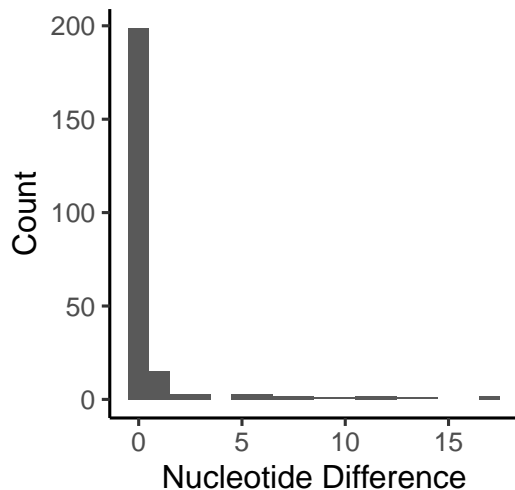


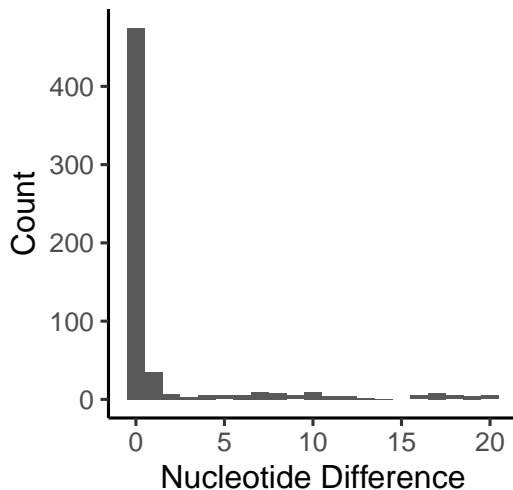
### IGHV1-2\*04

248 sequences assigned  
199 (80.2%) exact matches, in which:  
196 unique CDR3  
6 unique J



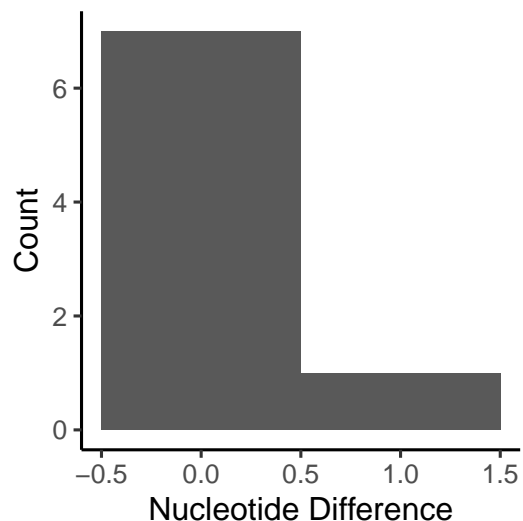
### IGHV1-8\*01

630 sequences assigned  
475 (75.4%) exact matches, in which:  
473 unique CDR3  
6 unique J



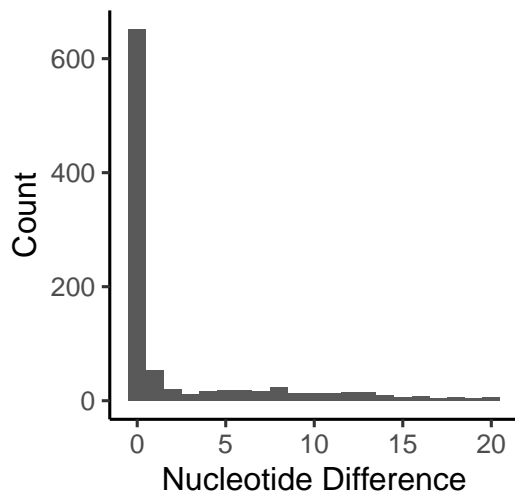
### IGHV1-45\*02

11 sequences assigned  
7 (63.6%) exact matches, in which:  
7 unique CDR3  
3 unique J



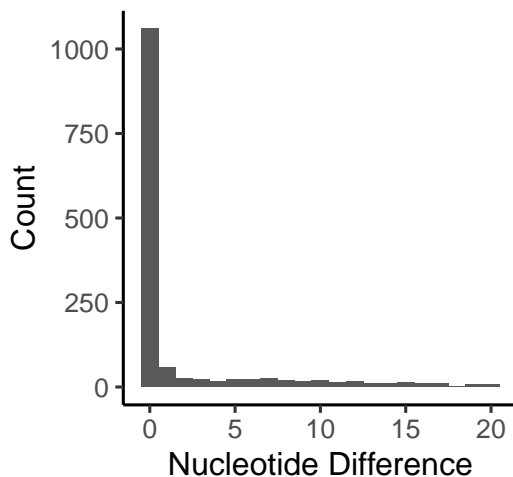
### IGHV1-2\*06

981 sequences assigned  
652 (66.5%) exact matches, in which:  
650 unique CDR3  
6 unique J



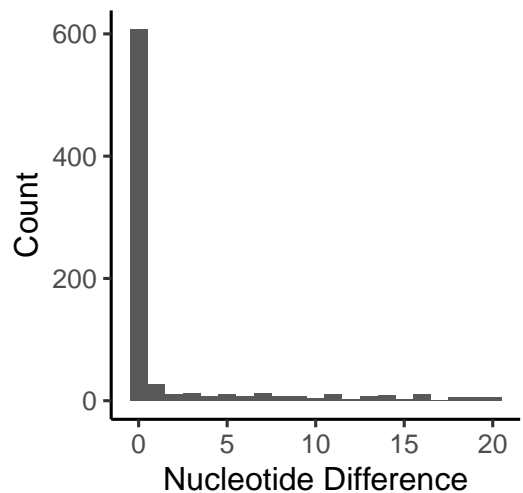
### IGHV1-18\*01

1459 sequences assigned  
1060 (72.7%) exact matches, in which:  
1050 unique CDR3  
6 unique J



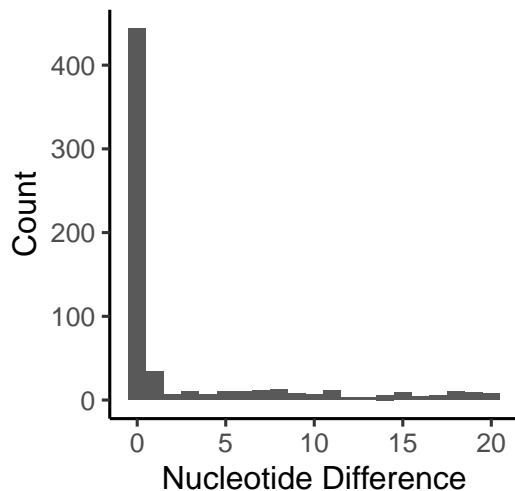
### IGHV1-46\*01

796 sequences assigned  
608 (76.4%) exact matches, in which:  
607 unique CDR3  
6 unique J



