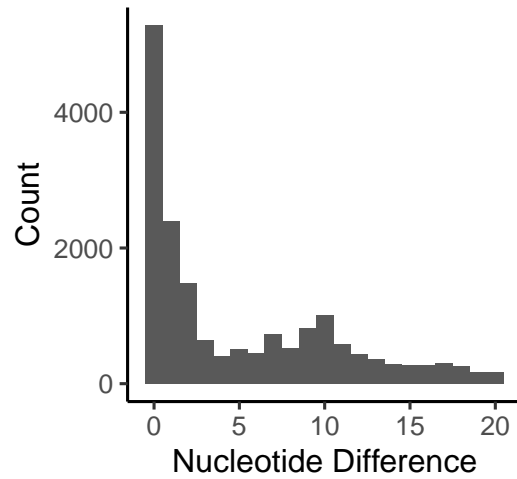


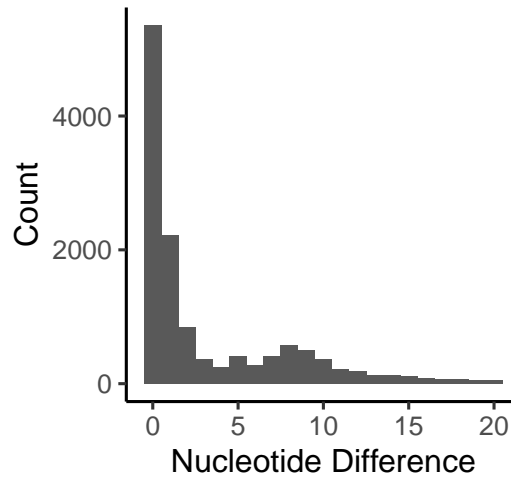
### IGHV1-2\*02

18462 sequences assigned  
5281 (28.6%) exact matches, in which:  
5064 unique CDR3  
6 unique J



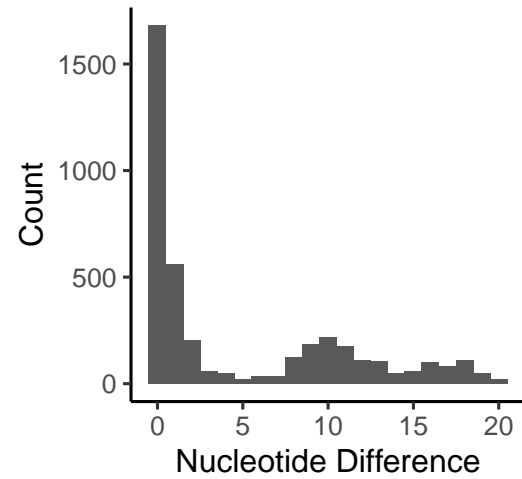
### IGHV1-8\*01

12966 sequences assigned  
5354 (41.3%) exact matches, in which:  
5136 unique CDR3  
6 unique J



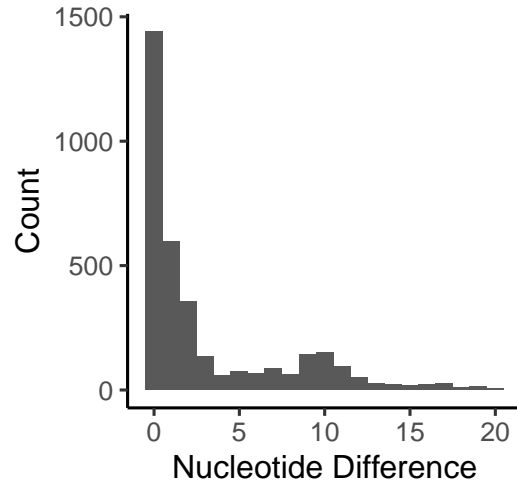
### IGHV1-24\*01

4155 sequences assigned  
1681 (40.5%) exact matches, in which:  
1613 unique CDR3  
6 unique J



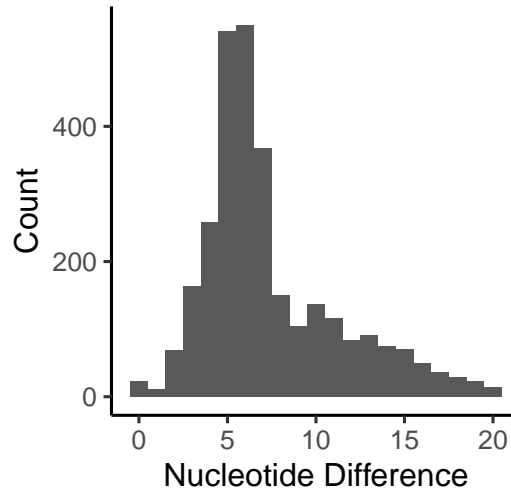
### IGHV1-2\*04

3506 sequences assigned  
1440 (41.1%) exact matches, in which:  
1391 unique CDR3  
6 unique J



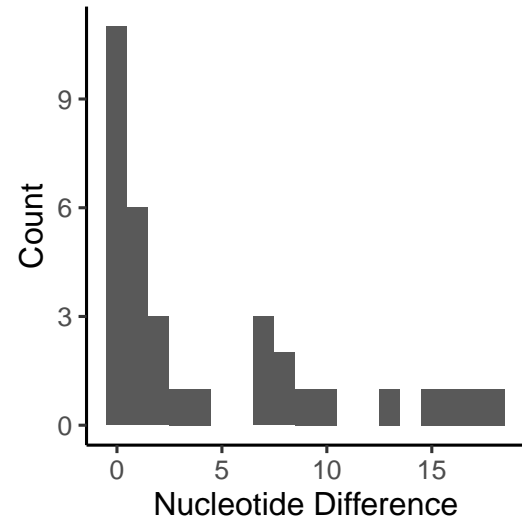
### IGHV1-8\*02

3107 sequences assigned  
23 (0.7%) exact matches, in which:  
23 unique CDR3  
4 unique J



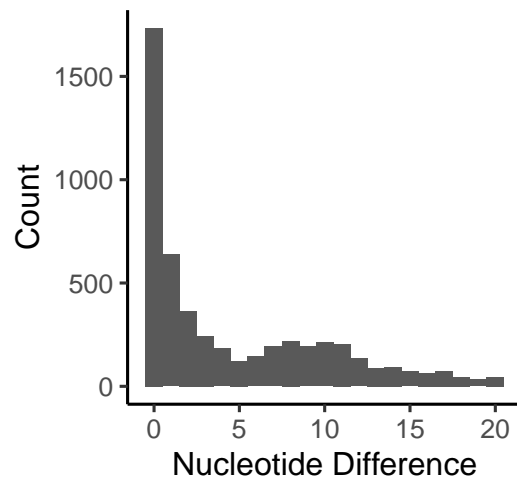
### IGHV1-45\*02

38 sequences assigned  
11 (28.9%) exact matches, in which:  
11 unique CDR3  
4 unique J



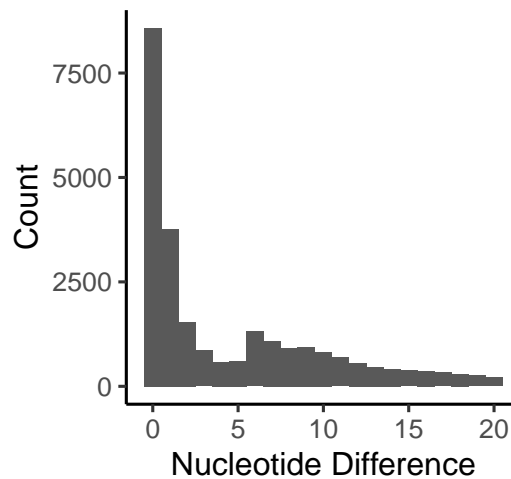
### IGHV1-3\*01\_05

5520 sequences assigned  
1734 (31.4%) exact matches, in which:  
1663 unique CDR3  
6 unique J



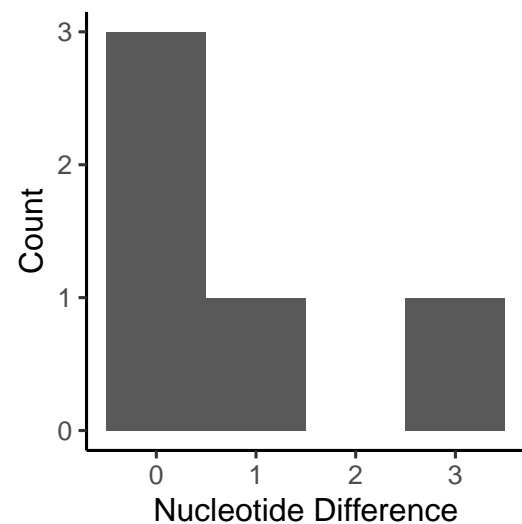
### IGHV1-18\*01

26354 sequences assigned  
8577 (32.5%) exact matches, in which:  
8137 unique CDR3  
6 unique J



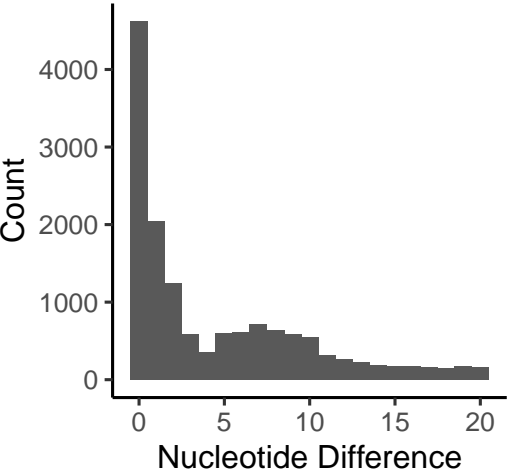
### IGHV1-45\*03

5 sequences assigned  
3 (60%) exact matches, in which:  
3 unique CDR3  
3 unique J



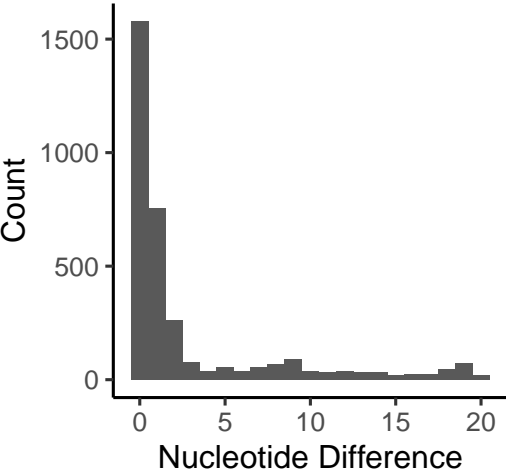
IGHV1-46\*01

15481 sequences assigned  
4620 (29.8%) exact matches, in which:  
4409 unique CDR3  
6 unique J



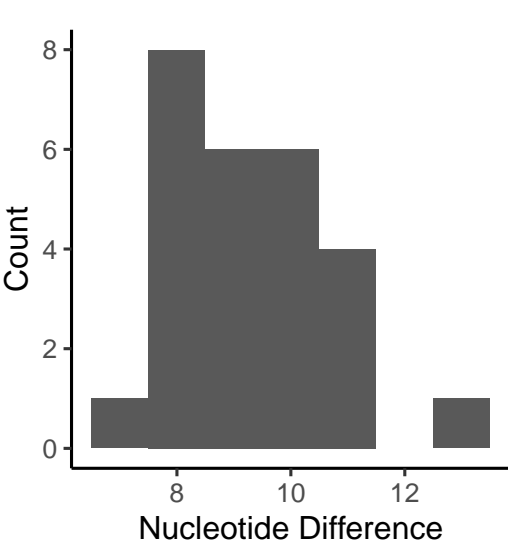
IGHV1-69\*02

3668 sequences assigned  
1578 (43%) exact matches, in which:  
1509 unique CDR3  
6 unique J



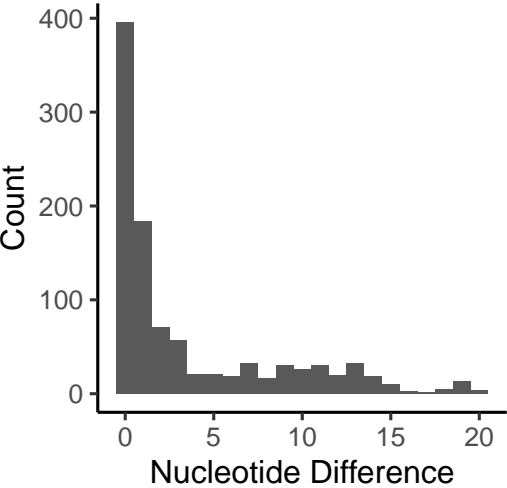
IGHV1-NL1\*01

26 sequences assigned  
No exact matches.



