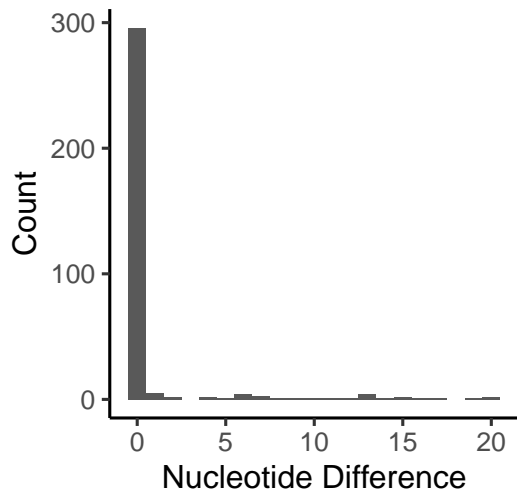


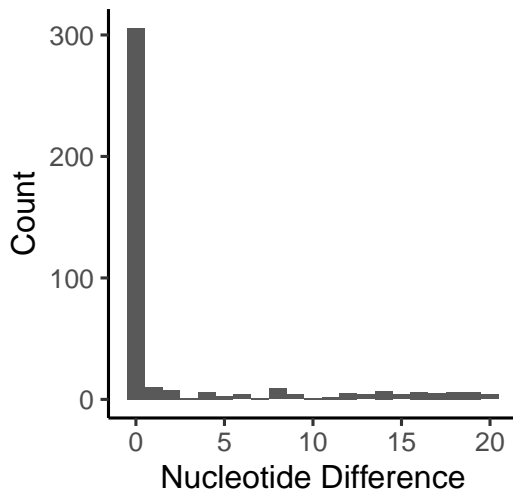
### IGHV1-2\*04

351 sequences assigned  
296 (84.3%) exact matches, in which:  
295 unique CDR3  
6 unique J



### IGHV1-8\*01

454 sequences assigned  
306 (67.4%) exact matches, in which:  
306 unique CDR3  
6 unique J



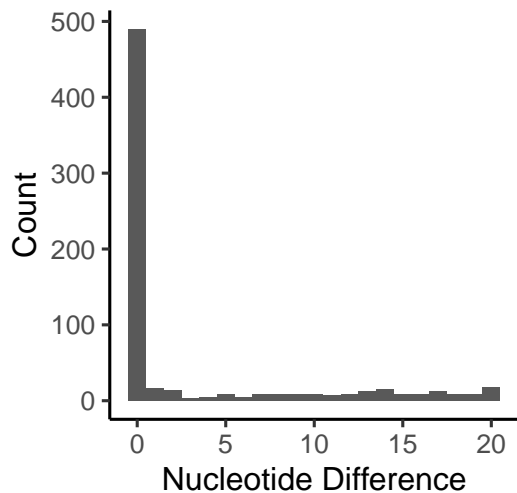
### IGHV1-38-4\*01

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



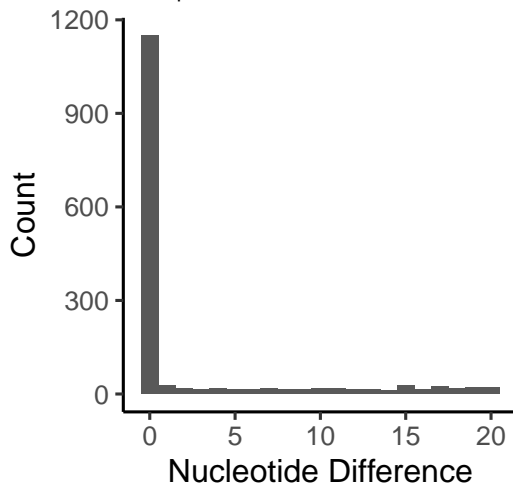
### IGHV1-2\*06

806 sequences assigned  
490 (60.8%) exact matches, in which:  
490 unique CDR3  
6 unique J



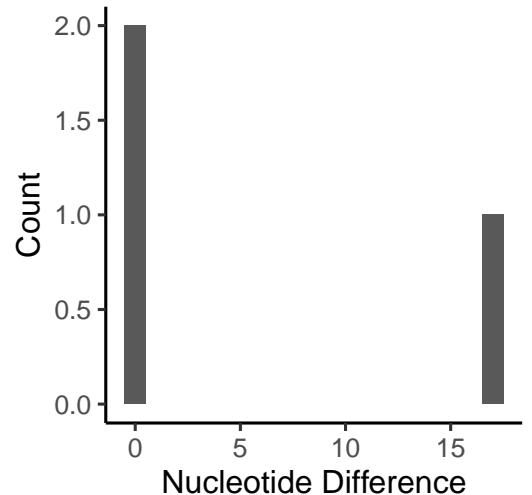
### IGHV1-18\*01

1758 sequences assigned  
1149 (65.4%) exact matches, in which:  
1148 unique CDR3  
6 unique J



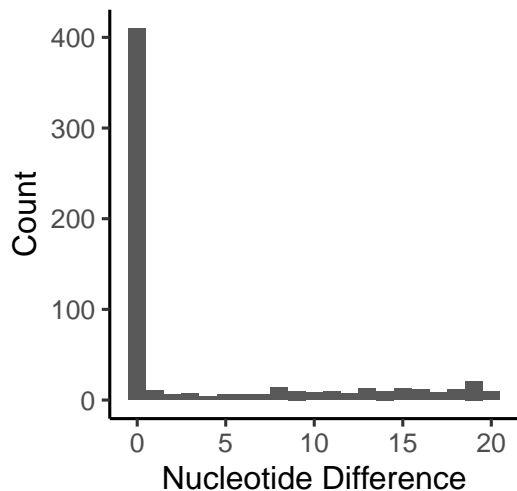
### IGHV1-45\*02

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



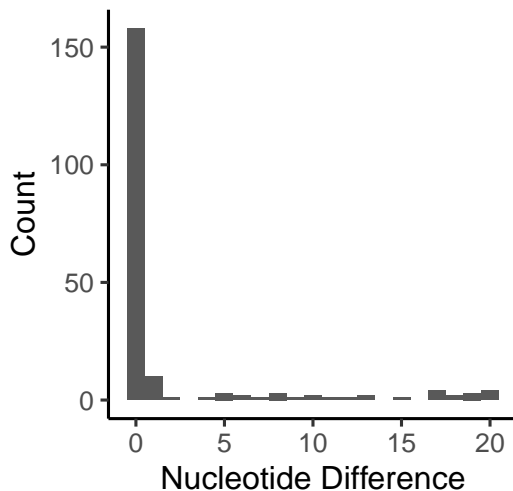
### IGHV1-3\*01\_05

687 sequences assigned  
410 (59.7%) exact matches, in which:  
410 unique CDR3  
6 unique J



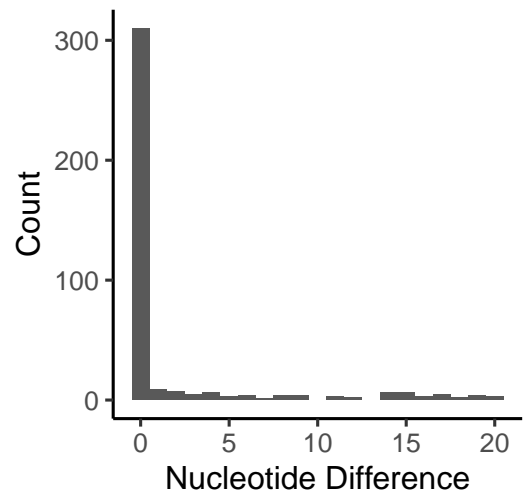
### IGHV1-24\*01

239 sequences assigned  
158 (66.1%) exact matches, in which:  
158 unique CDR3  
5 unique J



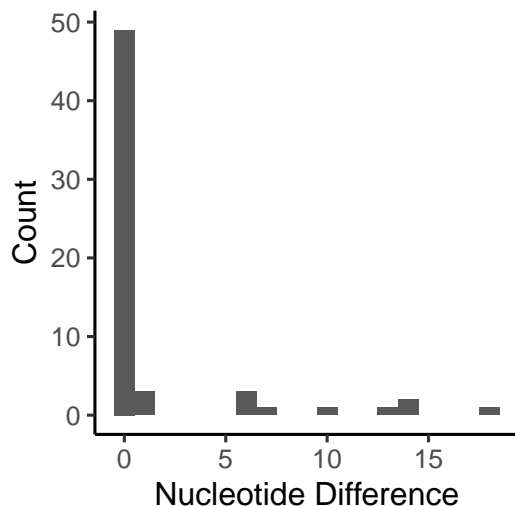
### IGHV1-46\*03

435 sequences assigned  
310 (71.3%) exact matches, in which:  
310 unique CDR3  
6 unique J