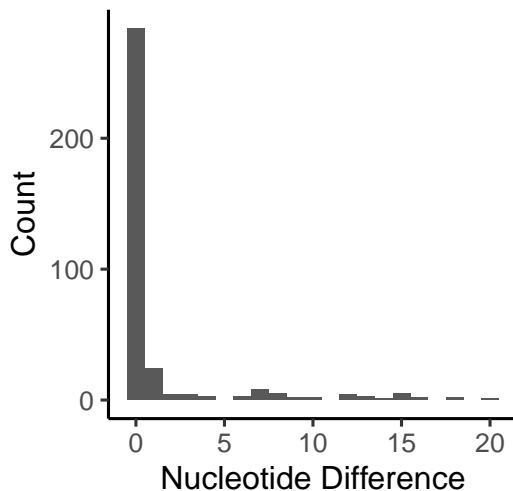
### IGHV1-3\*01\_05

667 sequences assigned  
444 (66.6%) exact matches, in which:  
442 unique CDR3  
6 unique J



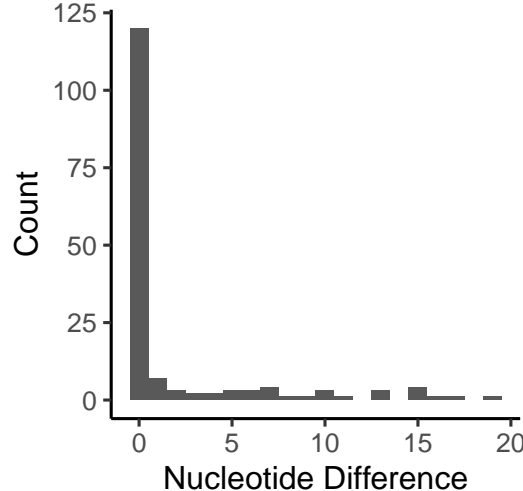
### IGHV1-24\*01

364 sequences assigned  
284 (78%) exact matches, in which:  
282 unique CDR3  
6 unique J



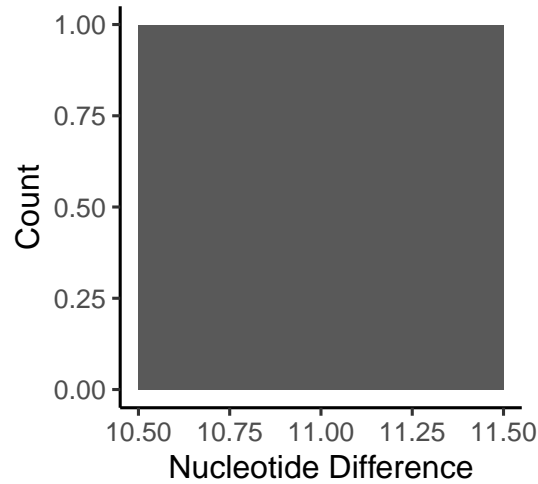
### IGHV1-58\*01\_03

164 sequences assigned  
120 (73.2%) exact matches, in which:  
119 unique CDR3  
6 unique J



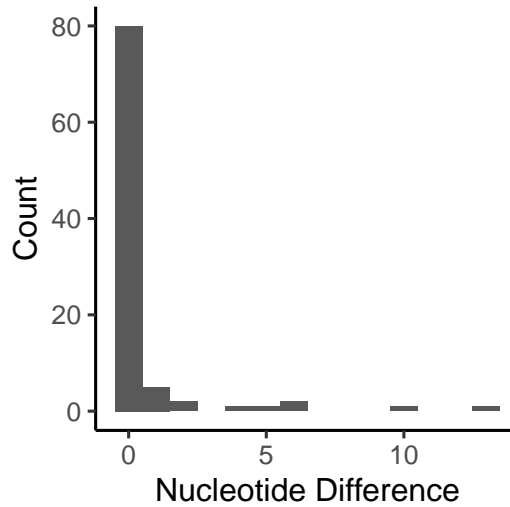
### IGHV1-68\*01

1 sequences assigned  
No exact matches.



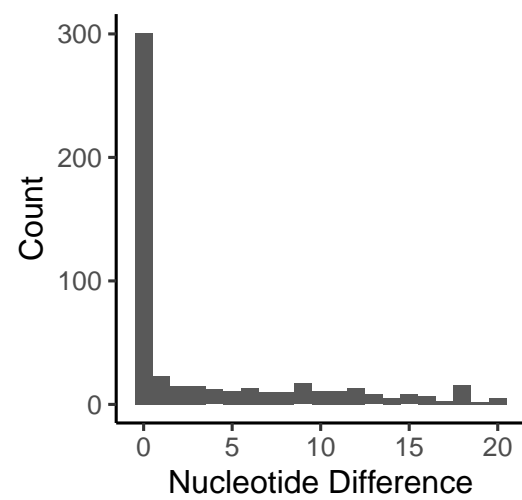
### IGHV2-26\*01

96 sequences assigned  
80 (83.3%) exact matches, in which:  
80 unique CDR3  
5 unique J



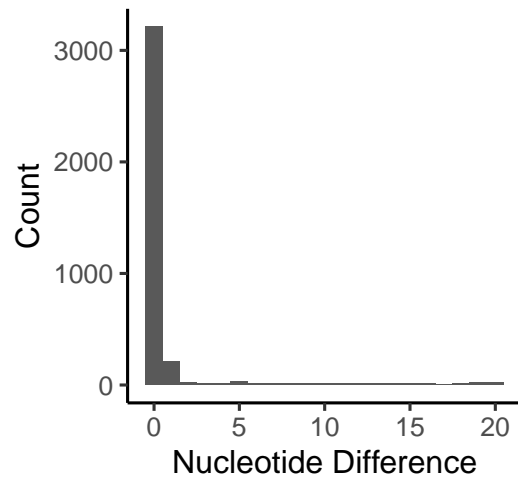
### IGHV3-7\*03

545 sequences assigned  
301 (55.2%) exact matches, in which:  
291 unique CDR3  
6 unique J



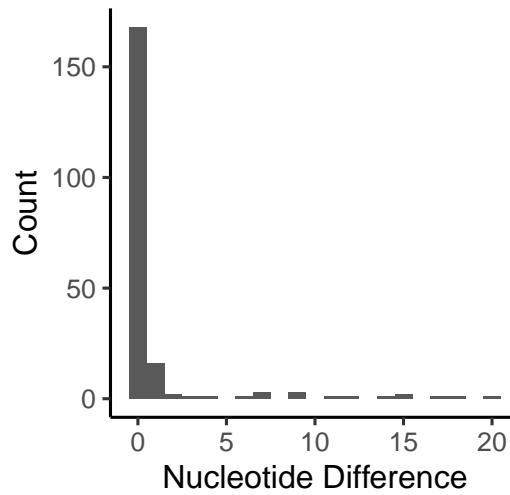
### IGHV1-69\*01\_12\_13

3768 sequences assigned  
3212 (85.2%) exact matches, in which:  
3201 unique CDR3  
6 unique J



