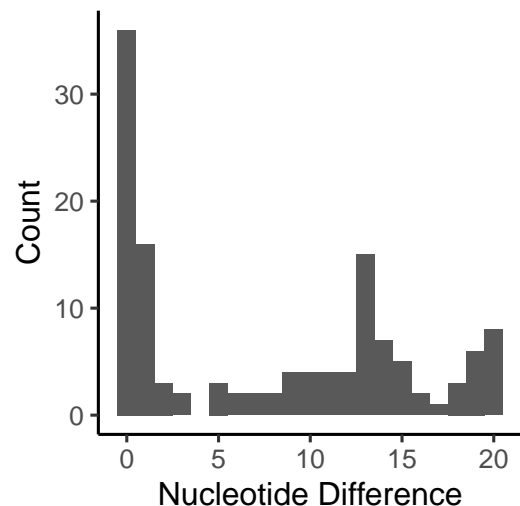
### IGHV3-49\*04

288 sequences assigned  
61 (21.2%) exact matches, in which:  
59 unique CDR3  
5 unique J



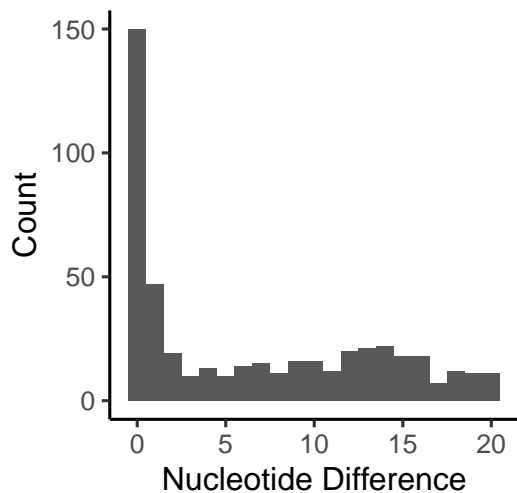
### IGHV3-53\*02

183 sequences assigned  
36 (19.7%) exact matches, in which:  
34 unique CDR3  
6 unique J



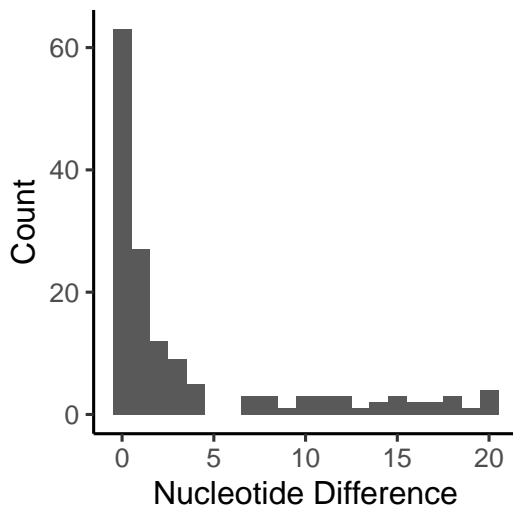
### IGHV3-48\*02

581 sequences assigned  
150 (25.8%) exact matches, in which:  
147 unique CDR3  
6 unique J



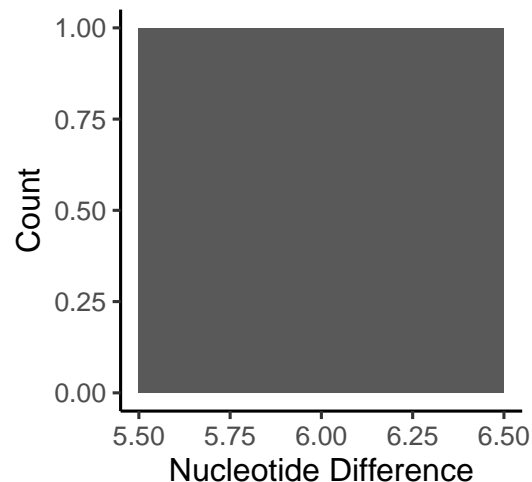
### IGHV3-49\*05

185 sequences assigned  
63 (34.1%) exact matches, in which:  
60 unique CDR3  
4 unique J



