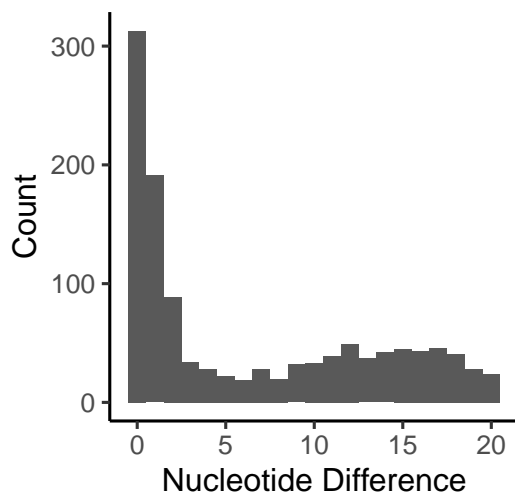


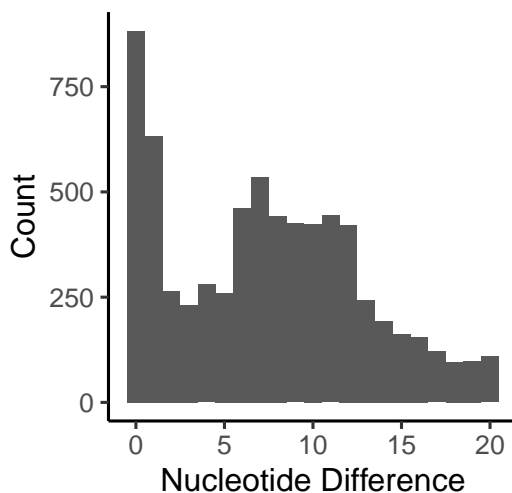
### IGHV1-2\*04

1450 sequences assigned  
313 (21.6%) exact matches, in which:  
296 unique CDR3  
6 unique J



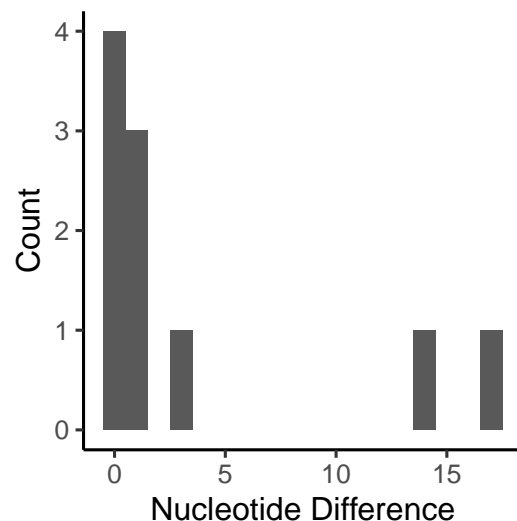
### IGHV1-18\*01

10133 sequences assigned  
883 (8.7%) exact matches, in which:  
807 unique CDR3  
6 unique J



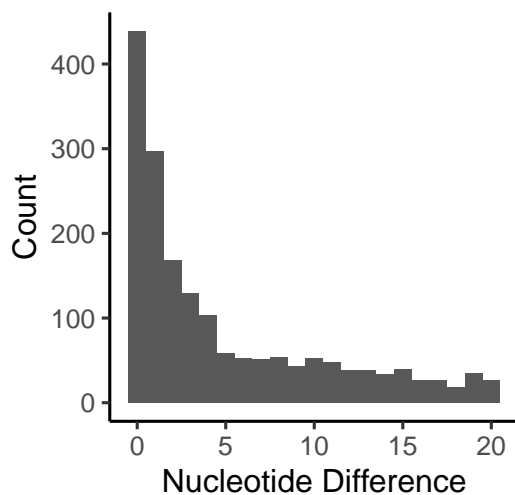
### IGHV1-45\*02

10 sequences assigned  
4 (40%) exact matches, in which:  
4 unique CDR3  
2 unique J



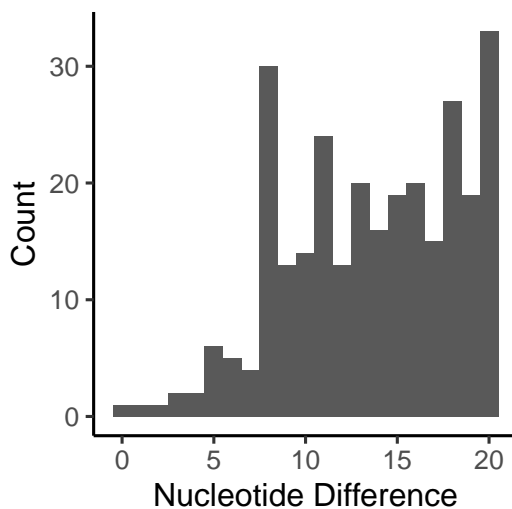
### IGHV1-3\*01\_05

1904 sequences assigned  
439 (23.1%) exact matches, in which:  
408 unique CDR3  
6 unique J



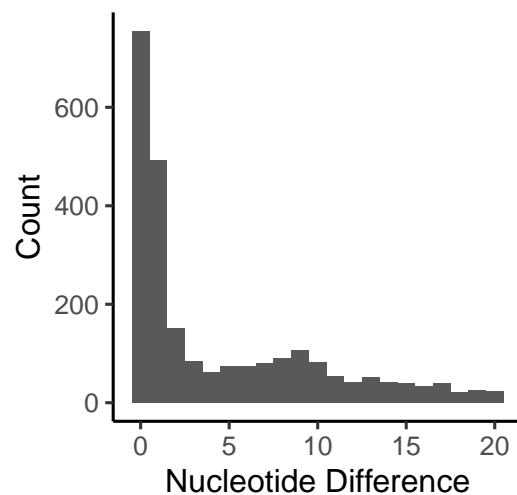
### IGHV1-18\*04

7029 sequences assigned  
1 (0%) exact matches, in which:  
1 unique CDR3  
1 unique J



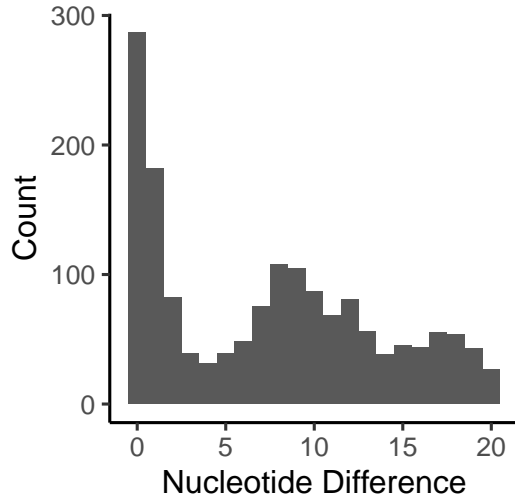
### IGHV1-46\*01

2761 sequences assigned  
755 (27.3%) exact matches, in which:  
694 unique CDR3  
6 unique J



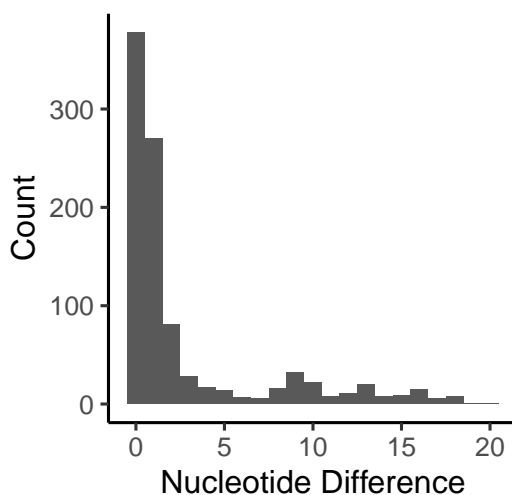
### IGHV1-8\*01

1688 sequences assigned  
287 (17%) exact matches, in which:  
266 unique CDR3  
6 unique J



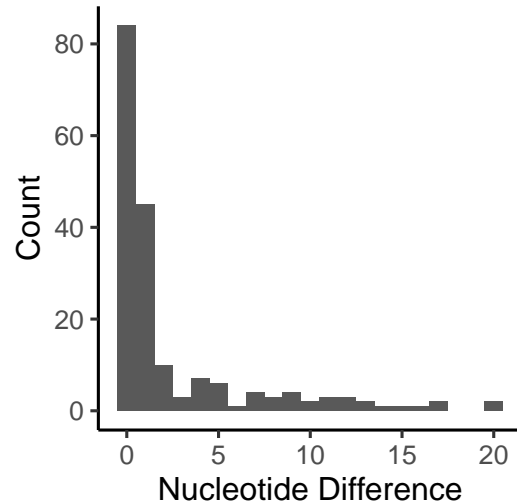
### IGHV1-24\*01

996 sequences assigned  
378 (38%) exact matches, in which:  
349 unique CDR3  
6 unique J



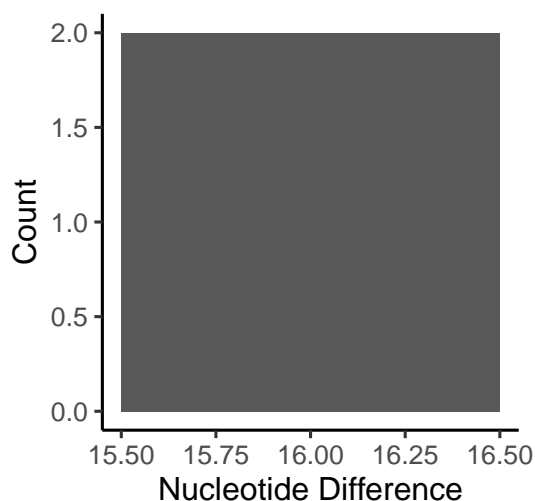
### IGHV1-58\*01\_03

185 sequences assigned  
84 (45.4%) exact matches, in which:  
77 unique CDR3  
5 unique J



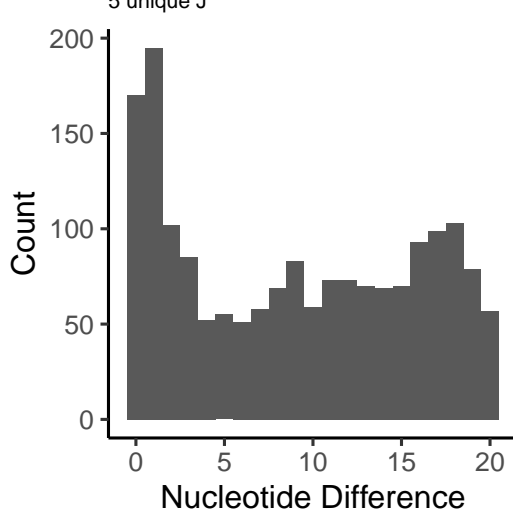
### IGHV1-69-2\*01

3 sequences assigned  
No exact matches.



