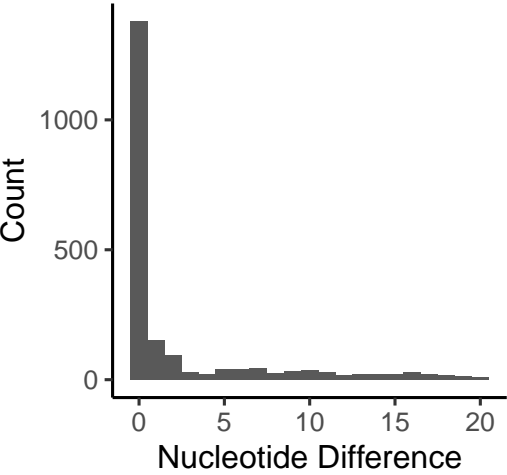


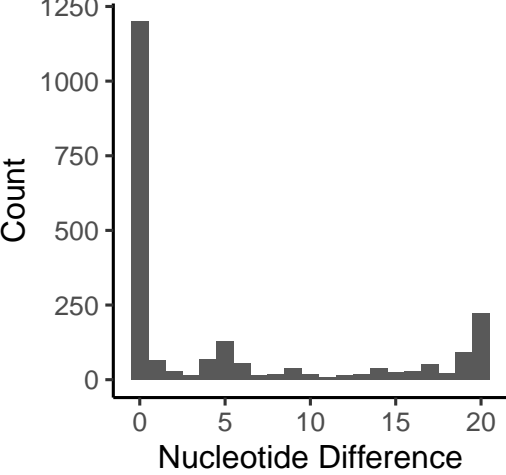
IGHV1-2\*02

2362 sequences assigned  
1379 (58.4%) exact matches, in which:  
1347 unique CDR3  
6 unique J



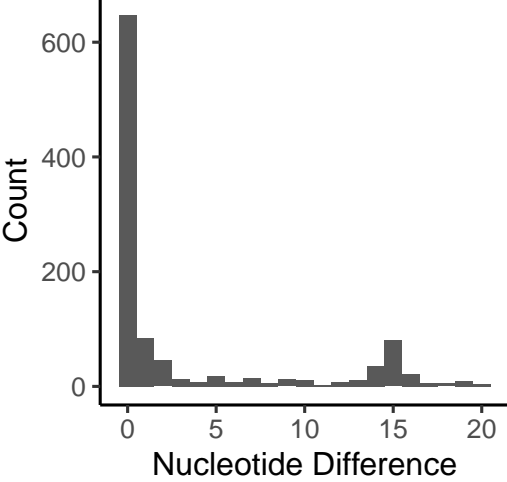
IGHV1-18\*01

2413 sequences assigned  
1200 (49.7%) exact matches, in which:  
1169 unique CDR3  
6 unique J



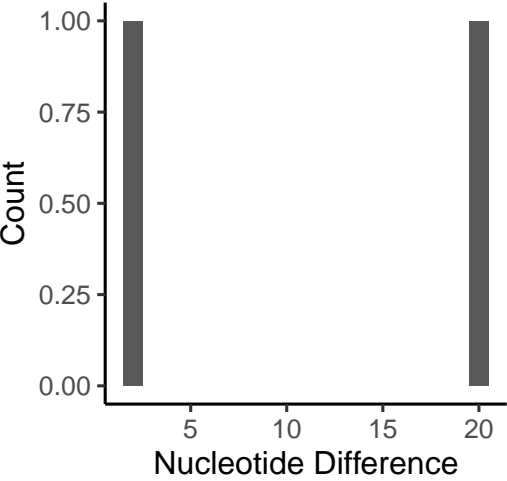
IGHV1-46\*01

1085 sequences assigned  
648 (59.7%) exact matches, in which:  
633 unique CDR3  
6 unique J



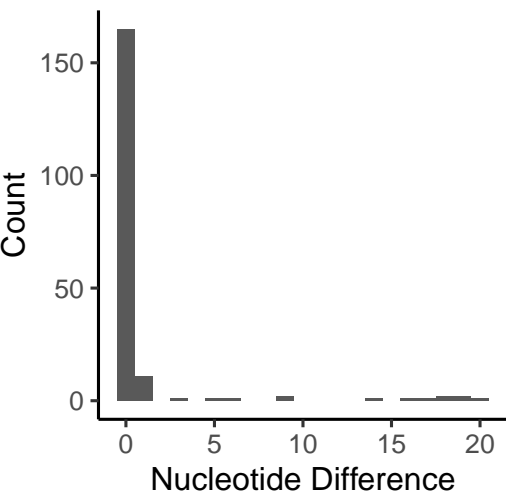
IGHV1-3\*02

2 sequences assigned  
No exact matches.



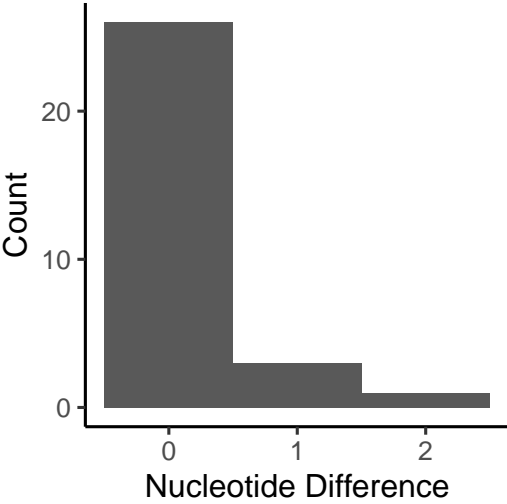
IGHV1-24\*01

196 sequences assigned  
165 (84.2%) exact matches, in which:  
164 unique CDR3  
6 unique J



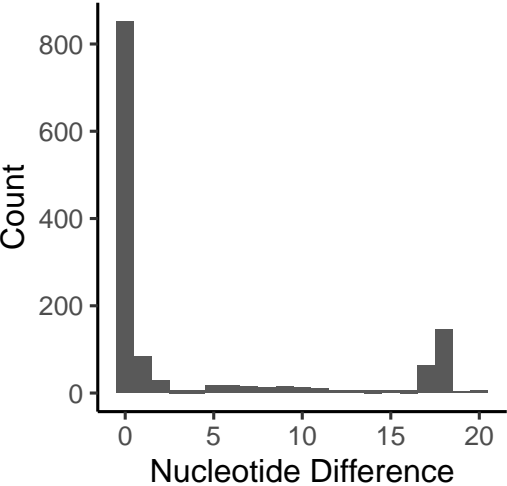
IGHV1-58\*02

30 sequences assigned  
26 (86.7%) exact matches, in which:  
25 unique CDR3  
4 unique J



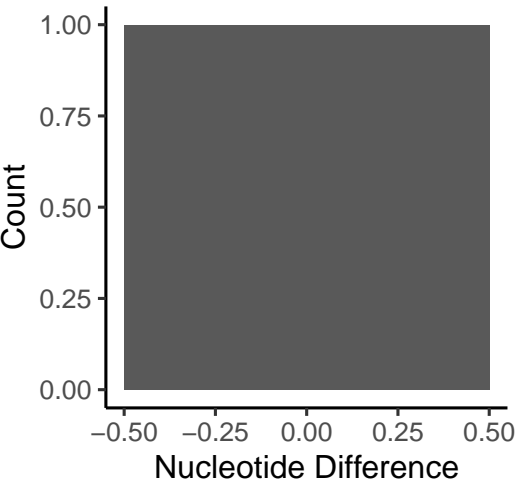
IGHV1-8\*01

1395 sequences assigned  
852 (61.1%) exact matches, in which:  
845 unique CDR3  
6 unique J