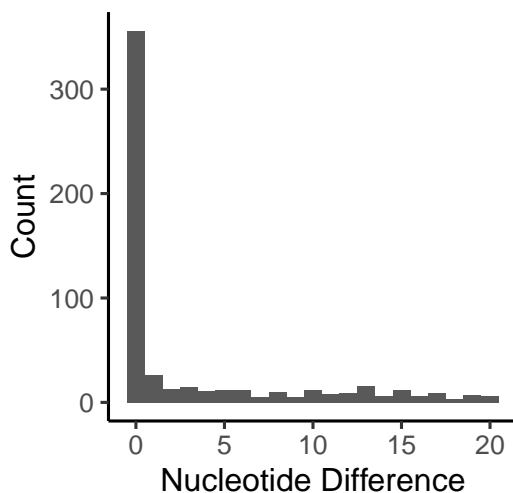
## IGHV1-58\*02

71 sequences assigned  
49 (69%) exact matches, in which:  
49 unique CDR3  
6 unique J



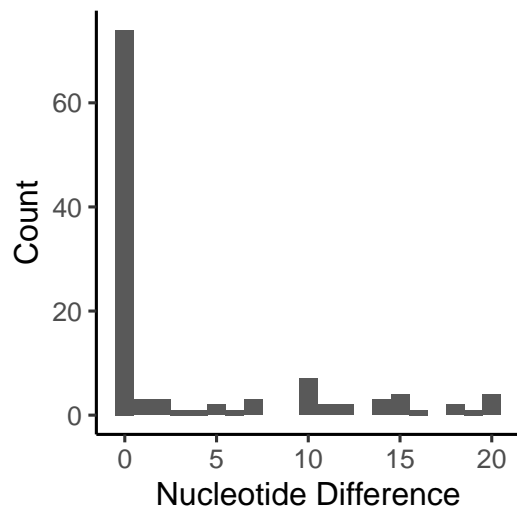
## IGHV2-5\*02

624 sequences assigned  
356 (57.1%) exact matches, in which:  
355 unique CDR3  
6 unique J



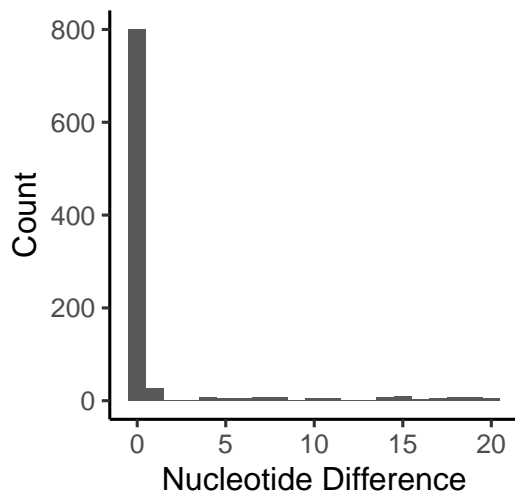
## IGHV2-70\*11\_15

126 sequences assigned  
74 (58.7%) exact matches, in which:  
73 unique CDR3  
5 unique J



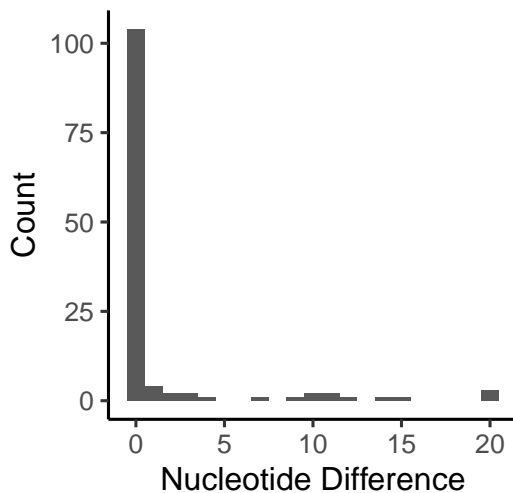
## IGHV1-69\*01\_12\_13

990 sequences assigned  
801 (80.9%) exact matches, in which:  
799 unique CDR3  
6 unique J



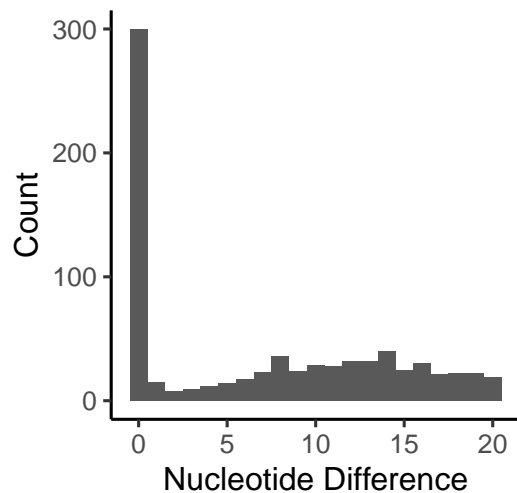
## IGHV2-26\*01

130 sequences assigned  
104 (80%) exact matches, in which:  
104 unique CDR3  
5 unique J



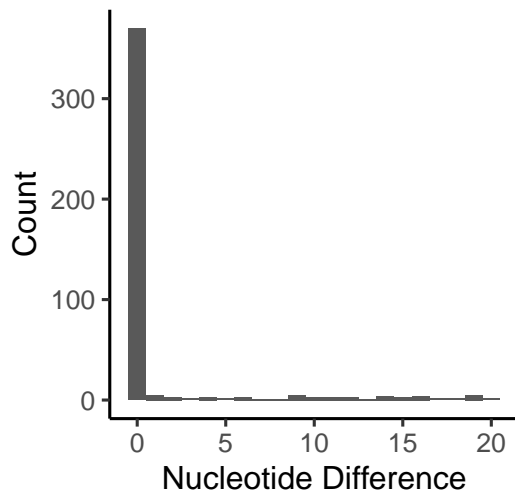
## IGHV3-7\*01

871 sequences assigned  
300 (34.4%) exact matches, in which:  
293 unique CDR3  
6 unique J



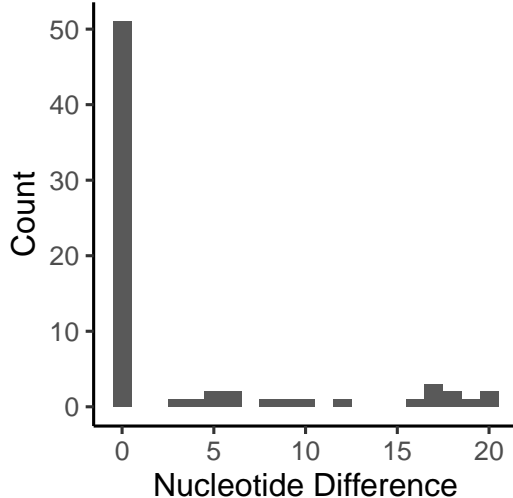
## IGHV1-69\*04\_09

473 sequences assigned  
370 (78.2%) exact matches, in which:  
369 unique CDR3  
6 unique J



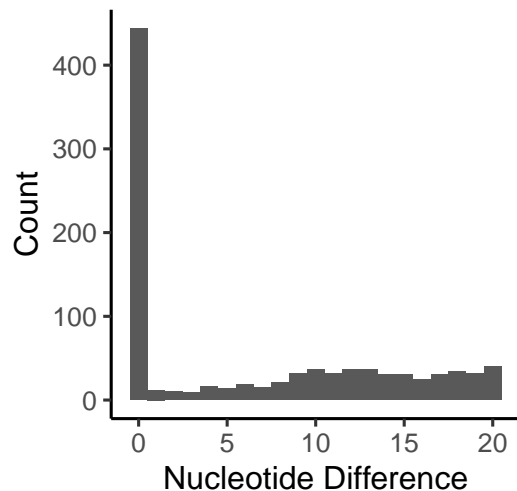
## IGHV2-70\*01

82 sequences assigned  
51 (62.2%) exact matches, in which:  
51 unique CDR3  
4 unique J