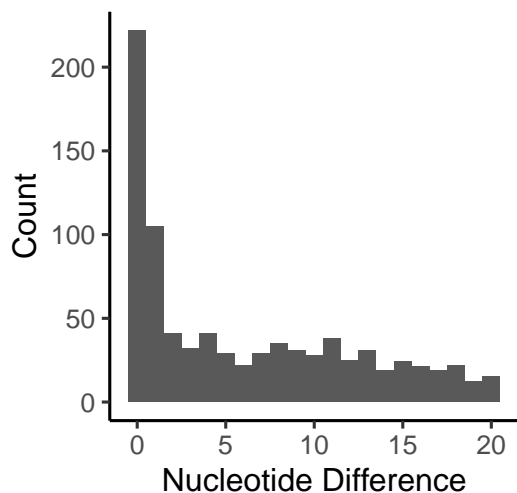
### IGHV3-62\*04

1 sequences assigned  
No exact matches.



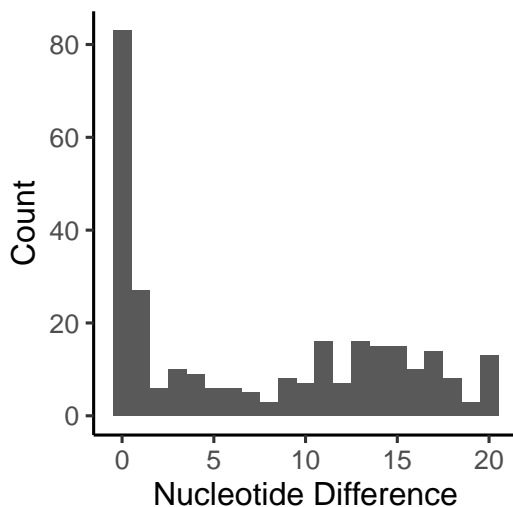
### IGHV3-48\*03

1006 sequences assigned  
222 (22.1%) exact matches, in which:  
213 unique CDR3  
6 unique J



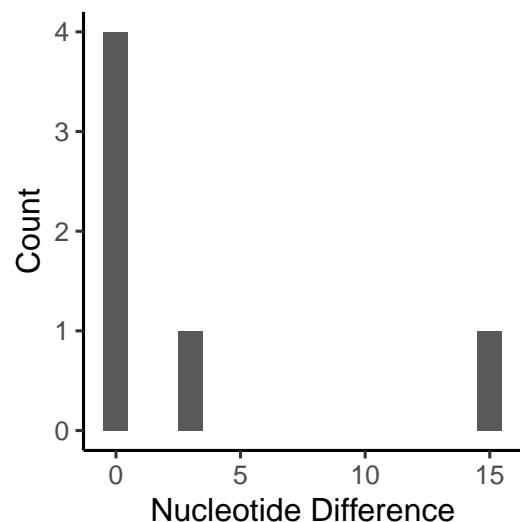
### IGHV3-53\*01

380 sequences assigned  
83 (21.8%) exact matches, in which:  
81 unique CDR3  
6 unique J



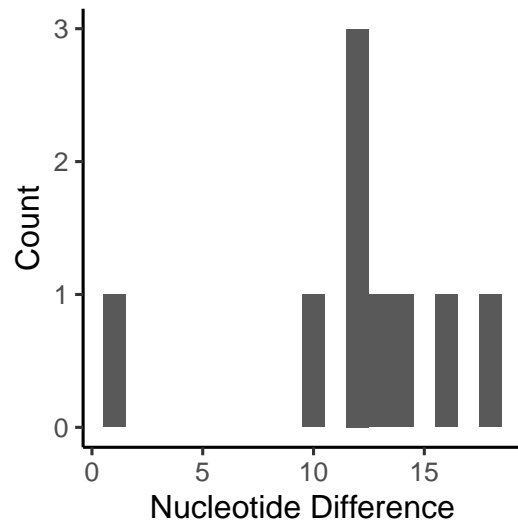
### IGHV3-64\*02

6 sequences assigned  
4 (66.7%) exact matches, in which:  
4 unique CDR3  
2 unique J