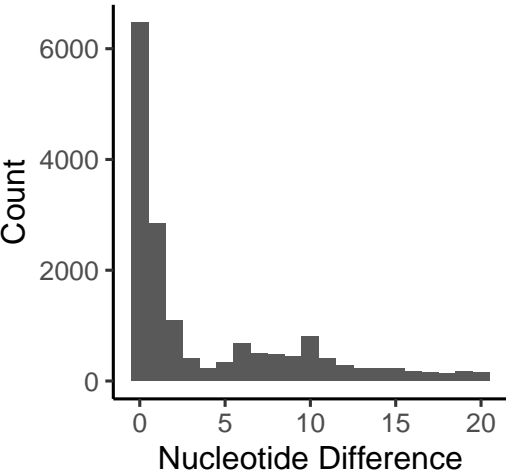
IGHV1-58\*02

1049 sequences assigned  
396 (37.8%) exact matches, in which:  
384 unique CDR3  
6 unique J



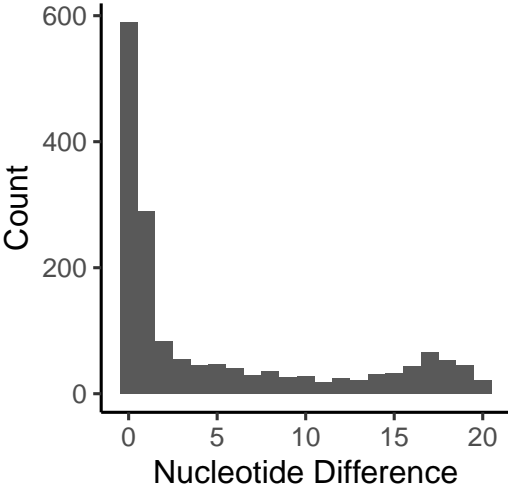
IGHV1-69\*01\_12\_13

17866 sequences assigned  
6469 (36.2%) exact matches, in which:  
6253 unique CDR3  
6 unique J



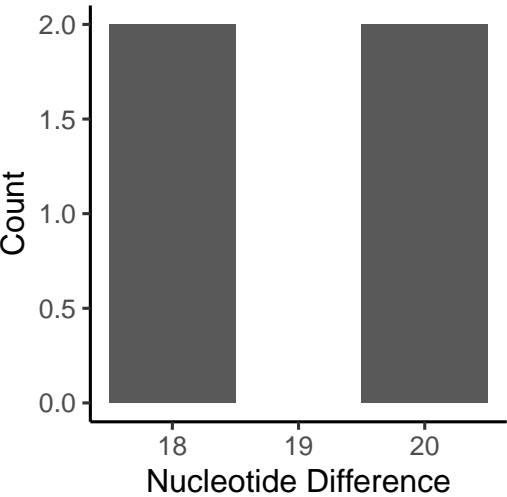
IGHV2-5\*01

1696 sequences assigned  
590 (34.8%) exact matches, in which:  
563 unique CDR3  
6 unique J



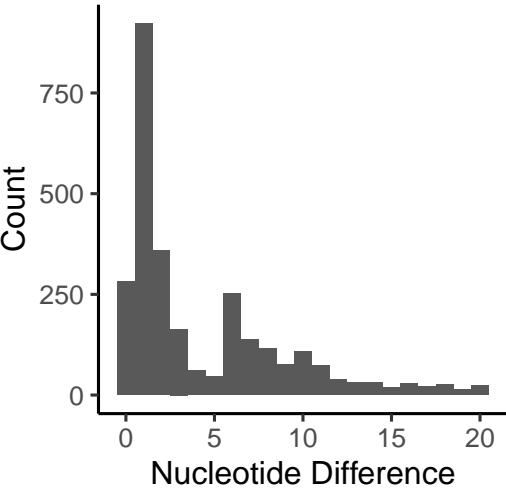
IGHV1-69-2\*01

5 sequences assigned  
No exact matches.



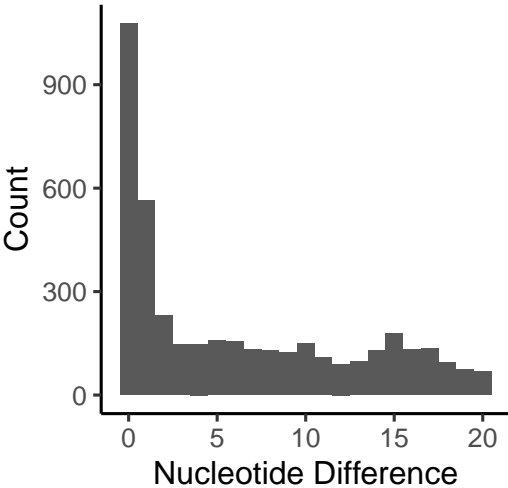
IGHV1-69\*04\_09

3286 sequences assigned  
281 (8.6%) exact matches, in which:  
280 unique CDR3  
6 unique J



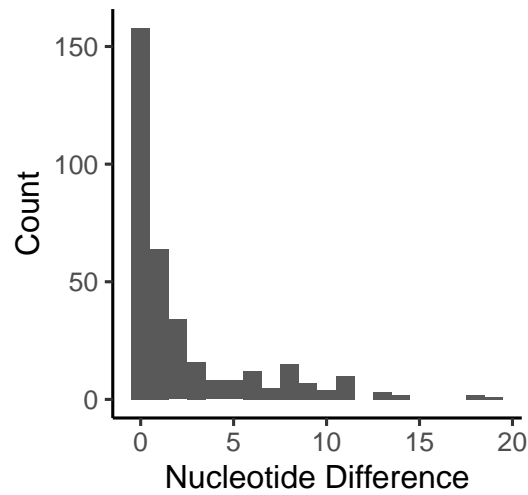
IGHV2-5\*02

4389 sequences assigned  
1078 (24.6%) exact matches, in which:  
1033 unique CDR3  
6 unique J



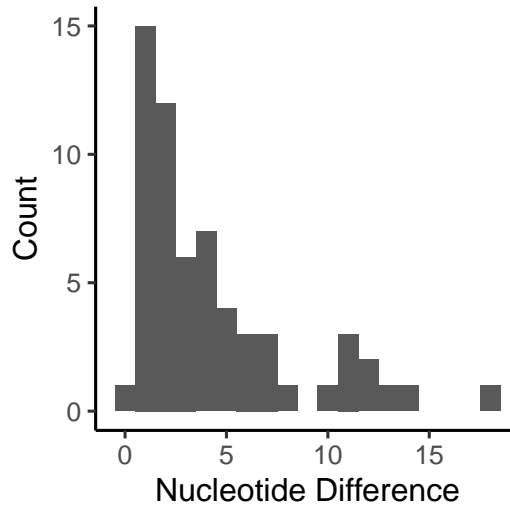
### IGHV2-26\*01

352 sequences assigned  
158 (44.9%) exact matches, in which:  
153 unique CDR3  
5 unique J



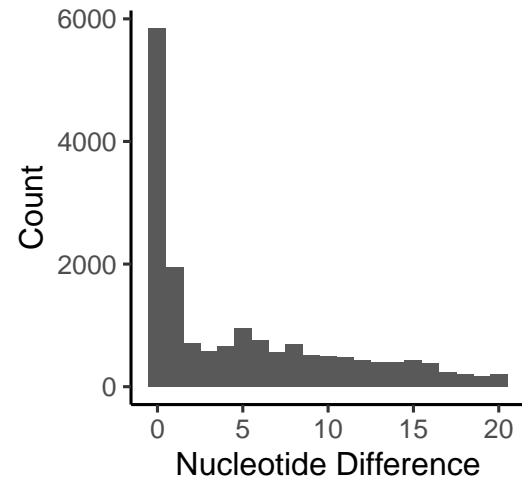
### IGHV2-70\*12

64 sequences assigned  
1 (1.6%) exact matches, in which:  
1 unique CDR3  
1 unique J



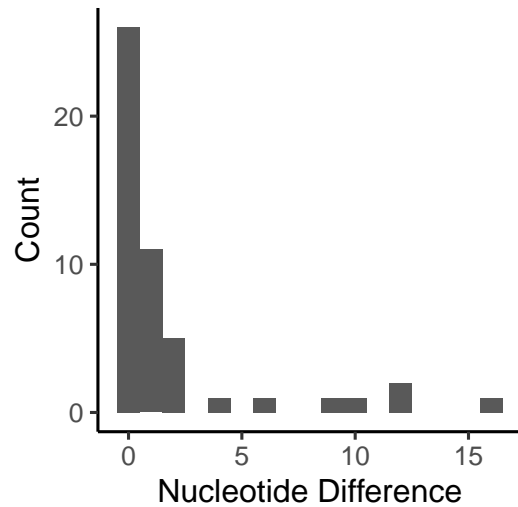
### IGHV3-9\*01

18618 sequences assigned  
5844 (31.4%) exact matches, in which:  
4806 unique CDR3  
6 unique J



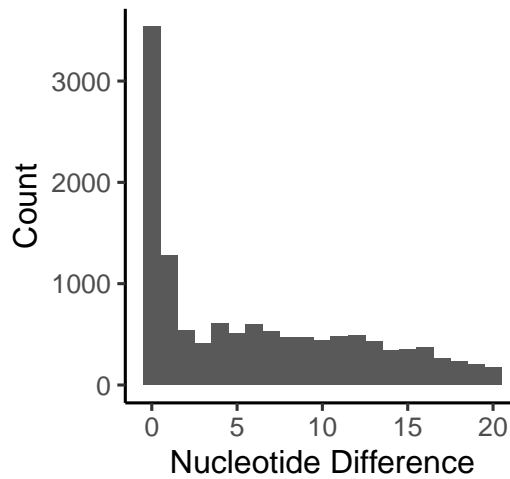
### IGHV2-26\*04

49 sequences assigned  
26 (53.1%) exact matches, in which:  
26 unique CDR3  
5 unique J



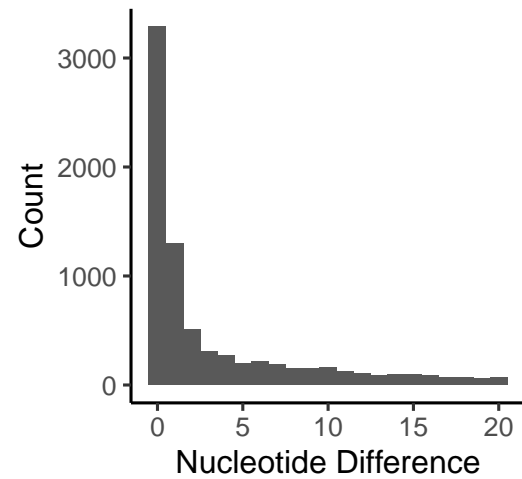
### IGHV3-7\*01

13848 sequences assigned  
3536 (25.5%) exact matches, in which:  
2972 unique CDR3  
6 unique J



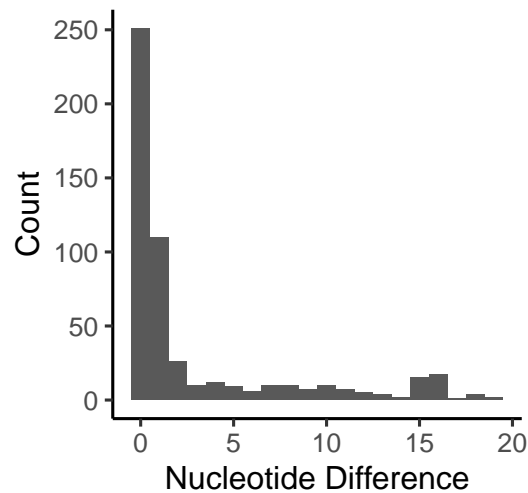
### IGHV3-11\*01

7964 sequences assigned  
3287 (41.3%) exact matches, in which:  
2779 unique CDR3  
6 unique J