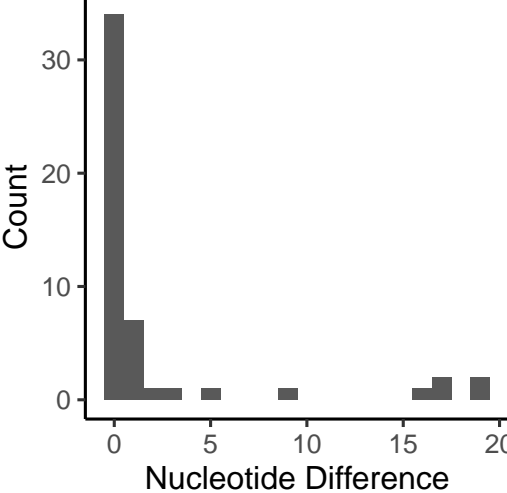
IGHV1-45\*02

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



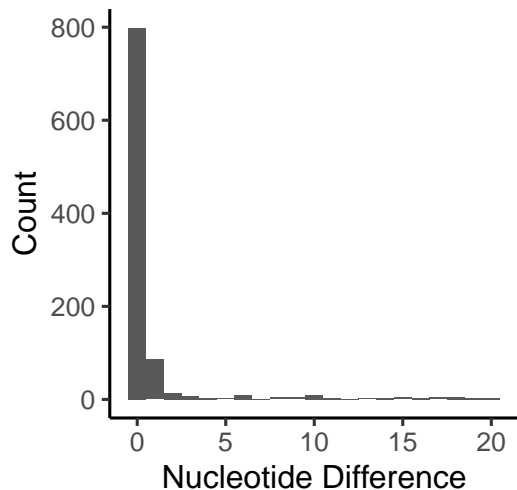
IGHV1-58\*01\_03

50 sequences assigned  
34 (68%) exact matches, in which:  
33 unique CDR3  
5 unique J



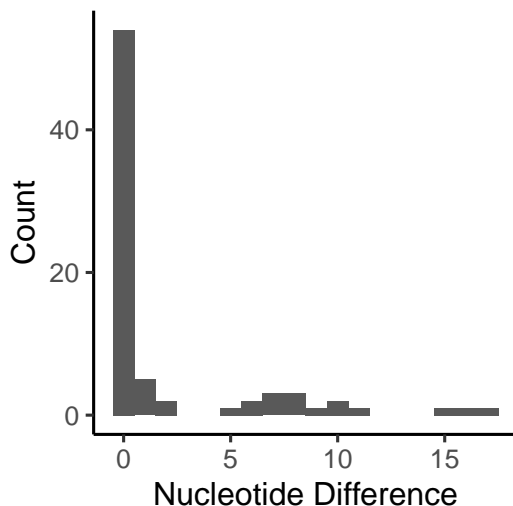
### IGHV1-69\*01\_12\_13

1006 sequences assigned  
799 (79.4%) exact matches, in which:  
788 unique CDR3  
6 unique J



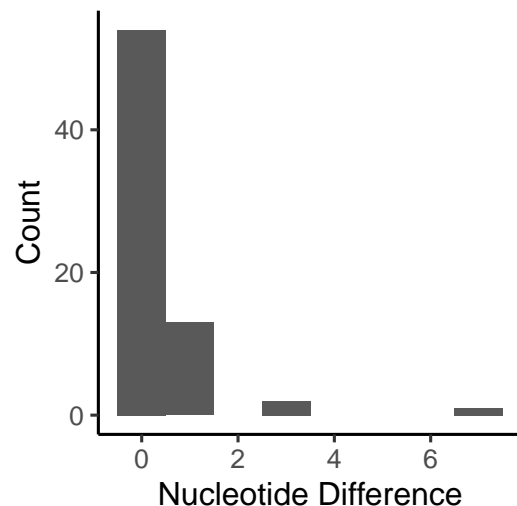
### IGHV2-5\*01

82 sequences assigned  
54 (65.9%) exact matches, in which:  
52 unique CDR3  
5 unique J



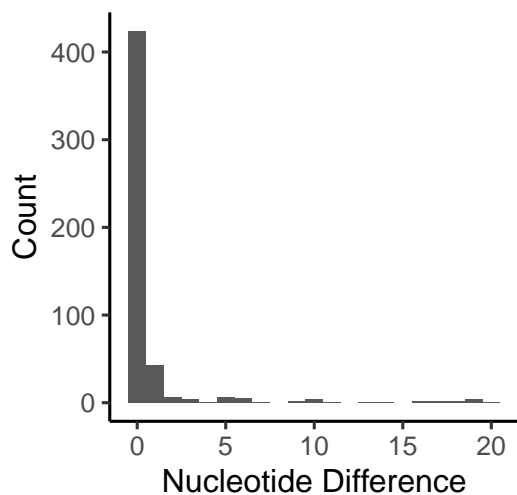
### IGHV2-70\*01

72 sequences assigned  
54 (75%) exact matches, in which:  
51 unique CDR3  
4 unique J



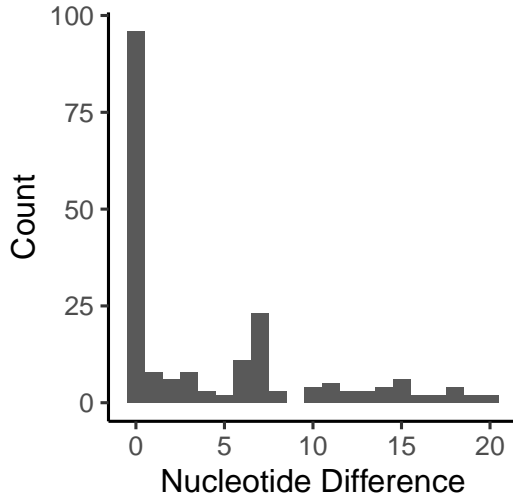
### IGHV1-69\*10

525 sequences assigned  
424 (80.8%) exact matches, in which:  
419 unique CDR3  
6 unique J