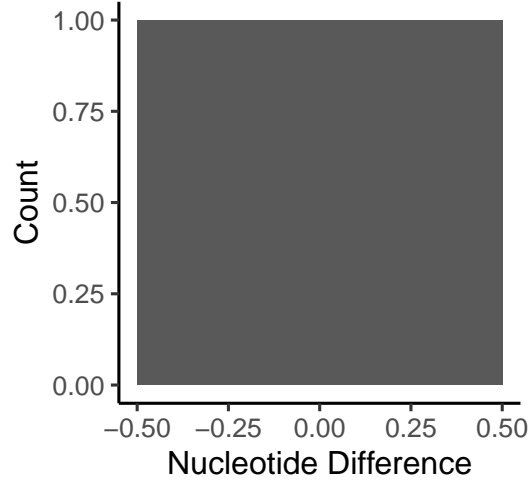
### IGHV3-66\*03

9 sequences assigned  
No exact matches.



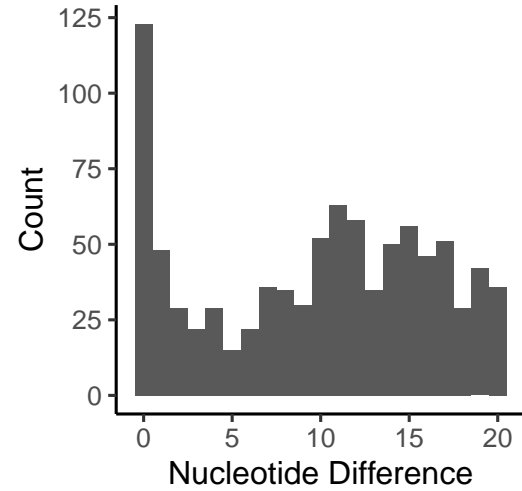
### IGHV3-71\*03

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



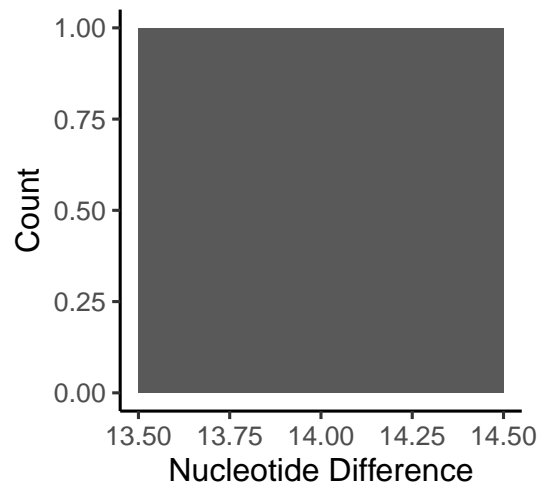
### IGHV3-74\*01

1260 sequences assigned  
123 (9.8%) exact matches, in which:  
120 unique CDR3  
6 unique J



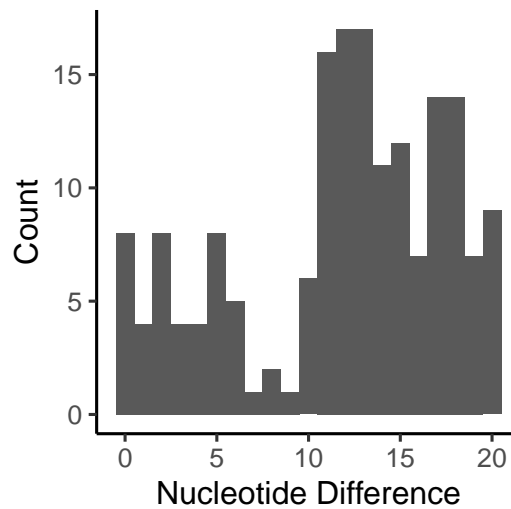
### IGHV3-66\*04

1 sequences assigned  
No exact matches.