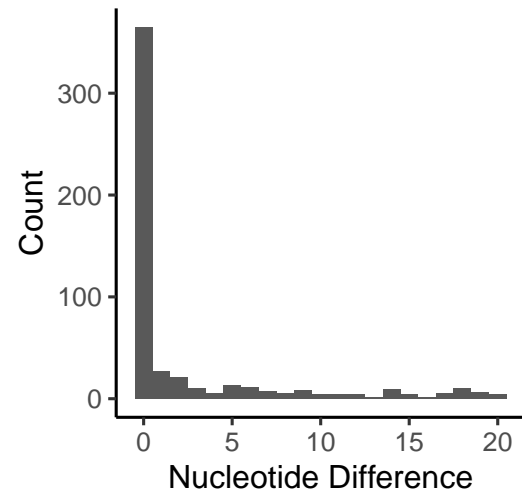
### IGHV2-70\*01

204 sequences assigned  
168 (82.4%) exact matches, in which:  
168 unique CDR3  
5 unique J



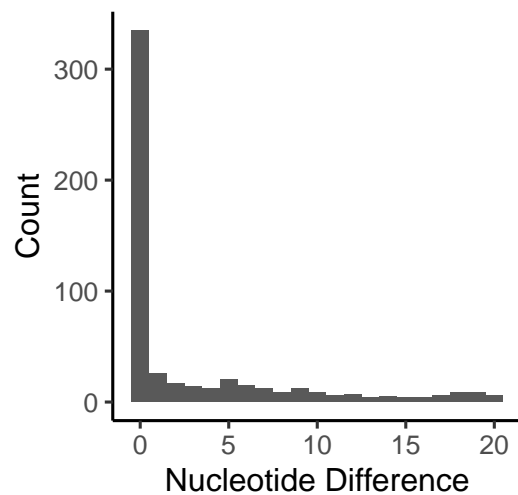
### IGHV3-9\*01

534 sequences assigned  
365 (68.4%) exact matches, in which:  
360 unique CDR3  
6 unique J



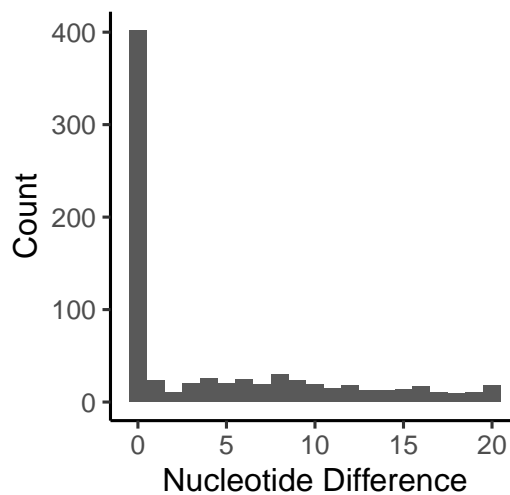
### IGHV2-5\*02

607 sequences assigned  
335 (55.2%) exact matches, in which:  
334 unique CDR3  
6 unique J



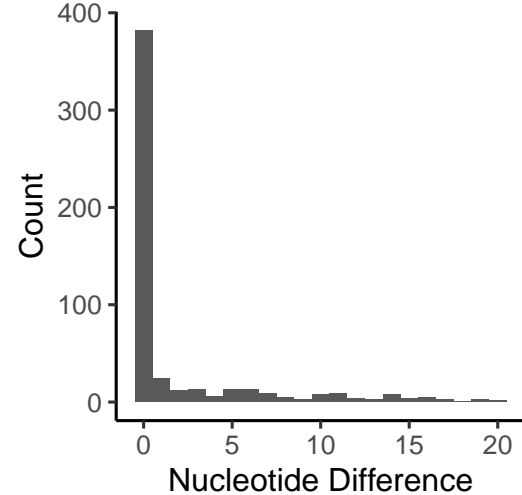
### IGHV3-7\*01

788 sequences assigned  
402 (51%) exact matches, in which:  
398 unique CDR3  
6 unique J



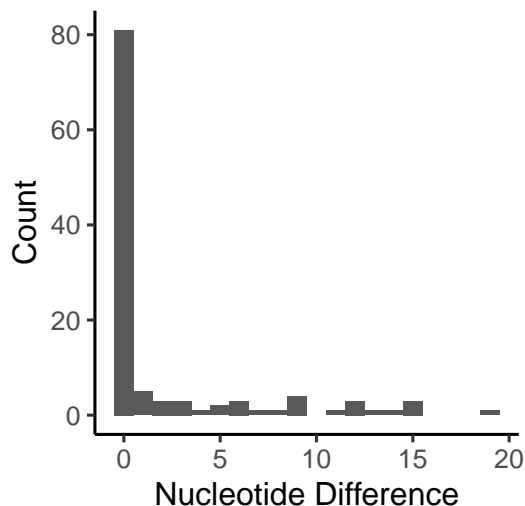
### IGHV3-11\*01

555 sequences assigned  
382 (68.8%) exact matches, in which:  
366 unique CDR3  
6 unique J



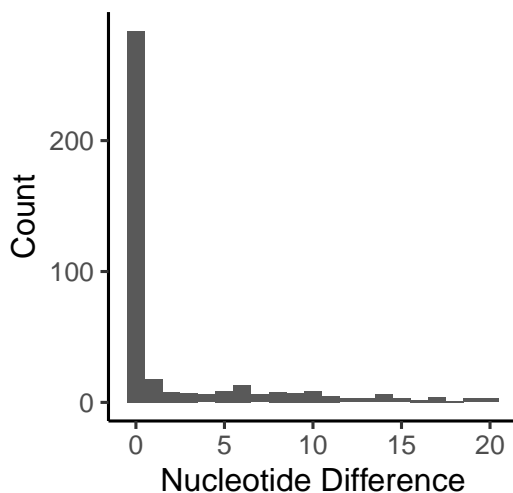
### IGHV3-11\*06

116 sequences assigned  
81 (69.8%) exact matches, in which:  
78 unique CDR3  
5 unique J



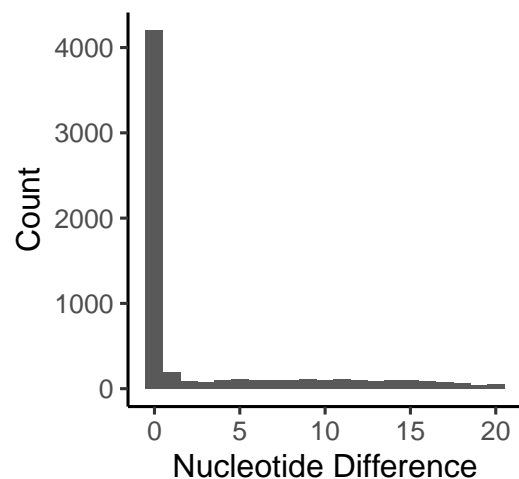
### IGHV3-15\*01\_02

420 sequences assigned  
284 (67.6%) exact matches, in which:  
282 unique CDR3  
6 unique J



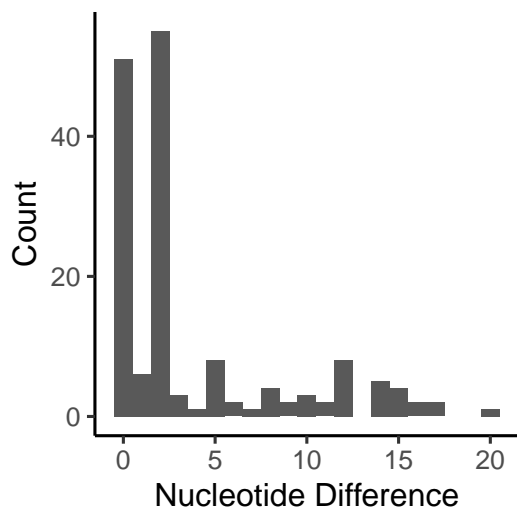
### IGHV3-23\*01\_04

6370 sequences assigned  
4201 (65.9%) exact matches, in which:  
4105 unique CDR3  
6 unique J