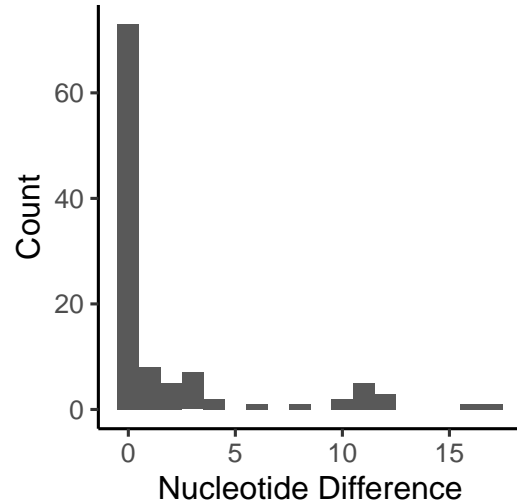
### IGHV2-5\*02

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



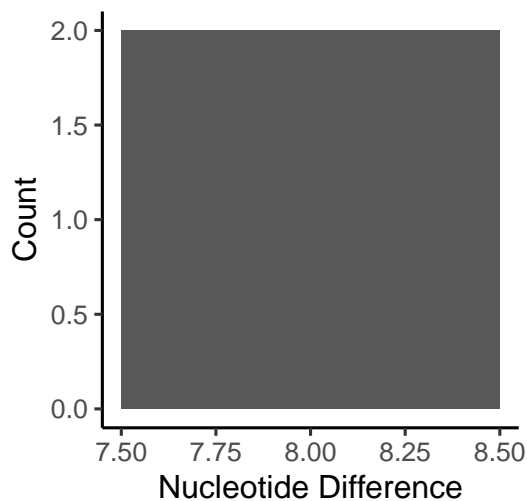
### IGHV2-70\*11\_15

110 sequences assigned  
73 (66.4%) exact matches, in which:  
73 unique CDR3  
5 unique J



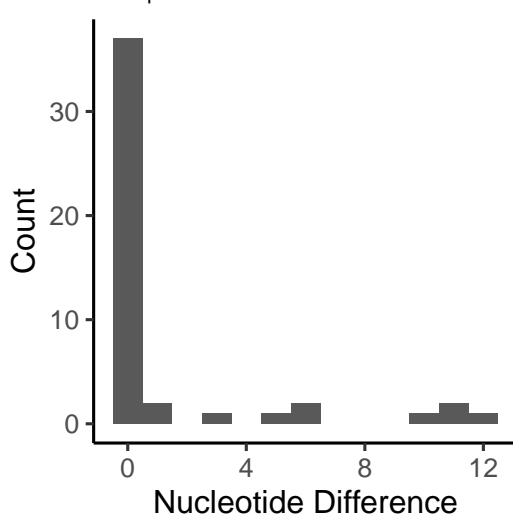
### IGHV1-NL1\*01

2 sequences assigned  
No exact matches.



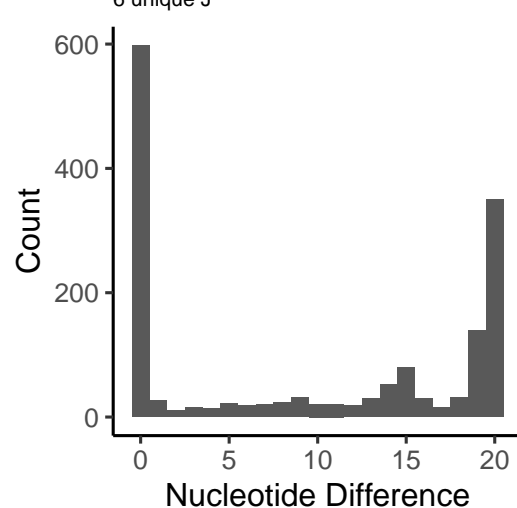
### IGHV2-26\*01

47 sequences assigned  
37 (78.7%) exact matches, in which:  
36 unique CDR3  
4 unique J



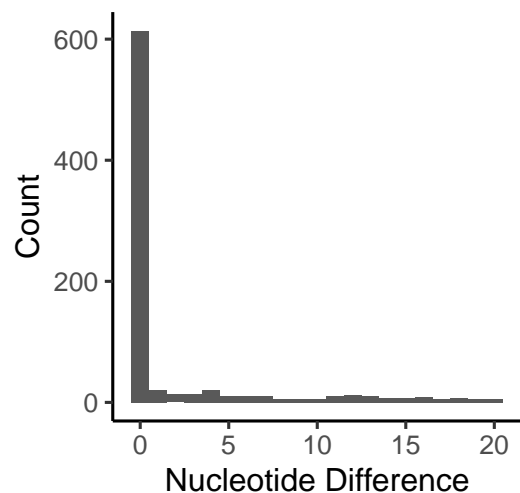
### IGHV3-7\*01

1900 sequences assigned  
598 (31.5%) exact matches, in which:  
420 unique CDR3  
6 unique J



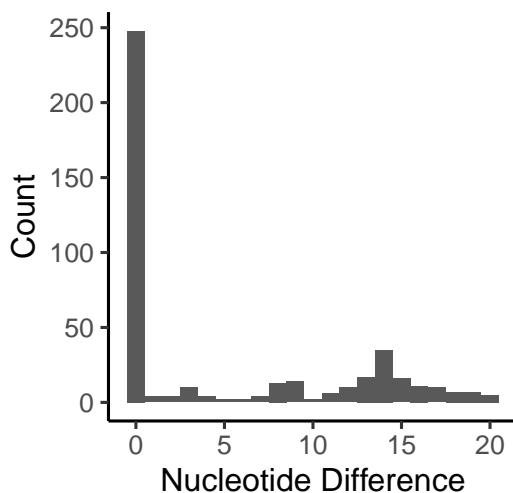
### IGHV3-9\*01

860 sequences assigned  
614 (71.4%) exact matches, in which:  
435 unique CDR3  
6 unique J



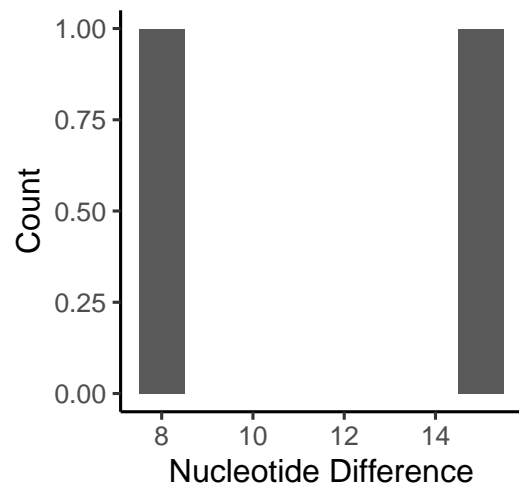
### IGHV3-15\*01\_02

480 sequences assigned  
248 (51.7%) exact matches, in which:  
190 unique CDR3  
6 unique J



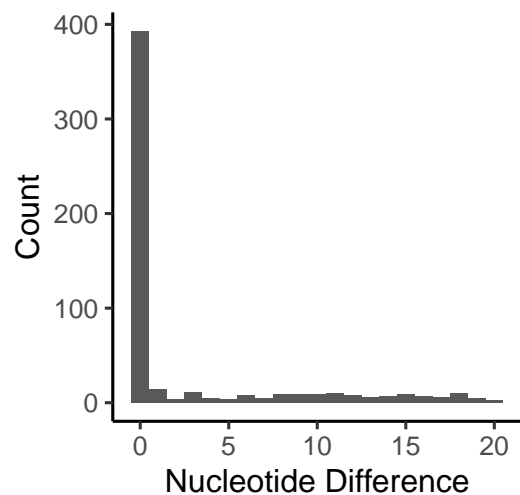
### IGHV3-20\*03\_04

4 sequences assigned  
No exact matches.