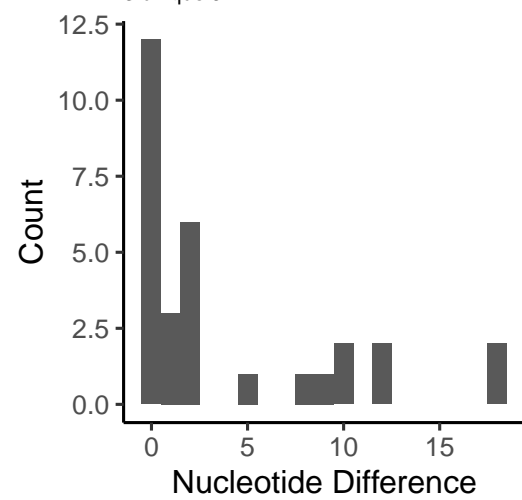
### IGHV3-72\*01

246 sequences assigned  
8 (3.3%) exact matches, in which:  
8 unique CDR3  
4 unique J



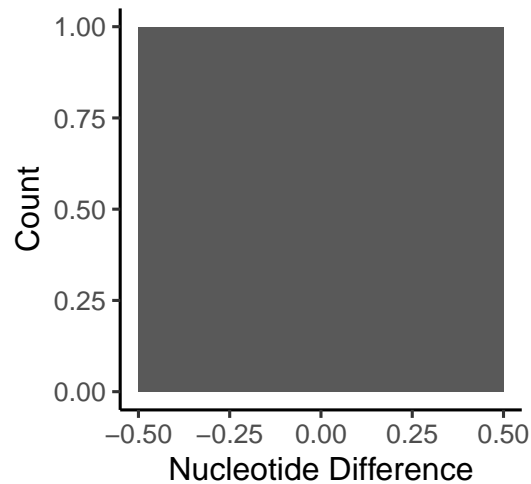
### IGHV3-43D\*04

31 sequences assigned  
12 (38.7%) exact matches, in which:  
11 unique CDR3  
3 unique J



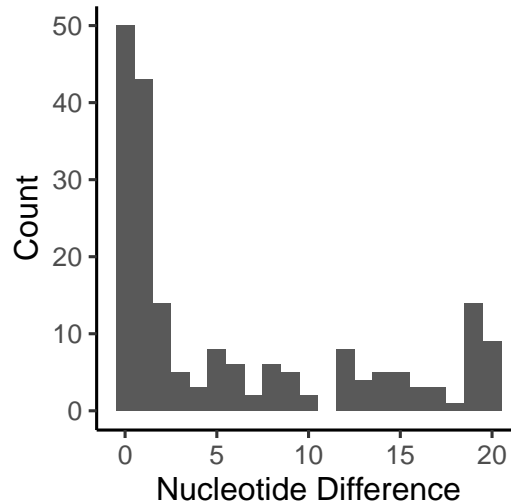
### IGHV3-69-1\*01

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



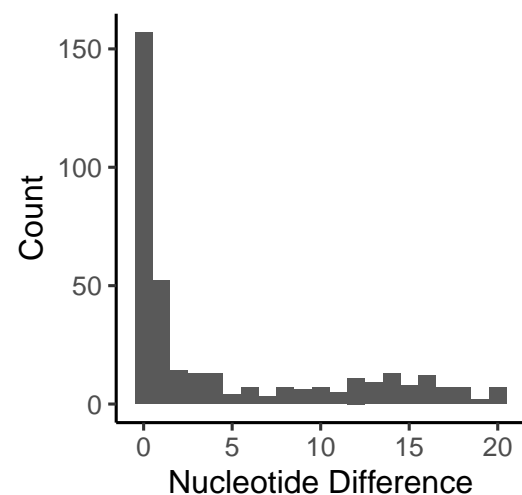
### IGHV3-73\*02

235 sequences assigned  
50 (21.3%) exact matches, in which:  
49 unique CDR3  
5 unique J



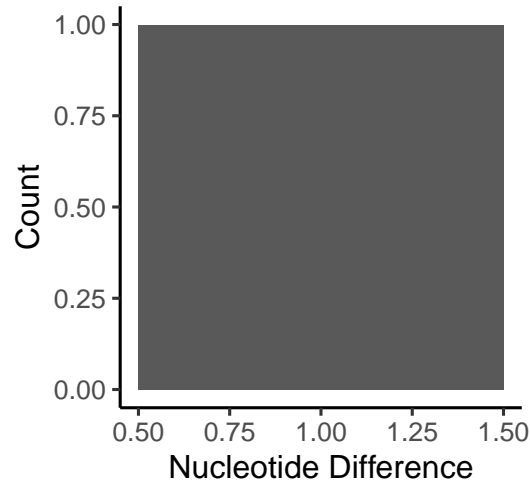
### IGHV4-4\*02

464 sequences assigned  
157 (33.8%) exact matches, in which:  
154 unique CDR3  
6 unique J