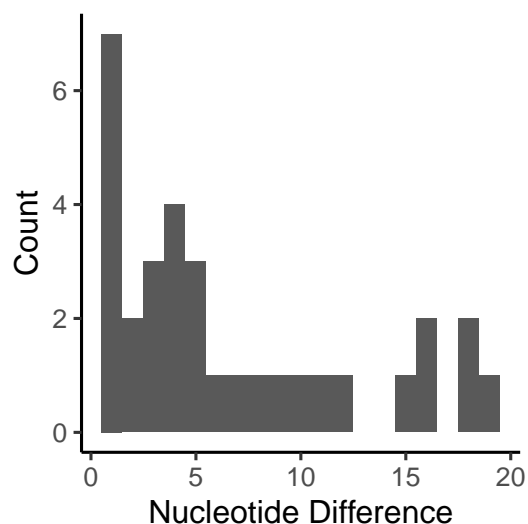
### IGHV2-5\*02

3699 sequences assigned  
170 (4.6%) exact matches, in which:  
146 unique CDR3  
5 unique J



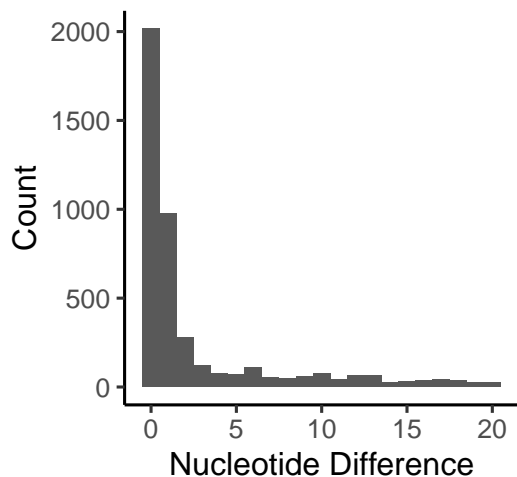
### IGHV2-70\*12

44 sequences assigned  
No exact matches.



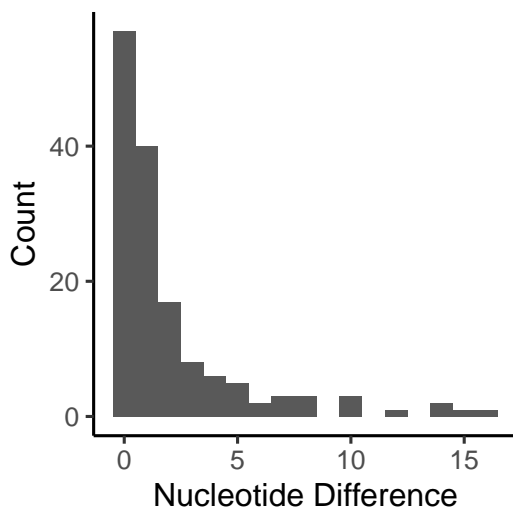
### IGHV1-69\*01\_12\_13

4438 sequences assigned  
2016 (45.4%) exact matches, in which:  
1894 unique CDR3  
6 unique J



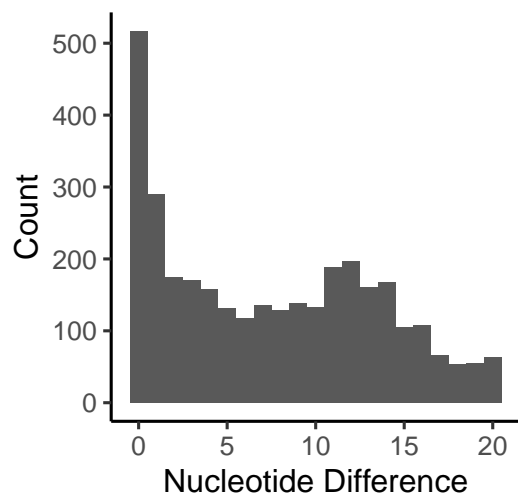
### IGHV2-26\*01

160 sequences assigned  
57 (35.6%) exact matches, in which:  
53 unique CDR3  
4 unique J



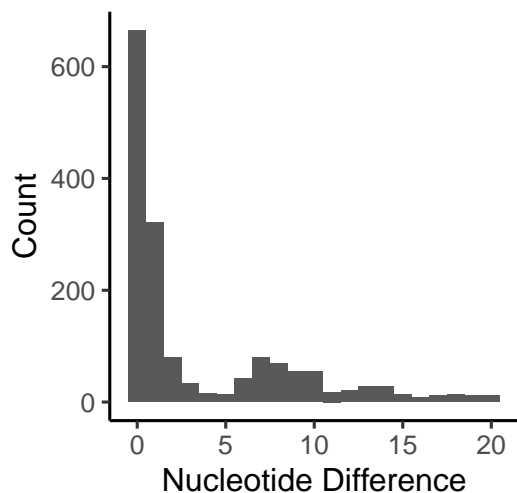
### IGHV3-7\*01

3500 sequences assigned  
517 (14.8%) exact matches, in which:  
368 unique CDR3  
6 unique J



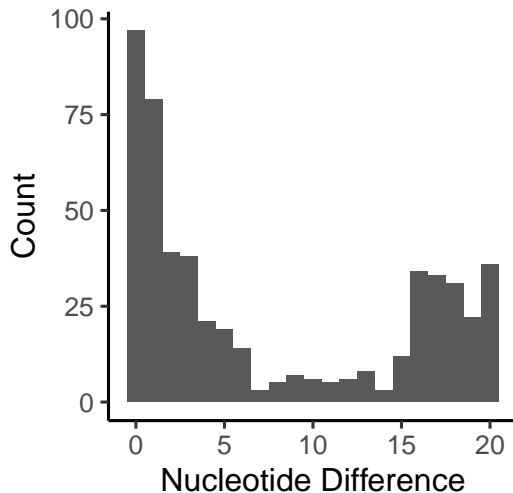
### IGHV1-69\*06\_14

1702 sequences assigned  
665 (39.1%) exact matches, in which:  
628 unique CDR3  
6 unique J



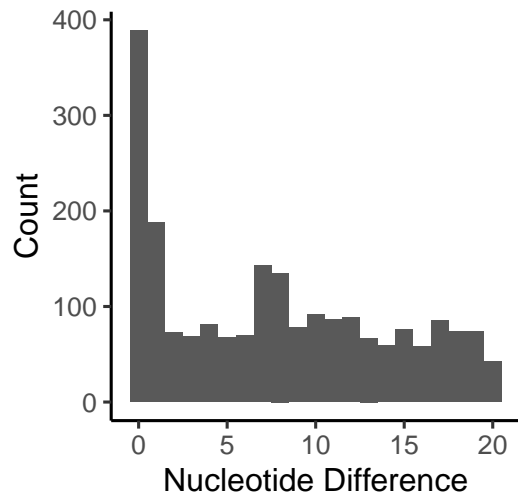
### IGHV2-70\*01

781 sequences assigned  
97 (12.4%) exact matches, in which:  
90 unique CDR3  
4 unique J



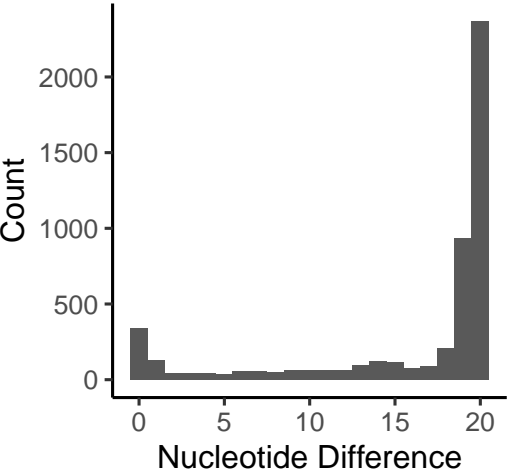
### IGHV3-7\*03

2375 sequences assigned  
389 (16.4%) exact matches, in which:  
279 unique CDR3  
5 unique J



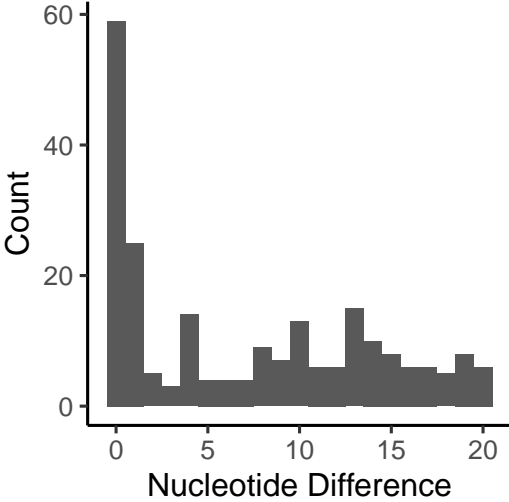
IGHV3-9\*01

6745 sequences assigned  
338 (5%) exact matches, in which:  
256 unique CDR3  
6 unique J