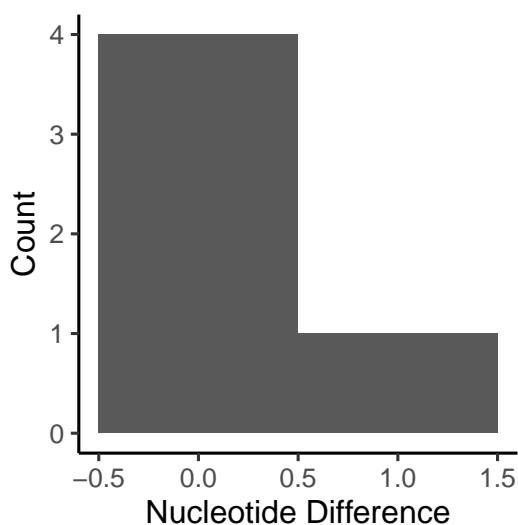
### IGHV3-11\*01

563 sequences assigned  
393 (69.8%) exact matches, in which:  
281 unique CDR3  
5 unique J



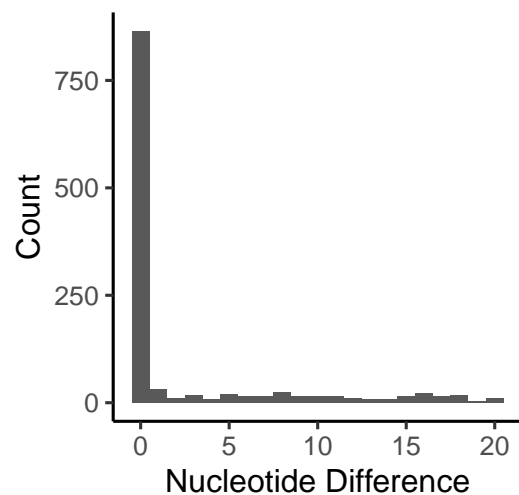
### IGHV3-19\*01

5 sequences assigned  
4 (80%) exact matches, in which:  
2 unique CDR3  
2 unique J



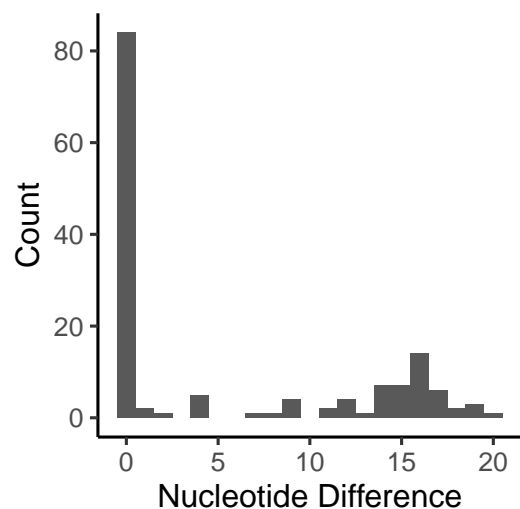
### IGHV3-21\*01\_02

1241 sequences assigned  
865 (69.7%) exact matches, in which:  
600 unique CDR3  
6 unique J



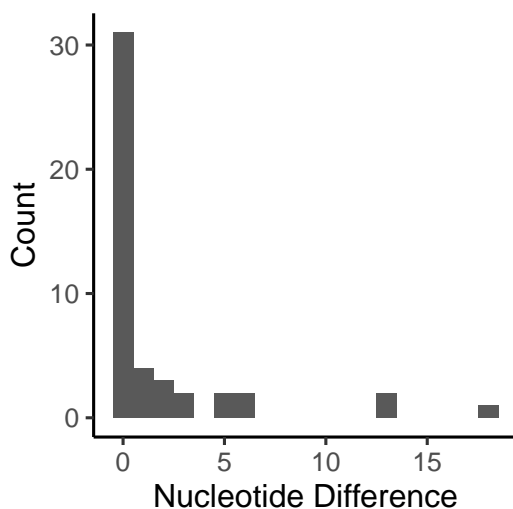
### IGHV3-13\*01

161 sequences assigned  
84 (52.2%) exact matches, in which:  
57 unique CDR3  
5 unique J



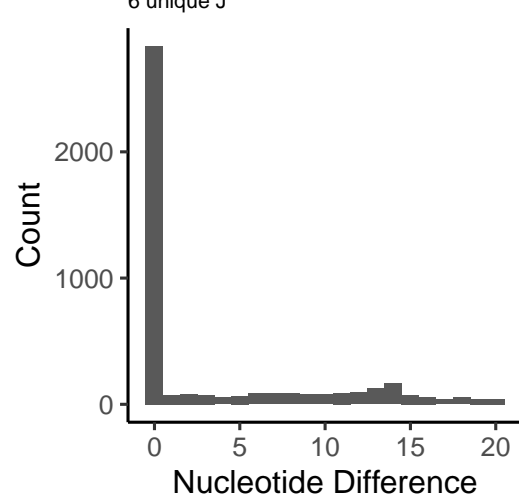
### IGHV3-20\*01\_02

47 sequences assigned  
31 (66%) exact matches, in which:  
19 unique CDR3  
4 unique J



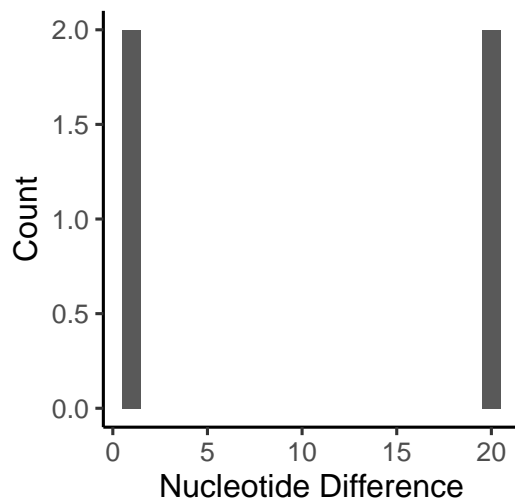
### IGHV3-23\*01\_04

5276 sequences assigned  
2838 (53.8%) exact matches, in which:  
1937 unique CDR3  
6 unique J



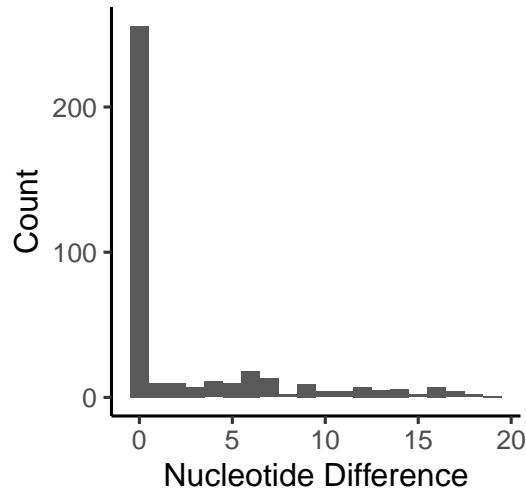
### IGHV3-30-3\*03

7 sequences assigned  
No exact matches.