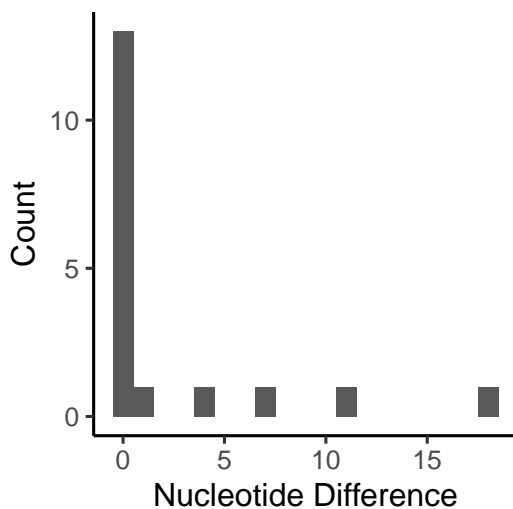
### IGHV3-13\*01

166 sequences assigned  
51 (30.7%) exact matches, in which:  
50 unique CDR3  
6 unique J



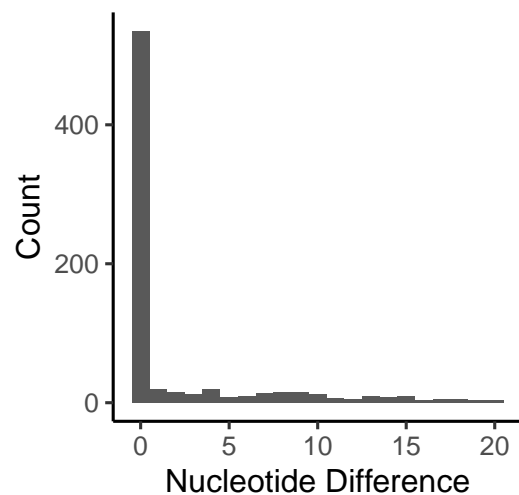
### IGHV3-20\*03\_04

18 sequences assigned  
13 (72.2%) exact matches, in which:  
13 unique CDR3  
3 unique J



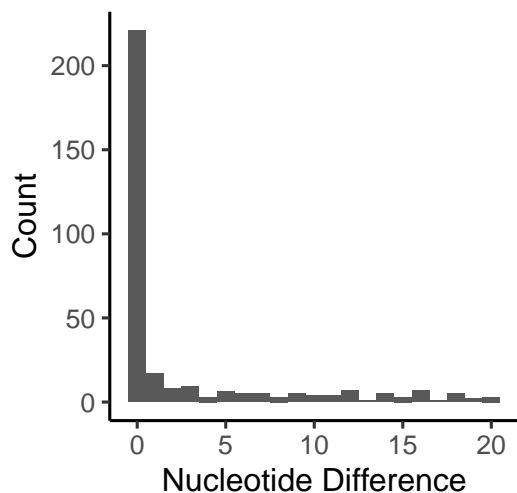
### IGHV3-33\*01

777 sequences assigned  
535 (68.9%) exact matches, in which:  
528 unique CDR3  
6 unique J



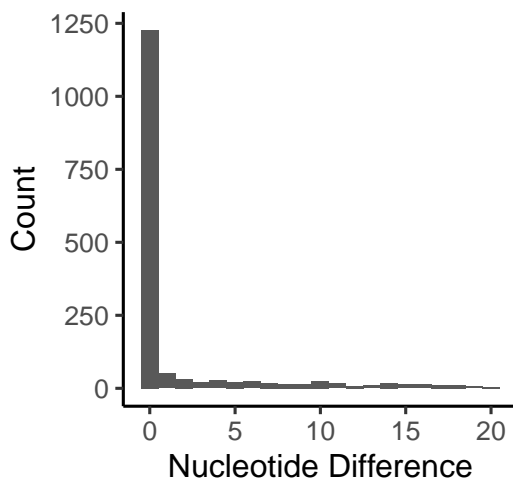
### IGHV3-15\*07

342 sequences assigned  
221 (64.6%) exact matches, in which:  
220 unique CDR3  
4 unique J



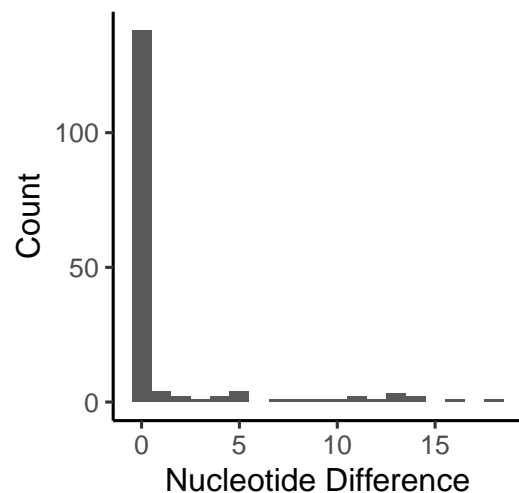
### IGHV3-21\*01\_02

1624 sequences assigned  
1227 (75.6%) exact matches, in which:  
1205 unique CDR3  
6 unique J



### IGHV3-43\*01

169 sequences assigned  
138 (81.7%) exact matches, in which:  
135 unique CDR3  
6 unique J



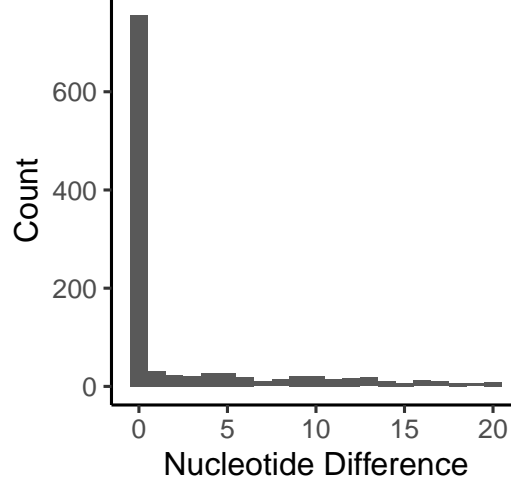
### IGHV3-47\*02

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



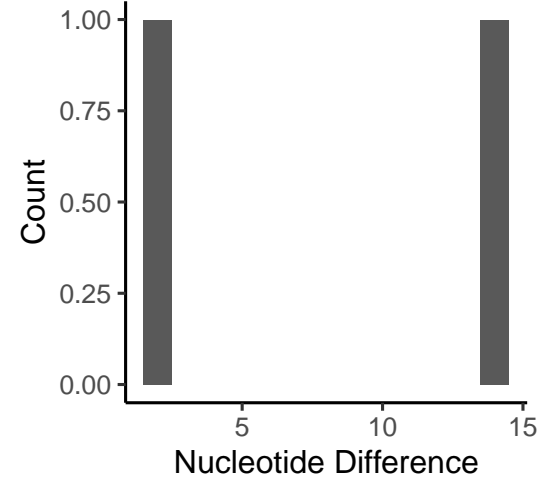
### IGHV3-53\*01\_02

1153 sequences assigned  
757 (65.7%) exact matches, in which:  
743 unique CDR3  
6 unique J