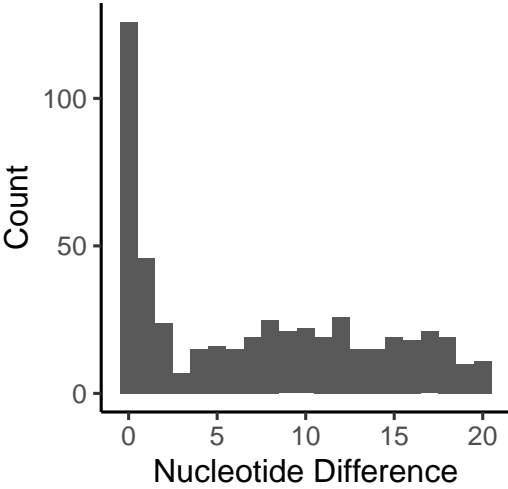
IGHV3-11\*06

453 sequences assigned  
59 (13%) exact matches, in which:  
42 unique CDR3  
4 unique J



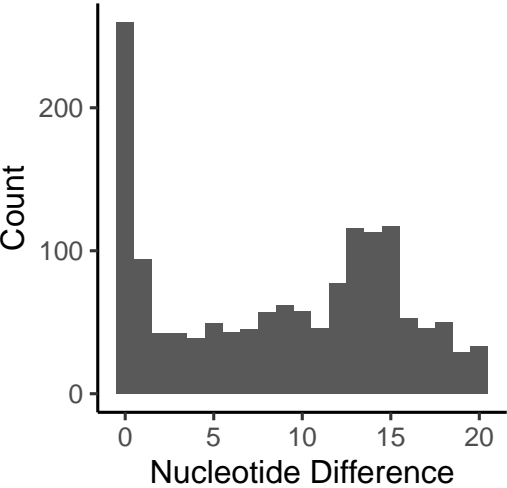
IGHV3-15\*01\_02

659 sequences assigned  
126 (19.1%) exact matches, in which:  
95 unique CDR3  
5 unique J



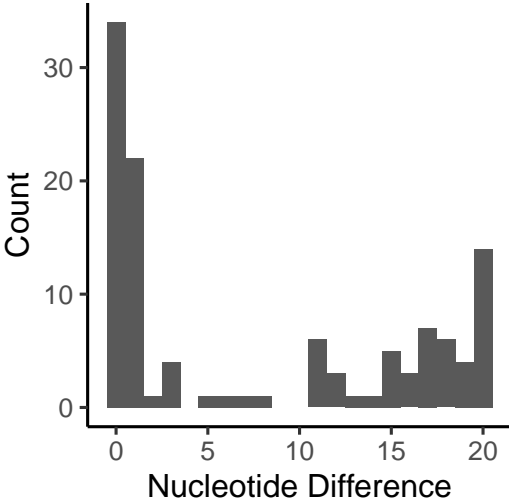
IGHV3-11\*01

1780 sequences assigned  
260 (14.6%) exact matches, in which:  
198 unique CDR3  
5 unique J



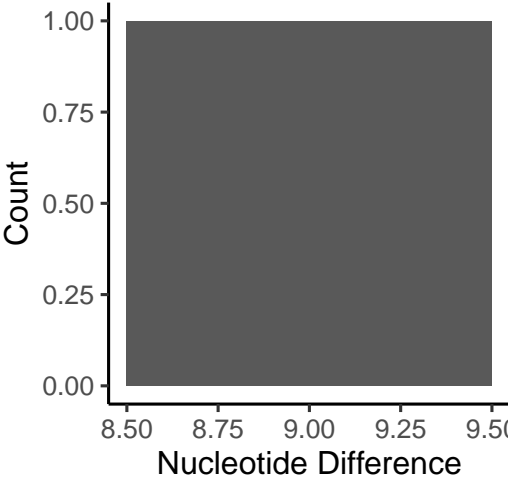
IGHV3-13\*01

142 sequences assigned  
34 (23.9%) exact matches, in which:  
28 unique CDR3  
5 unique J



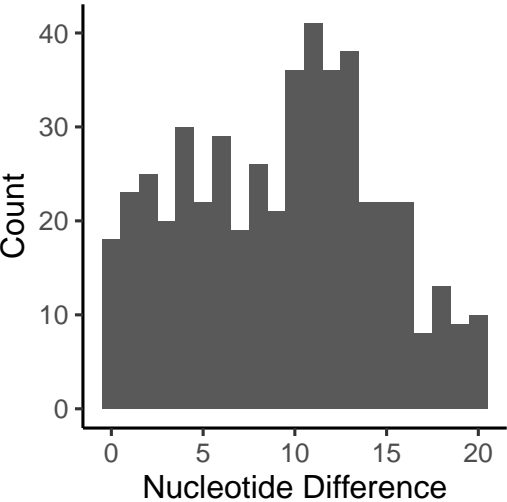
IGHV3-19\*01

1 sequences assigned  
No exact matches.



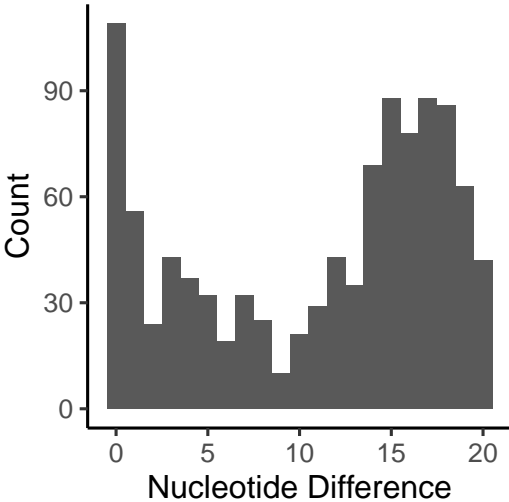
IGHV3-11\*04

578 sequences assigned  
18 (3.1%) exact matches, in which:  
18 unique CDR3  
5 unique J



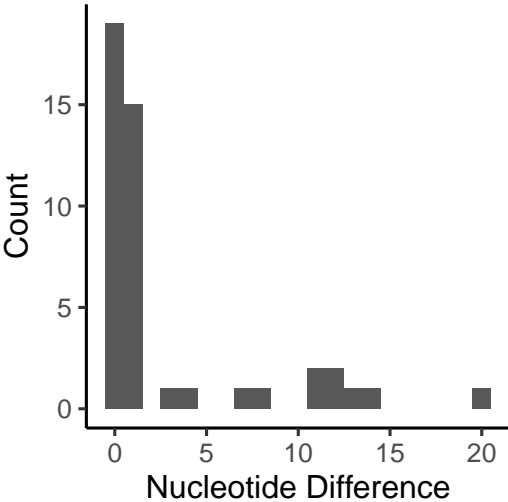
IGHV3-15\*07

1431 sequences assigned  
109 (7.6%) exact matches, in which:  
78 unique CDR3  
5 unique J



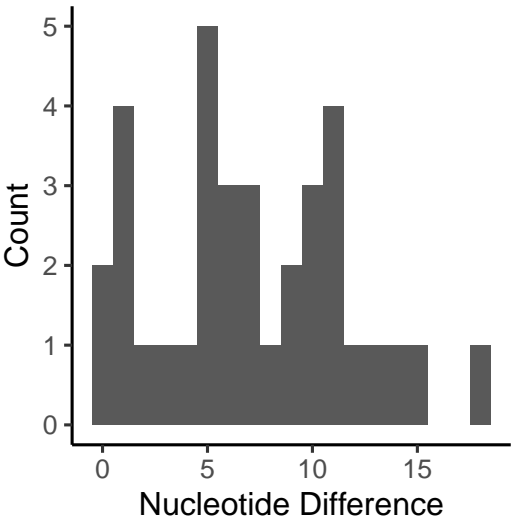
IGHV3-20\*01\_02

46 sequences assigned  
19 (41.3%) exact matches, in which:  
12 unique CDR3  
3 unique J



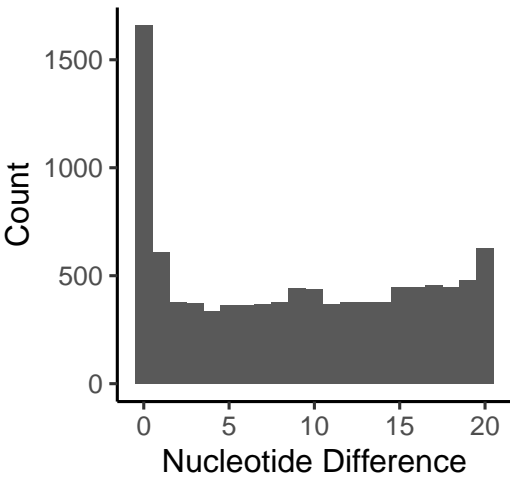
IGHV3-20\*03\_04

56 sequences assigned  
2 (3.6%) exact matches, in which:  
1 unique CDR3  
1 unique J



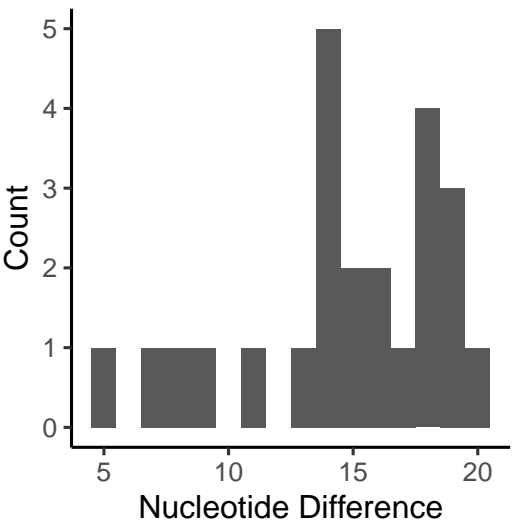
IGHV3-23\*01\_04

40468 sequences assigned  
1659 (4.1%) exact matches, in which:  
1204 unique CDR3  
6 unique J



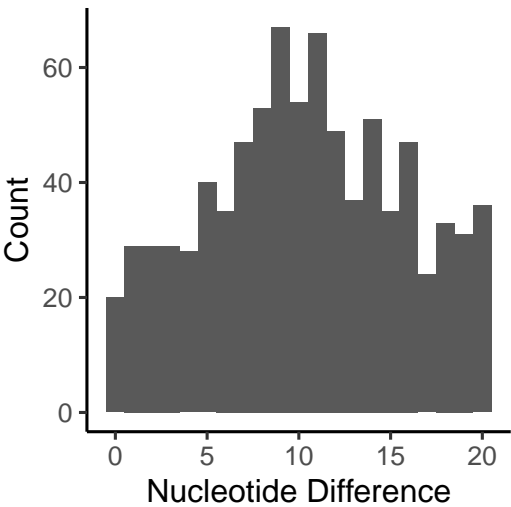
IGHV3-33\*05

74 sequences assigned  
No exact matches.