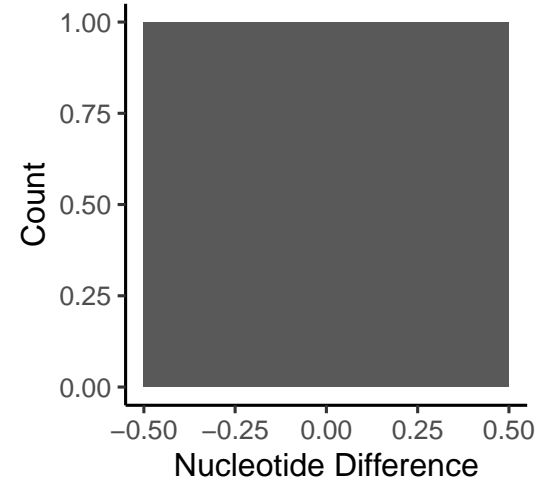
### IGHV3-48\*02

609 sequences assigned  
256 (42%) exact matches, in which:  
174 unique CDR3  
6 unique J



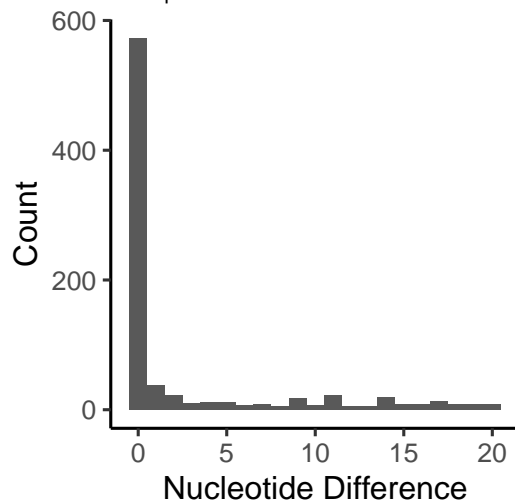
### IGHV3-52\*01\_03

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



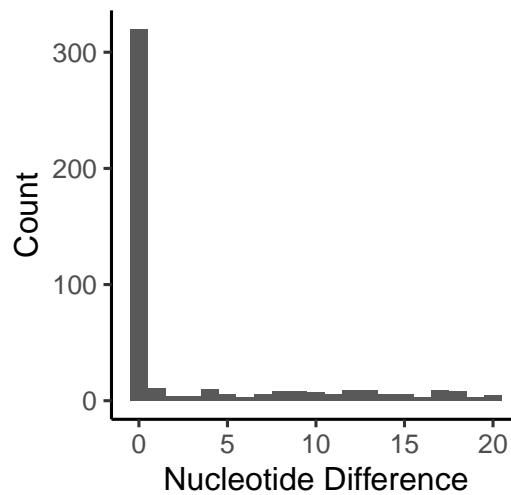
### IGHV3-33\*01

872 sequences assigned  
573 (65.7%) exact matches, in which:  
425 unique CDR3  
6 unique J



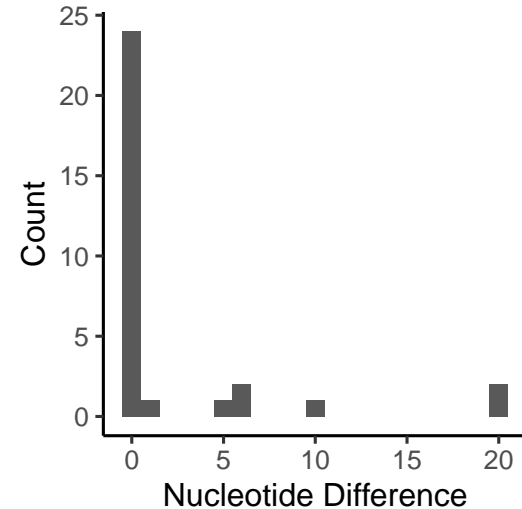
### IGHV3-48\*03

487 sequences assigned  
320 (65.7%) exact matches, in which:  
233 unique CDR3  
5 unique J



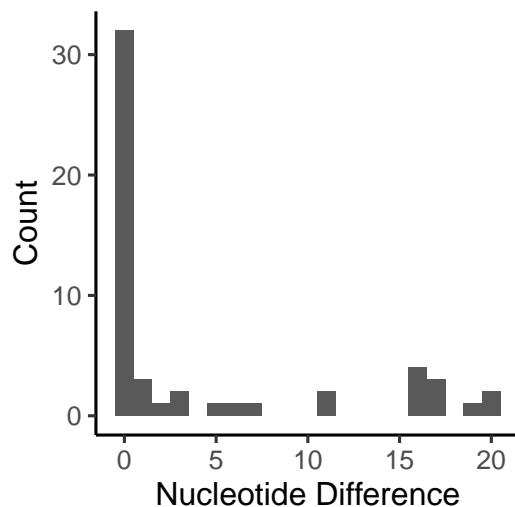
### IGHV3-53\*04

32 sequences assigned  
24 (75%) exact matches, in which:  
18 unique CDR3  
4 unique J



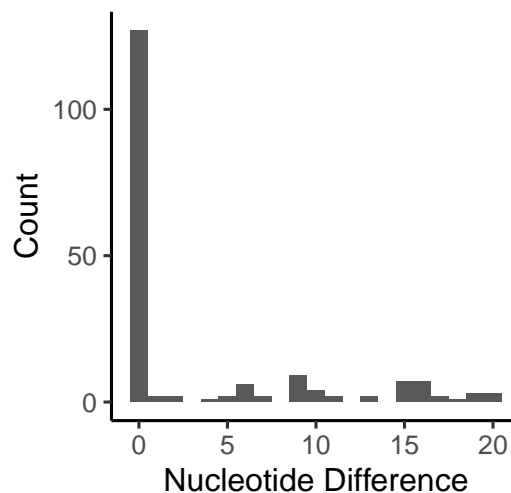
### IGHV3-43\*01

58 sequences assigned  
32 (55.2%) exact matches, in which:  
25 unique CDR3  
3 unique J



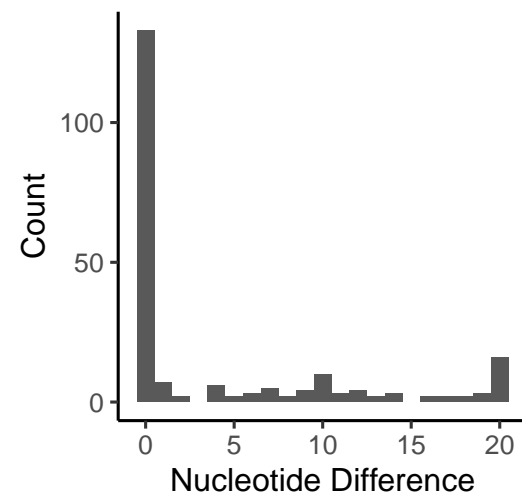
### IGHV3-49\*03\_05

196 sequences assigned  
127 (64.8%) exact matches, in which:  
89 unique CDR3  
6 unique J



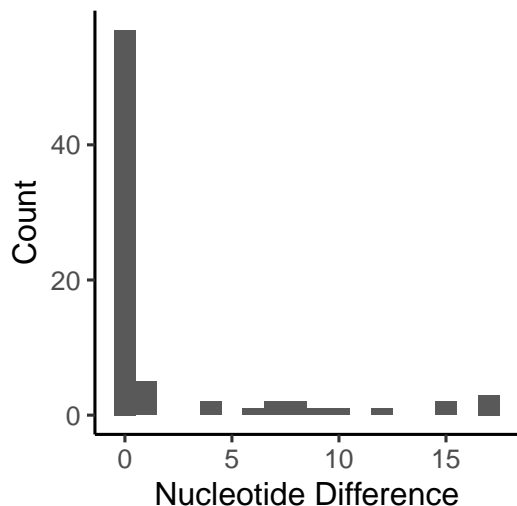
### IGHV3-53\*01\_02

277 sequences assigned  
133 (48%) exact matches, in which:  
95 unique CDR3  
6 unique J