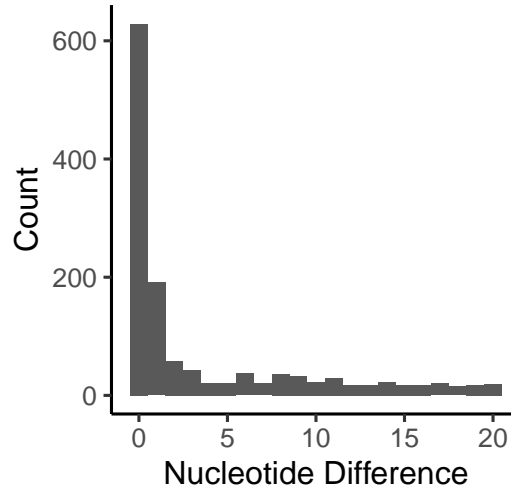
### IGHV4-28\*01

1 sequences assigned  
No exact matches.



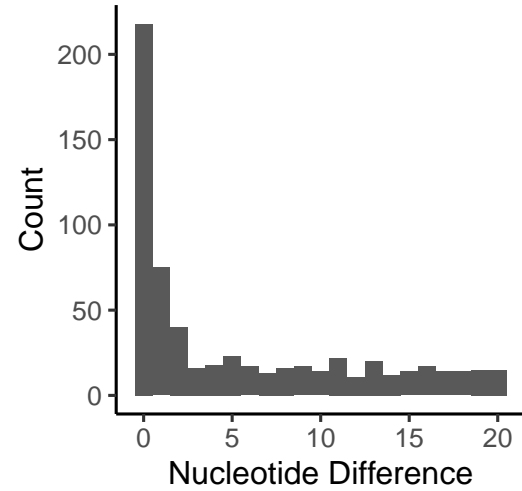
### IGHV4-34\*01

1489 sequences assigned  
629 (42.2%) exact matches, in which:  
616 unique CDR3  
6 unique J



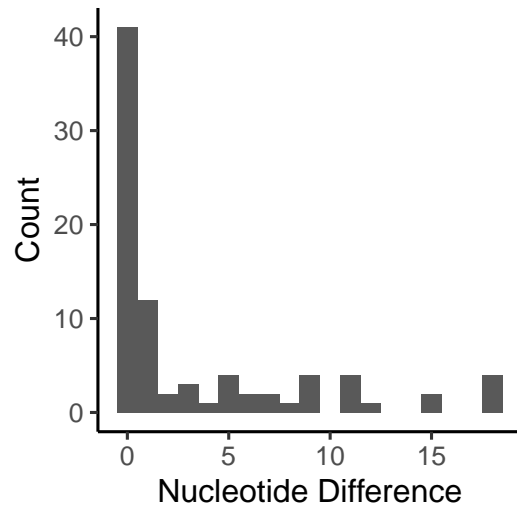
### IGHV4-59\*01

761 sequences assigned  
218 (28.6%) exact matches, in which:  
211 unique CDR3  
6 unique J



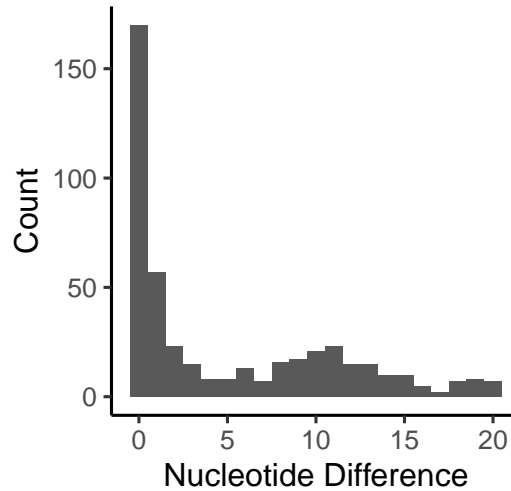
### IGHV4-31\*01

89 sequences assigned  
41 (46.1%) exact matches, in which:  
41 unique CDR3  
5 unique J