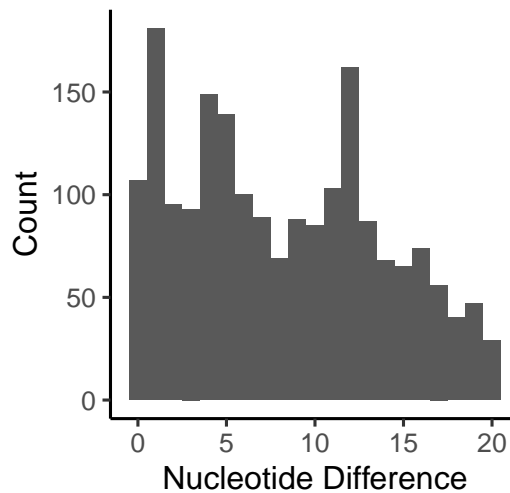
### IGHV2-70\*01

523 sequences assigned  
251 (48%) exact matches, in which:  
248 unique CDR3  
6 unique J



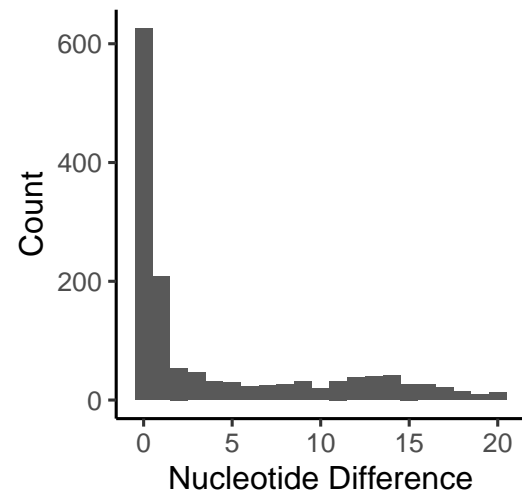
### IGHV3-7\*03

2135 sequences assigned  
107 (5%) exact matches, in which:  
101 unique CDR3  
6 unique J



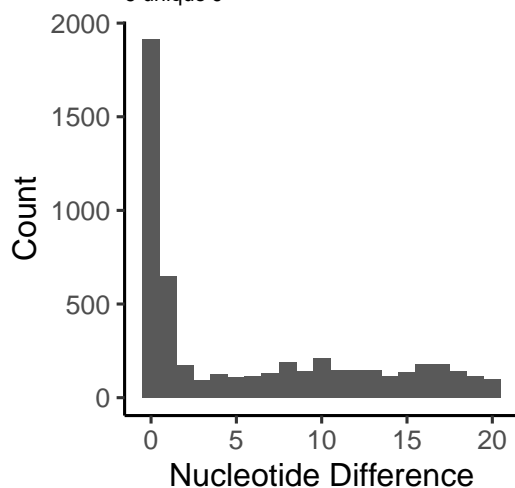
### IGHV3-13\*01

1485 sequences assigned  
626 (42.2%) exact matches, in which:  
497 unique CDR3  
5 unique J



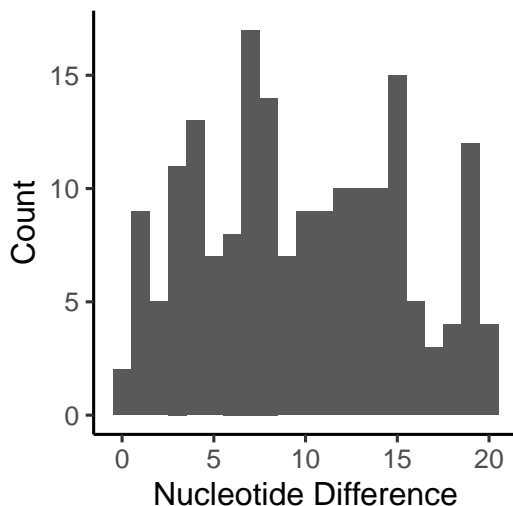
### IGHV3-15\*01\_02

6332 sequences assigned  
1913 (30.2%) exact matches, in which:  
1631 unique CDR3  
6 unique J



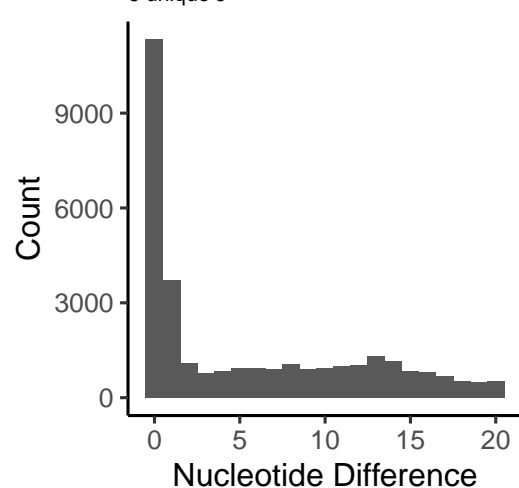
### IGHV3-20\*03\_04

246 sequences assigned  
2 (0.8%) exact matches, in which:  
2 unique CDR3  
1 unique J



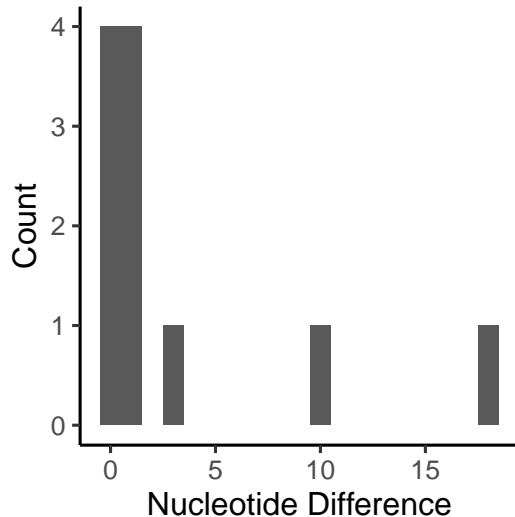
### IGHV3-23\*01\_04

35972 sequences assigned  
11332 (31.5%) exact matches, in which:  
9305 unique CDR3  
6 unique J



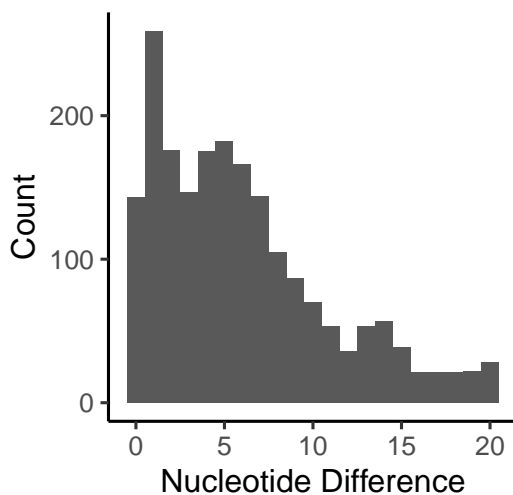
### IGHV3-19\*01

11 sequences assigned  
4 (36.4%) exact matches, in which:  
3 unique CDR3  
1 unique J



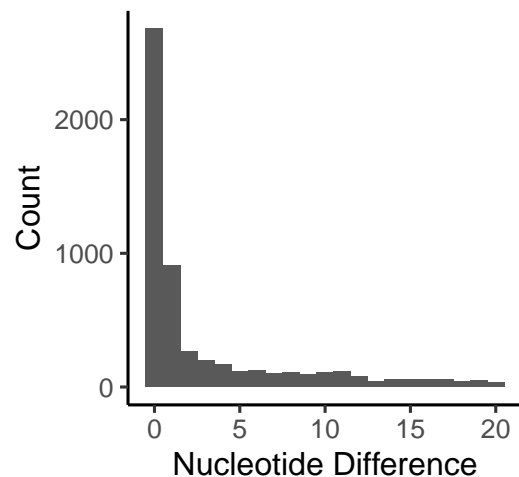
### IGHV3-21\*04

2136 sequences assigned  
143 (6.7%) exact matches, in which:  
143 unique CDR3  
5 unique J



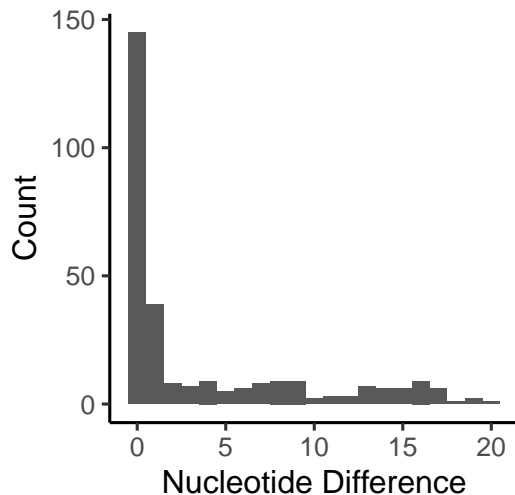
### IGHV3-30\*01

5558 sequences assigned  
2680 (48.2%) exact matches, in which:  
2299 unique CDR3  
6 unique J



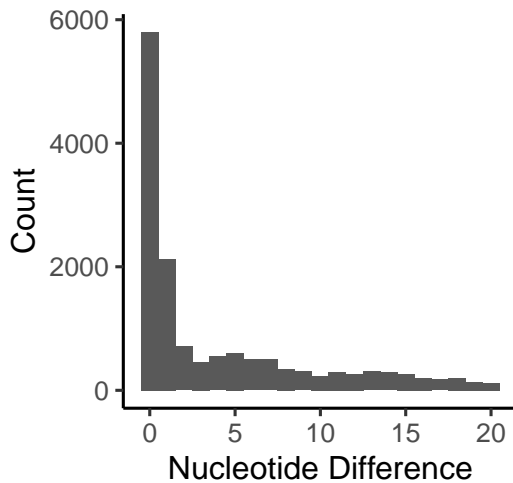
### IGHV3-20\*01\_02

365 sequences assigned  
145 (39.7%) exact matches, in which:  
115 unique CDR3  
5 unique J



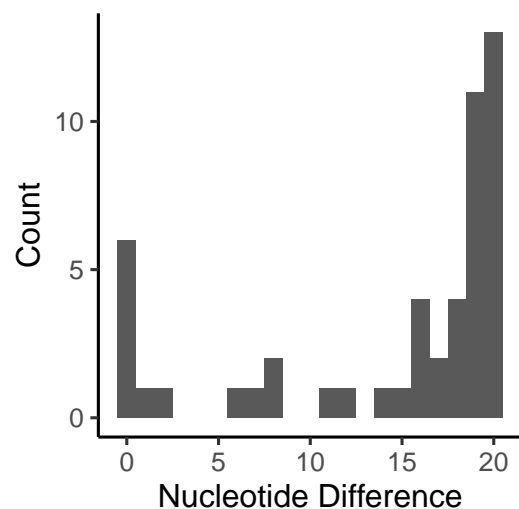
### IGHV3-21\*01\_02

15556 sequences assigned  
5800 (37.3%) exact matches, in which:  
4887 unique CDR3  
6 unique J



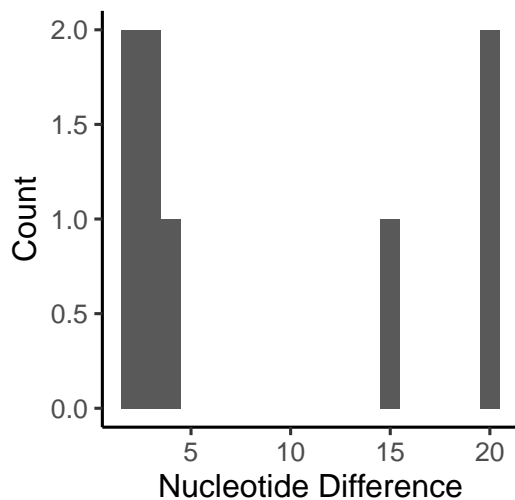
### IGHV3-30-3\*01

81 sequences assigned  
6 (7.4%) exact matches, in which:  
6 unique CDR3  
4 unique J



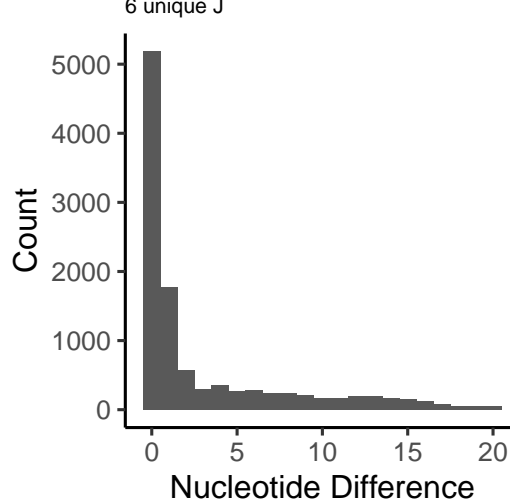
### IGHV3-30-3\*02

27 sequences assigned  
No exact matches.