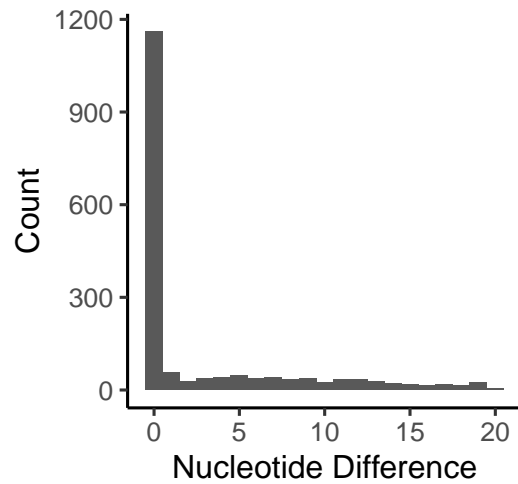
### IGHV3-66\*04

2 sequences assigned  
No exact matches.



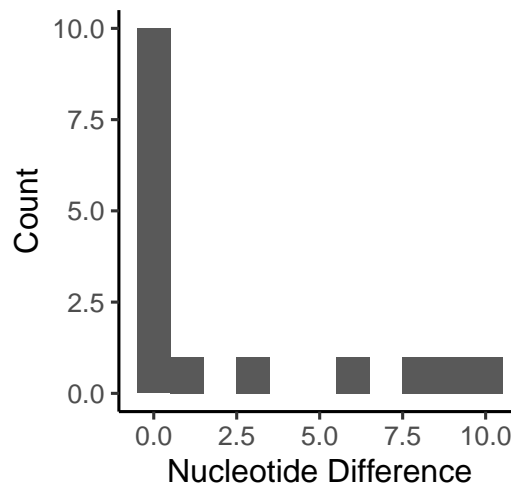
### IGHV3-48\*02

1826 sequences assigned  
1160 (63.5%) exact matches, in which:  
1142 unique CDR3  
6 unique J



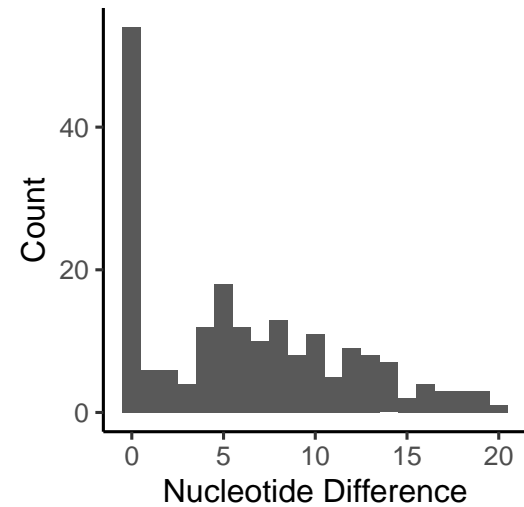
### IGHV3-64\*02\_07

16 sequences assigned  
10 (62.5%) exact matches, in which:  
10 unique CDR3  
4 unique J



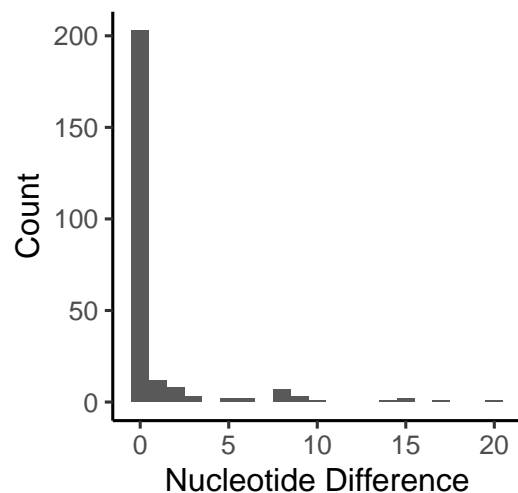
### IGHV3-72\*01

216 sequences assigned  
54 (25%) exact matches, in which:  
53 unique CDR3  
5 unique J



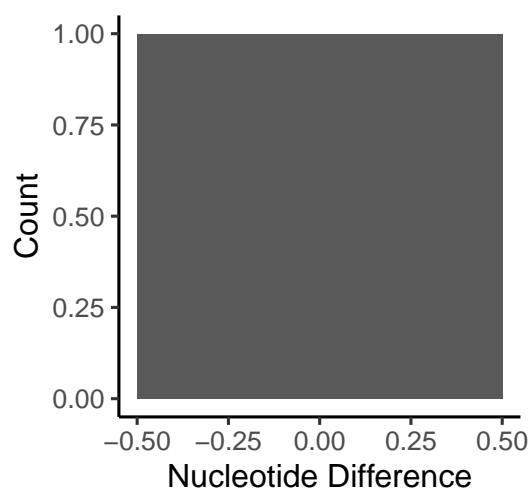
### IGHV3-49\*03\_05

255 sequences assigned  
203 (79.6%) exact matches, in which:  
202 unique CDR3  
6 unique J



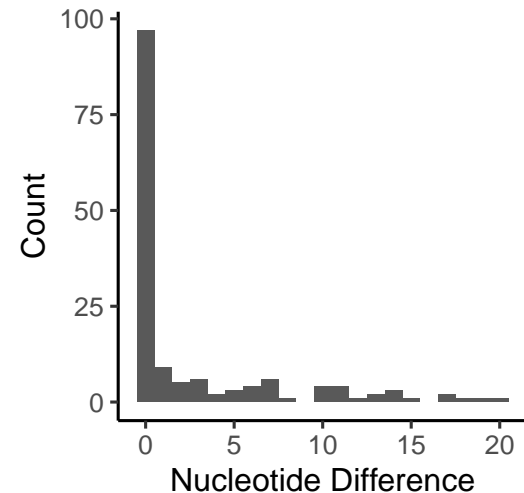
### IGHV3-66\*03

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



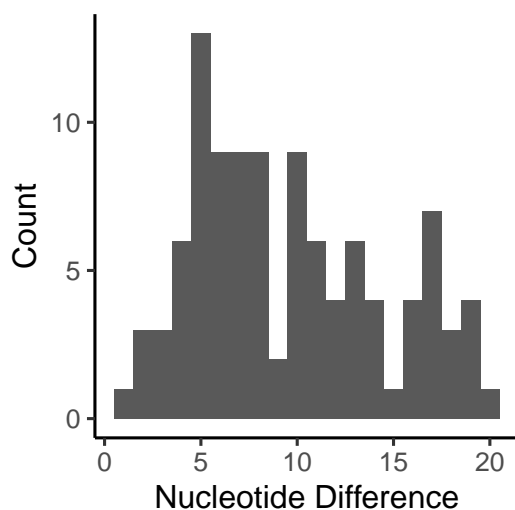
### IGHV3-73\*01\_02

159 sequences assigned  
97 (61%) exact matches, in which:  
95 unique CDR3  
6 unique J



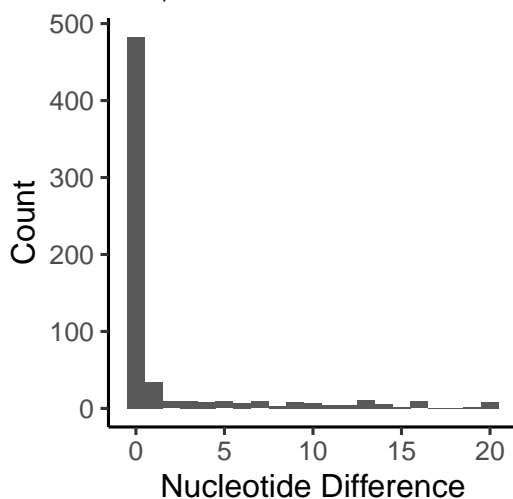
### IGHV3-74\*03

128 sequences assigned  
No exact matches.