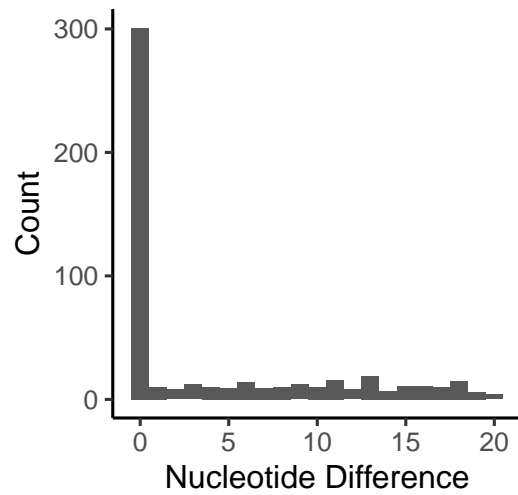
## IGHV3-7\*03

1175 sequences assigned  
444 (37.8%) exact matches, in which:  
436 unique CDR3  
6 unique J



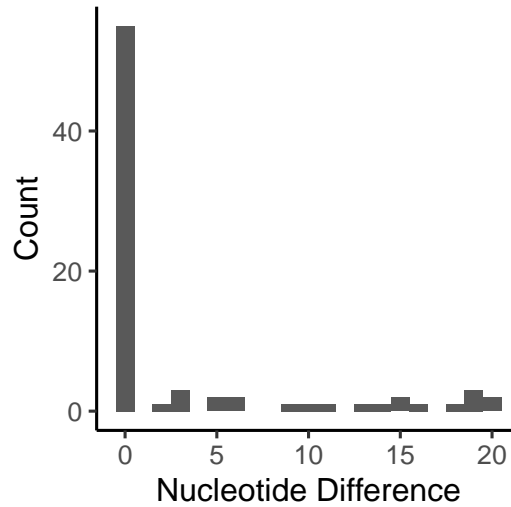
### IGHV3-9\*01

604 sequences assigned  
301 (49.8%) exact matches, in which:  
301 unique CDR3  
6 unique J



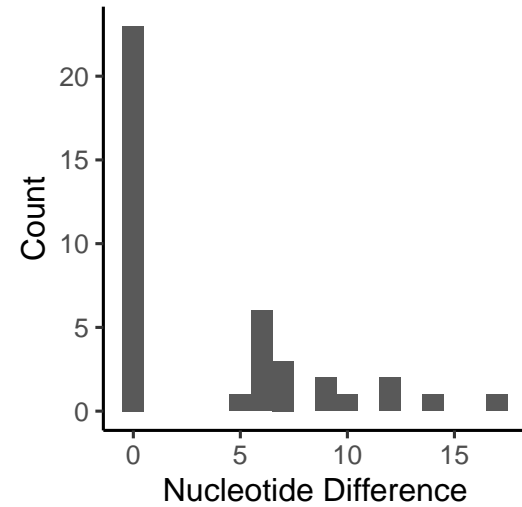
### IGHV3-13\*01

92 sequences assigned  
55 (59.8%) exact matches, in which:  
55 unique CDR3  
5 unique J



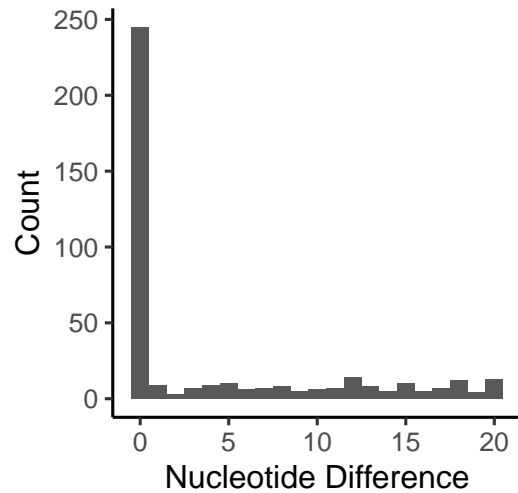
### IGHV3-20\*01\_02

51 sequences assigned  
23 (45.1%) exact matches, in which:  
22 unique CDR3  
5 unique J



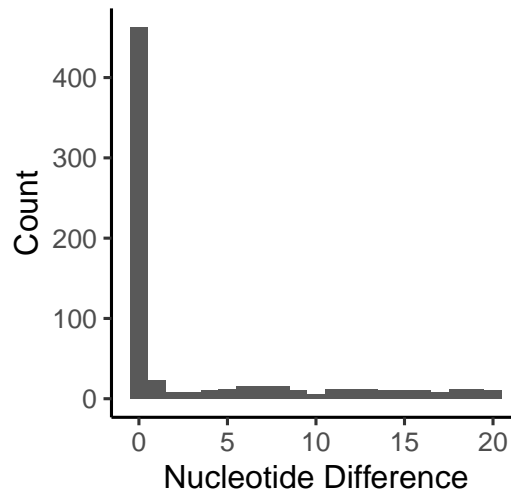
### IGHV3-11\*01

483 sequences assigned  
245 (50.7%) exact matches, in which:  
244 unique CDR3  
6 unique J



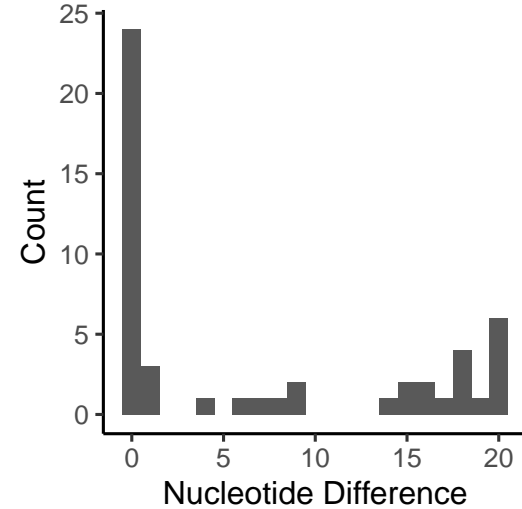
### IGHV3-15\*07

819 sequences assigned  
463 (56.5%) exact matches, in which:  
455 unique CDR3  
6 unique J



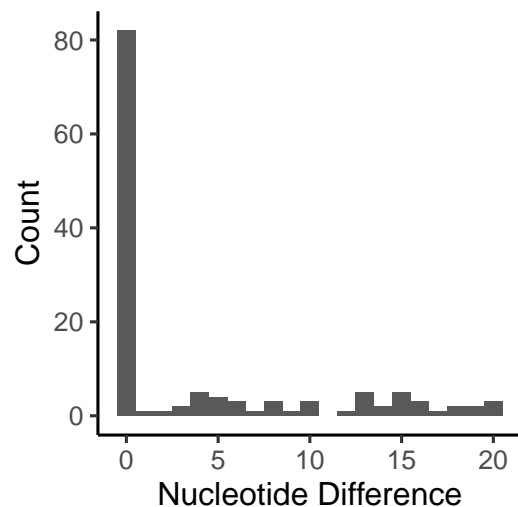
### IGHV3-20\*03\_04

77 sequences assigned  
24 (31.2%) exact matches, in which:  
24 unique CDR3  
4 unique J



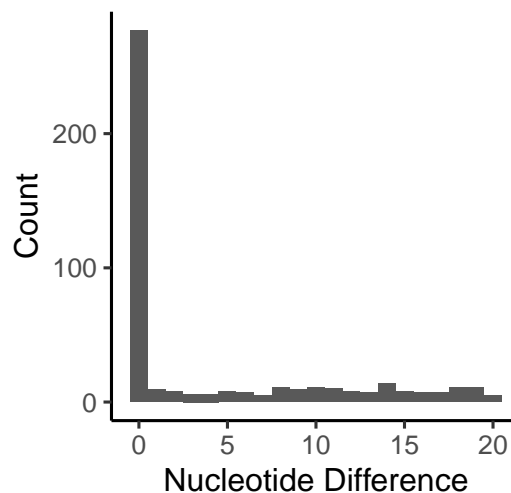
### IGHV3-11\*06

151 sequences assigned  
82 (54.3%) exact matches, in which:  
82 unique CDR3  
5 unique J