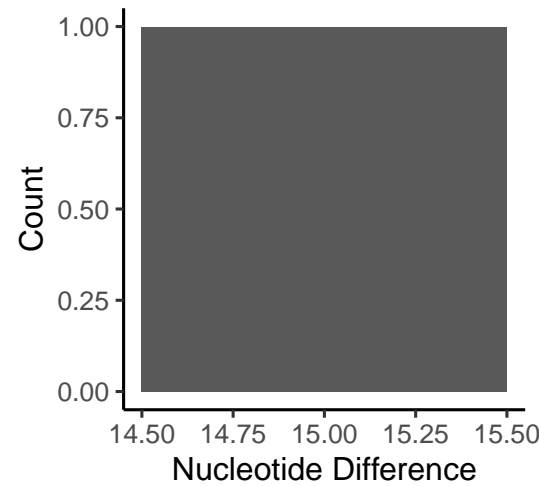
### IGHV3-33\*01

11203 sequences assigned  
5185 (46.3%) exact matches, in which:  
4471 unique CDR3  
6 unique J



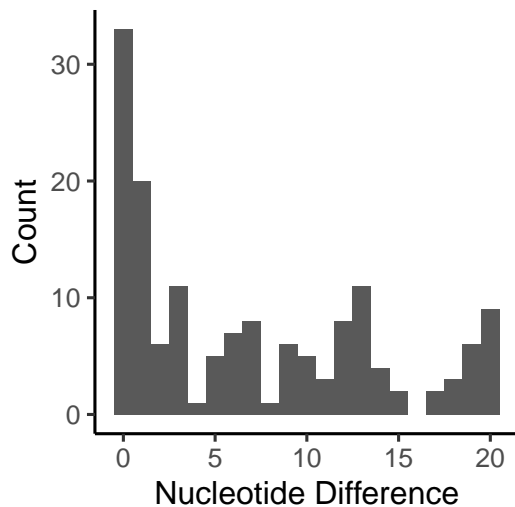
### IGHV3-41\*02

1 sequences assigned  
No exact matches.



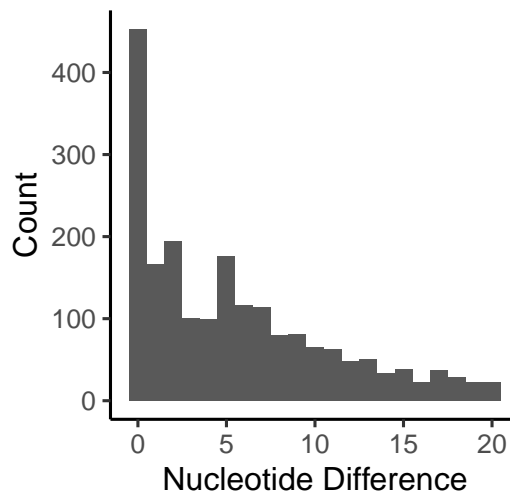
### IGHV3-30-3\*03

191 sequences assigned  
33 (17.3%) exact matches, in which:  
33 unique CDR3  
4 unique J



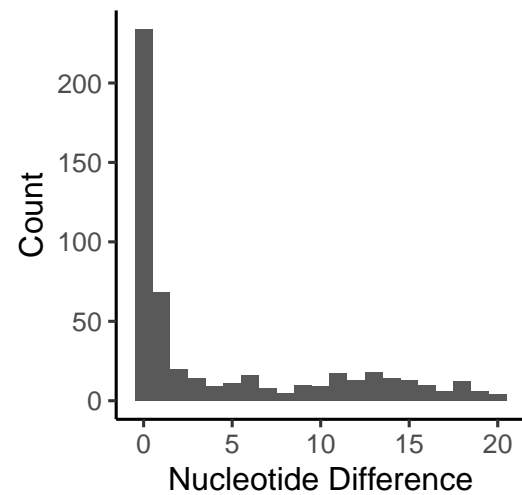
### IGHV3-33\*08

2124 sequences assigned  
453 (21.3%) exact matches, in which:  
441 unique CDR3  
6 unique J



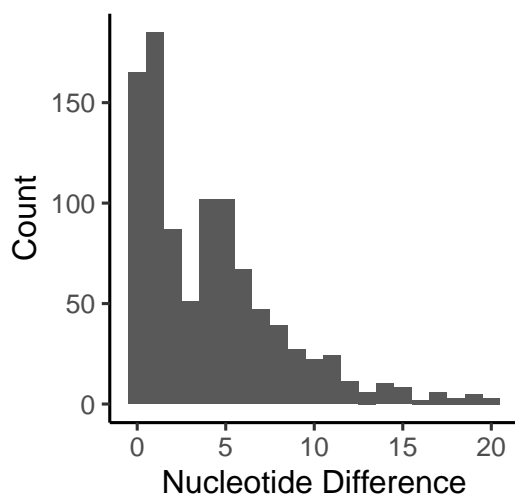
### IGHV3-43\*01

556 sequences assigned  
234 (42.1%) exact matches, in which:  
203 unique CDR3  
6 unique J



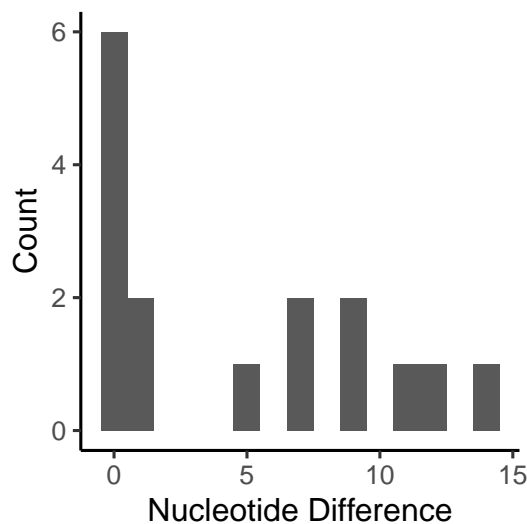
### IGHV3-30\*07

982 sequences assigned  
165 (16.8%) exact matches, in which:  
165 unique CDR3  
6 unique J



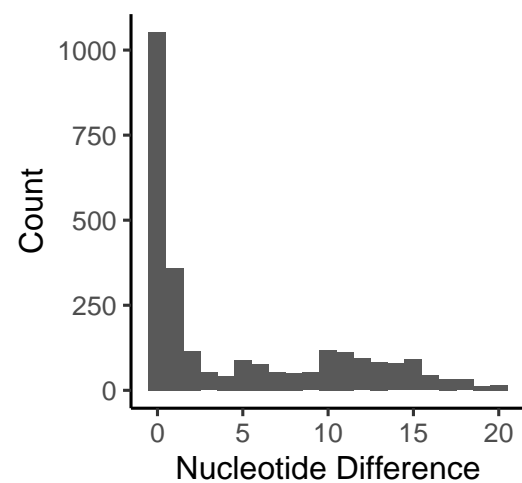
### IGHV3-35\*01

16 sequences assigned  
6 (37.5%) exact matches, in which:  
6 unique CDR3  
3 unique J



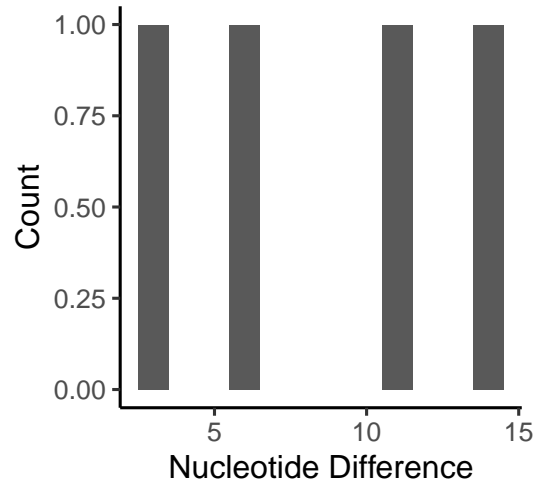
### IGHV3-43\*02

2895 sequences assigned  
1053 (36.4%) exact matches, in which:  
888 unique CDR3  
6 unique J



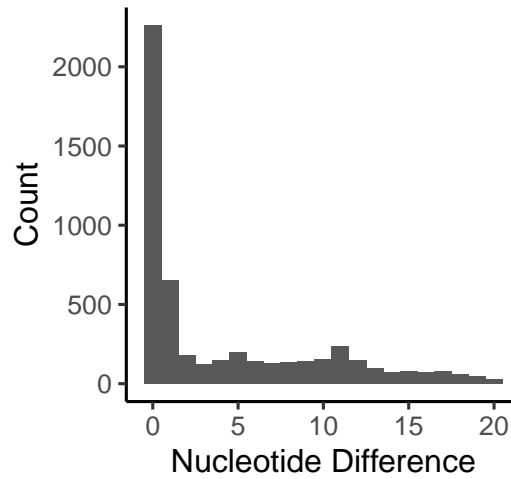
### IGHV3-47\*01

4 sequences assigned  
No exact matches.



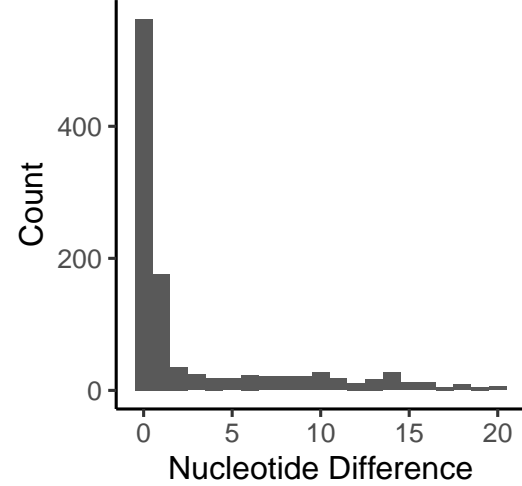
### IGHV3-48\*03

5433 sequences assigned  
2261 (41.6%) exact matches, in which:  
1900 unique CDR3  
6 unique J



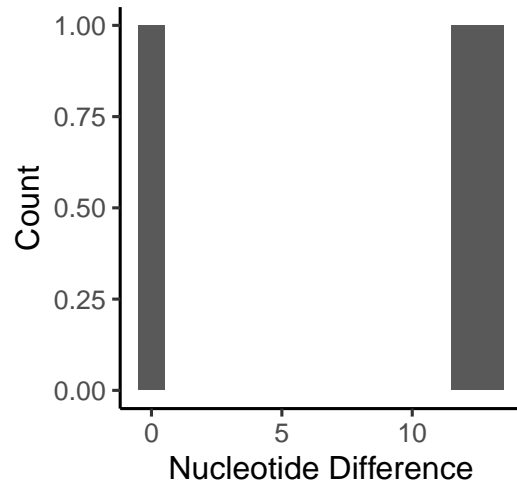
### IGHV3-49\*03\_05

1095 sequences assigned  
563 (51.4%) exact matches, in which:  
484 unique CDR3  
6 unique J



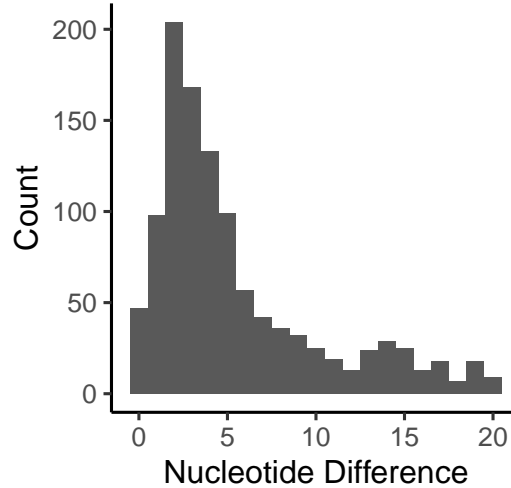
### IGHV3-47\*02

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



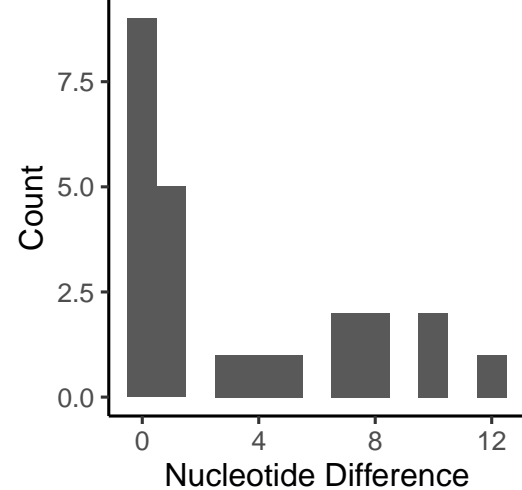
### IGHV3-48\*04

1170 sequences assigned  
47 (4%) exact matches, in which:  
47 unique CDR3  
5 unique J