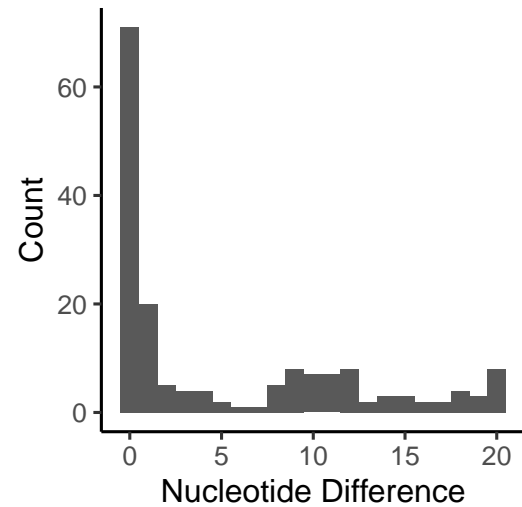
### IGHV4-38-2\*02\_A70G

543 sequences assigned  
170 (31.3%) exact matches, in which:  
166 unique CDR3  
6 unique J



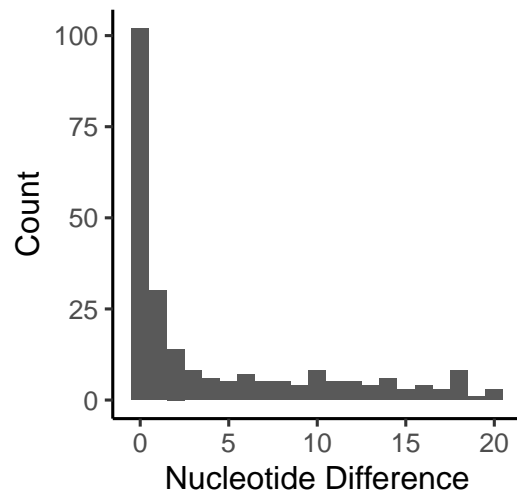
### IGHV4-61\*01

272 sequences assigned  
71 (26.1%) exact matches, in which:  
71 unique CDR3  
6 unique J



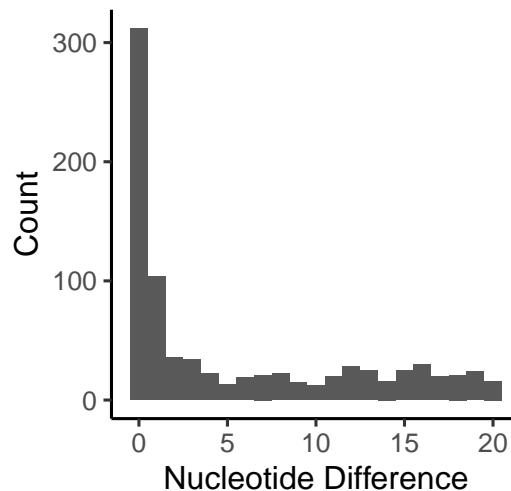
### IGHV4-31\*03

293 sequences assigned  
102 (34.8%) exact matches, in which:  
102 unique CDR3  
5 unique J



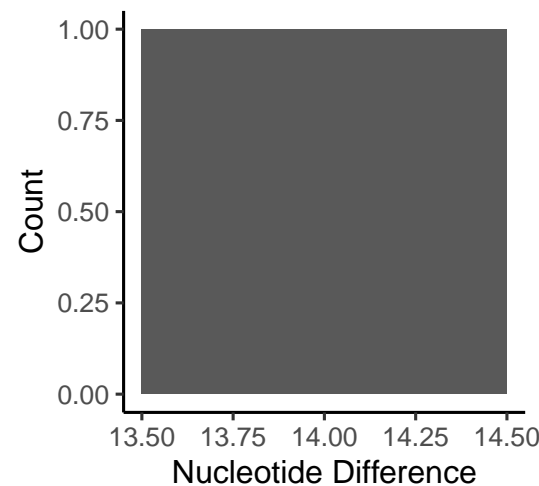
### IGHV4-39\*01

1117 sequences assigned  
312 (27.9%) exact matches, in which:  
306 unique CDR3  
5 unique J