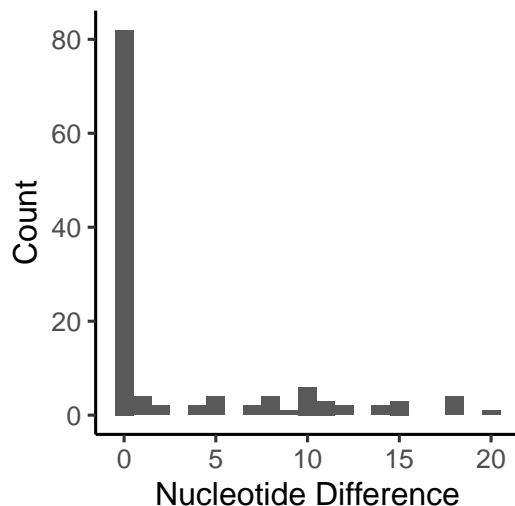
### IGHV3-64\*01

85 sequences assigned  
57 (67.1%) exact matches, in which:  
37 unique CDR3  
5 unique J



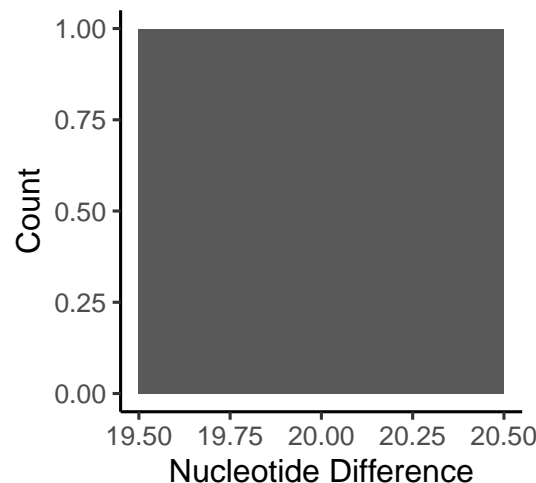
### IGHV3-73\*01\_02

152 sequences assigned  
82 (53.9%) exact matches, in which:  
67 unique CDR3  
5 unique J



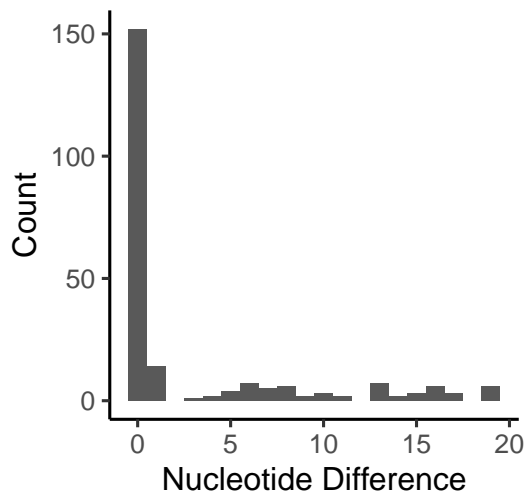
### IGHV3-NL1\*01

1 sequences assigned  
No exact matches.



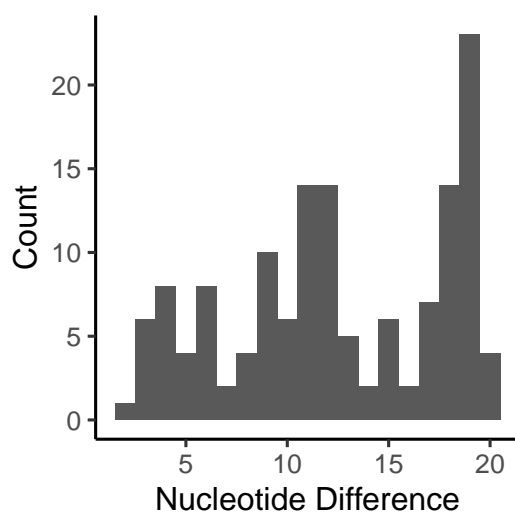
### IGHV3-66\*01

249 sequences assigned  
152 (61%) exact matches, in which:  
107 unique CDR3  
6 unique J



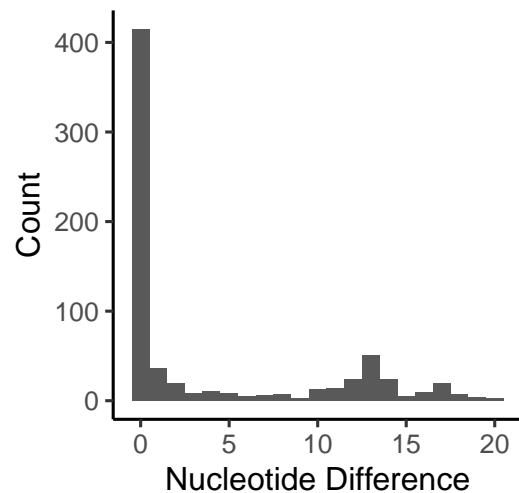
### IGHV3-74\*03

2039 sequences assigned  
No exact matches.



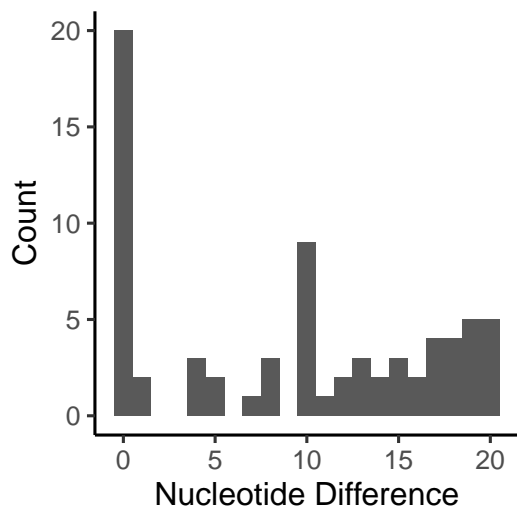
### IGHV4-4\*07

767 sequences assigned  
415 (54.1%) exact matches, in which:  
408 unique CDR3  
6 unique J



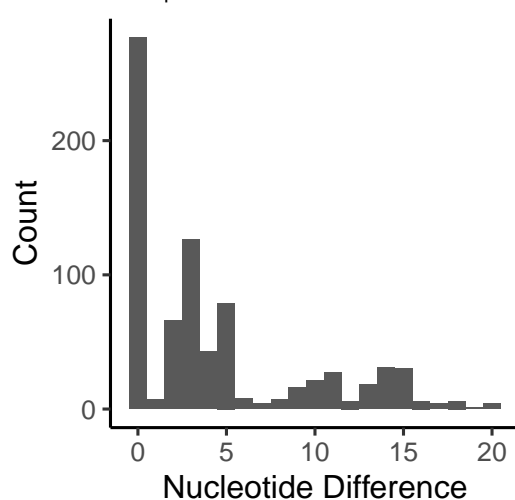
### IGHV3-72\*01

81 sequences assigned  
20 (24.7%) exact matches, in which:  
13 unique CDR3  
4 unique J