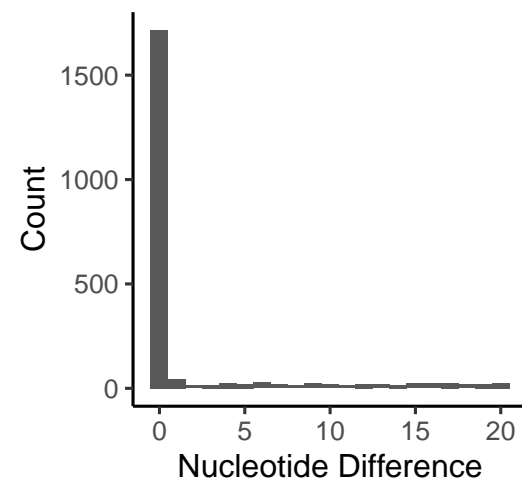
### IGHV3-15\*01\_02

519 sequences assigned  
277 (53.4%) exact matches, in which:  
272 unique CDR3  
6 unique J



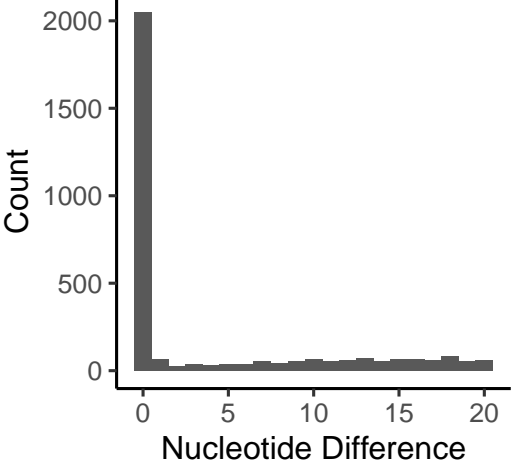
### IGHV3-21\*01\_02

2395 sequences assigned  
1716 (71.6%) exact matches, in which:  
1695 unique CDR3  
6 unique J



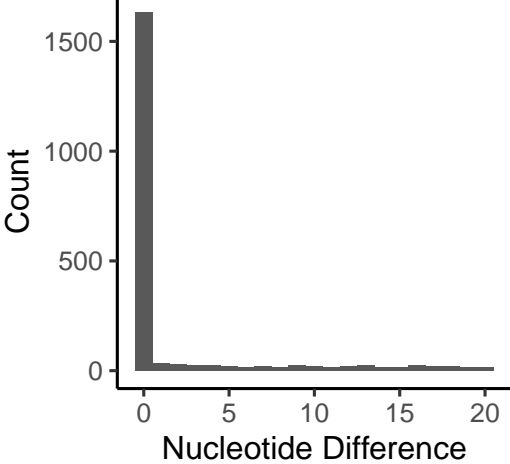
IGHV3-23\*01\_04

3926 sequences assigned  
2048 (52.2%) exact matches, in which:  
2004 unique CDR3  
6 unique J



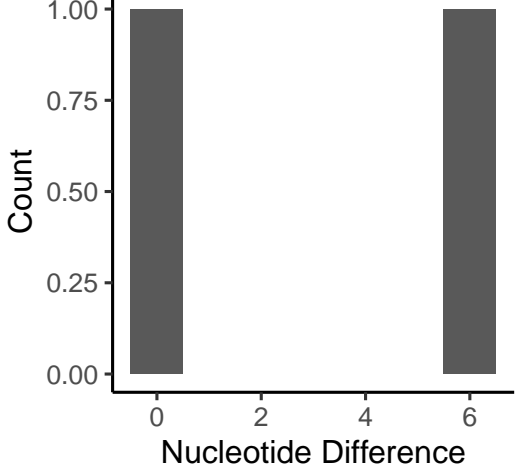
IGHV3-30\*04

2244 sequences assigned  
1632 (72.7%) exact matches, in which:  
1614 unique CDR3  
6 unique J



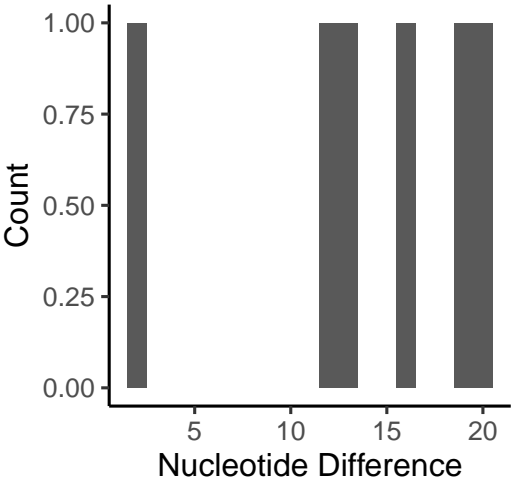
IGHV3-38-3\*01

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



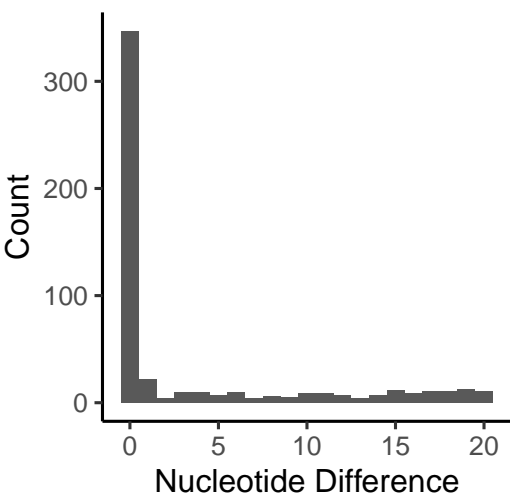
IGHV3-30-3\*01

23 sequences assigned  
No exact matches.



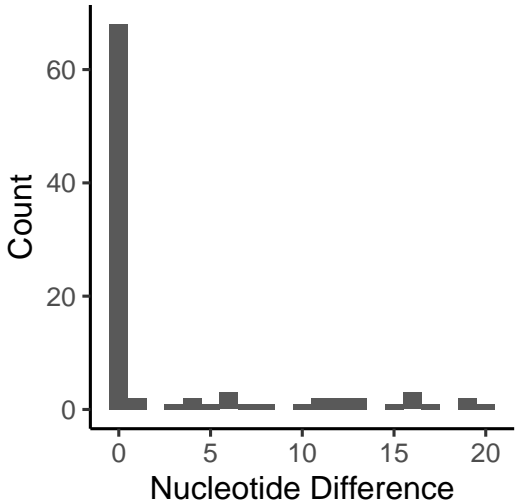
IGHV3-30\*18

604 sequences assigned  
347 (57.5%) exact matches, in which:  
345 unique CDR3  
6 unique J



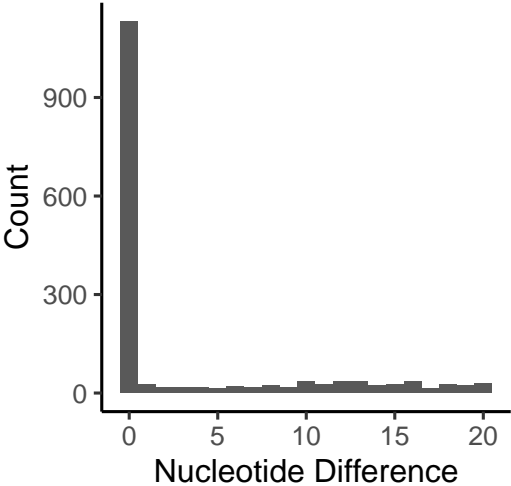
IGHV3-43\*01

103 sequences assigned  
68 (66%) exact matches, in which:  
67 unique CDR3  
6 unique J



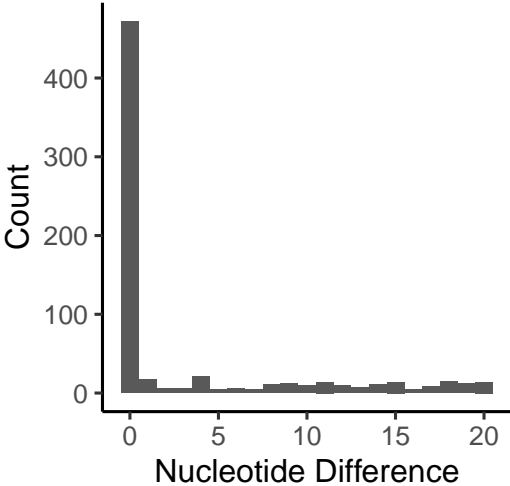
IGHV3-30\*02

1893 sequences assigned  
1132 (59.8%) exact matches, in which:  
1118 unique CDR3  
6 unique J