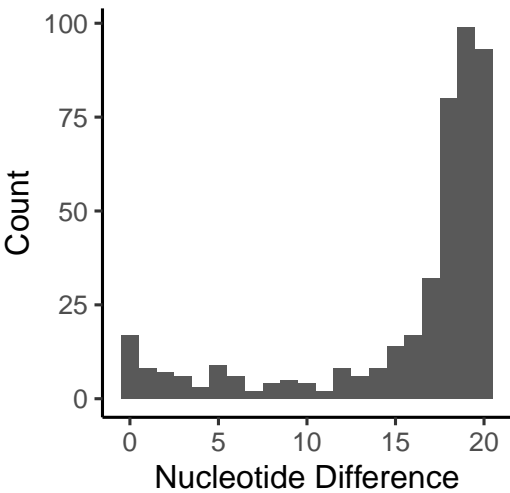
IGHV3-21\*04

1434 sequences assigned  
20 (1.4%) exact matches, in which:  
20 unique CDR3  
3 unique J



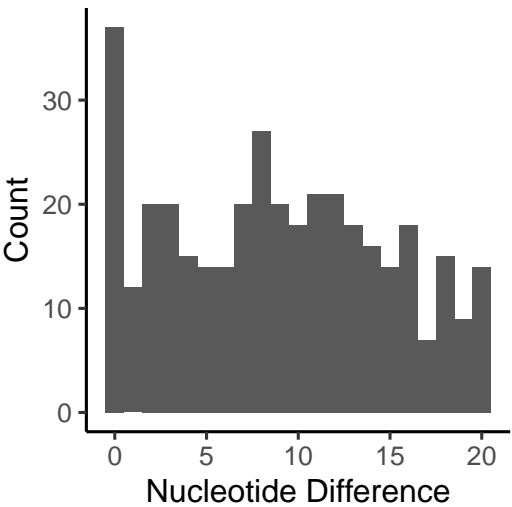
IGHV3-30\*03

2731 sequences assigned  
17 (0.6%) exact matches, in which:  
17 unique CDR3  
4 unique J



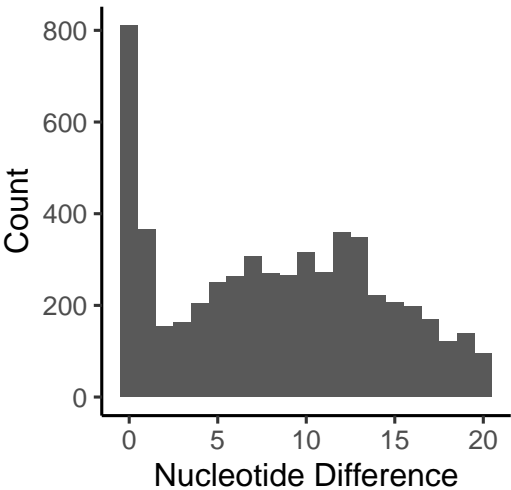
IGHV3-33\*08

1033 sequences assigned  
37 (3.6%) exact matches, in which:  
35 unique CDR3  
4 unique J



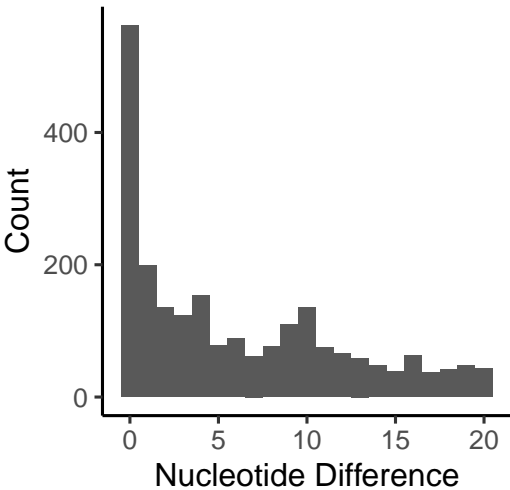
IGHV3-21\*01\_02

12898 sequences assigned  
811 (6.3%) exact matches, in which:  
580 unique CDR3  
6 unique J



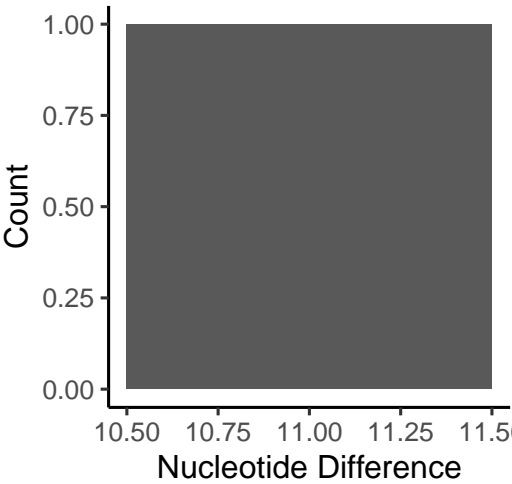
IGHV3-33\*01

3140 sequences assigned  
562 (17.9%) exact matches, in which:  
439 unique CDR3  
6 unique J



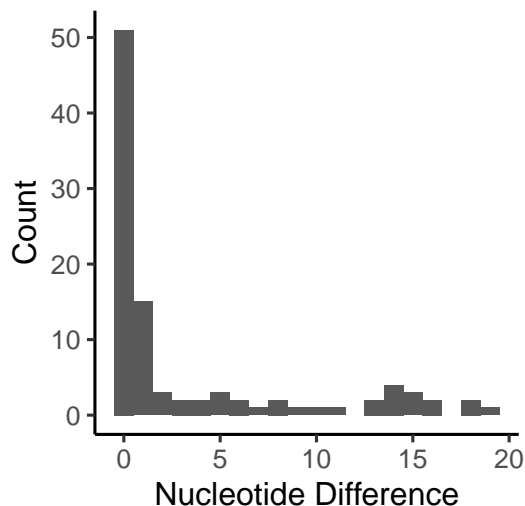
IGHV3-35\*01

1 sequences assigned  
No exact matches.



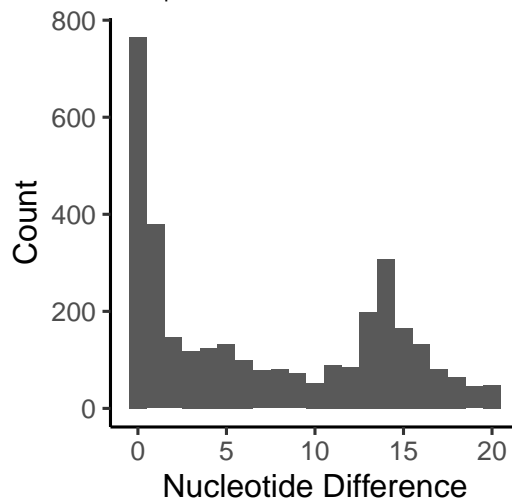
### IGHV3-43\*01

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



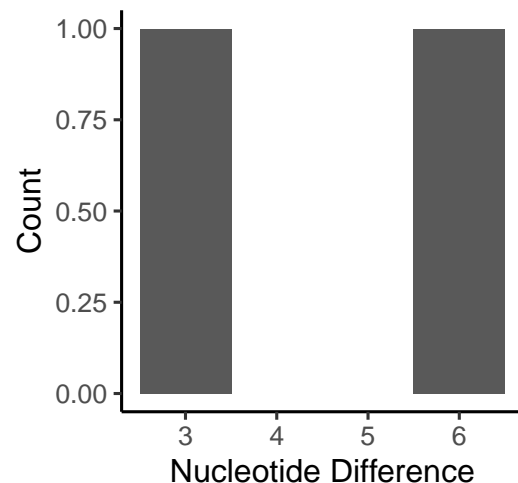
### IGHV3-48\*02

3642 sequences assigned  
766 (21%) exact matches, in which:  
531 unique CDR3  
6 unique J



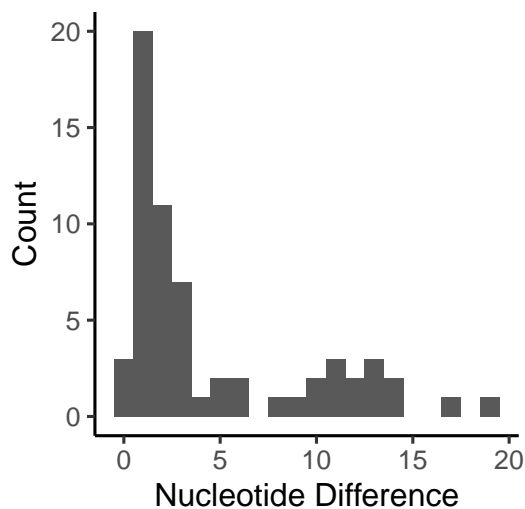
### IGHV3-52\*02

2 sequences assigned  
No exact matches.