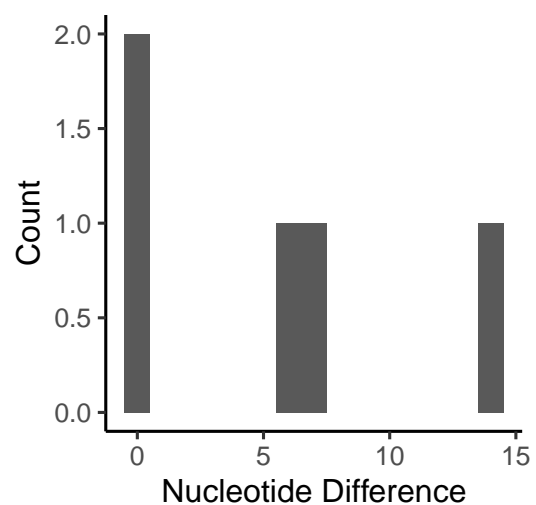
### IGHV3-74\*01\_02

1119 sequences assigned  
277 (24.8%) exact matches, in which:  
181 unique CDR3  
5 unique J



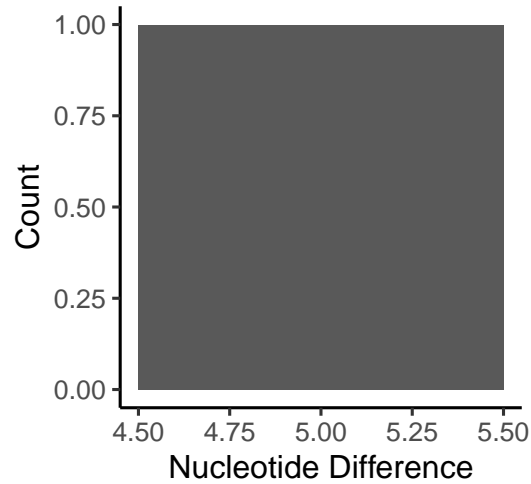
### IGHV4-28\*01\_07

6 sequences assigned  
2 (33.3%) exact matches, in which:  
2 unique CDR3  
1 unique J



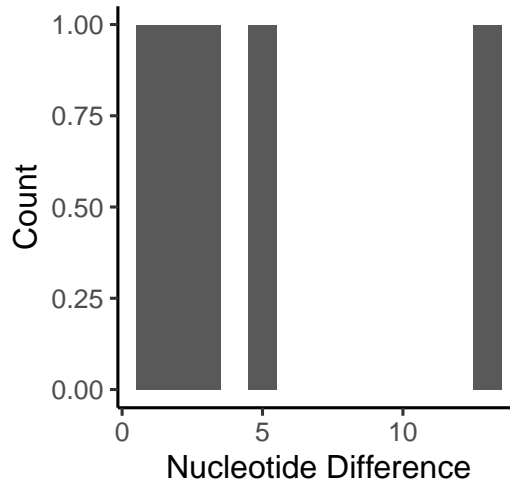
### IGHV4-30-2\*03

1 sequences assigned  
No exact matches.



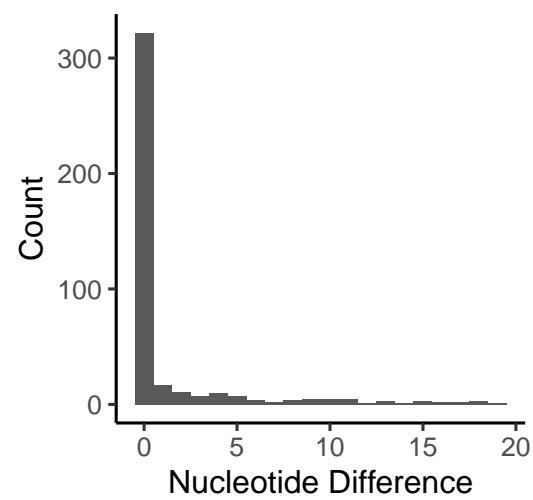
### IGHV4-38-2\*02

7 sequences assigned  
No exact matches.



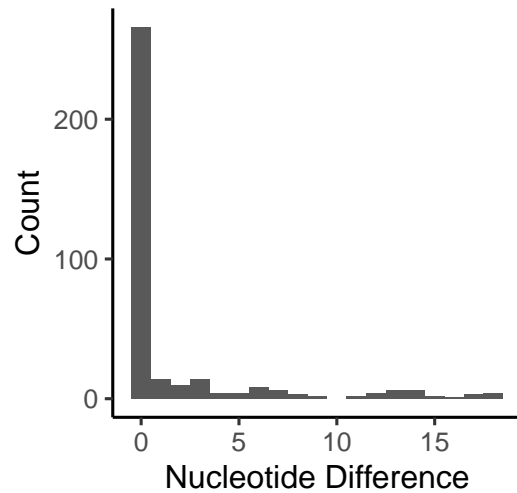
### IGHV4-59\*01\_07

931 sequences assigned  
322 (34.6%) exact matches, in which:  
314 unique CDR3  
5 unique J



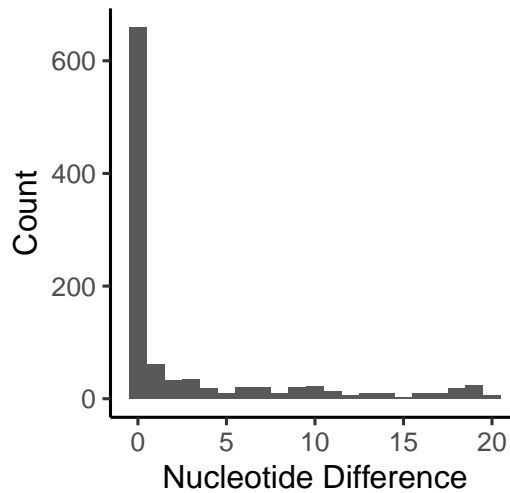
### IGHV4-31\*02

434 sequences assigned  
266 (61.3%) exact matches, in which:  
261 unique CDR3  
5 unique J



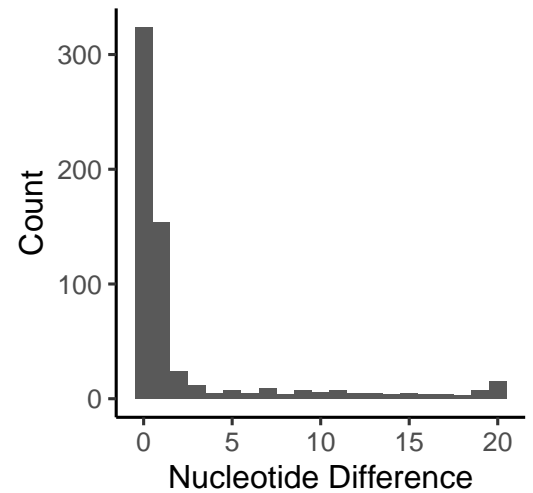
### IGHV4-39\*02\_C258G

1129 sequences assigned  
660 (58.5%) exact matches, in which:  
630 unique CDR3  
6 unique J