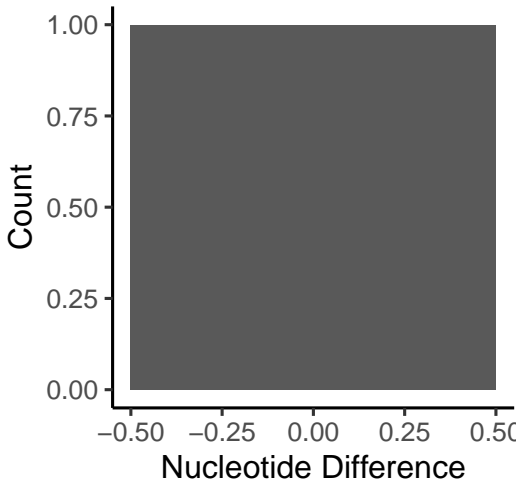
IGHV3-33\*01

795 sequences assigned  
472 (59.4%) exact matches, in which:  
463 unique CDR3  
6 unique J



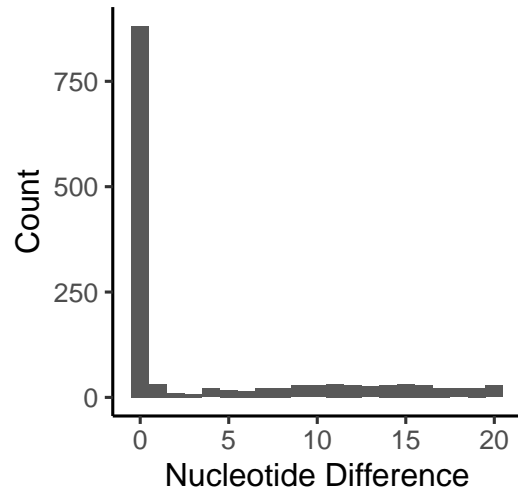
IGHV3-47\*02

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



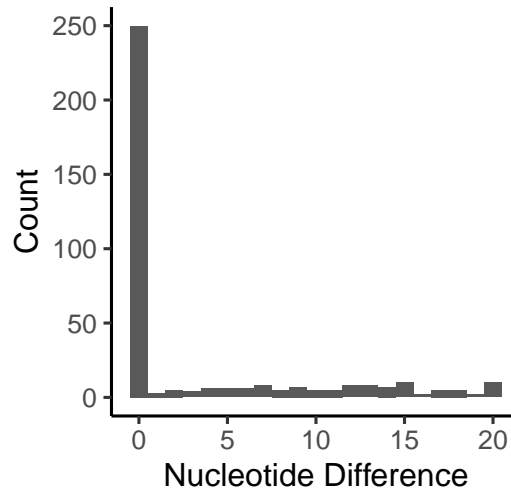
### IGHV3-48\*01

1598 sequences assigned  
882 (55.2%) exact matches, in which:  
867 unique CDR3  
6 unique J



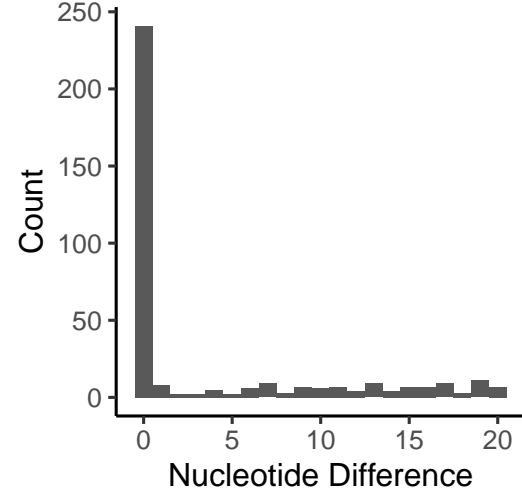
### IGHV3-53\*01\_02

458 sequences assigned  
250 (54.6%) exact matches, in which:  
245 unique CDR3  
6 unique J



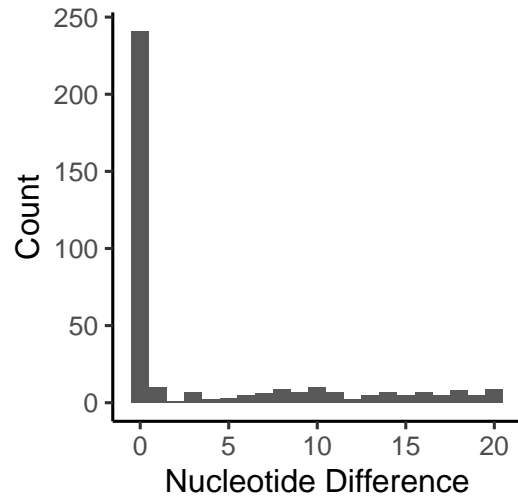
### IGHV3-66\*01

419 sequences assigned  
241 (57.5%) exact matches, in which:  
238 unique CDR3  
6 unique J



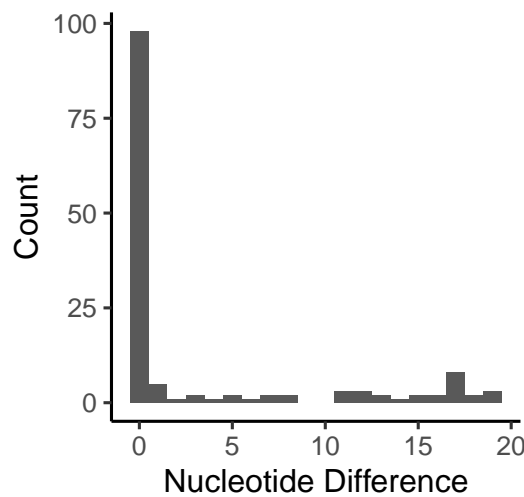
### IGHV3-49\*03\_05

416 sequences assigned  
241 (57.9%) exact matches, in which:  
240 unique CDR3  
6 unique J



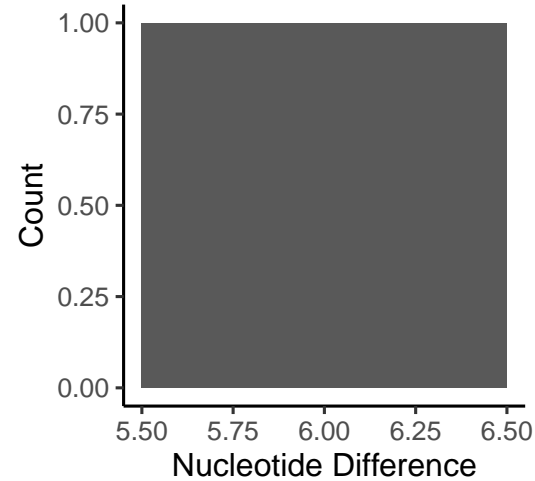
### IGHV3-64\*01

155 sequences assigned  
98 (63.2%) exact matches, in which:  
96 unique CDR3  
5 unique J



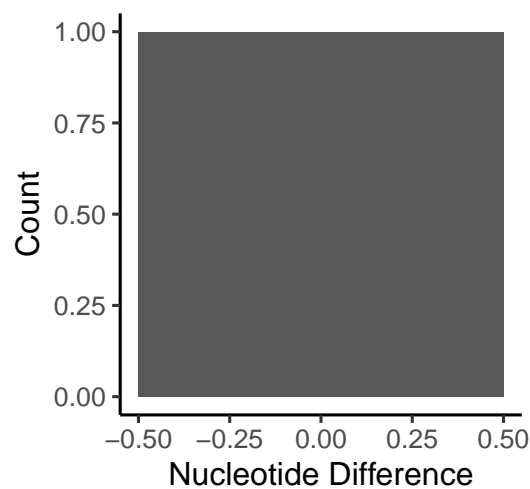
### IGHV3-69-1\*01

2 sequences assigned  
No exact matches.