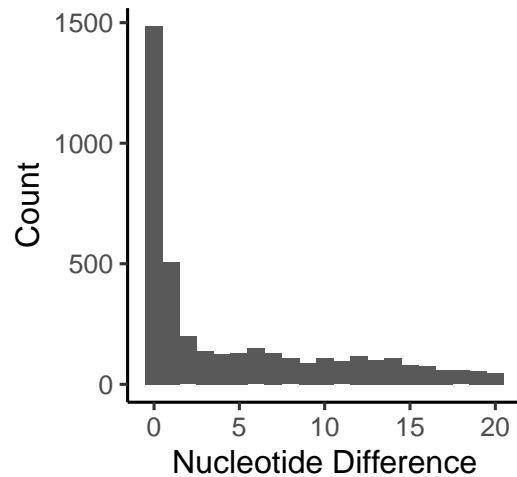
### IGHV3-52\*01\_03

24 sequences assigned  
9 (37.5%) exact matches, in which:  
6 unique CDR3  
4 unique J



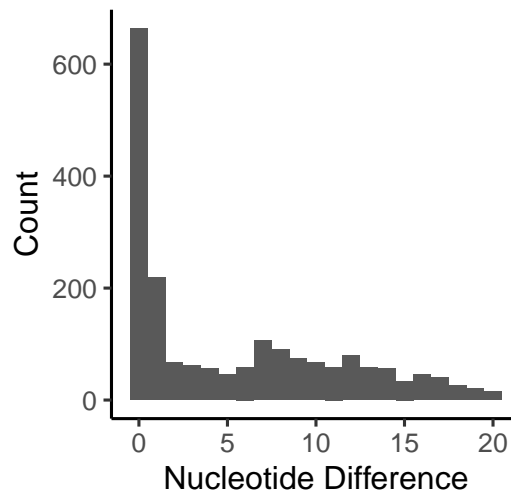
### IGHV3-48\*02

4249 sequences assigned  
1486 (35%) exact matches, in which:  
1256 unique CDR3  
6 unique J



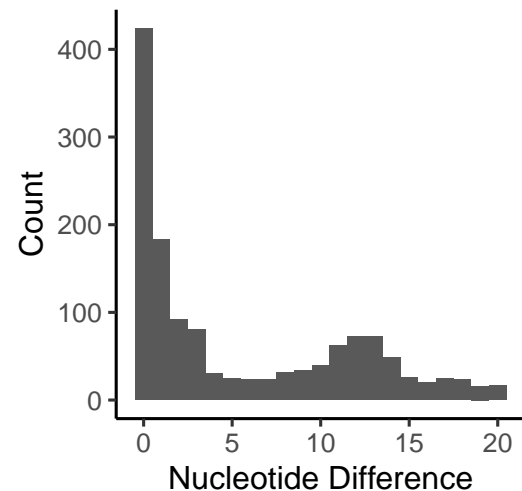
### IGHV3-49\*04

2082 sequences assigned  
664 (31.9%) exact matches, in which:  
581 unique CDR3  
6 unique J



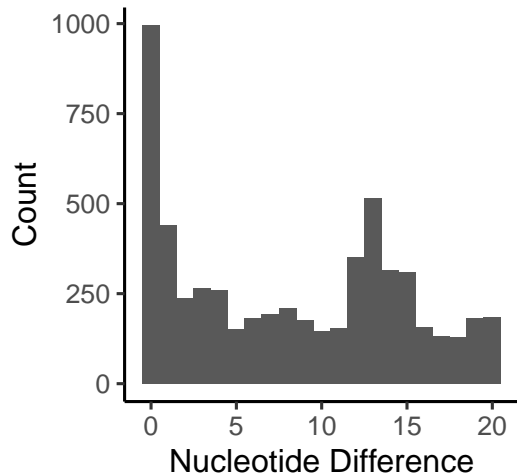
### IGHV3-53\*04

1444 sequences assigned  
424 (29.4%) exact matches, in which:  
361 unique CDR3  
6 unique J



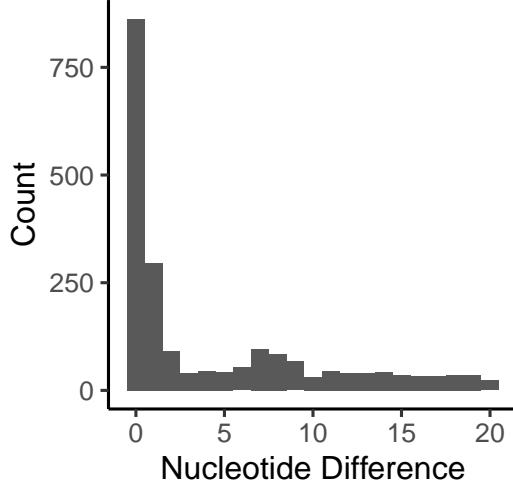
### IGHV3-53\*01\_02

6153 sequences assigned  
995 (16.2%) exact matches, in which:  
837 unique CDR3  
6 unique J



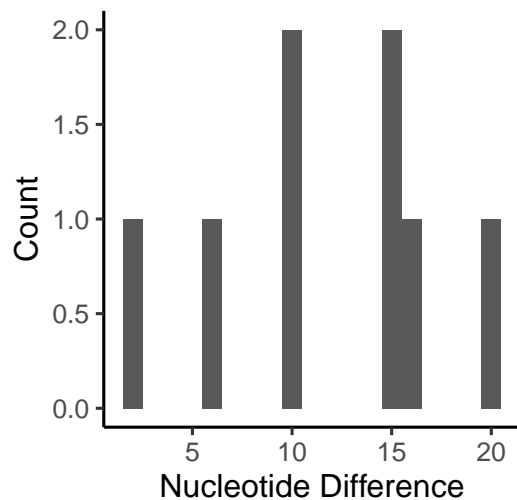
### IGHV3-66\*02

2255 sequences assigned  
863 (38.3%) exact matches, in which:  
740 unique CDR3  
6 unique J



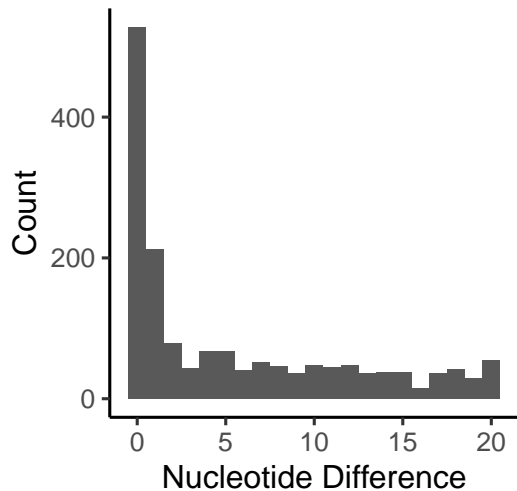
### IGHV3-71\*01\_04

11 sequences assigned  
No exact matches.



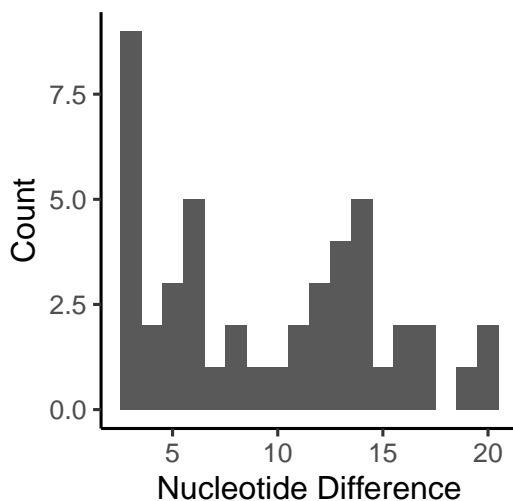
### IGHV3-64\*01

2564 sequences assigned  
528 (20.6%) exact matches, in which:  
420 unique CDR3  
6 unique J



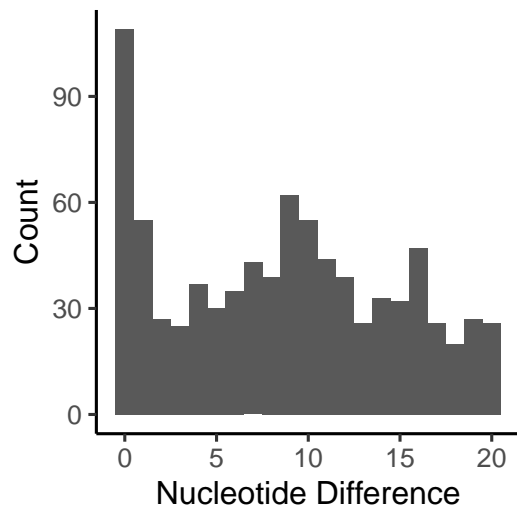
### IGHV3-69-1\*01

56 sequences assigned  
No exact matches.



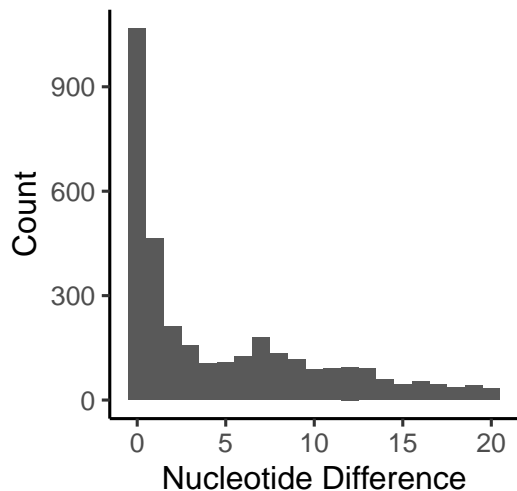
### IGHV3-72\*01

946 sequences assigned  
109 (11.5%) exact matches, in which:  
94 unique CDR3  
5 unique J



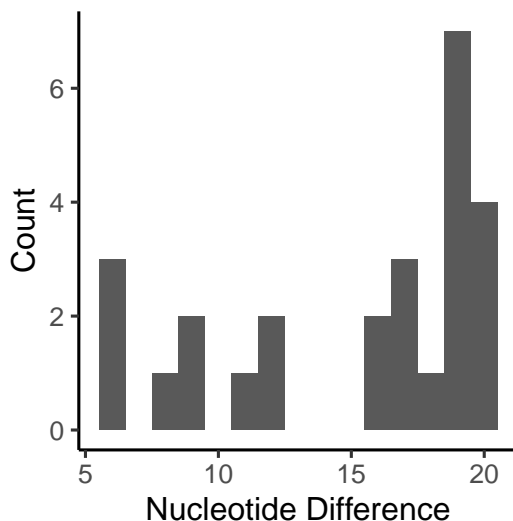
### IGHV3-66\*01

3706 sequences assigned  
1068 (28.8%) exact matches, in which:  
919 unique CDR3  
6 unique J



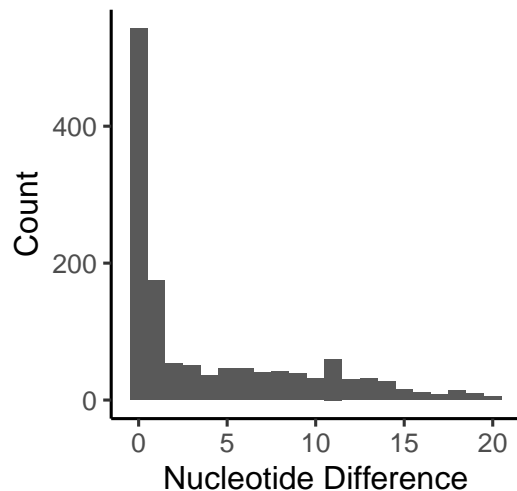
### IGHV3-69-1\*02

42 sequences assigned  
No exact matches.