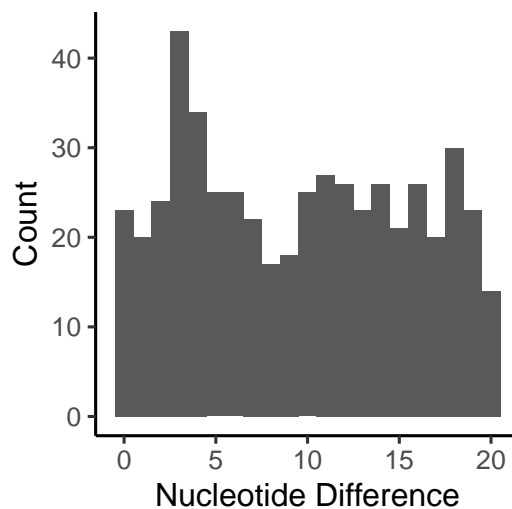
### IGHV3-47\*02

63 sequences assigned  
3 (4.8%) exact matches, in which:  
1 unique CDR3  
1 unique J



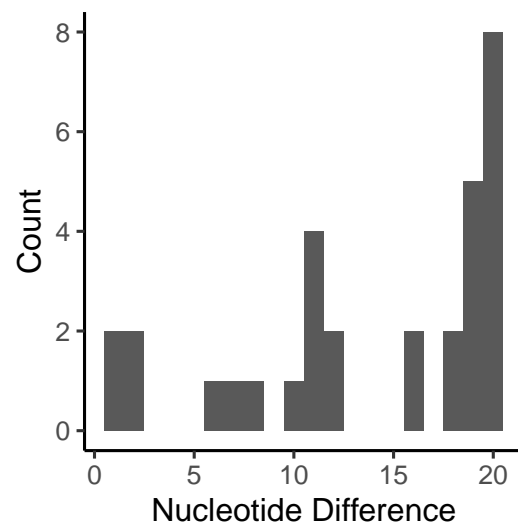
### IGHV3-48\*04

573 sequences assigned  
23 (4%) exact matches, in which:  
22 unique CDR3  
3 unique J



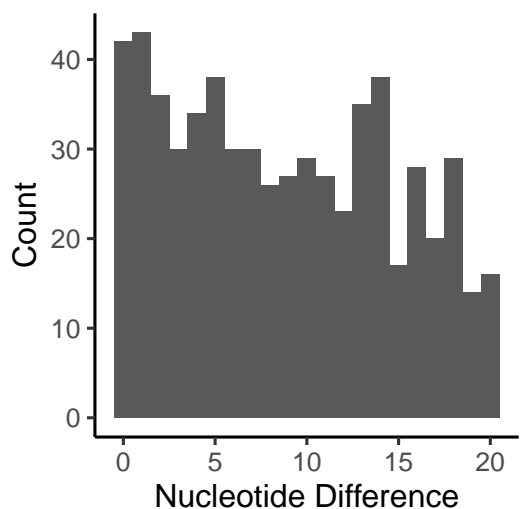
### IGHV3-53\*05

113 sequences assigned  
No exact matches.



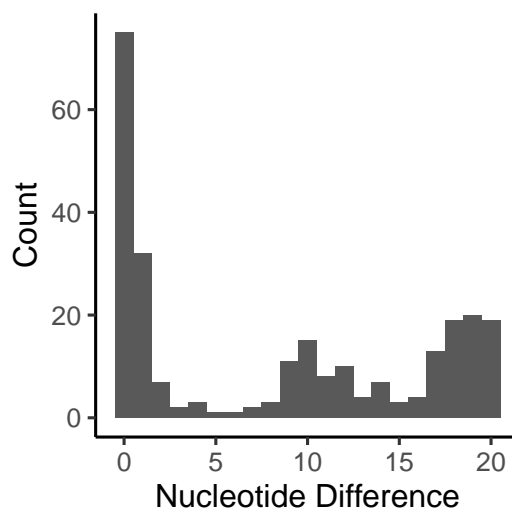
### IGHV3-48\*01

710 sequences assigned  
42 (5.9%) exact matches, in which:  
40 unique CDR3  
4 unique J



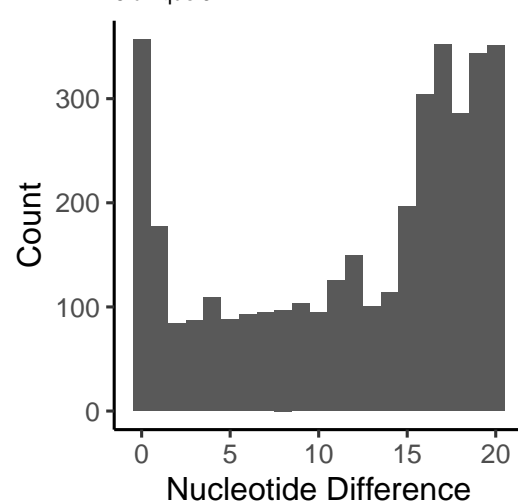
### IGHV3-49\*03\_05

903 sequences assigned  
75 (8.3%) exact matches, in which:  
57 unique CDR3  
5 unique J



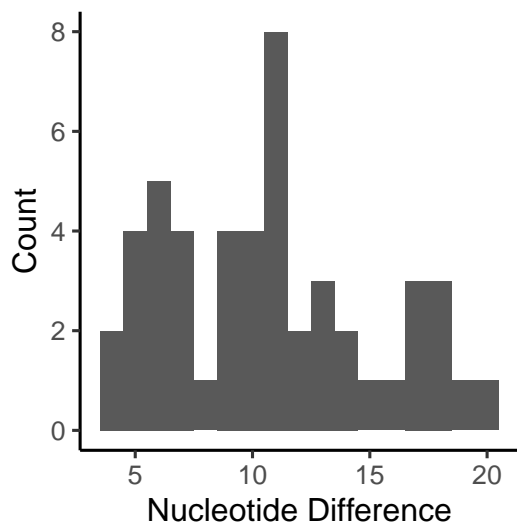
### IGHV3-53\*01\_02

9897 sequences assigned  
357 (3.6%) exact matches, in which:  
259 unique CDR3  
6 unique J



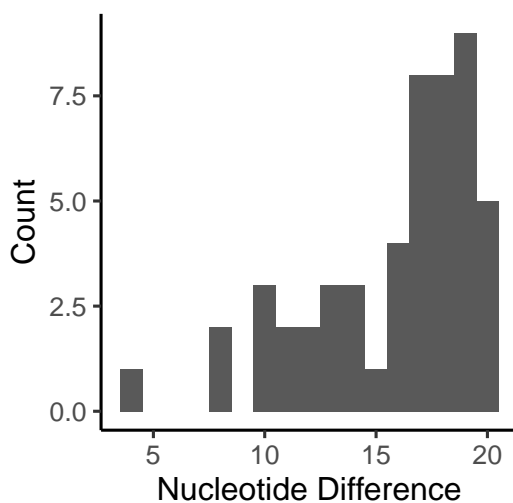
### IGHV3-64\*04

69 sequences assigned  
No exact matches.



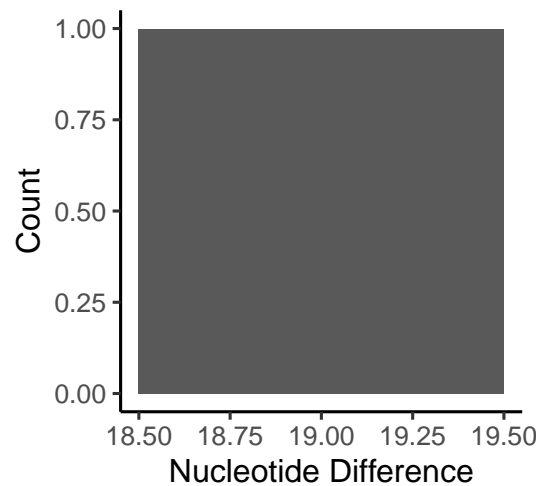
### IGHV3-66\*02

233 sequences assigned  
No exact matches.



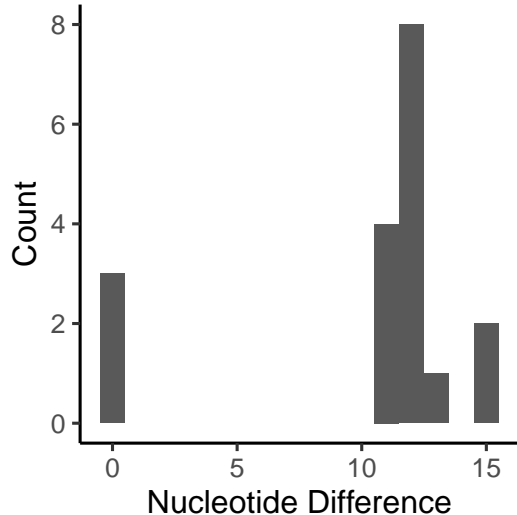
### IGHV3-69-1\*02

42 sequences assigned  
No exact matches.