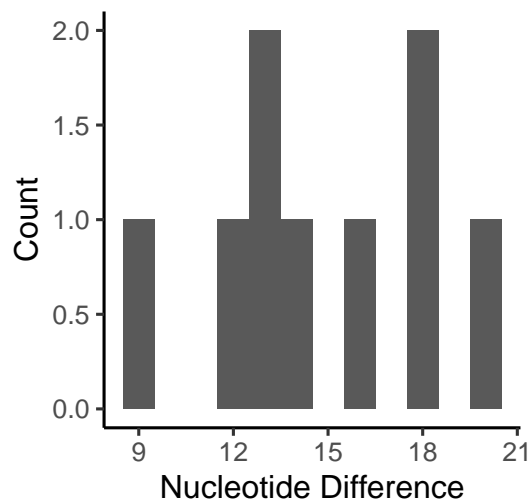
### IGHV3-52\*02

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



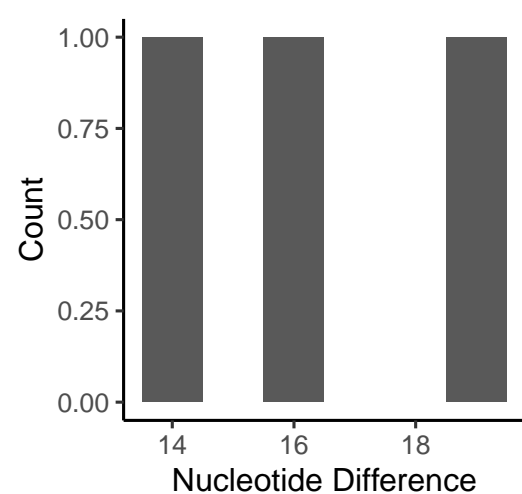
### IGHV3-64\*02\_07

25 sequences assigned  
No exact matches.



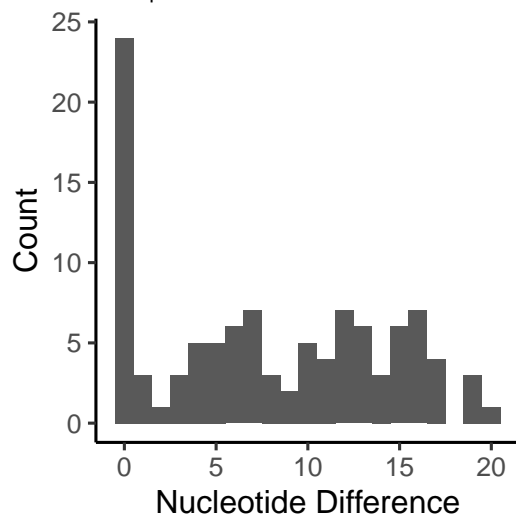
### IGHV3-69-1\*02

4 sequences assigned  
No exact matches.



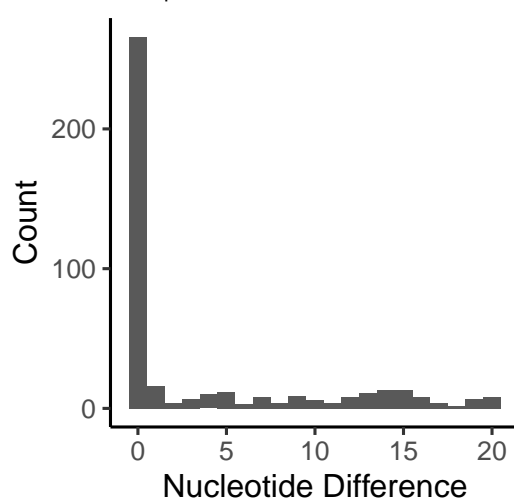
### IGHV3-72\*01

125 sequences assigned  
24 (19.2%) exact matches, in which:  
24 unique CDR3  
3 unique J



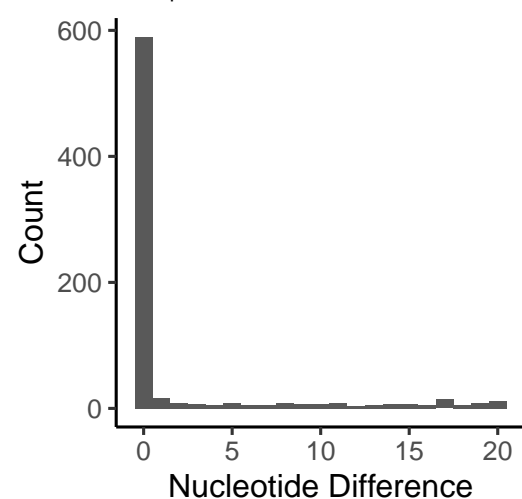
### IGHV3-74\*01\_02

502 sequences assigned  
266 (53%) exact matches, in which:  
261 unique CDR3  
6 unique J



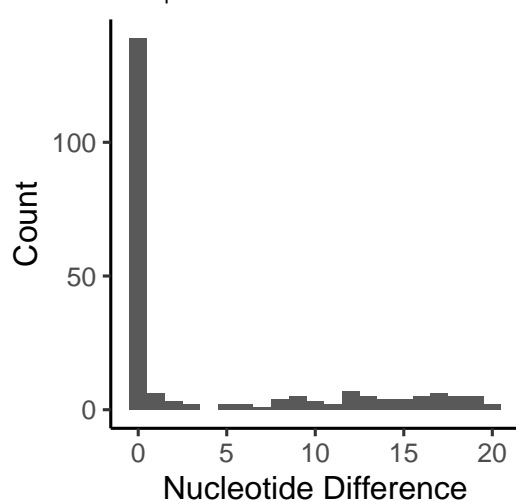
### IGHV4-4\*02\_03

840 sequences assigned  
590 (70.2%) exact matches, in which:  
585 unique CDR3  
6 unique J



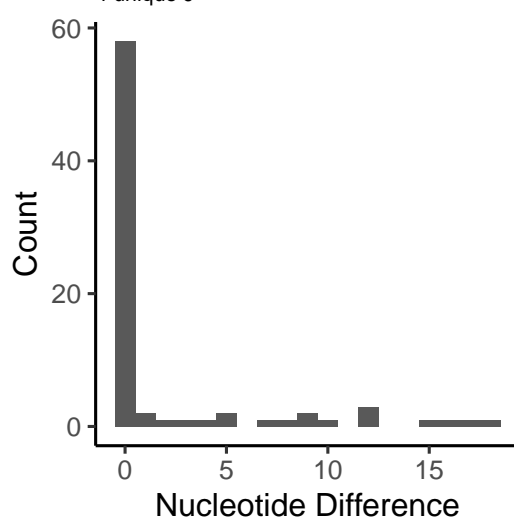
### IGHV3-73\*01\_02

257 sequences assigned  
139 (54.1%) exact matches, in which:  
139 unique CDR3  
6 unique J



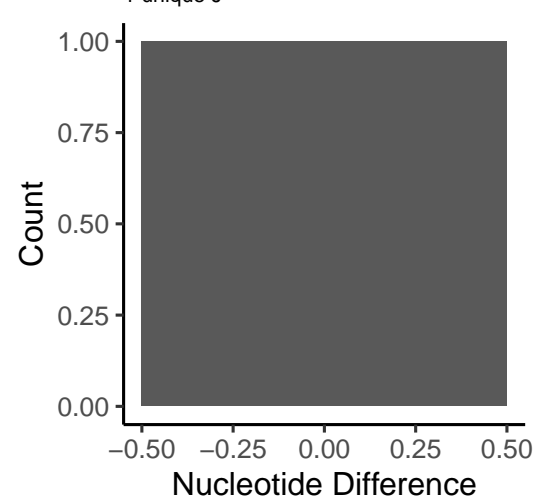
### IGHV3-43D\*03

84 sequences assigned  
58 (69%) exact matches, in which:  
57 unique CDR3  
4 unique J