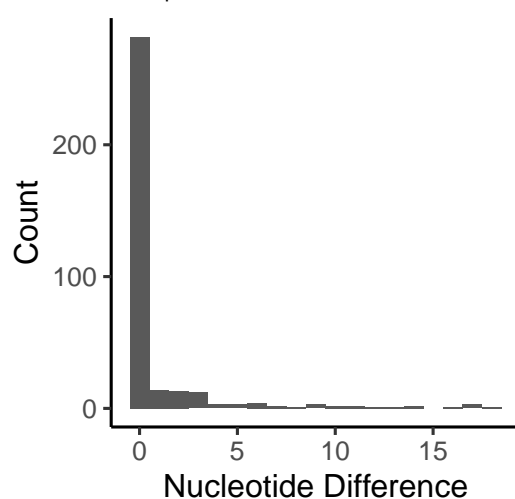
### IGHV4-4\*02\_03

661 sequences assigned  
483 (73.1%) exact matches, in which:  
482 unique CDR3  
6 unique J



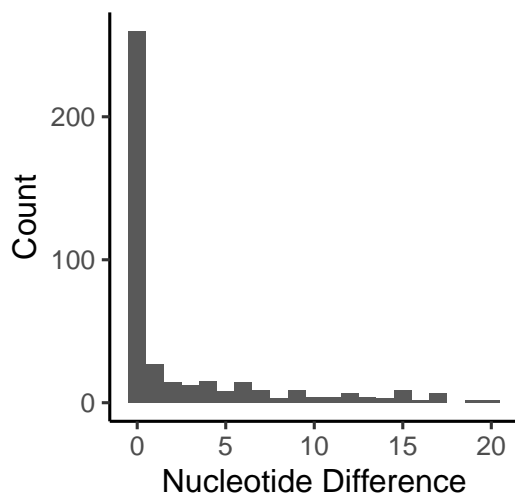
### IGHV4-30-2\*01

355 sequences assigned  
282 (79.4%) exact matches, in which:  
277 unique CDR3  
6 unique J



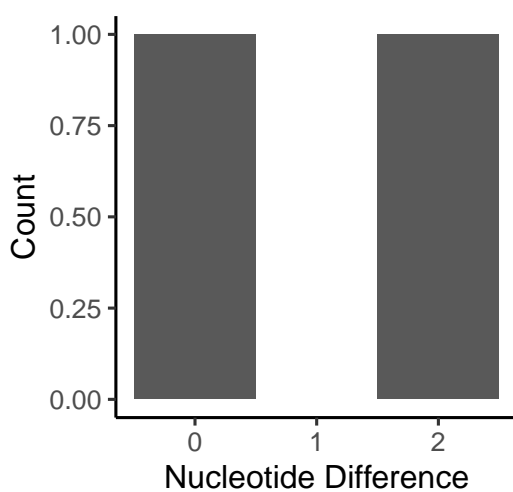
### IGHV3-74\*01\_02

428 sequences assigned  
260 (60.7%) exact matches, in which:  
255 unique CDR3  
6 unique J



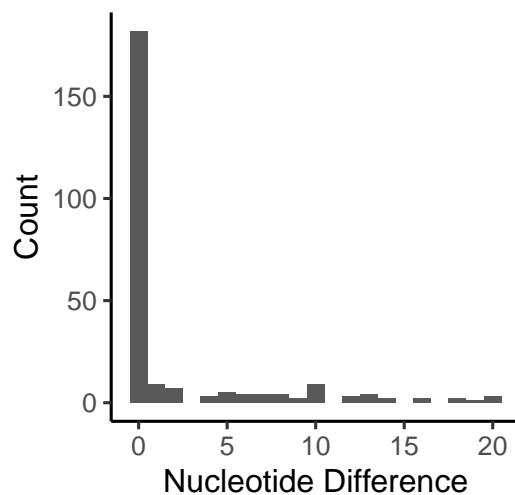
### IGHV4-28\*03

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



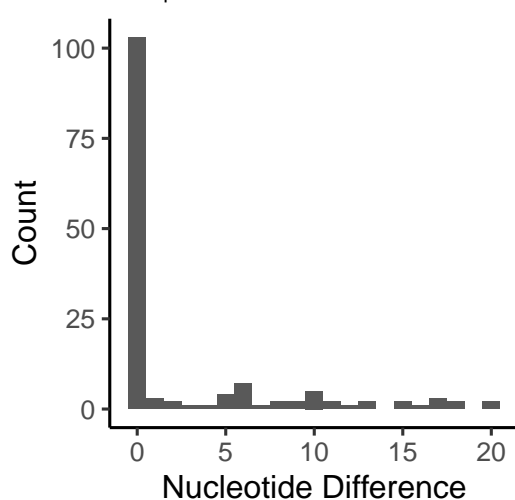
### IGHV4-30-4\*07

262 sequences assigned  
182 (69.5%) exact matches, in which:  
178 unique CDR3  
5 unique J



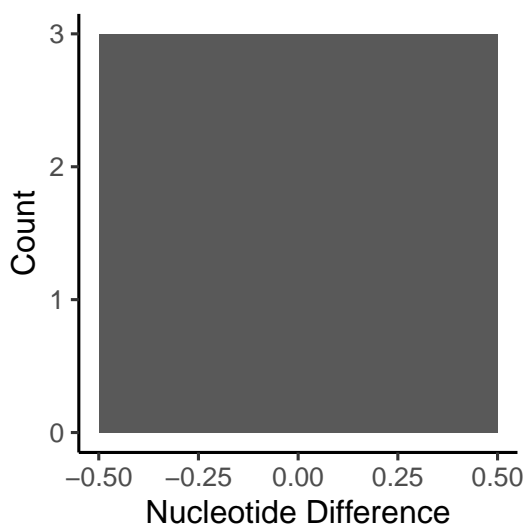
### IGHV3-64D\*06

153 sequences assigned  
103 (67.3%) exact matches, in which:  
101 unique CDR3  
6 unique J