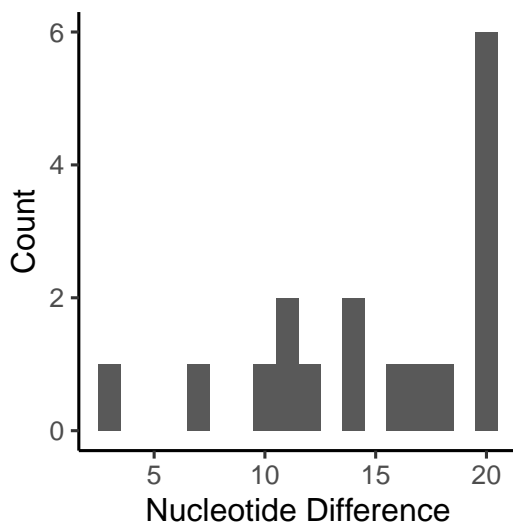
### IGHV3-64\*02\_07

18 sequences assigned  
3 (16.7%) exact matches, in which:  
3 unique CDR3  
3 unique J



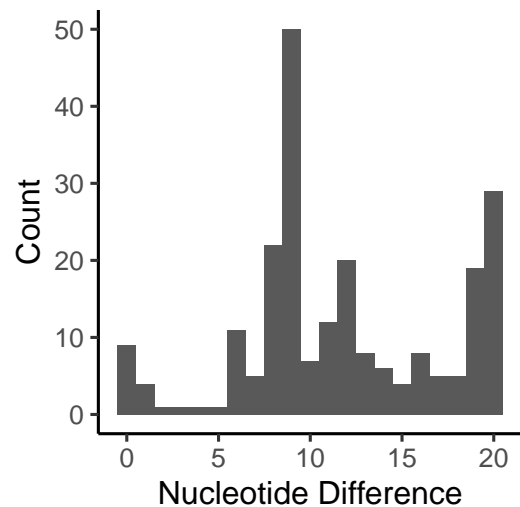
### IGHV3-66\*03

54 sequences assigned  
No exact matches.



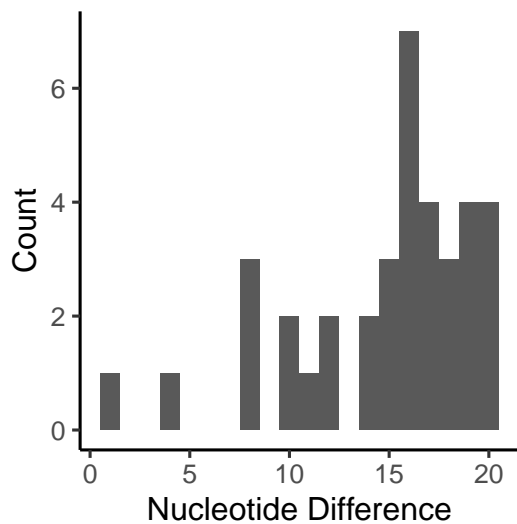
### IGHV3-72\*01

267 sequences assigned  
9 (3.4%) exact matches, in which:  
7 unique CDR3  
3 unique J



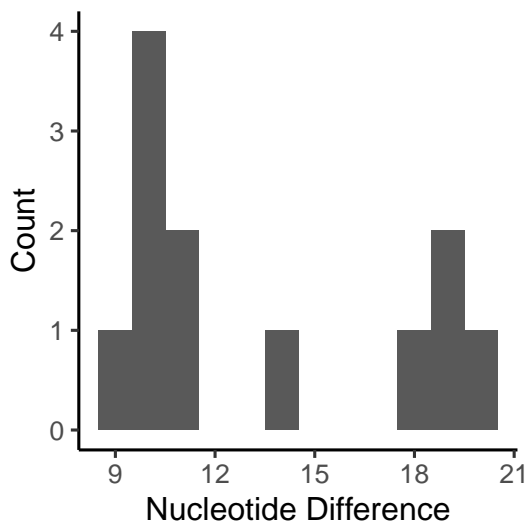
### IGHV3-66\*01

59 sequences assigned  
No exact matches.



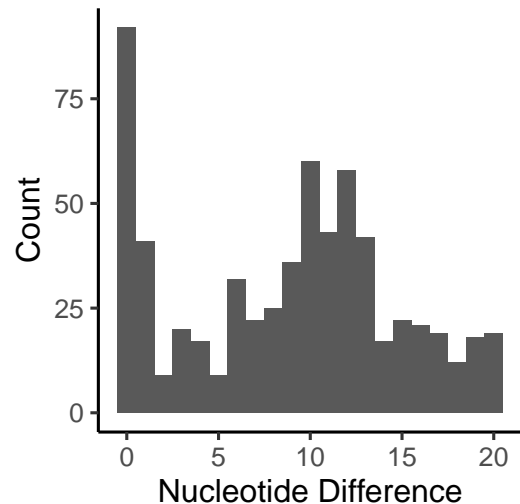
### IGHV3-69-1\*01

81 sequences assigned  
No exact matches.



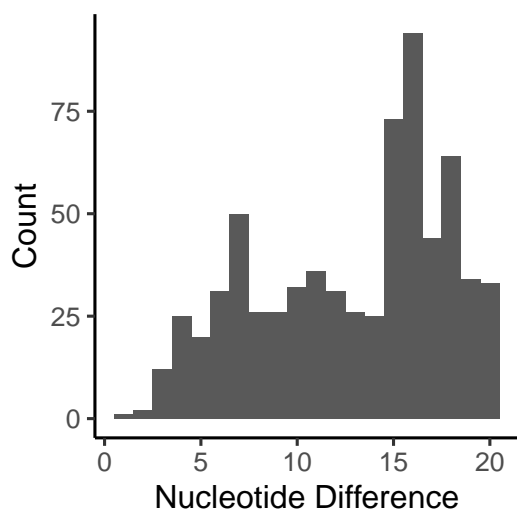
### IGHV3-73\*01\_02

941 sequences assigned  
92 (9.8%) exact matches, in which:  
62 unique CDR3  
4 unique J



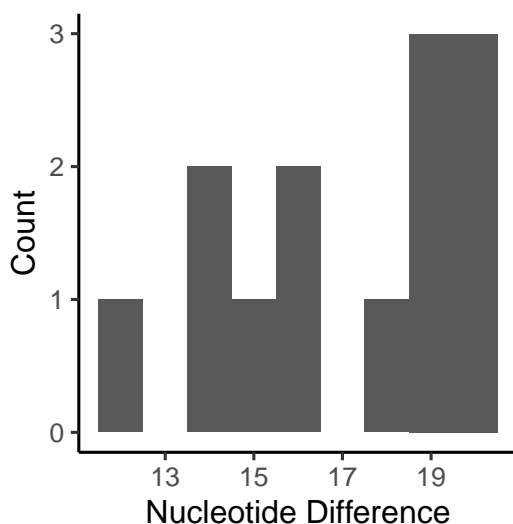
### IGHV3-74\*03

856 sequences assigned  
No exact matches.



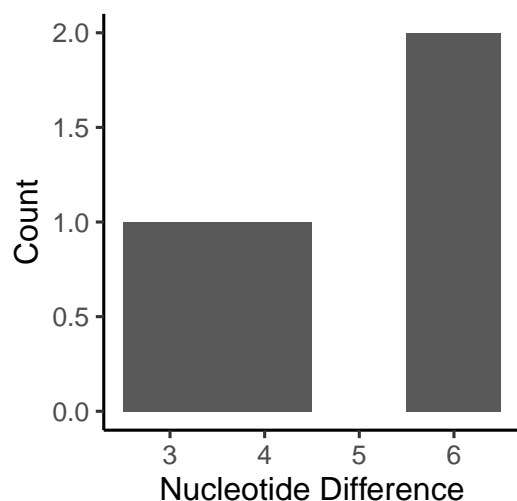
### IGHV3-NL1\*01

63 sequences assigned  
No exact matches.



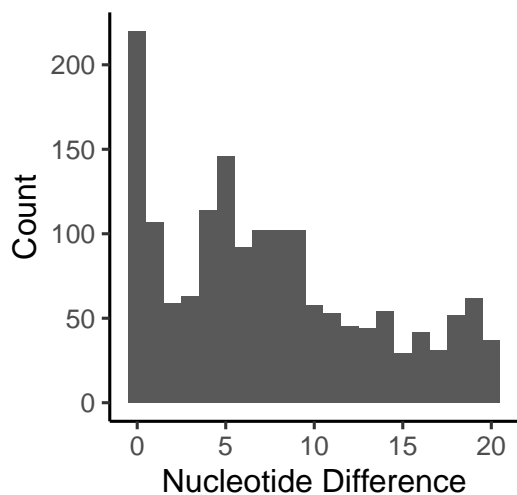
### IGHV4-28\*01\_07

4 sequences assigned  
No exact matches.