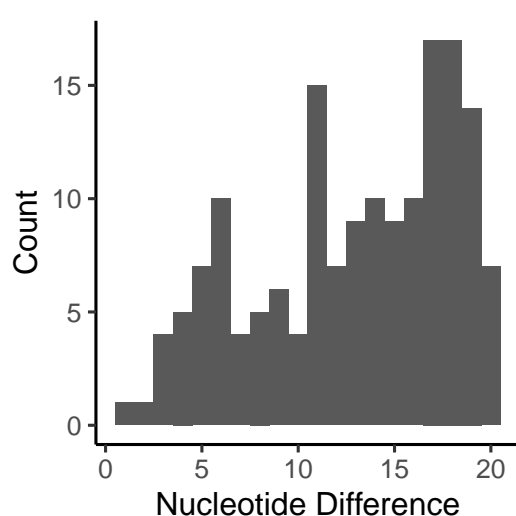
### IGHV4-28\*03

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



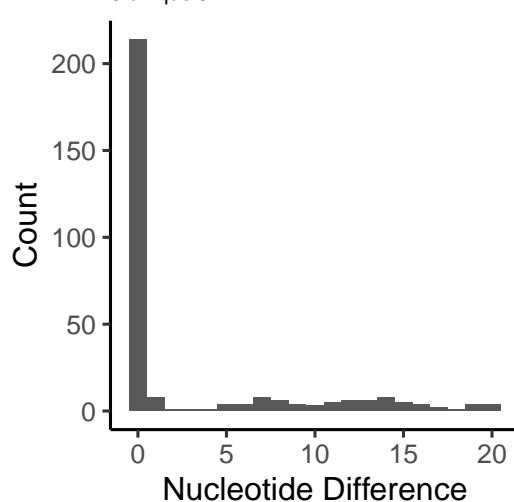
### IGHV3-74\*03

254 sequences assigned  
No exact matches.



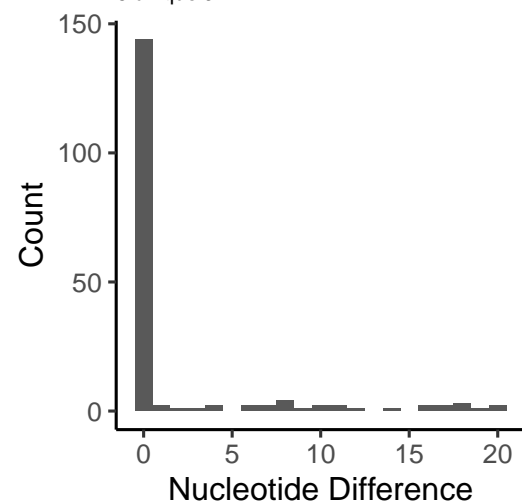
### IGHV3-64D\*06

384 sequences assigned  
214 (55.7%) exact matches, in which:  
212 unique CDR3  
5 unique J



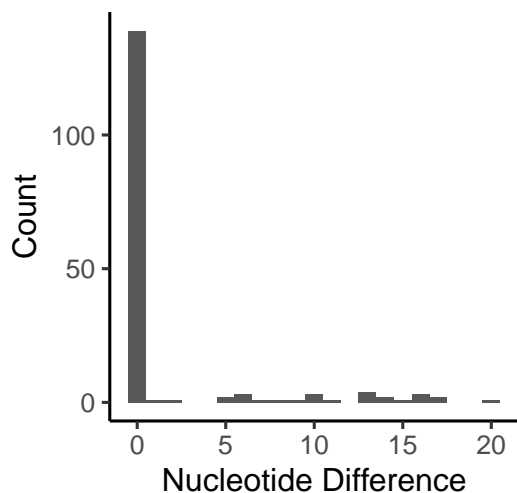
### IGHV4-30-2\*01

194 sequences assigned  
144 (74.2%) exact matches, in which:  
142 unique CDR3  
6 unique J



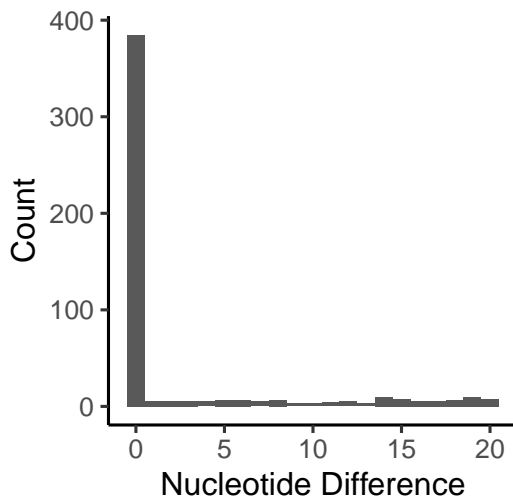
### IGHV4-30-4\*07

202 sequences assigned  
139 (68.8%) exact matches, in which:  
138 unique CDR3  
6 unique J



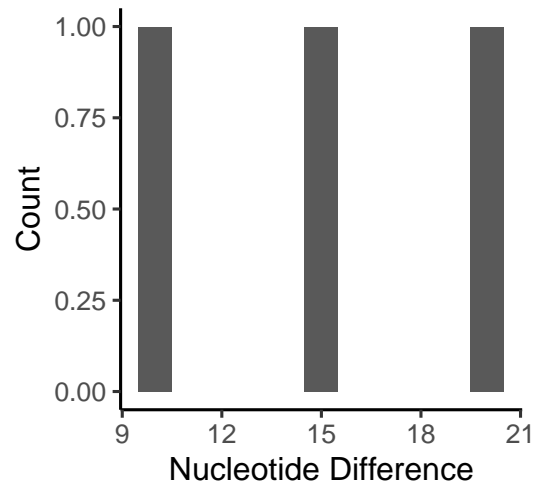
### IGHV4-38-2\*02

575 sequences assigned  
385 (67%) exact matches, in which:  
380 unique CDR3  
6 unique J



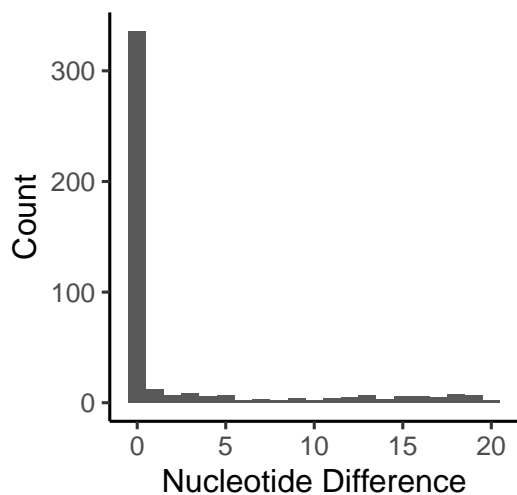
### IGHV4-61\*01

5 sequences assigned  
No exact matches.



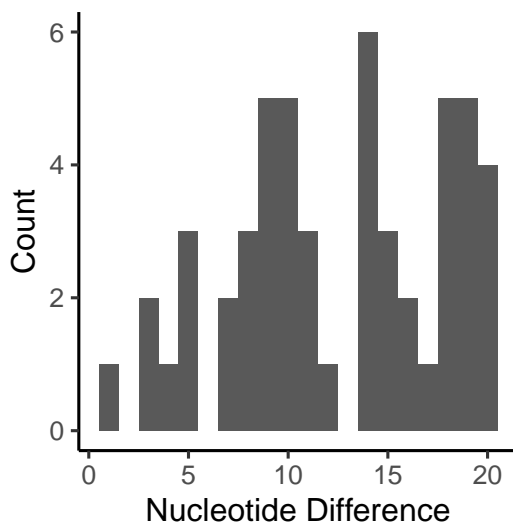
### IGHV4-31\*02

535 sequences assigned  
336 (62.8%) exact matches, in which:  
336 unique CDR3  
6 unique J



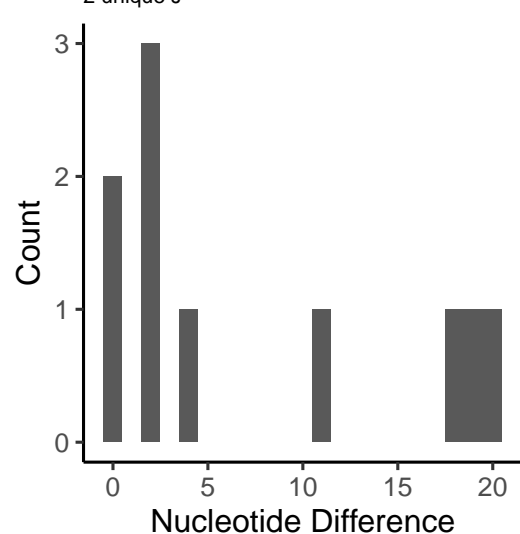
### IGHV4-39\*02

105 sequences assigned  
No exact matches.