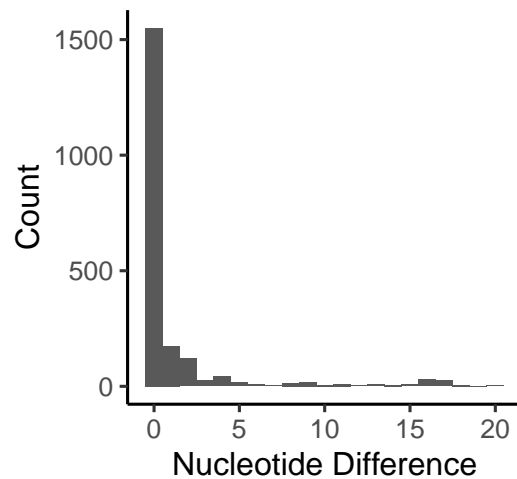
### IGHV4-59\*13

742 sequences assigned  
324 (43.7%) exact matches, in which:  
321 unique CDR3  
6 unique J



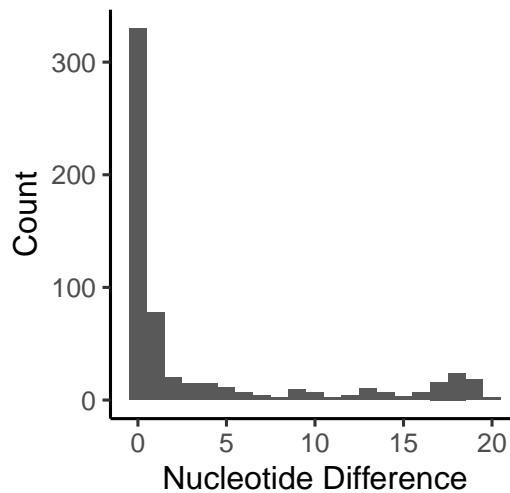
### IGHV4-34\*01\_02

2181 sequences assigned  
1550 (71.1%) exact matches, in which:  
1438 unique CDR3  
6 unique J



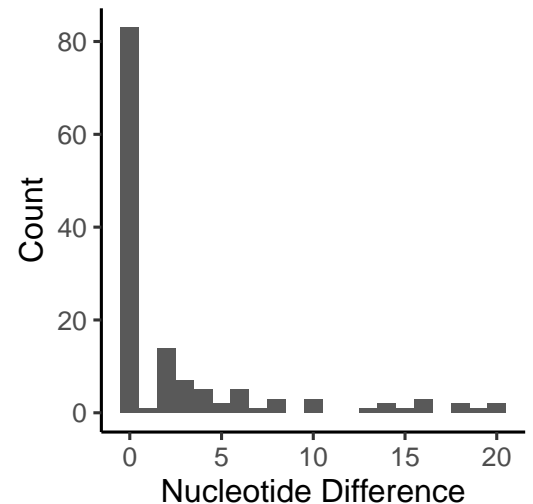
### IGHV4-59\*08

633 sequences assigned  
330 (52.1%) exact matches, in which:  
315 unique CDR3  
6 unique J



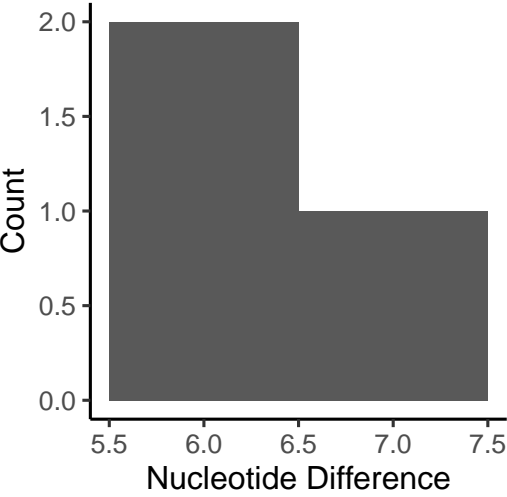
### IGHV4-61\*01

161 sequences assigned  
83 (51.6%) exact matches, in which:  
82 unique CDR3  
5 unique J



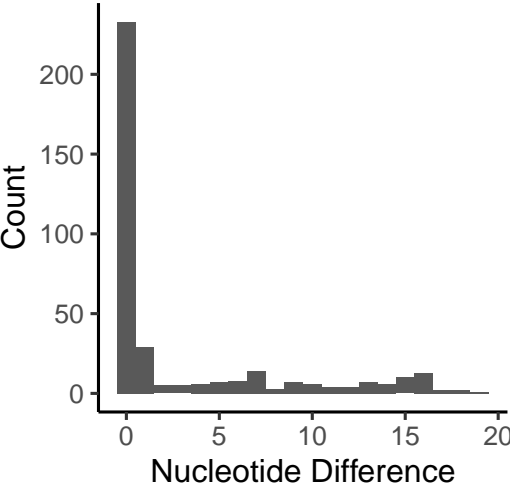
IGHV5-10-1\*01\_03

3 sequences assigned  
No exact matches.



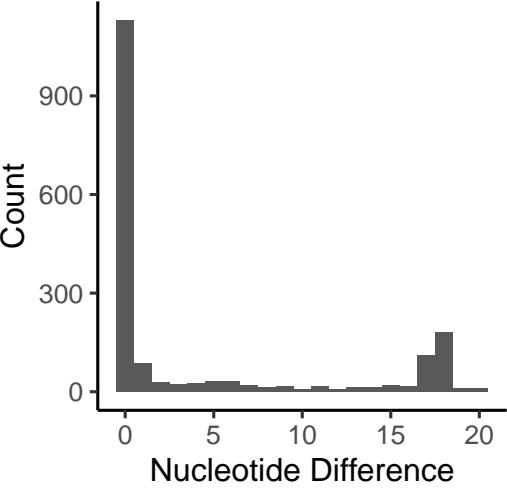
IGHV7-4-1\*02

384 sequences assigned  
233 (60.7%) exact matches, in which:  
232 unique CDR3  
5 unique J



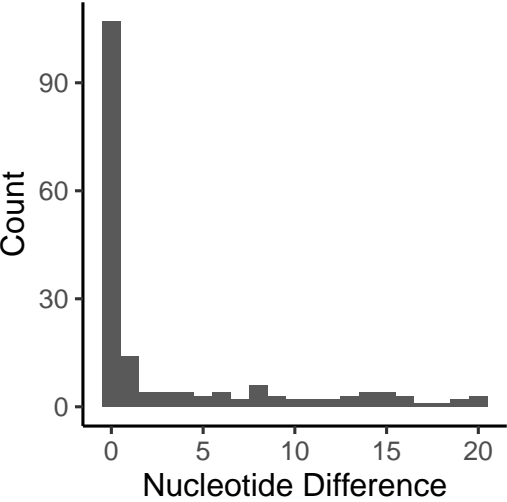
IGHV5-51\*07\_A128G

1893 sequences assigned  
1131 (59.7%) exact matches, in which:  
860 unique CDR3  
6 unique J



IGHV6-1\*01\_02

191 sequences assigned  
107 (56%) exact matches, in which:  
104 unique CDR3  
6 unique J







Warning – no inferred sequences found.