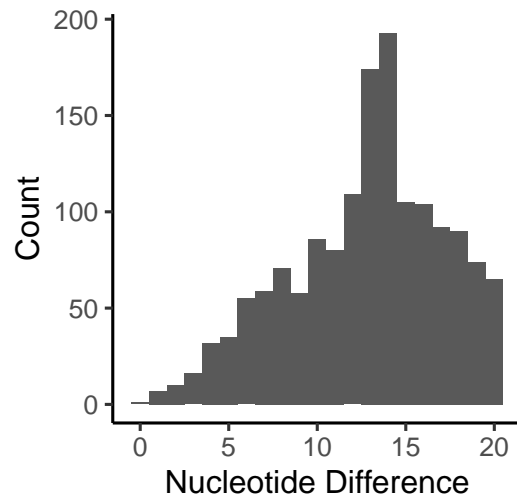
### IGHV3-73\*01\_02

1378 sequences assigned  
543 (39.4%) exact matches, in which:  
460 unique CDR3  
6 unique J



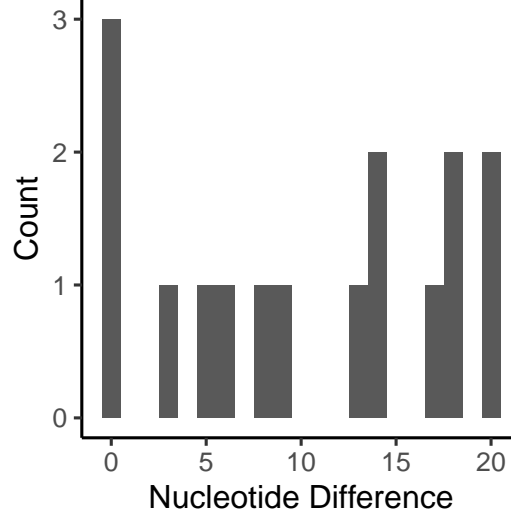
### IGHV3-74\*03

1985 sequences assigned  
1 (0.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



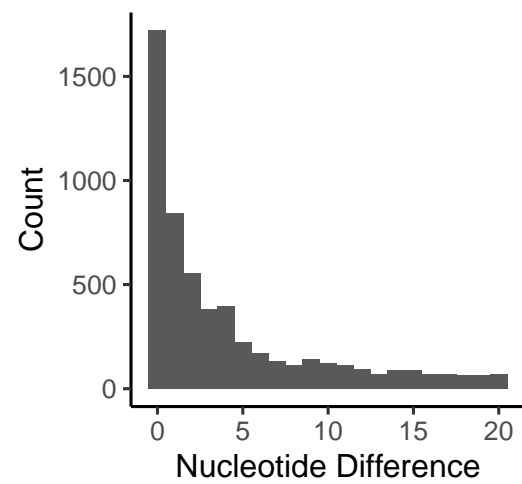
### IGHV3-64D\*06

40 sequences assigned  
3 (7.5%) exact matches, in which:  
3 unique CDR3  
2 unique J



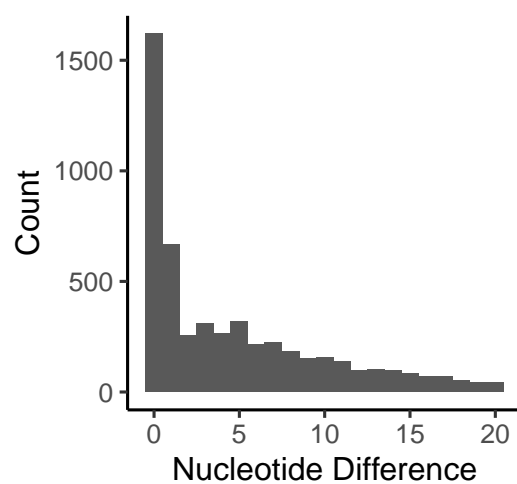
### IGHV4-4\*02\_03

6379 sequences assigned  
1721 (27%) exact matches, in which:  
1636 unique CDR3  
6 unique J



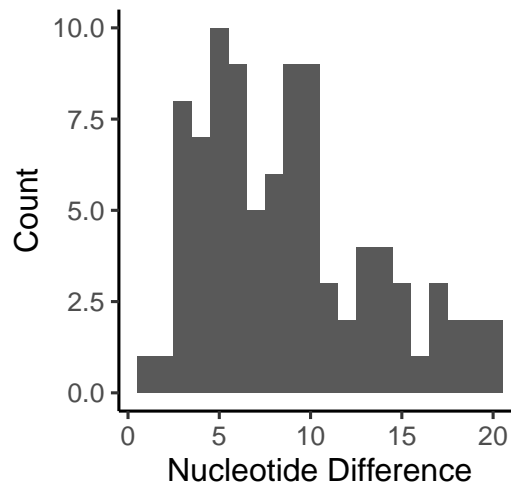
### IGHV3-74\*01\_02

5458 sequences assigned  
1620 (29.7%) exact matches, in which:  
1340 unique CDR3  
6 unique J



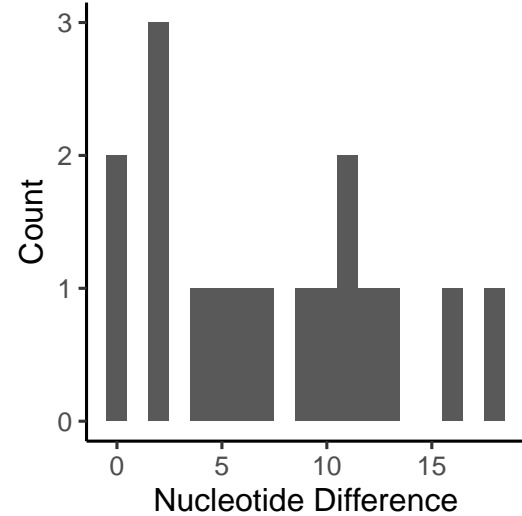
### IGHV3-NL1\*01

116 sequences assigned  
No exact matches.



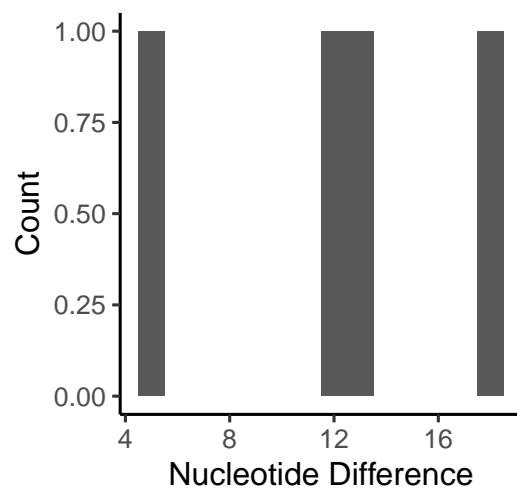
### IGHV4-28\*03

17 sequences assigned  
2 (11.8%) exact matches, in which:  
2 unique CDR3  
1 unique J



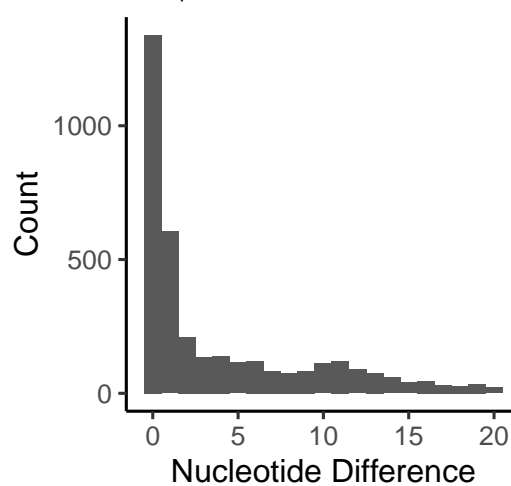
### IGHV3-43D\*04

5 sequences assigned  
No exact matches.



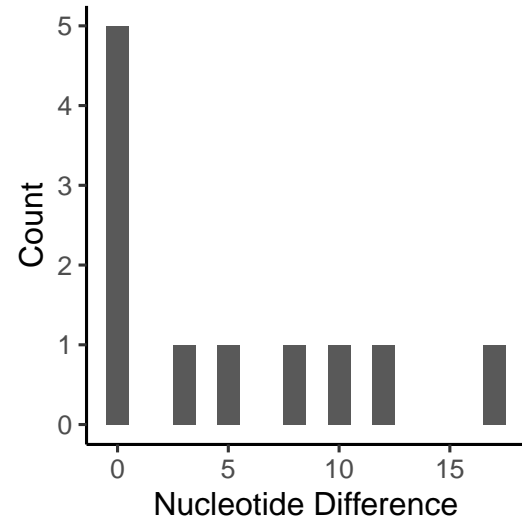
### IGHV4-4\*07

3828 sequences assigned  
1339 (35%) exact matches, in which:  
1282 unique CDR3  
6 unique J



### IGHV4-28\*01\_07

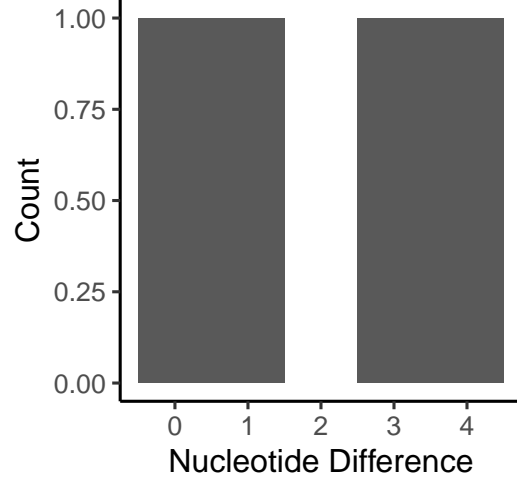
13 sequences assigned  
5 (38.5%) exact matches, in which:  
5 unique CDR3  
3 unique J





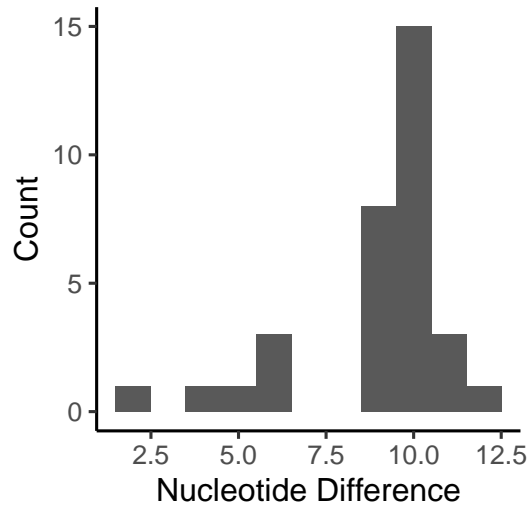
### IGHV4-28\*02\_05

5 sequences assigned  
1 (20%) exact matches, in which:  
1 unique CDR3  
1 unique J



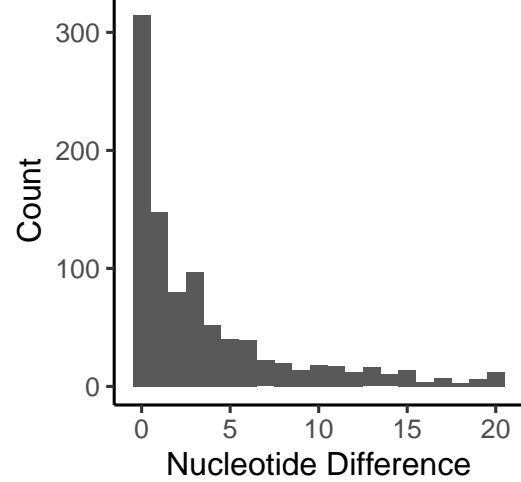
### IGHV4-30-2\*03

44 sequences assigned  
No exact matches.