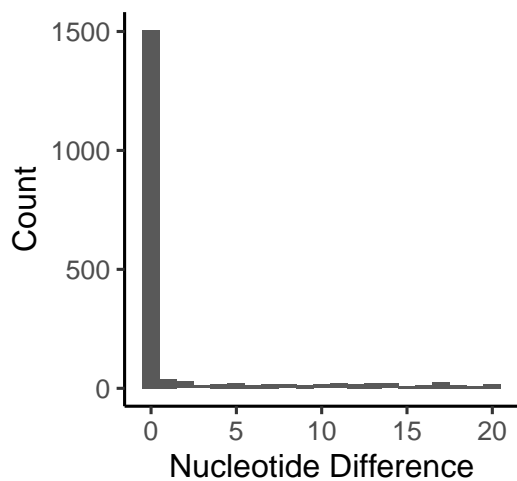
### IGHV4-61\*02

12 sequences assigned  
2 (16.7%) exact matches, in which:  
2 unique CDR3  
2 unique J



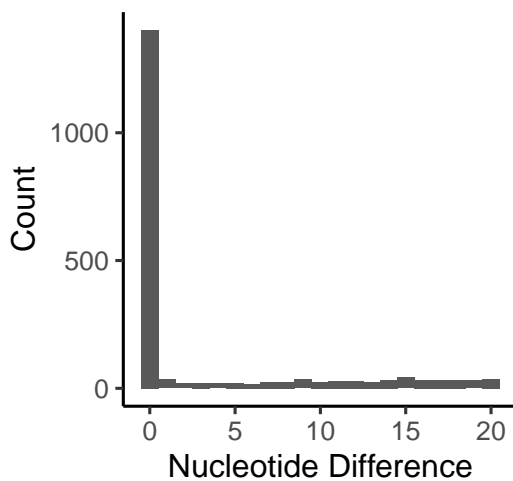
### IGHV4-34\*01\_02

2153 sequences assigned  
1506 (69.9%) exact matches, in which:  
1483 unique CDR3  
6 unique J



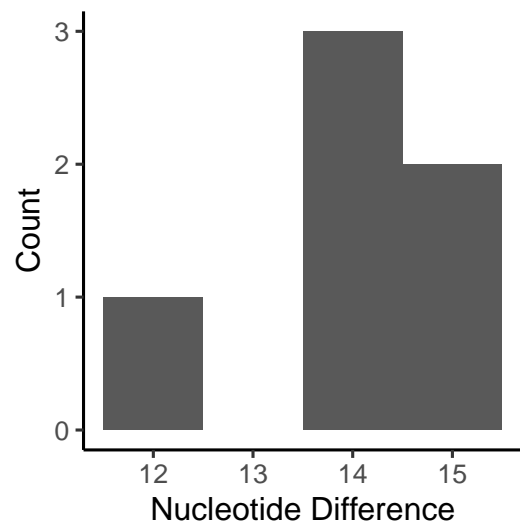
### IGHV4-59\*08

2411 sequences assigned  
1402 (58.2%) exact matches, in which:  
1389 unique CDR3  
6 unique J



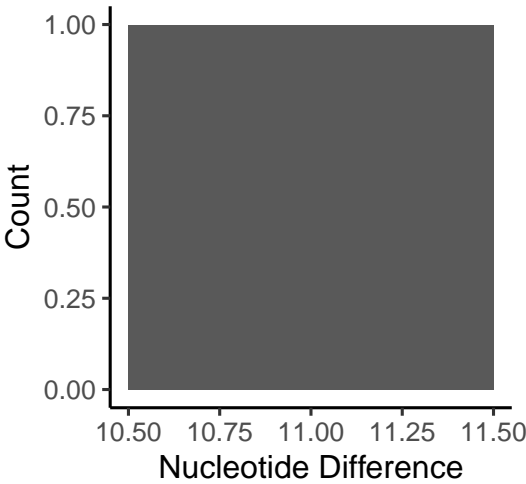
### IGHV4-61\*08

11 sequences assigned  
No exact matches.



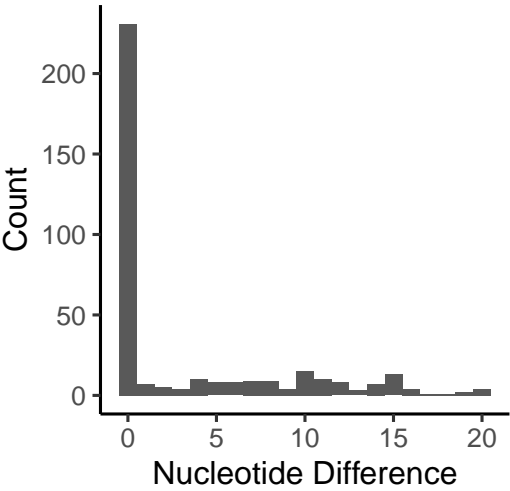
IGHV4/OR15-8\*01

7 sequences assigned  
No exact matches.



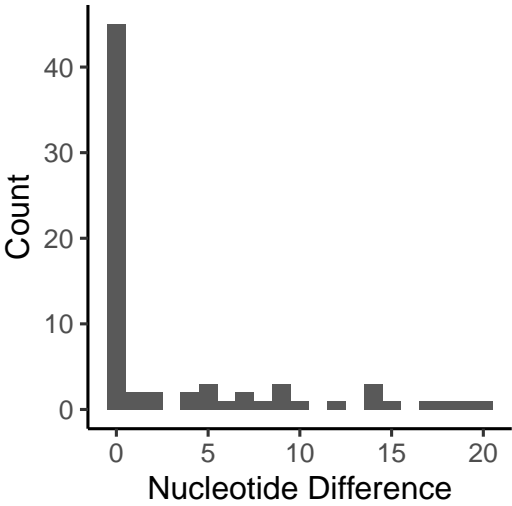
IGHV6-1\*01\_02

407 sequences assigned  
231 (56.8%) exact matches, in which:  
230 unique CDR3  
6 unique J



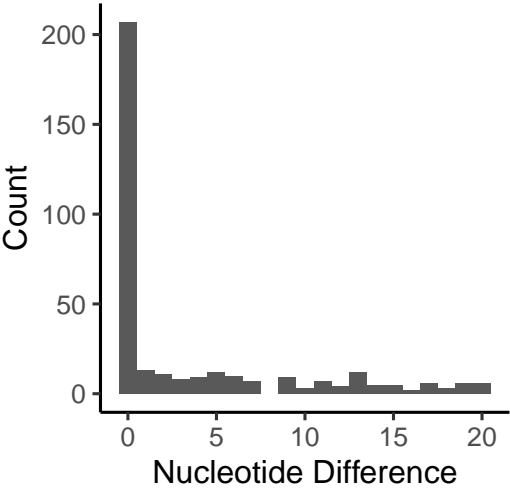
IGHV5-10-1\*01\_03

85 sequences assigned  
45 (52.9%) exact matches, in which:  
45 unique CDR3  
5 unique J



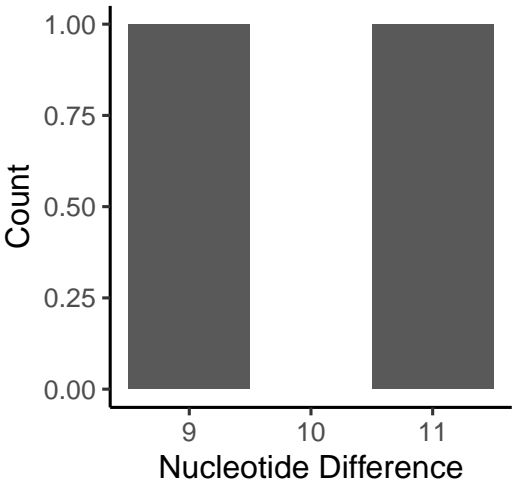
IGHV7-4-1\*02

391 sequences assigned  
207 (52.9%) exact matches, in which:  
206 unique CDR3  
6 unique J



IGHV5-51\*06

2 sequences assigned  
No exact matches.







Warning – no inferred sequences found.