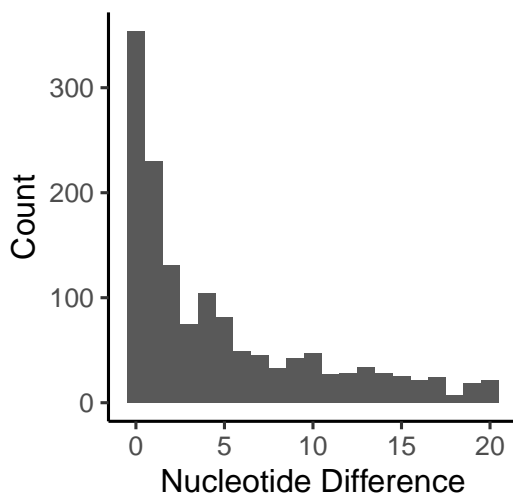
### IGHV3-74\*01\_02

1904 sequences assigned  
220 (11.6%) exact matches, in which:  
163 unique CDR3  
5 unique J



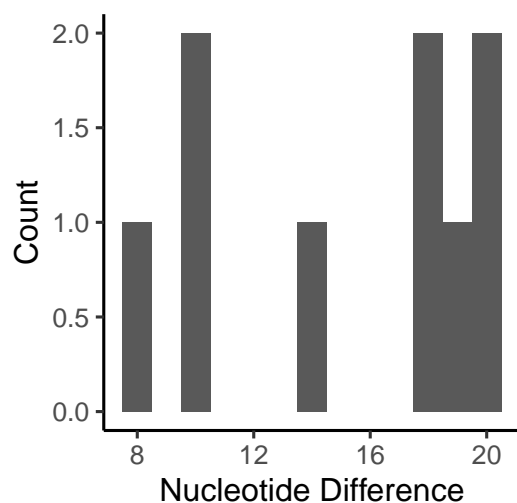
### IGHV4-4\*02\_03

1661 sequences assigned  
354 (21.3%) exact matches, in which:  
318 unique CDR3  
5 unique J



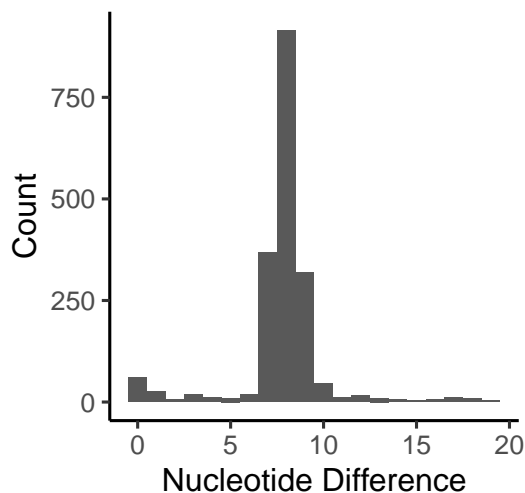
### IGHV4-30-4\*01

20 sequences assigned  
No exact matches.



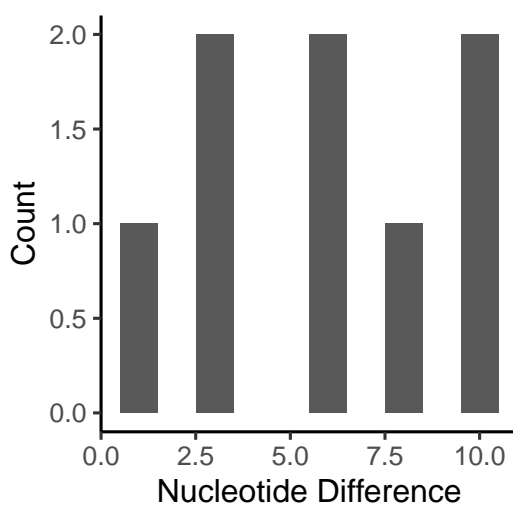
### IGHV3-64D\*06

1924 sequences assigned  
60 (3.1%) exact matches, in which:  
43 unique CDR3  
5 unique J



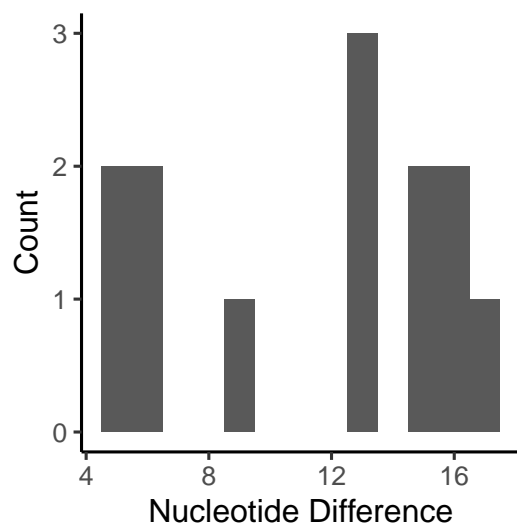
### IGHV4-28\*03

8 sequences assigned  
No exact matches.



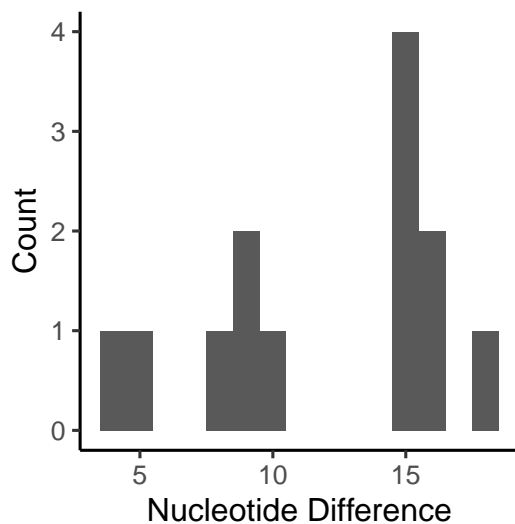
### IGHV4-30-2\*03

19 sequences assigned  
No exact matches.



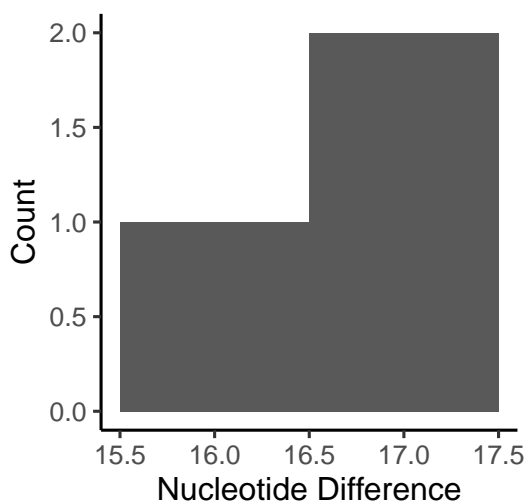
### IGHV4-30-4\*08

30 sequences assigned  
No exact matches.



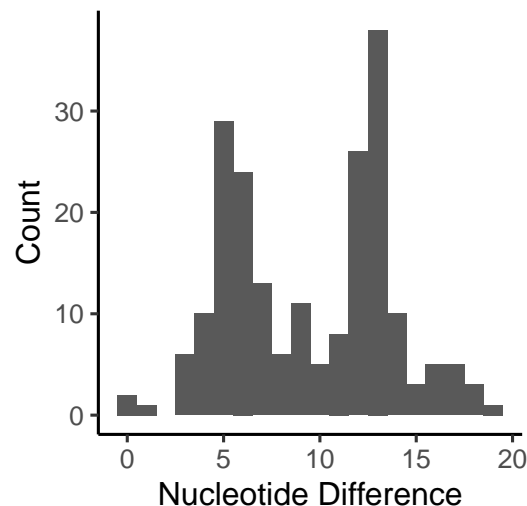
### IGHV4-38-2\*02

5 sequences assigned  
No exact matches.



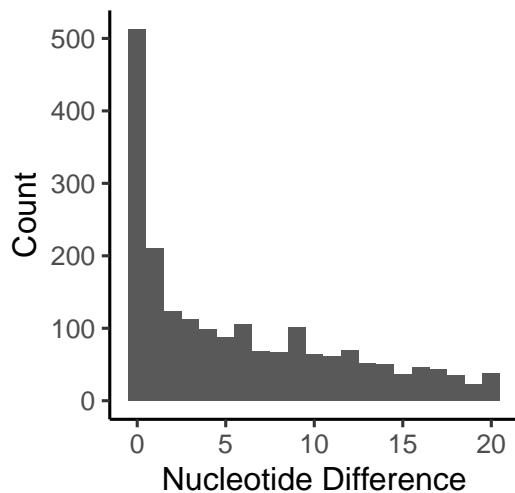
### IGHV4-59\*11

219 sequences assigned  
2 (0.9%) exact matches, in which:  
2 unique CDR3  
2 unique J



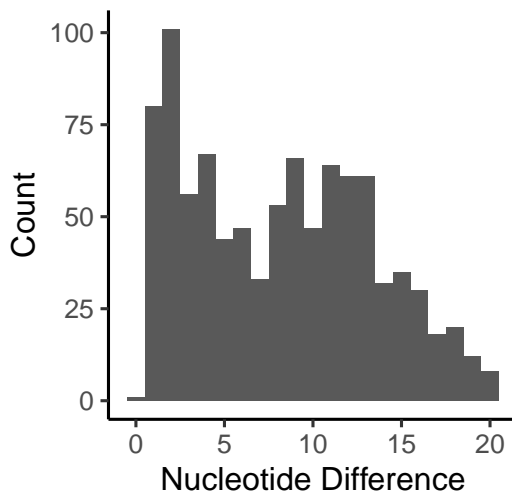
### IGHV4-31\*02

3068 sequences assigned  
513 (16.7%) exact matches, in which:  
461 unique CDR3  
6 unique J



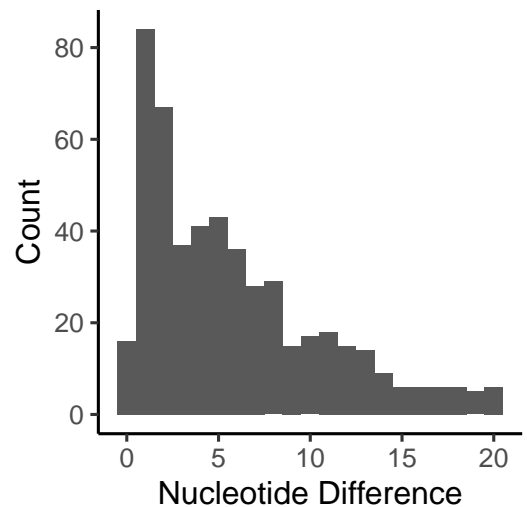
### IGHV4-39\*07

1016 sequences assigned  
1 (0.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