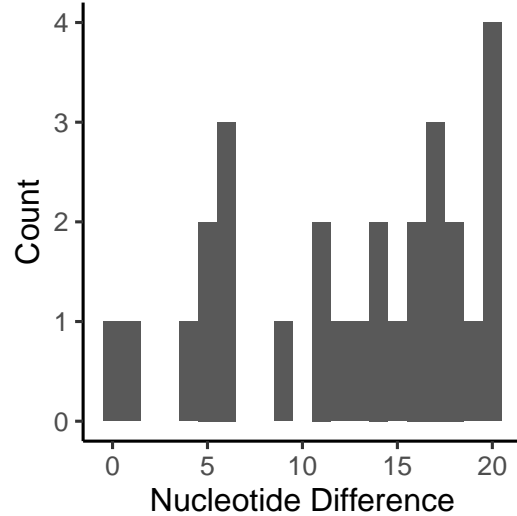
### IGHV4-31\*01

1039 sequences assigned  
315 (30.3%) exact matches, in which:  
306 unique CDR3  
6 unique J



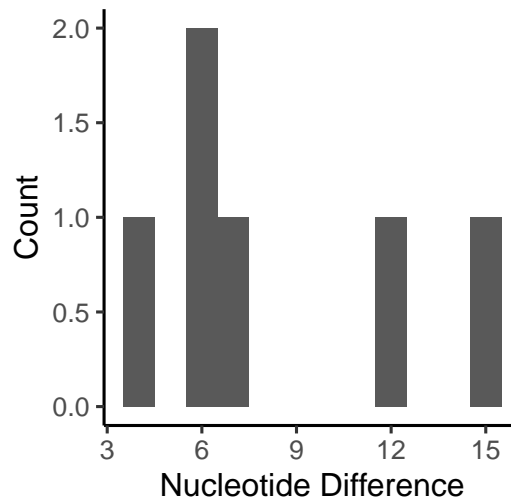
### IGHV4-30-4\*01

38 sequences assigned  
1 (2.6%) exact matches, in which:  
1 unique CDR3  
1 unique J



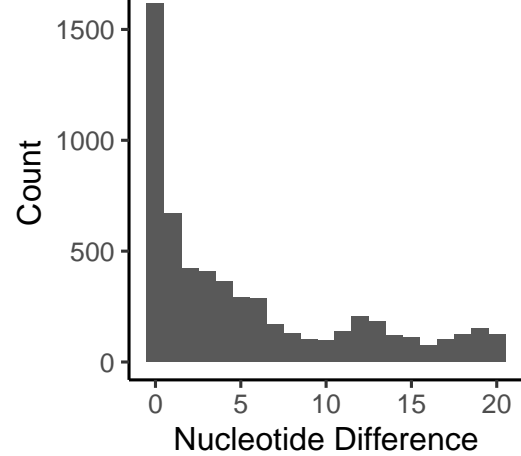
### IGHV4-30-2\*04

7 sequences assigned  
No exact matches.



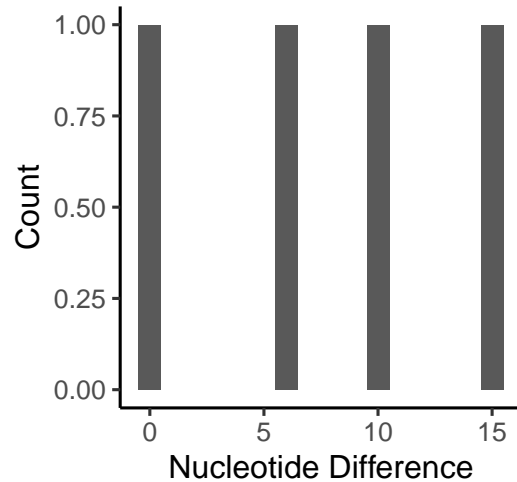
### IGHV4-31\*02

7271 sequences assigned  
1616 (22.2%) exact matches, in which:  
1572 unique CDR3  
6 unique J



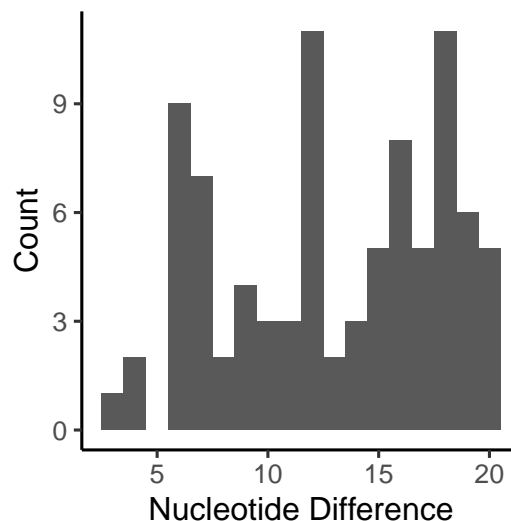
### IGHV4-30-2\*01

10 sequences assigned  
1 (10%) exact matches, in which:  
1 unique CDR3  
1 unique J



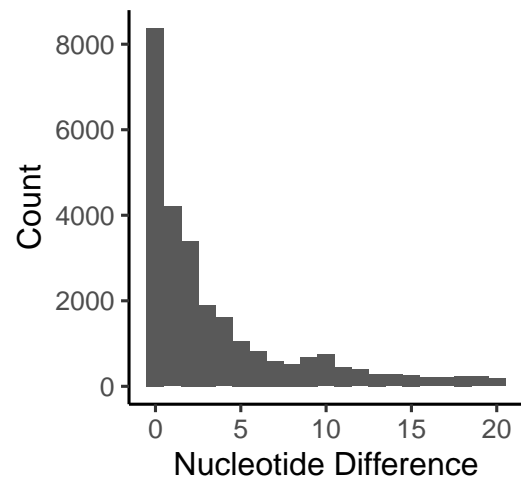
### IGHV4-30-4\*08

110 sequences assigned  
No exact matches.



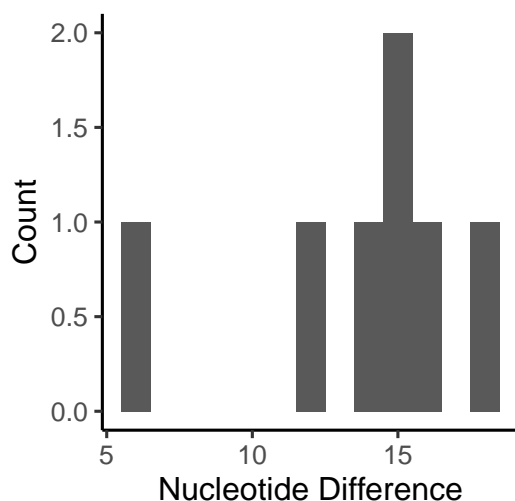
### IGHV4-34\*01\_02

28217 sequences assigned  
8378 (29.7%) exact matches, in which:  
7814 unique CDR3  
6 unique J



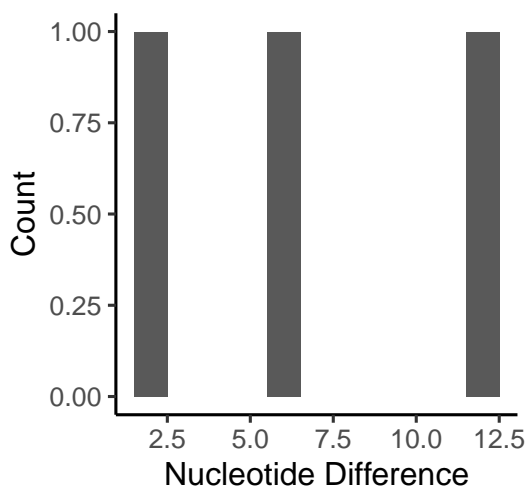
### IGHV4-38-2\*01

14 sequences assigned  
No exact matches.



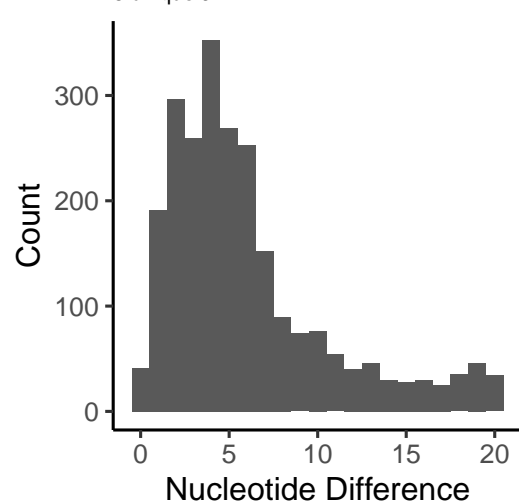
### IGHV4-55\*09

4 sequences assigned  
No exact matches.



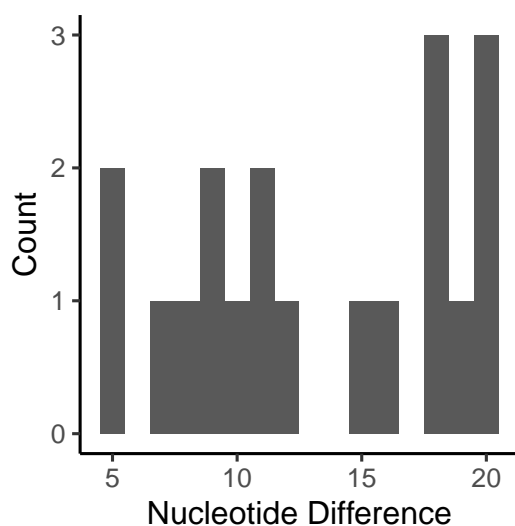
### IGHV4-61\*01

2613 sequences assigned  
41 (1.6%) exact matches, in which:  
35 unique CDR3  
5 unique J



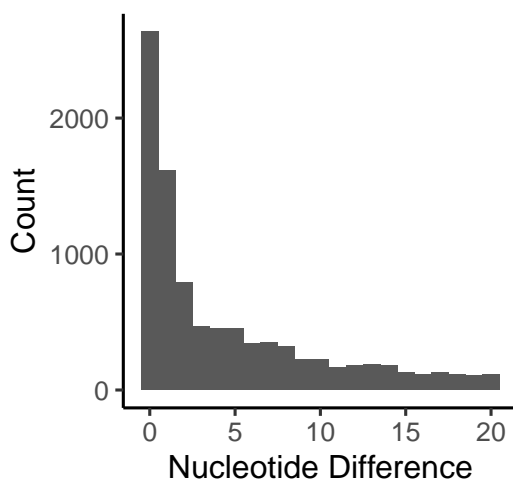
### IGHV4-38-2\*02

25 sequences assigned  
No exact matches.



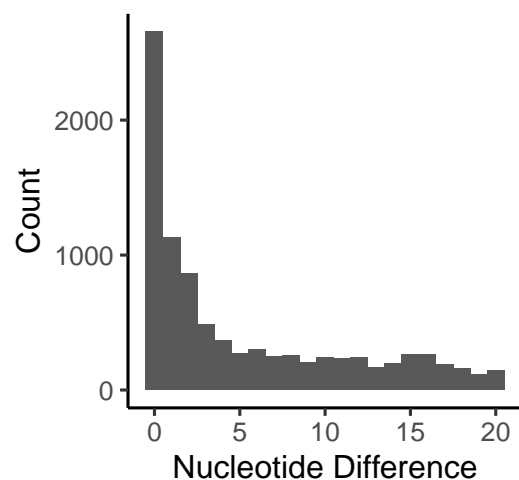
### IGHV4-59\*08

10213 sequences assigned  
2635 (25.8%) exact matches, in which:  
2510 unique CDR3  
6 unique J



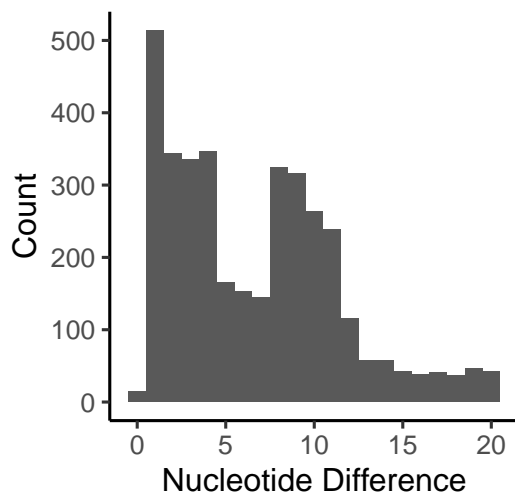
### IGHV4-61\*02

10110 sequences assigned  
2655 (26.3%) exact matches, in which:  
2571 unique CDR3  
6 unique J



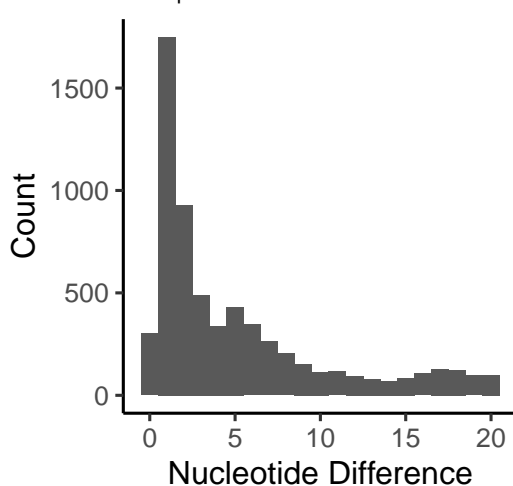
### IGHV4-39\*07

4011 sequences assigned  
15 (0.4%) exact matches, in which:  
15 unique CDR3  
3 unique J



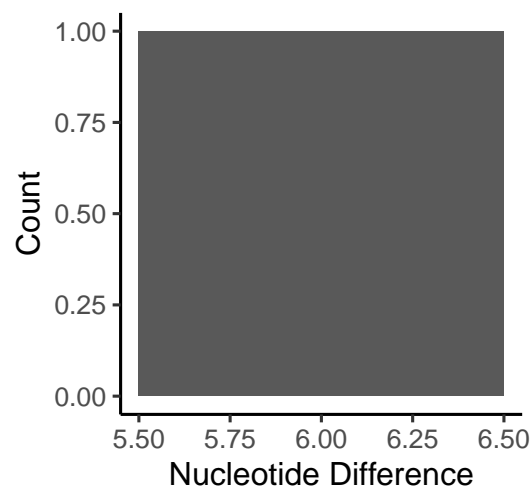
### IGHV4-59\*12

7052 sequences assigned  
302 (4.3%) exact matches, in which:  
300 unique CDR3  
6 unique J



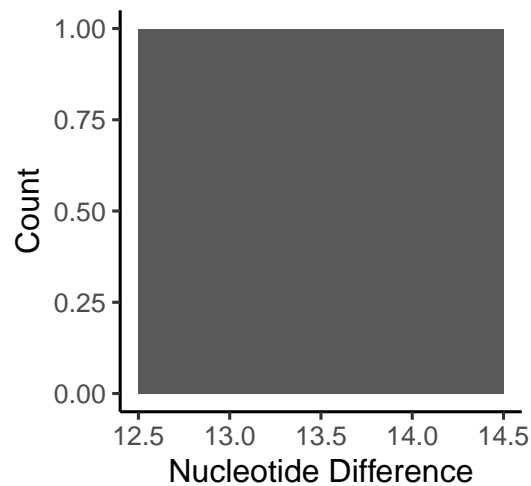
### IGHV1/OR15-1\*04

1 sequences assigned  
No exact matches.