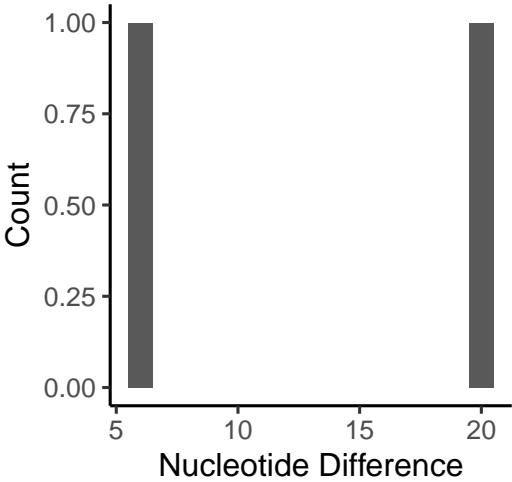
### IGHV1/OR15-1\*04

3 sequences assigned  
No exact matches.



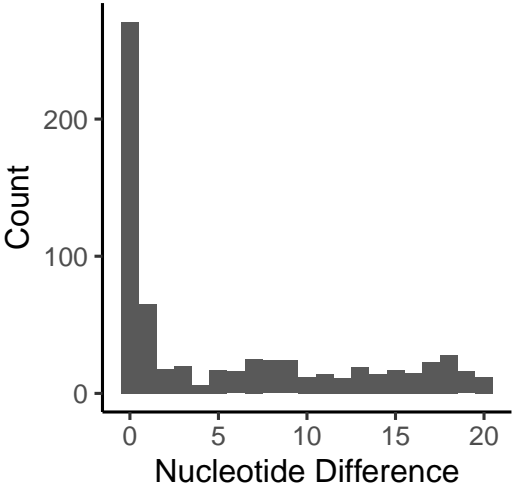
IGHV4/OR15-8\*02

3 sequences assigned  
No exact matches.



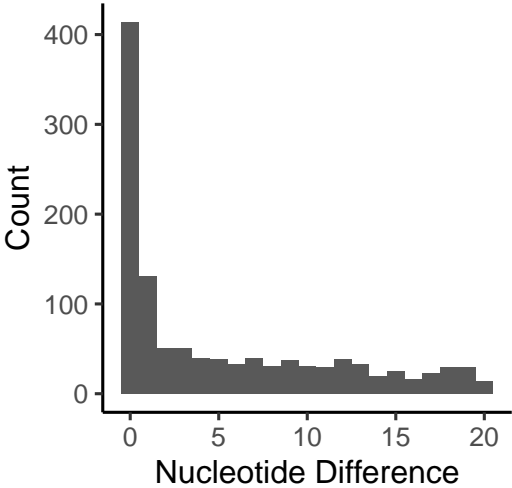
IGHV7-4-1\*02

818 sequences assigned  
271 (33.1%) exact matches, in which:  
266 unique CDR3  
6 unique J



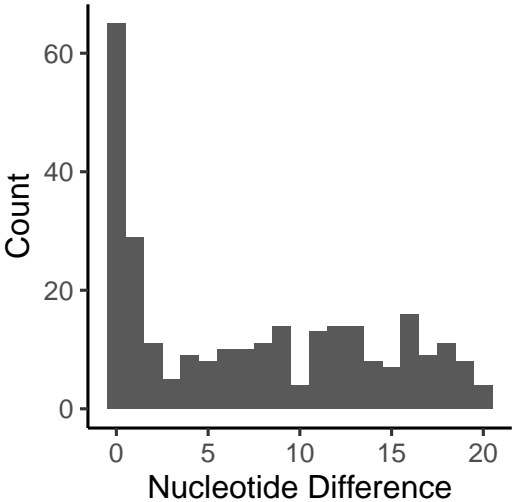
IGHV5-51\*01

1314 sequences assigned  
414 (31.5%) exact matches, in which:  
404 unique CDR3  
6 unique J



IGHV6-1\*01

317 sequences assigned  
65 (20.5%) exact matches, in which:  
64 unique CDR3  
5 unique J







Warning – no inferred sequences found.