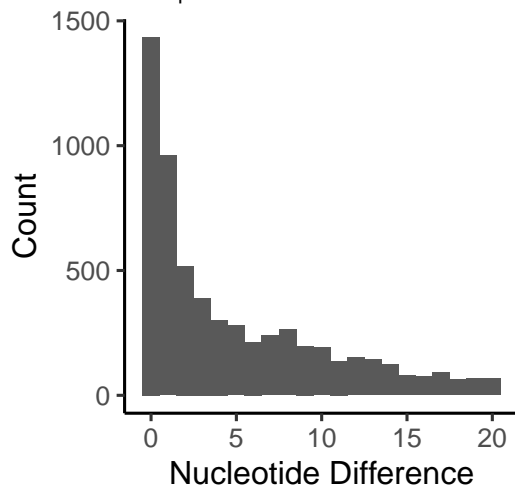
### IGHV4-59\*12

567 sequences assigned  
16 (2.8%) exact matches, in which:  
16 unique CDR3  
5 unique J



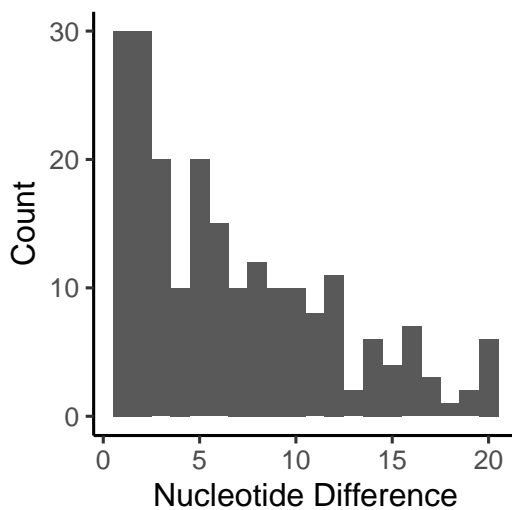
### IGHV4-34\*01\_02

6709 sequences assigned  
1435 (21.4%) exact matches, in which:  
1243 unique CDR3  
6 unique J



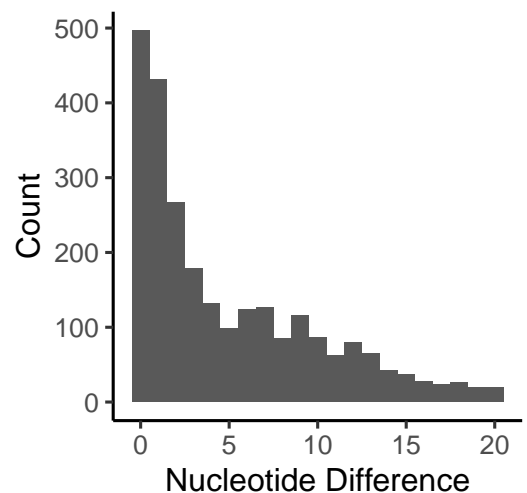
### IGHV4-59\*08

264 sequences assigned  
No exact matches.



### IGHV4-61\*01

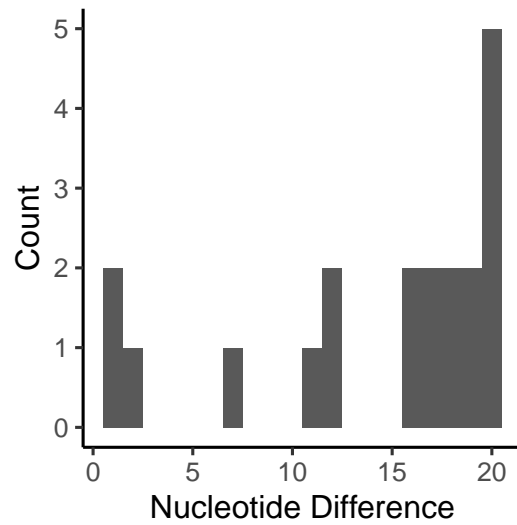
2766 sequences assigned  
497 (18%) exact matches, in which:  
451 unique CDR3  
6 unique J





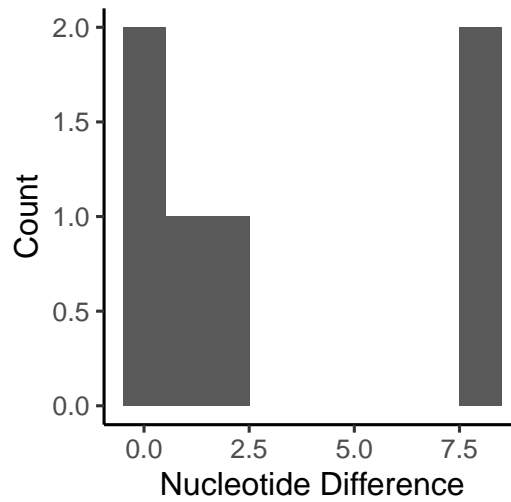
### IGHV4/OR15–8\*01

28 sequences assigned  
No exact matches.



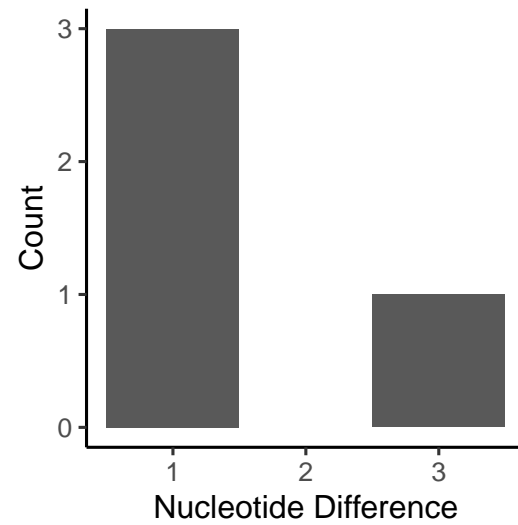
### IGHV5–51\*06

15 sequences assigned  
2 (13.3%) exact matches, in which:  
2 unique CDR3  
1 unique J



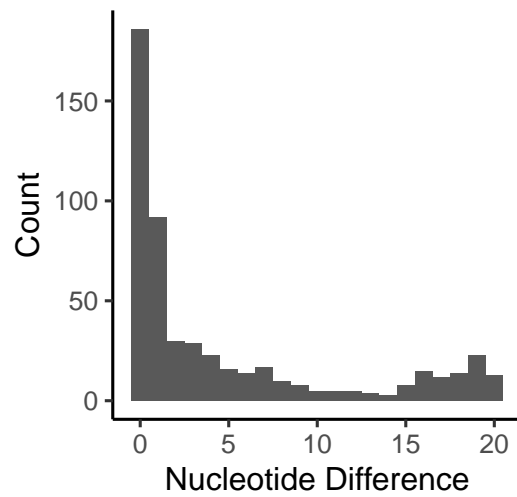
### IGHV7–4–1\*01

4 sequences assigned  
No exact matches.



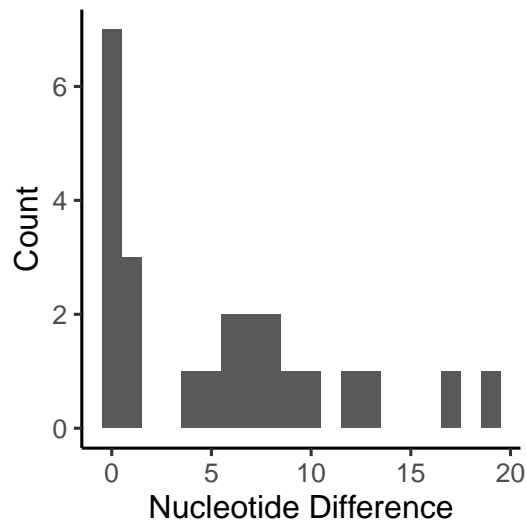
### IGHV5–10–1\*01\_03

639 sequences assigned  
186 (29.1%) exact matches, in which:  
150 unique CDR3  
6 unique J



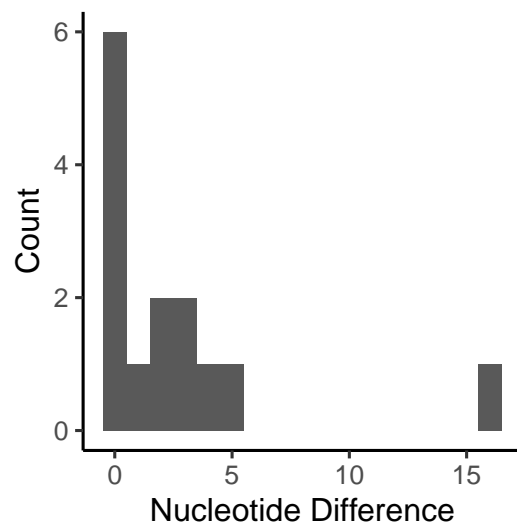
### IGHV5–51\*07

25 sequences assigned  
7 (28%) exact matches, in which:  
6 unique CDR3  
4 unique J



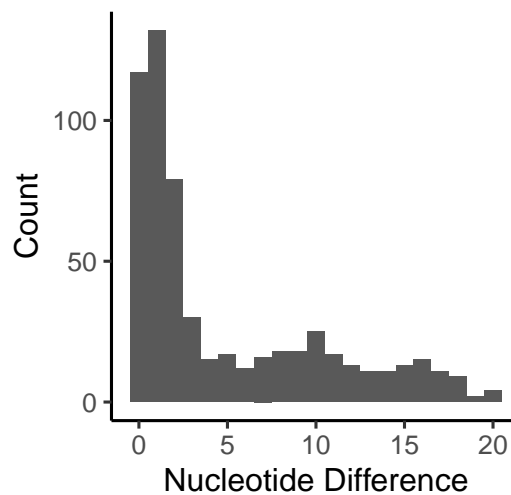
### IGHV5–51\*04

14 sequences assigned  
6 (42.9%) exact matches, in which:  
6 unique CDR3  
2 unique J



### IGHV6–1\*01\_02

702 sequences assigned  
117 (16.7%) exact matches, in which:  
101 unique CDR3  
4 unique J





[illegible]