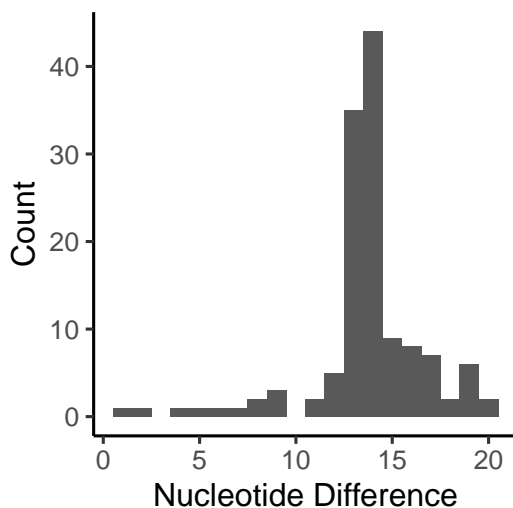
### IGHV1/OR15-2\*01

2 sequences assigned  
No exact matches.



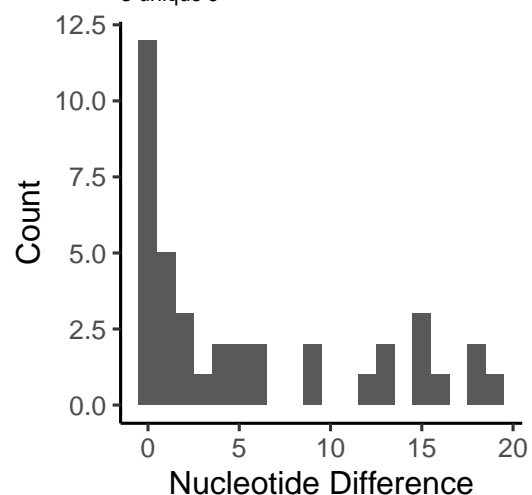
### IGHV4/OR15-8\*01

162 sequences assigned  
No exact matches.



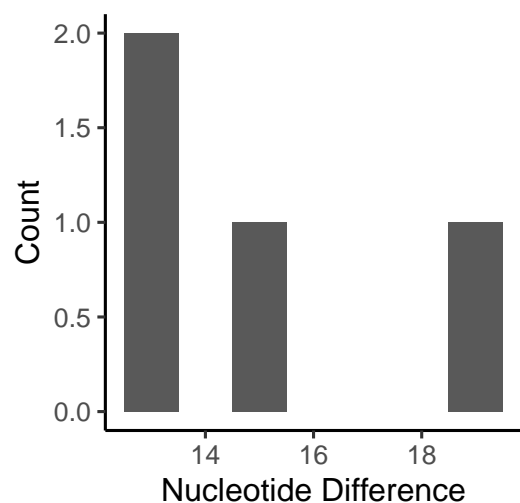
### IGHV5-51\*04

41 sequences assigned  
12 (29.3%) exact matches, in which:  
11 unique CDR3  
3 unique J



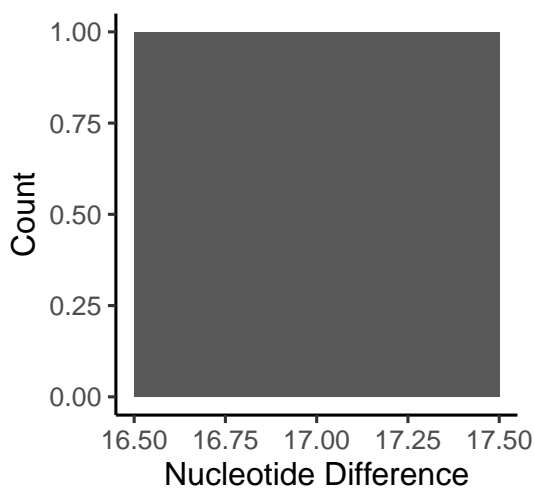
### IGHV1/OR15-2\*02\_03

6 sequences assigned  
No exact matches.



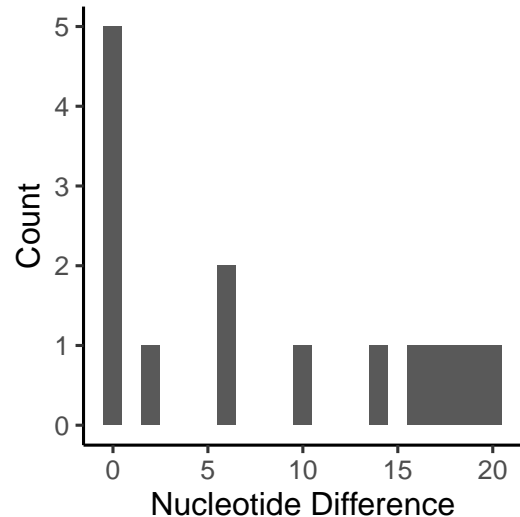
### IGHV1/OR15-9\*01

1 sequences assigned  
No exact matches.



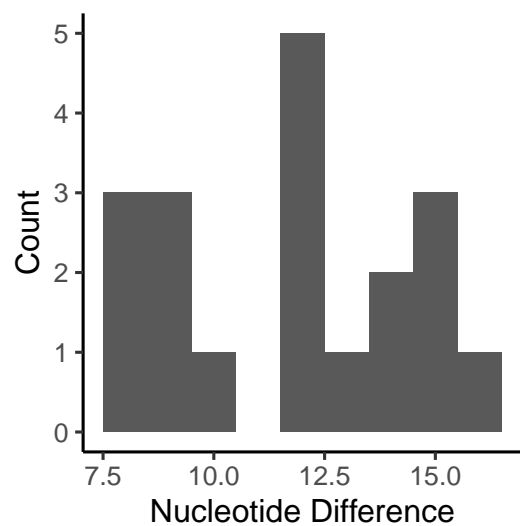
### IGHV5-51\*06

17 sequences assigned  
5 (29.4%) exact matches, in which:  
5 unique CDR3  
1 unique J



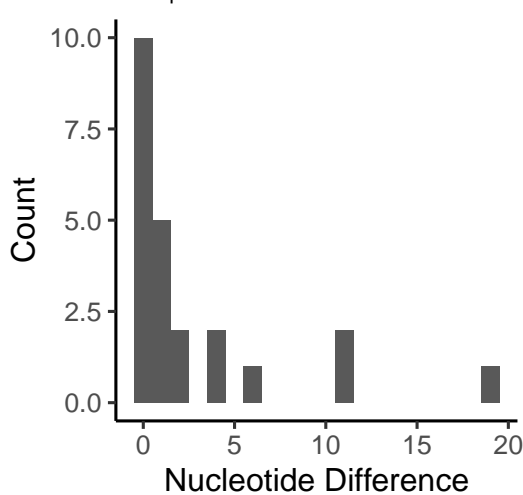
### IGHV1/OR15-3\*02

20 sequences assigned  
No exact matches.



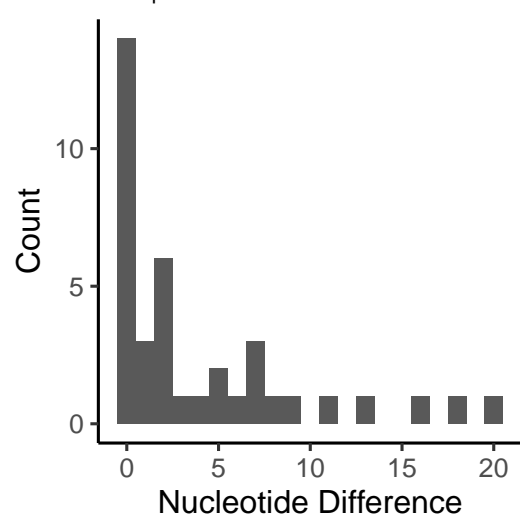
### IGHV5-10-1\*01\_03

23 sequences assigned  
10 (43.5%) exact matches, in which:  
10 unique CDR3  
3 unique J



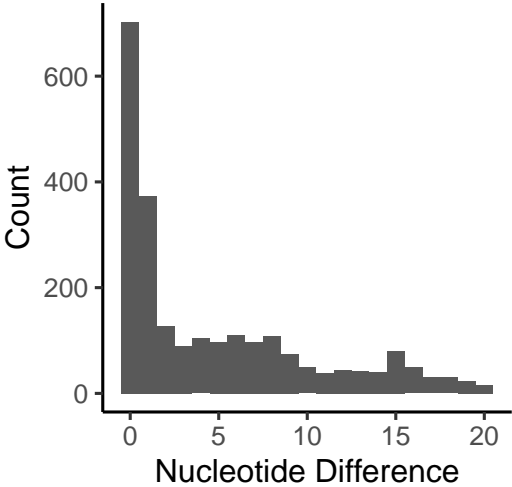
### IGHV5-51\*07

42 sequences assigned  
14 (33.3%) exact matches, in which:  
14 unique CDR3  
3 unique J



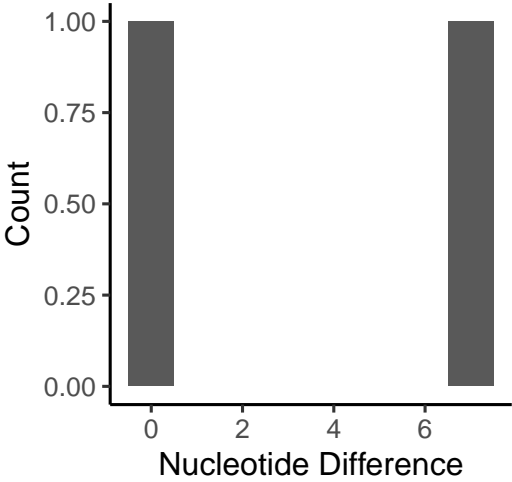
IGHV6-1\*01\_02

2405 sequences assigned  
703 (29.2%) exact matches, in which:  
668 unique CDR3  
6 unique J



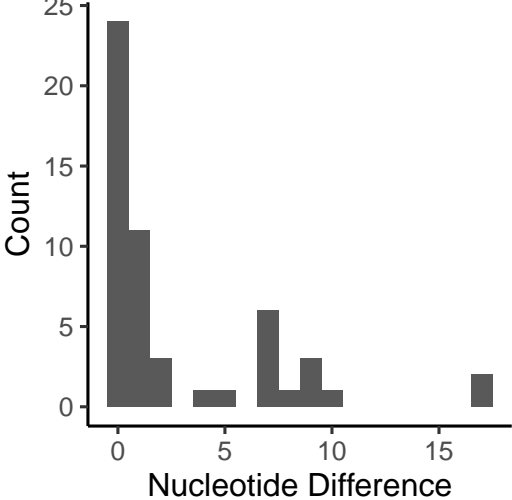
IGHV3/OR16-9\*01

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



IGHV7-4-1\*01

53 sequences assigned  
24 (45.3%) exact matches, in which:  
24 unique CDR3  
3 unique J





[illegible]