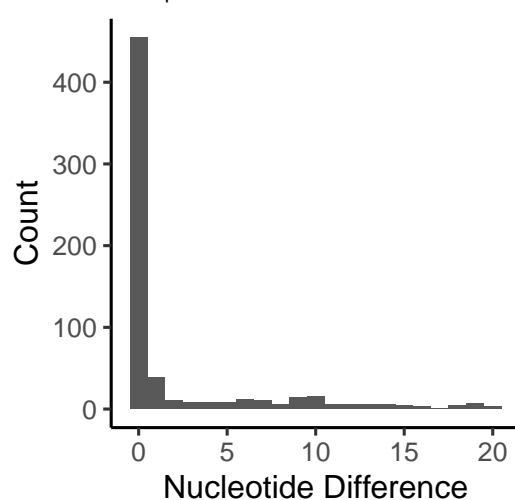
### IGHV4-28\*01\_07

3 sequences assigned  
3 (100%) exact matches, in which:  
3 unique CDR3  
3 unique J



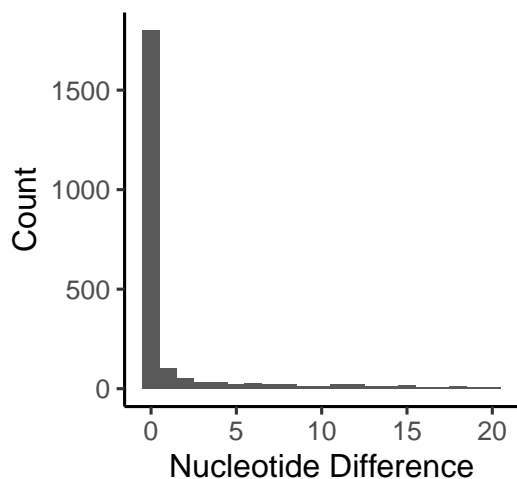
### IGHV4-31\*02

681 sequences assigned  
455 (66.8%) exact matches, in which:  
449 unique CDR3  
6 unique J



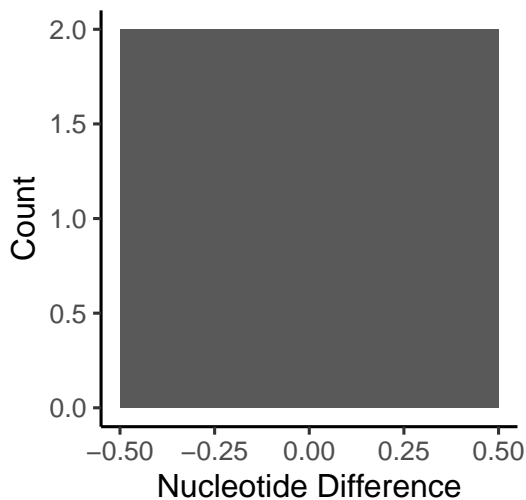
### IGHV4-34\*01\_02

2369 sequences assigned  
1800 (76%) exact matches, in which:  
1754 unique CDR3  
6 unique J



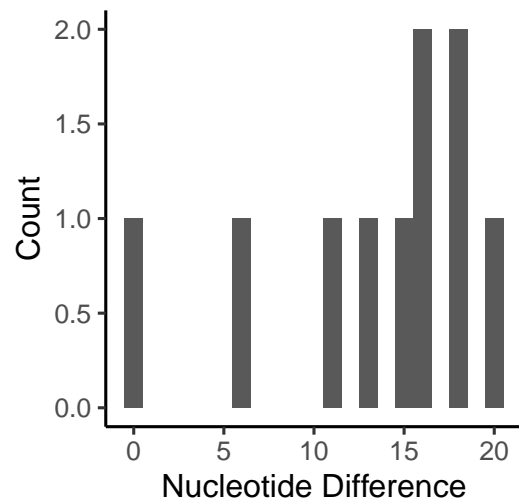
### IGHV4-39\*07

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



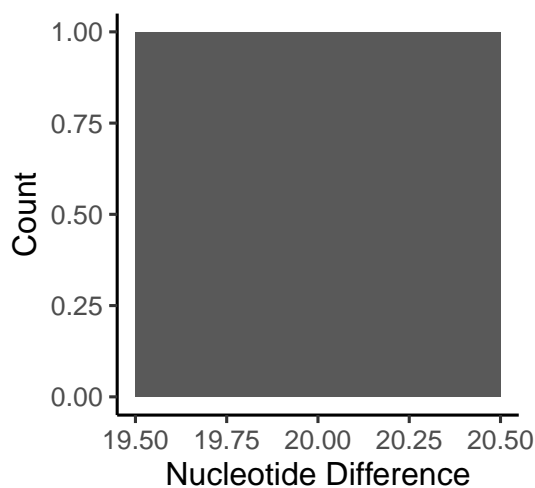
### IGHV4-59\*12

12 sequences assigned  
1 (8.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



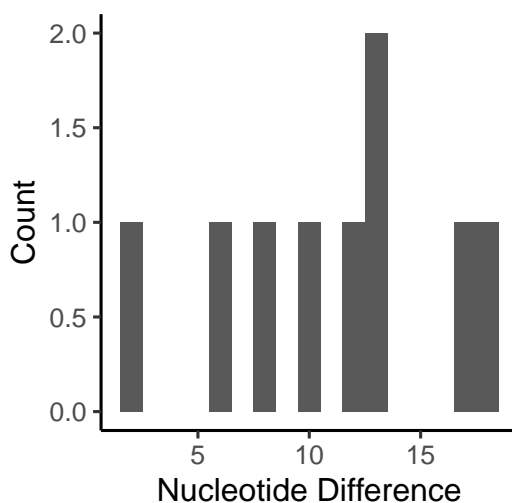
### IGHV4-38-2\*02

2 sequences assigned  
No exact matches.



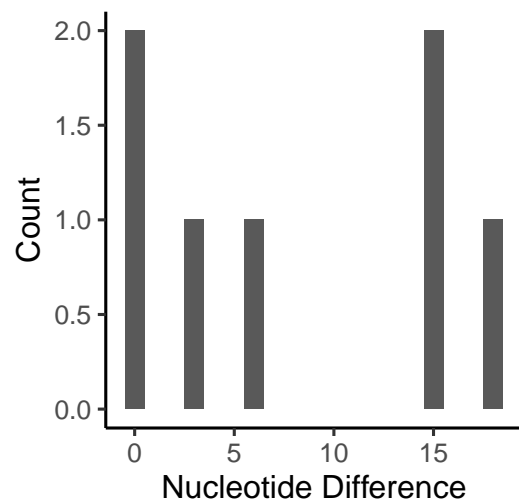
### IGHV4-59\*02

13 sequences assigned  
No exact matches.



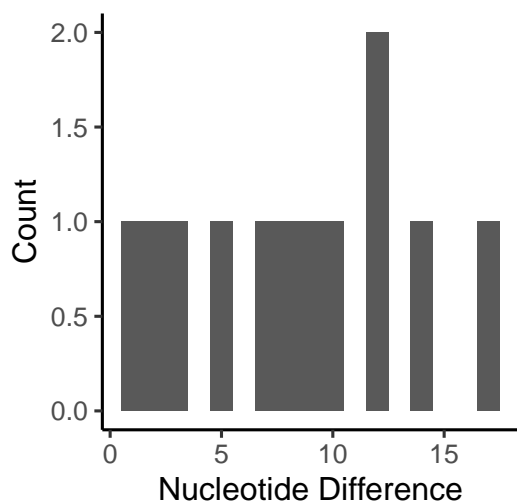
### IGHV4-59\*13

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



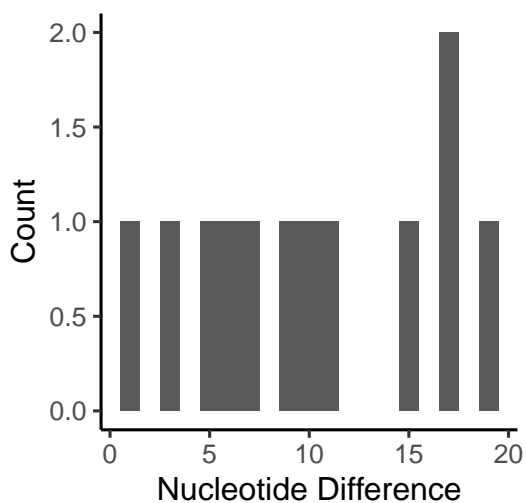
### IGHV4-39\*02

22 sequences assigned  
No exact matches.



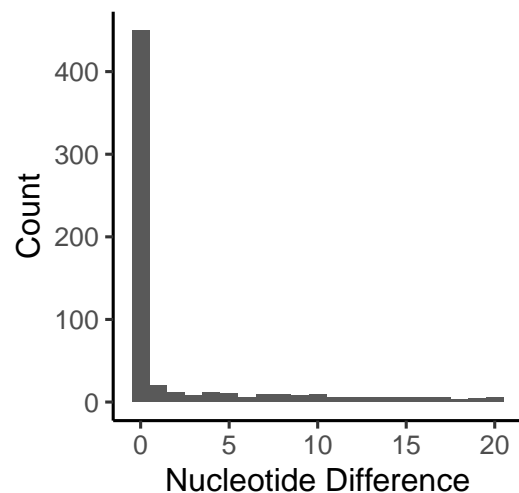
### IGHV4-59\*11

15 sequences assigned  
No exact matches.



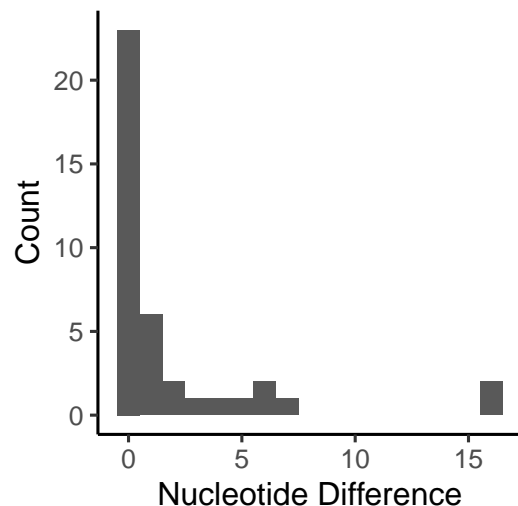
### IGHV4-61\*01

627 sequences assigned  
450 (71.8%) exact matches, in which:  
442 unique CDR3  
6 unique J



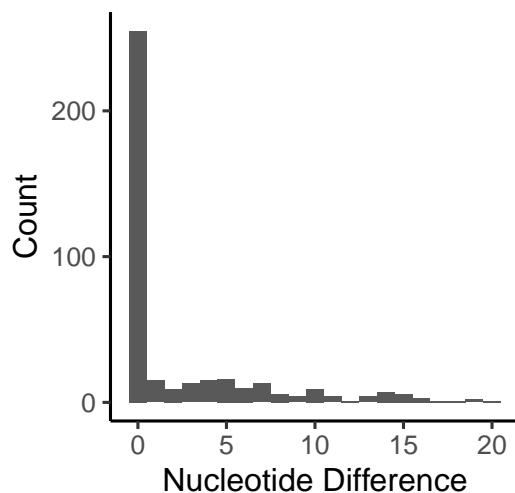
## IGHV5-10-1\*01\_03

41 sequences assigned  
23 (56.1%) exact matches, in which:  
22 unique CDR3  
5 unique J



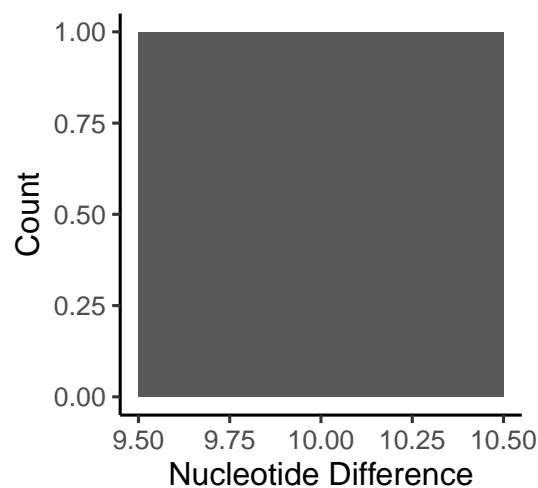
## IGHV6-1\*01\_02

404 sequences assigned  
255 (63.1%) exact matches, in which:  
254 unique CDR3  
6 unique J



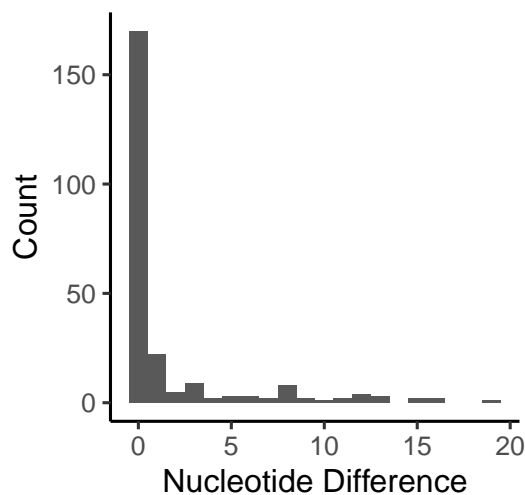
## IGHV5-51\*04

1 sequences assigned  
No exact matches.



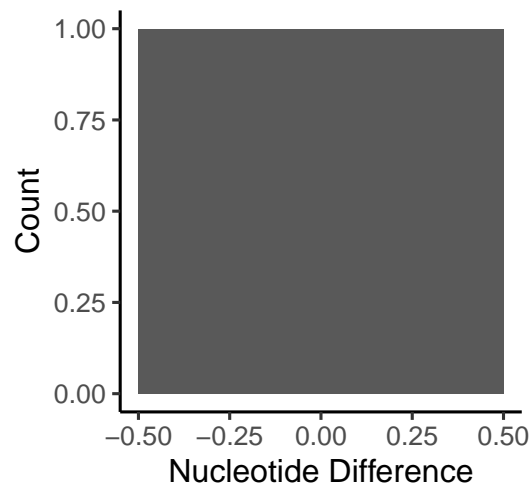
## IGHV7-4-1\*02

244 sequences assigned  
170 (69.7%) exact matches, in which:  
169 unique CDR3  
6 unique J



## IGHV5-51\*07

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







Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.